



Five of the author's favourite foreign birds. Top left Turquoise Parrakeet
Top right Rufous-bellied Niltava Centre Short-billed Minivet Bottom left Red-
headed Gouldian Finch Bottom right Fairy Bluebird





FOREIGN BIRD KEEPING

A COMPLETE GUIDE TO
BREEDING AND MANAGEMENT

EDWARD J. BOOSEY

With photographs by
ALEC BROOKSBANK

Foreword by the
Rt. Hon. The Viscount Chaplin

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FOREWORD

By The Rt. Hon. THE VISCOUNT CHAPLIN
(formerly *Honorary Secretary of the Zoological Society of London*)

FOR thousands of years many kinds of birds large and small have willingly or unwillingly shared men's abodes. If it is doubtful what benefit this association has bestowed on birds it is certain that both aesthetically and practically it has been of considerable value to man. When unmasked we take it upon ourselves to be their guardians, we the debtors owe it to birds to attend as fully as possible to their modest demands.

Since it was established in 1927 the Keston Foreign Bird Farm has catered for many kinds of birds from all parts of the world so successfully that a large number of species has been bred annually. It is said that, unlike men, most animals, including birds, reproduce their race only when happy in congenial surroundings. This success is, therefore, a testimony to the care and skill of Mr. Boosey, his partner Alec Brooksbank, and their staff.

Aviculturists will find this book full of information helpful to them and of benefit to their charges, not least in interest being original advice as to which kinds of small birds, Waxbills and others, do best at semi-liberty.

Like many things, the keeping of birds in confinement sometimes leads to abuse. The resultant cruelty is seldom wilful, but is generally caused by thoughtlessness or ignorance. Readers of this book will have no excuse for any of this. One of the advantages of getting to know birds individually and at close quarters is that we are then able to contemplate beings both alike and yet unlike ourselves, a comparison which is always instructive and sometimes humbling.

Finally I would like to recommend to those who study and aspire to understand living things the ethic of one of the great men of our time—Dr. Albert Schweitzer's "reverence for life".

CHAPLIN

BY WAY OF AUTOBIOGRAPHY

I AM including this short personal note because I have so often been asked how I first started keeping foreign birds, and also in the belief that, like myself, many people find it of interest to know something of the author of the book they are reading. I can never remember a time when I was not interested in foreign birds; an interest which was inherited from my mother's father, Jeffery Whitehead, and from one of her brothers, John Whitehead.

My grandfather had a fine collection of ornamental waterfowl and was never without Gouldian Finches, keeping the latter in a very large cage in his conservatory. In the library were a piping Bullfinch and a Parrot—I cannot now recall its species—but I do remember my mother telling me that, while admiring visitors were gathered round the Bullfinch's cage listening to it piping its tunes, the disgruntled Parrot would occasionally mutter "Damn that bird!"

My Uncle John worked in the City for several uncongenial years in the family stockbroking firm of Whiteheads and Tennants (now Whiteheads & Coles), but eventually followed what was obviously his true destiny. He became, towards the end of the last century, a well-known field naturalist, spending most of his all-too-short life exploring North Borneo and the Philippines—a hazardous venture for a white man in those days—and he died of blackwater fever, aged 39, in the island of Hainan.

His bird skins were sent home to his friend, Mr. Ogilvie-Grant, at the British Museum, and some of them went eventually to Lord Rothschild's private museum at Tring, and are now, I believe, in America. His most important discovery was the North Bornean Monkey-eating Eagle, which is named *Pithecophega Jefferii* after my grandfather.

As a young man my life followed to a certain extent the same pattern as his. I worked in London for several years in the family music publishing firm of Boosey & Co. (now Boosey & Hawkes), leaving it in 1926 to found, a year later, the Keston Foreign Bird Farm with my partner, Alec Brooksbank. In those days most people, not unnaturally, thought this novel venture somewhat crazy, but nevertheless our farm has flourished.

I shall always be grateful to the late Duke of Bedford for giving us the nucleus of rare Australian Parrakeets with which we started the farm, and also for his unflagging interest in it, which continued right up to the day of his tragic death in 1953.

Now to answer the question I am so often asked as to how I first took up foreign bird keeping. Some people take up this enthralling hobby quite late in life, but I started very early. At an age when many small boys of those days were passionately keen on engines and pestering their parents for a toy railway, I was busy pestering mine to let me have a cage of foreign birds in the day nursery. My request was eventually granted, provided I looked after the birds entirely myself and did not attempt to delegate their care to my nurse.

As a result I was presented one Christmas with a "Crystal Palace aviary"—in reality a large cage of a kind very popular in those days, made in the shape of the now defunct Crystal Palace, where the Bird Shows used to be held. Soon it contained the usual collection of Waxbills, with which most budding aviculturists start, and of which I think the Avadavats, with their beauty and their short but sweet song, were my favourites. I liked variety, however, so its inhabitants were fairly often changed.

Later on it contained a pair of Pekin Robins, which particularly delighted me as they were the only birds to make real use of the central dome of the cage. Later still I remember its sole occupant being a young Cuckoo which had been found sitting disconsolately in the middle of the lawn by one of the gardeners. It had such a voracious appetite, however, that I did not keep it for long, and it was eventually placed on a fence between two meadows, where, in the way of young Cuckoos, it doubtless mesmerised a pair of our native Softbills into giving it live food intended for their own brood.

After that I kept my birds in aviaries, mostly constructed by me during school holidays. Their carpentry was extremely amateurish, but they served their purpose. In these I kept, at various times, and not of course together, Redrump and Pennants Parrakeets, Peach-faced Lovebirds, Budgerigars, Gouldian Finches, Paradise Whydahs, Waxbills and various other birds. As far as I can remember, the only ones to breed successfully were the Redrumps and the Budgerigars.

Naturally I was much looking forward to the time when schooldays would be over, and although working in London during the day, I should be able to devote my spare time and weekends to the care of my birds. When this time came I had a really large aviary some forty feet long, and of proportionate height and width, erected in a meadow against a disused cow shed, which was easily converted into an excellent shelter for the birds.

I planted the aviary with various shrubs and creepers, and stocked it with a few male Giant Whydahs as well as Gouldians and other Grassfinches and various Waxbills. Of the last, the Firefinches bred successfully, as did others of this species which I kept at controlled liberty in the garden. Unfortunately the plant growth in this aviary never had time to mature, as my father died in 1919, and, a year or two later, my mother, having decided that the house was too big for her, sold it and took a flat in Knightsbridge. Consequently I had to sell all my birds, retaining only a pet Senegal Parrot.

However, anyone who once has kept foreign birds can seldom bear to be without them for long, and soon I bought a pair of Gouldian Finches which I saw in a dealer's shop window, and installed them in a large flight cage in the drawing room of the flat, which looked straight out across Hyde Park. Fortunately the Park abounds in *poa annua* grass so there was never any difficulty about green food. The Gouldians nested, but the hen had the irritating habit of making egg sandwiches—one nest on top of another—so no young were ever hatched.

It was not long after this that the Keston Foreign Bird Farm came into being, and although this took place over thirty-five years ago, it is, like all milestones in one's life, still vivid in my memory.

My partner and I were spending a long week-end with my mother who,

after several years in London, had finally returned to the neighbourhood where she had always lived and settled in a smaller house near our old home.

Having conceived the notion of starting a foreign bird farm, we were naturally anxious to put the idea into practice, but the most important thing was to find a suitable site. We anticipated that this would be none too easy, but, as it happened, fate led us to exactly the right spot straight away.

We set forth on a Sunday morning to prospect, and after walking through Keston village and about a mile farther on, we noticed a rough grass track leading precipitously down into the valley. It looked intriguing so we decided to follow it, and found at the bottom a wooden bungalow, facing due south, with a magnificent view across the valley.

It had been taken for the summer, I remember, by a large family of Australians, for whom it was far too small, and whose enthusiasm for the old country had been somewhat dampened by the climate, as a result of which most of them were confined to bed with severe colds.

They gave us permission to have a look round the garden, which proved to be a wilderness, utterly unkempt, consisting mainly of hawthorn and wild cherry, with, as is usual on chalky soils, a particularly rampant growth of wild clematis or "old man's beard." Derelict and overgrown as it was, however, it had a lovely situation and its possibilities were obvious.

Again fate was kind, for the owner proved willing to sell, and soon we were in possession of the bungalow and the two acres of land that went with it. The amount of clearing to be done was somewhat daunting, rather like cutting a pathway through virgin jungle; an illusion which was strengthened by the thick rope-like stems of wild clematis hanging from the lower branches of a belt of enormous old wild cherry trees.

These, to the north, backed a long sloping strip of rough meadowland, which we gradually had made into terraces upon which were erected the series of aviaries in which many of our most outstanding parrakeet breeding successes were achieved. These included Yellow-fronted New Zealands, Hoodeds, Many-colours, Barrabands, Princess of Wales, Crimson-wings, Kings, Brown's, Swainsons and Red-collared Lorikeets, and later on it was in one of these terrace aviaries that we bred African Grey Parrots for the first time in this country.

Of the Grass Parrakeets—all of them at that time very rare—Turquoisines, Blue-wingeds, Elegants, Bourke's, and Splendids all reared broods, the Splendids being a first breeding in this country and also in Europe. Gouldian Finches and Red-headed Parrot Finches also reared broods in these terrace aviaries, and most of the Australian Grassfinches were successful in other aviaries on a rather similar site, as were Varied Lorikeets, a first breeding in captivity.

Our farm was expanding rapidly, and soon we badly needed more ground. Fortunately we were able to purchase an adjoining eight-acre meadow, and I remember well the day a section of the hedge was removed, and we were able to walk through and take possession of our new piece of land.

The situation of this field was very exposed and wind-swept compared with the terraces, and the design of the aviaries erected on it had to be modified accordingly, allowing for plenty of protection from the prevailing south-west

wind. We decided, therefore, to reserve the terrace aviaries for the rarer and more delicate birds. Even so, however, those in the field aviaries did extremely well, and in them many Stanleys, Golden-mantled Rosellas, Mealy Rosellas, Bauers, Pileated or Red-capped Parrakeets, Rock Peplars, Redrumps (including the first Yellows) and Cockatiels have all been bred, as well as numerous Roseate Cockatoos and several broods of Blue-fronted Amazon Parrots.

We lived in the bungalow for three or four years before having it removed to another part of the garden (where it now serves as staff premises), and having our present small house erected on its site.

Somehow, our bird farm managed to survive the war, during which it was mainly devoted to poultry and egg production, and it is now considerably larger than it was in 1939.

As one gets older, time seems to rush by with ever-increasing, and indeed terrifying, speed, so that I find it almost impossible to realise that our farm has been in existence for longer since the war than it was before it.

As I have brought the subject matter of "Foreign Bird Keeping" up to date in this second edition, I thought it would be desirable to do the same in the case of my original preface, "By Way of Autobiography."

This is essentially a personal book, and it is for this reason that I have included only such species as I myself have kept.

Since the first edition was published I have been able to realise a growing ambition to form a private collection of the rarer Softbills. Previously I had concentrated almost entirely on the breeding of parrots and parrot-like birds, but I think that always at the back of my mind there had lurked a desire to keep Softbills, among which are to be found many of the most beautiful birds in the world.

At present my collection includes the following: Peruvian Green Jays, Azure-winged Magpies, Lilac-breasted Rollers, Fairy Bluebirds, Greater Hill Mynahs, Superb Sproo and Amethyst Starlings, Rufous-bellied Niltavas, White-capped Redstarts, Blue-headed Rock Thrushes, Western and Mountain Bluebirds, Black-headed Sibias, Shamas, Superb Tanagers, and the extremely rare and beautiful Blue-shouldered Mountain Tanagers.

Of these, so far, the following have bred successfully: Greater Hill Mynahs and Amethyst Starlings—the former a first and the latter a second breeding in confinement in this country—Western and Mountain Bluebirds, and Shamas. Also the Lilac-breasted Rollers hatched young in 1961, but failed to rear them—and this is believed to be the first time these Rollers have ever nested in captivity. As I write (June 1962) it is worth noting that two more species, namely the Blue-headed Rock Thrushes and Blue-shouldered Mountain Tanagers have young in the nest.

Their care is in the capable hands of Mr. W. D. Cummings, who joined us in 1952, and is now a Director of the Farm.

These birds are housed in a range of new aviaries, and a large enclosure containing a pond and waterfall is about to be constructed—the water being piped down from a stream which we have just been able to tap. We have also added a conservatory to our house, and a water garden on a slope close to the Office building.

Making a garden out of an overgrown wilderness is really the work of lifetime, but I think one derives from this a satisfaction of a kind which can never be quite the same in the case of a garden which was already made when one bought it.

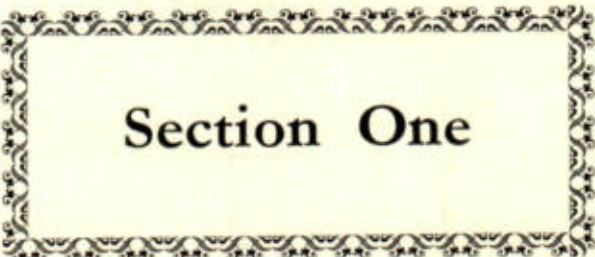
Ours has now had 35 years in which to mature, and as one looks at the present size of our original plantings which include, among many others, magnolias, lilacs, and wistarias, it is difficult to realise—particularly in the case of a wistaria, which now covers the whole front of our house—how very small and insignificant they were when we first started the Keston Foreign Bird Farm in 1927.

ACKNOWLEDGEMENTS

In the frontispiece I have painted five of my favourite foreign birds, which, it should be pointed out, are not drawn to scale. The shape and pose of both the Gouldian Finch and Fairy Bluebird were taken from black-and-white photographs, the latter by very kind permission of Dr. Karl Plath.

I should also like to express my gratitude to Mr. John Yealland, Curator of Birds at the Zoological Society of London, for kindly undertaking the task of checking all the Latin names of the birds in this book, and bringing them fully up to date.

Should this book prove to be of interest to aviculturists—as I hope it may—its appeal will, I feel sure, have been greatly increased by the very excellent bird photographs, both black and white and in colour, which my partner, Alec Brooksbank, has taken specially for it. It may be of interest to add that every bird portrayed in this book was photographed at Keston, and either was, or still is, in the author's possession.

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Section One

WAXBILLS,
FINCHES
and other
SEED-EATERS

African Silverbill

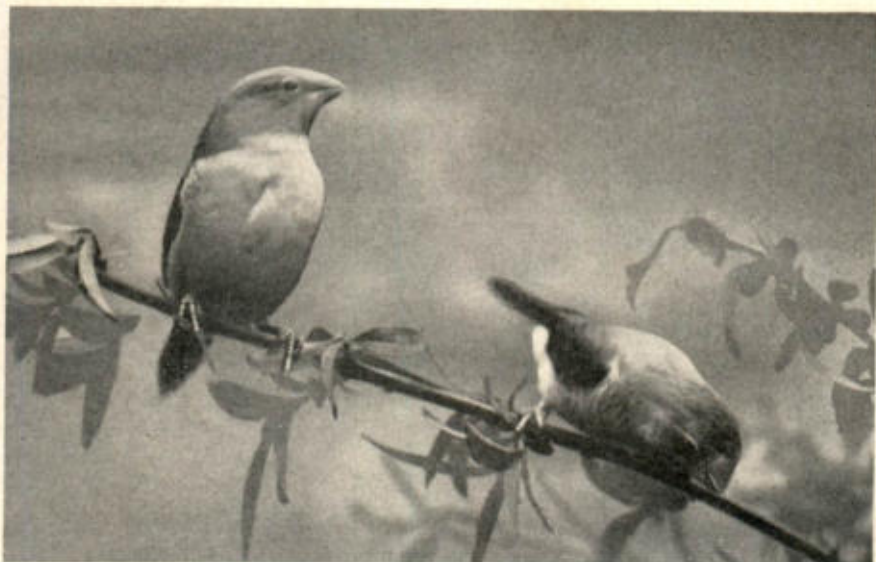
(*Euodice malabarica cantans*)

THE African Silverbill, so called to differentiate it from the Indian one, although an unpretentious-looking little bird, is always popular as it is so accommodating and easy to keep. The upper surface is light brown, darker on the wings, while the underparts are pale buffish-white. The beak is silvery-grey, and the rump and sub-caudals black. Length is a little over 4 inches. Habitat: From Senegal to Aden.

Both sexes are alike, but if a cock and hen are held in the hands and looked at from above, it will usually be seen that the cock's beak is slightly broader at the base than that of the hen. A keeper of these birds recently stated that in the male the side of the breast where it meets the lower edge of the wing is barred, this barring being absent in the female. Whether or not this is the case, I cannot say, as I have no Silverbills at the moment. But I shall certainly look for this difference as soon as I am shown them.

Like many another budding aviculturist, I used to keep Silverbills as a boy, chiefly because they were hardy, easy to breed, and so cheap to buy—the last a very important consideration if one's birds have to be purchased mainly out of one's pocket money.

I must confess, however, that I have never felt much desire to keep them since, not because I don't appreciate their many virtues, including their neat



African Silverbills are ideal birds for the beginner, they are so easy to manage, and have the advantage of being inoffensive to even the smallest companions

appearance and rather Waxbill-like vivacity, but because when I keep a foreign bird I like it to *look* exotic, rather than a good deal less colourful than some of our native birds. But the fact remains that they have always been popular, as they are among the easiest of all birds to cater for, and are thus ideal for the beginner.

They will live and breed, almost as freely as Bengalese, in either cage or aviary, and are quite inoffensive to even the smallest companions and require no artificial heat in winter, although they should be shut into the aviary shelter at night during the coldest months.

Cock Silverbills sing industriously at the approach of the breeding season, but the song consists of nothing more than the usual Mannikin-like burlblings interspersed with an occasional louder and rather shriller note.

In a wild state these birds are said often to refurbish for their own use the discarded nests of Weavers, but in confinement they take readily to an ordinary wooden Finch nest box, some pairs being inclined to make "egg sandwiches" rather than hatch young ones. A good breeding pair, however, can prove very prolific and will rear numerous families on the ordinary diet of brown and white millet, canary seed and greenfoods.

Although I have never tested them, I should imagine that Silverbills might—like Bengalese—make excellent foster-parents for rarer Finches such as Gouldians.

Alario Finch

(*Alario alario*)

ALTHOUGH this bird is closely-related to the Serins, it has a very different colour-scheme which rather reminds one of some of the Mannikins, particularly the Tri-coloured (*Lonchura malacca*). The male has the back, tail and wings chocolate-brown with a considerable amount of black in the last. The head, throat, and sometimes part of upper breast, are black, while the sides of the neck and under parts are white.

The female's colours are duller, the black areas of the male's plumage being replaced by brownish-grey, and the white areas by greyish-white. Length is a little over 4 inches. They inhabit South Africa, particularly the dry districts of Cape Province, but are not found north of the Orange River. They are known in their native land as the Blackhead Canary.

There is another race known as the DAMARA BLACKHEAD CANARY (*Alario alario leucolama*) which differs from *alario* by having the forehead, chin, throat, a spot on the ear-coverts, as well as the eyebrow and a line below the eye, white. The range of the two forms overlaps but *leucolama* is found also in dry areas north of the Orange River.

Alario Finches are generally quite peaceable aviary inhabitants, and they have been bred in captivity, but although they appear to have been imported

in quite large numbers many years ago, they are seldom offered for sale nowadays. Nevertheless we have had a few at Keston, even since the war, and we have found them rather difficult to acclimatise.

The late Dr. Butler, who also seemed to have experienced some difficulty with these birds, came to the conclusion that canary seed was bad for them. We, on the other hand, found that they would eat little else, and they appear singularly uninterested in greenfood. They should, however, be offered brown and white millet as well as millet sprays.

Alario Finches have a pretty though rather quiet, low pitched song which they are inclined to forgo in favour of those of other birds, as they are great mimics.

Avadavat

(*Amandava amandava*)

I HAVE always had a particularly soft spot for this charming little bird, perhaps partly because it was, I think, the first foreign bird I ever kept. I can still remember buying a pair in a small pet shop in our local town and recall vividly what an age the three mile drive home seemed until the moment arrived when I could let my Avadavats out into the most marvellous present I had ever been given, namely a "Crystal Palace Aviary," to which reference has already been made in my autobiographical note.

The male Avadavat is mahogany-brown above and deep coppery-red beneath, profusely spotted with tiny white spots like seed pearls. The beak is red, and the tail and flight feathers brownish-black. The female is brown, palest on the breast and darkest on the wings and tail. There are a few small



The Strawberry Finch, the Chinese form of the Avadavat. It is smaller, but of a much brighter red than the Bombay Avadavat. Out of the breeding season the male goes into an eclipse plumage similar to that of the female, a unique feature in Waxbills

white spots on the wings, while the upper tail-coverts are coppery-red. Length is about 4 inches. They are widely distributed throughout India, Cochin China, Burma, Assam, Java and Siam.

The one most commonly imported is the Indian form which is known as the Bombay Avadavat or Tiger Finch, and since the truce in Cochin China we have had the Chinese form at Keston as well. The latter is a beautiful and highly desirable little bird. Although smaller than the Bombay Avadavat it is of a much brighter red and is known as the Strawberry Finch. Avadavats are unique among Waxbills in that out of the breeding season the male, like the Weavers and Whydahs, goes into an eclipse plumage similar to that of the female.

They dislike very dry ground and are usually found in flocks in marshy country. Here, they are to be seen perched on the heads of tall reeds and grasses at the base of which they build their nests of elongated oval shape with the entrance hole at the side. The eggs are white and rather pointed. Though they have been bred in confinement in this country, they were always so cheap and easily obtainable that few aviculturists took the trouble to try breeding them.

Avadavats have always been among the most popular of cage birds both here and in their native India where they are known as "Lals." A soldier who was stationed for several years in that country once told me that the wide popularity of the "Lals" as cage birds in India is partly a matter of superstition. Many native families have a cage full of Avadavats and believe that when one dies the death of some close relative may shortly be expected.

Presumably the age and sex of the bird that dies is considered to have some connection with the age and sex of the expected human death. So it is easy to imagine with what relish the death pangs of a disagreeable fat elderly Avadavat would be watched by those who had expectations from its human counterpart!

I can however hardly imagine a disagreeable Avadavat as they are among the most charming and peaceable of small birds. They can always be depended upon to live and let live, and mind their own business. Being so small and defenceless they must never be put with larger birds which might be inclined to bully them, though of course mere size is no criterion in this respect. The small Pintailed Whydah, for instance, is a most unsuitable companion for other small birds, whereas the Giant Whydah, which really is the giant of his family, can safely be trusted with smaller birds.

One of the chief charms of the male Avadavat is his song which far surpasses that of any other Waxbill. This is not very extensive, but nevertheless is a charming if rather sad little lay on a descending scale of several notes. Once acclimatised Avadavats are perhaps the hardiest of all the Waxbills and can be wintered in an unheated outdoor aviary. They should be fed on small brown Indian millet, white millet and greenfood, and a supply of millet spray will be appreciated by these birds.

Baya Weaver

(*Ploceus philippinus*)

QUITE often imported, this fairly large Weaver is notable for the truly wonderful nests it constructs. The male in breeding condition has the back wings, and tail brown, the feathers of the two former having paler borders. The head and upper half of the breast are buttercup yellow, the lower half of the breast being very pale fawn, shading to whitish in the centre. The frontal band, cheeks and throat are blackish-brown. Length is about $5\frac{1}{2}$ inches. The female has the tail brown, the back and wings also brown with paler edges to the feathers, and the breast light brown. Their habitat is India and Ceylon.

According to that great Weaver enthusiast, Mr. Shore-Baily, their nests are generally constructed of fresh grasses, and he has recorded that some of them in his aviaries were as much as 3 feet long.

So far as possible I have deliberately avoided long quotations in this book, but I cannot resist quoting the fascinating account of these Weavers' nest-building activities published by Hume many years ago. He writes: "This morning passing by a solitary palm in the country I heard a strange noise, and looking up I saw such a beautiful sight that I can never forget it. Hanging from the tree were thirty or forty of those elegant grass nests woven by the Bayas. The great tempests of May and June had so often torn and spoiled them that one would have thought them irreparably damaged. This, however, was not the opinion of the birds, for about sixty were there repairing them.

"The scene in the tree almost beggars description. Each pair devoted themselves solely to their own nest; how they selected it I cannot say, and wish that I had been in time to see them; I imagine the most cunning picked out the best nests. The nests swayed in the wind, each cock brought a long blade of grass and, hanging on the outside of the nest, holding on by his claws with the blade under him, he pushed one end of it into the nest with his beak, and the hen inside pulled it through and passed it back to him; this is how the weaving is done.

"The work was carried out among great clamour and the birds seemed very much amused. When the blade was fixed in its place one gave the other a tap with its beak and he or she flew off to seek more material while the other waited quietly for him to return. To obtain these blades of grass the Baya settled at the bottom of the great grass 'sarpas' head downwards, and bit off the exact thickness he desired. Then he climbed up and having measured the right length he nipped off the top. He seized it at the base and flew away with it tearing it as he flew."

I have thought this well worth quoting in full as it gives an excellent idea of how most Weavers construct their wonderful nests. The nipping off at the base and then flying away, tearing off a strip as they fly, being very typical, particularly of those species that construct their nests of strips of palm leaves.

Baya Weavers are not to be trusted with defenceless birds smaller than themselves, but I have always wanted to keep a number together in a large

aviary in order to watch their marvellous nest building, and still hope to do so one day. Hardy birds, they should be fed on canary, millet and greenfood, and are fond of millet sprays and the occasional mealworm.

Some arriving at Keston from India once made us imagine, for the moment, that we had been sent some resplendent and hitherto unknown species of Weaver as the crowns of their heads were brilliant emerald green. Needless to say the green was a dye; as soon as they moulted out they lost their fabulous appearance and became just ordinary Baya Weavers!

Bengalese

(*Lonchura striata* var. (Domestic variety))

THIS little bird is not a true species, but a domesticated fertile hybrid carefully produced in the course of centuries by the painstaking Japanese until the three well-known forms—the Chocolate and White, the Fawn and White, and the White—were finally established. Their ancestry remains uncertain, lost as it is in the mists of antiquity, but Dr. Butler tells us that Mr. Abrahams believed them to be a cross between the Striated Finch and the Indian Silverbill, and it is probable that both of these form at any rate part of their ancestry.

The Chocolate and White is the commonest of the three forms and has the upper parts brown with white on the forepart of the crown, a white tail and underparts white with a few fawn and brown markings. In the Fawn and White, the brown areas are replaced by buffish-fawn, while the White is simply white without any markings. Although they are hybrids of such long standing, the plumage of individual birds is still variable. Length is about 4 inches or a little over. Both sexes are alike but the cock alone sings, if the curious hardly-audible burblings he emits can be called a song.

Bengalese are rather nice entirely inoffensive little things, which after centuries of domestication are quite lost in a large aviary. They appear much happier in a small aviary or a cage where they will soon settle down to the main preoccupation of their life, namely the reproduction of their kind.

Nor are they at all fussy whether or not the eggs they hatch or the broods they rear are their own, their one paramount desire in life being apparently to have eggs of some kind to incubate, and youngsters of some kind to rear. It is this, of course, that makes them such ideal foster parents for rarer birds. So very accommodating are they in this respect that I have taken away a hen Bengalese's newly-laid eggs and substituted newly-hatched young Gouldians whose mother had died, and the Bengalese reared them perfectly.

In this way Bengalese are an invaluable stand-by for the breeder of Grass Finches, to take on deserted or orphaned nestlings, although some pairs and some strains are far more accommodating in this respect than others.

It would be an interesting experiment to put the eggs of such a very insectivorous species as the Australian Crimson Finch under Bengalese, but I



Left to right: Chocolate and White Bengalese, Zebra Finch, Fawn and White Bengalese, and White Zebra Finch. Bengalese make excellent foster parents for rarer birds, and are useful for rearing deserted nestlings

have never had the opportunity of trying this. However, I have had them rear the fairly insectivorous Red-headed Parrot Finches, as well as Gouldians, Zebra Finches and Long-tailed Grassfinches, which except for the last are not insectivorous at all.

Bengalese will live and rear their own and the various other broods they are given, entirely upon canary and millet, with millet spray as a luxury. They can be offered greenfood but are seldom very keen on it.

They are not entirely hardy as they can remain in an unheated outdoor aviary in winter only if they have a nest box to roost in, which leads to unseasonable breeding attempts. It is therefore much better to keep them, without nest boxes, in a cage in a warm birdroom during the winter.

Bicheno's Finch

(*Stictoptera bichenovii*)

AN alternative name for this tiniest of the Grassfinches is the "Owl Finch"; quite appropriate as its facial markings certainly do give it an Owl-like appearance. It was named after a Mr. Bicheno, secretary of the Linnæan Society in the year 1826.

The male has the upper surface greyish-brown with darker barrings, and the forehead blackish. The wings are blackish, minutely spotted with white

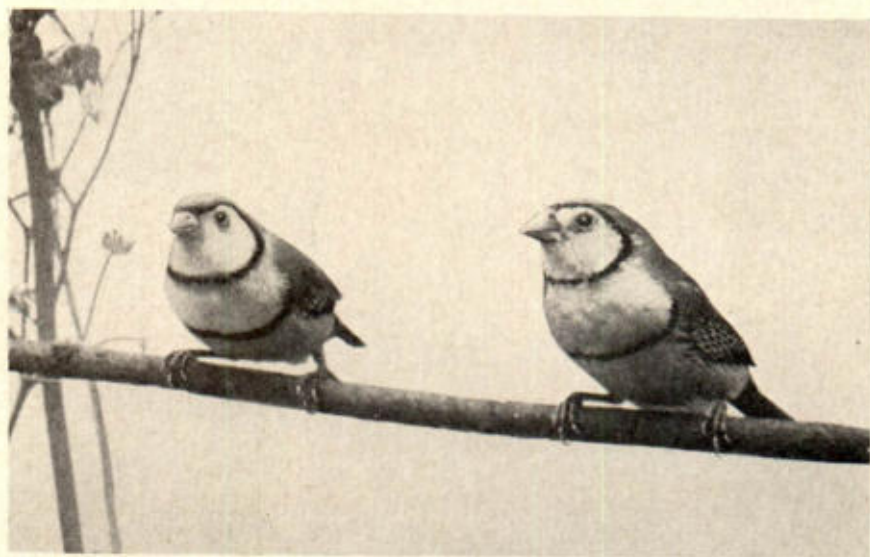
dots; the tail being black and the rump white. The cheeks, throat, and all the underparts are white with a faint yellowish tinge. There is a black band across the middle of the chest, and another one higher up which starts as an eyebrow then turns downwards and widens slightly, outlining the cheeks and throat, both of which are pure white. Length is a little over 3 inches. The female is usually slightly smaller, her black bars being narrower and not so sharply defined. Bichenos inhabit tropical Northern Australia and are known as Banded Finches in their native land.

There is another race of this bird (*Stictoptera bichenovii annulosa*) which is known as the DOUBLE-BANDED or (in Australia) BLACK-RUMPED FINCH. It inhabits the Northern and North-Western parts of the Continent and is exactly like the other except that its rump is black instead of white.

We used to breed a number of Bichenos at Keston before the war. We also crossed them with the Double-banded Finch and found that all the young of this mating had white rumps like their Bicheno parent.

Bichenos are quite inoffensive in mixed company, but except in the most sheltered parts of the country they are not entirely hardy. We used to winter ours in flight cages in a heated birdroom where the temperature did not fall below 50°. Each breeding pair was kept separately in small outdoor aviaries during the summer months. We found that they would never use a wooden nest box, but took readily to our open wire Finch boxes in which they constructed their neat, round dome-shaped nests.

Normally they thrive well on white millet, brown Indian millet and small canary seed, plus the usual wild greenfoods. When rearing young, however,



Tiniest of the Grassfinches, Bicheno's Finch is sometimes called the "Owl Finch," a name derived from its facial markings. They are easy to keep and feed, quite inoffensive in mixed company, and can be very prolific

they must have a constant supply of flowering grasses and millet sprays. Although they appreciate aphids and live ant pupae, they will rear their young ones without live food.

That Bichenos can be very prolific was proved by the performance of one of our breeding pairs during the hot summer of 1933. They went to nest in April and reared five young in their first nest, four in the second, five in the third and one in the fourth—fifteen, all in one season, which would have been quite a creditable effort for a pair of Zebra Finches!

Black-bellied Firefinch

(*Lagonosticta rara*)

AS is the case with many birds, the Common Firefinch is really prettier than the rarer ones, but to my mind this does not apply to the Black-bellied Firefinch, which is a beautiful little bird.

The male is a rich claret-colour, considerably darker than the red of an ordinary Firefinch, and has the lower breast, belly, and under tail-coverts black. There are no white spots on the sides of the breast or flanks, and in the beak the upper mandible is black and the lower one crimson.

The female differs from a hen Common Firefinch in having the sides of the head grey, and the chin and throat washed with grey. The upper mandible of the beak is blackish and the lower one pink. There is a crimson spot in front of the eye.

It is larger than the Common African Firefinch.

Distribution: Cameroons to the Sudan, Uganda and Kenya Colony. They are said to be fairly common in Uganda, but rare in other parts of their range.

The Black-bellied Firefinch is seldom imported, but we received several pairs at Keston in 1960 and retained a couple of pairs for breeding. It was bred for the first time in 1961 by Sir Richard Cotterell, Bart in Herefordshire.

Black-cheeked Waxbill

(*Estrilda erythronotos*)

AS Waxbills go, this is a rather sombre though attractively-coloured species. It is a somewhat difficult bird to describe, but a fairly good idea of it can be given by saying that the cheeks, throat and tail are black, the rest of the plumage being various shades of grey, striped with pink and again minutely overstriped with black, most heavily on the wings. There does not appear to be a great deal of difference between the sexes.

This Waxbill, which is found from South-West Africa to Southern Rhodesia and the Transvaal, is partial to very dry country where it nests high up in the thorn bushes. The nest itself would appear to be a curious structure as it is said to be large and ball-shaped, with the entrance hole facing *downwards* and protruding for several inches, presumably to make the entry of unwelcome visitors doubly difficult.

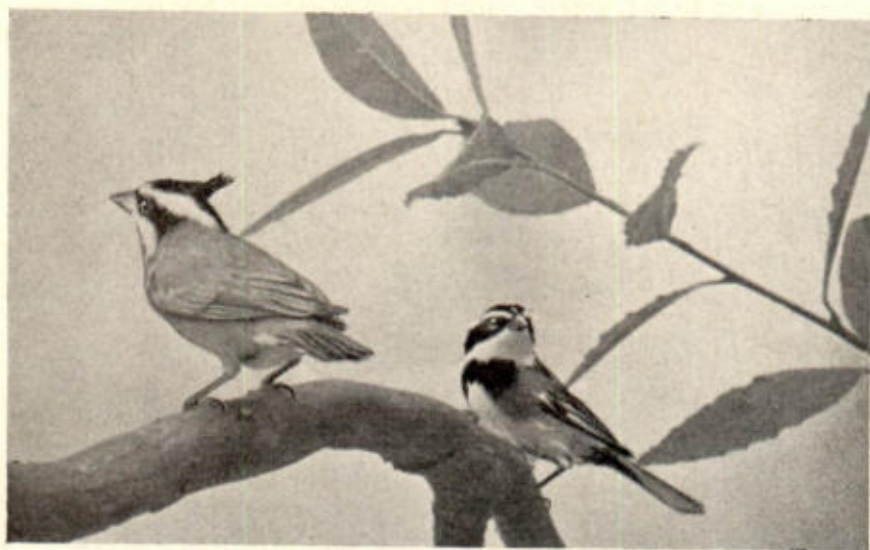
In confinement the Black-checked is one of the most delicate and difficult of Waxbills, and just as tricky to acclimatise as the Violet-eared. Unfortunately, however, unlike the latter, it seldom seems to live long even when the initial difficulties of acclimatisation have been successfully overcome.

It always gives me the impression of a bird that feels the cold very much, and only looks really happy outdoors in this country during one of our hottest spells of summer weather, though why this should be I don't know, as other birds coming from the same parts of Africa show no sign of feeling the cold unduly.

In any case, their aviary should be as dry and sheltered as possible, and unless the shelter can be adequately heated in the winter, I would advise taking them into a flight cage in a well-warmed birdroom for the winter.

It is important to bear in mind that although these Waxbills are not included among the insectivorous species proper, they are nevertheless among the most insectivorous of seedeaters; in fact, they cannot be kept alive for any length of time on a diet of nothing but seed and greenfood.

As to the best live food for them, they can be offered small mealworms, upon which their owners will probably have to rely chiefly during the winter, but during the summer months they should be given as great a variety of live food as possible, and even during the winter I have often wondered whether



On the left is a Black-crested Finch, and on the right a Ringed Warbling Finch

mealworms might not be varied by an occasional feed of *Enchitra*—a tiny white relative of the earth worm, which is widely used as a food for tropical fish.

These worms are easily propagated in shallow wooden boxes such as gardeners use for seedlings. The box should be filled with sterilised earth and covered over with glass, which in turn should be covered with a board or sack,

The Black-crowned Waxbill,
described on page 14



as they like the dark. The worms will increase rapidly if fed on spoonfuls of porridge (made with milk), and boiled potato placed periodically in shallow depressions in the earth.

The great advantage with these creatures is that a continuous supply of them can be kept up all through the winter. I don't know, of course, if the birds would take them, but it would be worth trying, as they would make a wonderful rearing food for small insectivorous species and Waxbills. As well as insects, they should, of course, also be given the usual Waxbill seed mixture, and also greenfood. As live food gentles might also be offered.

Black-crested Finch

(*Lophospingus pusillus*)

ALTHOUGH it has no bright colours, this is a neat and attractive little bird reminding one irresistibly of a Cardinal in miniature. Indeed its German name translated means "Bolivian Mountain Cardinal." Its plumage is simply grey and white with a quite sizeable upstanding black crest of typical cardinal shape. It is roughly the size of a Roller Canary, and the hen's crest is perhaps not quite so black as that of the cock. Habitat: Southern Bolivia, Western Argentina, Western Paraguay.

As soon as I received these birds I wrote to Mr. Prestwich and he kindly gave me the following information about them: "First bred by Dr. Amsler

in 1939, two young reared (A.M.1939, 331). Allen Silver was also successful about the same time. Mrs. Cholmeley gives an account of partial success in A.M.1938, 274. Quite a number were imported a few years ago, and H. Murray reared one young one in 1951."

Mr. Allen Silver, who saw my Black-crested Finches, told me that, contrary to Dr. Amsler's experience, his became almost totally insectivorous when rearing young, during which period they hardly ate any seed at all. I have found them rather combative in mixed company consisting of birds of a similar size.

Mine eat canary seed and white and spray millet, as well as a certain amount of insectivorous mixture and bread and milk. They are, however, partly insectivorous, and should be given a few small mealworms or gentles, preferably the latter, two or three times a week.

Black-crowned Waxbill

(*Estrilda nonnula*)

THIS is, to my mind, one of the prettiest of the Waxbills. The male has a dark slate-grey back and wings with a black cap and tail. The underparts are white with a faint grey tinge and the rump and flanks are bright crimson. There is also a crimson stripe along the side of the breast just below the wings, by which it is sometimes almost hidden. The upper mandible is claret-colour, and the lower one black.

The female is said to be paler grey on the back and wings, but I can see little difference between the sexes of mine, except that the hen's red stripe on the side is perhaps rather paler and less extensive, and, when viewed from above, her black cap is slightly narrower than that of the cock.

Distribution: Cameroons to Eastern Belgian Congo, the Sudan, Uganda, Tanganyika Territory and Kenya Colony.

This Waxbill is said to be common in its native haunts, congregating by the thousand on the millet crops, and sometimes occurs at fairly high altitudes. It is also said to be, like our native Bullfinch, partial to bud-eating. It is about the same size as the Common or Red-eared Waxbill, but rather stouter.

Until 1960 it was extremely rare in confinement; in fact, the only ones I can remember having seen were a pair in a cage at the London Zoo, and I was much struck by them.

Then in 1960 some enterprising person must have brought over quite a large consignment and we received more than a dozen pairs at Keston, of which we retained four pairs in the hope of breeding from them. It was another example of the curious way in which some bird hitherto considered an extreme avicultural rarity suddenly and for a brief space becomes readily obtainable—a good case in point being the Australian Painted Finch a few years ago.

These Waxbills require the same feeding and treatment as the Red-eared Waxbill and other members of the family.

Blue-billed Firefinch

(*Lagonosticta rubricata*)

I DO not consider this rather large Firefinch as attractive as its commoner relative, the well-known African Firefinch. Its under surface and rump are crimson and the under tail-coverts and tail are blackish. The crown is grey and the back brown. The bill is bluish-slate. The female resembles the male but is paler and pinkish-fawn colour below, with less crimson on the face.

Distribution: From Portuguese Guinea to Northern Nigeria.

This Firefinch is not often imported, but we received a few pairs at Keston during the summer of 1960. The crimson areas of the plumage are usually described in the reference books as bright crimson, but they were far from bright in those we obtained, so it is possible that they were young birds.

Blue-capped Waxbill

(*Uraeginthus cyanocephalus*)

BLUE-HEADED would be a more suitable name for this Waxbill, of which it is hardly necessary to give a detailed description as it is like the well-known Blue-breasted Waxbill, except that the whole of the head is blue. The hens of the two species are much alike but can be distinguished by the fact that in the female Blue-capped Waxbill the buff areas of the plumage are rather paler, and the blue extends to just above the eye and on the forehead. It is very easy to mistake an immature male for a female.

Distribution: Kenya and Tanganyika.

We recently received a few pairs of this attractive little Waxbill at Keston—the first ones we have ever had—and I think I am right in saying that the last time the species was brought over by Mr. C. S. Webb in the early thirties.

They require the same diet, housing, and treatment as the Cordon Bleu.

Blue-faced Parrot Finch

(*Erythrura trichroa cyaneifrons*)

IT is years since I had a pair of these attractive little Parrot Finches, and although I clearly remember their general appearance, it is difficult to recall each detail of their plumage. Recourse to *Aviculture*, Vol. 1 did not help

very much as it is merely included (without description) as a form of the Tri-coloured Parrot Finch (*E. trichroa*) which in turn is simply described as "like the above (Pintailed Nonpareil) but has a blue forehead and cheeks and a green throat."

E. trichroa inhabits the Caroline Islands, New Guinea and Molucca, while *E. cyaneifrons* comes from the New Hebrides. I think my birds must have been a pair of the latter, as, if I remember rightly, they were entirely green, darker above and with a bright blue face mask, which was very much duller in the hen. They were, if anything, a trifle smaller than Red-headed Parrot Finches and although, like all their relatives, they were very active, they seemed, perhaps, a trifle more restful than most of the family. At least, that is my recollection of them.

They came into my possession about 1938, and were given a small aviary to themselves. By the time war broke out in 1939 they hardly had time to breed before I parted with them. However, I believe the species had already been bred in this country during 1935.

Blue-faced Parrot Finches should be given exactly the same feeding, housing and treatment as their better-known Red-headed relative, an account of which is given later in this section.

Blue Grosbeak

(*Guiraca caerulea*)

IT is many years since I kept Blue Grosbeaks, and mine were the North American Brown-shouldered variety and not the more brilliant Brazilian type.

The male North American or Brown-shouldered Grosbeak is cobalt blue, the forehead, chin and lores being black. The median wing-coverts are brown and the flights black edged with blue. The beak is gunmetal colour, the lower mandible being paler than the upper. In winter or eclipse plumage, the feathers on the sides and abdomen of the cock become suffused with brown. This is a smaller bird than the Rose-breasted Grosbeak.

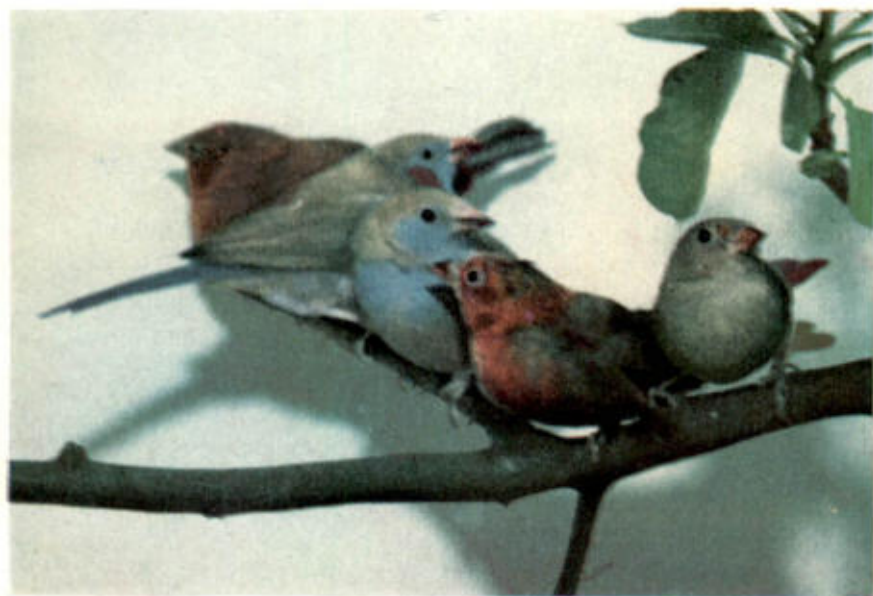
The female is brown above with a tinge of olive. There is a mixture of grey and chestnut on the rump, and the feathers of the back and shoulders have a darker middle streak. The underparts are medium brown. She is slightly smaller than the cock.

They inhabit the Eastern and South-Western portions of the United States, where they are protected. Doubtless those imported into Europe before the war came from Mexico where they spend the winter.

My own experience of keeping these Grosbeaks is limited to a couple of males I had for a time in my planted bachelor aviary before the war. I kept them for only a short time as, unlike their larger and very charming and amiable relative the Rose-breasted Grosbeak, they bullied and chivvied all smaller birds incessantly, altogether making perfect nuisances of themselves.



The Bombay Avadavat or Tiger Finch has a charming song, and out of the breeding season the males go into eclipse plumage which is similar to that of females



Cordon Bleus and Firefinches. These are two of the most attractive and popular of the Waxbills. Both make good liberty birds and look delightful in a garden

The two Blue Grosbeaks did not fight much between themselves, though only, I think, because they were too busy jointly attacking every other bird in sight except anything large and strong enough to stand up to them.

Provided they were given an aviary to themselves these Grosbeaks would probably prove no more difficult to breed than other members of the family. I don't think a particularly large aviary would be necessary, and an enclosure about 10 feet square with a turfed floor, and containing, say, a Privet, a Box, and a Cupressus, would suit them well and provide natural nesting sites. In an unplanted aviary it would probably be necessary to provide them with some twiggy branches nailed up under overhead cover, and with perhaps a disused Blackbird's nest just to give them the idea.

They are perfectly hardy and should be fed on canary with sunflower and a little hemp. They are fond of apple and the usual greenfoods, including the fleshy stalks of seakale beet. A few mealworms or gentles should be provided every other day, and these, particularly the latter, may be increased when they have a brood in the nest.

Bronze-winged Mannikin

(*Spermestes cucullatus*)

THIS is one of the prettiest, most often imported and easily bred of the Mannikins. The head and throat are black with a metallic green gloss, and the breast and abdomen are white. The flanks are greyish-brown marked with white streaks, and the back and wings chocolate-brown with metallic black spots on the shoulders.

The tail is black and the rump light biscuit-brown striped with dark brown. The beak is grey and the legs black. The plumage in both sexes is alike, the only difference being that if a true pair are held side by side the hen will be seen to have a slightly smaller skull and less massive beak than the cock. Length is about 3 $\frac{3}{4}$ inches. Habitat: Tropical Africa.

Bronze Mannikins are fairly peaceable in mixed company except if actually breeding, when, like many birds, they are inclined to be quarrelsome. They really do best and look their best in an aviary, but a pair can be kept in a cage and might even breed if housed in a really large flight cage, preferably of the box or semi-box type.

They are quite hardy and should be fed on a seed mixture of brown and white millet and canary in about equal proportions, with the usual greenfoods, and a couple of millet sprays a week per pair. Some eat insects and insectivorous mixture, but will usually rear their young on seed and greenfood alone.

The Bronze-winged Mannikin's nearest relatives are the Rufous-backed Mannikin, the Two-coloured Mannikin, and the Bib Finch. The two former also come from Africa, and the latter from Madagascar.

These birds should not be confused with the Indian Mannikins (*Lonchura*). They are easier to rear in confinement, and there is a big difference between

the beaks of the two species, that of the African being somewhat long compared with the thick beak, almost as deep as it is long, of the Indians.

The RUFIOUS-BACKED MANNIKIN (*S. nigriceps*) has the head, neck, and throat black; beak grey; flanks black streaked with white; abdomen white. The back and wings are chestnut-brown. The rump and flight feathers are white with brown speckling, and the tail and sub-caudals black. Seldom imported, it is a good breeder. The sexes are alike. Habitat: East Africa.

The TWO-COLOURED MANNIKIN (*S. bicolor*) resembles the above, but the back is grey, and there is no white in the flights. Again a rarely imported species but very willing to go to nest. Habitat: West Africa.

The BIB FINCH (*S. nana*) has a black forehead, chin, and bib. The head, back and wings are brown and the tail black; underparts grey mixed with brown on the abdomen. Habitat: Madagascar. It is about the smallest of the family and a very good breeder.

Another African species, the MAGPIE MANNIKIN (*Amauresthes fringilloides*) has the back and wings dark chocolate-brown, and the head, neck and tail black. The underparts are pure white, the flanks being a mixture of black and brown. Habitat: East and West Africa. This is a large Mannikin being about the size of a Goldfinch. It is handsome, hardy and has a formidable beak. A good breeder under favourable conditions, it is not to be trusted with weaker companions.

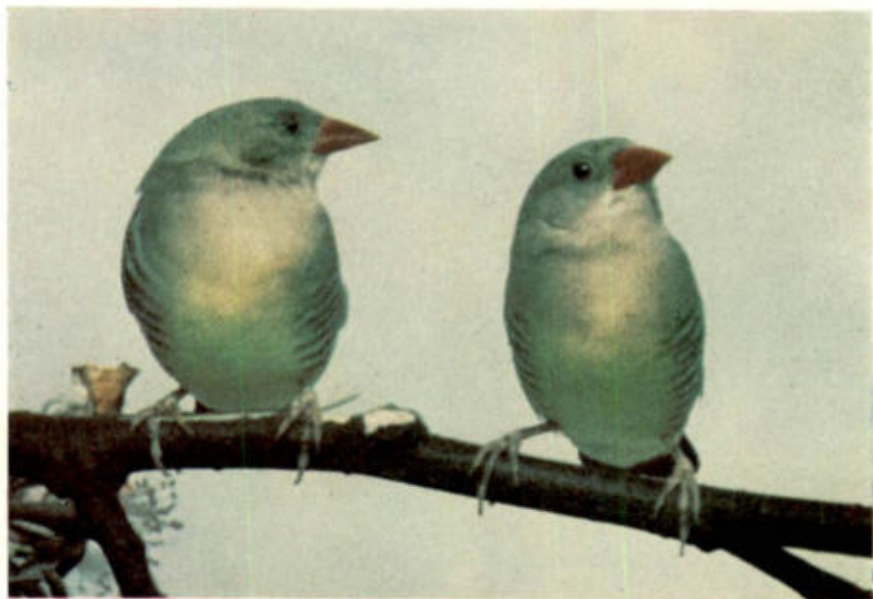
Cherry Finch

(*Aidemosyne modesta*)

BECAUSE it is at the same time the most delicate and the least colourful of the Australian Grassfinches, this bird has never been as popular as the other members of the family. The male has the upper parts brown, the wing-coverts being spotted with white; there is a spot on the throat which is variously described as plum-coloured or black, but which is really neither, being the colour of a blackheart cherry. The underparts are white barred with brown; the crown of the head is of a purplish plum-colour, and the beak black. The female lacks both the plum-colour on the head, and the dark throat spot.

Cherry Finches come from Australia, where they are found in Queensland and the Northern parts of New South Wales. Curiously enough, although they are said to be very tame and confiding in a wild state, their character in confinement is just the opposite, and in an aviary they are shy and retiring.

One of the names that has been bestowed upon this bird is the Modest Grassfinch, and though they are certainly very plainly-coloured compared with most of the other Australian Grassfinches, I have always thought that they have a peculiar charm of their own, and that their plum-coloured crown makes an attractive contrast to the rest of the plumage.



The Green Avadavat is very prettily marked, but rare compared with the Red Avadavat which it in no way resembles



The Speckled-fronted Weaver, rather rare and seldom imported, and the Cut-throat, which is imported in large numbers and is one of the best-known of small foreign birds

The old writers varied considerably in their estimates of the Cherry Finch's hardiness or otherwise, Butler considering them the hardiest of all the Australian finches, and Wiener being of the opinion that they were delicate. Judging by my own experience of these birds, I should say that Wiener is nearer the mark, though their delicacy is of a curious kind and has nothing



The Cherry Finch is an attractive though modestly coloured little bird from Australia

to do with being sensitive to cold—which, in fact, they are not, and it is by no means always, or even usually, in winter that one has trouble with them.

Like the attractive little Yellow-fronted New Zealand Parrakeet, they are one of those disheartening birds which may suddenly die at any time of the year, when apparently in perfect health and condition.

Before the war we had several pairs of Cherry Finches at Keston, most of which went to nest and successfully reared broods, thereby leading us to hope that we should be able to work up a useful breeding stock of them. This, however, was not to be, and indeed trying to do so proved to be too much like trying to fill a leaking can, since the number of young ones bred were invariably counteracted by unaccountable deaths among the stock birds, and so one got no further. The post mortem examination of those that died always revealed pneumonia, but why Cherry Finches should be more susceptible to pneumonia than all the other Grassfinches is difficult to understand.

Finally we gave them up as a bad job, and devoted their aviaries to Long-tailed Grassfinches, Ruficaudas, Bichenos, etc., which are not prone to sudden death, are freer breeders, and for which there is a much greater demand.

In a wild state Cherry Finches make a dome-shaped nest of grasses almost at ground level in a low bush, so if they are given a bundle of small twiggy branches to make their nest in, these should not be nailed up more than about

three feet from the floor of the aviary. I have always found that they will *not* use a wooden nest box, but will usually take to an open wire one.

They may be kept in either cage or aviary, and are very quiet and well-behaved in mixed company. All they require in the way of food is canary seed, millet, greenfood and an occasional mealworm. When breeding, however, the number of mealworms given per day must be slowly and steadily increased as the brood grows.

Combassou

(*Hypochoera chalybeata*)

THERE are several Combassous, or Steel Finches, as they are sometimes called, but this, the common Senegal species, is the only one often imported. When in colour the male is black with a steel-blue gloss, and some white under the wings. The beak is pale whitish flesh-colour and the legs red. When out of colour he is exactly like the hen—lightish brown streaked with very dark brown and black. Length is about 4 inches.

Although Combassous are much like Waxbills in general appearance, they are nevertheless true *Viduinæ*, which is indicated by the fact that they are parasitic on other birds and the males go into eclipse plumage for part of the year. They have very seldom been bred in captivity, which, considering their parasitic habits, is hardly to be wondered at. To achieve success with them they would have to be housed in an aviary containing several pairs of Fire-finches in order that they might deposit their eggs in the nests of these birds.

Combassous were among the first foreign birds I ever kept, and I should think this must apply to many other aviculturists who started young, as I did, and therefore wanted something both cheap and attractive.

They are indeed admirable birds for the beginner, being relatively cheap, hardy, and peaceable enough to be kept with even the smallest Waxbills. Moreover, their striking, steely blue-black garb makes an excellent foil to other small birds such as Waxbills with more variegated plumage. Their only disadvantage lies in the fact that they are difficult to breed.

Combassous are easy to cater for. They should be given a mixture of half and half white and small brown millet, plus a small proportion of canary seed and an occasional millet spray. The usual greenfoods should be given. They do quite well in a flight cage, but look much better in an outdoor aviary as the sun brings out the dark blue sheen on their plumage.

Other races of the Combassou include the Black Finch, the Purple Finch, and the Steel-blue Finch, these being the names by which they are known in their native land, South Africa. All three resemble the common Senegal species, and are themselves much alike.

The BLACK FINCH (*H. funerea*) has the gloss on the plumage of a dull plumbeous colour and not very pronounced. The legs are red and the beak whitish. The PURPLE FINCH (*H. ultramarina purpurascens*) has a bright purple gloss on the plumage. The legs and beak are both whitish. The STEEL-BLUE

FINCH (*H. chalybeata amauropteryx*) has a steel-blue sheen on the plumage; in fact, it only differs from *chalybeata* in having the legs and beak red.

Closely related to the Combassou is the RESPLENDENT or COMBASSOU-WHYDAH (*Vidua hypocherina*). This handsome little bird is almost exactly like a Combassou but with a long tail, the four median feathers being over 8 inches in length. The beak is red. These birds come from East Africa and are said to be parasitic on the Black-checked Waxbill.

They are very seldom imported, which is a pity as they are most attractive. At one time, before the war I possessed several specimens. All I have said as to the feeding, housing, etc., of the common Senegal Combassou applies equally to this bird.

Common Firefinch

(*Lagonosticta senegala*)

THIS charming and most confiding little bird is one of my favourite Waxbills, and it always seems to me to have rather more character than most.

The general colour of the male is pinkish-crimson, browner on the back, and with a sprinkling of tiny white spots on the sides of the breast. The beak is crimson, and the bird's total length is about $3\frac{1}{4}$ inches. The female is mainly medium to darkish brown, with the lower back and upper tail-coverts pinkish-crimson, and with rather fewer white spots on the sides of the breast. Her beak is duller-coloured than that of the male.

There are a few sub-species coming from different parts of Africa, of which the best-known is the Jameson's Firefinch, but none I have seen is as pretty as the typical bird. Firefinches inhabit West Africa where they are found in small flocks always in the vicinity of dwelling houses, since, like the House Sparrow, they seem to approve of mankind and his works and to prefer life in a village to living in the open countryside.

This trait is very noticeable if they are let out in this country. It makes them one of the best of all stayers at liberty, so much so that I have little doubt that, provided they were kept in an aviary for a week or two beforehand, they would when liberated hardly stray beyond the confines of even a small suburban garden.

When World War II started there were many Firefinches among the birds we liberated, fearing we should no longer be able to obtain food for them. I had had previous experience of small numbers of these birds kept at liberty, but their behaviour when let out in a large flock was interesting. They usually kept together, and like all the Waxbills, disliked high flying, always staying on or near the ground.

Most of the other Waxbills, however, roosted in hedges and bushes, though a few, I think, roosted in their aviaries, which we left open and in which we continued to feed them. The Firefinches, however, showed their preference for man-made dwelling houses—or what they doubtless

imagined to be a dwelling house—by roosting in our carpenter's shed. Here, of all unlikely places they chose to sleep in tightly-packed rows on the thick perches of some empty parrot cages that were stored there!

Before the war we used to have these finches at liberty at Keston, and they were the first foreign birds I ever tried at liberty at my old home, where they did extremely well, and I used to find their nests among the sweet-pea sticks and raspberry canes. I can vividly recall finding a pair with their newly-fledged brood sitting in a row on the back of a garden seat in the early morning sun—and a very pretty sight they made.

In the old days Firefinches were considered extremely delicate. In fact the late Dr. Butler in his well-known old book "Foreign Finches in Captivity" warns his readers that if the temperature drops to 50 degrees it will kill them.

In the light of modern knowledge, of course, this seems sheer nonsense, though Dr. Butler doubtless believed it when he wrote it. In those days it was generally considered that all birds coming from a tropical climate would wilt and die immediately unless kept at hothouse temperatures. And it was not realised until comparatively recently that such birds as Firefinches, once properly acclimatised, would not only live and breed in a naturally-planted aviary during the summer, but could also safely pass the winter in it. That they can do this, I am sure, is due to the stamina built up by their living under semi-natural conditions as opposed to the enervating hot-house existence once considered essential to keep them alive in this country.

Firefinches do well in either cage or aviary, and are simple to feed, as they require nothing but millet seed and greenfood. In a planted aviary they are so easy to breed that several times I have become aware that they had gone to nest only when I saw the parents with a newly-fledged brood of young ones. Under such conditions they doubtless catch and feed to their brood a good many small live insects. If trying to breed them in a cage or small aviary, however, it is probable that they would need a certain amount of live food of suitable size when rearing their young.

In 1959 we received among a consignment of Common Firefinches two—fortunately a male and female—which were quite different in colouring to the others, the cock being rusty-orange in colour, with a yellow instead of a red beak, and the hen being equally distinct and also having a yellow beak.

They have bred successfully with us, and as all the young have come true to colour they may either be a colour mutation or a separate, and apparently hitherto unknown race—most probably the latter.

Neither Mr. David Bannerman nor Mr. McDonald—I wrote to the latter to ask if they had any similar skins at the British Museum—could furnish any information about them. In a letter to Mr. McDonald I said that I thought it might be desirable to leave a permanent record of the fact that they were first bred at Keston, particularly as such things are so soon forgotten, and he suggested the name Keston Firefinch. So, adding a word to denote their colour, we have called them the Keston Orange Firefinch. Unfortunately we do not know and have no means of finding out, what part of Africa they came from.

We have also received at Keston a fair number of the Giant Firefinch (*Lagonosticta senegala vuleinima*), which comes from East Africa. It only differs from the Common Firefinch from West Africa in that it is larger.

Cordon Bleu

(*Uraeginthus bengalus*)

THE Cordon Bleu was one of the first birds I ever kept and, deservedly, it has always been a favourite. The upper surface of the male is a greyish mouse-brown colour, the centre of the breast, abdomen and under tail-coverts being more or less the same colour, only paler, inclining to fawn. The rest of the plumage is sky blue, darkest on the tail, and there is a bright crimson patch on the ear coverts. The beak is red. The female has slightly less blue and more fawn on the underparts and lacks the crimson ear patch. Length is a little over $4\frac{1}{2}$ inches.

It inhabits Western, North-Eastern and Eastern Africa and is very common in a wild state where it usually constructs its nest in a hedge or bush, the nest being spherical and rather deeper than it is wide with an entrance hole at the side. In confinement it will sometimes use a half open-fronted nest box. One of the most industrious songsters of the Waxbills, some of its rather shrill notes can be heard for some distance.

Towards the end of the last century Cordon Bleus were considered extremely delicate and Dr. Karl Russ wrote of them: "Almost the most delicate of all the Ornamental finches. The hens die with the slightest fluctuations of temperature. . . ." Actually, although like all Waxbills they are delicate when first imported and need careful acclimatising, once over this difficult period, they are extremely hardy, as I have proved.

By way of experiment I once kept some in a large planted aviary and they remained in perfect condition, although ignoring their aviary shelter and roosting in the evergreens in the flight even during the bitterest winter nights. I was, of course, prepared to take them into heated quarters the moment they showed the slightest signs of distress, but they were so bursting with health and vitality that it was never necessary to do so.

This all goes to show what a revolution has taken place during the last fifty years or so in our notions regarding the best way to keep foreign birds. Formerly, the emphasis was on the maintenance of a continuous hothouse temperature, whereas nowadays the paramount importance of plenty of fresh air and exercise is realised. As well as keeping these birds in aviaries, I have also kept them at complete liberty. They are good stayers and make a delightful addition to the garden in summer.

In Canada Cordon Bleus have been bred very successfully in a flight cage by a gentleman whose name I forget, but when rearing young they require a considerable amount of live food in the form of aphids, live ant pupæ, etc. It is hardly surprising, therefore, if people who are prepared to go to all this trouble, have preferred to concentrate on breeding some of the rarer Finches.

Cordon Bleus should be fed on white millet and brown Indian millet. They can also be offered small canary seed and very small mealworms, though the latter are not essential. They are very fond of millet sprays and wild green-foods such as groundsel, chickweed, shepherd's purse, etc. We have recently

received at Keston a number of the Giant Cordon Bleu, *Uraeginthus bengalus schoanus*, from East Africa. It is like its smaller and better-known relative, but is considerably larger, and also hardier.

The BLUE-BREASTED WAXBILL (*U. angolensis*) should be fed and treated in the same way as its near relative the Cordon Bleu. An inhabitant of South Africa, it is much more rarely imported, which is a pity as it is very beautiful.

Superficially it is like a Cordon Bleu, but is slightly larger and lacks the crimson ear patches. The blue areas of the plumage, however, are richer and of a deeper shade. It is, therefore, the more beautiful of the two.

Crimson Finch

(*Neochmia phaeton*)

THE Crimson Finch is noted alike for its beauty and its savage temper. The general body-colour of the male is bright crimson. The crown of the head and the mantle are dark grey shading into brown on the back and wings. The centre of the lower breast and abdomen are black, and the red sides of the breast are adorned with small white spots. The beak is red. Length is about 5 inches. In the female all the colours are paler and the centre of the lower breast and abdomen are buff.

They inhabit tropical Northern Australia, and in their native land are generally known as Blood Finches. They are usually found in damp meadows in the vicinity of watercourses where they feed on grass and other seeds. They are also said to eat termites.

While Crimson Finches are, as I have said, extremely beautiful, the males are perfect little red devils and do not hesitate to attack birds considerably larger than themselves; nor are they by any means always to be trusted with their own wives, particularly out of the breeding season.

They were never freely imported and were consequently always expensive to buy, but even had they been commoner and cheaper their savage temper would always have militated against their popularity as aviary birds. Coming as they do from tropical Northern Australia, from which territory birds have always been difficult to obtain, in their case the difficulty of importing them is increased by the fact that to be really safe it is necessary to accommodate each male in a separate cage, so that he has no companion to bully, or probably kill, during the journey.

Crimson Finches present no difficulty as to feeding and will live well on canary seed and white, brown and spray millet, along with the usual green-foods. Some will eat a little apple. One should bear in mind, however, that they are one of the most insectivorous of all the Australian Grassfinches, and each bird should be given a couple of mealworms per day, or any other suitable live food, when available. On the journey over they were, I believe, given a small shred of raw meat about twice a week which might also be beneficial to them in this country—particularly if the birds are kept in a cage.

They are not entirely hardy, and though they greatly benefit from spending the summer months in an aviary, they can only be left permanently out if the aviary has a shelter that can be heated in winter, otherwise they should be caught up and put in a flight cage in a warm birdroom about the middle of October before the really cold weather sets in.

Crimson Finches have been bred in confinement in this country, but to do this successfully, it is necessary, while gradually increasing their daily allowance of mealworms, to provide them with as varied a selection of live foods as possible. Small gentles could be given and live ant pupæ—which are usually miscalled “ants’ eggs”—are about the best rearing food of all for small Finches, though unfortunately the latter are none too easy to find in sufficient quantities except in sandy-soiled pinewood country like that round Bournemouth.

I have kept Crimson Finches at various times, but was never able to make a serious attempt at breeding them, as they must have an aviary entirely to themselves, and I never happened to have one available at the right time.

Cuban Finch

(*Tiaris canora*)

A CHARMING and diminutive bird, the Cuban Finch has always been a favourite and deservedly so. The male has the back of the crown, back, wings and tail yellowish olive-green and the forehead and face-mask black. Behind this face-mask is a wide bright orange-yellow area which starts as a narrow eyebrow and widens out on the sides of the neck and throat. This is followed by a black area on the upper breast, which gradually merges into the pearly pinkish-grey of the underparts. Length is rather over 3 inches.

The female resembles the male, but there is no black on the upper breast. Her yellow collar is paler, and her face-mask brown instead of black.

An inhabitant of Cuba, this little bird used to be more often called the Melodious Finch. This was apparently thought desirable in order to differentiate it from the nearly-allied Olive Finch (*T. olivacea*), which also inhabits Cuba. The idea was quite a good one, but I think the choice of “Melodious” was perhaps a little flattering as it gives the impression that the bird is pre-eminent as a songster, whereas it has only a brief, oft-repeated little tinkling song of a few notes, which nevertheless is quite pleasant.

Its chief attractions, however, are the harmonious blend of colours in its plumage, its smallness and neat appearance, and its tireless Waxbill-like vivacity.

Cuban Finches will live quite well in a flight cage, but as they are such very active little birds this should be as large as possible. My own experience of keeping them has been of a number I once had in a medium-sized aviary, and a pair I kept for a year in one of my planted aviaries. These, although so small, showed themselves well and were most attractive. They also bred successfully, though I can claim no credit for this because until I saw three

newly fledged nestlings sitting beside their parents I was not even aware that the latter had gone to nest!

A search revealed that they had built a small domed nest in a thick low growing bush, the nest having been rather pulled about by other birds in the aviary by the time it was found. The young ones were reared without any extras, though it is probable that the parents captured a good many small insects in the aviary while their brood was in the nest.

Once acclimatised Cuban Finches are hardy, and should be fed on white millet, brown Indian millet and small canary seed, though they are chiefly interested in millet. They are fond of the usual wild greenfoods and, of course, love millet sprays.

The most striking characteristic of these little Finches is their very highly-developed "homing" instinct. I well remember before the war—in the case of the already-mentioned medium-sized aviary which housed quite a flock of Cuban Finches—that someone inadvertently left the door of the flight ajar when refilling the water pots and all escaped. None, however, attempted to stray. Some flew up into the trees behind the aviary, but mostly they spent their time hopping about quite contentedly on top of the flight or on the ground close by. A large pan of seed was placed just inside the door of the flight, and by evening not only had every single bird returned to the aviary, but they were all roosting on their accustomed perches in the shelter.

For those aviculturists, therefore, who are tempted to try the fascinating experiment of keeping small foreign birds at liberty in even quite a small garden during the summer months there are no better subjects than the Cuban Finch and (its close rival in this respect) the African Firefinch.

Cut-throat

(*Amadina fasciata*)

ALTHOUGH it boasts no brilliant colours, the Cut-throat is one of the best-known and most widely-kept of all small foreign birds, and, incidentally, one of the most aptly named.

The male is chiefly a warm biscuit brown, the feathers of the upper parts being bordered with black. The underparts have a more pinky tinge and their black borders are narrower and less conspicuous. There is a whitish patch on the throat and beneath the eye, and this is bordered at its lower edge by a wide crimson band, from which the bird takes its name. The tail is blackish. Length is about 5 inches. The female resembles the male, but the black borders to her feathers are rather narrower and less distinct, and she lacks the crimson half-collar on the throat.

This bird is very common in its native Africa, where it is found from Senegambia to North-East Africa, and as far southwards as Masai-land.

As is doubtless the case with many other aviculturists, this was one of the first foreign birds I ever kept, not so much because I particularly admired its

colour scheme, as because it was cheap, hardy and always obtainable. In those days they were often known as "Ribbon Finches"—though why, I cannot imagine—"Cut-throat" being far more appropriate.

Cut-throats can be kept in either a flight cage or an aviary, and are quite harmless to smaller companions when out of breeding condition. When breeding, however, they become aggressive, and must not be kept with any bird smaller or weaker than themselves, but they have the great advantage of being suitable aviary companions for Budgerigars.

I have bred Cut-throats on one or two occasions, usually in a half open-fronted box. Nevertheless I should not call them quite such easy breeders as they were apparently considered to be by some of the old writers. They are rather inclined to tire of their half-grown nestlings, throwing them out of the nest, in order to start again.

When nesting in mixed company, Dr. Butler describes them as: "A veritable bully and nuisance; interfering with the nesting of other birds, chasing



The Olive Finch is a freely imported seed-eater

and tormenting them, building and stealing nests. . . ." He advocates breeding them in cages.

They are very easy birds to house and cater for, as they are perfectly hardy and can be kept for years on a seed mixture of small canary seed, brown Indian millet and white millet, and the usual wild greenfoods. They are fond of millet sprays, but these are not an essential part of their diet.

Diamond Sparrow

(*Steganopleura guttata*)

THIS is one of the largest and handsomest of the Australian Finches with a rather plump, thick-set figure. The male has the forehead, crown and nape of the neck silvery grey, and the throat white. The beak is reddish-plum colour, and from its base, dividing the grey head from the white throat runs a black pear-shaped marking, the larger end of which encloses the eye, which is surrounded by a very narrow red circle.

The back, mantle, and wings are a mousey brown colour; the rump crimson, and the tail almost black. There is a broad black band across the upper breast, separating the white throat from the white breast and belly. Only the central parts of the breast and belly are white, the sides being black, and it is the numerous pure white spots of varying sizes for which this black area forms such a striking background, that have presumably given the bird its name—although actually they are far more like pearls than diamonds. Length is just under 5 inches.

Diamond Sparrows, which are not particularly easy birds to sex, provide one of the very rare cases among birds in which the female is, if anything, the handsomer bird of the two, as the white spots on her black sides are bolder and rather more numerous than in the male. Perhaps the surest guide is the beak which is a plumbeous maroon-red in the male, and more of a pinkish-red in the female.

They inhabit New South Wales, South Queensland, and the Eastern areas of South Australia where they are said to spend much of their time on the ground, or sitting in low bushes, and to feed on small insects and grass seeds, consuming much greater quantities of the former when they have young in the nest.

Once acclimatised, Diamond Sparrows are among the hardiest of birds, but unfortunately they are very bad travellers. Before air-transport was possible, they used to arrive in poor condition and minus most of their feathers, as they invariably plucked each other almost bare during the long sea journey, and it needed considerable time and skill to acclimatise them and get them back into decent condition again.

Nowadays, however, all this is changed, and in the spring of 1951 we received a large consignment of Diamond Sparrows by air from Australia. The journey took only five days, so they arrived in absolutely perfect feather and condition and were consequently no trouble at all to acclimatise.

Diamond Sparrows make admirable aviary birds, but, at any rate when breeding, they are inclined to be quarrelsome and should be given an aviary to themselves. They build a rather large, untidy, Sparrow-like nest in a bush (if available) or failing that in a wicker Hartz Mountain Roller travelling cage, or even in an open-fronted wooden box.

I have four of these birds in a large, planted aviary as I write, of which two, at least, are a true pair. At first they built a nest in an elderberry bush, but for

some reason deserted it in favour of an open-fronted box hung up under overhead cover. They have now made a very bulky nest, lined with some of the moulted breast feathers of a male Amherst Pheasant who shares their aviary, but as it is already October I am afraid it is too late for their efforts to meet with any success.

The male Diamond Sparrow has a most amusing and grotesque courting display. Taking a long piece of grass in his beak he perches on a resilient twiggy branch; puffs himself out to quite twice his normal size; puts his

One of the most striking of the Australian Finches is the Diamond Sparrow, its simple but effective colour scheme being black, white, and grey, with a crimson rump and red beak. They are perfectly hardy and have been bred though not so freely as some other Australian Finches



head downwards and sideways (presumably to be able to watch the effect of his performance on the hen) and then proceeds to bob rhythmically up and down, all the time emitting a low-pitched buzzing noise. Needless to say the hen usually looks as acutely bored as do most hen birds when being displayed to!

Diamond Sparrows should be fed on canary and millet. They also like spray millet as well as the usual wild greenfoods and flowering grasses, while some will eat spinach beet and pieces of apple.

They have been fairly frequently bred in confinement, one of the most successful breeders of these birds being Mrs. Wharton-Tigar, who on one occasion before the war achieved the considerable feat of breeding sixteen young ones from one pair in a single season, which would be considered a creditable effort even for a pair of Zebra Finches. In an account she wrote of this success, she mentions that while the parents were rearing young she gave them egg and

arrowroot biscuits with grated carrot, as well as sprouting seeds and a few mealworms.

Among the already-mentioned consignment of these birds from Australia was a single specimen of what is, I should say, an unusual hybrid, namely, a Diamond Sparrow x Long-tailed Grassfinch. It is quite a pretty bird, mainly grey with a pointed tail, a small black bib, and the Diamond Sparrow's white-spotted sides faintly barred with black and white. The rump is salmon pink.

Dufresne's Waxbill

(*Coccothraupis melanotis melanotis*)

I HAVE always considered this to be one of the prettiest of the Waxbills. It is also one of the smallest and very unlike any of the others in its colour scheme.

In the male the wings and mantle are olive-green, cheeks and throat black, and the top of the head and breast pale grey with an orange patch in the middle of the belly and the rump reddish-orange. The beak, too, is quite a feature, the upper mandible being black and the lower one red. The hen is similar to the cock, but without any black about the head.

It is found mainly in the Eastern parts of South Africa, where it is said to be partial to the vicinity of human dwellings, often nesting in trees in gardens. In its native land it has the alternative name of the Sweet Waxbill.

Dufresne's is another of those Waxbills that is partly insectivorous and extremely delicate when newly imported. It is, however, well worth taking a lot of trouble over them as they are beautiful, live well once acclimatised, and are very willing to go to nest. They have been bred on several occasions, most recently by Mr. Dulanty.

A pair I had not long ago were disappointing as far as breeding goes. They had a fair-sized outdoor aviary to themselves in which they spent the summer. As a nesting site I nailed a bundle of twiggy branches under overhead cover against the side of the shelter. In this the pair promptly constructed a very beautifully made round nest with the entrance hole in the side, but though both birds appeared to be in a perfect condition, that is as far as they got. Not a single egg was laid throughout the summer. I thought that, perhaps as so often happens, those avian pests mice might have taken possession of the nest, but an examination showed no trace of them. Why the parents suddenly lost all interest in the nest they had so carefully constructed remains a mystery.

The late Duke of Bedford who, when he was Marquess of Tavistock, so successfully kept and bred various species of Waxbills at liberty, told me, however, that Green Avadavats and Dufresne's Waxbills did not do very well. He found that the latter were hard to acclimatise and seemed very sensitive to cold.

I certainly think Dufresne's must be classed among the more delicate Wax-

bills, but that they are not among the most delicate is shown by the fact that if brought over under at all reasonable conditions they usually stand the journey remarkably well for such tiny and frail-looking birds. This I think is because, while undoubtedly partly insectivorous, they are not nearly so dependent upon a continuous supply of live food as are Black-checked and Violet-eared Waxbills. During the summer months, in fact, they will live in an outdoor aviary on a diet of seed, mainly millet, and greenfood, with only such insects as they manage to capture for themselves. If their owner, however, is intent upon trying to breed them, undoubtedly the more suitable live insects he can supply, the quicker they are likely to come into breeding condition.

As I say, I have not myself bred these Waxbills, but I should imagine that when there are young to feed, they will have to be supplied with plenty of live insects, including, if possible, live ant pupæ. On the other hand if they have a really large aviary, not overcrowded with other birds and containing growing turf and plenty of bushes and creepers, they will be living virtually under natural conditions, and will thus be able to capture an enormous number of insects for themselves, so that it would be unwise to give in addition much in the way of extra stimulating live food such as mealworms.

I should hesitate to try wintering even an established pair of Dufresne's Waxbills in an unheated outdoor aviary, though it might be a possibility, seeing that they come from the Cape where night frosts are by no means unknown. On the whole, though, I would advise bringing them into a cage in a frost-proof birdroom from October to April.

Evening Grosbeak

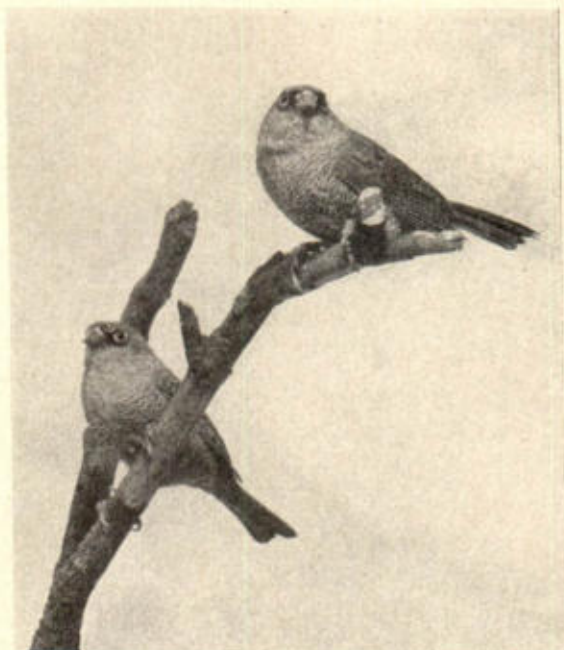
(*Hesperiphona vespertina*)

AN attractive and rather unusually coloured Grosbeak, which is not very often imported. The forehead, eyebrows, rump and abdomen are yellow. The head, wings and tail are black, and the body is olive-fawn colour.

The sexes are alike, but the female has perhaps a slightly smaller, more feminine-looking head, and not quite such a massive bill.

Distribution: East and Central United States.

We had a pair of these Grosbeaks in our largest planted aviary at Keston and they went to nest and hatched a brood in 1957. For a short time all went well, and then the young ones were removed from the nest and killed, probably by a pair of Shamas in the same enclosure which were noticed to be taking a suspicious amount of interest in the Grosbeaks' nest. When I kept Shamas at controlled liberty before the war I found that they would catch and kill small mice, so I have little doubt that they would not be averse to taking other birds' nestlings, if they got the chance. This was of course yet another example of the attractiveness of "mixed collections" in theory, but the disadvantages—in the way of abortive nesting attempts—in practice; for I have little doubt



Fire-tailed Finches, a rarely imported species found in Tasmania and South Australia

that the Evening Grosbeaks would have reared their brood successfully had they had an aviary to themselves, or possibly shared it with a pair of larger harmless birds such as Bronze-winged Pigeons.

The male Evening Grosbeak is quite a good songster and the birds are perfectly hardy, and require the same diet and treatment as the Rose-breasted Grosbeaks.

Fire-tailed Finch

(*Zonaeginthus bellus*)

THESE are among the rarest birds we have ever had at Keston, or at least among the most rarely imported, for when we received about a dozen specimens in 1958, my friend John Yealland, Curator of Birds at the London Zoo, told me that he had not seen any for quite thirty years, and that he believed ours might well be the first importation since then.

The Fire-tail is of much the same size and build as the Sydney Waxbill, but I think it must be said at once that compared with other Australian Grass Finches, it is not a very exciting little bird to look at, which, in addition to its costliness, is probably one of the reasons it has so seldom been imported.

It is mouse-coloured, darkest on the upper surface and tail—the latter being almost black, as is the ventral area—and paler and greyer below, the feathers being all minutely bordered with black, giving a wavy, striped effect which is only apparent if the bird is seen close to. There is a narrow frontal band of black, widening out on the side of the head and surrounding the eye, which is narrowly encircled with bare skin of a pale blue-grey colour. The scarlet upper tail-coverts provide the only touch of bright colour and the beak is dark red. The sexes are alike.

Distribution: Tasmania and parts of Southern Australia.

An Australian visitor to Keston saw our Fire-tails and told me that they are considered delicate and difficult in captivity even in Australia, and although ours started well and actually began nest building during a fine, sunny spell in the spring, subsequent cold, wet weather proved too much for them, in spite of the fact that they had a dry, well-lighted shelter to retire into, and there were several losses. On the whole, therefore, I think that they deserve their reputation of being delicate and difficult birds in captivity. Their feeding, however, presents no difficulties, as they require the same diet as the other Grass Finches.

Giant Whydah

(*Coliuspasser progne progne*)

THIS fine bird is the largest as well as one of the most handsome of the Whydahs, and is a native of South Africa. When out of colour the male is mainly lightish brown with darker striations in the plumage, and at this time his appearance gives no hint of the glorious creature he will later become.

When in full colour he measures fully 25 inches, and of this no fewer than 18 inches are accounted for by his magnificent flowing black tail from which he doubtless gets his name of whydah or widow bird. The tail consists of numerous long narrow feathers of varying length and extraordinary suppleness which causes them to undulate gracefully behind him as he flies, an effect that is heightened by the airy buoyancy of his flight.

The bird's wings are exceptionally large, and indeed look almost disproportionately so when he is out of colour. Their size, however, is very necessary to support the weight of his immense and voluminous tail when in colour, at which time the rest of his plumage is mainly velvety black relieved by handsome cream and orange patches on the shoulders.

The female resembles a male out of colour, but is rather smaller.

As can be imagined, the enormous size of the Giant Whydah's tail can at times be a considerable menace to it. I well remember when I was a schoolboy in 1913 receiving a letter from my eldest sister, who was at the time staying with friends in South Africa, in which she said she was sure I should be interested to hear that there were numerous "Sackapooloo birds" (the native name apparently for Giant Whydahs). In flight these birds reminded her of "large

black silk handkerchiefs floating about"—incidentally a very apt description—and after a heavy rainstorm their tails became so waterlogged that sometimes you could pick them up from the ground completely drenched and quite unable to fly.

I have hardly ever been without Giant Whydahs, and I do not consider any aviary housing a mixed collection and large enough to afford them adequate flying space is complete if it lacks them. They are so spectacularly beautiful, easy to feed, hardy, long-lived, and perfectly harmless to even the smallest and weakest of their companions.

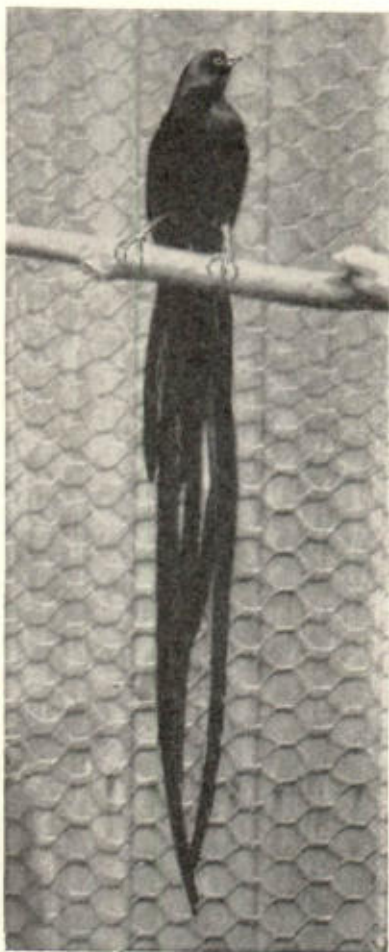
It would really be too flattering and quite misleading to describe as a "song" the curious noises the bird produces during the breeding season, for as is the case with most of the other Whydahs and Weavers, it merely draws itself up, puffs out its head feathers and proceeds to emit a continuous stream of strange harsh buzzing sounds.

Some specimens might eat mealworms, but all they really need is canary, millet, and greenfood if they will eat it. I have recently discovered that they are fond of hemp and sunflower.

Easy as they are to keep, however, to breed them in confinement is a very difficult proposition indeed. The Giant Whydah is polygamous but not parasitic. His wives nest at the same time and rear their young ones without help from the male. The nest is on the ground and is concealed beneath a sort of grass tent affair, which they make by pulling down and bending over the leaves of the surrounding coarse grasses.

To breed them successfully in this country is no mean feat, and this, as far as I know, has been done only once—between the wars—by the late Duchess of Wellington, who bred them in an enormous "wilderness" aviary.

The Kenyan form of this Whydah, *C. progne delamerei*, has been imported and is said to have an even longer tail. Recently, I possessed a Giant Whydah that appears either to have belonged to a new race hitherto unknown to science,



The Giant Whydah is a magnificent bird which does not molest even smaller companions



The Bronze-winged Mannikin is perhaps the prettiest as well as being the commonest of the African Mannikins



The Orange-cheeked Waxbill is freely imported, and is one of the most vivacious and charming of the Waxbills

or else to have been a freak specimen or "sport." When out of colour I thought that, owing to its rather smaller size than usual, it must be a hen, but when it came into colour it turned out to be a cock, identical in every way with the normal type except that it was all black without coloured shoulder patches.

Golden-bellied Grosbeak

(*Pheucticus aureoventris*)

THIS is one of the largest and handsomest of the Grosbeaks, but it is not often imported. The male is mainly black, with the lower breast, abdomen, and bend of the wing bright yellow. The wings and tail are marked and spotted with white, and the large and powerful bill, with which, unless handled carefully, it can give one a very nasty bite, is lead-grey. The female is brown above, merging almost into black on the head and neck, and the underparts are yellowish. In winter the black areas of the male's plumage become suffused with brown, but there is never any difficulty in telling the sexes apart.

Distribution: Southern Brazil, Bolivia, Upper Paraguay.

Golden-bellied Grosbeaks are extremely hardy, and the cock is quite a good songster. My pair live all the year round in a very large planted aviary containing various other birds such as Azure-winged Magpies and Superb Spree Starlings, and it is disappointing that so far they have not bred.

These Grosbeaks are attractive aviary inhabitants but have one disadvantage and that is that they are destructive to bushes, nipping off the top shoots and some of the leaves with their powerful beaks, except in the case of tough things, such as Cupressus, which they usually leave alone. This hardly matters in a very large thickly planted aviary, but would quite spoil the appearance of a smaller one containing only a few bushes.

They should be fed on canary seed with some sunflower and a little hemp; they are very fond of apple and will take greenfood such as the leaves of spinach, beet, etc. They also appreciate a few gentles or mealworms, and these would probably prove valuable if they had young in the nest.

Golden-breasted Bunting

(*Emberiza flaviventris*)

THIS bird appears in Roberts's "Birds of South Africa" as the Red-backed Yellow Bunting. The male has a black head with a broad white stripe down the centre of the crown as well as above and below the eye. The back and mantle are chestnut-brown with paler borders to the feathers. The rump

is brownish-grey and the tail is black tipped with white. The wings are black with one broad and one narrow white bar, and the chin, throat and breast are rich cadmium yellow merging into whitish on the abdomen. The female is similar, but less brightly coloured. The total length is a little over 6 inches.

Roberts gives its distribution as "widespread over the continent in the acacia veld south of the Sahara Desert, but not in the southern and western Cape Province. . . . It utters a musical call, though not a song".

It is, to my mind, a most attractive Bunting, its colour contrasts of black, white, chestnut-brown and pure vivid yellow being most striking. I had a pair for about two years, but although they were in a planted aviary with a few companions, they did not at first make any attempt to nest, and I have yet to hear the musical call note; in fact, although in perfect condition and very cheerful and lively, they seemed singularly silent birds.

We recently had a pair of these Buntings in a large planted aviary at Keston. The cock unfortunately died just before the beginning of the breeding season,



The Golden-breasted Bunting, a most attractive bird with vividly contrasting black, white, chestnut and yellow plumage

but the hen constructed a cup-shaped nest and laid three eggs which were unlike any other bird's eggs I have ever seen. Most eggs are either plain, spotted, or spotted and blotched, usually most thickly at the larger end; but the Golden-breasted Bunting's egg is white with a perfectly even narrow circle of dark brown spots and blotches round the larger end, as though one had drawn a pencil line round a chicken's egg just where one will cut the top off to eat it for breakfast. I know no other bird whose eggs are similarly marked.

They are not delicate and will live quite happily on canary seed and millet, with millet sprays and greenfoods, and they can also be given a few mealworms or gentles twice a week or so.

Golden-breasted Waxbill

(*Estrilda subflava subflava*)

THIS tiny bird, which is much the smallest of the commonly imported Waxbills, is also one of the prettiest. The male is brownish-olive above, with the breast orange and the centre of the belly deep reddish-orange. The sides are minutely barred with very dark grey stripes, and the throat is greyish-white. There is a red stripe just above the eye and the beak is also red. The female is similar, but her breast and belly are pale yellow and there is no red stripe above the eye. The bird's total length is slightly less than $3\frac{1}{2}$ inches.

The typical, smallest, most brightly-coloured race comes from West Africa, the South African race (*E. clarkei*) being larger and less beautiful, as the breast colour is not nearly so vivid. In a wild state Golden-breasted Waxbills are said to be partial to marshy country, where they live in small flocks.

Apparently they alone, as far as I know, among the Waxbills have evolved a sensible labour-saving plan of never building a nest of their own, but merely taking possession of a deserted Weaver's nest to which they add a warm lining of feathers and other soft materials as a cradle for their minute white eggs.

I think I am right in saying that they have been successfully bred in confinement many times. If any of my readers should feel inclined to attempt this, it would seem advisable to provide the birds with some sort of ready-made nest as closely resembling a Weaver's as possible. They might, of course, take to an ordinary wooden Finch nest box, but if not I should certainly try them with something more natural.

Golden-breasted, despite their smallness and delicate fragile appearance, are actually a good deal easier to acclimatise than some of the larger more robust-looking Waxbills and once acclimatised they are remarkably hardy and need no artificial heat in winter. They are extremely simple to feed, needing only millet and greenfood, though they sometimes eat very small canary seed.

As a boy I kept them in an outdoor aviary with a small flight attached, and under such conditions they soon become tame and steady and were seen to perfection. Since then I have had pairs in a roomy planted garden aviary, but I would not recommend this way of keeping them—at any rate from the owner's point of view—for they are so small and unobtrusive and so addicted to hopping about among the grass, that one hardly ever sees them. I think very small birds are all disappointing in a large natural aviary and give it, unless one looks very closely, an uninhabited appearance. To my mind the ideal-sized bird for such an aviary is anything between a Shama and a Royal Starling, the latter being particularly magnificent.

If caged, Golden-breasts should be given a flight cage of the box or semi-box type, and once a week or so should be provided with a piece of turf to peck about in. As a tit-bit they would probably appreciate greenfly or if you happen to come across an ant's nest, some live ant cocoons.

I have tried them at liberty but, of all the Waxbills, they are about the worst stayers, usually making off never to be seen again as soon as liberated.

Gouldian Finch

(*Poephila gouldiae*)

THE famous naturalist John Gould called these gorgeous little birds in honour of his wife, otherwise they might appropriately have been named Many-coloured Finches, clad as they are in green, blue, yellow, red, purple, black and white.

The male has the wings and upper surface grass green; the rump sky blue and the tail black with the two central feathers elongated and tapering to a fine point. The face-mask is brilliant blood red and the chin and a patch on the throat velvety black. The face-mask is narrowly bordered with black, behind which is another border of peacock blue which merges into the grass green of the upper surface.

The upper breast is rich crocus purple and the lower breast and belly clear crocus yellow with an orange tinge where it meets the purple of the upper breast. The under tail-coverts and the area round the vent are white. The beak is whitish-pink tipped with crimson and the legs are flesh pink.

The female has all her colours duller and less sharply separated, her upper breast being mauve and her lower breast pale lemon yellow. They vary greatly as to the colour of the face mask, this being in some hens mainly red and in others mainly black with a few red feathers. Young Gouldians give no hint of their future glories and are very unpretentious little grey-green birds.

The Gouldian is unique among Finches in that there are three distinct varieties; the Red-headed, the Black-headed, and the Yellow-headed. Of these the Black-headed is the commonest; the Red-headed (described above) the most beautiful; and the Yellow-headed much the rarest.

All are alike except that the Black-headed has the face mask entirely jet black, this being replaced by orange in the Yellow-headed variety. The latter is misleadingly named. I have several pairs of this rare variety, and the heads of the males are not a true yellow such as that of a primrose, but what I would call a slightly tawny orange colour, quite distinct from the blood-red of a Red-headed Gouldian.

Few birds have their colours so sharply separated as are the purple and yellow areas of a male Gouldian's breast, and it is doubtless this which prompts the remark I have so often heard in connection with these Finches, namely, "they don't look real, somehow." And it is also this that makes some of the Gouldian illustrations so misleading, as the artist, in a misguided attempt to improve upon nature, has merged the purple into the yellow with no sharp dividing line.

The Black-headed is the dominant Gouldian, and my experience has been that while Black-headed pairs usually breed true, Red-headed pairs sometimes throw a proportion of Black-headed youngsters.

Gouldian Finches inhabit tropical northern Australia, sometimes in very dry areas, which necessitates their flying considerable distances to drink at the nearest waterholes, which they do at dusk. In their own country they are

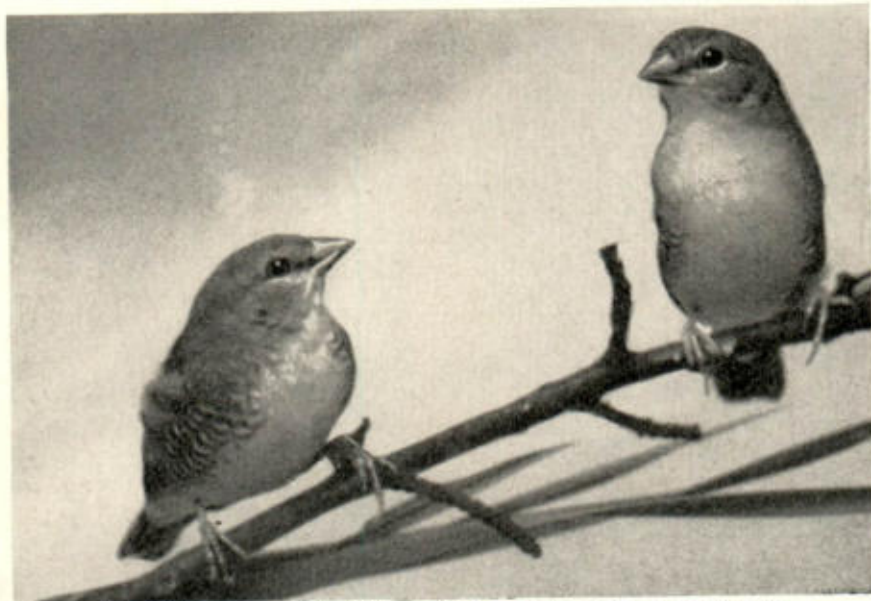
also known as the Purple-breasted Finch and the Painted Finch, which latter name must cause considerable confusion with the real Painted Finch (*Emblema picta*)—also a native of Australia.

Gouldian Finches with their incredibly brilliant and exotic appearance must have made many converts to aviculture, and they must be almost the first foreign birds I ever saw, as my grandfather, Jeffery Whitehead, always kept some in a very large cage in his conservatory. Later on there was a stuffed specimen which we used to sketch in the studio at Charterhouse, and I can remember as I sketched it thinking to myself: "One day I *must* have Gouldians," and not long afterwards I achieved my ambition.

It is not surprising that Gouldians are among the most popular of all cage and aviary birds, because, unlike some brilliantly-coloured birds such as the gorgeous *Calliste* Tanagers, they are hardly more difficult to cater for than Zebra Finches. They will live well, and might possibly breed in, a large flight cage, but they are seen at their best when a number are kept together in an outdoor aviary, and to see several hundred sitting together in bright sunlight as we do in our acclimatising aviaries at the Keston Foreign Bird Farm is an unforgettable sight.

I have kept Gouldians in both cages and aviaries, and on one occasion just before the war had great success in breeding them. A number of pairs arrived from Australia in the spring, and as some were obviously still in breeding condition, I put five pairs in an outdoor aviary about 15 feet long by 7 feet high by 4 feet wide facing due south.

I provided them with plenty of wooden Finch nest boxes inside which they made rather rudimentary nests, chiefly of hay. Numerous young ones were



The Golden-breasted Waxbill, one of the most beautiful of the Waxbills

reared and they went right on into the autumn. It was after I had provided them with a lamp in the shelter (for the sake of the young still in the nest) that the most spectacular brood was fledged—nine young ones in all, successfully reared in a single nest. Although one was a runt and died shortly afterwards, the remaining eight were all perfect specimens.

Generally speaking, however, the difficulty in breeding Gouldians is that, like Brown's and Hooded Parrakeets which also come from tropical Northern Australia, they tend to moult during the summer and come into breeding condition about August or September when the days are starting to draw in.

In the spring of 1951 I received five pairs of imported Red-heads. At first they were caged in a warm room, and the weather being so wretchedly cold and gloomy, I had to wait for some time before there came a spell of suitably warm and sunny weather in which to transfer them into an outdoor aviary. Two pairs quickly went to nest, but the other three soon started to moult.

By the time the two nesting pairs were laying, the weather had turned very cold again, which perhaps accounts for the fact that most of the eggs were infertile, only a single young one being hatched and reared in each nest. Since then I have bred them regularly each season.

Gouldians are the simplest of birds to feed, and as I had no millet sprays at the time, these young ones were reared on nothing but white and small brown millet, canary seed and a certain amount of flowering ryegrass. Actually so easy are they in this respect that I believe they would rear young on canary seed alone with a minimum of greenfood. It is best, however, to give them canary and the two millets, as well as millet sprays and flowering rye grass and poa annua grass, but extras such as soft food, etc., are unnecessary. They are fond of granulated charcoal which is very good for them.

Young Gouldians have a small cluster of phosphorescent nodules on each side of the base of the beak, and as these glow brightly in the darkness of the nest they are probably a rather marvellous provision of nature to enable the parents to know exactly where to put the food, though, if this is the case, it seems rather unfair that most other nestlings, which are hatched and reared in dark places should not also be provided with such convenient head-lamps. These nodules are still clearly visible when the young fledge, but shortly afterwards disappear.

Gouldians have no song worthy of the name. They have a weak, sibilant "Swee . . . swee . . . swee" frequently uttered, the song itself consisting of a scarcely audible gargling sound. A cock Gouldian's display consists of first turning sideways to face the hen sitting beside him. He then cleans his beak busily several times on the perch; keeps his head lowered and quivering for a moment or two; then, suddenly drawing himself up to his full height, throws out his chest, and, still facing the hen, starts to "sing."

These lovely birds have frequently been bred in confinement in this country, but the aviculturist who, more than any other, has concentrated upon breeding this species—and very successfully too—is Mr. P. W. Teague, who has bred them for years, and to several generations aviary-bred.

I heard once of someone who was supposed to have succeeded in breeding a pure white Gouldian Finch, and though I have no desire to be discourteous

to this gentleman (if he really exists) I can't help feeling he might have devoted his energies to a better cause, for, to my mind, breeding a white Gouldian would be on a par with trying to bleach an opal in order to have the satisfaction of saying "Here it is—pure white—without a single one of its glowing colours left!"

Gouldians are moderately hardy, in so far as they can, in a very mild season, be wintered out of doors in an aviary in a sheltered, south-facing situation, which has a really dry cosy wooden shelter (preferably double-wooded) into which they can be shut each night during the winter months, but this is apt to be a case of the survival of the fittest and personally I recommend some artificial heat during very cold spells.

In the spring it is advisable not to keep them waiting too long for their nest boxes, as otherwise they may start moulting, and this is another reason why a well-protected, south-facing aviary is so important for them.

They are rather prone to foot troubles if given nothing but hard, unyielding perches to sit on. It is therefore important—whether they are caged or kept in aviaries—to provide them with resilient twiggy branches, as it will usually be found that it is on the thinnest of these (about the size of an average knitting needle), that they choose to roost at night.

Green Avadavat

(*Stictospiza formosa*)

THIS very pretty little Waxbill is not just a green edition of the better-known Red Avadavat as I remember supposing it would be when I first took up bird keeping. Indeed, no two birds could be less alike.

The male Green Avadavat is olive-green above with an almost black tail. The throat is greyish-yellow gradually deepening into rich yellow on the breast and abdomen. The sides of the body are strikingly and evenly barred with black on a white background, while the legs are greyish-pink and the beak red. Length is rather over 4 inches. The female is duller than the male, with the underparts whitish-yellow, the black and white stripes on the sides being much less clear-cut and distinct.

They inhabit a wide belt across Central India where they are known as the Green Munia. Preferring well-watered districts which provide a rank growth of tall coarse grasses, they are common in such localities and can be flushed in large flocks. They are said to be of a rather tame disposition and therefore easily captured, being popular cage birds in India. Importations into this country appear to have been made as long ago as 1860, and they were probably known as cage birds in Germany some years earlier.

Green Avadavats make charming aviary birds and will also live well in a large flight cage. They feed mainly on white and Indian millet and should

be given any greenfoods they will eat, such as groundsel, chickweed and flowering grasses.

Like most Waxbills, they are so diminutive that one sees very little of them in a large planted aviary, though it is under such semi-natural conditions that there would be the likeliest chance of breeding them. Then, they would be able to capture for themselves some of the live insects needed when rearing young ones, though it would be advisable to supply a few gentles, small meal-worms and, if possible, live ant pupæ as well.

So very small and defenceless are they, that it is best to keep them among a collection of other Waxbills and never with any birds likely to prove aggressive. I have never tried Green Avadavats in a planted aviary for the winter, but they are quite hardy and need no artificial heat if the aviary has a comfortable shelter in which they can be shut each night.

Green Cardinal

(*Gubernatrix cristata*)

THE Green Cardinal, so very unlike the others in colour, has the advantage of being the easiest of the family to breed in confinement. I never kept them before the war, as they always struck me as being just what a foreign bird ought *not* to be in appearance, that is to say, not nearly as brightly coloured as many of our native birds. For instance, if I had to choose between a Green Cardinal and our own Greenfinch, I think for colour I would choose the latter.

The male Cardinal is a rather sombre green with the throat and cheeks greenish-yellow, the breast yellowish-green, and a black bib and crest. The hen is similar except that the various shades of green are slightly darker and rather browner than in the cock with touches of grey. They come from the Argentine.

I have seen the cock bird described as having a brilliant yellow breast, but if such specimens exist I have yet to see one. I have also seen them described as good songsters, but again I can only say that if there are good songsters among them I have yet to hear one. In fact I think the merits of all the Cardinals as song birds have been greatly exaggerated, and why on earth the Virginian Cardinal with its monotonous "Chee-ow, chow-chow-chow-chow" repeated with wearisome persistency should have had the alternative name of Virginian Nightingale bestowed upon it, I simply cannot imagine.

I once had a pair of Green Cardinals in a large planted aviary fairly close to my bedroom window, and regularly every morning as soon as it started to get light, the male Cardinal reiterated, with maddening persistency, the rather uninteresting information that "Your cream jug, cream jug, cream jug is still . . . your cream jug, cream. . . ."

Many a time in the small hours I listened to this monotonous chant hoping it might become a sustained and melodious song, but it never did and so I





The Green Cardinal is less brightly coloured than other Cardinals, but is easier to breed



The Orange Weaver is readily obtainable and is one of the most brilliantly coloured of all the Weavers. No birds are more showy in a large aviary



The Lavender Finch and the Cuban Finch — one from the Old World, the other from the New—have always been great favourites. Cubans are excellent stayers at liberty



The Tri-coloured Mannikin from India and Yellow-rumped from Australia. They are both easily catered for in cage or aviary

don't think the Green Cardinal (or at any rate my specimens) can be counted among the world's best songsters. In fact I had quite decided to move them into an aviary further from the house when I discovered they already showed signs of going to nest.

For some time, they had had two half open-fronted nest boxes, one hung outside and the other in the shelter, but as these did not seem to appeal I managed to find them a last year's Blackbird's nest. This I fixed in some forked branches and nailed up in a sheltered corner of the aviary, and they took an interest in it at once.

When they came into breeding condition the cock showed signs of becoming rather aggressive, but the aviary was a large one and his companions—mostly Weavers—were well able to take care of themselves. However, although apparently in breeding condition, they made no serious attempt to go to nest, and I subsequently parted with them.

These Cardinals should be fed on a seed mixture consisting of canary, millet, and sunflower with a little hemp, and the usual greenfoods. They are very fond of apple and should also be given a small daily allowance of two or three mealworms each, though in summer in a fair sized planted aviary out of doors they will capture enough live food for themselves. But of course it will have to be supplemented if they breed.

When they have young to feed I should give them as extras, bread and milk, biscuit meal made crumbly moist and mixed with hard-boiled egg, and as great a variety of insects as possible. I should, however, strictly ration mealworms, otherwise the parents will become over-stimulated and throw the young ones out in their desire to nest again. I think a safe and easily-obtained live food to offer them would be cleaned gentles.

I have seen it stated that they are less hardy than the other Cardinals, but I have never found them at all delicate and have wintered them successfully in an unheated outdoor aviary.

Green Singing Finch

(*Serinus mozambicus*)

ALTHOUGH handsomer than its relative the Grey Singing Finch, this little bird is not such a fine songster. The male has the crown, mantle and back darkish green, each feather having a very dark central streak. The wings and tail are blackish, some of the feathers being bordered with pale yellow. An elliptical black patch encloses the eye, there being a yellow streak both above and below it, the latter being black at its lower edge. The rump, throat and all the underparts are lemon yellow, palest on the abdomen, and some of the rump feathers have dusky edges. Length is rather over 4 inches.

The hen's colouring is rather duller, the green parts of the plumage having a more brownish tinge, and the yellow parts being considerably paler. The



The Sulphur-coloured Seedeater is one of the numerous family of Serins. It is related to the St. Helena Seedeater and also to the Grey and the Green Singing Finches

chief difference, however, is that her throat instead of being pure yellow is marked with brownish spots.

They inhabit East and West Africa and are very common in a wild state.

Green Singing Finches have always been among the best-known of cage and aviary birds, and in the past must have been imported by the thousand. They were very cheap to buy, which is doubtless why they are among the first birds that many of us can remember keeping.

Like most of the Serins it has quite a pleasing song, but with little of the astonishing volume and variety of melody that issues from the tiny throat of its even more diminutive grey cousin. It is, however, a most industrious singer, particularly when courting its hen or fighting with a rival male.

The former is a very vigorous process indeed, the lady being tirelessly pursued and I think "sung at" is a better description than "sung to," just as you can talk to or at a person! I have kept single male Green Singing Finches in a planted aviary among other birds and I once tried two in the same enclosure, but they fought so incessantly that eventually I removed one of them.

I have never attempted to breed these birds, or to keep them in anything but an aviary. They will, however, live well in a cage of even quite moderate dimensions, but if it is proposed to attempt breeding in a cage, this should be as roomy as possible, because of the excitable disposition of the breeding cock.

Failing a natural nesting site such as they would find in a planted aviary, an open wire nest box or best of all a wicker Hartz Mountain Canary travelling cage would probably suit them best. They might even take to the ordinary

canary nesting pan, but I should think the chances of this would be greater if some old nest, such as that of a Chaffinch, were put into it.

If they got so far as hatching youngsters, in addition to the normal canary seed, millet and the usual greenfoods, I should give them plenty of millet spray, as well as biscuit meal made crumbly moist and hard-boiled egg put through a sieve. In fact much the same diet as one gives to breeding Canaries. Green Singing Finches are perfectly hardy and need no artificial heat in winter.

The ST. HELENA SEEDEATER (*S. flaviventris*) resembles the Green Singing Finch but is considerably larger, and has the yellow parts of the plumage brighter and deeper. The hen is greyer. They inhabit the Western districts of South Africa and used to be freely imported, but now, since all South African birds are protected, they hardly ever come over. They are good songsters.

The SULPHUR-COLOURED SEEDEATER (*S. sulphuratus*) is like the St. Helena, but is considerably larger and more stoutly-built. It is olive-green above and on the sides of the neck, and on the upper breast. The hen is duller, her green being more tinged with grey. It has a massive rather Bullfinch-like beak but is not usually aggressive. They are found in South and East Africa, where they are known as the Bully Seedeater. They have a brief song.

The GREY-NECKED SERIN or "CAPE CANARY" (*S. canicollis*) is also a stoutly-built bird and a rather dull-coloured one. It is yellow below and grey tinged with green above, and the nape and sides of the neck are grey. The hen's yellow underparts are duller.

Found in South Africa, they have the Starling's habit of collecting in vast numbers to roost in a particular tree or group of bushes. They sing quite nicely, and are usually peaceable in mixed company when not breeding.

Green Twinspot

(*Mandingoa nitidula*)

THE Twinspots are attractive little birds, but are not often imported. In this species the male is olive-green with some reddish-orange above and below the eye and round the beak, the throat being greenish-yellow and the rump orange-buff. The breast and abdomen are black dotted with small white spots.

The female is similar but the reddish-orange facial area is buffish-yellow and her colouring generally is rather duller.

Distribution: From Natal to Kenya Colony.

In the wild state the Green Twinspot is said to be mainly a forest bird, but to come out to feed on grass seeds. Little has been recorded about its habits.

This very small bird is quite attractive, but after reading a description of its plumage, its appearance is somehow rather disappointing. Moreover, it is extremely delicate, at any rate when first imported.

Grenadier Weaver

(*Euplectes orix orix*)

THIS is one of the best known and most beautiful of the Weavers, being much like its even better-known relative the Orange Weaver in colour, though the Grenadier is decidedly the larger and stronger bird of the two.

The females at all times, and the males when out of colour, are insignificant little brown birds that no one would look at twice. Yet when the males come into colour they are, for sheer brilliance, very hard to beat. While the tail, wings and upper half of the mantle remain brown the whole of the rest of the bird has the appearance of being clothed in deep black and fiery orange velvet. The illusion of velvet rather than feathers is particularly striking in the black parts of the plumage, which include the face mask and most of the breast.

Caged specimens in this country usually moult out black and orange, but I have seen birds straight from South Africa in full colour in which the orange has been replaced by a real fiery vermilion red. Unfortunately they seldom quite regain this red after moulting in confinement.

Some I had had for two years, however, came into colour in spring with the red very nearly if not quite as brilliant as it was when they were in importation plumage. Doubtless, this was because their diet in a large planted aviary was more varied than it would have been in a cage. They probably ate a few insects, and I also saw them partaking of the egg and bread and milk given as a rearing food for a pair of Bullfinches with young in the nest, as well as picking over the morning feed of house scraps provided for some Amherst pheasants sharing the aviary.

By this I do not mean to imply, of course, that they cannot live on seed alone. On the contrary they are among the easiest of birds to cater for, and will live for years in perfect health on canary, millet and the usual greenfoods, but I do think that greater variety in their food probably helps to maintain the richness of their colouring.

The Grenadier Weaver is a very common bird in the South and East, though less so in the West of Southern Africa. Being highly gregarious it is found in large flocks nesting among reed beds, using strips torn from the reeds with which to weave its nest. In a wild state it feeds chiefly on grain but is said occasionally to eat insects as well.

I always think it is difficult to realise that many of the beautiful creatures we treasure so much in our aviaries are often regarded as a pest and a menace in their own country, and the Grenadier Weaver is a case in point. Lovely as a large flock of them must look, one cannot help sympathising with the farmers in such districts as Cape Province and the Transvaal whose fields of ripening grain are regularly raided by vast hordes of these destructive birds.

In an aviary, however, they are charming and a number of males in colour make a wonderful show in the greenery of a naturally planted aviary.

Their "song" consists of harsh grating, buzzing, crackling and sizzling sounds uttered almost continually during the breeding season. Occasionally

they have a rest, and you will see a male sitting quite happily relaxed, when suddenly he will seem impelled to draw himself up and puff out his feathers until he looks like an animated ball. Then, swaying gently from side to side he gives vent to his strange unmusical song.

Each cock jealously guards the vicinity of the nest he is engaged in making, and if another male comes near the two will instantly set at each other beak to beak with their hackles raised like miniature fighting cocks. Much buzzing, sizzling, sparring and feinting at each other will ensue, but they usually break away after a few moments, the intruder returning to his own nest without having so much as lost a feather.

One of the most interesting and fascinating things about these Weavers is the wonderful nests they build. These really are woven, for the hen inside the partly constructed nest, so far as one can see (for they seem shy of weaving while being watched), pushes the strip of grass out to the cock who crosses it over another piece before returning it to the hen, and so on.

I have only a number of unmated males at the moment so they merely indulge in a certain amount of desultory weaving of uncompleted nests, but when I was a boy I very nearly succeeded in breeding Grenadier Weavers.

The pair had a moderate-sized aviary to themselves with a grass floor, but without any growing bushes, and they suspended their nest from between two fairly stout twigs of a nailed-up branch. Normally the nest is constructed of strips the birds tear from reeds or the leaves of palm trees by the ingenious method of biting off at the base of the leaf a piece of the required width, and then flying away with the bitten off end, so tearing off a neat strip the full length of the leaf.

I supplied my pair with the longest blades of grass I could find, and also strips of bass, which they took to and used at once.

The nest was shaped like a small vegetable marrow, and although so thin at the lower end that you could see the eggs through it, was nevertheless incredibly tough and strong. The entrance hole was at the side, close to the top which, in contrast to the bottom, was of thickly matted construction, thick enough I should imagine to keep out both sun and rain. Then, most wonderful of all, projecting above the entrance hole was a perfectly constructed semi-circular porch, admirably designed to prevent the rain driving in.

Eventually two young ones were hatched, and as far as I can remember (for this all took place over thirty years ago!), lived for about a week, but meanwhile the cock was becoming more and more restless and anxious to go to nest again. Finally he pulled the bottom off the nest, the young ones falling out into the long grass where they were found dead, as the tragedy was not discovered until the following morning.

Grenadier Weavers are admirable for a mixed collection of birds of roughly their own size and strength, but though it is true that their bark is worse than their bite, they should not be put with weaker companions.

The CRIMSON-CROWNED WEAVER or BISHOP (*E. hordeacea*) is very like the Grenadier, the chief differences being that the crown of the head is orange-red instead of black, and the Grenadier is slightly smaller. It inhabits North-East and West Africa, and is less often imported than the Orange and Grenadier Weavers, but it should be treated in the same way and is equally beautiful.

Grey Singing Finch

(*Serinus leucopygius*)

THIS tiny Finch is chiefly remarkable for the dullness of its plumage and the brilliance of its song, which like that of our native Wren is out of all proportion to its size.

In appearance it has little to recommend it to the lover of foreign birds, who usually and understandably demands first and foremost that an exotic bird should *look* exotic, instead of being, as in the case of this bird, no more brightly coloured than a Hedge Sparrow.

The Grey Singing Finch is merely pale grey, streaked and marked with darker grey and brownish-grey, and with the lower breast, rump and abdomen white. In appearance there is little difference between the male and female, and the only sure way to sex them is to wait until they come into breeding condition and the cocks start to sing.

They inhabit equatorial and North-Eastern Africa, and, according to Dr. Russ, the well-known German aviculturist of the last century, they were not introduced to aviculture under their proper name until 1868, having for a time been sold in large numbers as female Combassous!

Despite their drab appearance Grey Singing Finches are well worth keeping for their song alone. I have seldom been without them as I know of few lovelier or more joyous sounds than the continuous cascade of lark-like notes which pours forth so powerfully and unexpectedly from this tiny grey bird.

A single male in an aviary will sing well enough, but even better if he has a couple of male companions. The trio will sometimes indulge in mock battles in mid-air, meanwhile pouring forth a perfect frenzy of melody. At such times a few feathers may fly, but soon all will be quiet again and the three erstwhile sparring partners may be seen feeding peacefully together at the same food dish.

Although Grey Singing Finches can safely be associated with such small defenceless birds as Waxbills out of the breeding season, it should be remembered that their character alters considerably when they come into breeding condition. Although they might not actually kill their weaker companions, they would probably chivvy them about and give them little peace, so that at such times they are best either given a separate aviary or kept only with other birds fully capable of looking after themselves.

Grey Singing Finches have been bred in confinement in this country on several occasions, and the late Duke of Bedford had an interesting Grey Singing Finch x Canary hybrid. It was about intermediate in size between its two parents and rather attractively coloured in grey and yellow. As one would expect from its joint inheritance, it was an exceptionally fine songster.

My first experience of Grey Singing Finches concerns a pair I had as a boy, which, when breeding, became too aggressive to their small companions, and were disposed of. Since then I have kept single male specimens in my planted aviaries, where their really lovely song has been a delight.

Grey Singing Finches are very easy to feed on canary seed, millet and the usual greenfoods, and despite their fragile appearance they are extremely hardy.

Incidentally, we have bred Grey Singing Finch x Canary hybrids at Keston—three cocks and one hen. They were charming and sprightly little birds, the song of one of the cocks taking more after that of its canary parent, while that of the other two was more lark-like interspersed with occasional canary notes. Altogether I know of few more beautiful and—despite their small size—powerful songsters than these hybrids. Very unexpectedly, one of the cocks proved an excellent mimic, and imitated to perfection the song of a male Pekin Robin in the same aviary.

Himalayan Goldfinch

(*Carduelis carduelis caniceps*)

ALTHOUGH an attractive and vivacious aviary bird, the Himalayan Goldfinch is not as beautiful as its British counterpart (*C.C. britannica*).

It is grey above, paler below, with black and white in the tail and wings, and some yellow in the latter. There is a red "blaze" or face mask but it is considerably smaller than in the British bird. In all other respects, such as size, etc., it resembles the latter, but its note is rather more high-pitched.

Distribution: The Himalayas.

The Himalayan Goldfinch is perfectly hardy and requires the same diet as the British Goldfinch: a seed mixture of canary, rape, teasel, dandelion, maw seed and a little hemp, plus a plentiful supply of wild greenfoods, such as flowering grasses, thistles, groundsel, chickweck, shepherd's purse, etc.

It is imported from time to time, but never at all freely.

Himalayan Greenfinch

(*Carduelis spinoides*)

THIS very attractive bird reminds one much more of a Goldfinch than of a Greenfinch, both in colouring, and also in the slenderer shape of the beak, compared with that of our own Greenfinch.

The male has a broad line above the eye, some markings on the side of the head, a collar round the neck, and the rump and the whole of the under surface bright yellow. The head is almost black and the mantle and back are greenish-brown. The wings are dark brown variegated with black, yellow and some white. The tail is dark brown and yellow. The female resembles the male, but her colouring is usually rather duller. Total length: 5 inches.



The Himalayan Goldfinch is an attractive aviary bird but is less beautiful than its British counterpart

It inhabits the Himalayas, breeding at altitudes of from 4,000 to 9,000 feet, and descending in winter to the foothills and plains below.

No written description quite does justice to the beauty of this Greenfinch which, as it flits actively about in an aviary, gives the impression of a bird predominantly yellow and black. Thus it is a far lovelier bird than our own rather sombrely coloured Greenfinch, which is by no means always the case with foreign editions of our native birds.

This Greenfinch requires the same diet as the Himalayan Goldfinch. It is perfectly hardy and is in every way a most desirable aviary bird, but unfortunately it is seldom imported and is often difficult to get.

Hooded Siskin

(*Spinus cucullatus*)

THE colour scheme of this tiny and most beautiful of the Siskins is quite unlike that of other members of the family whose plumage is mainly green, yellow, and black.

The male Hooded Siskin is by comparison really exotic-looking, being bright vermilion red with black head and wings and some black markings on the tail. The female is grey mingled with black on the wings and tail which



The Saffron Finch (*left*), is an old favourite which, like the Lazuli Bunting (*right*), can safely be kept with Budgerigars. The bright orange crown of the former's head is not seen here



Although the Green Singing Finch (*right*) is a good songster, it hardly compares in this respect with its Grey relative (*left*). Both are very easy to keep and feed

are also faintly tinged with red. She has some pink on the wing, and the upper breast is tinged with red.

The Hooded Siskin comes from South America, another name for it being the Venezuelan Red Siskin. The cocks are more often imported than the hens—the reason for this being that male Hooded Siskins are much in demand by canary fanciers for crossing purposes in order to produce a "Red" Canary. Much has already been achieved in this direction for despite the disparity in size between this tiny Siskin and even the smallest Canary, the first cross is not particularly difficult to produce.

As I write I have a cock Hooded Siskin breeding with a hen Canary, but what I really want to do is to obtain a hen and breed Hooded Siskins pure as they are so beautiful that it would be nice to have a breeding stock of them.

Hooded Siskins are delicate when first imported but reasonably hardy once they have been properly acclimatized. Although they will eat a certain amount of canary, Niger seed seems absolutely essential for them and I have found that they will not live long without it. And it is also important to give them plenty of greenfoods such as shepherd's purse, chickweed and flowering grass heads, a bundle of which should be supplied every day when available.

In an aviary these Siskins are charming and vivacious and the male is an industrious and quite tuneful songster.

Indian Mannikins

I KEPT most of the usually-imported Indian Mannikins in my early days as an aviculturist, not so much, I must confess, because they particularly appealed to me as because they were generally cheap to buy and could be kept in a mixed collection.

Mannikins all lack the two attributes which appeal to me most in foreign birds, namely, elegance of figure and exotic colouring. Moreover none of them has anything that could by the widest stretch of imagination be called a proper song. To my mind a really lovely song compensates for a great deal in the way of drabness of appearance, and for this reason the very small and colourless Grey Singing Finch has always been a great favourite of mine. But then it has, in addition to its song, a trim and sprightly little figure.

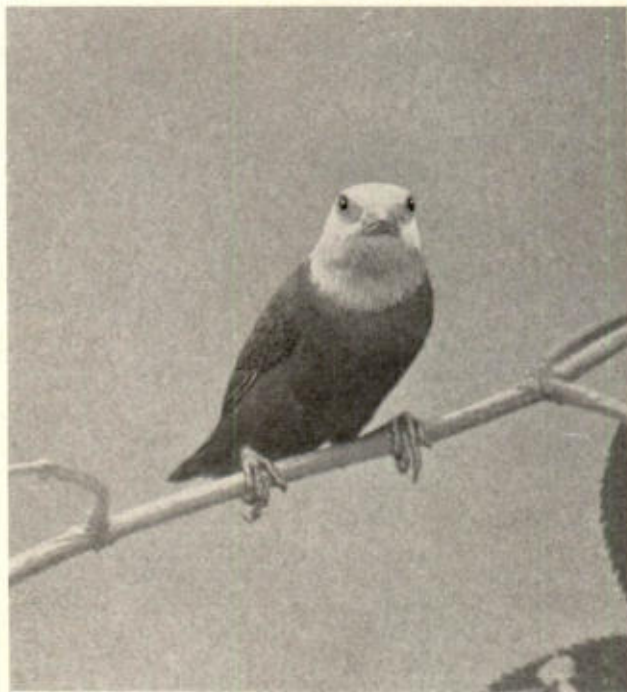
The Mannikins all have thick-set, stocky bodies and heavy beaks and legs, which combine to give them a somewhat clumsy appearance. They are, however, terrific bathers, and if properly housed and cared for always keep their plumage sleek and in the most perfect trim. Even under the adverse conditions of over-crowded dealers' cages they still somehow manage to appear well-groomed.

They are perfectly hardy and may be kept in either cage or aviary, and no birds are easier to cater for, as they require nothing but canary, millet and greenfood. They are very fond of millet sprays, but can do without them.

As a nesting site I should offer them either a wooden box with a hole in the side or with the top half left open. They would not require any extras in the way of diet while rearing young, but it would be as well to keep them supplied with millet sprays.

This brief note on the Mannikin family is intended to preface my descriptions of the Asiatic species as they are the most numerous, and with the exception of the African Bronze-winged Mannikin (*Spermestes cucullatus*), the most often imported. The sexes in Mannikins are very much alike.

TRI-COLOURED MANNIKIN (*Lonchura malacca malacca*). Head, throat and upper breast jet black; back, wings and tail, chocolate brown; underparts

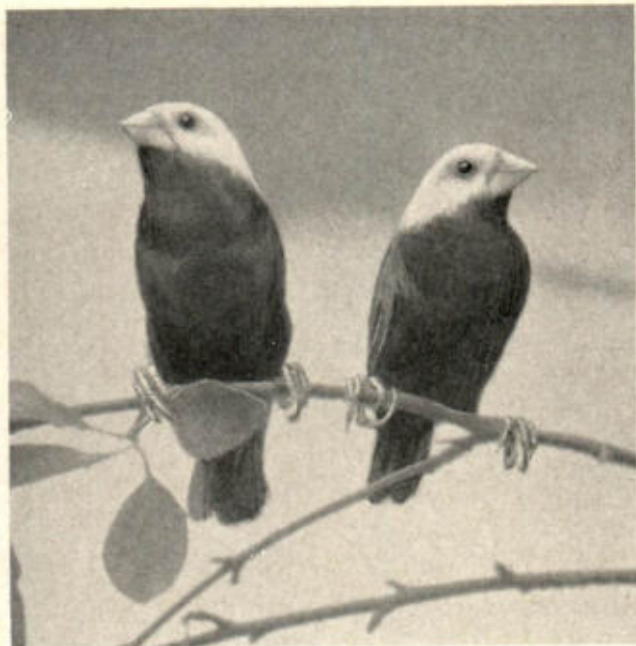


Also known as the White-headed Nun, the White-headed Mannikin is in addition sometimes called the "Maja Finch." It really differs from the popular Black-headed Nun or "Chocolate Mannikin" only in having a white instead of a black head. It is very easy to keep

white, except for the centre of the belly, thighs, and under tail-coverts which are black. Length about $4\frac{5}{8}$ inches. Habitat: India, extending South to Ceylon.

BLACK-HEADED MANNIKIN (*Lonchura malacca atricapilla*). Chocolate-brown; head, throat, upper breast, centre of abdomen, and under tail-coverts are jet black. Length about $4\frac{1}{2}$ inches. Habitat: India, Burma and Malaya.

WHITE-HEADED MANNIKIN (*Lonchura maja maja*). Chocolate-brown, lightest on the back and wings, richest on the tail, and darkest on the under surface, the undertail-coverts and centre of the belly being almost black. Head, cheeks and throat white, merging into buffish on the nape and upper breast. Length about $4\frac{1}{4}$ inches. Habitat: Malaya. There is another variety of this bird known as the Javan White-headed Mannikin (*Lonchura maja ferruginosa*) which has a black bib in the throat and upper breast. It is very rarely imported.



Sometimes known as the "Javan Maja," the Javan White-headed Mannikin is very like the White-headed Mannikin except that there is no white on the throat and it is not nearly so often imported as its better known relative. Requires the same treatment in confinement



The Spice Bird belongs to the extensive *Lanchnra* genus and there are various subspecies. It has always been a popular bird for cage or aviary and is often called the Nutmeg Finch. It is quite hardy and simple to feed

STRIATED FINCH (*Lonchura striata striata*). Brown, merging into blackish on the head, throat, upper breast and belly. Breast, lower back and rump, white; upper tail-coverts brown; tail black and rather pointed. Length about $4\frac{1}{2}$ inches. Habitat: India and Ceylon.

SHARP-TAILED FINCH (*Lonchura striata acuticauda*). Much like the striated, with more brown and less black in the plumage and a more sharply pointed tail. Rather smaller, about $4\frac{1}{2}$ inches long. Habitat: India, Burma, Malaya.

SPICE BIRD (*Lonchura punctulata punctulata*). Chocolate-brown, darkest on the head and upper breast. The feathers of the underparts give a scalloped effect, being brown at the base, then whitish-buff, followed by a darker nigger-brown border. Length about $4\frac{1}{2}$ inches. Habitat: India and Ceylon.

I have dealt separately with the Java Sparrow as it is quite unlike the *Munias*, and also with the Bengalese which is not a true species at all but a domesticated fertile hybrid. Furthermore, both of these have colour varieties.

Indian Silverbill

(*Euodice malabarica malabarica*)

THE Indian Silverbill resembles its African counterpart, except that it is a uniform more or less chocolate-brown above and has the rump and tail-coverts white. It is perhaps, if anything, the handsomer bird of the two and difficult to sex. It inhabits India and Ceylon.

It is curious that this small Finch should share with the Ringneck Parrakeet the distinction of having two races so very much alike yet coming from separate continents so far apart as Africa and India.

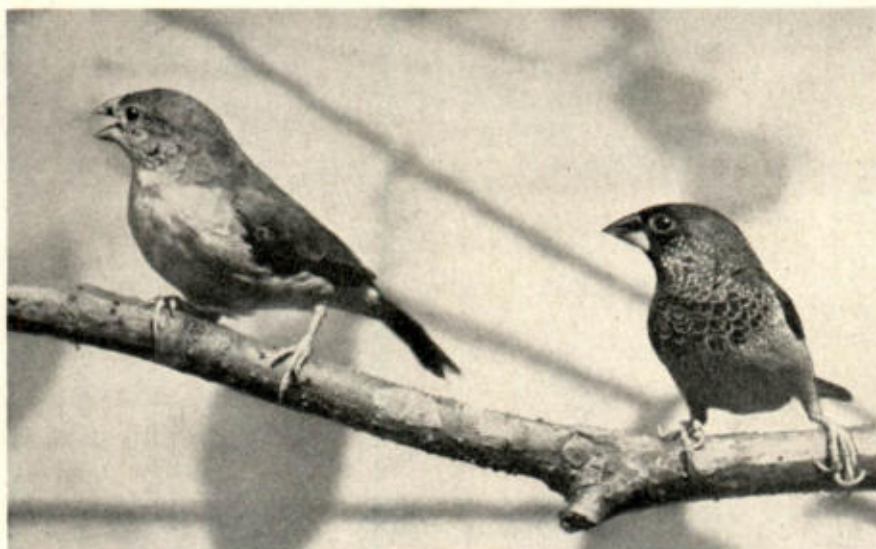
All I have said about the African species applies equally to the Indian Silverbill.

Indigo Bunting

(*Passerina cyanea*)

I SHOULD hardly call this lovely Bunting's particular shade of blue indigo. The male has the head, breast, lower back and upper tail-coverts deep brilliant gentian-blue, tinged with rich violet about the head. The tail is blackish, and the wing feathers dark brown, bluish on the outer webs. The rest of the plumage is blue with a greenish gloss, and when the bird is in breeding condition the whole plumage has a very high sheen on it.

The female is mainly brown, with the shoulders, outer webs of the flights, and the rump feathers tinged with blue. The lower parts are a pale buff



An Indian Silverbill and a Striated Finch, the first being more often imported

lightly streaked with brownish-buff. The males go into eclipse plumage at the autumn moult, and during the winter resemble the females.

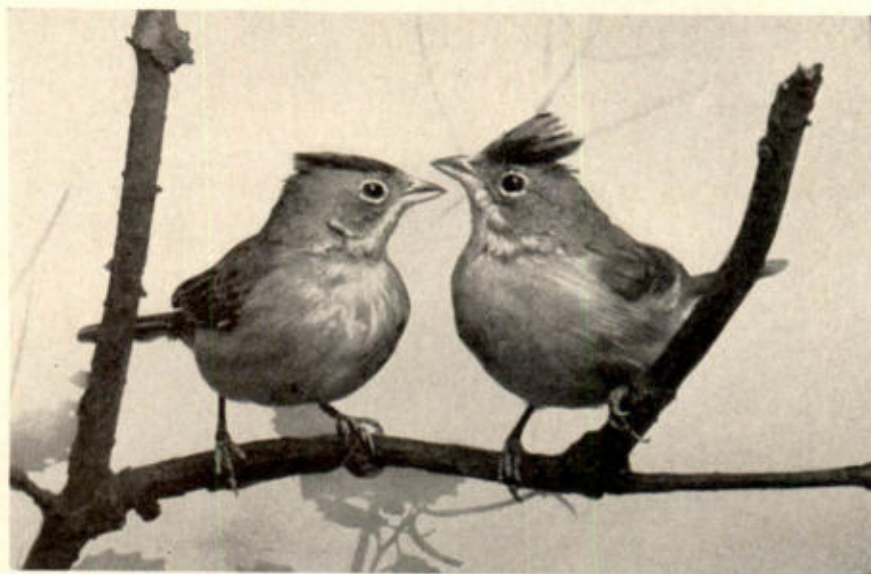
Indigo Buntings inhabit the Eastern United States, and build their cup-shaped nests in hedges and low bushes. The species is migratory.

This very beautiful little bird is, with the Nonpareil, much the most freely-imported member of the family, and for that reason has probably ceased to be valued at quite its true worth. One can easily imagine into what transports of admiration aviculturists would go if it were an extreme rarity being exhibited for the first time on the show bench.

Although I have seldom been without these Buntings since I was a school-boy, familiarity has by no means bred contempt, and I can still think of few lovelier sights than a male Indigo in breeding condition sitting in the sun and shining like a piece of glossy deep blue silk against a background of living greenery.

I have never tried to breed these birds, having kept only cocks for their lovely flash of blue in a planted aviary. However, they have been bred in confinement and have also been crossed with a Canary, though the hybrid thus produced is said to have been disappointing. I can quite imagine it would be, since one parent being blue and the other yellow the cross would presumably be green, rather I should think, like a wild Canary.

Indigo Buntings, while their staple diet should consist of canary, millet and greenfood, appreciate at all times an occasional mealworm and become highly insectivorous when rearing young. It is hopeless, therefore, to expect them to rear their brood on seed and greenfood alone. A continuous and varied supply of live food must be maintained until the young are fledged and for a short time afterwards; they may be offered a mixture of hard-boiled egg and breadcrumbs.



Pileated Finches are very smart little birds with their grey general plumage enlivened by a small bright red crest. Their close relative the Red-crested Finch has the whole plumage red. Both come from South America

As Buntings go, they are usually amiable with other birds and are therefore good subjects for a mixed collection of bachelors. Among other birds in my planted aviary I had at one time several male Buntings, three Rainbows, two Indigos, and two Lazulines. While I found that the Indigos did not molest the other Buntings, they had, despite the fact that no females were present, such perpetual squabbles with each other that I had to remove one of them.

I think, however, that this may have been partly my fault as one of them had been in the aviary for a year, before the other, also in full colour, was introduced. Previously I did not have this trouble, provided the two male Indigos had been put into the aviary at the same time and when out of colour.

Generally speaking they are extremely hardy, particularly in a planted aviary where they manage to capture so many insects for themselves during the summer months. Mine scorned the cosy wooden shelter and roosted out in the evergreens all the year round.

If there are any losses these usually occur during the autumn moult or when they are coming into colour in the spring, and it is interesting that the latter process seems to be similar to that of the Weaver family. That is to say—at any rate as far as my own observation goes—that no feathers are dropped during the spring transformation, the brilliant colour apparently spreading from the base to the tip of each feather. This I think may prove a certain strain on the bird—hence their comparative delicacy at this period—particularly if the spring is cold and sunless.

The male Indigo Bunting has a lively and pretty if not very varied song, and he sings indefatigably during May, in the late afternoon and evening.

THE CRESTED FINCHES (*Coryphospingus*) are not far removed from the Buntings, and are most attractive and usually peaceful aviary inhabitants. The beautiful Red-crested Finch (*C. cristatus*) is reddish-brown above, vinous below, with the tail brown, the rump red, and the carmine crest edged with black. It is seldom imported. The commoner Pileated Finch (*C. pileatus*) is dark grey above, paler below, with a black-edged carmine crest. Both come from South America and need the same feeding as Buntings.

Jackson's Whydah

(*Drepanoplectes jacksoni*)

THIS, the most rarely imported and also the most interesting of all the Whydahs, is quite unlike any of its relatives in appearance. It is a very striking and handsome bird, its actual body size being about that of a Giant Whydah, though it is considerably plumper and more stockily built. Although both species, when out of colour, are unpretentious-looking brown birds with darker brown markings, the brown of Jackson's is of a warmer, more chestnut shade than that of the Giant Whydah.

Again, their way of carrying themselves when singing is entirely different. The Giant Whydah draws himself up to his full height very haughtily, with head well back and chest thrust out, whereas Jackson's, even when out of colour, sings with his head and tail up and the centre of his back depressed.

Although Jackson's Whydah has been described as having only an apology of a song, I should have said that it is a good deal less of an apology than, for instance, the curious, asthmatical crackling sounds produced by the Giant Whydah, which, with the apparently tremendous effort involved and extremely meagre results obtained, reminds me of certain human songsters I have heard!

The song of Jackson's Whydah is not really a proper song—no Whydah's is—but it can be heard from some distance away, which is more than can be said of most of them. The song itself is a most extraordinary cacophony of weird sounds uttered on a descending scale which almost defies description.

It starts with a noise like the shrill chirping of grasshoppers on a hot day, and among the other sounds is one like a rattle. The most amusing thing is the actual preliminary to the song, which, being low-pitched, you can only hear if you are able to get, as I can (one of my males being very tame) very close to the bird. It sounds like: "a-ROOM-a-cher . . . a-ROOM-a-cher . . . a-ROOM-a-cher . . ." and reminds me exactly of the rather tired noise made by the self-starter of a car when the battery is running low! They "sing" a lot even when out of colour.

When in colour, Jackson's Whydah is shiny black with buffish-cinnamon shoulders and a very high gloss on the plumage, particularly the tail which is unlike that of any other Whydah. The tail is curved in a semi-circle and exactly resembles in miniature that of a domestic cock.

The beak is curious. From a distance it appears to be white, but if you look at it close by, you will see that it is really black with a very pale greenish white shield running along the top ridge of the upper mandible from base to tip. Males and females are much alike when out of colour, though hens are distinctly smaller and have less massive heads than cocks.

The species inhabits Africa where it is found on the shores of Lake Victoria, and as it has such a comparatively limited range, the fact that it so seldom imported is scarcely to be wondered at.

One very pleasant characteristic of Jackson's Whydahs is their tameness. When you go close to their aviary they do not rush away but will sit and look at you with interest for a few moments and then go on with whatever they happened to be doing at the time. When I let two out of a catching box into their aviary, they did not fly straight out of it as most birds do, but both hopped out and sat on the open door of the cage, as I held it, quietly surveying their new surroundings before flying off into the aviary, and such self-possessed behaviour entitles them, I think, to be considered quite the most intelligent member of the family to which they belong.

When in colour, Jackson's Whydah has the most amusing and amazing display. The male will make for himself a circular display ground of short grass with a tuft of long grass in the centre about a foot or more high, in which he performs extraordinary antics. At one moment, with drooped wings, head held back and erect hackles, he will suddenly rush menacingly at the tuft of grass as though it were his bitterest enemy. Then, with all his feathers puffed out, he will take a series of gigantic leaps, sometimes to the height of 3 feet or more, after which he will go and have a "breather" in the nearest bush, before once more resuming his fun and games.

I have four Jackson's Whydahs at present, after many years of waiting, and altogether I think they are the most entertaining and delightful of all the Whydahs—as well as one of the most beautiful—and I only wish they were more often imported into this country. Although so rarely obtainable they they have, nevertheless, been bred in confinement in this country.

They are very easy to feed, requiring nothing but canary seed, millet and the usual greenfoods. Those I have also like hemp and sunflower, of which I give them a limited daily allowance, and a few mealworms occasionally are beneficial. Mine also like an occasional small piece of bread soaked in sweetened, watered milk. They are just as hardy as the other Whydahs.

In conclusion, I think it only fair to warn any aviculturist who is fortunate enough to obtain these otherwise charming Whydahs, that they have one fault which is theirs alone and does not I think apply to any other member of the family: They are terribly destructive to growing bushes in a planted aviary—quite as much as, if not more so, than the larger Weavers, and the speed and thoroughness with which they will denude even such comparatively tough things as a Laurestinus of every leaf and shoot, has to be seen to be believed.

They can, of course, be kept in flight cages of sufficient size, but the ideal way to house them is in a large aviary with a turfed floor and furnished with plenty of nailed up branches. Mine made no attempt to denude the various Cupressus in their aviary, so if living greenery is thought to be desirable, these would be the best bushes to try.



Rarely imported and of very striking appearance, Jackson's Whydah has, perhaps, rather more character than the rest of its family

Jameson's Firefinch

(*Lagonosticta jamesoni*)

THIS is another of the rarely imported Firefinches. The male is rosy-brown above, the cheeks and under surface being light pink with some white dots on the sides. The tail and centre of the abdomen are black, and the rump is bright carmine. The female is a paler edition of the male.

Distribution: Eastern South Africa to the Zambezi.

It is rather prettily coloured and requires the same diet and treatment as the Common Firefinch.

Java Sparrow

(*Padda oryzivora*)

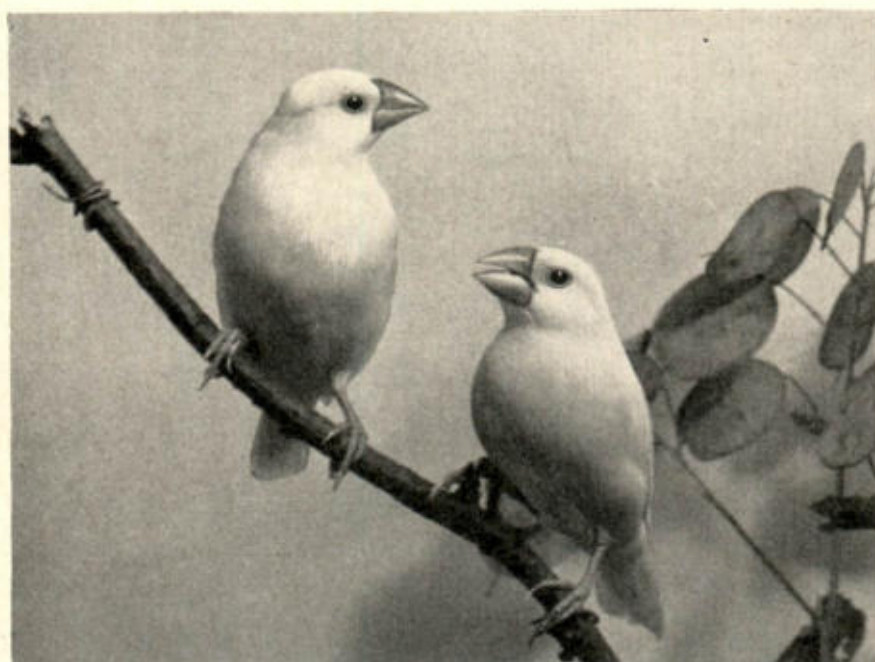
ALTHOUGH somewhat heavily built the Java Sparrow is, to my mind, a beautiful bird. Not that it has any bright colours, but there is a unique and satisfying charm about the immaculate perfection of its plumage which has an almost grape-like bloom upon it.

The colour of both sexes is mainly a pearly dove-grey. The head and tail are black and there is a large white patch on the cheeks. The grey of the lower breast has a slightly mauvish tinge, and the belly and under tail-coverts are white. The legs and the massive beak are coral-pink and the eyes are surrounded by a circle of tiny red feathers. It is about the same size as a Goldfinch, but with a rather stockier body and shorter and more pointed tail.

Normally Java Sparrows are by no means easy birds to sex, but when they come into breeding condition this is not so difficult as the base of the cock's upper mandible becomes a much deeper and more brilliant pink. It also has the appearance of being slightly swollen. An attractive race has been evolved in confinement, which is entirely snow-white with the coral-pink legs and beak of the normal form.

Java Sparrows, which are also known as Rice or Paddy Birds, originally inhabited Java, Malacca, and Sumatra, but they have been introduced into other tropical countries and islands, where they have thriven amazingly. I should have thought, however, that to introduce this bird into a country—particularly if rice is grown—would be about as sensible as scattering Colorado beetles all over one's best potato field!

They are, of course, a much-dreaded and perennial curse in the rice fields, descending in hordes to devour the ripening grain and doing an enormous amount of damage to the crop. It would hardly be surprising, therefore, if a



White Java Sparrows are a domesticated variety of the wild Grey, in contrast to which, however, they are quite easy to breed

Sumatran or a Javanese visiting an English aviculturist and observing his painstaking efforts to breed these birds, decided to escape as soon as possible, believing himself to be in the presence of a dangerous lunatic!

Actually, the wild form of Java Sparrow is by no means an easy bird to breed in confinement, for the simple reason that it seldom evinces the slightest desire to go to nest, though why this should be I don't know. The White variety, on the other hand, nests readily enough and is an excellent parent, but unfortunately the progeny tend to revert to type and are often flecked with grey and black markings, the percentage of pure white young ones being disappointingly small.

Both the wild and the White forms make excellent aviary birds and will live for years in perfect condition on canary (the larger the better), millet and greenfood. I have seen it stated that Java Sparrows must have paddy rice, but this is incorrect, for although they certainly like it, and indeed it is their natural food, they can be kept in perfect health without it.

It is true, however, that they were usually brought over on paddy rice, and we always used to mix any that was left in their travelling cages with their first few feeds of canary and millet so as not to make the change of diet too sudden.

They need no extras when rearing young, though if a pair have a very large brood to rear they might with advantage be given a little stale bread soaked in

sweetened watered milk, and some seed sprinkled on it would probably help to induce them to sample it.

Despite their formidable-looking beak, they believe in the motto of "Live and let Live" and are usually quite peaceable creatures in mixed company in an aviary. Although naturally they are best kept with birds of their own size, I remember in my youthful inexperienced days keeping a couple in an aviary which also contained Waxbills and I do not recall any dire results. I never knew, though, if this couple were a pair or not, as being of the wild Grey variety they never showed any sign of coming into breeding condition, the period, of course, which is the real test of a bird's amiability or otherwise in mixed company.

The cock's display when in breeding condition is a slightly ludicrous performance to human eyes. He arches his body and with head down and glancing coyly sideways at his usually rather bored-looking wife sings his courting song consisting of a few metallic notes followed by a bubbling trill. Meanwhile he jerks his body up and down like a marionette and gradually edges towards the hen.

Before the war we had several pairs of White Javas at Keston, each pair being housed in a small aviary to themselves. We also tried a few pairs of the wild Grey type, but they never made any attempt to breed. The White ones, on the other hand, bred freely and regularly, but, as is usually the case, only a few of their numerous progeny were pure white like their parents. The rest were a polyglot collection, some faintly flecked with grey, others more heavily with grey and black, while a small percentage had entirely reverted to type.

In a wild state Java Sparrows are said to build a bulky globular nest made of various coarse grasses with the entrance hole at the side and placed usually in a tall bush about six feet from the ground. In an aviary, however, they are not fussy about their nesting site, and will use any half open-fronted wooden box of suitable size.

Lavender Finch

(*Estrilda caerulescens*)

ONE of the most beautiful and charming members of the Waxbill family, which makes an excellent cage or aviary bird once it has been successfully acclimatised. The male is French grey, palest on the throat and cheeks, gradually darkening lower down until the flanks are almost black, faintly speckled with minute white spots. The rump and central tail feathers are crimson. A black streak runs from the base of the beak through the eye and the beak is red. Length is roughly 4 inches. They are difficult birds to sex, but, if anything, the cock's flanks and belly are a shade darker than in the hen.

Lavender Finches inhabit Senegambia and are said to be less partial than most Waxbills to districts where tall grasses are met with. They prefer areas of

generally shorter grass and scattered bushes, spending much of their time on the ground searching for seeds and small insects.

They were at one time considered so delicate as to be difficult to keep alive for any length of time. In fact Dr. Butler in his famous old book *Foreign Finches in Captivity* says that they must be wintered in a high temperature, and that "even in an aviary with a winter temperature of 50 degrees, I have rarely known it live for long." I can never understand how this notion arose. It is true that Lavender Finches are difficult to acclimatise and delicate on arrival. Once properly acclimatised, however, they are by no means delicate, and can safely be wintered without artificial heat.

The chief difficulty with Lavender Finches, and the one which (apart from their general air of fragility) probably did most to give them their reputation for delicacy, is that they certainly are delicate on arrival in this country and need very careful acclimatising. At first they must be kept very warm, and in addition to their staple diet of white millet, brown Indian millet and small canary seed, should be given as much live food as possible, such as aphids, very small mealworms and best of all, if you can get them, live ant pupæ. They are very fond of flowering grasses and millet sprays.

Once acclimatised they will thrive well on a staple diet of seeds and green-food, but this fondness for live insects should always be borne in mind as such food helps to keep them in perfect condition.

Lavender Finches can be kept either in cages or aviaries. They are quite willing to go to nest, particularly in outdoor enclosures, where they will probably build their dome-shaped nest in a low bush, but it is useless to expect them to rear their brood on seed and greenfood alone, particularly in a small unplanted aviary. The cock has a pleasing little song. They make good liberty birds and are remarkable among Waxbills for their swift flight.

Lazuli Bunting

(*Passerina amoena*)

THIS rather soberly-coloured Bunting has various things about it that are strongly reminiscent of our native Chaffinch. It is perhaps rather smaller, but its shape and carriage are very similar, as also to a certain extent is its colour scheme.

The male is bluish-grey above, darker on the mantle, lesser wing-coverts, and upper back. Wing feathers are dark slate grey edged with blue and whitish, the rump and head bright blue, and there is a Chaffinch-like white bar across the wings. The tail is slate grey. The upper breast is pale chestnut shading into white on the lower breast and abdomen.

The female has the male's blue-grey areas dull pale brown, his chestnut upper breast buffish, and the crown slate grey washed with blue.

The Lazuli Bunting inhabits the Central plains of North America, its range extending to Mexico. It appears to be abundant in its native land where it has

the reputation of being a persistent songster. Its open cup-shaped nest is built in low-growing bushes.

These Buntings are seldom offered for sale, and as they are said to be so common in their native land the reason for their scarcity in the bird market is probably that the dealers prefer to import their more brightly-coloured relatives. Nevertheless, although it is true they cannot vie in brilliance of plumage with Indigos, Rainbows and Nonpareils, they are to my mind attractive little birds and their soberer colouring makes a pleasing contrast to the others in a mixed collection.

My pair have wintered successfully in a small aviary without heat, being shut in the shelter at night. They have been transferred to a planted aviary and seem admirable aviary-inmates as they show themselves well, and are very lively, usually perching on bare branches rather than skulking in the depths of the bushes, which in a planted aviary is the only drawback to the lovely little Rainbow Bunting.

Furthermore they do not appear to be at all quarrelsome either among themselves or with other birds. I have yet to hear the full song as at present the cock is only starting to tune up, and it must be confessed that his efforts so far are rather scroopy! It is obviously unfair, however, to pass judgment on his song at such an early stage.

They live mainly on canary seed, millet and greenfoods, and mine seem rather less insectivorous than some of the family. One seldom sees them capturing live insects for themselves as the Rainbows, for instance, do all the time.

My pair are in lovely condition, so, with luck, I hope they will breed. After a moult in confinement, the cock's head is of a rather duller blue than that of a freshly imported specimen.

Lined Finch

(*Sporophila lineola*)

THE *Sporophila* comprises a large family of some sixty small Finches which I always feel have been undeservedly neglected by aviculturists. The Lined Finch is rather like a miniature black and white Bullfinch. The male is glossy black with a broad white line above the eye. Beneath the eye a large white spot extends to the beak. The throat is black and the underparts are white with a greyish tinge at the sides. There is a white line on the rump, and the beak is black and slightly hooked at the end like that of a Bullfinch.

The female is an unpretentious little olive-brown bird, white tinged with yellow below.

The BLACK-HEADED LINED FINCH (*S. bouvronoides*) is very rarely imported and resembles the preceding, except that it has no pure white on the forehead or head.

Both birds inhabit Guiana and Venezuela.

Although it is true that Lined Finches have no bright colours, they are excellent songsters as is the closely allied White-throated Finch (*S. albogularis*).

In their native country, both are often kept singly in cages as song-birds, like Canaries in Europe.

Lined Finches are seldom imported, but they are very easy to keep and will live well either in an aviary or in a cage of suitable dimensions. When they are not in breeding condition I have found that they can be kept safely with other small Finches. I have even kept them in an aviary with a number of Waxbills, but I have an idea that the male of a pair that had actually gone to nest might prove aggressive.

Lined Finches are quite hardy and will live for years on canary, millet and greenfood, and like all small Finches they are very fond of millet spray. When breeding, however, it is desirable to add a certain amount of live food to their diet—live ant pupæ, if you can get them, and they would probably also take small mealworms and gentles.

All the *Sporophila* irrespective of species are usually called "Patativa Finches" by the dealers, and I should imagine this is probably a native name for them.

WHITE-THROATED FINCHES are more often imported than the Lined Finch, and are probably the most freely-imported of the whole family.

The male is grey above with the head and forehead black with a narrow white line from the beak to the eye. There is a black band across the breast, and the throat, sides of the neck, abdomen and ventral area are white. The beak is yellow. The female has a black beak, and is greyish-brown above and whitish below.

Their treatment should be the same as that of the Lined Finch, and it is a good breeder, having even reared young ones in a cage.

Long-tailed Grassfinch

(*Poephila acuticauda*)

THE Long-tailed Grassfinch is, in a chaste way, one of the prettiest of the Grassfinches, and makes an excellent foil for its brilliantly-coloured relative the Gouldian, the two looking particularly well when seen together.

The sides of the head and crown are silvery grey, and the throat is adorned with a pear-shaped bib of intense velvety black; the eyes being set in the middle of a much-elongated, narrow black oval. The back is rosy-fawn colour, darker and browner on the wings. The rump and upper tail-coverts are white, the former crossed by a black band. The whole of the breast is fawn with a pinkish tinge, and the under wing-coverts, vent, and thighs white. The beak is yellow. The black tail is very long, with the two median retrices tapering into thread-like hairs, and it is from this feature, of course, that the bird gets its name.

Long-tailed Grassfinches are not easy birds to sex separately, but when a number are seen together it will be noticed that some have rather smaller black bibs than others, and it can safely be assumed that these are hens. On the other hand, I have had pairs in which the cock's bib was rather smaller and

the hen's rather larger than usual, with the result that they looked almost exactly alike. They are natives of Eastern Australia.

There is another and rarer, or, at any rate, less-often imported race known as HECK'S LONG-TAILED GRASSFINCH, which comes from Western Australia. It is in every way identical with the ordinary form except that its beak, instead of



Although it has no brilliant colours the Masked Grass Finch is an attractive little bird and is regularly imported from Australia. It is less often bred than the Long-tailed Grassfinch and in mixed company it is quite gentle

being yellow, is bright red, which gives a pleasant added touch of colour and makes Heck's perhaps, the handsomer bird of the two.

At Keston we have crossed the yellow-beaked and red-beaked races, and in every case the entire broods had red beaks, thus proving that Heck's is the dominant race.

In a wild state they feed, as do all their family, mainly on the seeding heads of grasses, and therefore they are extremely easy to feed in confinement, requiring nothing but canary seed, white and brown millet, *poa annua*, ryegrass, etc., and spinach beet, of which they are very fond. As a much-appreciated tit-bit they may be given millet sprays and an occasional mealworm, but both these can be regarded as luxuries rather than essentials.

Before the war we always used to give our breeding pairs of Long-tailed Grassfinches a gradually-increased allowance of mealworms three times a day when they were rearing young, but that these were not absolutely essential was proved by the fact that in 1950 one pair reared very fine young ones here



The Red-billed Weaver and Russ's Weaver, one bird being a dimorphic variety of the other, are among the cleverest of nest weavers. When out of colour both forms are alike



The Grey Java Sparrow always has immaculate plumage. In confinement it is harder to breed than the White variety

on nothing but seed, greenfood and ryegrass. Actually I suppose this is not really surprising as the much more exotic-looking Gouldian will do the same, and indeed, although I have bred dozens of Gouldian Finches, I have never known them to take the slightest interest in mealworms.

The note is a rather plaintive, piping call and Long-tails—particularly males—have a curious way of bobbing up and down when they settle on a perch. This is not the purposeful bobbing of a Little Owl or Bluebonnet Parrakeet, but suggests rather that the bird has an internal coiled spring which has to gradually regain its equilibrium after the bird has alighted!

I used to keep Long-tailed Grassfinches as a boy, when I had perforce to go in for "mixed collections" in my aviary, and as far as I can remember they were quite peaceably disposed towards the other inmates until they started breeding operations, when they were rather apt to chivvy their companions in order to keep them away from the vicinity of their nesting site. At Keston we have always given each pair a small aviary to themselves, which is undoubtedly the best plan if one wants to ensure good breeding results and prevent bullying.

I should not like to lay down any hard and fast rule as to the hardiness or otherwise of Long-tailed Grassfinches, because those I kept as a boy always had a heated shelter in winter, and those we subsequently had at Keston were housed in outdoor aviaries during the summer, but were always caged indoors during the winter. Personally I should say that during a mild winter they could be successfully wintered out of doors if shut each night into a cosy, draught- and damp-proof shelter, and not let out too early in the morning. More care might be needed in a hard winter.

Young Long-tailed Grassfinches are, when they first fledge, rather smaller than their parents, and lack the adult's elongated median retrices of the tail. They also have smaller and less sharply-defined black bibs.

It is a curious, and, as far as I know, unexplained fact that Long-tailed Grassfinches which have been aviary-bred in this country never attain anything like the enormous tapering length of tail which is characteristic of adult wild-caught Australian birds, although they may be perfect in other respects.

Masked Grassfinch

(*Poephila personata*)

A VERY attractive member of the family, the Masked Grassfinch is regularly imported. The male is a warm shade of brown above, and paler below, merging into pure white on the lower abdomen and under tail-coverts. The beak is bright yellow, encircled by a black mask on the face. A wide black patch on the flanks forms an interrupted band to the centre of the abdomen. The tail is black, and rather long and pointed. The female is similar but the

black face-mask is smaller, and the black patch on the flanks narrower. The size of the bird is roughly the same as that of the Long-tailed Grassfinch, except for the fact that the latter has the longer tail of the two. They inhabit North and North-west Australia.

Masked Grassfinches are quite gentle in mixed company, and readily go to nest. We used to breed a number of them at Keston before the war, and found that they preferred an open wire Finch nest, rather than a wooden one. Each pair, however, had a small aviary to themselves, as it is usually under such conditions that the best breeding results are obtained.

Their feeding and general management should be the same as was recommended for the Long-tailed Grassfinch.

Melba Finch

(*Pytilia melba*)

THIS handsome Finch should not be confused with the Australian Ruficauda or Star Finch to which it bears a considerable resemblance. The male has the forehead, throat, and cheeks scarlet and the rest of the head grey. The back and wings are olive-green, darkest on the latter, and the rump is red. The tail is black and red and the upper breast orange, while the lower breast and abdomen are very dark grey streaked and spotted with white.

The female resembles the male but is altogether duller and less colourful, her head being ashy grey and throat pale grey barred with white. The typical race is found in South and East Africa.

I have always had a sentimental attachment to these birds because when very young I was so attracted by a pair of Melba Finches that, with considerable financial help from my mother, I bought them. They were my first step, in the Finch line, towards the keeping of rarer things than Waxbills.

Unfortunately this pair, for which I had paid what seemed to me then such an enormous price, did not live long. I had put them straight out into an outdoor aviary containing other small Finches and Waxbills, not realising that they were unacclimatised and would need heat to begin with. Nor did I supply them with any insects as I had been told they would live well on seed alone.

Melba Finches are not quarrelsome and make excellent aviary birds, or a pair can be kept in a cage of sufficient size. They are willing enough to go to nest, but seldom rear their young ones.

Although officially classified as seed-eaters they are really very insectivorous, and must not be expected to live entirely on seeds, though these should form the major portion of their diet. They should always have a supply of white and brown millet and canary, and are fond of millet sprays and such green-foods as flowering grasses and chickweed.

They appreciate almost any small insects, but the staple live food can be gentles or a strictly rationed allowance of mealworms. As they are quite capable of living for some time on seed alone, not more than two medium

sized mealworms or a few gentles per bird every other day are ample, particularly if they are in a cage and might get overfat.

These Finches are quite hardy once they are thoroughly acclimatised, at any rate in the South of England, provided their aviary faces south and has a good shelter into which they must be shut each night in winter.

If making a serious attempt at breeding these birds, it might be successful if they could be given a plentiful supply of live ant pupæ while rearing their brood.

THE RED-FACED FINCH (*P. afra*) is very rare but has occasionally been imported. Apart from its rarity, however, it has little to recommend it as it is merely a dull and comparatively colourless edition of the Melba Finch. It is said to be somewhat easier to breed than the latter and has been crossed with the Aurora Finch. It inhabits Eastern Africa, Nyasaland and Southern Abyssinia.

THE AURORA FINCH (*P. phanicoptera*) is a very beautiful little bird and is quite unlike either of the preceding, except in size. It is ashy grey above,



A very beautiful little bird, the Aurora Finch is sometimes called the Aurora Waxbill and also the Crimson-winged Finch. It comes from Africa and although at one time fairly easily obtainable, it is nowadays very seldom imported. It is a decorative and desirable aviary inhabitant.

darkest on the head and nape, and grey streaked with white below. The wings, tail, and rump are a beautiful rose-pink. The beak is black. The hen has more pronounced streaking below, particularly on the abdomen. They are found from Senegal to Abyssinia.

This species is fairly often imported and specimens are quickly snapped up by those who realise their beauty and desirability as aviary birds. All I have said about the Melba Finch also applies to them.

Napoleon Weaver

(*Euplectes afra afra*)

HERE we have another very well-known small Weaver. The male, when in colour, is mainly bright buttercup yellow, but the wings and tail are brown, and the sides of the head, throat, lower breast and belly are velvety black. The female is brownish-fawn marked with dark brown above, the under-surface being pale fawn, streaked with brown and shading into whitish on the abdomen. There is a broadish buff eyebrow. Length is about $4\frac{1}{2}$ inches, the female being slightly smaller than the male. They inhabit West Africa.

The Napoleon makes a very lovely contrast to the Orange Weaver, and buzzes about in much the same excited fashion when in colour, looking like a ball of black and yellow velvet. It utters the usual strange buzzing and hissing sounds which in Weavers take the place of a proper song. These birds are just as hardy as Orange Weavers, and their housing, feeding and treatment should be the same.

A very similar Weaver, the Taha, is less often imported as it comes from South Africa. This, however, is no great loss as it is a more sombrely coloured bird having the whole of the breast black. Consequently it does not make such a colourful show in an aviary as the Napoleon.

Nonpareil Bunting

(*Passerina ciris*)

FEW birds are lovelier than this Bunting if in good condition when first imported, but, alas, it is one of those birds the red in whose plumage fades in confinement.

The male has the crown of the head, cheeks, and back of the neck, bright blue; the mantle and back being golden-green shading into orange on the rump. The upper tail-coverts shade into green, the wing feathers are bronze, and the tail a rather darker duller green. The whole of the under-surface—chin, breast, belly and under tail-coverts—are bright vermilion red. The female has the head green instead of blue, and the underparts yellow instead of red.

Nonpareils come from the Southern States of North America where they are abundant and have a wide distribution. They frequent small thickets, and build their cup-shaped nests in these as well as in hedges.

It is some years since I kept Nonpareils as I always think their loss of colour in confinement is so disappointing. When first imported they are extremely

beautiful, but after a time the cock Nonpareil's chief glory—his brilliant red breast—fades to an uninteresting straw-colour.

Dr. Butler has stated that the red of the breast is gradually replaced by bright yellow, but this has not been my experience. I only wish it were so, for it would still be a very handsome bird.

It has also been stated that the red of the breast will tend to be retained if this Bunting is kept in a large sunny naturally-planted aviary where it can capture an abundance of live food for itself during the summer months, but again this has not been my experience.

On the other hand I suppose it is possible that the red might be retained if they were kept in what used to be known as a "Wilderness aviary" such as that in which the Duchess of Wellington bred Giant Whydahs for the first time in this country. Unfortunately, however, I doubt if this experiment will ever be tried as I imagine few, if any, aviculturists could afford to erect nowadays an aviary of such vast dimensions.

I have tried Nonpareils in ordinary unplanted aviaries, and also in large planted garden aviaries. In spite of this, however, I found that the red breasts of the Nonpareils kept under such semi-natural conditions faded in just the same way as those kept in ordinary unplanted aviaries or cages.

I have never tried to breed them, because when mated and in breeding condition they have the reputation of being very quarrelsome with other nearly-related species, particularly Indigos, but I never found unmated males at all pugnacious with other birds in my planted aviaries.

Nonpareils are perfectly hardy and easy to feed, and they will live, at any rate for a time, on nothing but canary, millet and greenfood. It should be borne in mind, however, that like all Buntings they are really partly insectivorous, and therefore benefit from being given a couple of mealworms or so every other day. Too many, on the other hand, will make them overfat and prone to fits, so gentles might prove more suitable.

Nonpareils have been bred in confinement, but to do so they require a fair-sized aviary to themselves, preferably a naturally-planted one, and a liberal and varied supply of live food when rearing young.

Orange-billed Saltator

(*Saltator aurantirostris*)

THE only reason I ever kept these birds was because I noticed in a Continental dealer's list "Yellow-billed Grey Grosbeaks" and as I wondered what these might be, I ordered a pair. I have also seen them referred to as "Orange-billed Tanagers" which is nearer the mark as they are members of the Tanager family, although in appearance, with their heavy, powerful bills, they would certainly pass as Grosbeaks.

In the male the upper surface is brownish-grey with a faint olive tinge and the underparts are buffish. The forehead is blackish and the sides of the head

and throat black. There is a broad cream-coloured superciliary band starting just above the eye, curving downwards and then slightly inwards, almost surrounding the cheek patches. The chin is whitish, the black throat appearing as a wide pear-shaped black band enclosing this whitish patch. The legs and feet are leaden grey and the very large and heavy bill is pale orange.

The sexes are much alike, but in the female the superciliary line is buff, whereas in the male, just above the eye, it is almost white. In size and shape the bird resembles the Virginian Cardinal, but without a crest.

Distribution: Uruguay, Paraguay and the Argentine.

Although the Orange-billed Saltator is to a certain extent a seed-eater, it will also eat insectivorous mixture, fruit and gentles and should be supplied with these in addition to seed.

I did not keep my pair for long as their rather uninteresting colouring did not appeal to me, and the Cardinals and Grosbeaks, requiring a much simpler diet, are far more beautiful.

The Orange-billed Saltator is quite often available and has been bred in this country; the male is said to be a good songster.

Orange-cheeked Waxbill

(*Estrilda melpoda*)

THE Orange-cheeked is one of the smallest, best-known and most charming and sprightly of the Waxbills. The male has the back and wings mouse-brown, the crown and nape slate grey, the beak red, and a large orange patch on the cheeks. The upper tail-coverts are crimson, the tail almost black, while the whole of the underparts is a delicate pearly grey. Length is about $3\frac{1}{4}$ inches. The female is similar, but slightly smaller, and her orange cheek-patches are perceptibly smaller than those of the male. They are found in West Africa from Senegambia to Angola.

Although all Waxbills need warmth when they are first imported, Orange-cheeks usually stand the journey well, and are, with Red-eared, the easiest of the Waxbills to acclimatise. Once properly acclimatised, they can be kept all the year in an outdoor aviary. They are, however, best shut into a cosy though unheated shelter each evening during the winter months.

They will live well and might breed in either a flight cage or aviary, particularly the latter, where, if large enough, they could capture small insects for their brood, which they will not rear on seed and greenfood alone. In a cage the parents would have to be kept supplied with such things as aphids (greenfly) and live ant pupæ while they were rearing their young ones. Few aviculturists have ever attempted the rather difficult task of breeding these Waxbills in confinement; this is understandable because they are very freely imported at present, and easily acclimatised.

The male's courting display is pretty and quaint, as he holds his head very high and wags his spread tail rhythmically from side to side, while uttering a quite loud chirruping sound.

Orange-cheeks are extremely inquisitive, and what I would describe as very highly-strung. In a collection of Waxbills they are always the first to sense real or imagined danger, and with their quickly-uttered "Tsit . . . Tsit . . . Tsit!" alarm note, put the others on their guard.

Altogether they are very delightful little birds, and it is seldom that one is seen with a feather out of place, even under the adverse conditions of an overcrowded dealer's cage, which quickly gives most birds a woe-begone look. They are very easy to cater for, and should be fed on white millet, brown Indian millet, and the usual wild greenfoods. Millet sprays also appeal greatly to them.

Orange Weaver

(*Euplectes orix franciscana*)

THIS is one of the best-known and most popular of the Weavers. Out of colour both male and female are unpretentious-looking little brown birds with the breast fawn, shading into whitish on the abdomen. The feathers of the crown, wings and upper parts are dark brown bordered with lighter brown, and the fawn breast is streaked with brown markings. The female is about 4 inches long and the male is slightly larger with the brown markings rather darker and more distinct.

It is widely distributed over the African Continent but chiefly found in West Africa. In its native country it is sometimes referred to as the Fire Finch, which is apt to cause confusion with the well-known Waxbill of that name. Actually, Fire Weaver would be a most appropriate name for it, far more so than is the name Fire Finch for the Waxbill upon which it has been bestowed, whose predominant colour is rose-red with no suggestion of fiery orange-red.

When in full colour the male is a little bird of unrivalled brilliance, his head and breast, which look as though they are made of black velvet, being a wonderful contrast to the fiery orange of the rest of the plumage. The tail and wings are actually brown, but these are almost entirely concealed by the long plume-like orange feathers of the upper and under tail-coverts, so the general effect is simply of a black and orange bird. When displaying he puffs out a kind of Elizabethan ruff of brilliant orange feathers round his neck.

It seems probable that Orange Weavers were originally named after confined specimens, for freshly taken ones which nowadays arrive in this country so quickly by air are not orange and black at all, but brilliant scarlet and black. However, the scarlet fades to orange after a moult in confinement, and I have, therefore, thought it best to describe them as they appear after this moult.

I first fell in love with these birds when, as a small boy, I saw them in the old "summer" aviary at the Zoo. I always thought this a charming name for a particularly enchanting aviary, and it seems to me a thousand pities that it has since been demolished.

At the time I am thinking of this aviary had a very large population of Orange Weavers, mostly in full colour. I can well recall what a brilliant and fascinating spectacle they made as, looking like so many balls of fire against the green background of the bushes, they buzzed slowly about the aviary with the curious upward and downward-dipping flight, used when displaying.

I can think of few birds that make such a colourful display in a planted aviary, and although they do a certain amount of damage to growing bushes, they are less culpable in this respect than the similarly-coloured and stronger beaked Grenadier. They can be kept at liberty and I once saw them in a friend's garden where they were a lovely sight as they had established themselves in some willows and rhododendrons at the edge of a pond.

In an aviary Orange Weavers usually defoliate some upstanding shoots at the top of a bush and between these they construct their cleverly-woven though rather flimsy-looking nests, which are, in fact, a great deal tougher than they look. They have been bred in confinement, but as they are so freely imported there is little inducement to attempt this somewhat difficult feat.

Were I trying to breed them I should put a cock with two or three hens in a planted aviary and if they ever got so far as hatching young, they would be supplied with as varied a selection as possible of live insects, in addition to the ordinary seed diet.

Orange Weavers are perfectly hardy and all they really need is canary, millet and greenfood. Of course, if you like to make a fuss of your birds, they can always be offered millet sprays and also a rationed allowance of small mealworms, which some Weavers are more keen on than others.

Painted Finch

(*Emblema picta*)

ALTHOUGH it is attractive in a rather sombre way, I have never been able to see why this little bird was called the Painted Finch—a name far more appropriate for a Gouldian. The male has the upper surface medium brown, darkest on the wings and tail; the rump is scarlet, as are the forehead, front of the cheeks and a few feathers on the throat, also the centre of the lower breast and belly. The rest of the underparts are jet black minutely spotted with white at the sides. The upper mandible is black and the lower one red. Length is rather over 4 inches. The female is very similar, but with no scarlet on the face and only sometimes a tinge of it on the breast, so they are perfectly simple birds to sex. They inhabit central and Northern Australia.

The first pair of Painted Finches ever to be imported into Europe appear to have reached these shores in 1869, and although further single pairs apparently



The Napoleon Weaver is almost as strikingly coloured as the Orange Weaver, but is not quite so often imported



Despite its very delicate appearance, the Rainbow Bunting is unexpectedly hardy once it is thoroughly acclimatised



The Virginian Cardinal is an attractive American Grosbeak, esteemed for its song and for its handsome appearance



The Black-headed Mannikin is sometimes called the Chocolate Mannikin. It inhabits India, Burma and Malaya

The Painted Finch is an Australian Grass-finch with a curious history. Not so long ago it was considered an extreme avicultural rarity, whereas nowadays it is regularly imported in fair numbers, and in addition has proved quite easy to breed. Mainly red and black, it is very prettily marked



arrived at long intervals, they remained extreme rarities until quite recently, and even when my partner and I started our farm in 1927 I never for one moment expected that I should ever see a Painted Finch in the flesh. Then, somewhere about the middle of the nineteen thirties, we received a couple of pairs or so, one of which I put in an aviary by themselves to try to breed them.

As I was very busy at the time breeding up stocks of the rarer Australian Parrakeets, I did not devote much time to the Painted Finches, beyond giving them a wooden and a wire Finch nest box, as well as a bundle of twiggy branches for nesting sites and keeping them supplied with canary seed, millet, millet sprays, and various greenfoods, including flowering grasses. Apart from that, I left well alone, and though I knew that, ignoring the boxes, they had built a nest among the twigs, and that as the hen had disappeared she must presumably have laid and be sitting, I somehow never expected that anything much would come of it.

In this, however, I was wrong, and, as is so often the case with birds one does not fuss over, there came the day when newly-fledged young Painted Finches appeared in the aviary. I was very pleased to have bred these birds, but felt I could not claim any especial skill in the matter, for this pair, at any rate, proved no more trouble to breed than Zebra Finches, as they refused mealworms, were not great greenfood eaters, and thus reared the brood on white millet and millet spray with a little canary seed. This should form their staple diet in confinement.

During my lifetime, some of the foreign birds which were common and easy enough to obtain in my youth have become steadily rarer in confinement.

Painted Finches, however, are more or less unique in that quite the reverse is true of them. When I was a young man, they were almost mythical birds, which no aviculturist ever hoped to see—let alone possess, yet in the spring of 1951 we received two consignments by air from Australia totalling nearly 20 pairs, which shows that some enterprising aviculturists in their native country must have been breeding them in really large numbers in confinement.

Painted Finches should be fed on the simple diet I have already mentioned. They are quite hardy if their aviary has a dry, draught-proof shelter in which they can be shut each night during the winter. I have never tried them in cages, but should imagine a pair would do quite well in a large flight cage, and might even breed if one end was screened off, and a bundle of twiggy branches hung up for them to make their nest in.

Paradise Whydah

(*Steganura paradisaea*)

THE Paradise and the Pintailed were always the two most commonly imported Whydahs, and were among the first foreign birds I ever kept. I should imagine that the exotic appearance of a male Paradise Whydah in full colour must have inspired many a budding young aviculturist to build an aviary. The male, when out of colour, has the upper surface brown, darkest on the wings and tail, most of the feathers having a lighter brown border. The head is mainly pale buff, with a long gradually widening blackish stripe above, and a shorter one just behind, the eye. The upper breast is tawny buff, shading almost to white on the abdomen. The female is similar, except that the blackish stripes on her head are rather less pronounced than in the male. Length is roughly 6 inches.

When he comes into full colour, however, the male is very magnificent indeed, being velvety black with a wide chestnut-brown collar and upper breast, gradually paling into buff on the belly and white round the vent. But his chief glory is his long black tail. This consists of two central feathers more than twice as long as the whole body and flanked on each side by two remarkable racquet-shaped feathers which give the appearance of black watered silk. The central shafts of these two feathers are much elongated so that they project from the rounded ends like fine black wires.

Unless it is because of the curious shape of the two feathers I have just described, I have never been able to see quite why this bird should be singled out and called the Paradise Whydah, for, striking and beautiful as it certainly is, it is no more paradisaical than some of its magnificent relatives.

Paradise Whydahs are African birds found from Sudan to Eritrea and south-westwards to Angola, and also in Damaraland, Bechuanaland, Transvaal, Southern Rhodesia, Portuguese South-East Africa and Natal. They are said to go about in small flocks and are generally considered to be parasitic. Which



The Paradise Whydah is one of the most freely imported species. It is extremely handsome, harmless to smaller companions, and hardy

bird or birds they choose as their hosts, however, does not seem to be known nor, I believe, is it known beyond doubt that they really are parasitic. In fact, there seems to be remarkably little information about the domestic life of this common species in a wild state.

As far as I am aware there is no record of their having been bred in this country, but a Herr Reve, in Germany, is once supposed to have been successful with them in his bird room of all places—not even in an aviary! Being of a rather sceptical nature, I have often wondered how well-authenticated are some of these old German breeding records. They seem to have had no difficulty in breeding the most notoriously tricky subjects, usually in the most improbable conditions such as a mixed collection in a bird room! Anyhow, whether Paradise Whydahs are polygamous and parasitic, or merely polygamous, if Herr Reve really managed to breed them successfully in a bird room, I certainly take off my hat to him!

Paradise Whydahs have always been recommended as “ideal birds for the beginner,” and very rightly so, for they are easy to feed, hardy, and extremely beautiful. In sharp contrast to their Pintailed relative, they are perfectly harmless to small companions and ideal birds for a mixed collection.

Paradise Whydahs require only canary seed, millet and greenfood. Although they will live well enough in a cage, it is really only in an aviary that their beauty can be appreciated to the full.

The South African form of the Paradise Whydah, usually called the Golden-naped Whydah, differs from the well-known West African bird chiefly by having a wide buff-coloured collar across the back of the head and neck. It is a very handsome bird, but the Broad-tailed Paradise Whydah (*S. orientalis aucupum*), found from West to East Africa and southwards to Angola and the Zambesi River, is perhaps even more beautiful. They are seldom imported, particularly the latter.

Parson Finch

(*Poephila cincta*)

AT one time very well-known and widely-kept, the Parson Finch's popularity quickly waned as soon as its more beautiful relative, the Long-tailed Grassfinch, began to be imported. The male Parson Finch has the back dark fawn and the wings brown. The head is silvery grey with a black line running from the centre of the beak to the eye, and a pear-shaped black bib on the throat. The rump is black merging into pure white on the upper tail-coverts; the tail is black, the two central feathers being sharply pointed. The breast is pale fawn separated from the white vent and under tail-coverts by a black area. The legs are pinkish and the beak lead-colour, almost black. Length is about $4\frac{1}{4}$ inches. The female resembles the male but her head is of a rather darker, less silvery grey and her black throat bib—particularly if a pair are seen sitting side by side—is noticeably smaller.

Parson Finches inhabit Eastern Australia, and are nowadays rather seldom imported, which is hardly to be wondered at, as although they closely resemble the Long-tailed Grassfinch, they are less beautiful because they lack the latter's two graceful tapering and much-elongated central tail feathers, and also their yellow beak.

I have not found Parson Finches aggressive to other birds out of the breeding season, but they are undoubtedly a nuisance in a community-breeding aviary, as they are inclined to chivvy other birds and pull their nests to pieces. Generally speaking, they are quite good breeders—some pairs being much more successful than others—but if it is intended to attempt breeding them, it is highly desirable to give each pair an aviary to themselves.

They do not take readily to an enclosed wooden nest box, preferring something in the nature of a wicker Hartz Mountain Canary cage, or a bundle of twiggy branches nailed to the back of their aviary. They are quite hardy provided their aviary has a dry, draught-proof shelter into which they can be shut each night during the winter months. They have a plaintive, long-drawn call note and a very short song on a descending scale.

These Finches do quite well in a large flight cage and should be fed on small canary, white millet, brown Indian millet and the usual greenfoods, including flowering grasses of which they are very fond. Millet sprays are not essential, but should be given when they have young in the nest, and a few small mealworms or gentles could also be offered.

Pectoralis Finch

(*Lonchura pectoralis*)

ALTHOUGH not at all brightly coloured, this is nevertheless a very beautifully-marked Finch and an excellent aviary bird. The male has the upper parts slate-grey with a tinge of brown, and the tail greyish-black. The cheeks, chin and throat are black dotted here and there with minute white spots, while the upper portion of this black throat gorget is separated from the grey crown and mantle by a buff-coloured streak running from the middle of the base of the upper mandible above the eye and then curving downwards and outlining the black cheeks until the side of the upper breast is reached. The centre of the upper breast is pure white, the sides being delicately scalloped with black, giving a scaly effect. The lower part of the breast, abdomen and under tail-coverts are buff, the two former having faint white scallopings at the sides. The wing feathers are brown, the tips of secondaries being spotted with white. The beak is bluish slate colour. Length is about $4\frac{1}{2}$ inches.

The female resembles the male but her grey crown and back have a much browner suffusion. Her cheeks, chin and throat are dark brown instead of black, and are more thickly dotted with tiny white spots. Her underparts are similar to those of the male, but instead of the centre of the upper breast

being white, all the feathers are narrowly bordered with black, giving an even more scaly effect than in the male.

This bird is an inhabitant of Northern Australia, where it is variously known as the Pectorella or White-breasted Finch. It is said to be usually found in damp meadows near watercourses, where it feeds on various grass seeds, making its bottle-shaped nest on the ground in a tussock of grass.

Pectoralis Finches were originally imported into this country in 1896, and the first person to breed them was a Mrs. Howard Williams, in 1905. Since then they have been bred only very occasionally, partly because they are at the best of times very shy breeders, and probably also because they are ground-breeders and usually completely ignore the ordinary hung-up wooden or open wire Finch nest box, requiring instead a tussock of grass in which to construct their nest. Mr. Harry A. Collin, however, who successfully bred Pectoralis in 1934, found that his pair ignored tussocks of grass and built their nest instead in a gorse bush nailed to the side of the aviary about 6 feet high.

They should be fed on canary seed, white millet, brown Indian millet, and millet spray, with the usual greenfoods. If kept in a cage, they should be given a few mealworms occasionally.

Mr. Collin, whose breeding pair of Pectoralis were in a planted aviary, apparently supplied no extra live food while they were rearing their brood. He records that they reared their young ones on the ordinary seed mixture, with possibly a little soft food, which was supplied for Blue Robins in the same aviary, and such insects as they were able to catch for themselves.

Pectoralis Finches are delicate when they first arrive, but once acclimatised, can be safely wintered without heat if their aviary is in a sheltered situation facing south, and provided they can be shut each night from about October to the middle of April in a cosy, draught and damp-proof shelter. They will live perfectly well in a flight cage, but there would be little chance of breeding them unless they were put out in an aviary in the spring.

Despite their quiet beauty they were never freely imported, partly because they come from far away Northern Australia, but mainly, no doubt, because there was never much sale for them, as aviculturists generally prefer the other much more brightly-coloured Australian Finches.

Although a true *Lonchura*, the Pectoralis is for some reason never called a Mannikin, but is always called a Finch, whereas all the other species, which are found in Asia and Africa, are in almost every case called Mannikins or Nuns. The Pectoralis Finch and two other closely-related species which I am about to describe are, nevertheless, really the only three Australian Mannikins. All three are attractive birds and are more sprightly than their African and Asiatic relatives.

CHESTNUT-BREADED FINCH (*Lonchura castaneothorax*) has head and neck greyish-brown streaked with dark brown; cheeks and throat black; beak grey. The upper caudals are yellow-ochre and the sub-caudals black. The back and wings are chestnut-brown. The abdomen, which is pure white, is separated from the light biscuit-brown breast by a black band. There is little difference in the sexes. Habitat: Northern Australia and Queensland.

YELLOW-RUMPED FINCH (*Lonchura flaviprymna*) has the upper surface chestnut-brown; underparts pale buff, almost white on the throat, and the rump

ochreous yellow. The crown of the head and the nape are silvery grey. It is about the same size as a *castaneothorax* and is equally hard to sex. Habitat: North and North-West Australia.

Of these three *Munias* this is the least attractively coloured, and it is probably for this reason that, except for the year preceding the first World War, it has very seldom been imported in any quantity.

Pintailed Nonpareil

(*Erythrura prasina*)

UNDENIABLY a bird of great beauty, particularly when freshly imported, the Pintailed Nonpareil is unfortunately by no means an easy subject in confinement.

The back and wings are a vivid rather dark grass-green, the flights being blackish edged with green. The forehead, cheeks and throat are dull cobalt blue, blackish just round the base of the rather heavy black beak. The under surface is a golden-brown colour, with the whole of the centre of the breast and belly a beautiful rosy carmine. The upper tail-coverts are red, while the outer tail feathers are brownish, the two central ones which are very long and taper to fine points being red, darkest at the tip. The legs are flesh pink. Length is nearly 6 inches of which almost half is accounted for by the tail. The female's colours are duller, her tail is shorter, and she lacks the rosy carmine on the centre of the breast and belly.

Nonpareils are found in Borneo, Sumatra, and Java, where they are chiefly looked upon as unwelcome marauders of the rice fields.

It is many years since I kept these birds, but we once had a number at Keston, and they spent most of their time in large box flight cages about 5 feet long in our heated acclimatising room. They had been brought over entirely on paddy rice, which, of course, is their natural food. Unlike Java Sparrows, whose natural food is also paddy rice, they proved very difficult to wean from it, and for a long time took not the slightest interest in canary or even millet spray.

Eventually, however, by gradually reducing the paddy rice and increasing the canary, they were induced to try the latter, and also sampled millet spray and oats. As apparently they found all three to their taste we felt their feeding problem was solved. I seem to remember that they also ate meal-worms and a certain amount of apple, but after over twenty years I cannot be sure of this.

What I do remember very clearly is the fading of the red areas in the plumage after a moult in confinement. The birds remained perfectly healthy, and their general condition was considerably better than when they were first imported. The pity was that after the moult the males' lovely rosy-carmine underparts were replaced by an uninteresting yellowish-straw colour, and thus quite half their beauty was gone. I don't know if they would retain

their colours better if housed, at any rate during the summer months, in a planted aviary, but they would probably have to be taken in again for the winter as I doubt if they would prove entirely hardy.

They have been bred in confinement and I should like to try them again one day. If I got the chance I should try to give them an aviary with a few growing bushes in the flight and a shelter that could be heated during the winter. Unfortunately, if I had such an aviary vacant I can think of other birds I would rather try to breed, such as Fairy Bluebirds, Sunbirds, and King Birds of Paradise, all of which would be perfectly suited to life under such ideal aviary conditions!

Pintailed Whydah

(*Vidua macroura*)

THIS small and pretty Whydah's colour scheme is entirely black and white except for the beak which is orange-red. The upper parts of the male, when in colour, are mainly black, the lower white, and its tail consists of several very long narrow black feathers. The actual size of the bird, discounting the long tail, is about that of a Border Canary. The female, which also has a red beak, is mottled brown and black above and whitish beneath. When in eclipse plumage there is little difference in the sexes.

They have a wide distribution over almost the whole of South Africa and like Firefinches are partial to the vicinity of human dwellings and farmsteads.

These birds are polygamous and parasitic, laying their eggs in the nests of Waxbills and other small Finches. It is said that, unlike our Cuckoo, whose large young one heaves the rightful occupants out of the nest shortly after it hatches, the hen Pintailed Whydah merely destroys one of the host's eggs to make room for her own. When hatched the young bird grows up in amity with the Waxbills, and after fledging often stays for some time as a member of the family.

Pintailed Whydahs, though small, are far more aggressive than some of their larger relatives, and are by no means to be recommended as inhabitants of a communal aviary containing smaller and weaker birds than themselves.

Females, and males in eclipse plumage, are not particularly aggressive, but as soon as the latter come into colour their character changes and they become a menace to smaller birds. If seed or a handful of greenfood is thrown on the ground and the other inhabitants of the aviary go down to feed, a male Pintailed, when in colour, will suddenly descend upon them from above like a bolt from the blue, scattering them far and wide. It will then proceed to scratch for food in the curiously gallinaceous fashion so typical of these Whydahs.

Mr. Shore-Baily, who was a well-known authority on the Whydah family, made the astonishing statement when writing of Pintails—in *Aviculture*

Vol. 1 that: "I have had a good many but have found them rather delicate, and none of them has lived very long with me." When I first read this I had to look twice to make sure he was really referring to this Whydah, but I was not mistaken, and one can therefore only suppose that he must have been most unfortunate in the specimens that happened to come into his possession. Certainly all those we have kept at Keston proved perfectly hardy both as cage and aviary birds. Moreover, the large numbers one used to see managing somehow to keep up their spirits in wretchedly overcrowded dealers' cages provided proof enough of their stamina.

They are simplicity itself to feed requiring nothing but canary, millet and greenfood. Their lack of popularity with aviculturists has been due, I am sure, solely to the disruptive effect of their restless temperaments upon their companions in a mixed aviary.

Actually, their unnerving habit in an aviary of suddenly descending upon other birds feeding on the ground is, I think, part of the nuptial display. This was rather proved by the considerable number of these Whydahs, some of them males in full colour, which we liberated on the outbreak of World War II, fearing we should be unable to get enough food for them. Somehow I should not have expected Whydahs to be particularly good stayers at liberty, yet these did not stray and most of them used to return regularly to feed in their aviaries which we left open for them.

A very wonderful and fascinating sight were the males in full colour at liberty. The St. Martin's summer of that year was particularly warm and sunny, and tirelessly the male Whydahs would fly higher and higher into the sky. Then suddenly they would turn and do their "bolt from the blue" act, descending rapidly in a steep spiral with their long supple black tail feathers streaming out behind them. There was something very fascinating about this sight so unlike the aerial evolutions of any of our native birds, and I never tired of watching it.

Imported by the thousand and cheap as it used to be, it is hardly surprising that few aviculturists have thought it worth attempting the difficult task of breeding this Whydah. It has been successfully bred in confinement on one occasion in this country. This remarkable feat was achieved by Mrs. Annington in 1909 when two young were reared in a large communal aviary.

Unfortunately, so far as I am aware hardly any details of this interesting event have been recorded.

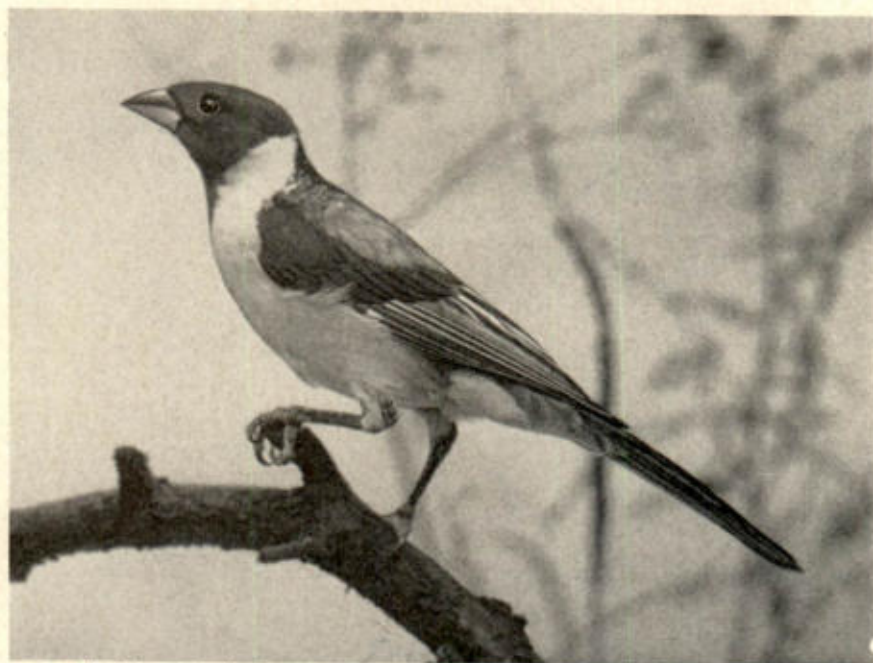
Pope Cardinal

(*Paroaria dominicana*)

THE Dominican or Pope Cardinal is as well-known to aviculturists as the Red-crested Cardinal, and the two are so much alike that a separate description is really quite unnecessary. The Dominican is like a Red-crested Cardinal, but without a crest, and with a good deal of black on the upper surface and a

black shoulder patch. Its tail also is blacker, and its head a rich crimson rather than red. The sexes are much alike, but the red of the hen's head is slightly less vivid than that of the cock. Length is rather over 7 inches. These Cardinals inhabit Brazil, where they are abundant, and are favourite cage birds.

Compared with the Red-crested Cardinal, I always think they rather lack personality, but though this may be considered a disadvantage, it is one that is



The Pope Cardinal is a relative of the Red-crested Cardinal and equally handsome except that it has no crest. Colour scheme of the birds is similar

perhaps offset by the fact they are more even-tempered and less excitable in an aviary than their Red-crested relative.

They have the usual rather monotonous Cardinal song, and are quite as hardy as the rest of the family. Their feeding, housing and general management should be the same as for the Red-crested Cardinal.

The YELLOW-BILLED CARDINAL (*P. capitata*) is seldom imported and is considerably smaller than the Pope Cardinal. It is dark blackish-grey above and white below, with a red head and black throat. The beak is yellow. It comes from Southern Brazil, Paraguay, and the Argentine, and is a beautiful and desirable aviary bird as it is perhaps the most peaceable member of the family.

Purple Grenadier Waxbill

(*Granatina ianthinogaster*)

THIS Waxbill is a very rarely imported relative of the well-known Violet-eared Waxbill, and a bird which I never expected to have the good fortune to keep, let alone breed. An interesting fact about it is that in the wild state it is said to be parasitized by Fischer's Whydah.

In the male the head, neck, and back are chestnut brown, darker on the wings, and particularly rich on the head and neck, and there is a small cobalt or violet-blue patch round the eye, narrower above and wider below it. The tail is black and the rump cobalt blue. The breast and abdomen are rich purple-violet, rather unevenly marked with dark chestnut, and if the purple colour were uniform over the whole breast and abdomen, I think this bird would certainly be the most beautiful of all the Waxbills. The beak is red, and the eye is ringed with red.

The female is quite distinct, being a warm brown above and paler below, the breast being prettily speckled with buff and whitish spots. The tail is blackish and the rump blue, and the patch round the eye is whitish. The upper mandible is dark slate colour and the lower one deep coral pink.

It is a rather larger bird than the Violet-eared Waxbill.

Distribution: Eastern Africa: Central, Eastern, and Southern Kenya Colony from the Tana River to Tanganyika Territory, as far south as the Iringa area.

In 1956 I bought two pairs of Grenadiers to add to my private collection of rarities at the Keston Foreign Bird Farm. One of the hens subsequently died, and I sold the odd cock, but the remaining pair successfully reared two young ones in 1957 for which event the Avicultural Society's medal for a First Breeding was awarded, as it was the first time this species had been bred in captivity in this country—and also as far as I know, in Europe.

The nest box was hung in the shelter of their aviary and shielded with heather, and in it they soon constructed a cosy little spherical nest, mainly of grass stems and lined with a few feathers.

The young were reared on millet, canary (of which they preferred the latter) and live food, and they were particularly fond of millet sprays with which they were kept continually supplied. They were also given daily fresh green-foods such as flowering grasses, chickweed, etc., but they only occasionally ate a few of the mealworms and gentles that were offered. On the other hand, they were passionately fond of live ant pupae, but to keep up a constant daily supply of these is no mean task, and it was only because, the following year, we found that they would not rear their young ones without ant pupae, that I rather reluctantly decided to part with them.

When first fledged the young ones are little earthy brown birds, paler below and darker on the wings, with short dusky blackish tails and dull blue rumps. There are small blue nodules at the base of the beak, but these are temporary and later disappear.

The Purple Grenadier is, for a Waxbill, an excellent songster in a family that is not noted for song. They are charming aviary birds, but are not hardy, and must have some heat in winter—the ideal way of keeping them is in an aviary, which can be of quite moderate size, with an open flight communicating with a well-lighted shelter which can be heated in winter.

Quail Finch

(*Ortygospiza atricollis*)

THESE curious little birds are quaint rather than beautiful, and have never been very popular with aviculturists, owing to their rather sombre plumage. The male is mainly a mousy brown colour, the upper breast and flanks having a greyish tinge and being barred with black and white. The lower breast is buffish tinged with chestnut in the centre. The cheeks are blackish while the throat is black with a white mark on the chin. The tail is dark greyish-black and very short and stubby. Round the eye there is a conspicuous white circle. Length is about 4 inches. The female's head and upper parts are brownish and her upper breast and flanks are barred with brown instead of black.

These birds have an extensive range which includes the greater part of both the east and west coasts of North and Central Africa. They inhabit the open grassy plains, nesting and spending almost the whole of their time on the ground where they feed on the seeds of various grasses.

There is another and quite distinct species, the Red-winged Quail Finch (*Ortygospiza locustella irisæ*) which inhabits tropical Northern Rhodesia, and which, unlike its relative, prefers marshy land to dry grassy plains. Perhaps this bird does not properly concern us here, as I doubt if it has ever been imported, but I mention it as it is much more beautiful than its better known relative, being mainly dark brown, black, and reddish-chestnut.

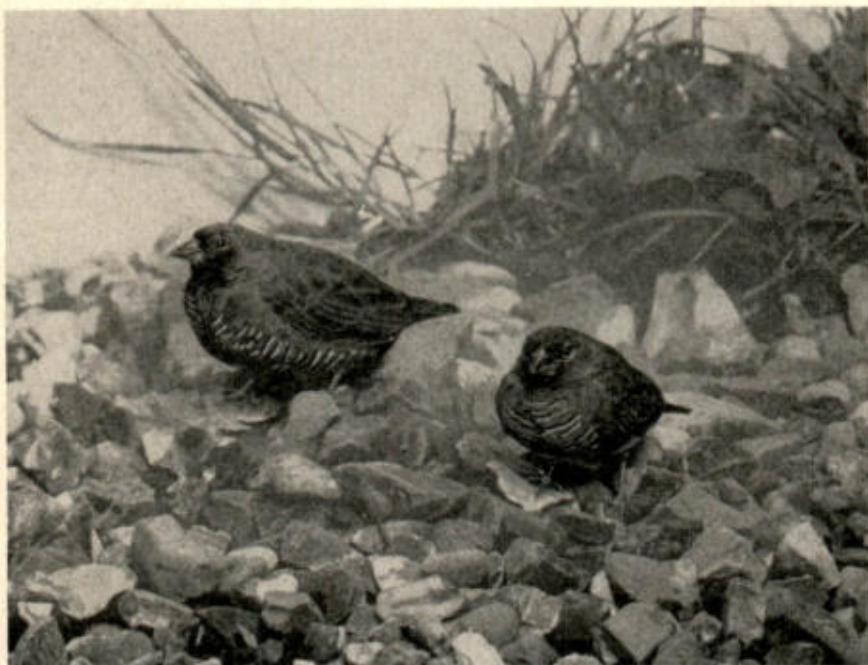
I have kept Quail Finches at various times, but I must confess they have never greatly appealed to me, chiefly owing to their shyness and lack of colour. As their name implies they are almost wholly terrestrial, and if kept in a planted aviary seldom perch or even fly, spending practically all their time on the ground. If someone approaches their aviary they will hide in undergrowth or thick grass.

They are rather delicate on arrival and, like a domestic fowl but quite unlike other Finches, appreciate a dust bath. A mixture of dry powdery earth and fine sand should be provided for this purpose. Generally speaking they like dryness and much dislike damp, so an aviary on sandy soil is preferable to one on clay.

They have been bred in confinement in this country, but to do so it is necessary to house them in a planted aviary with suitable tussocks of coarse grass in which they can build their dome-shaped nests. Some pairs might

take to a nest box placed on the ground, but, as one would expect, ordinary hung-up Finch boxes are ignored.

Quail Finches are simple to cater for as they will live well on canary seed, brown Indian millet, white millet and millet sprays, with the usual greenfoods. Of the last, however, as great a variety as possible of seeding grasses is most appreciated and would probably prove particularly valuable



These sombrely coloured little Quail Finches are, nevertheless, rather quaint and attractive. They spend practically all their time on the ground

when they were rearing young. Unlike many Finches they usually refuse mealworms although they will eat live ant pupæ.

They can be kept in cages, but as they hardly ever fly, the amount of ground-space available is of far more importance than height. Few if any perches are necessary, although possibly one or two might be provided at almost floor level. As they spend most of their time hopping about rather than perching, the ordinary metal tray with only a thin layer of sand is unsuitable as it is too hard for their feet. The best tray covering is an inch-deep layer of finely-granulated peatmoss mixed with a little sand, and a square of clipped turf should be placed in one corner for them to forage in. It should be renewed as often as possible.

Food and water vessels, of course, should on no account be hung on the sides of the cage, but must be put at, or just above, floor-level at either end.

Queen Whydah

(*Vidua regia*)

ALSO known as the Shaft-tailed Whydah, this attractive little bird is the smallest of the family, even smaller than its nearest relative, the well-known Pintailed Whydah. Although the total length of the male when in colour is 12 to 13 inches, the actual body is little more than 4 inches long, the remainder being accounted for by the long tail.

The upper parts and wings are black, some of the feathers of the latter being narrowly bordered with brown. There is a wide buff-coloured collar at the nape of the neck, while the throat and the breast are a warm shade of biscuit brown, which makes a very pleasing contrast to the deep coral pink beak and legs. The bird has a very short Finch-like tail beneath the long black tail feathers. These are usually four in number, though I had a specimen which never grew more than three. For about three-quarters of their length they resemble stiff black wires, only the last quarter being webbed and shaped rather like the paddles of a canoe. When out of colour the male resembles the female.

Quite apart from the bird's body colours, the curious and distinctive form of these tail feathers would at once establish its identity, but when out of colour this is not such a simple matter. Then it much resembles the Pintailed Whydah when in eclipse plumage, except that the dark head stripes are lacking and the bird has a more yellowy tinge.

Their habitat is the dryer parts of South and South-West Africa where they go about in small flocks in which females and immature males predominate. Like their relative the Pintailed, they are parasitic. No doubt they victimise other small Finches as well, but their usual host is said to be the Violet-eared Waxbill, one of whose eggs they destroy for each of their own placed in the nest. The Violet-eared seems quite unaware of the trick that has been played on it and permits the changelings to go about with the family for some time after they are fledged.

These Whydahs have never been very freely imported, and no one, as far as I know, has ever attempted to breed them in this country. This is hardly to be wondered at as I should imagine they are polygamous as well as parasitic. One would need, therefore, a large planted aviary containing a single male Queen Whydah and his harem of hens, as well as several pairs of the exquisite but difficult Violet-eared Waxbills, merely for them to use as foster parents!

Queen Whydahs are hardy and make excellent aviary birds, and are just as easy to cater for as their relatives, requiring nothing but canary, millet, and greenfood.

I have kept several males in colour in an outdoor aviary with a mixed collection consisting mostly of Sulphur-coloured Seedeaters and various other Weavers and Whydahs.

FISCHER'S WHYDAH (*Vidua fischeri*) is the same size and shape as the Queen Whydah, and has the same habits. Its colour-scheme, however, is different. When in colour the male is black with the back and wings brown, and has the

crown of the head, rump, abdomen, and the long slender tail, yellow. The beak and legs are sealing-wax red. The female, and the male when out of colour, are merely insignificant-looking little brown birds streaked with blackish. They are found in East Africa from Southern Abyssinia to Mozambique, and have occasionally been imported.

I have kept only males in a mixed collection in a large planted aviary containing mostly larger birds than themselves. I should be very chary, however, of putting them with Waxbills or small Finches not fully able to stand up for themselves, as I think these Whydahs might go for them or at any rate chivvy them a good deal. It is true that they are one of the smallest of the Whydahs, but it is also true that they are very closely related to that little terment the Pintailed Whydah who will tease the life out of other small birds.

Rainbow Bunting

(*Passerina leclancheri*)

OF all the Buntings I think this is the most beautiful, with perhaps the Nonpareil a close runner-up. But whereas the red in the latter's plumage fades in confinement, the Rainbow Bunting's truly rainbow colouring remains undimmed. This is particularly so if it is kept in a planted garden aviary where it can capture a variety of live insects for itself during the summer months.

The male has the general colour above a beautiful deep sky blue tinged with green on the upper back and mantle. The wings are dusky, the crown grass green, and the tail greenish-blue. The ear-coverts, nape, and sides of the neck are cobalt blue. The cheeks and underparts are bright yellow merging into orange on the upper breast and throat.

The female has the same general colour scheme as the male, but all her colours are very much duller, so they are quite easy birds to sex.

They inhabit Western Mexico where they are said to flit about among the undergrowth searching for seeds and insects.

Rainbow Buntings are very delicate when first imported, and unless the weather is really warm and seems likely to remain so for a time, they must at first be kept in a roomy cage in a well-heated bird-room, or alternatively in an aviary with a heated shelter into which they can be shut each night. Once successfully acclimatised, however, they become, for such delicate-looking birds, extremely hardy, a fact that has been recorded by at least one member of the Avicultural Society in its Magazine.

Before the war I had several bachelor males in one of my planted aviaries. They used to pass the winter successfully out of doors ignoring the wooden shelter, and roosting of their own choice in some evergreens with which the aviary is planted. No doubt their stamina had been built up to withstand the

cold of winter by the abundance of natural live foods they captured for themselves in the aviary during the summer.

Unfortunately, in a planted aviary that provides plenty of natural cover, one has all too little opportunity of appreciating the great beauty of these Buntings, for with the possible exception of Pekin Robins I know of few birds of more skulking habit or more fond of hiding themselves in the depths of the densest bushes.

However, they do love the sun, and it has been a great and unforgettable pleasure in the spring for me to see them desert the bushes and bask in the sun on bare branches. Seen thus against a leafy background they always remind me of southern Europe—oranges and lemons growing on the trees and the peerless blue of the Mediterranean—all of which colours they possess.

Rainbow Buntings, while they will live for a time on canary, millet, and greenfoods alone, are nevertheless among the most insectivorous of all the American Buntings. During the summer they will capture enough insects for themselves in a planted aviary, but if kept in an ordinary aviary they should be provided with one or two mealworms every other day or so, and any other live food available. They would probably eat gentles. In a large planted aviary they hunt ceaselessly for insects and come into lovely condition as a result.

I have never tried to breed them, but am certain that to succeed it would be necessary to keep up a continuous and as varied as possible a supply of live insects, etc., while they were rearing their brood.

Rainbow Buntings appear to have no proper song, at least if they have I have never heard it. The most mine have ever achieved is a weak chirping sound.

Red-billed Weaver

(*Quelea quelea*)

THE commonest of the Weavers, this bird is attractively though not brightly coloured. When in colour the male has the back, wings, and tail dark brown, the feathers being narrowly bordered with lighter brown. The head and underparts are a pretty mushroom pink shading into whitish on the lower breast and abdomen. The face-mask is black and the beak red. Length is about $4\frac{3}{4}$ inches. The female is an unpretentious little brown sparrow-like bird with a yellowish beak, and the male when out of colour resembles her.

Widely distributed throughout most of Africa, they are so common in a wild state that they are described as "like locusts in number" and are said to congregate in vast flocks of thousands and even tens of thousands. Huge nesting colonies are formed, some consisting, perhaps, of several thousand nests, and as each bird chatters away merrily while building its nest and quarrelling with its neighbours, the noise must be indescribable. The nest, attached to

the twiggy ends of the branches of low-growing trees and bushes, is a roughly but strongly woven oval structure with the entrance-hole at the side.

These Weavers feed almost exclusively on seeds and grain and are heartily disliked by African farmers as they do thousands of pounds' worth of damage to ripening grain crops. I have often kept them and very amusing they are to watch. They are, however, a mixed blessing in a planted aviary because they are very apt to defoliate the bushes, preferring to weave their nests around leafless twigs.

Although those I have kept did a great deal of indiscriminate weaving, sometimes in the wire netting, they seldom completed a nest, usually pulling it to pieces before it was finished in order to start afresh. Curiously enough, despite being so common, they are one of the most difficult of the Weavers to breed in confinement.

As they are highly gregarious, several pairs kept together are much more amusing than just one pair, and their aviary should be furnished with plenty of nailed-up twiggy branches for them to weave their nests among. They are suitable companions for most other Weavers and Whydahs, and also for Budgerigars, but must not be put with very small Finches or Waxbills. Perfectly hardy, they are simplicity itself to cater for, all that is required being canary seed, millet and greenfood.

Russ's Weaver is not a true species, but a dimorphic variety of the Red-billed, the only difference between the two being that the latter's black face-mask is replaced in the Russ's by mushroom-pink. When out of colour both forms are alike.

Russ's Weaver is usually imported from West Africa, but not nearly as often as the Red-billed, so presumably it is less common in a wild state.

Red or Rose-breasted Grosbeak

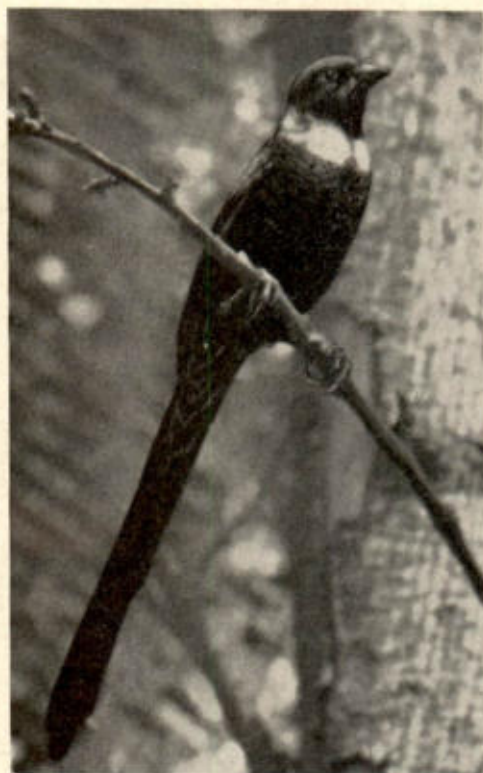
(*Zamelodia ludoviciana*)

THIS bird is, I always think, the most attractive member of the Grosbeak family, with its simple but effective colour scheme which is rather like that of a Red Admiral butterfly, except that the latter's vermilion red is replaced in the bird by rosy carmine.

In the male, the head, shoulders, neck and back are black, and the rump white. The tail-coverts are white spotted with black and the wings black with white markings. Under-wing coverts are pink and the throat black, beneath which, on the upper breast, there is a wide crescent-shaped area of carmine pink. The rest of the under-surface is white.

The female is coloured rather like a thrush. She is brown with a tinge of grey above, and the head is striped with dark brown and buff, while the underparts are white flecked with medium brown.

Young cocks resemble the hen but can be distinguished by their pink under-wing coverts which, in the hen, are pale yellow. The male goes more



A handsome Whydah, which unfortunately is all too seldom imported, is the Crimson-ringed. Compared with some of the others it has a rather stiff and rigid tail

or less into eclipse plumage during the winter when he much resembles the hen, though he often retains traces of the crescent-shaped carmine patch on the upper breast.

These Grosbeaks inhabit South Canada and the Central and Eastern portions of the United States. Even before the war they were seldom to be met with in European aviaries, as the United States had forbidden their exportation. They winter in Mexico, however, where the ban was not in force, so it was from that country that some were occasionally exported to Europe.

Before the war I had a single cock for many years and was later able to get a mate for him. Nowadays, however, they are never offered for sale and I have not seen one for quite fourteen years. I should very much like to be able to get them again as they have every virtue one could wish for as aviary birds.

I must have obtained my male about 1933 and he lived for quite seven years in a planted aviary, often among very much smaller companions which he never attempted to molest.

The Rose-breasted is by far the best songster of the Grosbeaks and my bird sang most beautifully with the powerful fluting notes of a Blackbird. Many a time I have listened to the Grosbeak singing in the aviary and a Blackbird on a tree above, and it was difficult to decide which was the finer songster. But perhaps the Blackbird won as his song is rather more fluent and continuous.

Like probably all Rose-breasted Grosbeaks, my bird had a curious habit of suddenly bursting into song when there was a moon, and as his aviary was close to the house I often used to lie in bed listening to his lovely liquid notes outside in the moonlight of a warm summer night.

I was anxious to get him a wife and after many abortive efforts I succeeded in doing so. The two seemed very pleased with each other, and the following spring went to nest, the nest itself being a cup-shaped affair constructed in a Snowberry bush. One young one was successfully reared.

The clutch consisted, if I remember rightly, of only three eggs, and this youngster caused me considerable anxiety as I was not then aware that Rose-breasted Grosbeaks leave the nest when still in the quill stage and by no means fully feathered. One day it had vanished from the nest and I found it sitting on the ground. I put it back, but next morning it had again left the nest, so I left it where it was and hoped for the best. It grew up, always most carefully tended by its parents, hopping about among the undergrowth, and turned out to be a very nice young hen.

Its mother died suddenly the following spring, so I mated the old cock to his daughter and they went to nest, hatching a single young one. This again left the nest much too early, so it seemed to me, and this time was found dead in some long grass in the aviary after a heavy rainstorm.

That these Grosbeaks are unusually amiable birds was proved by the fact that even when breeding they never attempted to molest even the smallest of the companions who shared their aviary. If you add to this the male's handsome appearance and beautiful song, you have, to my mind, something very like the perfect aviary bird.

Rose-breasted Grosbeaks are absolutely hardy and perfectly simple to feed, as they live mainly on canary seed with a small addition of hemp and sunflower. They will eat greenfood, but are particularly fond of apple. They also appreciate the occasional mealworm, and a small daily allowance of these should be given when they are rearing young, varied so far as possible with other live food, such as ant pupæ and gentles. Mine, however, being in a large planted aviary, reared their young ones on seed, greenfood and fruit, with a small daily allowance of mealworms, and such live insects as they captured for themselves.

Red-collared Whydah

(*Coliuspasser ardens*)

NEVER very freely imported and consequently always rather expensive to buy, this is one of the medium-sized Whydahs and a very handsome one. The male is glossy jet black with a broad scarlet half-collar, and the feathers of the wings and under tail-coverts are narrowly bordered with greyish-buff. The total length is about 14 inches, much of which is accounted for by the long black tail as in actual body size the bird is little larger than a Chaffinch. The tail does not quite undulate in flight like those of the Giant and Paradise Whydahs, as the feathers of which it is composed are rather less pliable. Nevertheless it is a beautiful bird.

The female has buffish-white underparts faintly streaked with brown on the upper breast. The tail is brownish-black and the wings and mantle are the same colour, each feather being bordered with greyish-buff. The cock, when out of colour, resembles the hen, and it has been stated that it often

retains a faint trace of the scarlet half-collar, but I think this must be rare because I have never noticed it in any of the males I have kept.

Red-collared Whydahs are found both in south-east and south-west Africa where they inhabit grassveld country. During the breeding season they are seen particularly in the neighbourhood of streams where there is a plentiful growth of reeds and coarse grasses, as it is among these that the oval nest woven of grasses and with a hooded entrance towards the upper end is constructed.

I have kept only single males of this species in mixed collections consisting of other birds of about their own size in fairly large planted aviaries. Although under such conditions they proved quite peaceably-disposed towards their neighbours, I cannot say what their behaviour would be like when mated and breeding. Single males in a bachelor aviary, however, are strongly to be recommended as they are handsome, hardy, and extremely easy to cater for.

Red-collared Whydahs are said to have been bred by Mrs. Annington in 1909, but that great Whydah expert, Mr. Shore-Baily, disputed this as it was not realised that they were breeding at all until the young ones were seen flying in the aviary. Since no record was kept of their coming into colour, and as the aviary contained other members of the Whydah family, Mr. Shore-Baily thought it quite possible they may have been hybrids.

He himself was a remarkably successful breeder of Weavers and Whydahs which, considering the various difficulties involved, was no mean feat of aviculture. He has recorded that in 1915 he bred two young Whydahs which he believed to be pure-bred Red-collared. However, when the young cock



The Red-collared Whydah is a beautiful medium sized member of the Whydah family, and is quite often imported

finally came into colour, it developed a yellow mantle and proved to be a hybrid Red-collared x Yellow-backed Whydah. It is easy to believe, as he says, that it was a very handsome bird, since it was like a Yellow-backed but with a considerably longer tail.

In 1916 the same hen again went to nest, but again the young male reared was not pure-bred. In this case Mr. Shore-Baily believed it to be a Red-collared x Red-shouldered Whydah hybrid. Finally in 1920 he had two broods of what he believed to be pure-bred Red-collared hatched, but neither was reared.

His account gives the impression that these birds are monogamous, whereas I was under the impression that they were one of the polygamous Whydahs, particularly as accounts of them in their native land usually state that they go about in flocks in which the males are considerably out-numbered by the females. With Whydahs, however, one can never be sure that some of the supposed females were not in reality young males that had not yet come into colour.

These birds will live perfectly well in flight cages, though it seems to me that all the long-tailed Whydahs look out of place in cages. To be fully appreciated they must be seen in aviaries large enough for them to display their beautiful and buoyant powers of flight. They should be fed on canary, millet and greenfood, and as they are said in a wild state to be partly insectivorous, any that will take mealworms can be given two or three per bird per day, but these are a luxury and not a necessity as they will live perfectly well on seed and greenfood alone.

The CRIMSON-RINGED OR RED-NAPED WHYDAH (*C. ardens laticauda*) is distinguished from the Red-collared by having a shorter but wider tail, a wide red collar descending from the sides of the nape to the breast, and a red top to the head (Photograph page 92.)

It inhabits north-east Africa from Abyssinia to Kilimanjaro, and is said in a wild state to make a kind of dancing floor or arena, as does Jackson's Whydah, but no instance of its doing this in confinement has been recorded. Its nest is on the ground, concealed in a large tuft of grass. Feeding and treatment should be the same as for the Red-collared Whydah.

Red-crested Cardinal

(*Paroaria cucullata*)

THE best-known of the Cardinals in confinement, this bird has always been a favourite with aviculturists in this country on account of its handsome appearance and sprightly ways.

The male has the upper surface grey, darkest on the wings and tail, and the underparts white tinged with grey at the sides. The head, crest, throat and ear-coverts are bright vermilion red. Normally the crest stands straight up, but the bird can slightly depress it at will. Length is rather over 7 inches.

I do not consider them easy birds to sex, but if a typical pair are seen together, it will be noticed that the red areas of the hen's plumage are slightly less vivid than those of the cock. These Cardinals inhabit Southern Brazil and the Argentine, where they are frequently kept as cage birds. They must be common in a wild state as they were always freely imported and easily obtainable in this country.

I think they have sometimes been overrated as song birds, and they certainly do not compare in this respect with the finest of the Grosbeak singers, namely, the Rose-breasted Grosbeak, whose song really does almost rival that of our own Blackbird. The Red-crested Cardinal has a few quite pleasant clear whistling notes, but these are interspersed with scroopy sounds and altogether the song lacks flow and continuity. At least that has been my experience.

They can be kept in either a flight cage or an aviary, and in the latter have the advantage of showing themselves well. They never skulk in bushes, a habit that makes some otherwise very beautiful birds so unsatisfactory in a planted aviary, but make full use of all the flying space you give them. While they are not particularly aggressive, it would be unwise to associate them with tiny things such as Waxbills, although they make excellent companions for other large Finches, Weavers, Whydahs, etc., and also Budgerigars.

Most of those I have kept have been single males, but on one occasion I picked out what looked like a pair and put them in a planted aviary for the summer. However, as they did a certain amount of squabbling and made no attempt to go to nest, it is probable that both were males, one of which happened to be more brightly coloured than the other.

They are extremely hardy and require no artificial heat even in the coldest weather. Feeding is easy as they require nothing but canary and millet, a little hemp and sunflower and the usual greenfoods. If they are kept in a cage and can capture no live food for themselves, a couple of mealworms or so per bird every other day or a few gentles, are beneficial, but not essential. They are also very fond of apple, which is good for them and should be supplied whenever possible.

They are not particularly free breeders, but will sometimes go to nest in a bush or a half-open fronted wooden nest box. When rearing young they become very insectivorous, and a continuous supply of ant pupæ, gentles, mealworms etc., would have to be maintained as there is no hope of their rearing a brood on seed, apple and greenfood alone.

I have always thought they would make admirable controlled-liberty subjects, and hope to try the experiment one day. They would look very handsome and showy flying about in a garden.

Red-eared Waxbill

(*Estrilda troglodytes*)

THE Common or Red-eared Waxbill used to be imported in vast numbers, and in the days of my youth one could buy a pair for as little as 1/6.

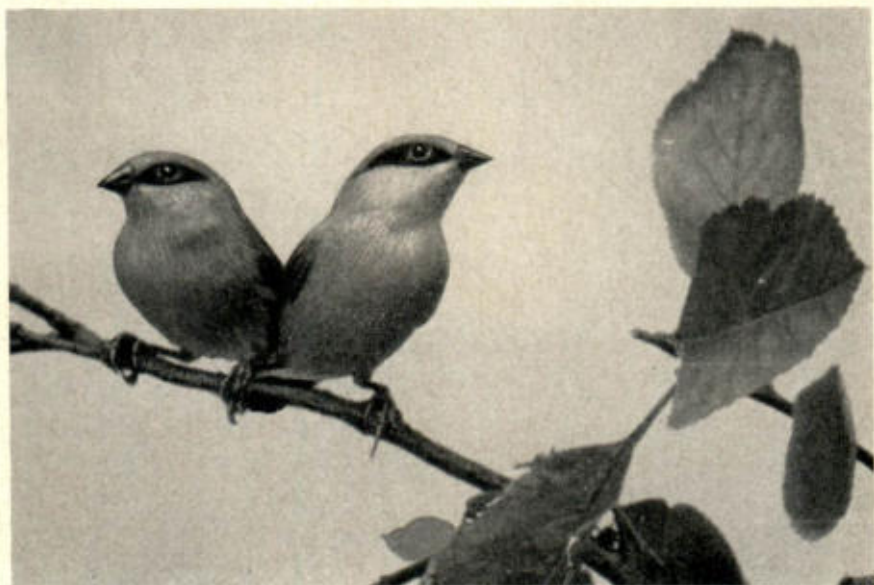
This, together with its ease of feeding, is doubtless why it is usually the first foreign bird many of us can remember keeping.

It is a tiny bird whose total length is rather under 4 inches. The upper parts are dark grey with a slightly brownish tinge, paler on the head and darkest on the tail. The lower parts are pale brownish, tinged with a deepening rosy pink which is at its most vivid in the centre of the belly. The plumage is transversely barred with minute brown and blackish lines. A crimson streak runs through the eye from the beak. The bill is sealing-wax red, and the legs and feet are almost black.

Males and females are not too easy to tell at a glance, but on closer examination it will be found that the female's pink patch on the belly is rather paler and less extensive than the male's, and this also applies to her crimson eye-streaks.

Red-eared Waxbills are widely distributed over the whole of Africa, south of the Sahara desert, and having such an enormous range are represented by slightly different races or sub-species in various parts of the Continent.

In a wild state they are said to prefer the vicinity of rivers where the more lush growth of reeds and tall grasses provides them with the cover they need, as, like many of the Waxbills, they are mainly ground-feeding birds, flying low when disturbed and preferring to perch on the tall swaying stalks of the grasses and reeds rather than in the branches of a bush or tree. At the beginning of the war we liberated a large flock at Keston and their ground-loving habit was strikingly evident. They could always be found in our eight acre meadow, keeping together in a single flock. When disturbed they would rise and fly off about three feet from the ground to settle in another part of the field.



The Red-eared is the commonest of the Waxbills and very freely imported. Vivacious, it is deservedly popular and easy to cater for in confinement

Constructed of grass stems their nest is placed on or close to the ground, either under an overhanging tussock of grass or at the base of some low-growing shrub. It is said to be shaped like a cottage loaf and to have two storeys, the bottom and larger one being the nest proper containing the sitting hen, while the smaller top one is a kind of temporary grass-widower's establishment where the cock sits hoping that all is well below and wondering when the family is going to hatch. This, I think, is rather a charming arrangement.



The large Red-headed Bunting is very stupidly named as its head is not red at all, but brown. It is very common in its native land where it damages crops

The tiny eggs are white and I believe the clutch sometimes numbers as many as ten.

Familiarity is said to breed contempt, but I don't think anyone could become contemptuous of or seriously dispute the charm of Common Waxbills. Kept in either cage or aviary, they have so much to recommend them. They are hardy and can be kept out of doors all the year round, though it is wisest to shut them in for the night into a draught and damp-proof shelter during the winter months. They are always trim and sprightly, and have a quite unconquerable optimism, which in the bad old days of mass importation enabled them to continue flirting their tails and uttering their very individual little call note even under the depressing conditions of an overcrowded dealer's cage.

In confinement, being non-aggressive and quite defenceless, they must never be associated with birds that might be inclined to bully them. This,



Small and pretty, the Pintailed Whydah is restless and rather inclined to worry other small birds in an aviary



The Black-headed Bunting, a close relative of the Red-headed, is a large member of the Bunting family, and comes from India

of course, is no mere question of size, for whereas they would lead a miserable life with the small but rather cantankerous Zebra Finch, they would be perfectly safe in an aviary with the comparatively enormous Giant Whydah.

They are extremely easy to feed, needing nothing but millet seed and green-food. I believe they have been successfully bred in confinement in this country, but owing to their cheapness and the ease with which they can be obtained few aviculturists are prepared to go to the trouble of attempting what would probably prove none too easy a task.

Red-headed Bunting

(*Emberiza bruniceps*)

THIS large Bunting is very common in a wild state, congregating in vast flocks, sometimes with its close relative the Black-headed Bunting (*Emberiza melanocephala*). It is often called the Indian Yellow Bunting which is, in fact, a much less misleading name, since it has *not* got a red head.

The male has the upper surface and tail brown, the wing feathers having paler borders. The head and large throat patch are chestnut brown and the whole of the underparts bright yellow shading to whitish at the vent. The female is quite unlike the male and mainly greyish-brown with darker markings of the same colour. Length is about 7 inches. It inhabits India, Western Asia and South-Eastern Europe and occasionally strays into France.

Enormous numbers are annually imported into Europe, and the Indians are probably thankful to get rid of them as they descend in vast flocks upon the grain fields, doing an enormous amount of damage to growing crops. There is always a ready sale for them as they are suitable aviary companions for Budgerigars.

I have at various times kept a couple of males or so in a mixed collection in one of my planted aviaries, and although they are certainly handsome birds they always strike me as rather lacking in character. The males have what I would call a rather wheezy "scroogling" song which they frequently utter, and although quite inoffensive to the ear, it could hardly be described as melodious.

I have never found them at all aggressive to other birds, and they are very simple to house and cater for, being perfectly hardy, while feeding consists of a seed mixture of canary, white millet, brown millet, together with a small daily ration of hemp. They can be offered spinach beet and are very fond of chickweed and other wild greenfoods. A few mealworms occasionally are also appreciated. As a tit-bit they are very fond of millet sprays, but these are not essential.

I have never attempted to breed them, but in a wild state they are said usually to build their nests in low-growing bushes.

Red-headed Finch

(*Amadina erythrocephala*)

THE Red-headed Finch is a larger and less often imported relative of the well-known Cut-throat, and its colour scheme is rather similar. The male is mainly greyish-brown mottled and speckled with brownish-black, and the pale grey breast feathers each bordered with nigger-brown give a somewhat scale-like effect. The whole of the head, throat, and cheeks are coppery-red. The female is like the male except that she lacks the red head.

This finch is found chiefly in the drier parts of South Africa and Angola, where it is said sometimes to take possession of old weavers' nests and refurbish them to its own taste. Its normal breeding habits, however, are much the same as those of our Sparrow and it generally chooses some hole in a building in which to make a large untidy nest. The name is rather misleading in so far as it gives the impression that it has the bright red head of a Gouldian or Parrot Finch. This, in fact, is not the case, its head being really more of a rust-colour.

It is rather heavily built and not a particularly active bird, and though it should not be trusted with Waxbills or small Finches, on the whole it is better-tempered in mixed company than its smaller relative the Cut-throat. Moreover, it is not nearly such a free breeder in confinement. Its eggs are said to be frequently infertile in captivity, but I cannot say whether this is so or not, as although mine have laid plenty of eggs, they never incubated them.

I once put three pairs to breed in the same aviary, providing them with Budgerigar boxes as well as wooden and open wire Finch nests, and, of course, plenty of nesting material. The results, however, were not encouraging. None of them made the slightest effort to construct a nest, though two of the hens had each apparently appropriated a different wooden nest box and laid numerous eggs in them on the bare wood. These eggs were found at the end of the season in varying stages of decay.

There was a certain amount of mild squabbling among the three pairs, but certainly not enough to prevent them breeding successfully had they felt so disposed. I have no idea why they made no serious attempt to breed as they were all in perfect condition and had been in the aviary for the best part of a year. A possible explanation might be the coldness of that particular summer, as they may be one of those finches that need a really hot spell of weather to bring them right into breeding condition. Be that as it may, I had given them one trial and shortly afterwards I parted with them as I did not consider they were attractive enough to take up a whole aviary for another year.

Red-headed Finches are perfectly hardy and just as easy to cater for as Cut-throats, requiring nothing but canary, millet and greenfood. They can be kept successfully with such birds as Weavers, Whydahs, Cardinals etc., and will live for years in a flight cage or aviary. If, however, the first aim is breeding, I would advise something that is at the same time easier and more beautiful, and this gives quite a wide choice.

Red-headed Parrot Finch

(*Erythrura psittacea*)

THIS is, in my opinion, the nicest of the Parrot Finches, and it is also one of the prettiest. The male is a bright though rather dark green with a red head and tail. They are usually not at all easy birds to sex, the only difference between a cock and hen being that the red in the latter's plumage is, if anything, slightly duller. I had one pair that were obvious even at a glance, the hen's red being much duller than that of her mate, but I have owned others, and breeding pairs at that, in whose plumage there was no perceptible difference at all, and I should say that they were more typical. Their length is about $4\frac{1}{2}$ inches.

If you hear one of them uttering a sound like a miniature police whistle, which constitutes their song, you can be certain that that bird is a cock, but it is no easy matter to identify and catch the singer, particularly if he is in an aviary with a number of others.

Newly-fledged youngsters are sombre little dark green birds, showing only faint traces of red near the beak. I have found that they are easier to sex at this early stage, as later on there is a period when the young of both sexes have much the same amount of red about the head. In my experience the ones with most red in their plumage when they first leave the nest are certainly young cocks.

These birds come from New Caledonia where they are, or at any rate were before the war, quite common. They were never at all freely imported, however, owing to the remoteness of their habitat.

Merely to say that Red-headed Parrot Finches are vivacious is an understatement, for they approach more nearly than anything I know to perpetual motion; so much so that if they are in an aviary of any size, it is next to impossible ever to get a proper look at them. For this reason they should never be kept in an aviary with a high door to the flight or the moment you open it they will be out over your head like a streak of lightning. Even with a low door about 4 feet in height, some such occasional escapes are difficult enough to prevent.

I have never kept these birds in a mixed collection, for I have always considered a pair well worth an aviary to themselves since with luck one may breed them. I once had a newly-imported pair which went to nest as soon as they were put in an aviary and successfully reared a fine brood of four young. Luck is certainly needed with these birds, not because they are unwilling to go to nest, but because there are various snags when they do so.

Owing to their fondness of making egg sandwiches—a layer of hay, a clutch of eggs, another layer of hay, another clutch of eggs, and so on—they are inclined to lay many more eggs than they hatch. Then there is the nest box problem. I once read that the best nest for Red-headed Parrot Finches was an old straw "boater" with a hole cut near the top of the crown, nailed to the wall of the aviary by the brim. I tried this, but the Parrot Finches seemed quite unimpressed with the notion of human headgear as a nesting site!

Some pairs readily make use of an ordinary Budgerigar box, but a large proportion, if given this type of box, spend their time constructing abortive nests on the flat top. Eventually I found that the best nest for them was one of the Budgerigar type, but with a specially constructed steeply-shelving lid. They soon grew tired of placing nesting material on this as it instantly slid off, and eventually made their nest inside the box instead.

Normally these birds should be fed on a seed mixture of canary, white and brown millet and millet sprays, with a daily allowance of about two mealworms per bird. When they have young in the nest, however, the daily allowance of mealworms should be gradually—but only gradually—increased, as any sudden increase is liable to overstimulate the parents and cause them to throw their young ones out of the nest and start again. Live ant pupæ are a valuable rearing food, but are not always easy to obtain. Gentles could also be given.

Red-headed Parrot Finches are—as Finches go—great fruit eaters and will consume a surprising amount of ripe sweet apple if a slice is pushed through the wire netting close to a perch. They like the juicy stalks of spinach beet and all the usual wild greenfoods, particularly groundsel heads and flowering grasses. I cannot say whether these Parrot Finches could be safely wintered in an unheated outdoor aviary in this country or not, because they were always so difficult to obtain that one did not feel inclined to experiment with them. Those we had were put into a flight cage in a warm bird room from the end of October to the beginning of May.

Royal Parrot Finch

(*Erythrura cyaneifrons regia*)

FIRST imported as recently as 1934 by the well-known collectors Messrs. Goodfellow and Shaw Meyer, these birds created a great avicultural sensation at the time, some of the first people to see them reporting that, for colour, they even rivalled the many-hued Gouldian, while Mr. Goodfellow enthusiastically wrote that they made Gouldians look "pale and washed-out by comparison."

The male has the head and tail bright red, the rest of the plumage being a rather dark peacock blue, deepest and brightest on the forepart of the body and gradually becoming tinged with green towards the tail. The wings are green and the rather heavy black beak has a small hook at the tip of the upper mandible and resembles that of a Bullfinch. The female is very similar, except that her red face-mask is slightly duller and less extensive than the male's, and she has some green on the flanks.

They inhabit the New Hebrides, and are said in a wild state to be almost entirely frugivorous, living mainly upon a species of wild fig, for the tearing

open and eating the pips of which their powerful hook-ended beak doubtless comes in useful.

Royal Parrot Finches, while certainly the most brilliantly-coloured members of the family, nevertheless lack some of the qualities which make most Parrot Finches such attractive aviary birds. Their figures, for instance, are plump and stocky and without elegance, and instead of having the neat Tit-like vivacity which characterises their relatives, they are quite incredibly wild and clumsy even in a large planted aviary, where they dash madly about if you go anywhere near them, often ending up dangling, helpless and panting with their toenails caught up in the wire netting. Usually when the unnecessary panic had died down, they managed to release themselves, but sometimes I had to do this for them.

I had about a dozen of these birds before the war and always hoped that they would eventually calm down. In this, however, I was disappointed, and as they were every bit as wild after eighteen months as on the day they arrived, I felt I could endure them no longer, and parted with them.

It is a great pity that, at least in my experience, they remain so desperately wild, because if only they would become tamer and steadier and give one a chance to look at them properly, they would certainly be among the most ornamental of aviary inhabitants as regards colour, though to my mind a bird has to possess both beauty of shape and colouring to be entirely satisfying to the eye, which incidentally is why I always think the Amherst Pheasant one of the most beautiful birds in the world.

I found Royal Parrot Finches even wilder in cages and small aviaries, so most of their time was spent in a planted aviary furnished with numerous nest boxes, in two of which were found rather half-hearted attempts at nests constructed chiefly of dead leaves with a few grass stalks.

I have never tried keeping them with other birds, but in the planted aviary of which they were the sole inhabitants, I never saw any sign of their squabbling among themselves. When they thought there was nobody about, and had therefore temporarily ceased to be in their usual panic-stricken condition, the cocks frequently uttered their brief, miniature policeman's whistle song, practically indistinguishable from that of the Red-headed Parrot Finch.

Royal Parrot Finches are not difficult to cater for, but I found them too susceptible to cold to be wintered out of doors without heat, and rather inclined to die suddenly for no obvious reason when apparently in perfect health and condition—probably from a fit. This being the case it is essential that mealworms, which are very fattening, and for which they have a passion, should be strictly rationed to not more than at most two per day per bird, and probably every other day would be safer. Probably gentles would prove a more satisfactory live food.

They should be fed on canary, white and brown millet, also millet sprays, of which they are particularly fond, and though they can be offered spinach beet as well as the usual wild greenfoods, it should be remembered that they are largely fruit-eaters in a wild state, and in confinement will consume astonishing quantities of ripe sweet apple, first picking out and eating the pips. Although they will live perfectly well on seed, apple and a few mealworms, they should be offered any other suitable fruit when available, particularly figs.

Ruficauda

(*Bathilda ruficauda*)

AN attractive Grassfinch which has never, for some reason, achieved quite the popularity it deserves. The male has the upper surface yellowish-green, while the breast and sides of the body have a rather olive tinge and are covered with small white spots. The lower belly is pale yellow. The forehead, cheeks and throat are bright vermilion red, the cheeks being minutely spotted with tiny white dots. The tail is brownish-red. They are just about the same size as the Painted Finch, and I always think a hybrid between the two might be very attractive. The female resembles the male, but usually has much less red on the face.

Ruficaudas come from Northern Australia and are always known in their native land—and apparently everywhere except in England—by the name of Star Finch. They are excellent aviary birds and can be bred in quite a small aviary (about 5 feet long) provided a single pair are its only inhabitants.

Before the war we used to breed large numbers of them and individual pairs were sometimes almost incredibly prolific, particularly during the really hot summers we used to get in those days. We found that they liked an open wire Finch nest box hung up under overhead cover, and in this they would construct their globular nests with an entrance hole at the side.

When displaying, a cock Ruficauda loves to get hold of the longest possible grass stalk he can find, but, as he holds it in his beak at the extreme tip, and waves it about, he is rather inclined to trip over it when displaying to his lady.

Ruficaudas should be fed on white and brown millet, small canary seed and greenfood. When rearing young, they should be given millet sprays, quantities of flowering grass, chickweed etc., and very small mealworms, the number of these being gradually increased daily as the brood grows.

As liberty birds, Ruficaudas are the most satisfactory of all the Australian Grassfinches, as they usually go to nest and are excellent stayers. I once kept some at liberty at my old home, and very charming additions to the garden they were. I doubt if these birds are entirely hardy, and therefore it is safest to keep them either in an aviary with a heated shelter, or in a flight cage in a warm birdroom during the winter months.

Rufous-necked Weaver

(*Plesiositagra cucullatus*)

THIS Weaver belongs to the numerous *Ploceine* group, of which the species of the genus *Hyphantornis* and *Sitagra* are the most often imported. It is a large and handsome bird with a powerful and rather long pointed beak, very

unlike that of the Viduine Weavers belonging to the genus *Pyromelana*, which are altogether smaller birds and include Napoleon and Orange Weavers which are described on pages 70 and 73.

The wings are medium brown, each feather being narrowly edged with buff, and the mantle is darker nigger-brown with each of the feathers broadly bordered with yellow. The tail is medium brown. The head and throat are



The Half-masked Weaver is very fascinating in an aviary because it is one of the most industrious and skilful nest weavers of the whole group

sooty-black merging on the nape into nigger-brown. The upper breast is rich coppery-orange shading into buttercup yellow on the belly. The beak is gunmetal colour.

The fiery red eyes, which glow like rubies in their jet black setting, are one of the bird's most striking and beautiful features. In all the illustrations of the bird I have seen they are incorrectly represented as of a pale straw colour, which indicates that these were probably painted from skins instead of a living specimen. In any case this omission of the red eye much detracts from the handsome richness of this Weaver's general appearance.

Hens are brown above with the feathers narrowly bordered with buff, and the lower parts are yellowish-white. Males have an eclipse plumage

similar to that of the female, but some cocks never go out of colour. My opinion is that the assumption of eclipse plumage is usually a sign of youth and that after a couple of years or so they tend more and more to retain full male plumage all the year round.

Rufous-necked Weavers inhabit West and South-West Africa and are partial to the vicinity of rivers where, being gregarious, a number of pairs will make their nests in a single tree or among the tall reeds bordering a river. The cleverly woven nest, made from strips torn from the reeds, is shaped somewhat like a fat vegetable marrow, with a round pipe-like entrance sometimes several inches in length. The eggs of these birds are blotched and spotted with various shades of brown and grey, but their background colour is said to be extremely variable, ranging from pinkish-white to dark greenish-blue.

Like other Weavers, their "song" merely consists of a continuous harsh grating buzzing sound occasionally interspersed in the case of this bird with rather surprisingly high-pitched squeaks.

I don't think they have ever been bred in confinement, although the late Mr. Shore-Baily almost succeeded in 1914 in breeding their close relative the Abyssinian Weaver (*Hyphantornis abyssinicus*). He failed, however, with the Rufous-necked as all his "hens" invariably proved to be young cocks out of colour.

On no account, of course, must Rufous-necked Weavers be associated in a mixed collection with defenceless birds such as small Finches and Waxbills. They can be kept safely, however, with other Weavers and with Cardinals and Budgerigars, but whether they would be safe with newly-fledged young ones I am in no position to say as I have never tried it, but I think it extremely doubtful. I think if a mixed collection is kept, usually for the show of colour they provide, it is far best to have only unmated males. This reduces to a minimum the fighting that would be inevitable if members of the opposite sex were included.

These birds will live perfectly well on canary, millet and greenfood, but they like hemp and would probably eat sunflower as well. They will also eat mealworms, but it is not essential to give them live food. Another name for this bird is the Golden Oriole Weaver.

The HALF-MASKED WEAVER (*S. vitellinus*) is considerably smaller than the Rufous-necked and comes from Senegambia and as far north as Timbuktu. It is a pretty bird, yellowish-green above, more tinged with brown on the wings, and bright yellow below. The crown, sides of the neck, and throat are russet-orange. These are among the most industrious nest builders of the whole family, and Mr. Shore-Baily successfully bred them in 1916.

The LITTLE MASKED WEAVER (*S. luteola*) is the smallest of the family and is yellowish-olive above, bright yellow below, while the forehead, cheeks and throat are black. It is sometimes called the Atlas Weaver and is found from Senegambia to East Africa. It is fairly often imported.

Saffron Finch

(*Sicalis flaveola*)

A FREELY-IMPORTED and well-known cage and aviary bird, the Saffron Finch has much to recommend it, including its extreme hardiness. The male has the upper back and mantle greenish-yellow, each feather having a dusky streak in the centre, while the tail and wings are darker and greener. The head is orange, the crown being particularly vivid, and this colour merges into pure yellow on the underparts, tinged with green at the sides of the breast. Length is a little over 5 inches. The female is similar, but her colours are considerably duller.

Saffron Finches inhabit South America from Brazil to Bolivia, where, judging by the large number imported into Europe, they must be very common birds indeed. In a wild state they are said to favour as nesting sites the disused nests of other birds as well as holes in walls and in the decayed limbs of trees which are their usual homes.

In confinement the best nesting receptacle for them is a box of suitable size hung up perpendicularly with the bottom half of the front boarded up and the top half open. It is as well to start their nest for them by half-filling the bottom part with hay, just to give them the idea. I have bred them myself, and they have been bred quite often in confinement. Herr August Wiener claimed to have bred them successfully in a flight cage.

I have also had odd males at various times in a large planted aviary with other birds of similar size. These proved quite peaceable. All those who have bred Saffron Finches seem to agree that a pair when breeding have a disturbing influence in a mixed collection, partly owing to the cock's habit of chasing the hen about, and sometimes vice versa.

I had never intended trying these birds at liberty, but we released several Saffron Finches when war broke out in 1939. One or two disappeared, but those that remained stayed well and proved among the tamest and most attractive of liberty birds. I can remember how showy they were with their orange heads and yellow breasts.

Saffron Finches are industrious though not particularly melodious songsters, their song rather resembling that of some of the English Buntings. They are extremely hardy and quite indifferent to cold, despite their country of origin. Feeding should consist of canary seed and the two millets with a little hemp, the usual greenfoods and an occasional mealworm can be offered by way of a treat.

When a pair have young in the nest, I would offer them in addition to their ordinary diet a small strictly-rationed daily allowance of mealworms and some gentles, also plenty of greenfood, together with hard-boiled egg and breadcrumbs, such as one gives breeding Canaries.

The **YELLOWISH FINCH** (*S. luteola luteiventris*), a smaller relative of the Saffron Finch, is imported in fair numbers. It is olive-green with dark-brown streaks on the back and mantle. The wing-feathers are dark brown with paler edges.

Eye streaks and abdomen are bright buttercup yellow and the breast pale yellow. The hen has less yellow and more brown in her plumage. They inhabit the Argentine, Chile, and Peru, and should receive the same feeding and treatment as the Saffron Finch.

St. Helena Waxbill

(*Estrilda astrild*)

IT is hardly necessary to give a detailed description of this bird as it is really a glorified edition of the common Red-eared Waxbill. There is a large and a small variety; the larger and more handsome bird of the two has a longer tail, greyer general plumage, which is also more distinctly barred transversely with narrow blackish lines, and has a considerably brighter and more extensive rose-red patch on the abdomen. The female resembles the male but is slightly the smaller bird and has a less extensive rosy patch on the abdomen.

This is a South African species which has been introduced into St. Helena, Mauritius and Madagascar. They congregate in large flocks in South Africa where they are known as the Red-beak or "Roodebec."

Even more so than the other African Waxbills with long tails, the St. Helena makes use of its tail with very great effect. These birds are, in fact, hardly ever still, jerking their tails to and fro like the pendulum of a clock. Nothing pleases them more than a bundle of flowering grass, upon which they can hang upside down, pecking out the heads and wagging their tails contentedly with every movement of their bodies.

While by no means rare in confinement, St. Helena Waxbills have never been so freely imported as their smaller and rather less beautiful relative, the Red-eared, so the competition to obtain them has always been greater. Both species are equally charming and vivacious, and the feeding, housing and general management of each should be the same.

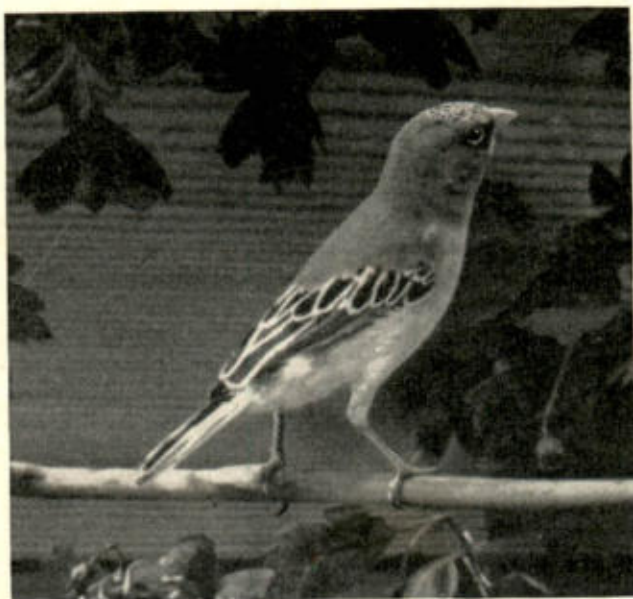
Scaly-crowned Weaver

(*Sporopipes squamifrons*)

THE genus *Sporopipes* contains only two species, namely the Scaly-crowned and the Speckled-fronted Weavers. It is not surprising that they have been given a genus to themselves as they are quite unlike any of the other Weavers. In shape and demeanour, as well as in the fact that they have quite

a tuneful little song, they remind one more of one of the smaller Serins. In fact, in their native land they are not called Weaver at all, but Scaly-feathered Finch.

In a chaste way the Scaly-crowned Weaver is pretty and its plumage is very attractively marked. The head is dark grey and the crown black, each of the feathers of the latter being rather pointed and narrowly bordered with white, which gives the scaly effect from which the bird takes its name. The back



The Scaly-crowned Weaver is pretty in a quiet way with very attractively marked plumage. When not nesting they are perfectly amiable in mixed company, but when breeding should be kept with birds of their own size and strength. They readily go to nest

is buffish-grey and the underparts greyish-white, and there is a black and white moustachial streak. The wings and tail are black with a faint tinge of brown and each of the feathers has a narrow, even, white border. The legs and beak are flesh-coloured. Length is about $4\frac{1}{2}$ inches. Their home is South Africa.

There is little difference in the sexes except that the cock has usually a rather heavier moustachial streak. They are perfectly amiable in mixed company so long as they are not nesting, and out of the breeding season I have kept them with Waxbills in quite a small aviary. When breeding, however, it is advisable to keep them with birds of their own size and strength, and even these will be vigorously chivied away from the vicinity of the nest.

Normally they require canary seed, white and brown millet and greenfood, with millet sprays as an extra, although sometimes I have seen them picking over the insectivorous mixture provided for other inhabitants of the aviary.

When they have young to rear, however, they would probably become largely insectivorous like so many birds that are normally seed-eaters. They are quite willing to go to nest and were first bred in this country by Mr. W. E. Teschemaker. A spherical nest is built with the entrance at the side, and their eggs are like those of a House Sparrow, only smaller.

They are quite hardy and can be wintered without heat, at any rate in the South of England. Unfortunately nowadays they are very rarely imported.

The SPECKLED-FRONTED WEAVER (*S. frontalis*) comes from West, East, and Equatorial Africa. It is rather larger than the Scaly-crowned, and has less grey and more tawny in the plumage.

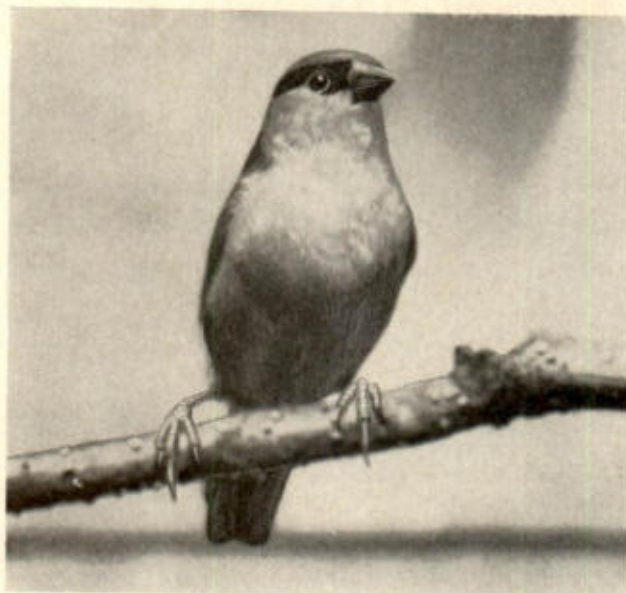
Spotted Firefinch

(*Lagonosticta rufopicta*)

THIS bird is also known as the Bar-breasted Firefinch. The male has the forehead, underparts, rump and tail-coverts vinous pink, and the upper surface greyish-brown. The breast is streaked and dotted with white and the bill is red, paler at the base. The female resembles the male, but the wings are more brown and there are fewer white streaks on the breast.

Distribution: From Senegal to the Upper Nile.

It is said to be a free breeder and requires the same diet and treatment as the Common Firefinch.



The Sydney Waxbill is the only Waxbill that inhabits Australia. It is one of the larger species and is most attractive and desirable. Unfortunately it is not freely imported here

Sundevall's Waxbill

(*Estrilda rhodopyga*)

ABOUT four years ago we had some of these rare Waxbills at Keston—the first of this species we ever had there.

Sundevall's Waxbill differs from the Common Red-eared Waxbill in being a rather warmer brownish colour and having a black instead of a red beak. There is also a touch of red on the wings. The sexes are much alike.

Distribution: Ethiopia.

It requires the same diet and treatment as the Red-eared Waxbill, with which it is said to have been hybridized.

Sydney Waxbill

(*Aegintha temporalis*)

AS this is the only Waxbill that comes from Australia it is not surprising that it should be known in its native country as the Redbill or simply as the Waxbill. It is grey tinged with olive above, and has the face, forehead, and cheeks grey, the tail being greyish-brown. The sides of the neck have a yellow tinge and the throat and breast are whitish. There is a bright red line above the eye running from the base of the beak to the ear; the rump is scarlet and the beak red. The sexes are alike. Length is about $4\frac{1}{2}$ inches.

They are quite common in New South Wales and it is a pity they are not more often imported as they have a great deal to recommend them, particularly their steadiness, and also their willingness to go to nest, although their efforts in this direction are not always successful as they are rather inclined to build one nest, start to incubate, and then build another nest on top of the first. They were first bred by that great breeder of foreign birds, Mr. Reginald Phillips, in 1902.

I think the reason they have not been more often imported is that Australian exporters have always thought it a better proposition to concentrate on the more brilliantly-coloured of their Finches such as Gouldians, with which, of course, the Sydney Waxbill cannot compare. But considered simply as a member of the Waxbill family, it more than holds its own both as to beauty and the vivacity which is a charming characteristic of that family.

Sydney Waxbills, once they are properly acclimatised, are quite hardy, and should be fed on white and brown millet and small canary seed. They are fond of millet spray and should be given the usual greenfoods. When rearing young they would also need a certain amount of live food, such as gentles, insects and small mealworms, live ant pupæ probably being the best.

Taha Weaver

(*Euplectes taha*)

THIS small Weaver might really be called the South African form of the very well-known and popular Napoleon Weaver (*E. afra*) from which it differs only in having the whole of the breast black, instead of merely the lower part. The male is bright yellow with the wings dark brown, each feather having a narrow buff border, the cheeks, throat and breast being velvety black.

When out of colour the males resemble the females, which are medium-brown striated with dark brown, and with the breast paler than the rest of the plumage. They are indistinguishable from hen Napoleon Weavers; at least I have never discovered any way of telling the two apart.

The typical form of the Taha is found in South Africa, and frequents open marshy country containing plenty of reeds and coarse grasses, in the tussocks of which it weaves its oval nest with a hooded entrance hole towards the upper end. In winter especially, they are said to congregate in large flocks, sometimes wandering far from home in search of food.

Taha Weavers, having more black and less yellow in their plumage, have never been quite as popular as the rather better-known Napoleon, but I have had several males in a planted aviary and always thought them attractive little birds. Normally their flight is swift and direct, but sometimes during spells of hot summer weather they puff out their feathers until they resemble a bright yellow and black ball and indulge in a curious dancing floating flight which is very fascinating to watch and reveals their full beauty.

In a planted aviary, besides their showiness, they have the additional advantage of being one of the least destructive Weavers to growing bushes. To realise just how bad some Weavers are in this respect one has only to put about half a dozen Grenadiers in even a large planted aviary, and the top half of every bush will soon be denuded of leaves to provide the bare twiggy branches for them to weave their nests among. Of course, I don't want to imply that Tahas are absolutely harmless to growing bushes. Few Weavers that I know are. But they are a good deal less destructive than most.

Taha Weavers were bred for the first time in this country by Mr. Shore-Baily in 1915, and I doubt if they have ever been bred since or if anyone has even attempted to do so. He has recorded that they built a dome-shaped nest in a clump of rushes, and that the two eggs were white flecked with brown, like those of the Napoleon Weaver. Both young ones were reared by the hen, chiefly on small insects, wasp grubs and mealworms, which she first chewed up and ate before regurgitating them for the young ones.

Tahas are not, as Weavers go, aggressive and do well in either a flight cage or aviary, though naturally they are more interesting in the latter where they have room to weave nests and indulge in their curious nuptial flights.

As to diet, they are simplicity itself, requiring only canary seed, millet and greenfood though, of course, if it is intended to breed them they must be

given a regular supply of live food when rearing young. At such a time it might be a good plan to offer them insectivorous mixture as well.

Tabas are perfectly hardy and mine were in a planted aviary with a cosy wooden shelter attached. They seldom used the latter, however, preferring even in the depths of winter to roost on a long twiggy branch nailed up under cover at the back of the aviary.

Versicolour Bunting

(*Passerina versicolor*)

WHILE this rarely imported Bunting is less brilliantly coloured than some of its relatives, it is none the less extremely attractive, and its colour scheme always reminds me of the various shades of Aubrietia.

It is a very difficult bird to describe, but roughly speaking the male is a rather subdued purplish-red above, with the frontal band, lores and chin black. The forepart of the crown, upper part of the ear-coverts, rump, back of nape, and upper tail-coverts are mauvish-blue. The lower part of the ear-coverts, cheeks, and lesser wing-coverts are the same blue, but deeper and richer. The back of the crown and just round the eyes is scarlet and the feathers of the wings mainly gunmetal-colour edged with smoky blue and purplish-red. The throat is purplish-red, while the rest of the underparts are deep mauvish-purple, greyer on the flanks.

The female is much duller, the purplish-red areas of the cock being replaced by a mousy-brown colour, and his blue areas grey tinged with blue.

I never think a written description of this bird sounds at all exciting but, as I am sure anyone who has kept them will agree, a male in perfect condition is a very lovely little bird indeed, with his pastel colours, ranging from smoky-blue to reddish-mauve set off by touches of scarlet, black, and deep, almost cobalt, blue.

The Versicolour Bunting, alternatively called the Varied Nonpareil, inhabits America, where it is found in Texas, and more rarely in Michigan. It breeds in Central America, Guatemala, and Mexico. Its habits and domestic arrangements are similar to those of the Nonpareil, but as it is so very rarely imported it is presumably less abundant in a wild state than its well-known relative. It has much the same short but sweet, if rather monotonous, song as most of the Buntings, and should be fed and treated like a Nonpareil.

I always used to keep one or two cock Versicolours in my planted aviary before the war where they proved perfectly hardy, usually ignoring the wooden shelter and roosting in the evergreens. They were fed on canary seed, millet and greenfood with a small daily allowance of mealworms in the winter. The mealworms were discontinued in the summer, as at that time the birds took much health-giving exercise capturing live insects for themselves.

Vinaceous Firefinch

(*Lagonosticta vinacea*)

THE Vinaceous Firefinch is larger than the Common Firefinch and is one of the prettiest members of the family. The male has a grey crown and nape, the rest of the head being black. The body colour is vinous pink, brightest and reddest on the rump, and brownish on the wings. There is a number of minute white spots on the side of the body, and the thighs and belly are dusky. The upper mandible is dark greyish-olive and the lower one paler.

The female has the head and cheeks greyish-brown, and the underparts buff, suffused with vinous pink on the sides and breast; the former are minutely spotted with white. The upper surface and wings are much the same as in the male.

Distribution: West Africa.

This attractive little bird is not imported as freely as the Common Firefinch, but is in every way a highly desirable aviary inhabitant.

Violet-eared Waxbill

(*Granatina granatina*)

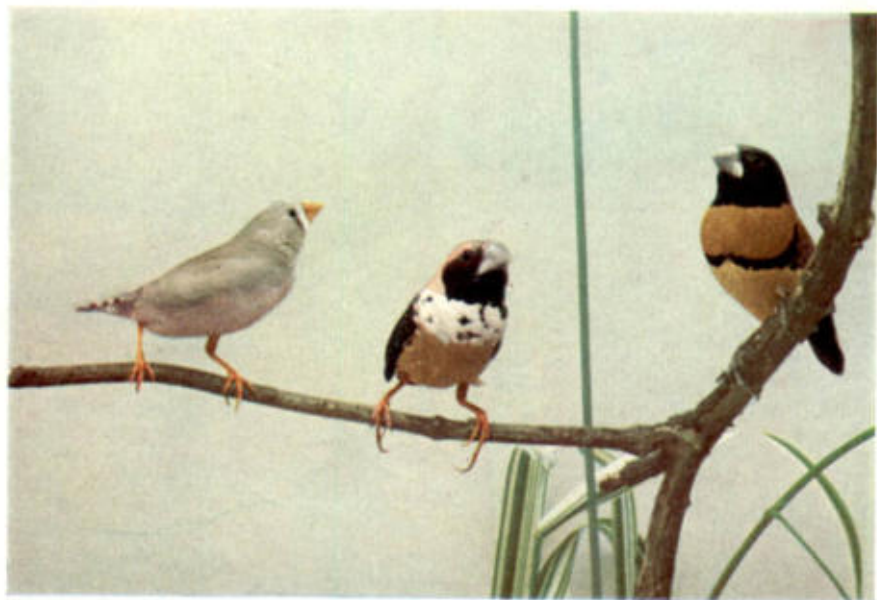
THIS extremely beautiful little bird is to my mind the loveliest of the Waxbills, and it has a rather unusual combination of colours. The general body colour of the male shades from rich mahogany to soft chestnut-brown. The cheek patches are purplish-violet, and the lesser tail-coverts, forehead and rump cobalt blue. The tail feathers are black shading to blue at the edges, and the beak is maroon-red. The hen is also very pretty, but all her colours are much paler than the cock's, her body colour being biscuit brown.

Violet-ears have noticeably long tails and are just over 5 inches in length. Unfortunately, while most of the better-known Waxbills are among the easiest of foreign birds to keep, the same can by no means be said of Violet-ears which are, indeed, far from easy.

The chief thing to bear in mind about them is that while most Waxbills appreciate an occasional insect but will live perfectly well on seed alone, this does not apply to Violet-ears. They are incapable of living long on such a diet since live insects are essential for them, and incidentally this provides the clue to their extreme delicacy on arrival in this country. Usually they have been brought over among a number of purely seed-eating Waxbills. By the time the Violet-ears reach our shores, after just managing to exist on a diet consisting



Ruficaudas and Heck's Grassfinches. The Ruficauda is also called a Star Finch. Both of these birds are good breeders in an aviary. Ruficaudas stay well at liberty



Hen Silver Zebra, Pectoralis, and Chestnut-breasted Finches. The Silver is a Zebra Finch mutation. The Pectoralis and Chestnut-breasted Finches are two of the Australian Mannikins

of nothing but seed for several weeks, they are usually emaciated and show every sign of acute diet deficiency.

Sometimes, if they arrive at the right time of year, it is possible with great care to pull them round. They should be kept at a steady temperature of about 80 deg. given live ant pupæ if obtainable (a wonderful pick-me-up for delicate newly-imported insectivorous birds) together with as great a variety of small insects as one can find, not forgetting spiders, which birds obviously consider the tastiest of morsels.

Their new owner's first impulse is often to stuff them with mealworms in order to build up their strength, but this is the greatest mistake particularly for a bird that has for long been deprived of live food. It will lead to acute digestive troubles and may even prove fatal. Gentles, perhaps, are a better live food at this time.

Some newly-imported Waxbills can be induced to eat sweetened bread and milk. Since this is itself an almost complete food, it is wonderful how quickly there will be an improvement in the condition of birds that take it. Incidentally, if one is importing birds in any numbers it is worth keeping a few Waxbills known to be bread-and-milk eaters to put with the new arrivals who will thus learn to eat it much quicker than they otherwise would.

So long as one is careful that neither is allowed to go sour in the cage both Virol and milk, each mixed with water, may be given to newly-imported birds to drink instead of plain water. In fact, anything within reason can be tried that is calculated to build up their strength after their long and tiring journey.

In the case of such birds as Violet-eared Waxbills that have always been considered delicate and very difficult to acclimatise, air travel offers great scope, as the birds would be perfectly all right during the few days of the journey with, if necessary, nothing but seed and water.

Once thoroughly acclimatised the worst is over and they should be fed on canary seed, millet and greenfood, and the finest grade insectivorous mixture and a small daily allowance of mealworms or gentles plus any suitable small insects one can find.

If possible, they should spend the summer months in an outdoor aviary. Although the then Lord Tavistock has recorded that he found them able to stand considerable cold without being any the worse for it, and actually kept a pair at liberty all one winter, I would advise heating their shelter or bringing them into a flight cage in a warm room for the winter to be on the safe side.

It will be seen that they are by no means everybody's bird, but they are altogether so charming and beautiful that they are well worth the extra care entailed and, of course, there is always the chance of breeding them. Actually this would not have the added attraction of being a first breeding, as Violet-eareds have already been bred in this country, notably by that very clever and successful breeder of "difficult" foreign birds, Mrs. Drake of Mylor, Cornwall.

As to nest boxes I should give them the choice of a wire and a wooden nest box and also a bundle of twigs nailed up under overhead cover. As rearing food for the young ones I should provide as great a variety of live food as I could find, including, if possible, live ant pupæ. I should give them also cleaned gentles, but mealworms rather sparingly. The latter are all right

as long as they are carefully rationed, and I have reared fine broods of Red-headed Parrot Finches with nothing but mealworms in the way of live food, the number given being increased by one each day as the brood grew.

The first Violet-ear ever to have been imported into Europe appears to have been one sent in 1754 to Louis XV's mistress, the Marquise de Pompadour, in Paris, with whom it lived for three years. As it was a remarkable achievement to keep a Violet-ear alive for three years in Paris—which can be so bitterly cold in winter—particularly in those days when so little was known of the requirements of foreign birds in captivity, one can well believe that Madame de Pompadour was "known to be an enthusiastic friend of foreign birds."

During the eighteen-seventies several Germans, including Prince Ferdinand of Saxe-Coburg-Gotha, received Violet-ears in Germany, but so rare did they remain in this country that even at the beginning of the present century a pair were sold for £10, the equivalent of £30 or so nowadays.

At various times I have had single male specimens of this Waxbill, but only on one occasion a pair, the female of which died very suddenly and disappointingly just as they were showing signs of going to nest. I never noticed much sign of the "beautiful song" to which the old writers frequently refer, nor should I have expected anything very striking in the way of melody from a member of the Waxbill family.

Virginian Cardinal

(*Cardinalis cardinalis*)

THIS is the largest and most handsome of the Cardinals, and must have been among the first foreign birds ever to be imported into Europe. The male has the upper surface and tail brownish-red and the cheeks, crest and all the under surface bright red. There is a narrow black frontal band which widens to enclose the front half of the eye and then narrows to form a black patch on the throat. The beak is vermilion. Length is rather more than 8 inches.

The female is pale olive-brownish above with the thighs and tail dusky brick-red, a colour which also appears on the crest. The underparts are fawn-coloured while the black parts of the cock's face mask are dusky rather than pure black.

The typical Virginian Cardinal comes from the Eastern United States. There are several more or less distinct races found in different parts of the country, but I do not propose to deal with these here, except to say that the Mexican race is particularly desirable, because although rather smaller than the typical form it is the brightest red of them all.

It has been imported into Europe for centuries and I think it was in the Pitti Palace in Florence that I saw a very beautiful table, which had been made

for one of the Medicis, consisting of a design of birds and leaves and branches, exquisitely executed in the famous Florentine marble inlay. Prominent among the birds, if I remember rightly, was a very life-like Virginian Cardinal.

This bird was among the first the original English settlers in North America sent back to the "Old Country," and I think it must have been in a rather nostalgic mood that they christened him "Virginian Nightingale." It is true he has quite a pleasant song, but it cannot be compared with that of our Nightingale, consisting as it does of a few tuning-up notes resembling "Whit-Whit-Whit," followed by "Cheow . . . Cheow . . . Chceow . . . chow . . . chow . . . chow," more or less endlessly repeated.

Virginian Cardinals will live well in a flight cage or in a small aviary, but are seen at their best amid the natural greenery of a fair-sized planted aviary where their bright red plumage makes them particularly conspicuous. If they have a disadvantage it is that, being probably fully aware of their striking appearance, they are rather inclined to hide away in thick bushes, seldom perching for long on bare branches.

I have not found them aggressive except to other Cardinals, which they are sometimes inclined to persecute.

They have been bred, and once they had come into breeding condition would probably become considerably more aggressive to the other inmates of the aviary.

If making an attempt at breeding them, I think the best chance of success would be if a pair were given a moderate-sized aviary to themselves, preferably with a few bushes in the flight and with one or two half open-fronted wooden



The Grey and White Warbling Finch is a member of the very rarely imported genus *Pooospiza*, all of which come from South America. In appearance it is the most Tit-like of the four Warbling Finches referred to on pages 118-120, and although it will eat seed it requires a certain amount of live food as well

nest boxes hung high up in suitable places under overhead cover. Once the young ones hatched, the parents would have to be kept supplied with a limited quantity of mealworms and plenty of gentles, ant pupæ, etc., in addition to their ordinary seed diet.

I have always thought they would make admirable controlled-liberty birds, when, of course, they would capture plenty of insects upon which to rear their brood, as well as looking very striking and beautiful flying about in a garden.

Virginian Cardinals are perfectly hardy, and an attempt was once made to establish them at complete liberty at Woburn. This, however, was only partly successful, as the late Duke of Bedford told me that, while a pair would stay and breed successfully, the population never increased as the parents invariably drove away the young ones.

They should be fed on canary seed, millet and sunflower seed, with a little hemp and plenty of greenfood and apple, of which they are very fond. Although they are mainly seed-eaters, a couple of mealworms per bird should be supplied every other day or so, particularly if they are kept in a cage. Although they do well in both cage and aviary, they seldom, after a moult in confinement, retain quite the brilliant red of their importation plumage.

Warbling Finches

(*Poospiza*)

WHEN I received some of these birds from abroad, I could not recall having seen any of them before. I could find nothing about them in *Aviculture* Vol. I, so sent descriptions to the British Museum and Mr. R. W. Sims of the Bird Section identified them as follows:

Ringed Warbling Finch (*Poospiza torquata*).

Chestnut and Black Warbling Finch (*P. nigro-rufa*).

Grey and White Warbling Finch (*P. melanoleuca*).

Pretty Warbling Finch (*P. ornata*).

Mr. A. A. Prestwich, always a mine of information on the subject of rare foreign birds, has kindly furnished me with the following information: "Ringed Warbling Finch: Allan Silver imported one from Holland in 1936; it soon died."

"Chestnut and Black Warbling Finch: De Quincey brought two about 1924. The Zoo had one in 1932, listed as new to the collection."

"White and Grey Warbling Finch: No information."

"Pretty Warbling Finch. Silver imported a pair from Holland in 1936. They nested, but the hen died during the process."

Prestwich also mentions: "Bonaparte's Warbling Finch (*P. bonapartei*) brought by Morrison in 1938, and also White's Warbling Finch (*P. whitei*) the latter bred by Allan Silver in 1937, a first success, A.M. 1938/p98."

This neat and lovely little bird, the Chestnut and Black Warbling Finch, reminds one much more of a Warbler than a Finch, and though it eats a little seed it must also have some live food



He further states: "There are sixteen species of Warbling Finch of which only six appear to have been imported."

Of the four species I have, Mr. John Yealland, Curator of Birds at the London Zoo, tells me that the Zoo has never had the Pretty and the Ringed.

Now to give a short description of each of the four species I am dealing with here:

RINGED WARBLING FINCH: Rather reminds one, at a glance, of a miniature Pied Wagtail. Dark greyish-black above, whitish below, with a white throat. The head is black, with a bold white streak above and below the eye. Under tail-coverts chestnut; a small black tit-like beak, and has all the vivacity of the tit family.

Distribution: Western Bolivia.

CHESTNUT AND BLACK WARBLING FINCH: Upper surface dark slate grey, darkest on the forehead. The eyes are in a jet black area, with a broad white streak above and below. Under surface chestnut, with the centre of the lower breast white. Beak and general shape very warbler-like. The most handsome, as well as the best songster of the four species.

Distribution: Southern Brazil, Uruguay, Paraguay, North-Eastern Argentina.

GREY AND WHITE WARBLING FINCH: In general appearance the most tit-like of the four, much resembling our native Marsh Tit.

Distribution: Eastern Bolivia, South-Western Brazil, Paraguay, Uruguay, Northern Argentina.

PRETTY WARBLING FINCH: Dark brownish-grey above, with whitish wig bars. Under surface buffish-cinnamon. Beak Finch-like, and the bird much

reminds one of a small biscuit-coloured Chaffinch. I should call it the least pretty of the four.

Distribution: In his letter to me Mr. Sims did not state the habitat of this bird, but it certainly comes from South America.

The Pretty and the Chestnut and Black are roughly the size of a Roller Canary, the other two being rather smaller. I have only one Grey and White, probably a hen as it does not sing, but the sexes in the others are much alike, the hens being slightly duller than the cocks. The males have brief oft-repeated little songs, more reminiscent of a Bunting than a Warbler.

With the possible exception of *ornata*, it is difficult to see why they have been called Finches at all, as they are really something between a Tit and a Warbler, and I doubt if any of them would live for long on an ordinary Finch diet of seed and greenfoods. Mine will eat some canary seed, millet, and millet spray, but they are also very fond of bread and milk, finely-chopped apple, insectivorous mixture, gentles and mealworms.

They wintered successfully in an outdoor aviary with a heated shelter, and the Chestnut and Black Warbling Finch (*P. nigro-rufa*) was successfully bred for the first time in captivity during the 1955 season at the Keston Foreign Bird Farm. The single young one was pale grey, with a darker tail, and a whitish streak above the eye.

Yellow-backed Whydah

(*Coliuspasser macroura*)

EITHER the specimens I have had were a dull race of this Whydah or those coloured illustrations I have seen are all somewhat flattering. The male is black, the wing feathers being dark brown bordered with buff. In most of the illustrations the bird is shown as having the whole of the upper back brilliant yellow, but in my specimens this yellow area was not nearly so extensive. Length is about $8\frac{1}{2}$ inches including the tail, which is of medium length with a rounded end and not long and tapering as in the case of many of the Whydahs.

The female is slightly the smaller bird, the whole of the upper parts being dark brown with the feathers bordered with buff and the under parts pale brown streaked with darker brown. When out of colour the male resembles the female, but has yellow wing-coverts.

This species comes from West Africa and Von Heuglin writing of it says: "I found it in pairs during the summer rains in the moist valleys of Bongo near the Gazelle river. The cock is in full colour by the middle of July and apparently leaves the country in August and September with his family. I saw them again in December. Like the others of the family the Gold-backed Whydah frequents high grass and eats their seeds; it is only in the breeding season that it does not go about in flocks. It is a long-lived bird."

They are said to make a nest somewhat like that of a Grenadier Weaver and to be fairly ready to go to nest in confinement. Those I had were always kept with birds of roughly their own size and strength, and I should be very chary of associating them with small Finches.

Easy to feed and perfectly hardy, they should be given canary seed, millet and greenfood with some hemp and sunflower, which I found some specimens appreciate more than others. They should have also the usual wild greenfoods and can be offered a few mealworms occasionally.

Yellow-bellied Waxbill

(*Coccygia melanotis quartinia*)

THE male Yellow-bellied Waxbill, having no black on the face, is hardly distinguishable from a *female* Dufresne's, except for the quite extensive patch of yellow on the belly. The female is a rather duller-coloured edition of the male.

Distribution: Ethiopia.

These Waxbills are imported in small numbers from time to time, and, although attractive little birds, are rather outshone by Dufresne's, which I consider one of the prettiest of all the Waxbills. They require, of course, exactly the same diet and treatment.

Yellow-mantled Grosbeak

(*Pheucticus chrysopheplus*)

THE Yellow-mantled and the nearly allied Yellow-bellied and Golden-bellied Grosbeaks are much the largest and most imposing members of the whole family.

The male has the whole of the head, mantle and underparts a rich yellow, fading into whitish round the vent. The wings and tail are black with a faint tinge of very deep nigger-brown. There is an irregular white bar across the centre of the wings, a patch of white feathers on the shoulder, and a small crescent-shaped yellow mark at the bend of the wing. The flights have a narrow white border at their lower edge and are broadly tipped with white. The two central tail feathers are black, the outer ones being black for about two thirds of their length, and the remaining third white with a narrow black border. The upper tail-coverts are black, adorned with several large white spots, while the legs are grey.

The enormous beak is lead-coloured, the upper mandible being almost black and the lower one much paler. Anyone handling one of these large

yellow Grosbeaks would be well-advised to treat this formidable weapon with suitable respect, for with it they can inflict a bite quite as painful as that of one of the larger Parrakeets.

I have never seen a female, but they are said to be olive-green, with dark nigger-brown stripes on the greyish rump and back, the tail and wings having similar white markings to those of the cock, although the background colour is different, being grey instead of black. There is a certain amount of pale yellow on the cheeks and underparts.

I can find no reference to the actual size of these birds, but I should say, from memory, that the total length is about 10 inches. They inhabit South and West Mexico.

The Yellow-mantled Grosbeak can hardly be called an elegant bird, as its very large head and beak, compared with the size of the rest of its body, give it a somewhat top-heavy appearance. Nevertheless, there is a certain quaint attractiveness about them, and I grew very fond of the single male I had before the war. There was something about his appearance which always reminded me irresistibly of a large gaily-painted wooden toy! I should like one day to have another one, or better still a pair, as I don't think they would be difficult to breed, but I doubt if there is the slightest chance of this as they were very rarely imported even before the war.

My Grosbeak lived for several years in a large planted aviary, and as I had already had unwelcome proof of the terrific power of his beak, I was at first chary of associating him with any companions smaller and weaker than himself. Actually, however, he proved to be the most peaceable and harmless of aviary inhabitants and never attempted to molest any of his companions, large or small.

I gave him canary seed, millet, sunflower seed, hemp and mealworms. He was passionately fond of the last two, but I thought it wisest to allow only a small ration of either, as both are fattening and he was never a very active bird. Greenfood he did not much care for, but was very fond of apple, particularly the pips, which he always picked out first.

He proved extremely hardy, ignoring the shelter and roosting in the evergreens in the aviary on even the bitterest winter nights. His song had some powerful notes, but was, like that of the Cardinals, rather monotonous, and certainly did not compare with the lovely and varied song of his relative the Rose-breasted Grosbeak, the finest songster of the Grosbeak family.

Yellow-rumped Serin

(*Poliospiza angolensis*)

I THINK a more suitable name for this small bird would be the Yellow-rumped Grey Singing Finch. Indeed, it is with one or two trifling differences so exactly like a Grey Singing Finch with a yellow instead of a white rump that I do not consider a detailed description of it necessary, since the appearance

of the Grey is so well known. The only difference in the sexes is that the yellow of the hen's rump is rather paler than that of the cock.

It comes from the drier parts of South and West Africa, and in its native land has been given the rather inappropriate name of Black-throated Canary. This makes no mention of the bird's yellow rump which is its chief distinguishing characteristic. Nor in the specimens I have had was the throat black, though I believe it is darker in some of the five slightly different races.

Before the war we never had any Yellow-rumped Serins at Keston, and I believe it was rarely imported, but since the war we have received quite a number among small mixed consignments from South Africa.

I have seen it stated that these birds have an even lovelier song than that of the Grey Singing Finch, but I consider this an exaggeration, for, at any rate in the case of those we have had, the song, though pleasant enough, was less often uttered as well as hardly up to the high standard of their better-known Grey relative. When the first pair arrived at Keston I was much struck with them, as their bright yellow rump provides just that touch of colour which is lacking in the ordinary Grey Singing Finch.

I therefore decided to have a shot at breeding them, putting a pair in a small aviary by themselves and providing an old Chaffinch's nest fixed up in a small twiggy branch nailed to the back of the shelter. The hen promptly took to the nest which she refurbished and lined with feathers and other soft materials, but though she proved an indefatigable egg-layer, that was as far as she got. Either she, or the cock when she was off the nest, invariably managed to break every egg, and eventually, though I never actually caught him at it, I suspected the cock of being an egg-eater.

Yellow-rumped Serins are very hardy and easy to feed, requiring only small canary seed and millet, and as great a variety of greenfoods such as spinach beet, groundsel, Shepherd's Purse, chickweed, etc., as one can find for them. They are, in fact, just as fond of greenfood as is the domestic Canary. If kept in a mixed collection it would be as well to bear in mind that they have much the same rather bombastic temperament as their better-known relatives the Grey and the Green Singing Finches, particularly when breeding.

Yellow-shouldered Weaver

(*Euplectes capensis*)

THIS is the largest of the Black-and-Yellow Weavers. The male is jet black, the whole of the lower back and some feathers on the shoulders being bright Canary yellow. The wing feathers are dark brown, bordered with buff.

The female is dark brown above, the feathers being bordered with paler brown, and buffish-brown streaked with dark brown on the breast and underparts. There is a buff streak on the eyebrow. Length is about 6½ inches.

The Yellow-shouldered Weaver inhabits Southern Africa where it is known as the "Kafferfink." It is apparently very common in a wild state and frequents rank vegetation and reeds in swampy districts. Seldom imported, I have had several, and though I admired their handsome black and yellow colour scheme, they have little else to recommend them as aviary inhabitants.

In *Aviculture* Vol. I, this Weaver is surprisingly described as "a bird with a formidable-looking beak but quite inoffensive with other birds," but I found them terribly pugnacious, attacking and bullying any other bird which was either too small, or too non-combative by nature to stand up to them. Also the damage they can do in a planted aviary has to be seen to be believed.

They are perfectly hardy, and though they will live on canary seed, millet and greenfood, I should be inclined to add a little sunflower and hemp, offering in addition (if caged) a few mealworms occasionally.

Yellow Sparrow

(*Auripasser luteus*)

THE Yellow Sparrow, sometimes called the Golden Song Sparrow, is a gaily coloured little bird and rather small for a Sparrow, being only about the size of a Saffron Finch (Page 107).



The Yellow Sparrow is sometimes advertised as the Golden Song Sparrow

The male has the head, neck, throat, rump, and most of the breast bright yellow. The tail is brown, as are the wings, with paler borders to the feathers. The back is rich chestnut, and the beak blackish. The female has the upper surface brown, while her underparts are cream-colour with only a tinge of yellow on the throat. Her beak is paler than that of the cock, being more of a brownish-horn colour.

Out of season the colour of the male's beak is said to resemble that of the hen, but to deepen almost to black at the approach of the breeding season. Habitat: East Africa and the Sudan.

In a wild state they live in scattered colonies, two or three pairs adopting a low thorn tree in which to make their loosely constructed nests with the entrance hole at the side. Out of the breeding season they join up into large flocks, which, as they are grain eaters, are said to do considerable damage.

Mr. Seth-Smith, who probably had a mated pair, has described them as quarrelsome, but I did not find these unduly aggressive in mixed company. I can well believe, however, that a breeding pair—as is the case of most birds—might prove a different proposition.

People are always wanting to know what other foreign birds can be kept with Budgerigars, and Yellow Sparrows are quite suitable for this purpose. They need, too, the same canary seed and millet with plenty of greenfood. Some will sample sweetened bread-and-milk, gentles and mealworms, but these, unless they are rearing young, are luxuries rather than necessities.

Zebra Finch

(*Taeniopygia castanotis*)

THIS accommodating little bird is about the most widely-kept and bred of all foreign Finches and thoroughly deserves its popularity, for whatever other birds may raise your breeding hopes high, only to dash them to the ground, you will be unfortunate indeed if your Zebra Finches fail you.

The male is pearl grey, rather browner on the back and wings, with a white breast and black and white barred tail. There is a vertical black line from the eye downwards which forms the front border of the chestnut ear patch, and the feathers between this and the black outline at the base of the beak are white. The throat is decorated with a black mark and black barring on a white ground, and there is an oblong white-spotted chestnut patch on the sides. The beak and legs are red.

The female is mainly grey, and lacks the male's chestnut ear and side patches, also the black mark and black stripings on the throat, but she has the black and white barred tail, also the vertical black stripe below the eye. Young Zebra Finches are difficult to sex until they are about three weeks old, when the cocks' chestnut ear patches start to appear.

Zebra Finches are generally distributed throughout Australia where they are also known as the Chestnut-eared Finch. In a wild state they are said to be



The Chestnut-flanked White form is one of several mutations of the Zebra Finch and has all the normal markings clearly visible against a white background. Zebra Finches are perfectly hardy little birds

very catholic in their choice of nesting sites which range from a low bush to a hole in a tree, and even to a rabbit burrow!

While the Zebra is not yet classed as a domesticated species like the Canary, it is rapidly on the way to becoming so. Except for the Bengalese, it is the only foreign Finch which is so widely and universally bred in captivity as to render aviculturists independent of imported supplies.

As has happened with Budgerigars, and as invariably does happen with any bird that is consistently bred for many generations in confinement, Zebra Finches have started to throw various mutations or "sports" which have gradually become fixed as acknowledged true-breeding varieties, and there are now silvers, fawns and whites, all of which are firmly established, as well as the Chestnut-flanked White Zebra Finch.

The silvers are, to my mind, the most attractive, being a pastel grey edition of the original bird, which helps to throw the chestnut markings into stronger relief. In the fawns the silver grey of the latter is replaced by a pale fawn colour. The whites are simply pure white birds with red beak and legs, and the Chestnut-flanked White is a white which retains the normal bird's markings.

I may say in passing, that while I admire certain naturally white or black-and-white birds such as the Snowy Egret or Rothschild's Grackle, I am not, generally speaking, an admirer of white editions of coloured birds, though the spread train of a white Peacock certainly has a rather exquisite, lacy effect. Nevertheless I consider an ordinary Java Sparrow a much handsomer bird than the white variety, and I hope and pray that no one will ever succeed in

breeding a white Gouldian Finch, though I once heard of someone whose extraordinary ambition it was to do just this!

Zebra Finches were among the very first foreign birds I ever kept *and* bred, and so they will always have a rather special place in my affections. This must surely also be true of countless other aviculturists if they look back to the early days when they first started bird keeping.

Few budding aviculturists have much money to spend on their hobby, so the first choice is usually Waxbills—and very charming they are. Then, however, one began to hanker after something that was attractive and would breed fairly easily. What would one's particular dealer suggest? If he was wise, and also honest, he suggested a pair of Zebra Finches, and you bore home in triumph a pair of these by no means gaudily, yet very prettily coloured little birds, and if, by the end of the breeding season, the Zebra Finch population had not considerably increased, it was much more likely to be your fault than theirs.

Few foreign birds are more adaptable and easier to feed, house and breed, and in an aviary they will often breed successfully even in a mixed collection. While seldom dangerous to other birds, the cock is ever ready to defend his nest against all comers no matter how large, and it is amusing to see them, as I often have, put to rout a trespassing Giant Whydah which had rashly ventured too near their nest.

Some birds will refuse to go to nest altogether unless they are supplied with exactly the right type of nest and nesting material, but this does not apply to Zebra Finches. They will go to nest almost anywhere and use practically anything to make their nests with; nothing seems to come amiss, including old pieces of millet spray and scraps of paper.

They will breed in either a wooden Finch box or an open wire one and make an untidy Sparrow-like nest, stuffing the box full of anything that comes to hand and leaving a cavity in the centre for the eggs.

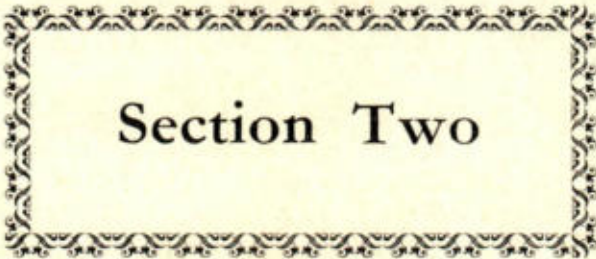
I can remember, as a boy, starting the year with a single pair of Zebra Finches and ending up with twenty, including the parents! Nor should I imagine this is anything like a record, as Zebras will go on breeding all the year round if you let them, but it is a very bad policy to do so, as it simply means that the young ones gradually deteriorate in quality.

Before the war, when we used to breed several hundred young ones each year at Keston, we used to consider ten young ones per pair a satisfactory average. They need no extras of any kind when rearing their young, and require nothing but millet and small canary seed and plenty of greenfood.

When, very occasionally, one does come across a pair which fail to breed successfully, the reason is nearly always the same; namely that the hen is an inveterate maker of egg sandwiches, so that the nest, when examined, will be found to consist of a layer of hay, a layer of eggs, another layer of hay and another of eggs, and so on. I know of no way to cure a hen of this exasperating habit, though giving a very small nest box might help.

Their song—if such it can be called—rather resembles the sound emitted by a penny trumpet.

Zebra Finches are perfectly hardy little birds, and can be bred in either an indoor or outdoor aviary, or a flight cage.



Section Two

PARROTS
and
PARROT-LIKE
BIRDS

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Abyssinian Lovebird

(*Agapornis taranta*)

THIS, the largest of the Lovebirds, always strikes me as a rather coarse-looking bird compared with the other species. The male is green, brightest on the rump and abdomen, and darker and tinged with brown on the head and mantle. Some feathers round the eye and the front half of the crown are bright scarlet. The flight feathers are dusky blackish, and the tail is green barred with black. The bill is red. The female resembles the male, but lacks the red on the head. Length is slightly over 6 inches.

About twenty years ago these Lovebirds were fairly freely imported, but for some reason were never very popular with aviculturists, possibly because in confinement they go to nest less readily than most of the other members of the family.

One advantage they do possess, however, is that, despite their superior size, they have small voices which are quite inoffensive to the ear, and this cannot be said of some of the other Lovebirds, particularly the Peach-faced, whose shrieks can be quite excruciating.

Another advantage is that they are said to be hardier than most of their kind, so that they can be wintered outdoors, provided they are shut into a really dry, cosy shelter each evening. I cannot, however, endorse this from personal experience as the pair I had were in my possession for a short time only during summertime, and I parted with them as I needed the aviary for other birds.

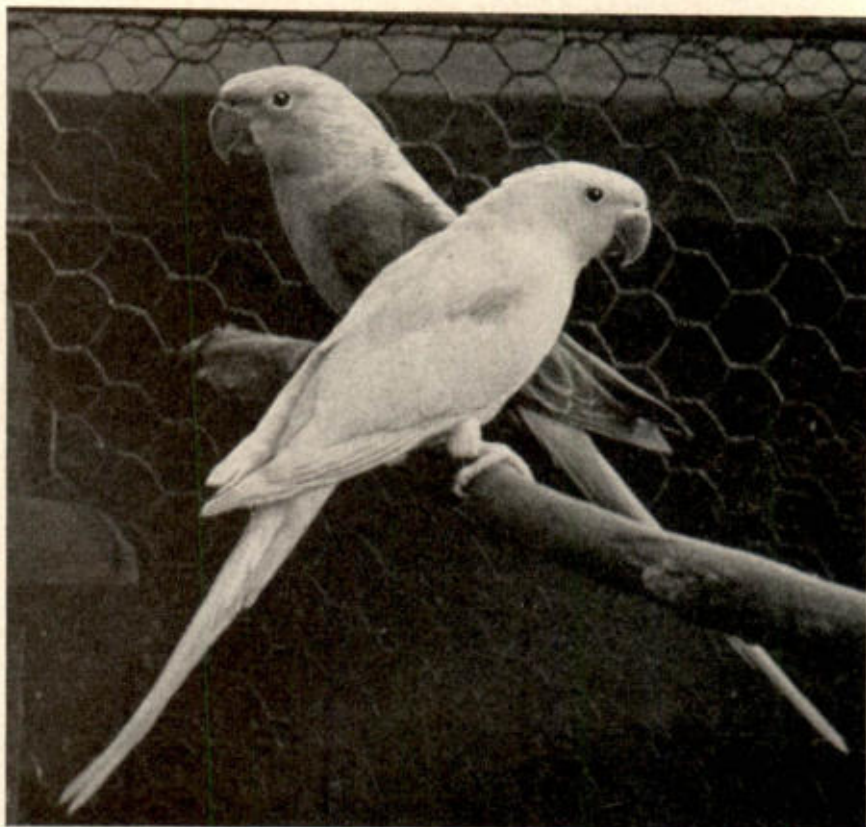
Although there is a record of several pairs living together without mishap in a small aviary with only one nest box, which the strongest pair appropriated, I would always, for safety's sake, and particularly if trying to breed them, give each pair an aviary to themselves.

Their feeding and nesting arrangements should be the same as for other Lovebirds.

Alexandrine Parrakeet

(*Psittacula eupatria nipalensis*)

A LARGE and handsome Parrakeet whose overall length including the long and tapering tail is about 20 inches. The cock is mainly apple-green with a pink nuchal collar, and the lower edge of the cheek is broadly bordered with black which continues up the sides of the neck. There is a maroon-red patch on the wing, the tail is bluish-green and the bill red. The hen is similar but has no black or pink on the head and neck. They inhabit north and



These are the progeny of a female Alexandrine mated to a male Alexandrine x Lutino Ringneck hybrid. One is a Green and the other a Lutino with red wing patches

central India. There is also a race of the Alexandrine, *P. eupatria*, which inhabits Ceylon and is duller-coloured and rather smaller than the common form.

No mere written description can give an adequate idea of the immaculate condition in which an Alexandrine maintains his plumage which, like a Java Sparrow's, has a lovely bloom on it. The only criticism one could make of the bird's general appearance is that his head and beak are rather too massive for the comparatively slender body.

I have always had a very soft spot for Alexandrines because a male I once had was quite the tamest and most delightful bird imaginable, and he came into my possession quite unexpectedly. I was staying with Lord Tavistock at Warblington in the early nineteen-twenties, and in a cage in a small room was a cock Alexandrine which I was warned not to touch as he had the reputation of being very ill-tempered and savage. Birds, however, are capricious things as to their likes and dislikes, and for some reason, the Alexandrine seemed to

exempt me from his general hatred of the human race. Greatly daring, I gingerly put my hand in the cage and he walked up my arm on to my shoulder.

Lord Tavistock said little at the time but shortly after I arrived home a box labelled "Live Bird" came for me. When I opened it, out stepped the Alexandrine and it was one of the nicest surprises I have ever had. He was from the very beginning so tame and affectionate that it seemed quite unnecessary to keep him confined in a cage or even an aviary, so I decided to try him at liberty and never regretted my decision, for a more charming liberty bird it would be impossible to imagine.

He used to roost in a large old yew tree opposite my bedroom window. As soon as I was called in the morning and the curtains were drawn he would, while I was still in bed, fly on to the open casement window. Then he would perch on the bottom of my bed and walk sedately up the blankets to have his smooth and glossy head stroked, which he adored. Unfortunately these morning visits eventually had to be discouraged as he took to flying up on to the top of my wardrobe while I was shaving and playfully removing and chewing up large hunks of it with his enormous and powerful beak.

He quickly learned where the dining room was and when I went down to breakfast would fly right round to the north side of the house and perch on a tree opposite the dining room window. The moment I went out of the house he would fly down on to my shoulder, and if I went for a walk in the woods he would fly from tree to tree overhead—following me as faithfully as any dog.

At that time as I was away most of the day working in London I thought he must be rather lonely and secured a mate for him. She, however, though a fine-looking bird proved a cross-grained individual and once attacked me when I was replenishing their food pot which was placed on top of an aviary. The cock, however, got there first and "bashed" her one good and proper, so that, thanks to him, I still possess my full complement of fingers!

The pair used to indulge in wonderful aerial displays of a summer evening, flying higher and higher, until one could no longer hear their cries and they were mere specks against the deepening blue of the sky. The following spring they began to take an interest in a hollow in an ancient walnut tree and probably would have bred. Meanwhile, however, my father had died, and it was eventually decided to sell my old home, my mother subsequently taking a flat in London.

To cage such a charming companion and perfect liberty bird seemed out of the question, so I sent the pair to Lord Tavistock. He gave them to a neighbour in Hampshire whose grounds were sufficiently large to keep them at liberty. Unfortunately they fared less well with him than they had with me. I am not sure what happened to the hen, but the cock was shot by some idiot with a gun, presumably in mistake for a hawk, and so, tragically, ended the life of one of the most charming birds I have ever possessed.

Mr. Ezra, President of the Avicultural Society, had before the war several very beautiful Blue Alexandrines from which he bred, but unfortunately his stock of them completely died out during the war.

I recently succeeded in breeding a Lutino Alexandrine, almost pure-bred, via Lutino Ringnecks. I don't think anybody knew if the cross would prove a fertile one or not, but I thought it well worth trying the experiment. I



A hen Banksian, one of the large and handsome Black Cockatoos, which are unsuited to cage life and look their best only when in a really large aviary

mated, therefore, a hen Lutino Ringneck to an ordinary Green cock Alexandrine, and the mating proved successful, several hybrids being reared. These are very handsome birds indeed, almost as big as an Alexandrine, the only difference in plumage being that the Alexandrine's maroon-red wing-patches are a golden-brown colour in the hybrids. The males, particularly, have been much admired, and I think they are really more beautiful than either of their parents.

Two of the male hybrids were mated in each case to a female Alexandrine. One hen nested unsuccessfully, but the other hatched and reared two young ones, one of which, by great good fortune, turned out to be a Lutino. This bird is not yet in adult plumage, and is pure yellow with brickish-red wing-patches. Its mother having been a female pure Alexandrine and its father an Alexandrine x Lutino Ringneck it has very little Ringneck blood, and this can be almost entirely bred out in the next two generations.

Their diet should be canary seed, monkey nuts, sunflower seed and a little hemp. They like the fleshy stalks of spinach beet and are very fond of apples. They are quite easy to breed and like Ringnecks, usually come into breeding condition rather early. Pairs are inclined to squabble if left too long without a nest box. They should be put up to breed about the middle of March, or even a week or two earlier, if necessary.

They are extremely hardy, and can be wintered successfully not only without heat, but in an aviary with an open-fronted shelter, provided it faces south. On the whole, however, a shelter into which they can be shut at night is perhaps preferable, simply because they are rather liable to frost-bitten feet in periods of extreme cold, this being chiefly caused by their sitting on frost-rimed perches in the early morning.

Banksian Cockatoo

(*Calyptorhynchus magnificus*)

THE Banksian is an imposing bird quite unlike the better-known Cockatoos being for one thing black instead of white. The male is adorned with a wide scarlet bar across the outer tail feathers. Total length is about 27 inches. The female is also very handsome, her colour scheme being more complicated. Her general body colour is black, the feathers of the head, neck and mantle being spotted with pale yellow, and the breast barred with pale yellowish-straw colour.

The under tail-coverts are orange-red and pale yellow barred and speckled with black, while the tail is pale yellow merging into orange-red and finally into black at the tip and patterned with transverse black bars and speckles. Young birds at first resemble the female, but assume full adult plumage in the fourth year.

In its native Australia, where it is usually known as the Red-tailed Black Cockatoo, it has a wide distribution, but apparently like so many Australian

birds, its numbers are now dwindling. It appears to have been first described towards the end of the eighteenth century.

Banksians are said to be extremely fond of the seeds of the Casuarina tree and also to eat the larvæ of wood-boring insects; also to be very shy and wary birds, and to nest in the highest available decayed hollow limbs of trees, so that it is very difficult to take young ones from the nest to hand-rear.

These fine birds are sometimes to be seen at Zoos, but hardly ever in private collections, and as far as I am aware the only aviculturist who went to the trouble and expense of having suitable aviaries constructed, large enough for them to get really under way when flying, was the late Duke of Bedford.

I shall never forget how magnificent they used to look as they flew from end to end of the long, lofty aviaries with their leisured and majestic flight, which had no suggestion of heaviness about it but, on the contrary, gave an impression of wonderful lightness and buoyancy.

The power of their terrific beaks can be gauged from the fact that they are, I believe, able to deal with Brazil nuts with as much nonchalance as a Zebra Finch shucking millet seed! Their aviary shelter, therefore, must be armour-plated, that is to say, completely lined with zinc, while the framework of the flight should be of angle-iron or iron piping, covered with chain-link netting of the strongest possible gauge.

Their voices are as terrific as their beaks, and they are capable of emitting harsh, wavering screams compared to which the sound of a powerful klaxon horn is positively melodious! The late Duke of Bedford, who had a tame male Banksian at complete liberty, has recorded that when on the wing, this bird frequently uttered a strange and mournful cry; and also the curious fact that it used to fly about on moonlight nights.

Although, as the reader will have gathered from what I have already written, these Cockatoos certainly have their drawbacks as aviary birds, these are, to my mind, largely counterbalanced by their own peculiar and very individual charm which, however, is confined to the male sex only.

Female Banksians are nearly always savage and untamable, while males go to the other extreme and are so extremely affectionate and fond of their human friends that they are inclined to neglect their wives, with the result that in the rare instances of eggs being laid in confinement, they have nearly always proved infertile. So it is perhaps understandable that females of the species should regard human beings with loathing, probably regarding them as dangerous rivals responsible for alienating their husbands' affections.

A male Banksian, if he likes you, will cling on to the wire of the aviary, raise his Roman helmet-shaped crest, spread wide his handsome black and scarlet tail, and go into transports of joy if you take a little notice of him. Indeed I can imagine few more charming—or more noisy—pets.

These Cockatoos lay very small clutches, usually of either one or two eggs, and the only person, so far as I am aware, who ever succeeded in the difficult task of breeding them in confinement was the Duke of Bedford, one young bird having left the nest, I think, shortly after the outbreak of the last war.

The only personal experience I have had of keeping the species was with a couple of them which I looked after for a friend for about eighteen months, just before the war. They spent the summer in a fair-sized aviary, but the

species not being entirely hardy, they were taken in about October to pass the winter in our heated acclimatising room, in an aviary-cage about 6 feet long by 6 feet high by 3 feet 6 inches wide.

Banksians should be fed on a mixture of hemp, sunflower seed and monkey nuts and, of course, when available, Brazil nuts as well, though these are not essential. They are not great fruit eaters, but in the way of greenfood they are very fond of the fleshy stalks of seakale beet.

As I have already mentioned, they are partially insectivorous in a wild state, and I therefore doubt if they would achieve old age in confinement on a seed diet alone, owing to the fact that under such conditions they are very liable to contract tuberculosis which, in my opinion, is chiefly caused in their case by a diet deficiency. In confinement they are fond of the grub which inhabits an oak gall (or "oak apple") but these are none too easy to find, and, in any case, are only available for part of the year. They will not, unfortunately, eat mealworms, of which it is so easy to keep up a continuous supply. They might be tried with cleaned gentles.

Barraband's Parrakeet

(*Polytelis swainsoni*)

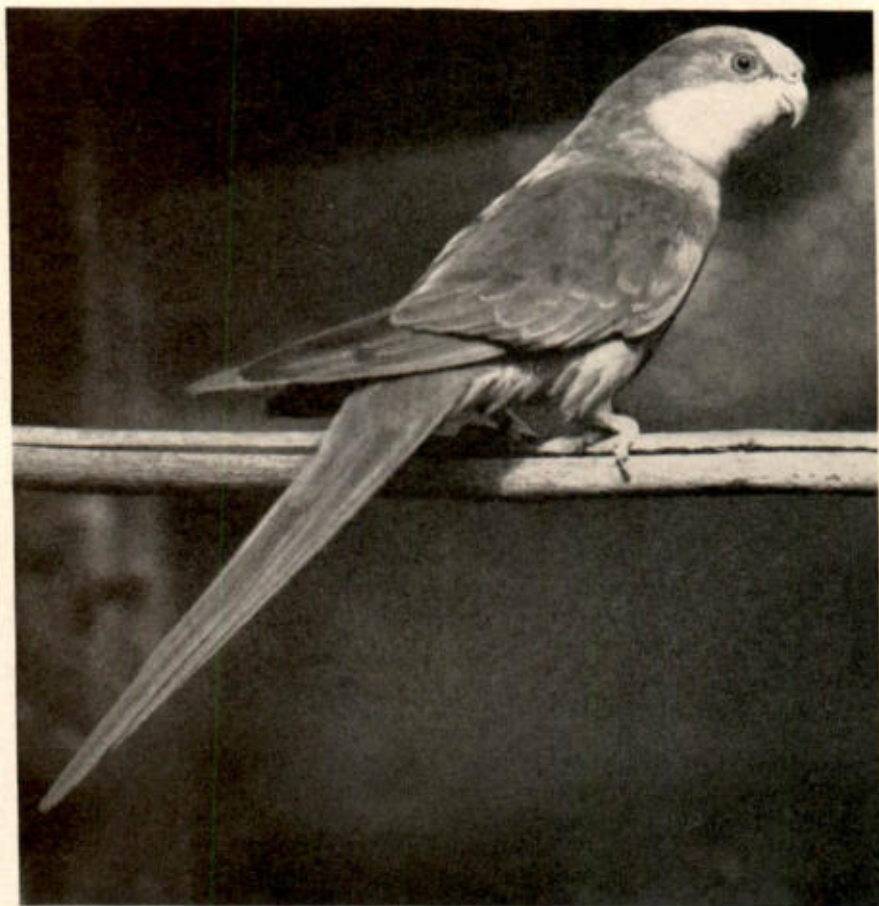
THIS is one of the most charming and graceful of Parrakeets, and though its colour scheme is simple, it is extremely effective. The male Barraband is mainly brilliant grass green, with greenish-blue in the flights and the back of the crown is tinged with blue. The under surface of the long pointed tail is black and the beak red; the forehead is orange and the cheeks and throat rich yellow, the latter ending in a wide, inverted crescent of vermilion. Total length is 16½ inches.

The female's green body colour is much less bright than that of the male and paler on the breast. The throat and cheeks are greyish-green, the thighs red, and the feathers of the underside of the tail are broadly bordered with pink, which is also the colour of the beak.

No description of a Barraband would be complete without calling attention to its extremely slim and elegant shape, some idea of which is best conveyed by the modern word "streamlined." It is important to stress this point as it is one of the bird's chief charms, and one to which few illustrations—particularly the old ones—do justice.

Barrabands inhabit Australia where they are found in Victoria and South Australia and the interior of New South Wales. In their native country they are known as the Superb Parrakeet, or perhaps more usually by the popular name of "Green Leek." As will be noted, it has a somewhat restricted range and it is said to be a dwindling species in a wild state.

Barrabands make delightful aviary birds, but should never be kept in cages except in the case of a tame, hand-reared specimen which I should think, if a



Nowadays Barraband's Parrakeet is even rarer as an aviary bird than before the war. It is a very beautiful Australian bird and quite a good breeder

male, might make a charming pet. Even such a bird, however, should never be permanently confined to its cage, but regularly let out and given plenty of wing exercise.

The cock Barraband has the most quaint and entertaining nuptial display which must make the hen a little giddy, as part of it consists of sitting a few feet away from her on a convenient straight perch, blazing his eyes at her by contracting the pupils to pinpoints, and then flying very slowly round in a semicircle in front of her so as to alight about the same distance away on her other side.

This manoeuvre is frequently repeated, so that the hen, turning her head from side to side to watch him as he passes, always reminded me of a slow-motion picture of spectators at the centre court at Wimbledon! The rest of the display—which, of course, can only take place in a run at least 30 feet long—consists

of flying from end to end of the aviary with affectedly laboured flight, so much so that he drops almost to ground level midway, and then rises laboriously until he alights once more beside his wife.

Before the war we always had Barrabands at the Keston Foreign Bird Farm and I once bred them to the second generation; that is to say, one of the parents was bred at Keston and successfully reared a brood when mated to an imported specimen.

The old pair were a handsome couple and excellent breeders rearing large broods—six on one occasion, if I remember rightly. There was, however, a curious thing about the cock and that was his behaviour towards his newly-fledged offspring. He always, I think, like some human fathers, preferred his daughters to his sons and fussed about after they left the nest, continually offering to feed them. But though, to begin with, his attitude towards his sons did not amount to active dislike, he did his best to ignore them, and left their care entirely to the hen.

Then there came the time when one of his sons had the audacity to emerge from the nest in almost full adult male plumage. The cock promptly went for him and actually murdered him. After that he always had to be caught up and put in a small, improvised compartment at the end of the breeding aviary just before his family left the next. There he could sit and glower at his young sons to his heart's content, or walk up and down the perch in his restricted quarters thinking how he would love to scalp them if only he could get at them!

He was never taken right away and put in an entirely separate aviary as his wife—who incidentally was very devoted to him despite his being a child-murderer—might have fretted for him and consequently neglected the young ones.

As Parrakeets go, Barrabands are very amiable birds and excellent parents, so this cock with a passion for murdering his sons was entirely exceptional and must be regarded as an eccentric. So amiable are they that I have often wondered whether it might not be possible to keep several breeding pairs together—provided, of course, that they inhabited a really spacious aviary and the number of nest boxes supplied was at least double that of the number of pairs in the aviary.

It would, anyway, be an interesting experiment to try, but I am inclined to think that though there might be no serious squabbling among the adults, there might be trouble when the young ones fledged, if any of them—as would be almost sure to happen—approached the wrong parents for food.

I always used to give our Barrabands a nest of the grandfather clock type in which they were very successful and reared broods of fine quality, but as a result of later experiments with other Parrakeets, such as Ringnecks, which were formerly always provided with this type of nest box, I think they would probably rear just as good young ones in a box about 1 foot square by about 3 feet 6 inches deep, hung up under overhead cover in the flight and with a four-inch filling of decayed wood.

Incidentally it is important that the decayed wood should be of the right consistency and not too soft, for if it is, the birds are liable to chew it up to powder, and the eggs are apt to get buried in it. It should be still moderately

hard and chunky, and before being put into the box should be broken up into pieces about the size of a walnut.

Barrabands, as their slim, streamlined shape suggests, have a lovely swift direct flight and the overall length of their aviary should, if possible, be at least 20 feet, as anything less makes the birds appear cramped, and also detracts considerably from their owner's enjoyment of them. I do not suggest, of



One of the first members of the *Agapornis* family to be regularly imported into this country, the Black-cheeked Lovebird was subsequently rather neglected in favour of the brighter coloured Masked Lovebird

course, that with proper feeding and management they will not live perfectly well in smaller aviaries, but one of the size already indicated is infinitely preferable.

Barrabands should be fed mainly on canary with millet and sunflower and a daily pinch of hemp. They will also sometimes eat shelled monkey nuts. The daily amount of hemp can be considerably increased when they have young in the nest.

They are very fond of spinach beet and apples, provided the latter are really ripe and sweet, and they also appreciate flowering ryegrass and all the usual wild greenfoods. They have rather pleasant voices, and are perfectly hardy.

Black-cheeked Lovebird

(*Agapornis nigrigenis*)

THIS bird resembles a Nyasa Lovebird, in which the latter's brickish-orange face area is replaced by a nigger-brown colour, so dark as to be almost black. There is also a patch of salmon-pink on the upper breast. The bill is red and there is a white circle round the eye.

It is slightly larger than a Nyasa, being about 5.2 inches in length and although the irides in the hen are said to be of a rather paler brown than those of the cock, I, personally, find them none too easy to sex. They inhabit North-western Rhodesia.

Unlike the other "spectacled" Lovebirds, Black-cheeked were well-known to aviculturists and imported in large numbers before the 1914-1918 war, but even so, they were eventually allowed to die out almost entirely, through lack of systematic breeding in aviaries in this country.

Like Golden and Amherst Pheasants, Black-cheeked and Nyasa Lovebirds interbreed very freely, the appearance of their progeny being just about intermediate between the two parents, with the result that nowadays it is almost as difficult to obtain pure-bred Black-cheeked Lovebirds as it is to get pure-bred Amherst Pheasants.

Black-cheeked Lovebirds require exactly the same food, housing and general management as Nyasas.

Bluebonnet Parrakeet

(*Northiella haematogaster haematorrhous*)

A QUIANT, lively, but extremely pugnacious bird, the Bluebonnet is in many ways quite unlike other Parrakeets. This species and its close relatives, the Red-vented Bluebonnet and the Naretha or Little Bluebonnet, have rightly been given a genus to themselves. I propose here to deal only with the best-known member of the family, the Yellow-vented, which is the only one of the three I have kept.

The general body colour of the male is mouse-brown with a tinge of grey. The face mask is blue, the shoulder or bend of the wing brilliant blue-green, and the lower edge of the wing and under wing-coverts blue. On the wing itself there is a large patch of brassy-olive colour. The flights are brown on the inner webs and dark blue on the outer ones. The central tail feathers are dull dark blue washed with olive, and the outer ones blue broadly tipped with white. The lower breast and abdomen are pale yellow with an extensive crimson patch on the belly. Length is about 12 inches.

The female resembles the male, but her colours are not so bright. She is smaller in head and body, and this disparity in size was particularly marked in the pair I possessed.

Bluebonnets, which inhabit South Australia, New South Wales and the southern part of Queensland, were first described by Gould about 1837. They are said to frequent open scrub country, also trees bordering water-courses, and to favour the decayed, hollow limbs of a Eucalyptus or a Casuarina tree for nesting purposes.

These birds are most closely-related to the Broadtails, and although they lack the brilliant colours of a Rosella, I have always thought their greyish-brown body colour makes a very pleasing foil for the touches of blue, lemon yellow and crimson in their plumage.

Although related to the Broadtails, many of their actions are totally different and much more reminiscent of the *Trichoglossine* Lorikeets and *Cyanorhamphus* Parrakeets. They are extremely active, progressing about their aviary in the same "hop, skip and a jump" manner as both the above-mentioned birds, and also—like Lorikeets, but quite unlike Broadtails—a pair will roll about on the ground together, occasionally giving each other a playful nip, much as puppies and kittens do.

This playful, nip, however, is solely confined to husband and wife when playing together, and any other bird smaller than themselves or even another Parrakeet, considerably larger, would quickly receive a nip of quite another kind which he would not soon forget.

Although only about the size of a Redrump, Bluebonnets are extremely aggressive and it is best to take no risks and give them an aviary to themselves. Some idea of their pugnacity can be gained from the fact that the late Duke of Bedford who kept a male (whose wife was confined in an aviary) at liberty, found that they were practically immune from the attacks of Brown Owls, which cannot be said of any other Parrakeet of comparable size.

Tame Bluebonnets are, like most Broadtails, cheeky rather than tame, and it is a pity to confine such extremely active and playful birds in cages. An aviary suits them much better and is essential if one intends to attempt breeding them. Unfortunately they are very shy breeders, and the hens being uncertain sitters must be left severely alone as they are liable to come off their eggs at the slightest sign of disturbance. They should be given the usual Parrakeet nest box such as I have recommended for Rosellas, and their aviary should be in as secluded a position as possible.

I had a pair of Bluebonnets nearly thirty years ago. They did not breed and the thing I remember most clearly about them was their curious habit of bobbing rapidly up and down when excited, which always reminded me of the Little Owl. This bobbing in Bluebonnets is, to a certain extent, an indication of sex, for cocks usually bob more vigorously than hens.

Bluebonnets, once acclimatised, are perfectly hardy. They should be fed on a mixture of canary and millet, sunflower and a little hemp. They can also be given a few monkey nuts—preferably shelled. Spinach beet and the usual wild greenfoods should be given, and they are very fond of apple. It is advisable to shut them up in their shelter each night during the winter months.

Blue-fronted Amazon Parrot

(*Amazona aestiva*)

WHEN told that someone has a tame talking Parrot you can usually be pretty sure that if it is not an African Grey it will prove to be this bird, as the two are by far the best-known and most widely-kept of all Parrots.

The Blue-fronted Amazon is a very handsome bird indeed. The male is rich grass green, the feathers of the neck and mantle being narrowly bordered with black. The wing feathers are a mixture of blue, blue-black and green, with a patch of red on the secondaries. The tail feathers are green shading to mustard colour at the tips; the outer ones having a red patch near the base. The forehead is sky blue, and the crown, cheeks and throat are daffodil yellow. The bend of the wings (or shoulders) is red and yellow, or pure red. The beak is almost black. Length of the bird is about 15 inches. They are found in Brazil, Paraguay, and the Argentine.

The female is quite as brightly coloured as her mate, and it has always been considered very difficult to sex these parrots, but I think I *may* have found the answer, which lies in the colour of the bend of the wing or shoulder. This varies greatly, but I should say that specimens whose shoulders are mainly or partly yellow—or even have a few yellow feathers mixed with the red ones—are cocks, while those with *absolutely pure red* shoulders are hens.

I should like to stress that I do *not* put this forward as an infallible method of sexing these Amazons. I merely suggest that it may prove helpful. It is interesting to note that the chief part of the display (in both sexes) consists of lowering the wings and thrusting forward the shoulders, thus making the difference in their colouring strikingly apparent.

A hen I bred has pure red shoulders and she is mated to a bird I consider a typical male with a small hinder part of shoulders red, but the whole of the front part or bend of the wing bright orange-yellow. I am sure another bird I have is a hen as her shoulders are pure red. She is also the most brilliantly coloured Blue-front I have ever seen, the yellow and blue areas of the head a lovely deep sky-blue and clear daffodil yellow very sharply defined, instead of being rather pale and tending to merge into each other, as is often the case.

Young Blue-fronts—even of the same brood—vary considerably when they first fledge, some being almost as bright as their parents and others much duller. Blue-fronted Amazons had never been bred in this country until I succeeded with them in 1939, for which I received the Avicultural Society's medal for a first breeding. I bred altogether eleven young Amazons from a single pair during three seasons and have recently had a fine brood of four young from one of their daughters, mated to an imported cock. I believe both of the original parents had been previously caged for many years and the cock was particularly ferocious, even for a mated male Amazon.

They occupied an outdoor aviary the overall length of which was 15 feet by 7 feet high by 5 feet wide, and reared their brood in a nest box of the grandfather clock type with a filling of broken up decayed wood.

Owing to the ferocity of the cock and, to a slightly minor degree, of the hen, it was not easy to get an opportunity of looking in the nest box. However, after having lured them into the shelter and shut them in, I found that the nest box contained no fewer than four large well-grown young Amazons and a fifth considerably younger. It was one of those all-too-rare moments that make one feel amply compensated for the many bitter disappointments that are inevitable when trying to propagate any but the most easily-bred species of foreign birds.

It was interesting that the nestlings varied considerably in age and size, as with Budgerigars, instead of being all much the same age as is the case with Parrakeets. The eldest of the brood was quite large and well-feathered, while the youngest was very small and naked and still in the helpless stage. I am afraid it had to grow up more or less submerged beneath its elder brothers and sisters, only occasionally, as it were, coming up for air! However, it managed to survive, and although smaller than the other four—all of which were fine specimens quite as good as their wild-caught parents—was nevertheless a very healthy and active little bird.

As I had always considered that the larger Parrots, on the rare occasions when anyone tried to breed them, usually let their young ones die after a week or so because of the endless labour of eating enough comparatively small seeds and nuts to feed them on, I decided to give the Amazons more "bulk" food. This consisted of boiled cod (of which my long-lived tame Senegal Parrot had been so fond), scrambled egg, and cold boiled potatoes, with a little sweetened bread and milk as well.

On this, as some would think, curious diet the young Amazons thrive amazingly, and though the parents continued to eat a certain amount of hemp and sunflower and monkey nuts, these no longer formed the staple diet of the young ones. As to greenfood and fruit they consumed considerable quantities of seakale beet and sweet ripe apples.

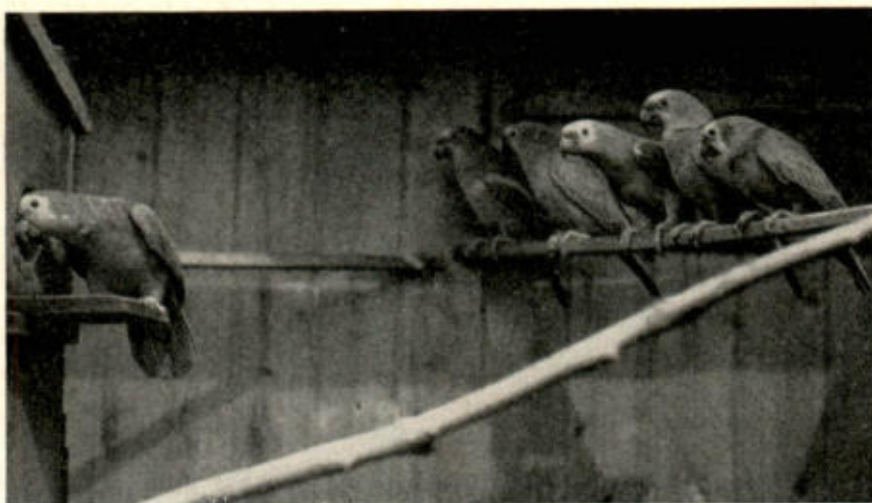
Parent Amazons with a large brood to rear have to work terribly hard as the young ones spend nearly three months in the nest. But gradually one by one they fledged, and when all five were eventually ranged side by side with their parents on a perch, I confess I indulged to an even greater degree than usual in the aviculturist's pet vice of gloating. This is only too often followed by dire results, but in this case—possibly because yet another war was to start so soon, shattering all one's dearest plans anyway—no disasters befell my young Amazons.

It is extraordinary how quickly Amazons turn savage when given a mate. One day you may be scratching the head of a single caged male Amazon, and be altogether on the best of terms with him. Put him in an aviary with a hen, however, and the next day you will hardly recognise the fiend that was formerly your friend! When mated both sexes turn savage towards human beings, though hens perhaps rather less so than cocks.

Quite apart from the disappointment of losing a friend and gaining an enemy, their ferocity is a great bore as it means always remembering to shut them out in the flight before you feed them in the shelter. If, by any chance, you neglect this precaution—as I once did but certainly never shall again!—you are liable to have a quite sizeable portion of flesh removed from one of your

fingers. Moreover, it is extremely difficult to make the bird let go without injuring it.

Now to turn to Blue-fronted Amazons kept singly in cages as tame talking pets, which after all is the role in which they most often figure. People thinking of buying an Amazon nearly always want to know whether they make good talkers and how they compare with African Greys. This question is not an easy one to answer, but I should say myself that Greys are supreme



This unique photograph taken at Keston before the war shows a hen Blue-fronted Amazon with her newly fledged brood of five young ones. The cock was so savage that he had to be shut in the aviary shelter

in the almost uncanny accuracy with which they are able to imitate the tones and inflections of individual human voices.

For instance, if a Grey says "Scratch a poll, Polly" (a favourite saying of most parrots, though others prefer blasphemy!), you are instantly aware as to which member of the family is in the habit of scratching its "poll." On the other hand the same thing said by an Amazon merely indicates that various persons have at various times urged it to have its "poll" scratched.

Amazons, however, are extremely clever at imitating "noises off," such as the drawing of corks, the barking of dogs, confused impressions of telephone conversations taking place in the next room, and—as the Duke of Bedford recorded—the distressing screams of a person in the throes of an epileptic fit.

Two Blue-fronted Amazons I once had, and which (since I had no idea how to sex them in those days) I later concluded were both hens, were quite ridiculous when preparing the nest box for eggs, which, as they never materialised, made me wonder whether they were not perhaps cocks after all. Although coming from different homes, both had apparently been the pets of light-hearted dog lovers, as their continuous and uproarious laughter was interspersed in one case by the regular barking of a fairly large dog, and in the

other by the angry barking and whining of a small dog shut indoors when it wants to get out.

The supposed hen spent hours scrabbling about in the nest box, whining to be let out, roaring with laughter and occasionally coughing asthmatically because of the dust. Sitting outside the entrance hole was the supposed cock barking regularly but in a much deeper voice, and from time to time peering into the nest box only to be convulsed with laughter at the sight of its companion toiling away inside!

When I was about to feed this couple and they were hurrying along the perch hoping to get inside the shelter and attack me before I had time to shut the slide, the extraordinary mixture of barkings, whinings and coughings interspersed with hurried "Hullo Pollies" and yells of diabolical laughter was truly worthy of Bedlam!

Normally Amazons are fairly silent during the day, and the morning and evening chorus of their natural cries, though a bit deafening in a room, is rather pleasant than otherwise when heard from a distance out of doors.

If an Amazon is kept as a pet indoors, its cage should be as large as possible, and the advice given later on for looking after caged African Grey Parrots should be followed.

It is very important to remember that Amazons are intelligent creatures, and should be treated as such. It is the height of cruelty to buy one for the sake of its novelty because "it's so funny it can talk"; to make a great fuss of it to begin with, allowing it frequent outings, and then, when the novelty starts to wear off, to leave it for longer and longer periods without an outing, until finally it is taken little notice of, being merely fed and watered each day and never let out of its cage at all.

Blue-fronted Amazons should be fed on sunflower seed, with monkey nuts and a very small daily allowance of hemp, which should be discontinued at once if there is any sign of feather-plucking. Canary seed and groats can also be offered in small quantities.

They must also have a liberal allowance of fruit and greenfood, the latter being best supplied in the form of seakale beet of which they much appreciate the central fleshy stalk. They can be given any of the ordinary fruits, and are particularly fond of apple.

Blue-winged Grass Parrakeet

(*Neophema chrysostomus*)

I HAVE always thought this one of the loveliest of the Grass Parrakeets, with its blue banded forehead, olive-green upper parts, pale creamy-yellow lower belly and its large, handsome wing-patches of a brilliant dark blue. The sexes are much alike except that, generally speaking, all the hen's colours



This hybrid is the son of a male Alexandrine Parrakeet mated to a Lutino Ringneck

are slightly duller than the cock's, particularly as regards the blue wing-patches. It is by no means always easy to sex a single bird, but the hen's slightly less vivid colouring is usually fairly obvious when a pair are seen together. Length is about $8\frac{3}{4}$ inches.

This Grass Parrakeet inhabits Australia, being found in Victoria and New South Wales. It is a summer visitant to the neighbouring island of Tasmania, where it breeds, returning to the mainland in the autumn. For some reason it is frequently confused with the Elegant with which it apparently consorts in a wild state, but I can never see why this confusion should exist because the two are no more alike than any two species of the same genus are liable to be.

It is true that they have very roughly the same colour areas in their plumage but, apart from other differences, such as the deep blue wing-patches, wide frontal band of a single blue as opposed to the Elegant's double frontal band of two blues, anyone who can see no difference between the olive-green colour of a Blue-wing and the golden-green of an Elegant, must have a very imperfectly-developed colour sense. Incidentally, a pure yellow specimen was, I believe, seen by an ornithologist in Australia among a small flock of normals.

In pre-war years we were never without one or two breeding pairs of these birds, but since then we have received only a single male, which was overfat and did not live long, soon succumbing to a fit. Generally speaking, however, healthy Blue-wings do not, if properly housed and fed, suffer from chronic overfatness, as is the case with Orange-bellied and Rock Grass Parrakeets. They are, indeed, in every way among the nicest and most satisfactory of the Grass Parrakeets.

I used to breed them regularly before the war, and their feeding, nesting facilities and general management are exactly the same as I have recommended for the other Grass Parrakeets.

In display a cock Blue-wing draws himself up to his full height, depresses his wings, the better to display their brilliant dark blue patches, and utters a cry resembling "Creeps-yew." At other times his voice is merely the typical sibilant twittering of most of the family. Young birds resemble the female, but have no blue on the forehead and the blue wing patch is duller and tinged with olive-green. These birds are perfectly hardy provided their aviary has a dry, draught-proof shelter into which they should be shut for the night during the winter months.

As my main objective was always the breeding of these Parrakeets, each pair were naturally given an aviary to themselves. They are, however, not aggressive, so can safely be kept in mixed company. They would be most unlikely to damage growing bushes in a planted aviary. They must not, however, be put with any bird that would be liable to attack them, and it is of the utmost importance that their quarters—particularly the perches—should be kept scrupulously clean, otherwise, like all the Grass Parrakeets, they are liable to contract eye-disease.

Bourke's Parrakeet

(*Neophema bourkii*)

THIS delightful little Parrakeet was at one time given a special classification of its own—*Neosephotus* instead of *Neophema*—and this was quite as it should be, for except in shape and size it is utterly unlike the true Grass Parrakeets, and indeed has no near relatives at all. It is now *Neophema* again.

The male has the upper surface brownish-grey with some greyish-white round the eyes and on the cheeks. The upper breast is rosy-pink, the feathers being bordered with greyish-brown more and more faintly as they get lower until the border disappears altogether, and the breast and abdomen are pure rose-pink. The under tail-coverts, under wing-coverts, sides of the rump and thighs are pale blue. There is a bluish tinge on the shoulders and a variable amount of blue just above the beak. The outer tail feathers are white marked with slate-blue and the central ones and the flights dark greyish-olive.

The female resembles the male but is usually slightly smaller and slimmer with a smaller, rounder skull. The pink of the upper breast is more heavily bordered with greyish-brown and she *never* has any blue feathers on the forehead.

Although the sexes can be quite easily distinguished in an obvious pair of Bourkes, there are some pairs that are far from obvious, and I should not, generally speaking, call them particularly easy birds to sex, for whereas some males have a quite distinct blue frontal band, it is merely indicated in others by a few tiny blue feathers, and I have known male Bourkes with no blue on the forehead at all. You can, however, usually be quite certain that a bird with even a few blue feathers in this region is a cock.

Young Bourkes resemble the hen except that the males usually have rather squarer and more massive heads and the females smaller, rounder ones.

They inhabit Central Australia and parts of the south-eastern portion of the Continent and were discovered by Major Mitchell (presumably the explorer after whom Leadbeater's Cockatoo takes its alternative name of Major Mitchell's Cockatoo) about 125 years ago. Once common in their various habitats, these birds now appear to be rapidly decreasing in numbers, owing mainly, it seems, to the country being heavily stocked with sheep and cattle which deprive the Bourkes of natural food by keeping the grass cropped and preventing seeding.

This invasion of their territory by sheep and cattle was followed by one of rabbits, which in its turn was followed by the liberation of numerous cats to destroy the rabbits, the probability being that the cats dealt far more effectively with the Bourkes than they did with the rabbits!

That Bourkes should be called "Night Parrots" by Australian bird trappers is scarcely to be wondered at, as their behaviour in aviaries is certainly semi-crepuscular. Long after dusk on a summer evening, when all other Parrakeets have gone to roost, they will still be flying about their aviaries and uttering their cheerful cry of "Quee-tuke . . . Quitook, Quitook, Quitook."

In flight, their wings make a pleasant whistling sound, in fact, to my mind everything about these little Parrakeets is attractive, including the cock's courting display which consists of periodically raising his wings over his back, rather after the manner of a butterfly sunning itself, and every now and then jumping on to the wire netting and making a series of short, rapid runs up it with wings slightly spread and shoulders depressed and forward, both of which actions seem specially designed to display the glorious blue patches on the under surface of the wings, which, of course, are normally invisible.

A cock Bourke's in breeding condition also has an amusing habit of periodically scratching his head, especially if his wife is in process of inspecting a newly hung-up nest-box—a procedure suggesting the exciting possibility of rearing a family, which seems instantly to send the blood rushing to his head!

About twenty years ago, when I first started breeding Bourkes, they were considered extreme avicultural rarities in this country, and I am inclined to think that the hens of the first few pairs we had were much more fussy about their nest boxes than are "modern" hen Bourkes, which, of course, have usually been bred for several generations in confinement.

In any case, I used to find that our hens of those days preferred small, natural logs hung up horizontally with a slight slant, so that the entrance hole was rather higher than the nesting chamber at the further end of the log. Some hens would take to an ordinary box, provided at least the whole of the front was covered with natural bark, but I can remember one or two particularly exacting hens who would not use an ordinary barkless wooden box at all, and if provided with nothing which they considered more suitable, would simply inspect it briefly and then start moulting rather than use it.

There seems to be a particularly large race of Bourkes, and I remember seeing some of these birds in Dr. Elphick's collection at Kingsgate; also, if I remember rightly, in Mr. Whitley's Primley Zoo, near Paignton. They were really enormous compared with the usual specimens.

I was never sure that I entirely admired them, however, any more than I do the outsize Budgerigars which nowadays appear on the show bench, as it has always seemed to me that littleness has a charm of its own. If a person admires large birds, he should buy something big like a Pennant's Parrakeet instead of concentrating his energies upon breeding a Budgerigar as large as a Redrump!

With regard to the Bourkes, however, I do not know whether the particularly large specimens were the result of specialised breeding in confinement or whether they were imported members of a rare, outsized race of the bird existing in Australia, but I should think the latter more probable considering how rarely Bourkes were bred in confinement in the days I am speaking of.

Nowadays, these birds are almost as freely bred in aviaries in this country as Budgerigars, and latter-day specimens seem no more choosy about their nest boxes than are hen Budgerigars. They are perfectly simple to feed and should be given a seed mixture of canary with oats or groats and a sprinkling of hemp and sunflower.

The first pairs to reach this country for many years—just after the 1914-18 war—came into the possession of the late Duke of Bedford. How well I remember their cheerful cries and increasing liveliness towards dusk in their

flight cages in his dining room at Warblington. They seemed strangely reluctant to sample greenfoods of any kind, but present-day Bourkes are quite as keen on such foods as are other members of the Grass Parrakeet family, particularly flowering rye-grass and spinach-beet.

Bourkes are perfectly hardy and will winter successfully, without heat in any aviary that has a proper shelter into which they can be shut each night in winter. As Parrakeets go, they are singularly undestructive to growing bushes in an aviary, and they would be most unlikely to attack even the smallest of Finch or Waxbill companions. Several pairs, however, cannot be permanently kept together, as they usually quarrel badly in the breeding season.

As far as I know, Bourkes have never been crossed with any other Parrakeet, which is scarcely to be wondered at seeing that they have no near relatives.

A cock Bourke's which had been graciously lent to us for breeding purposes before the war by H.M. King George V, had to be mated at first to a hen Turquoise, no spare hen Bourke's being then available. That their first clutch of eggs was infertile was hardly surprising as the cock had started to moult. However, when the Turquoise eventually laid again, the Bourke's had completed his moult and was in breeding condition and extremely attentive to his wife, but unfortunately she died on the nest after laying her second egg, so what these interesting hybrids (if any) would have looked like remains unknown.

Many people have, so I have been told, seriously imagined that they were going to breed a pink Budgerigar by crossing a Budgerigar with a Bourke's. Actually I somehow doubt whether this would be a possibility, though of course one has, in the past, heard persistent rumours of even more extraordinary crosses, such as that between a Budgerigar and a Peach-faced Lovebird, though I do not know whether any proof of this mating has ever been forthcoming.

As we had an odd hen Bourke's at the farm this spring, for which we were unable to obtain a cock, I put a Budgerigar with her and was hardly surprised that all the first clutch of eggs were infertile as she started to lay only a day or two after the cock Budgerigar was introduced into her aviary. These eggs, however, have been removed and the cock Budgerigar is now extremely attentive to his wife, constantly feeding her and biffing her in the face, Budgerigar fashion, which not unnaturally causes her to look a bit alarmed, such male rudeness being quite unknown in Bourke circles.

However, apart from what must seem to her rather extraordinary courting antics, she accepts his offers of food and seems quite pleased with him, so it will be interesting to see the result of this second nest.

Bourkes do not need a particularly large aviary. They can be kept, and might even breed, in a really large flight cage, but are much better housed in an outdoor aviary.

Brown's Parrakeet

(*Platycercus venustus*)

THIS has always been my favourite Broadtail; others, such as Pennant's, may be more magnificent, but none has the Brown's lovely colour contrasts of sooty black, violet blue, creamy yellow and vermilion.

In the male the head is black with white cheek patches bordered with violet. The mantle is black, each feather having a wide creamy-yellow border, the latter also being the colour of the whole of the breast and the rump, each of the breast feathers having a very narrow blackish border. The flights are black, the rest of the wings being various shades of violet with a black patch near the shoulder. The tail is dark blue with a greenish tinge above and pale blue on the underside; under tail-coverts vermilion. The hen is like the cock except that she has a smaller, rounder, less intensely black head.

The young when they leave the nest are like the adults, but with all their colours less intense and clear-cut. Among the young Browns I bred there were usually one or two in each nest which had a few red feathers mingled with the black feathers of the head, these red feathers always disappearing when the birds assumed adult plumage.

Brown's Parrakeet is found in Northern and North-Western Australia where it is usually called the Northern Rosella. It is also most inappropriately known as the Smutty Rosella, which instantly calls to mind a picture of an ordinary Rosella which has spent years in a cage in our own industrial north!

These Parrakeets have always been great rarities in aviaries in this country, and as far as I am aware they have only been bred by three people here, Mr. Facey, the late Duke of Bedford and myself.

Before the war I had a most wonderful breeding pair of these birds which reared altogether about thirty young ones. They were given to me by the Duke of Bedford. The highspot in their breeding career was the rearing of nine young in one season in two nests of five and four respectively.

The difficulty of breeding Browns is not so much that they are unwilling to go to nest, or particularly difficult to suit with a box, as that, unlike all the other Broadtails, they refuse to adapt themselves to our seasons, usually moulting most of the summer, and only coming into breeding condition and starting to take an interest in nest boxes as soon as the first autumnal nip is felt in the air.

It is, of course, quite hopeless to let them have their way because the young would never survive out of doors, and if reared in a heated shelter they seldom develop into good specimens—if they survive at all. The only thing to do is to give them their nest box each spring and firmly remove it each autumn until eventually they may, perhaps, come into breeding condition in time for a late summer nest. It is also advisable to give these Parrakeets their nest box a bit earlier than in the case of other Parrakeets, before they start their usual early moult.

It was disappointing to find that the young Browns I bred—anyway all those retained to increase our stock as well as others I kept trace of—did the

imported Brown's trick of moulting all the summer and coming into breeding condition in the autumn, in spite of having themselves been hatched in the spring.

Just before the war I was engaged in an attempt to evolve a spring-breeding race of Browns by the introduction of Rosella blood, and I got as far as producing a three-quarter Browns one-quarter Red Rosella hybrid, which incidentally is quite the most beautiful Broadtail cross I know, though the first cross Browns x Rosella runs it very close. It is, too, about the only hybrid I have ever seen which looks like a good species and not like a hybrid at all. I remember how struck the famous French aviculturist, M. Delacour, was with its beauty.

It might be called the Crimson-headed Brown's Parrakeet, for it is exactly like a Brown's, but instead of being black, each of the head feathers is deep crimson with a wide black border, these feathers in the first cross having, as one would expect, only a very narrow border of black.

The old Brown's mated to his hybrid Brown's x Rosella daughter produced the above-mentioned beautiful three-quarter Brown's, but unfortunately no females, which I had hoped for in order to mate one back to her father, thereby intensifying the Brown's blood and producing young ones which should have been almost, if not quite, identical with pure Brown's. Actually I consider myself fortunate to have been able to carry my experiment as far as I did with only a single male to work with.

Browns—like our English Jays—are excellent watchdogs and will instantly give vent to their alarm note at the sight of any strange dog or cat, and sometimes for no apparent reason at all except perhaps for the sheer joy of spreading alarm and confusion among all the other Parrakeets within hearing!

Some cock Browns—which, I suppose, have much the same mentality as those human beings who delight in inventing terrifying rumours during a war—are more culpable in this respect than others, though it is fair to say that the rest of one's collection eventually become inured to their cries of "wolf" and pay no attention.

Of all the Parrakeets I have ever kept, Browns are, I think, quite the most difficult to re-mate. The cock of our old breeding pair was most pathetic and quite inconsolable when his wife died, and though I tried more than once to provide him with a new partner, he savagely attacked every hen that was put with him. Eventually the poor old bird, like the heroine of a Victorian novel, fell into a decline and died.

Browns are among the most quarrelsome and aggressive of the Broadtail family, and a pair must, of course, always have an aviary to themselves.

In spite of the fact that they come from tropical Northern Australia, they are just as hardy as their relatives that come from cooler parts of the continent.

My old pair reared their numerous progeny in a grandfather clock nest box about half filled with earth, and with a square of inverted turf rammed down on top of the earth to form a saucer for the eggs, the box being clamped against the outside wall of the shelter with a hole bored through into the inside for entrance. I have little doubt, however, that they would do equally well in the ordinary hang-up wooden Parrakeet nest box, about 12 inches square and

3 feet deep, with either a half coconut husk fixed in the bottom, or else about 4 inches of decayed wood.

This species should be fed on a mixture of canary seed, millet, sunflower seed and monkey nuts, with a little hemp that can be increased when they have young to feed. They should be given the usual greenfoods, and are particularly fond of apple and spinach beet. They will live quite well in a large flight cage, but anyone fortunate enough to obtain a pair of these rare and beautiful Parrakeets would doubtless make every effort to give them an outdoor aviary to themselves.

Budgerigar

(*Melopsittacus undulatus*)

I MUST confess I have found it difficult to make up my mind whether the Budgerigar really comes within the scope of this book; firstly because it has become to all intents and purposes a domesticated species; and secondly because such a vast amount has already been written about Budgerigars that it might seem superfluous to add any more.

Suffice it to say therefore that the green is the original wild Australian form of the bird, incidentally smaller and less beautiful than the one we know, and that by intensive breeding for many generations in confinement there have gradually evolved—as was to be expected—an almost infinite variety of colour mutations, many of which are now established and breeding true.

I think I am right in saying that the first "sports" were Yellows (of a rather greenish hue) and then, about the year 1910, came Skyblues which were first produced by a Belgian breeder, Monsieur Pauwels, I believe; after which followed Olives, Cobalts, Albinos, Lutinos, Mauves, Greys, Violets, and almost every conceivable colour-variation on these original themes, including a Yellow-faced Blue which—doubtless in my ignorance!—seems to me surprising as I always imagined that a blue Budgerigar was one entirely lacking the yellow pigment, just as a yellow was one entirely lacking the blue pigment—blue and yellow, of course, being the component colours of green.

The colour which many breeders have tried to produce, though so far without success, is red, and though I doubt if a true scarlet will ever be produced, it seems to me that a crimson, possibly with a rather purplish tinge, might evolve, since the component colours of violet are, as any artist knows, cobalt blue with the admixture of a certain amount of crimson lake. I think I am right in saying that some "Red" Budgerigars were sent to this country from India before the war, and created a considerable stir and excitement in Budgerigar circles until they moulted, when it was discovered that they were merely white specimens cunningly dyed red by the Indians!

The latest varieties of Budgerigars are the Harlequin or Pied—perhaps the Harlequin Blue being the most beautiful—and the Rainbow and Golden-faced

Rainbow, the two latter having been greatly improved since their introduction.

Purely as a personal opinion I would say that, with some exceptions, I still like the single colours best, as some of the newest colour varieties tend to have more and more what I would describe as a "washed-out" appearance, though this, of course, does not apply to Yellow-faced blues and Cobalts or to the Rainbow—all very beautiful—or to such a striking bird as a White-winged Cobalt. I still, however, preserve a long-standing affection for the old original green, and think few birds lovelier than the Violet, the Cobalt, the Skyblue, the real Buttercup Yellow (which should not have the faintest tinge of green) and the pure Yellow Pink-eyed Lutino which, unfortunately, like all Lutinos, is somewhat shortsighted, particularly in bright sunlight.

One tendency which I think is to be greatly deplored in the present-day breeding of Budgerigars for show purposes is that of continually attempting to increase their size. One of the chief charms of Budgerigars has always been that they are truly miniature Parrakeets, and it therefore seems to me that to try to increase their size—beyond a set limit—is about as sensible as to try to breed a race of bantams as large as domestic fowls!

The Budgerigar, which is widely distributed throughout Australia, has been given an almost embarrassing number of soubriquets, the best-known of which are Undulated Grass Parrakeet and Shell Parrakeet but it has become universally known as the Budgerigar and even more so as the "Budgie." It is a tribute to its fame that if one has occasion to travel in a public vehicle with a cage containing Budgerigars, one's fellow-travellers instead of apathetically surmising that they must be "some sort of bird" will exclaim at once "Budgies!" which shows that their popularity nowadays equals, and probably surpasses, that of the Canary.

Apparently "Budgerigar" has evolved from "Betcherry-gar," the name which the Australian Aborigines bestowed upon the bird, and though one may, or may not, think it a charming name, it is a little disillusioning to read in Cayley's "Australian Parrots" that it means neither more nor less than "good bird" or "good food." And as I doubt if the Australian Aborigines were—except in the culinary sense—bird-lovers, I imagine "good food" is what is really meant; in other words—however much my kind-hearted Budgie-owning readers may wince—stewed Budgerigar made a succulent evening meal!

Many thousands of Budgerigars are bred in cages and aviaries every year, and they thoroughly deserve their enormous popularity, for they are hardy, adaptable, extremely easy to feed, house, and breed, and among the most charming and beautiful of all foreign birds. Moreover a single Budgerigar makes a tame, intelligent, and altogether delightful pet, and—rather unexpectedly for so small a member of the Parrot tribe—very often an excellent talker as well.

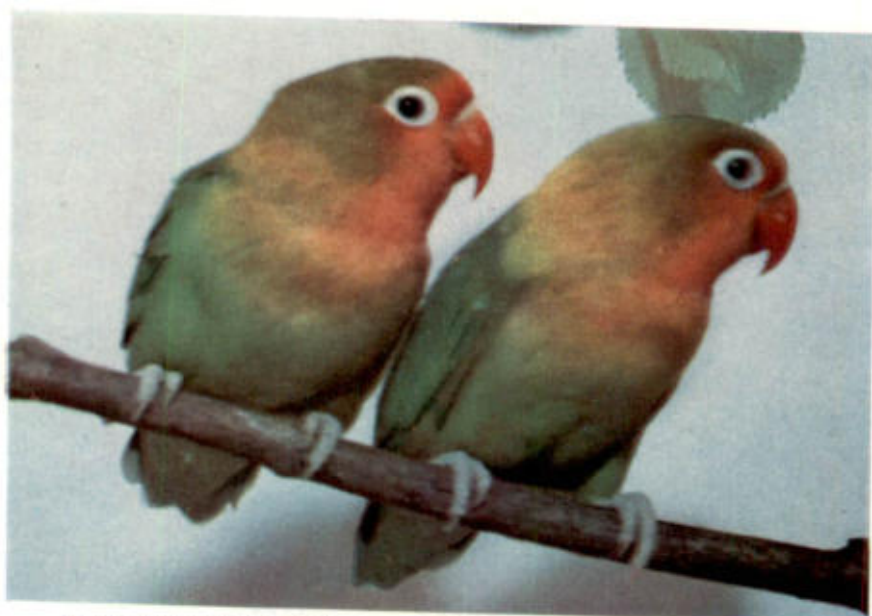
Strangely enough, unlike human beings, male Budgerigars are far more talkative than females! They are also much better-tempered and more easily tamed, and if they *do* lose their temper and bite you, the bite will be much less painful than if it had been inflicted by the stronger-beaked female. So if you want a Budgerigar as a pet it is most important to get a young cock.

A single pet Budgerigar should be provided with plenty to amuse him and occupy his time. They really do seem to enjoy the various bells, swings,





Bourke's Parrakeet has no very close relatives – the nearest being the Grass Parrakeets. It is very beautiful in a quiet way, also perfectly hardy and easy to feed.



Fischer's Lovebird is nowadays one of the best known of the *Agapornis* family.



Brown's Parakeet is the rarest of the Broadtails, and very difficult to breed

mirrors and ladders with which present-day cages are furnished, and my only criticism of the latter would be that in many cases too much is crowded into too small a space, which would be obviated if the cage itself were rather larger.

Whatever the size of the cage, however, it is most important to let the bird out for a fly round the room as often as possible as this not only permits it to take wing-exercise, but also provides considerable pleasure and amusement for its owner. However tame a Budgerigar may be, it is unwise suddenly to give it complete liberty out of doors as it is liable to lose its bearings and get lost.

As a boy, I remember buying a "tame" Budgerigar which, I suspect, was only tame because it was a "runner" and could not fly. It did, however, become extremely tame, and when it regained its powers of flight, was hardly ever in its cage, flying about the room most of the day and only being put back in its cage at night. It was also what one might call "house-trained," as it took a great fancy to a standard lamp upon the shade of which it always perched. As the shade, of course, was larger at the bottom than the top (where it used to perch) most of its droppings landed on the lamp shade which had to be frequently washed or renewed, but that was—in those days—a small price to pay for such a charming little bird.

Budgerigars can be bred in aviaries, large or small, or in flight cages of sufficient size. Their food requirements are simplicity itself as, even when rearing young, they need nothing but canary, millet and greenfood, the latter being most easily supplied in the form of spinach-beet, though they also much appreciate flowering grasses which, of course, form the bulk of their natural food in a wild state.

They are naturally gregarious, going about in large flocks, so it is usually quite hopeless to try to breed from a single pair. Two pairs, however, will breed successfully, but it is most important to remember that they will need four nest boxes, because, if only two are supplied, you can be pretty sure that both hens will covet the same box, and will fight to the death for possession of it. I have heard of some pairs that are said to have gone to nest when supplied with a mirror in their cage which gave them the comforting illusion that there were two pairs instead of only one!

Budgerigars should, of course, be supplied with lime in some form, such as limestone grit, and they are very fond of nibbling at a lump of chalk.)

Nestling Budgerigars are not, like young Broadtail and other Parrakeets, all much about the same age, but vary in size as nestling Amazon Parrots do, yet even so, the youngest, though almost buried beneath its older brothers and sisters, is seldom neglected and usually receives its due share of food, which I always think is rather a feat on the part of the parents.

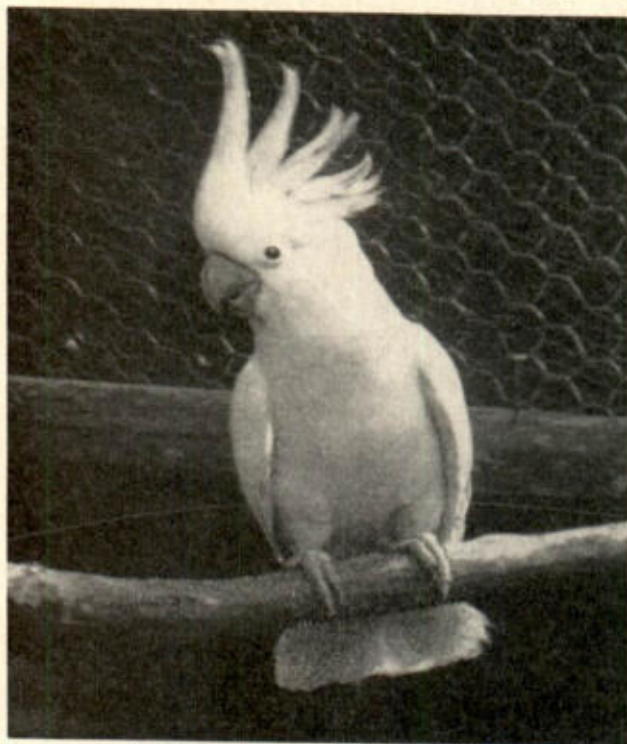
On the whole I would say that Budgerigars are (and this also applies to Zebra Finches) far and away the best foreign birds for the avicultural novice to make a start with, and I speak from experience, for both are almost the first birds I kept, and bred, as a schoolboy. Indeed, I can still recall the thrill when the first nest of ordinary greens emerged from their coconut husk (wooden nest boxes for Budgerigars were still a thing of the future) and my rapt admiration of the perfection of their plumage, and their general look of dark-eyed innocence, which, alas, passes all too soon, but which, while it lasts, makes them, perhaps, even more beautiful than their parents.

Citron-crested Cockatoo

(*Kakatoe sulphurea citronacristata*)

I THINK this is a bird to whose beauty less than justice has been done. Much well-merited admiration has been lavished on Leadbeater's Cockatoos, but I can think of no writer who has extolled the beauty of the Citron-crested. Perhaps this is partly because it is rarely imported; and partly because it is so stupidly named. It surely should be called the Orange-crested Cockatoo.

The male Citron-crest is snowy white, with the under-surface of the tail and a patch on the cheeks pale lemon-yellow. The very large and handsome



The Citron-crested Cockatoo much resembles the well-known Lesser Sulphur-crested Cockatoo except that its crest is orange instead of yellow. It is the more beautiful bird of the two, but has always been far more difficult to obtain

crest, which the bird can spread almost as far forward as a Leadbeater can, is bright orange. Except that her crest is perhaps a trifle smaller, the female resembles the male, but they are very easy birds to sex because whereas his eyes are almost as black as boot buttons, hers are a reddish-chestnut colour.

Citron-crested Cockatoos are slightly larger than the well-known Lesser Sulphur-crested, and the fact that they have so seldom been imported is probably accounted for by the fact that they appear to be found only in the comparatively small island of Sumba in the Dutch East Indies.

I have a fine pair of these birds which have been in my possession for about three months, and from which I hope to breed. They are in an outdoor aviary and are proving very hardy. While I have not yet had time to study them over a long period, it already seems obvious that they have certain characteristics which are the direct opposite of most Cockatoos. For instance, although they belong to a notoriously noisy family, I have never heard either of them utter a sound except to squawk when they were being caught to be transferred to their present aviary.

Again, although they belong to a notoriously destructive family, my pair, far from destroying the woodwork of their aviary, have so far showed no sign of even whittling away their perches—surely very extraordinary and almost *too* good behaviour for a Cockatoo! If they have a failing it is their extreme shyness, and the hen, who is perhaps the less shy of the two, only ventures into the open part of the flight if she thinks there is nobody about.

They should be fed on sunflower and canary seed, monkey nuts, and a little hemp. I still give mine a little maize, occasionally, seeing that they have been accustomed to it. I have offered them apple and greenfood, but so far they entirely ignore both.

Cockatiel

(*Nymphicus hollandicus*).

THIS quaint-looking but attractive bird has always, with its hectic orange-red cheek patches, reminded me somewhat of a Dutch doll. The general body colour of the male consists of various shades of grey, darkest on the tail which is fairly long and pointed. There is a large, whitish patch on the wing, and the forehead, cheeks, throat and crest are lemon-yellow. The sides of the crown are white, and the ear patches orange-red. Length is about 13 inches.

The hen to a certain extent resembles her mate, but the colour of the wing-patch is not so pure and the orange-red ear patches, though present, are much less vivid. There is no white on the crown and the yellow parts of the cock's plumage are greyish and only faintly tinged with yellow in the hen. Her thighs are barred with yellow and the under surface of the tail is striped and speckled with grey and yellowish. Her general body colour is grey with a faint tinge of brown.

I have found that the young of some pairs of cockatiels are easier to sex than others, the cocks having a more pronounced yellow tinge to the forehead, cheeks, throat and crest.

Cockatiels are widely distributed over all but the coastal areas of Australia, where they are also known as the Cockatoo Parrot or Quarrion. They are

nomadic, being usually seen in small parties of a dozen or so, and feeding mainly on the ground on the seeds of various grasses and other low-growing plants. They nest in the hollow limbs of trees.

Over a hundred years ago John Gould noted their habit (which I have never seen in an aviary though probably the perches were not thick enough) of perching lengthwise—as a Nightjar does—along the dead limb of a tree, and it is interesting that he stresses their almost invariable choice of a dead and leafless bough, as the late Duke of Bedford, writing of his liberty experiments with Cockatiels in his book "Parrots and Parrot-like Birds" says: "The cock's first release should take place on a calm winter morning when the trees are bare, as a Cockatiel has a rooted objection to settling on any branch that has leaves on it."

With the exception of the Budgerigar, the Cockatiel is probably about the most widely kept and bred of all the members of the Parrot family, and it richly deserves its popularity, possessing as it does almost all the avicultural virtues, being hardy, adaptable, good tempered and very easily bred. Indeed before the war, when so many people were breeding them, and not always under the best conditions, the ease with which they propagate their kind in captivity was not an altogether unmixed blessing, as it led to a good many worthless degenerate young ones being offered for sale, which would never make good birds themselves and were therefore useless for breeding purposes.

The Cockatiel is really a sort of link between the Parrakeets and the Cockatoos, possessing some but not all the characteristics of both. The shape, with the long pointed tail, is that of a Parrakeet, while the upstanding crest reminds one of a Cockatoo's, but cannot, to the same extent, be raised or depressed at will. Their nesting habits, however, are pure Cockatoo, both sexes doing their share of the incubating of the eggs, the cock usually sitting by day and the hen taking over for the night.

They are not at all exacting as to their nesting site, and will usually take to any reasonable nest box, but the most suitable type is a wooden box about 12 inches square by 24 inches deep hung up outside under overhead cover, with either a half coconut husk fixed in the bottom or else a filling of about 4 inches of decayed wood.

A good breeding pair will prove extremely prolific and, if allowed to do so, will go on breeding the whole year round. It is a mistake, however, to allow this as it can only result in the deterioration of both the stamina of the parents and the quality of the young ones. But if—as should be the case—they are only permitted to breed during the spring and summer months, a good breeding pair should produce a dozen or more young ones. I once had a pair which regularly reared from fifteen to eighteen young ones in three nests.

The chief reason for their prolificacy, compared with Parrakeets of a similar size, is that Cockatiels tend to lay considerably larger clutches, and whereas the average Parrakeet's clutch consists usually of four or five eggs, most Cockatiels will lay six, and some even seven or eight eggs at a time.

Cockatiels do not make good liberty birds because though they may stay for a time, their natural nomadic instinct usually asserts itself, and they soon wander off. I have, however, on several occasions had one of a mated pair escape from their aviary and have marvelled at the power and speed and grace

of its flight. I usually managed to get them back into their aviary, but one, a mated male, who frequently visited his hen, walking about on the top of her aviary, disappeared after a few days, and was probably shot as a Hawk.

Young male Cockatiels, if taken from the nest just before they fledge and hand-reared from then on, make charming and affectionate pets and will learn to whistle and talk a little, though young females, similarly treated, are seldom a success and usually prove intractable and difficult to tame.

One of the first things people want to know is if they can be kept in a "mixed collection." The Cockatiel can not only be kept with Budgerigars, but is equally harmless even to small Finches.

One must, however, exercise great care in suddenly introducing a pair of Cockatiels into an aviary of small Finches, for to them the newcomers doubtless appear to be a couple of dangerous Hawks, and there will be a commensurate panic among the Finch population, as birds are rather foolish about differentiating between real and supposed enemies. For instance, a harmless stray Homing Pigeon alighting on an aviary will cause quite as much panic as if it were a Sparrowhawk!

Cockatiels live well, and would probably breed in a flight cage of suitable dimensions, but I always think they look their best in an outdoor aviary. They should be fed on canary, millet and oats with some sunflower, a little hemp, and the usual greenfoods. They require no extras when rearing their young and are perfectly hardy.

Crimson-winged Parrakeet

(*Aprosmictus erythropterus*)

THIS is generally conceded to be one of the most strikingly beautiful of all Parrakeets, and the cock's crimson wing-patch, from which the species takes its name, is of quite extraordinary brilliance, so much so that it literally glows even when the bird is sitting in shadow, almost as if there were a light behind it. This may seem an exaggeration, but I am sure that anyone who has kept Crimson-wings will know what I mean.

The wing patch is, of course, wonderfully set off by the male's other colours, his head and neck being a particularly brilliant emerald green and breast grass green. His mantle is jet black; upper rump deep sky blue; lower rump pale green and the tail dark green. The bill is light vermilion with a yellow tip. Length is $13\frac{1}{2}$ inches. The hen entirely lacks the black mantle and has only a suggestion of a crimson wing-patch.

The Crimson-winged Parrakeet, which inhabits Northern and North-Western Australia, Queensland and New South Wales, is known in its native country as the Red-winged Parrakeet, or Bloodwing. Gould noted that its flight was unlike that of any other Parrakeet, and reminded him "of the heavy

flapping manner of the Peewit, except that the motion was even slower and more laboured." While I agree that its manner of flight is perhaps comparable to that of the Peewit, I think it gives a false impression to call it heavy or laboured, for I have seen them at liberty, and while it is true that their flight is very unlike that of other Parrakeets, it nevertheless has a wonderfully light, airy buoyancy which one could never tire of watching.

I have bred Crimson-wings on one occasion only, and I was fortunate in the pair I had because although the cock chased the hen about a good deal at the beginning of the breeding season, as far as I can remember, I never had to clip his wing.

The only drawback to Crimson-wings as aviary birds is the savage temper of a cock when in breeding condition, at which time a very careful watch has to be kept lest he murder his wife—particularly if she is a bit slow at going to nest and not quite so forward in breeding condition as he is.

Some cocks are much worse in this respect than others, and in very bad cases the only thing to do is to separate the pair in the spring, housing them in adjoining enclosures and putting them together only when the hen obviously wants to pair. Even then it may be necessary to remove the cock as soon as mating has taken place, and hope that the hen will rear her brood single-handed.

All this, of course, is a great nuisance and means devoting two aviaries to one pair of birds, but they are so beautiful that they are worth taking a good deal of trouble over, and there is, too, always the chance that one may be fortunate enough—as I was—to get hold of one of the more reasonable males. One can also try the simple expedient of clipping one of the cock's wings, thereby considerably handicapping him in his persecution of the female.

Incidentally it would be a mistake to take for granted that hen Crimson-wings altogether dislike this barbarous treatment by their husbands. On the contrary, the majority of them seem positively to enjoy and expect this cave-man stuff, and often take a very dim view of better-mannered males!

Hen Crimson-wings are sometimes fussy about their nest boxes, and this, I am certain, is often due to the fact that those they are offered are not deep enough. Nor is this surprising since—as can be seen from a photograph in Neville Cayley's book "Australian Parrots" of a gum tree in which a pair of Crimson-wings bred—the actual nest itself is sometimes as much as thirty feet from the entrance hole!

In an aviary, however, they will usually take to a grandfather clock nest box about 15 inches square by 6 feet high, and it is as well to put in only 18 inches or so of decayed wood, so that the nest is almost at ground level. It is, of course, essential in a box of any depth that a wire ladder should be fixed inside just below the entrance hole, for the birds to climb out by.

Crimson-wings are among the hardiest of all Parrakeets, and indeed of all foreign birds. Even our bitterest and most unpleasant spells of winter weather find them cheerful, lively and quite unperturbed, not even sitting about with their feathers fluffed out for greater warmth, as many of our native birds do at such times.

They should be fed on the usual Parrakeet mixture of canary, millet, oats, monkey nuts, sunflower and hemp, the quantities of the last two being increased when they have young in the nest.



The Crimson-winged Parrakeet has on the wings large crimson patches of extraordinary brilliance. In the breeding season cocks are inclined to be very savage with their hens, and it is sometimes necessary to clip one of their wings. The bird portrayed is in immature plumage

I remember many years ago being entranced by the spectacle of this splendid bird at liberty at Warblington, where it made a truly unforgettable picture, but the late Duke of Bedford used to find that chimneys held a fatal fascination for Crimson-wings at liberty, not only for a female in search of a nesting site, but even for a male whose mate was confined to an aviary. The usual call-note of these birds is a loud, sharp "Crillik . . . Crillik," repeated several times.

Cuban or White-fronted Amazon Parrot

(*Amazona leucocephala*)

THIS Amazon, which is found only in the island of Cuba, is rarely imported. Slightly smaller and slimmer than the well-known Blue-fronted Amazon it is a very beautiful bird with a delightful colour contrast of green and deep coral-pink. The main body-colour is bright darkish green, the feathers



Cuban Amazon Parrots, members of a rarely imported but very beautiful small group of Amazons with dark green plumage and areas of white and deep coral-pink about the head and throat. They are best suited to aviary life

being widely bordered with black, particularly on the foreparts of the body and the back of the head and neck. The forehead is white and the cheeks and throat a beautiful deep coral-pink. There is a considerable amount of purplish-vinous colour on the lower breast and abdomen, a leaden grey patch behind the eye, and the beak is of so pale a horn-colour as to be almost white. There is some red at the base of the tail feathers, and the lovely blue, of two shades, in the wings, makes these Amazons particularly beautiful in flight, or when displaying.

Judging by those I have at present, they seem moderately easy to sex as the hens have slightly smaller rounder heads, their foreheads are of a less pure white, and the rose-pink area is rather smaller and less well-defined. They have, however, considerably *more* of the vinous colour on the breast.

They arrived during the coldest November for many years. As they are said to be very sensitive to cold, particularly on arrival, it was rather in fear and trembling that I put them into an outdoor aviary, even though it faced due south in a very sheltered position and had a heated shelter.

Despite the arctic conditions, however, they did well, and as the weather, though so cold, was sunny during the day, I gave them access to the flight for a couple of hours when the sun was warmest. Some of the bolder spirits among them seemed to enjoy this as they ventured forth (if they thought nobody was



The Cockatiel is a great favourite. It is harmless to other birds and an excellent breeder

about) and gave vent to that curious medley of Amazonian cries and chortlings which I find so attractive—particularly in the open air, though it might be rather deafening indoors.

Of the six imported, one—never such a good specimen as the others—died, and was found to have gone light, and another died through an accident. The remaining four, which I should say are two pairs, came through their second winter in most perfect condition without any artificial heat. I have now bred these parrots, a first breeding in captivity, more than once.

They are very strong fliers, and their aviary has to be approached with care, as they are the wildest and most panicky Amazons I have ever possessed. Although quite steady with me, they are terrified of strangers. The cock's display is curious. He spreads his tail, partly spreads and lowers his wings, and makes a sort of token lunge at the hen, although never actually touching her.

Feeding should be the same as for other members of the family.

Cuban Amazons have the reputation of not being particularly talented talkers, but they do possess great beauty.

Derbyan Parrakeet

(*Psittacula derbyana*)

THE Derbyan is a very handsome relative of the well-known Ringneck and Alexandrine Parrakeets, and the fact that it has so seldom been imported is due mainly to the inaccessibility of its habitat, namely, the interior of Upper Yangtze, China.

The male is green with an extensive golden-green patch on the wing. There is a narrow black band just above the upper mandible and extending as far as the eyes. On the throat is a crescent-shaped area of black which, starting narrow at the side of the head, widens out until its lower edge is just below the beak and its upper one just at the point where the two mandibles join. The tapering pointed tail is greenish-blue and the head and breast a mauvish-lilac which is brightest and bluest on the cheeks and forepart of the crown and merges into green at the back of the head. The upper mandible is red and the lower one, gunmetal colour. Total length is about 20 inches.

The female's colours are duller and they are easy birds to sex as she lacks the red upper mandible, the whole of her beak being gunmetal colour.

Derbyans get their name, I believe, from a specimen which was in the Earl of Derby's famous zoological collection at Knowsley House in Lancashire during the second half of the last century. It also has the alternative name of Salvadori's Parrakeet—called after, I think, a Count Salvadori—but this is seldom used, and it is commonly known as the Derbyan Parrakeet.

Although single tame specimens are said to be kept not infrequently as pets by the natives of the inaccessible part of China they come from, hitherto they have been considered very rare aviary birds in this country.

Fortunately, however, their rarity in aviaries seems to be decreasing, chiefly owing to the fact that there are nowadays two or three aviculturists who have breeding pairs and breed them regularly each year. It is greatly to be hoped that eventually they will become thoroughly established as aviary birds in this country.

While they are not quite as easy to breed as the Indian Ringneck, they would seem no more difficult than the Alexandrine, and should be given the same housing, feeding and general treatment as I have recommended for that bird. They are perfectly hardy. Tame ones, I should think, would make equally charming pets as the Alexandrine, and might learn to talk a little.

If they have a disadvantage, it is their voice which, when they really get going, is almost indescribably harsh and ear-splitting. However, I think that, at any rate in an aviary, this is amply compensated for by their very handsome appearance and amiable disposition.

My own experience of keeping Derbyans is limited to a pair we housed for Lord Tavistock at Keston for a few months during the nineteen-thirties, and I thought them most attractive. One day I should like to have these birds again and perhaps to breed them.

Double-eyed Dwarf Parrot

(*Opopsitta diophthalma*)

A BIRD of this species at present in my possession is by far the rarest member of the Parrot family I have ever kept, and, I believe, the first living specimen ever to reach the British Isles. The species is said to have been imported into Holland, and its relative *Opopsitta gulielmi* *iii melanogenia*, the Black-cheeked Dwarf Parrot, is said to have reached France. Both inhabit New Guinea.

Some rare birds, such as the Rock Grass Parrakeet, prove disappointing, with little save their rarity to recommend them. The little Double-eyed Dwarf Parrot, on the other hand, is as desirable as it is rare, being not only extremely neat and pretty, but also quite one of the most charming and delightful little birds it has ever been my good fortune to keep.

In the male the wings are darkish green and the breast pale green. The forehead and cheeks are red, the former shading into orange at the rear of the crown, and the latter bordered at the back by a narrow band of violet. The top half of the eye is bordered by a semi-circle, widest at the top, of tiny bright turquoise blue feathers. The outer webs of the flights are blue, and those breast feathers which, when the bird is in repose, overlap the bend and lower edge of the wing, are edged with yellow. The beak is silver at the base shading to black, and the feet are of a rather unique colour—greyish-pink, with quite a strong overwash of pale blue.

I myself have never seen a female, but Dr. Alan Lendon, who has, tells me that the cock's red forehead and cheeks are buff in the case of the hen.

The hen of the pair, unfortunately, became ill on the journey and was murdered by her husband on being put back in the cage with him after she had recovered from her illness, so it would seem that, despite his small size, a cock Dwarf would need careful watching when a hen was introduced into its aviary.

The bird is rather smaller than a Nyasa Lovebird. Incidentally, the late Duke of Bedford in his book "Parrots and Parrot-like Birds" says—probably due to a misprint—of the Black-cheeked Dwarf Parrot (total length given 6.3 inches as against 6.1 for the Double-eyed Dwarf) ". . . it would be a fascinating mite, smaller than the smallest Lovebird". Yet he gives the total length of the Nyasa Lovebird as 4.9 inches, so there is clearly a mistake somewhere. I should say myself, though I haven't actually measured it, that the Double-eyed Dwarf Parrot is little more than 4 inches long.

Although, owing to its size and general shape, one instinctively compares it with a Lovebird, yet in its quick, rather Lorikeet-like movements, and in its general character and disposition, it is totally different from any member of the *Agapornis* family, and strikes one as having all the intelligence and power of mimicry of the larger Parrots.

The one I have flies very swiftly and has the quick, precise movements of a Lorikeet and also, when excited, their habit of progressing along a perch in a series of hurried jumps, turning in mid-air, so that at one moment he has his back to you and at the next is facing you. If you offer him a titbit he has the curious habit of coming along the perch to take it from your fingers in almost incredibly slow slow-motion, giving exactly the comical effect of a film of a person walking at a normal pace slowed down to a minimum until they move with the most extreme and unnatural deliberation! I don't know the object of this stealthy approach and have never observed it in any other bird.

It was supposed that, if ever imported, Dwarf Parrots would prove very delicate and sensitive to cold, and would probably need nectar-feeding like the Lory family. My experience of the little Double-eyed Dwarf Parrot, however, shows that they are neither delicate nor difficult to feed. At first I used to take him in for the winter, housing him in a flight cage in a bird room which was heated during very cold spells. When caged, however, he started feather-plucking, so I decided to leave him in his aviary, which faces south, and has a double-wooded shelter into which he is shut each night during the winter, and he never turned a hair even during the coldest spells.

As to food, he keeps in perfect health on canary, sunflower, monkey nuts and a little hemp, with spinach beet and apple, of both of which he is very fond. He also has, three times a week, a small piece of bread that has been soaked in diluted sweetened milk, which would prove an excellent additional rearing food if one were ever lucky enough to breed them.

I think I am right in saying that the Double-eyed Dwarf Parrot I have is the first member of the family ever to be imported into this country and judging by this my first experience of keeping one, I should say that once acclimatised they are quite as hardy and little more difficult to cater for than any of the better-known Australian Parrakeets, so it is doubly to be regretted that there seems little chance of any more being imported, as they are most attractive.

They are full of character, and my bird is an excellent mimic. He does not actually talk but he imitates very cleverly in his small voice the evening cries of Ringnecks and the alarm note of a pair of Brown's Parrakeets whose aviary is just behind his.

He has a quick and fiery temper, and if you dare to pass his aviary without taking any notice of him he gives vent to angry screeches of protest of extraordinary volume and carrying-power for a bird of his size. Nor are you at once forgiven if you offer him sunflower or a piece of monkey nut, for he will ignore such peace-offerings, and bang angrily on the wire netting with his beak! However, he soon gets over his temper, and within an hour or so will once more be his delightfully tame and charming self again.

Incidentally, he is every aviculturist's dream of perfection when the time comes to shut him into the aviary shelter for the night. Some birds just *won't* go in unless driven; others will go in quite readily, but have the infuriating habit of dashing out again as though they had seen a ghost just as you are about to close the shutter.

My Dwarf Parrot does neither of these things. He is never inside already, as some of the other birds are, but is always sitting in the flight waiting for me, and the moment I say: "Now then . . . in you go!" he most obligingly does so at once; uttering the quick "Chee . . . cheet, Chee . . . cheet" he always does when on the wing.

Elegant Grass Parrakeet

(*Neophema elegans*)

I ALWAYS think that, in its quiet way, this is one of the most beautiful of the Grass Parrakeets, its plumage being mainly a lovely and rather unusual shade of golden-green, which at once differentiates it from all the other members of the family to which it belongs.

The male is golden-green with a frontal band of dark blue bordered above with pale blue, and the lower edge of the wing also has this double band of two shades of blue. The throat and thighs are yellow with a greenish tinge; and the abdomen yellow, the latter being sometimes, though not always, adorned with a quite extensive orange patch. The central tail feathers are bluish-green and the outer ones yellow. The bird is just over 10 inches long and is therefore one of the larger Grass Parrakeets.

The female is much the same size as the male but her plumage is less golden and more of an olive-green, while her blue areas are duller and less clearly defined.

Elegants are found in South and Western Australia, Victoria and New South Wales. In their native country they are apparently quite common, being usually found in small family parties frequenting grassy, sparsely-wooded districts and feeding on the seeds of the various grasses. When disturbed

they are said sometimes to ascend to great altitudes when flying away, and though I have never had the good fortune to see them at liberty, I should say this is unusual in Grass Parrakeets which give one the impression of birds which, when flushed, would probably fly away at low level before settling on or close to the ground again.

Despite their apparent abundance in a wild stage, Elegants practically disappeared from European aviaries several years before the 1914-18 war, and did not reappear—and then only in very small numbers—until about 6 years after it was over. The first living specimens I can ever remember seeing were at Warblington at about that time.

I have always found Elegants the most hardy and long-lived of the Grass Parrakeets and have never been without them for the past twenty-years. We have three pairs at Keston as I write, all of which, save one imported hen, were bred here. Although they are steady breeders, I would not call them prolific as they tend, in my experience, to have rather small broods of twos and threes.

They are quiet little birds and only become really active in the spring when their rather weak but pleasant and sibilant call-note is frequently heard. Although their colours are not brilliant, I know of few prettier sights than a male with the sun lighting up the lovely golden-green of his plumage, trying to induce his wife to take an interest in a newly-hung-up nest box, or in a high state of excitement because she has consented to inspect it.

For some reason which I have never been able to understand, there always seems to have existed—and indeed still does exist—considerable confusion between the Elegant and its relative the Blue-winged Grass Parrakeet. Even aviculturists who have no difficulty in identifying other Parrakeets have told me that they have always found Elegants and Bluewings muddling.

Actually, except for the fact that both birds are roughly about the same size and shape, I have never been able to see that there is anything more than a superficial resemblance between them. Let me try to make the difference clear, therefore, by saying that while the Elegant is predominantly golden-green with the frontal band and the lower edge of the wing adorned with two contrasting shades of pale and dark blue, the Blue-wing is olive-green with a deep frontal band and a long *wide* patch on the lower wing of a uniform deep shining sapphire blue.

Elegants can be kept in a large flight cage, but if they are housed in this manner it is important to have the perches regularly washed or renewed as they—like all Grass Parrakeets—are subject to eye disease, a complaint chiefly caused by dirty perches. To be fully appreciated, however, I always think they need to be seen in an outdoor aviary. As they are not birds that make a great deal of use of their flight this need not be particularly large. And an aviary with an overall length of 10 feet by 4 feet wide and 7 feet high will suit them perfectly well.

When they first reappeared in European aviaries some twenty-odd years ago they were naturally either provided with a heated shelter or taken into a flight cage in a heated birdroom during the winter months. Later on, however, when I had bred up a sufficient stock of them, I thought it worth trying the experiment of keeping them without heat, and as a result I found them to be perfectly hardy provided they were shut into a draught and damp-proof

shelter each evening during the winter, and not let out into the flight too early in the morning.

It is advisable to give each breeding pair of Elegants an aviary to themselves, because although for most of the year they are such quiet, inoffensive little birds, they liven up considerably in the spring, and if the experiment of breeding two pairs in the same aviary is tried, I have found that they will fight badly, so that even if there are no actual casualties, it is most unlikely that there will be any successful breeding results.

Their nest box, measuring about 8 inches square by 18 inches deep, should be hung up under overhead cover in the flight. The ideal receptacle for the eggs is half a coconut husk fixed in the bottom, but as these are nowadays practically impossible to obtain, one has to make do with the next best thing which consists of a decayed wood filling about 4 inches deep.

Their staple seed should be canary, to which a pinch of sunflower and a small quantity of hemp and groats may be added, the last two being increased when they have young in the nest. They should be given a plentiful supply of the usual greenfoods, and are very fond of spinach beet and flowering poa annua and ryegrass. Some, though not all, like apple and will eat it if a very thin slice is pushed through the wire netting, close to a perch. Apple is particularly useful in winter when ordinary greenfoods are hard to come by.

Fischer's Lovebird

(*Agapornis fischeri*)

RATHER larger than the Nyasa, Fischer's is a more handsome bird than its relative as the orangey-brick colour of the forehead and cheeks merges at the throat into ochre and rose colour, and it also possesses a beautiful patch of dark blue above the base of the tail. The bill is red.

Fischer's inhabit Uosure, Victoria Nyanza. They are not at all easy birds to sex, but the cock's skull is generally slightly flatter on top and wider in front than that of the hen.

They are not to be trusted in mixed company with weaker companions. Moreover, if several pairs are kept and bred together there is always the danger that they will ill-treat each other's newly-fledged young ones.

Apart from the above differences, Fischer's need precisely the same food and treatment as Nyasas, and they are equally, if not even more, prone to plucking their young in the nest.

These birds were first imported into Europe shortly after the 1914-1918 war.

Greater Sulphur-crested Cockatoo

(*Kakatoe galerita*)

THIS large and imposing white bird with its lemon-yellow crest is about the best known of all the Cockatoos, and famed for its longevity in confinement, there being authentic records of birds of this species which have lived for a hundred years, and it is said, even longer.

I was told of one which was for many years in the Imperial Palace at Potsdam and eventually passed to a family of German extraction living in this country with whom it is reputed to have lived until its death at the stupendous age of 130 years!

Cayley in his book on Australian Parrots remarks of these Cockatoos that if they live for a hundred years in confinement, they probably live even longer in a wild state, but personally I should doubt this, as it has always seemed to me that the many records of remarkable longevity among cage and aviary birds is probably chiefly due to what one might call lack of normal "wear and tear." By that I mean that well-housed well-fed birds in confinement enjoy certain advantages which in all probability tend to lengthen their lives so long as they have facilities for a healthy amount of exercise.

For instance, they have complete immunity from their natural enemies, and also they always have an abundant supply of food and water at times when many of their wild brethren may be suffering from severe hunger and thirst through prolonged drought (as in Australia) and from other natural causes. It is doubtless true that many wild birds manage to survive until such time as food and water become more plentiful again, but I think there can be little doubt that such periods of rigorous privation must take years off their lives.

Male and female Cockatoos of this species are much alike, and it seems rather a moot point whether there is sufficient difference in the colour of the iris to enable one to sex them with any certainty by this means. Personally I can never recall having seen a Greater Sulphur-crested with other than boot-button black eyes.

These birds nest in the hollow limbs of tall trees and also in crevices in the cliffs which rise several hundred feet sheer from the Murray River, apparently laying their eggs on the bare sand and rocks much as Gulls do on the sea cliffs.

They are very numerous throughout Australia and are much hated by the farmers whose grain crops they menace. The methods adopted to destroy them however—such as poisoned water-holes, grain, etc.—although doubtless effective enough in destroying the Cockatoos, must at the same time result in the wholesale slaughter of many of Australia's loveliest Parrakeets and other birds as well.

Obviously the unfortunate farmers have to take some measures to protect their crops, but to shoot these Cockatoos, which are among the chief culprits, is rendered practically impossible by their cunning habit, when raiding a grain field, of stationing sentries in nearby trees to give the alarm when the man with the gun is sighted. Nor do these sentries have to forgo their share of the

plunder, for at intervals they fly down to the field to feed, their places at once being taken by others that have already fed!

We have had single specimens of these Cockatoos at Keston though never a pair in an aviary, but the one which remains most vividly in my memory, dates back to my childhood days.

It must have been about the year 1910, when I was a small boy, that I was given a Greater Sulphur-crested Cockatoo, which had been advertised as a "tame talking" specimen. While in its cage it was cunning enough to behave with deceptive docility and even allowed me to take it out. Once loose, however, it hurried down on to the nursery floor—which was covered with green "cork" linoleum which had become rather shiny and which I can remember to this day—and proceeded to indulge in its favourite sport of ankle-nipping.

Ignoring me, it rushed—slithering joyfully across the slippery linoleum—until its quarry (my governess's ankles) was reached, and it was able to give a satisfactory nip, whereupon it gave vent to peals of the diabolical travesty of human laughter which is peculiar to some tame Parrots and Cockatoos.

Meanwhile my governess had leapt upon a chair, where she doubtless imagined herself more or less safe. However, "Cocky," as the terrifying creature was inevitably called, was not to be so easily thwarted. Slowly and methodically he began to climb up the legs of the chair accompanying his laborious ascent with sinister chuckling sounds. Just at this dramatic moment my mother came into the nursery to see how the new pet was shaping; nor was she long left in doubt, for the creature, overjoyed at the prospect of a fresh pair of ankles to nip, instantly forgot about my governess and proceeded to attack my mother who, arming herself with a chair, managed to keep the bird at bay until my governess and I, and eventually she herself, were all safely out of the room.

The Cockatoo was then left in sole possession until such time as our former coachman (who by 1910 had just been transformed into a chauffeur) was summoned from what were still called the stables. Wearing gauntlet gloves, and additionally protected by his leather leggings, he eventually managed to capture the brute. And it was forthwith returned to the shop whence it came, which had fortunately sent it "on approval!"

I feel that in justice to these Cockatoos I must emphasise that this bird was quite exceptional and that more normal specimens often learn to talk and make long-lived, charming and most intelligent pets.

Like many Cockatoos, they are willing to breed in confinement, and anyone fortunate enough to possess a true pair should house them in an outdoor aviary and give them a grandfather clock nest box to breed in. They are extremely hardy and quite indifferent to cold, but they dislike wind, so that at least one third of their aviary should provide them with overhead shelter and ample protection from the prevailing winds. It should be remembered that nothing less than heavy gauge chain-link netting, bricks and mortar or wood sheeted zinc will withstand their tremendously powerful beaks.

They should be fed sunflower seed, hemp and monkey nuts, with a little oats and canary seed. They are fond of apples and other fruits; also various greenfoods. If they will take it, sweetened bread and milk should be given as a supplement when they have young in the nest.

The LESSER SULPHUR-CRESTED COCKATOO (*K. sulphurea*) which is much smaller than *galerita* is also distinguished from it by having a yellow spot on the cheeks and a slightly more yellow and less pure white tinge to the plumage generally. It is found in Celebes and is one of the commonest Cockatoos in confinement. It is a less talented talker and less noisy than its relative.

It readily becomes tame and is then very charming and gentle. A female I have hitherto kept in an aviary is so tame and so loves being handled that I intend to try her at liberty during the summer, as I feel sure that—like a male Alexandrine Parrakeet I once had—she would follow one about as faithfully as any dog. They are easy birds to sex as the male's eyes are black and the female's chestnut-brown.

Grey Parrot

(*Psittacus erithacus*)

WITH its body plumage of various shades of ashy-grey, which makes such a pleasing contrast to its beautiful pinkish-red tail, the African Grey Parrot is really too well-known to need a detailed description.

They are not at all easy birds to sex, but I should say that the specimens with the more massive skulls and larger beaks and legs are usually cocks. These are, for some reason—in confinement at any rate—considerably rarer than hens. One very noticeable difference in the breeding pair of Greys we had at Keston was that the cock had large round eyes, which gave him a wide-awake alert look, whereas the hen had the more usual rather sly oriental slit-eyed appearance of most Greys.

Grey Parrots inhabit Equatorial Africa and should on no account be confused with Australian Roseate Cockatoos, particularly as some dealers seem to do their best to foster this confusion by advertising the latter as "Australian Grey Parrots." It is true the plumage of both birds is grey and pink, but there the resemblance ends. Whereas the Grey Parrot is not noisy and is the most brilliantly-gifted of all talking birds, the Roseate Cockatoo, although it gets very tame and is a charming bird, particularly in an aviary, can at times be very noisy. Furthermore, the Cockatoo seldom learns to say more than a few words in a rather squeaky Punch-and-Judy voice.

Grey Parrots were among the first of all foreign birds to be brought alive to this country, and there is a well-authenticated record of a pet bird of this species which belonged to King Henry VIII. The most famous historical Grey, however, was the one belonging to the glamorous Frances, Duchess of Richmond and Lennox, who was known as "La Belle Stuart." This bird, having been the treasured pet of its mistress for many years, died within a few days of her own death.

In the codicil to her will, dated 1702, she desired "to have my Effigie as well done in Wax as can bee and set up . . . in a press by iitselfe with cleare



This young African Grey Parrot was the first of its kind to be reared in confinement in Europe. When photographed, it was just fledged

crowne glasse before it and dressed in my Coronation Robes and Coronett." She must also, I think, have expressed a desire for her beloved pet Parrot to be stuffed and mounted when it died, and this was duly done, for to this day the "Effigie" of the Duchess in her Coronation Robes, as well as her stuffed Grey Parrot, are to be seen in the Norman Undercroft Museum in Westminster Abbey.

Incidentally I remember my sister and I being taken by our Governess to see the Abbey, when I was about ten years old. We also saw the wax figures which were then, if I remember rightly, housed in a small chamber in the upper part of the building. Although the Parrot was badly stuffed, giving it the appearance of a slim bird with an enormous head and beak, I was very impressed to learn that it was believed to be the oldest stuffed bird in England.

The Grey Parrots imported into this country are usually young birds that have been taken from the nest and hand-reared by the natives. Generally they are brought over on boiled white maize. At this stage they must be kept very warm, and until they are weaned on to a normal diet of seeds, nuts, and fruit, and thoroughly acclimatised, they are very tricky subjects indeed. Once acclimatised, however, they are among the toughest and hardiest of all foreign

birds, and can be kept safely all the year round in any aviary (preferably facing south) which affords reasonable protection from wind and rain.

As it was always something I longed to do, I am naturally very proud to have been the first person to breed Grey Parrots in confinement in this country, a first breeding for which I was awarded the Avicultural Society's medal in 1945.

My pair lived summer and winter in an outdoor aviary, and every aviculturist will appreciate how thrilling was the day when the single young one—a very dark-eyed and innocent-looking edition of its yellow-eyed parents—first left the nest.

In addition to the Grey Parrot's normal diet of canary, sunflower seed, monkey nuts, and a little hemp, plus seakale beet and sweet ripe apples, I gave the parents while the young one was still in the nest additional hemp, and also such, perhaps rather unorthodox extras as flakes of boiled cod, scrambled egg, sweetened bread and milk, and boiled potato.

This is the same diet I gave the Blue-fronted Amazons who (just before the war) successfully reared a brood of five, the first pure-bred Blue-fronts ever to be reared in this country.

I gave them these extras because it has always seemed to me that, considering what a very long time the young of the larger Parrots spend in the nest, it is too much to expect the parents to occupy all their time eating small seeds to feed them on.

Shortly after their first young one was fledged, its parents went to nest again and once more hatched a single young one too late, however, to be reared as it was killed by the first autumn frosts, which came just at the stage when its mother had ceased to brood it at night. Thereafter the hen laid and sat each season, but the eggs were always infertile, although both birds appeared to be in perfect condition.

Grey Parrots, of course, are usually kept singly in cages as pets, and if properly treated they will thrive under such conditions, often living to a great age even by human standards. Incidentally, the male of my breeding pair was, I believe, about 40 years old when he fathered his first child!

If, however, a caged Grey is to flourish and remain in good health and plumage, it is most important that certain rules should be strictly observed. First and foremost the cage should be as large as possible. If it has one of those horrible wire grids over the sand tray, the grid should be removed, as Parrots like to exercise their feet by walking about on a flat surface, so they should never be expected to spend all their time sitting on a round perch.

There is no objection to a swing—and indeed some Parrots seem to enjoy them—but the cage *must* be large and high enough to take one. There are few more depressing spectacles than a small Parrot cage with a swing that almost touches the perch, and hits the wretched Parrot on the head every time it walks along it.

One sees at times some very miserable looking feather-plucking Greys with hardly a feather on their body, and this vice, in the case of aged Greys, is nearly always partly caused by boredom. It is, therefore, of the utmost importance that they should frequently be let out of their cage, to clamber about on it, or on their owner's chair or shoulder. They also like walking about on the floor,

and often enjoy playing with a cotton reel minus, of course, the cotton. In fact they should regard their cage as their home and not as a prison.

Greys make such clever talkers because they can not only imitate the human voice, but also reproduce with incredible fidelity the actual tones and inflexions of different people, thus they will call dogs by name until these come running up thinking it is the voice of their master or mistress. The male of our pair of Greys—a marvellous talker—used to create (and obviously enjoy creating!) considerable confusion on our bird farm by loudly calling for my partner in my voice until at last, in desperation, my partner would shout: "What do you want? . . . I'm busy!" Which would be followed by derisive laughter from the Grey!

People often ask how far a Parrot knows what it is saying. I think it is largely a question of a combined association of sight, sound and time-sense, so that, for instance, an intelligent bird will soon learn that "Good morning" should be said in the morning and "Good-night" at night. Seldom if ever will it make a mistake and reverse the process. They will quickly learn, also, to call people and pet dogs by their right names, this, of course, being simply an association of sight and sound.

Some Greys are particularly adept at imitating the popping of corks and the barking of dogs. Others can imitate the confused impression they get of one end of a telephone conversation, starting with "Hullo . . . Hullo!" followed by an indecipherable jumble of conversation, and ending with "All right . . . All right . . . Good-bye!"

Then again Greys associate certain objects with certain sounds, and a Grey I knew had only to see you touch your handkerchief—not necessarily take it out of your pocket—to reproduce at once with almost unnecessary accuracy the sound of human nose-blowing!

I think the most intelligent and amusing Grey I have known is the male of a pair we have, as I write, at Keston. One day I was talking to him at the front of their flight while his wife was in the shelter. Soon she flew out and alighted on the perch beside him. Whereupon he turned to her and said very politely, "Good morning"! And he quite definitely said it to *her*, and not to me!

I have only once had a Grey that took a bath in the same way as Parrakeets do, the others depending on a shower of rain to wet their plumage and help keep it in perfect condition. This, of course, is all very well in an aviary, but as moisture is so essential to the well-being of their plumage, caged Greys should be sprayed once or twice a week with a fine misty spray of tepid rain water. This is the main secret of keeping the plumage of any caged Parrot in perfect condition, instead of the depressingly dry, lack-lustre, brittle state too often seen.

At first Greys may show alarm at being sprayed, but they quickly come to look forward to it and fluff out their feathers delightedly, not only while it is being done, but very often before the spraying has even started! One Grey I used to have would say "Spray Polly!" the moment it saw the syringe.

All these things—spraying one's Parrot, talking to it often and taking a lot of notice of it, frequently letting it out of its cage, and generally making it feel that you return the affection it gives to *you*—are essential to the happiness and

well-being of such intelligent creatures as Grey Parrots, and anyone who is not prepared to devote the necessary time and trouble to a caged Parrot, *should not keep one at all.*

A pet Grey in a cage should be fed on a seed mixture of about one-third canary and two-thirds sunflower, with a very small sprinkling of hemp, and about five monkey nuts a day. As to greenfood and fruit, they are fond of the midribs of seakale beet and very fond of apple. These should be given at least twice a week.

Hooded Parrakeet

(*Psephotus chrysopterygius dissimilis*)

THE Genus *Psephotus* is a comparatively small one containing only five species, namely, the Redrump, the Many-colour, the Hooded, the Golden-shouldered, and the Paradise. Of these I have kept and bred the first three, but have never seen living specimens of the last two.

The one that has always been reputed to be the most beautiful of them all is the Paradise which, though it was bred in this country many years ago by Mr. Gedney, is nowadays quite unknown in European aviaries. It is not, however, as was at one time feared, extinct in a wild state, and N. W. Cayley's book "Australian Parrots" contains an excellent photograph of a pair at the entrance to their nest. Lovely as Paradise doubtless are, I should think Hooded must run them pretty close for beauty.

Of the five *Psephoti* only the Redrump and the Many-colour nest in the normal Parrakeet manner in the hollow, decayed limbs of trees, the other three all having the curious habit of using the large termite ant heaps which abound in parts of tropical Northern Australia. Into these heaps, or spires as they are sometimes called, the birds tunnel a horizontal passage at the end of which they burrow out the nesting chamber.

The male Hooded has a black cap with a tinge of nigger-brown. The mantle and upper part of the wings are very dark grey, the remainder of the wing feathers being dark greyish-brown faintly bordered with dull green, and these sombre colours make a perfect background to throw into prominence the large elliptical patches of bright daffodil yellow which adorn the wings, and which are one of the bird's most striking features. The central tail feathers are bronze green shading almost to black at the tips, the others being blue-green, with a black band near the base. The under tail-coverts are of an orangy salmon-pink, and the whole of the throat, cheeks, and breast, are a very lovely and unusual shade of turquoise blue, with a faint tinge of sea green in it.

The female has the central tail feathers bronze-green and the others pale greenish-blue shading almost to white at the tips. The under tail-coverts are pale orangy-salmon-pink. For the rest, she is olive-green with a faint yellowish tinge, and with a distinct bluish flush on the cheeks, lower breast,

rump and abdomen. Length is rather over 11 inches, about the same size as a Redrump, but with a far slimmer and more streamlined figure.

Hooded Parrakeets seem quite aware of their beauty. The cock carries himself superbly, and when excited or courting, is the picture of elegance as, with the head feathers and those of the lower breast puffed out, and the wings slightly depressed to display the yellow patches, he utters his staccato and very distinctive call of Crissik . . . Crillik!

Like Brown's Parrakeet they come from tropical Northern Australia, and also like them they are very unwilling to adapt themselves to our seasons, usually moulting all the summer and coming into breeding condition as soon as there is the first autumnal nip in the air. To allow them to breed at such a time, however, is quite useless, because if the nest is in the flight the young will inevitably die of cold as soon as their mother stops brooding them at night, and if it is in a heated shelter, the youngsters—if any are reared—are practically certain to be useless, rickety specimens.

I puzzled for some time as to how this difficulty might be overcome, and eventually hit upon a ruse to make the hen go to nest at the proper time of year, which proved unexpectedly successful.

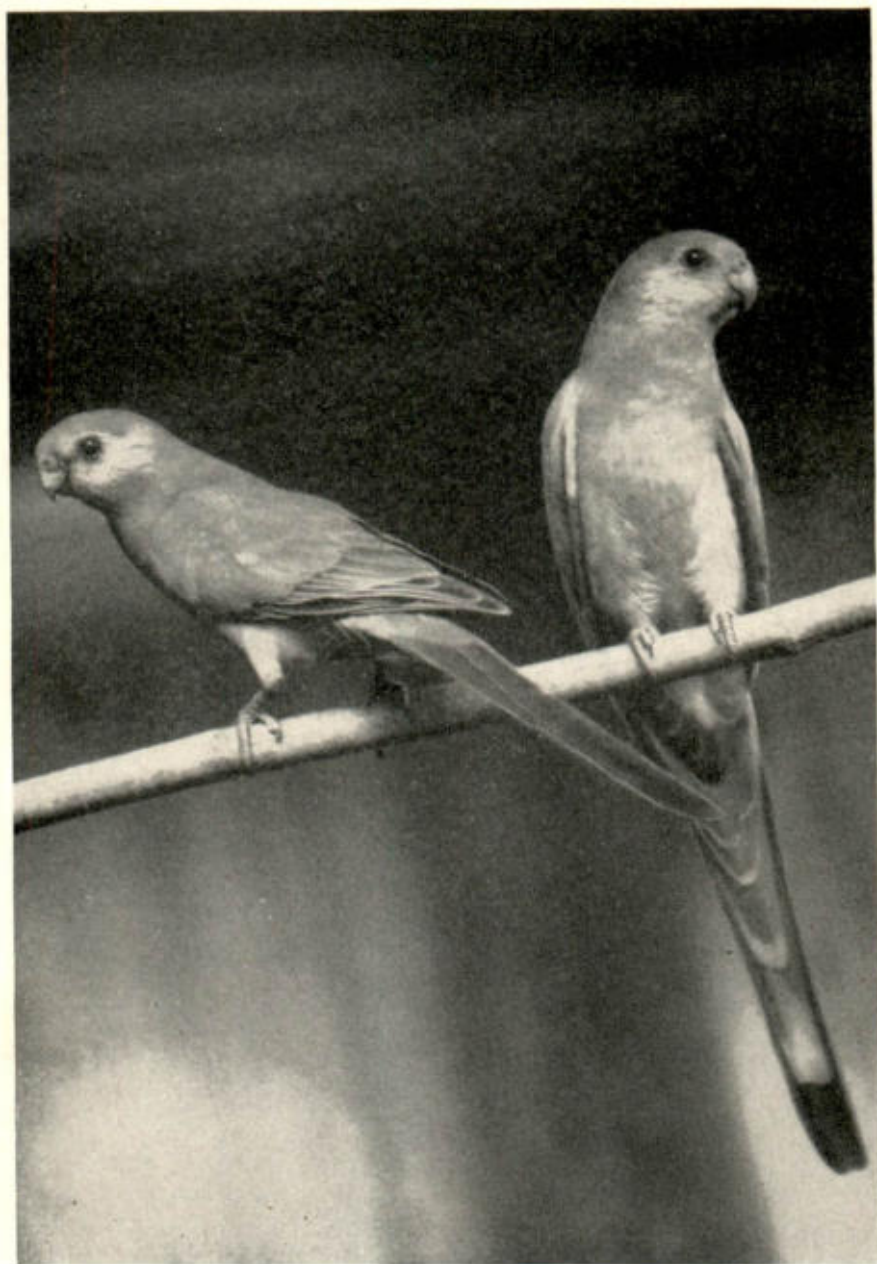
It was rather a long process entailing, incidentally, the breeding of hybrids. First of all I picked out a particularly fine cock Redrump whose desire to raise a family as soon as he felt spring in the air was so urgent that he was even inclined to chivvy his Redrump wife if she seemed at all dilatory in going to nest. The pair of Hooded were separated about February, the cock Redrump taking the place of the cock Hooded.

When, about the beginning of April (or perhaps it was rather earlier, as I remember I was afraid the hen would start moulting), the nesting log was hung in the aviary, the cock Redrump was obviously delighted but the Hooded was clearly dismayed, as she was just thinking of starting to moult. The Redrump, however, was determined to banish all such foolish notions (who ever *heard* of moulting in the spring!) and he peered excitedly into the log and did his utmost to arouse the hen's interest in it. But she would have none of it, and, obviously thinking the cock a bit mental to want to make her go to nest in the spring, continued to wear a bored and woebegone expression, which, as I had hoped, aroused the worst passions in the cock Redrump, who, as I knew, was not a gentleman to be trifled with.

If suggestion failed he decided to try coercion, and from then on he chased the hen Hooded about the aviary unmercifully until finally, in sheer desperation, she took refuge in the nesting log. However, if she imagined she was going to be permitted to moult quietly in the log she was vastly mistaken. If the Redrump suspected her of malingering, he would hurry into the log and rout her out for another chase round the aviary.

I felt a bit sorry for the hen, who obviously did so want to moult, but, at the same time I felt that if even one Hooded hen could be induced to go to nest at the proper season in this country, her ordeal would not have been in vain.

Finally the cock Redrump triumphed and the hen Hooded laid four eggs from which three hybrids were successfully reared. They were, as is usually the case with hybrids, very intelligent and particularly fine specimens, just about intermediate in appearance between their two parents.



Two young Hooded Parrakeets bred at Keston before the war; this beautiful species had hardly ever been bred before in this country

It is many years since I bred these hybrids so it is rather difficult to remember exactly what they looked like, but they were mainly green, with the black areas of a Hooded's plumage grey, and rather indistinct buffish wing patches. As I believe they were exhibited many times on the show bench after we sold them, some of my readers may remember seeing them.

The following spring I left the hen Hooded with the Redrump until he had driven her into the nesting log, and then by a stroke of luck I managed to choose just the right moment to remove the Redrump from the aviary, before he had fertilised the Hooded, and re-introduce her original Hooded husband.

The Hooded must have been surprised to see a hen of his kind going to nest in the spring, but as she seemed bent upon such folly he decided to humour her, and the result was three very nice young Hooded, which were among the very few good specimens of this Parrakeet ever reared in this country.

The few aviculturists in Britain who have been fortunate enough to possess Hooded, tried in some cases to give them mounds of turf to simulate a termite ant heap, but I confess the prospect daunted me, and even had the birds hollowed out a nesting chamber in such a mound, I should always have been wondering when the turf roof was going to cave in and bury the sitting hen!

Although I knew from experience that they took no interest whatever in an ordinary wooden nest box, I couldn't help thinking that a really seductive natural hollow log might tempt them, and so it proved, for my young Hooded were reared in a section about 2 feet long of a hollow, decayed limb of a tree boarded up at both ends, the one furthest from the entrance hole containing the inspection door. The log was hung up horizontally with a slight downward slope from the entrance hole, and was placed in the open under overhead cover.

Incidentally, I would strongly advise any of my readers who have a pair of Parrakeets which refuse to go to nest in an ordinary nest box, to try them with a natural log. I have known it to work like a charm with even the most difficult and fastidious of hens.

The young Hooded were reared on canary and millet, with some oats, sunflower, and hemp. The parents were particularly fond of the last, of which they were given an increased allowance while they had young in the nest, and I also threw a small handful of their seed mixture on to a flat-topped mound of peatmoss in the open run, where it would sprout. They were very fond of spinach beet, sweet apple and flowering grasses, and were given a millet spray every day.

Hooded, despite the fact that they come from a tropical part of Australia, are perfectly hardy in this country, provided their aviary has a dry, draught-proof shelter into which they can be shut at night during the winter.

I once saw a pair at liberty, and a most lovely sight they were, as the bright yellow wing-patches against their dark background made the male, when in flight, resemble some enormous tropical butterfly.

Hooded make excellent aviary birds, but they are not to be recommended for cages. Few birds go to pieces so quickly in an ordinary cage on hard perches. They might do better in a really large flight cage furnished with frequently-renewed twiggy branches, and with plenty of opportunities for bathing, so as to keep their plumage in order.



Layard's Parrakeet is seldom imported, being found only in Ceylon. It is almost the smallest of the Ringneck family



The Double-eyed Dwarf Parrot is a great rarity. This is the only colour photograph ever taken in Europe of this species

Jardine's Parrot

(*Poicephalus gularis gularis*)

A LARGE and very attractive relative of the well-known Senegal, this parrot has rarely been imported. The male is a rich rather dark green, the feathers being bordered with black. The front half of the top of the head and also a large patch at the bend of the wing are bright orange, and the bill is horn-colour. The female is perhaps a trifle smaller and lacks the orange patch on the shoulder.

Distribution: West Africa from Ghana to the Congo.

Three pairs of these birds were very kindly presented to me by a gentleman who had read my book on Parrots, and although a cock and hen eventually died, the remaining two pairs did very well and proved to be very quiet and steady aviary birds, in sharp contrast to the Senegal Parrot which is wild in an aviary and has a voice that is anything but pleasing.

The two pairs were eventually given aviaries to themselves and there seemed every chance of breeding them until, as sometimes happens with a particular species, everything seemed to go wrong at once.

The first thing to happen was that somebody—probably some boy—managed one night to gain access to our terrace aviaries, and finding all the flights padlocked, contented himself with opening many of the shelter feeding



Jardine's Parrot, a large and attractive bird which is rarely imported

doors. Although few birds got loose, it is hardly necessary to say that among these was the best pair of Jardine's Parrots. Then, as the hen of the remaining pair died very unexpectedly not long afterwards, we parted with the cock as there seemed little chance of ever getting another mate for him. Thus our hopes of breeding these rarely imported parrots were shattered and I certainly don't expect ever to have them again.

King Parrakeet

(*Alisterus scapularis*)

THE King, one of the largest and most magnificent of Parrakeets, is sometimes subjected to cage life, but fully to appreciate the beauty of the bird it should be housed in an aviary with as large a flight as possible.

The male has the upper surface rich dark green, with a paler, more golden-green wing-patch, the head and the whole of the underparts being bright vermilion red. The rump is dark blue and the upper surface of the tail dark steely blue-black. The upper mandible is red, tipped with black, and the lower one is blackish. Total length is about 16 inches.

In the female the head and the whole of the upper surface including that of the tail is dark green. The rump feathers are green tipped with dark blue, and the throat, neck and upper part of the breast are of a duller, paler green with a reddish tinge. The abdomen is red, and the bill gunmetal colour with a tinge of buff at the base of the lower mandible. Young Kings achieve full adult plumage in their third year.

King Parrakeets inhabit Eastern Australia and were first discovered towards the end of the eighteenth century. They appear to be still quite plentiful in a wild state, and it is easy to imagine what appalling damage a flock of these large birds must do to the maize crops, which seems to be one of their favourite foods.

They are said to assemble in flocks out of the breeding season but to separate into pairs to breed. Cayley in his book "Australian Parrots" records the interesting fact that this species occasionally mates with the Crimson-winged Parrakeet, and that hybrid King x Crimson-wings have been known to occur in a wild state.

Many years ago I had a pair of these fine Parrakeets which, if I remember rightly, eventually reared young on at least one occasion in a nest box of the grandfather clock type, the hen having at first insisted on laying her eggs in a corner on the floor of the shelter.

Accommodated in an aviary with a flight about 20 feet long by 7 feet high by 5 feet wide, they always called forth gasps of admiration from visitors, and I know of few more strikingly handsome Parrakeets than a pair of these birds in the perfect condition they attain in an outdoor aviary, the two birds being a perfect foil for each other, since the dusky hen with her crimson lower breast and abdomen is, in her way, quite as beautiful as her more gorgeous mate.

Kings are very vocal and utter a series of loud whistling cries interspersed with a rather harsh "Crallack . . . crallack." While males are not the fearful bullies and wife-murderers that Crimson-wings often are, they nevertheless like to be very much master in their own house, and out of the breeding season expect their wives to make way for them. If the latter show signs of forgetting this, they are apt to receive a sharp reminder.

I do not, however, know of a case where it was necessary to clip the wing of a male King to prevent his persecuting and even murdering his wife—a precaution that not infrequently has to be taken in the case of particularly aggressive male Crimson-wings.

Kings are among the hardiest of all Parrakeets, and though I have never tried the experiment, I have little doubt that they would do perfectly well in an aviary without a completely enclosed shelter. They should be fed on a mixture of canary seed, sunflower seed, monkey nuts, and a little hemp, the daily amount of the last being increased during the breeding season. They like the fleshy stalks of seakale beet, are very fond of apple, and can be offered any of the ordinary wild greenfoods, as well as wild fruits such as elderberries and blackberries.

Seeing what a passion they have in a wild state for maize, you could probably not do better—if you wanted to give them a real treat—than to offer them a head of "sweet corn" which is considered such a delicacy in America, but which for some reason has never really caught on in this country.

Their nest box, which is best hung up in the flight under overhead cover, should be about 13 inches square by 4 feet deep, with about 6 inches of decayed wood in the bottom, or they can be given one of the grandfather clock type.

Layard's Parrakeet

(*Psittacula calthorpa*)

ONE of the smallest members of its genus, Layard's Parrakeet is rather larger than a Plumhead but with a much shorter tail. Although it has no brilliant colours, it is, to my mind, one of the most attractive members of its family.

The male is green, darkest on the wings, with the head and mantle lavender-grey while the rump is mauve. The nuchal collar is almost black, and the area between the grey of the head and that of the mantle is emerald green. The tail is very beautiful; dark blue tipped with a yellow that has a tinge of green. The upper mandible of the beak is red, the lower one being dark horn colour. The female somewhat resembles the male, but her beak is black.

Probably the main reason why these charming little Parrakeets have always been so seldom imported is because of their restricted range. They are found only in Ceylon and do not extend to any part of the Indian mainland. They

are said to be very delicate when first imported, but I would not call them unduly so.

I have two pairs very kindly given by Major Weinman of the Colombo Zoo. As they arrived late in the year, they had heat in their aviary shelter for the first winter, but this was subsequently discontinued. There is one snag, however, namely their proneness to frost-bitten feet. In order to prevent this, I have found it necessary to give them a lamp in their shelter during periods of extreme cold, but not otherwise.

As I write, both hens are sitting, and as far as I am aware the species has only once been bred in this country. Cocks fight badly when they come into breeding condition, so, as in the case of most Parrakeets, it is necessary to give a pair an aviary to themselves.

Layards are full of character, and once they get to know their owner show a tendency to become tame. As you approach their aviary a cock will often draw his plumage very tight and sleek while slightly leaning forward—this being part of the display. Both sexes are what I suppose would be called noisy, though personally I find their weird and very varied repertoire of strange cries attractive, save for the more raucous ones.

They should be fed on canary, monkey nuts, sunflower, and a little hemp, the quantity of the last being increased when they are rearing young. At this time it would also be advisable to give each day a cube of bread, previously soaked in sweetened watered milk. Incidentally, I always give this to them, twice a week, throughout the year. They are very fond of spinach beet as well as apples, and these can be given on alternate days.

Leadbeater's Cockatoo

(*Kakatoe leadbeateri*)

I THINK it is generally agreed that this lovely bird is the most beautiful of all the Cockatoo family, although it is not, perhaps, the most intelligent.

The male has the back, wings and tail pure white, the inner webs of some of the wing and tail feathers being red. The back of the neck, cheeks, throat, breast, and sides of the body are a delicate powder pink, and the large, handsome white crest is adorned upon its lower half with three bands of colour, the two outer ones being scarlet and the middle one yellow. The crest is not only exceptionally large, but the bird can spread it so far forward that it forms an almost perfect semi-circle. The forehead just above the beak is dusky rose-red, and the iris of the eyes almost black. Length is just over 14 inches.

The female is like the male, but the iris is pale reddish-brown. Young birds are like their parents, though the pink and red areas are slightly paler. But the crest is large and very well developed even when they are first fledged.

The Leadbeater is known in its native Australia as Major Mitchell's, or the Pink Cockatoo. It inhabits most of the inland parts of the Continent but is

not found in the coastal areas. It was not discovered until a comparatively late date, being first recorded and described about 1830.

Once an abundant species, its numbers—like those of so many Australian birds—are said to be, for one reason and another, rapidly dwindling, and sad and regrettable as this is, it should prove an added incentive to aviculturists who have suitable accommodation, to propagate these very lovely and comparatively easily-bred Cockatoos in confinement.

Leadbeaters make excellent aviary birds, being long-lived, extremely hardy, and, with Roseates, the best breeders of all the Cockatoo family. Being every bit as destructive as others of their tribe, they need a really strongly-built aviary such as I have recommended for Roseates. They are the only Cockatoos at all frequently bred in confinement—even more than Roseates.

While Leadbeaters will live quite well in cages, they are not particularly to be recommended as pet birds since they are temperamental, less docile and easy to tame than the other white Cockatoos, can be terribly noisy, and seldom make good talkers, usually only learning to say a few words in a rather squeaky voice. In fairness, however, I must add that the only caged Leadbeaters I have seen were probably wild-caught in Australia, and an aviary-bred male youngster, taken and tamed shortly after it left the nest, might prove a much better proposition, as it would never have known anything but kindness from human beings, and would therefore regard them as its friends.

We had a pair in an aviary at Keston before the war, and as the first cock, although a fine-looking bird, was apparently sterile, another was obtained in his place, but this bird proved even more futile. He talked a little and at some time had obviously been the property of tea-addicts, for when the hen, poor bird, crouched on the perch obviously inviting the cock to pair with her, the stupid creature merely regarded her with a puzzled expression, and then—as if he had suddenly realised what she was after—said, in his squeakiest Punch and Judy voice: "Cocky want a cup of tea?" As a result, of course, the marriage was never consummated, and as war broke out not long afterwards we parted with both birds. It was a pity the cock was such an idiot as the hen used to lay and sit assiduously and would have made an excellent breeder.

The top of their aviary should never be entirely boarded over (and this really applies to all aviaries) as Leadbeaters revel in a shower of summer rain and are then seen at their best, making a truly magnificent spectacle as they cling to the wire netting with their brilliant crests fully erect and wings and tail spread wide, thus revealing the pink beneath the wings.

On one occasion the first of our male Leadbeaters—not the tea drinker!—got loose, and my feelings were torn between the joy of watching him fly majestically overhead, exhibiting the lovely rosy underflush of his wings, and anxiety for the safety of the aviary population of Parrakeets (incidentally almost all Australian), who dashed wildly about, seeming to regard him with the utmost terror as if he were an Eagle!

It has always seemed to me extraordinary that Australian Parrakeets, which must be perfectly familiar with the spectacle of Cockatoos in flight, should be thrown into such a state of chaotic confusion if they themselves are in aviaries and a Cockatoo flies overhead. It appears, however, that Parrakeets rather lack intelligence in this respect, as a harmless stray Homing Pigeon



Leadbeater's Cockatoo is the most beautiful of this group and one of the best breeders but it is rather difficult to tame and seldom makes a satisfactory pet

perching on one of their aviaries creates quite as much panic as if it were a dangerous Sparrowhawk or a Brown Owl!

Apropos of what does and does not frighten aviary birds, it has always seemed to me curious how completely most of them will ignore aeroplanes, even the most deafening of jet planes apparently leaving them quite unmoved.

Leadbeaters were first bred in this country by Mrs. Johnstone in 1901, and have been fairly frequently bred in British aviaries ever since. Their food, housing, general management and nesting arrangements should be precisely the same as I have recommended for Roseate Cockatoos.

Although they are inclined to be spiteful in mixed company, I should imagine an unmated male might possibly be allowed to share a large aviary with other bachelor Cockatoos—I have never tried the experiment—but a pair must have an aviary to themselves.

Madagascar Lovebird

(*Agapornis cana*)

FORMERLY well-known as a cage and aviary bird, this Lovebird has been allowed to die out almost completely in favour of its more brightly-coloured relatives. The male is mainly green, palest on the breast, darkest on the wings, and brightest on the rump. The head, neck and upper breast are grey, and the tail feathers green with black markings. The beak is grey. They are very easy birds to sex as the female entirely lacks the grey areas of the male's plumage.

Total length of the bird is a little over 5 inches.

Distribution: Madagascar, Rodrigues, Mauritius and Anjoua.

Just before the 1914-1918 war, only three species of Lovebird were I think offered for sale in the dealers' shops, namely, the two that I still consider the most beautiful—the Peach-faced and the Red-faced—and the Madagascar. I rather fancy one occasionally saw Black-cheeked and Abyssinian as well, but my recollection is that the three first mentioned were by far the commonest.

Between the wars, however, various other attractive and brightly-coloured species such as the Nyasa, the Masked and Fischers loomed on the avicultural horizon, and when the first pairs came over they were eagerly snapped up, being regarded as highly desirable and something entirely new. As a result, although the popularity of the two old favourites, the Red-faced and Peach-faced, suffered no eclipse, people no longer bothered to keep Madagascars and I doubt if nowadays there is a single pair left in this country.

This has always seemed to me a pity, because although they have no bright colours, they are, nevertheless, attractive in their quiet way and possess the great advantage, which most of the other Lovebirds lack, of being perfectly easy to sex at a glance.

Male and female Madagascar Lovebirds differ widely in temperament, for whereas unmated males are fairly amiable in mixed company, females are quite the reverse and need very careful watching, as they will not hesitate to murder any other members of the Parrot family of about their own size which happen to be in possession of a nest box they covet.

While breeding pairs of Madagascar and Peach-faced Lovebirds can be regarded as the most savage and spiteful of all their kind in mixed company, I have not found the community breeding of the more pacific species such as Nyasas, Black-cheeked, etc., entirely successful. Even if sufficient nest boxes are provided to prevent undue bickering, there remains the problem of newly-fledged youngsters, which are none too kindly treated if they make a mistake and expect to be fed by parents other than their own. Personally, I think individual pairs of Lovebirds, no matter what the species, are best housed in separate aviaries.

Like most Lovebirds, Madagascars should be given a rather large nest-box as, unlike Parrakeets, they really do make a nest. Their building materials consist of anything from scraps of old millet sprays to strips of sappy bark

peeled from lime or willow branches. Peach-faced and Madagascars, particularly, must be kept well supplied with the latter.

The hens of both species carry their nesting material tucked between their rump feathers, and though much is dropped as they go in through the entrance hole, the nest itself is, nevertheless, of quite bulky proportions and is continually added to during the incubation period.

Madagascar Lovebirds should be fed on canary and millet with the addition of a small daily allowance of hemp and sunflower, both of which seeds may advantageously be increased when they have a brood to feed. They should be given the usual greenfoods, and some appreciate apple, particularly if it is broken up by being pushed through the flight wire netting close to a perch, where they can nibble it easily.

Malabar Parrakeet

(*Psittacula columboides*)

THE Malabar is a member of the Ringneck family which has never been at all freely imported, but is a highly desirable aviary bird of considerable beauty and elegance, and its total length of just over 15 inches is largely accounted for by its very long tail.

The head, neck, and mantle are grey, as is the upper part of the breast shading into pale green on the abdomen. There is some green round the eye, and the rump is green. The wings are dark green with paler borders to the feathers, and the flights are blue-green. There is a black neck ring and another one behind it of bright bluish emerald green, and the long central tail feathers are blue tipped with yellow. The upper mandible is red and the lower one blackish. These birds are easy to sex as the female has a black upper mandible, a shorter tail, little green round the eye, and no blue-green neck ring.

Distribution: Southern India.

The Malabar has no brilliant colours, but its colour scheme is extremely harmonious and it is one of those birds which is far more beautiful than can be conveyed by any mere description.

I had a pair of these parrakeets many years ago, and if my memory is not at fault they bred successfully on at least one occasion.

They are quite unsuited to cage life and in any case their harsh screeching cries would be intolerable in a living room, but they make delightful aviary birds and are quite willing to go to nest under such conditions, provided they have an aviary to themselves.

Once they are acclimatized they are no less hardy than the well-known Ringneck Parrakeet, and they require exactly the same feeding, housing and general management as the Ringneck. As is the case with all the members of the Ringneck family, they come into breeding condition very early in the year and the cocks are better tempered than the hens. Consequently it is

seldom possible to delay giving them a nest box until about the middle of March at the latest, because if this is not done the hen may turn on the cock, or alternatively both may drop into a moult, and thus a whole breeding season will be lost.

Many-colour Parrakeet

(*Psephotus varius*)

IT has always been rather a puzzle to me why this Parrakeet—known in its native land by the unattractive name of Mulga Parrakeet—should have been called the Many-colour, for beautiful as it undoubtedly is, it has never struck me as being more many-coloured than a number of other Parrakeets. I mention this in case anyone should imagine from its name that it is a gaudy bird like a Rosella.

With vivid grass green head, throat, cheeks and breast, the male Many-colour has a buffish-yellow frontal band and a maroon patch at the back of the head. The mantle and back of the neck are darker green, with an elliptical yellow patch near the bend of the wing, and there is some rich darkish blue at the lower edge of the wings. The base of the tail is green shading into blue on the two central feathers, the outer ones being banded with black and shading into bluish-white at the tips. The lower belly and under tail-coverts are light yellow and the area round the thighs vermilion. Length is slightly over 11 inches.

The female is mostly medium brown shading into pale green on the breast and abdomen. She has the cock's maroon patch on the back of the head, only duller, and the wing-patches are brick red instead of yellow. She entirely lacks the cock's yellow on the breast and red on the thighs. The rump is rather curiously marked with shadowy bands of several shades of green and one of dull pink. The outer tail feathers are blue shading into white, and the two central ones dark green shading into blue.

When first fledged, young Many-colours of both sexes are superficially alike, but if looked at closely it will be seen that the young cocks have a brighter green tinge to their plumage.

These birds inhabit southern, eastern and south-western Australia, usually in the vicinity of streams, and are apparently often found in company with Redrumps. They appear to be a plentiful species. Before the war the price asked for them at Adelaide was, we are told, seldom more than five shillings a pair, so if you multiply that by four, and turn the shillings into pounds, you get roughly their value in this country.

Many Australian aviculturists who bought a pair of Many-colours for five shillings must have regretted their purchase and consider them expensive at the price, as they have a terrible reputation for delicacy during their first few weeks in confinement; yet those that survive are remarkably hardy and

long-lived even in this country, provided the district suits them and they are properly housed and fed. Sometimes they prove quite prolific.

In districts that do not suit them, however, they are prone to septicæmia, and even when apparently in perfect health, are liable to die suddenly from fits.

There are, I should say, two distinct races of the Many-colour, both of which I have kept and bred. One of them is much more beautiful than the other, but, unfortunately, it seems to be rarer, too. The male of the lovelier race has the head and underparts the brilliant green of young spring leaves, with the red round the thighs bright vermilion and very extensive. In the other race the green is duller, darker, and bluer, and the red thigh patches are much smaller, sometimes with an admixture of dull orange feathers. The female of the more vividly coloured race is also correspondingly brighter, and I have found that if one of these is mated to a dull cock, their sons are usually of the bright race, while the daughters take after their father.

Many-colours are among the most attractive of all the smaller Parrakeets, and I shall never forget how thrilled I was when I first saw a pair. They were far lovelier than old coloured plates led one to expect.

Provided their aviary has a good shelter into which they can be shut at night during the winter, Many-colours are perfectly hardy in so far as they are quite indifferent to cold; in fact, I have sometimes wondered if they wouldn't enjoy an ice cream on hot summer days, as even during the bitterest winter weather they will, when let out into the flight in the morning, rush delightedly down and eat mouthfuls of snow, even when there is plenty of water available.

I have often thought it curious that quite a number of Parrakeets should evince such a fondness for something they would never normally encounter in a wild state—and something, incidentally, which has no taste. The Australian Pileated, for example, is passionately fond of ice. If the water pot is thinly frozen over, the male will hurry down to it, secure a thin wafer of ice, and then go and sit next to his wife, holding it up with one foot and nibbling it with obvious relish—and occasionally offering his wife a bite!

Many-colours were given a bad reputation for delicacy by most old writers on aviculture, the cause of death being thought in the old days to be "cerebral hæmorrhage" latterly more accurately diagnosed as septicæmia. This is a rather mysterious disease which I don't think anyone knows very much about, though one thing does seem apparent, namely that it is more prevalent in some districts and in some seasons than in others. Fortunately Keston seems to be a healthy district for Many-colours. We have never been without them since we started the farm, and they have been little more trouble than Redrumps.

Before the war we had, among others, a wonderful old pair which had kindly been given to me by the late Duke of Bedford as foundation stock. They lived and bred prolifically for many years, their aviary—as were all our aviaries in those days—being annually moved to and fro on alternate sites. When they finally died, being by then very old and past breeding, they had both children and grandchildren breeding in our aviaries. Their largest brood was six young ones, all successfully reared. One year they were double-brooded, which is rather unusual in this species.

In those days I always used to give the parents soaked and sprouted hemp when they had young in the nest, but I have since had pairs which, just as

Redrumps will, reared perfectly good broods on nothing but ordinary unsprouted canary and millet with the daily addition of a small amount of hemp and sunflower, gradually increased as the young ones grew; also a plentiful supply of spinach beet and flowering ryegrass. One of the greatest delicacies you can give them is oats in the ear—which most Parrakeets adore. They are, in fact, great greenfood eaters and they are also very fond of apple.

Once—but only once—I achieved the rather remarkable feat of breeding no fewer than 14 young ones from one pair of Many-colours in a single season. I took away the hen's first and second clutches of eggs, and, as luck would have it, I was in both cases able to foster them under Redrumps which happened to be just in the right stage to take them. Both clutches were successfully hatched and reared.

Then, much to my surprise, the hen Many-colour laid yet a third clutch which she successfully hatched and reared herself. By this time, of course, I had rosy visions of rearing vast numbers of Many-colours under Redrump foster-parents, but they did not materialise as the next season I took away the hen's first clutch, and she refused to lay again. Unfortunately the pair of Redrumps to which I had given them suddenly had a violent row in the nest, and the hen deserted.

A suitable breeding aviary for Many-colours is one the overall length of which is about 15 feet. Their nest box, which should be hung up in the flight under overhead cover, can either have a half coconut husk fixed in the bottom or a filling of decayed wood.

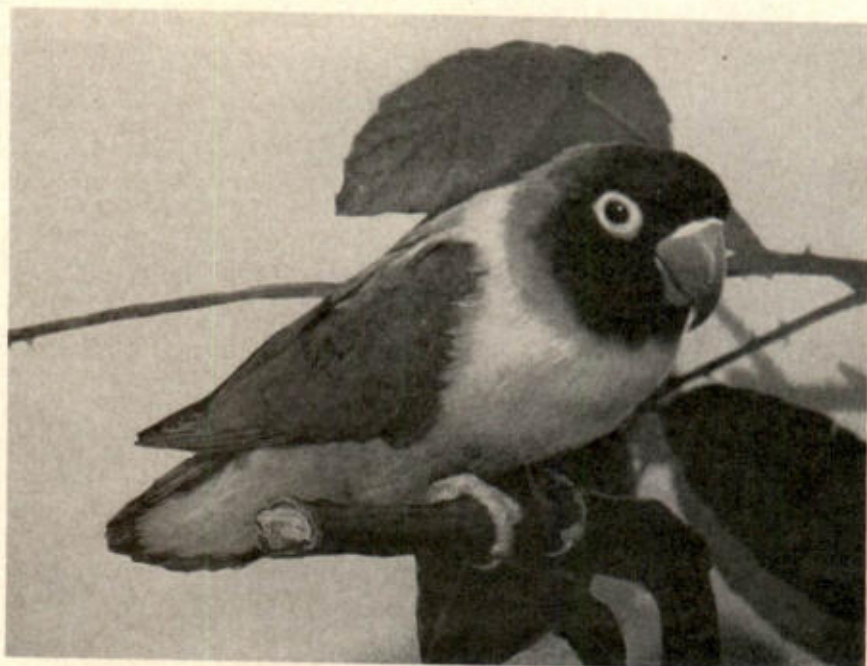
The male Many-colour's cry is a quickly-repeated, cheerful ringing whistle very like that of a Nuthatch. I was much struck by the similarity before the war, when I used to hear the two simultaneously, as a pair of Nuthatches frequented the belt of trees behind the Many-colours' aviaries.

Masked Lovebird

(*Agapornis personata*)

OF all the *Agapornis* this is, in my opinion, one of the most striking in appearance, and, like the Nyasa and Fischer's, was only comparatively recently first imported, being quite unknown to aviculture in Europe before the first World War.

Male and female are alike, except for the male's rather bolder, flatter skull, and the fact that the *hen* is sometimes slightly the larger of the two. The head is sooty-black faintly tinged with brown, merging into the yellow of the neck and upper half of the breast, the latter having a tinge of orange. The rest of the plumage is green, darkest on the wings and upper surface of the tail and palest on the lower breast and abdomen. The bill is red, and the white circles round the eyes appear particularly large and striking against the black



First imported between the wars, the Masked Lovebird quickly gained favour and there is a well established Blue variety bred in aviaries in this country

background of the head. They inhabit Tanganyika and Nyasaland. Total length is about 5.7 inches.

There is a blue variety of the Masked which I have kept and bred. It is quite pretty, with the normal yellow areas whitish, the bill pink instead of red, and the green replaced by a rather dusky blue.

Masked Lovebirds differ little in temperament from the other spectacled species, and their feeding and general management should be exactly the same as that I have recommended for the Nyasa. I once tried breeding them on the colony system, but it was not entirely successful, for, although they bred well, they were inclined to bully each other's newly-fledged young ones.

Mealy Rosella Parrakeet

(*Platycercus adscitus palliceps*)

IN size the Mealy is rather larger than Red Rosella. It is a very handsome Broadtail indeed—at least so I think—though I always remember the remark of a very young nephew of mine when first shown a Mealy: "It looks like a

ghost," he said, "with its white face and black eyes!" Actually this particular bird belonged to the unattractive white-headed race of Mealy, and though I had never thought of such a resemblance, I could see what he meant.

The male has the head very pale yellow, merging at the nape into a rich chrome yellow; throat and cheeks creamy-white; the mantle and upper back are black, each feather having a wide border of rich chrome yellow. The wings are predominantly violet with some pale blue and bluish-green. The central tail feathers are dark green at the base, shading into dark blue, and the outer ones pale blue tipped with white. The breast, underparts and under-surface of the tail are pale blue; under tail-coverts vermilion; bill whitish. The female resembles the male, but is usually a trifle smaller and has a smaller, rounder head.

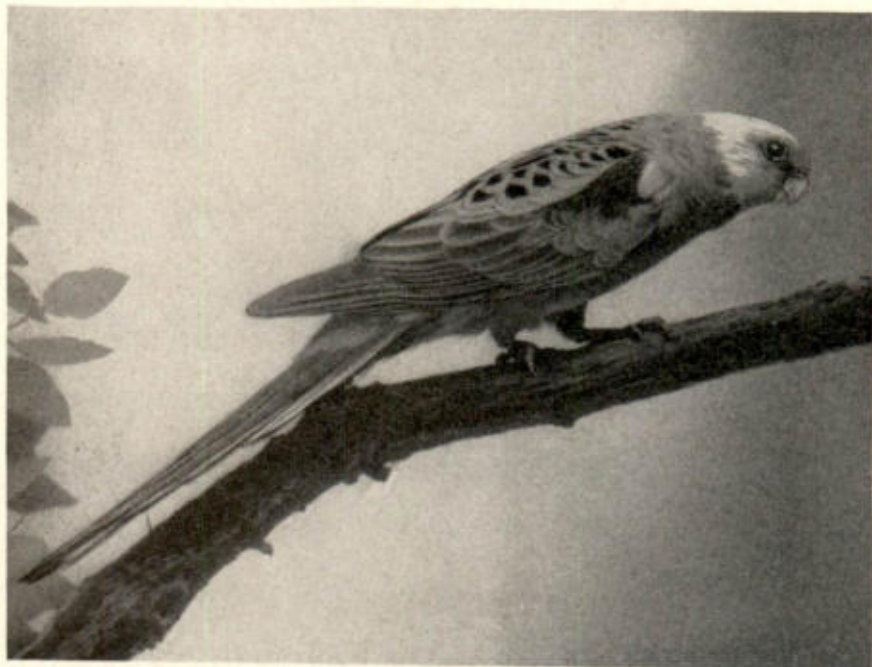
Young ones leave the nest with all their colours rather duller and less distinct, and, curiously enough, they very occasionally have a few scattered red feathers on the head which are replaced by the normal pale yellow ones after the first complete moult. Incidentally the same thing also occurs—but much more frequently—with Brown's Parrakeet, and I have had several young ones leave the nest with quite a sprinkling of red feathers among the black—usually young cocks.

The Mealy is a species of very variable colour, and I think there can be said to be at least two more or less distinct races, one of which is much more beautiful than the other. In one the head, cheeks and throat are almost white, the breast and underparts being pale ashy grey with just the faintest tinge of blue. In the other race the head is pale yellow, becoming richer and darker on the nape, and the whole of the breast is a beautiful darkish blue; indeed, all the bird's colours are correspondingly deeper and richer than those of the white-headed race. Then again the depth and richness of the colour of the breast of the latter race can be anything from pale blue to almost violet, and I think the bird with the darkest blue breast is the ideal to aim at, being much the most beautiful type I know.

Mealy Rosellas come from Queensland and New South Wales, where they are known as the Pale-headed or Moreton Bay Rosella. They are said to be fairly common in the Northern part of New South Wales where they associate with the Common or Red Rosella. They were first described towards the end of the eighteenth century under the name of the "Blue-cheeked Parrot."

Mealies have frequently been crossed—usually with other Broadtails—and I myself have bred Mealy x Red Rosella and Mealy x Redrump hybrids. I cannot recall the exact appearance of the latter, but I remember thinking that they were more or less what one would expect from such a mating, and that though they were very obvious hybrids, they were more attractive than I would have expected such a cross to be.

The Mealy x Red Rosellas, on the other hand, are very handsome, and the two young males, far from appearing obvious hybrids, might very well, at a cursory glance, be mistaken for pure-bred Mealies. They are about intermediate in size between their two parents, and while it is true that most of the yellow in their plumage has a slightly greenish tinge, the pale creamy-yellow of the head has no trace of green, but contains a few scattered red feathers. Apart from that, about the only other indication of the fact that one of their



A beautiful Broadtail, the Mealy Rosella Parrakeet comes from Australia. It is not suitable for cageing, but makes an excellent aviary bird, being hardy and a good breeder. A pair, however, must have an aviary to themselves

parents was a Red Rosella is the fairly regular crescent of scarlet feathers on the upper breast.

Mealies make excellent aviary birds, but like all Broadtails they are pugnacious, and a breeding pair must always have an aviary to themselves. They will live and breed well in an aviary about 5 feet wide by 7 feet high, with an overall length of not less than 15 feet. They can, of course, be kept in a cage, provided it is sufficiently large, but I always think members of the Broadtail family are totally unsuited to cage life and are never seen to best advantage unless housed in an outdoor aviary. Nor is there any point in caging them as they hardly ever make good pet birds, since, once they lose their natural fear of human beings, they usually become excessively cheeky and spiteful rather than tame.

Most cock Mealies become extremely annoyed if their hens, after a suitable lapse of time for nest-inspection, are still reluctant to go to nest, and thereupon proceed to chase them tirelessly about the aviary until they disappear into the nest box in sheer desperation. Should they come out to dilly-dally in the aviary flight, they are soon chased back into the box again!

We have one cock, however, who does not believe in even allowing time for nest-inspection. He chases his wife relentlessly from the moment they are given a nest box, and as she is always very slow in going to nest I used to have fears for her safety. Actually I have come to the conclusion that they must

both rather enjoy it, possibly treating it as an excellent method of annual "slimming," for it often goes on for quite a fortnight, and if the cock were as much in earnest as he looks the hen would, I feel sure, have been scalped long ago.

Mealies, which are perfectly hardy, usually prove excellent breeders, often being double-brooded. Their feeding and nesting arrangements should be the same as those I have recommended for Red Rosellas.

Meyer's Parrot

(*Poicephalus meyeri*)

ALTHOUGH quite differently coloured, Meyer's Parrot is very closely related to the Senegal Parrot and their cries are identical. The rump and lower breast are pale sea-green, strongly washed with blue. The head and neck are grey with a brownish tinge, as are also the wings and mantle, the feathers of which have dull green borders. The crown, shoulder and under wing-coverts are primrose-yellow. The bill is black. The female's colours are duller and she has a smaller, narrower head. Length is about 9 inches.

Distribution: Equatorial Africa.

I have two pairs of these parrots as I write and hope to breed from them. They are quite hardy and are nice aviary birds and, like the Senegal, a single bird, if taken young enough, makes a charming and affectionate pet.

In captivity they require the same housing, feeding and treatment as the Senegal Parrot.

Norfolk Island Parrakeet

(*Cyanorhamphus novaezelandiae cooki*)

I HAVE only kept two species of the very rare *Cyanorhamphus* family of Parrakeets, this being one of them, and the other the Yellow-fronted New Zealand. The male Norfolk Island is green, paler and yellower on the breast and brightest on the cheeks. A patch behind the eye, the forepart of the crown, and a bar on the flanks are red. The lower edge of the wings and the outer webs of the primaries are slate-blue; bill silver, shading into black at the tip. It is one of the largest members of the family, its total length being about 13 inches. They are quite easy birds to sex, as the female, though similarly coloured, is smaller than her mate and has a much smaller head and beak.

They inhabited Norfolk Island off the coast of Australia, where they were said to breed on the ground and to have been completely exterminated by an

incursion of hordes of rats—a similar fate overtaking some pairs which were liberated on Lord Howe Island. For a time a small number managed, I believe, to scrape a bare existence on a few small islets in the vicinity, but whether this small band of survivors still exists, I do not know.

My only experience in keeping these birds was with a pair I housed for a few months for a friend before the war. It all seems a long time ago now, but so far as I can remember they were given a nest box but made no attempt to



Meyer's Parrot is very closely related to the Senegal Parrot, but is differently coloured. Like its relative it will make a charming pet if taken young enough.

breed. They had, however, all the charm and curious characteristics of the *Cyanorhamphus* family in general, and despite their subdued colouring were very handsome and remarkably active birds, running rapidly both up and down wire netting and occasionally scratching on the ground with a curious sideways movement of the legs. Their voices were a rather melodious bleat like that of a sheep heard from a distance, varied with a low murmuring sound.

Having had them only during summertime, I can say nothing from personal experience as to their hardiness or otherwise in winter in an outdoor aviary in this country, but they are said to be quite as hardy as the Red-fronted New Zealand if kept in a locality that suits them. Personally, I should say they would probably winter out quite satisfactorily, provided their aviary was in a



The Many-colour Parrakeet is closely related to the Redrump, but rarer, more brightly coloured, and less easy to breed



Harlequin Budgerigars are quaint and attractive. They are one of the newer varieties of these very popular birds

really sheltered situation facing south, with a dry, draught-proof shelter in which they could be shut each night.

Incidentally, the above-mentioned Red-fronted New Zealand Parrakeet—nowadays quite unknown to aviculture—was the only member of the family ever to be widely kept in aviaries in this country, being considered extremely docile, hardy and apparently of such prolificacy as would almost rival that of present-day Budgerigars. Unfortunately, however, such was the incurable improvidence of the average aviculturist of those days that no attempt was made to breed them systematically in aviaries and in consequence they were allowed to die out completely.

Male Norfolk Islands certainly do seem, from the few accounts available, to have a nasty tendency to murder their wives without either warning or provocation, so it is advisable to keep a very close watch on a cock, particularly if he has just been put with a new hen. If he shows signs of aggression, the clipping of one wing will impede his flight and enable the hen easily to get away from him.

Norfolk Island Parrakeets should be fed on canary and millet with a certain amount of sunflower and monkey nuts and a pinch of hemp, the last given in fairly large quantities only when they have young in the nest to feed. They are very fond of sweet, ripe apple and spinach-beet, as well as the usual wild greenfoods. A nest box of the size and type I have recommended for the Rosella Parrakeet will suit them very well, unless they were determined to nest on the ground—a habit I have already referred to.

Nyasa Lovebird

(*Agapornis lilianae*)

AT the outset I feel bound to own that while nearly all foreign birds fascinate me in some degree, I cannot claim to be counted among the admirers of all the Lovebird clan. Moreover, the Nyasa is, I think, the one that appeals to me least. This, of course, is purely a matter of personal prejudice.

This species is one of the smallest Lovebirds, being rather over 4 inches in length, and mainly green, with a brickish-orange face, paler and pinker on the throat and yellow merging into green at the back of the head. The short square tail and beak are red. Male and female are almost exactly alike, although it is said that if the eyes are examined in a very good light, those of the male appear darker than the female's. I find them very difficult birds indeed to sex, though I have sometimes noticed in a proved pair that the hen's head was just perceptibly rounder and less flat on top than the cock's.

As their name implies, these Lovebirds inhabit Nyasaland, Northern Rhodesia, and, like Masked and Fischer's, were unknown to aviculture until some time after the first World War. As far as I can remember, it was about

1926 that these three new Lovebirds suddenly burst upon the avicultural world.

There is a quite well-known Lutino variety of the Nyasa, which is not unattractive with its golden-yellow body-colour, and brickish-orange face, though, with their flushed faces, they always a little bit remind me of infuriated colonels! Little progress has been made in propagating this colour-variety in this country, and those sent over seem to be mostly females.

To my mind Lovebirds lack the beautiful flight of so many Parrot-like birds, and they always seem to be somewhat deficient in character and individuality. Nor do their voices help to endear them, these consisting in most cases of a series of particularly excruciating lead pencil screeches.

As to their appearance, Nyasas, Fischer's, Black-checks and Masked are spoilt for me by the rings of bare white skin surrounding their eyes. Doubtless their admirers consider these give them a "delightfully quaint" appearance, but these eye-rings always strike me as being distinctly ugly. Red-faced and Peach-faced on the other hand, which lack this appearance of wearing white-rimmed spectacles, are, in my opinion, the prettiest of the group.

One great advantage, however, possessed by most Lovebirds is that they are very willing breeders, the Nyasa being no exception. Several pairs can even be kept and bred together, although there is always the risk of a newly-fledged nestling getting a severe peck if it expects to be fed by a pair that are not its parents.

Nyasas should be given a rather large nest box for the size of the bird. This they will stuff full of a most varied conglomeration of materials, such as straw, twigs and old millet sprays, the last apparently forming a particularly desirable cradle for the family. Their chief nesting material, however, is strips of sappy bark, so they must be provided with them in the form of branches of some tree that peels easily, such as lime. The provision and removal of the boxes is somewhat complicated by the fact that, if allowed, they will go on breeding all the year round, so that there are always either eggs or young ones in the nest.

I cannot help thinking that this incessant breeding is a mistake, leading eventually to a decrease in stamina of both parents and young ones. Unfortunately, however, the problem is not solved by just removing the boxes as in the case of Parrakeets, for Nyasas are usually very subject to chills if forced to winter in an outdoor aviary without a box to retire into for the night. Much the best plan, therefore, is to house them in a flight cage in a slightly heated room for the winter.

Feeding should consist of canary and millet with a fair amount of sunflower and a very little hemp added to it, also greenfood, apple and millet spray though the last is not essential. They need no extras when rearing young, but the amounts of hemp and sunflower can both be increased.

Unfortunately Nyasas are among those Lovebirds that are most prone partly to pluck their young ones in the nest. Although, of course, this spoils the look of the newly-fledged nestlings, their disfigurement, unless they are very badly plucked, is only temporary as they very soon grow their feathers again. Nevertheless it is a most exasperating habit and one for which I should dearly like to know both the reason and the cure.

Orange-bellied Grass Parrakeet

(*Neophema chrysogaster*)

THIS is the rarest of the Grass Parrakeets and the pair we once had at Keston were certainly the only ones in Europe at the time. Indeed, as far as I am aware, they were the first ever to be imported into this country, with the possible exception of a pair that are said to have reached the London Zoo a great many years ago.

The male has the upper surface a rich, rather dark grass green. The upper breast is a paler, merging into golden-olive on the lower breast, and there is a bright orange patch on the abdomen. The forehead is dark blue, darkest at the base of the upper mandible and merging into greenish-blue above. The under wing-coverts and the lower edge of the wings are also dark blue; the tail is bluish-green, the outer feathers being tipped with yellow. Length is a little over 8 inches. The female resembles the male, but her colours are duller, and the orange patch on the abdomen is smaller and less vivid. They inhabit South Australia and Tasmania, and were apparently first described by Latham in 1787.

Orange-bellied Grass Parrakeets seem always to have been considered extremely rare birds, not only in avicultural circles, but also in their native Australia, where little seems to have been recorded of their habits in a wild state, although it is probable that these differ little from those of their relatives the Blue-wing and the Elegant.

Before our pair arrived here the only idea I had of the birds' appearance was gleaned from a stuffed specimen which Dr. Alan Lendon, the well-known Australian aviculturist, showed me when he paid a visit to our farm in the early days of the war. This stuffed specimen struck me as being slightly smaller, of a rather darker green, and with an orange belly patch of greater vividness than in the male we had at Keston. It is quite possible, however, that it belonged to a slightly different race, and also, of course, bird skins seldom convey an accurate impression of the living bird.

While our male certainly had an attractive orange patch on the lower belly, I should not say it was so very much brighter than that of a particularly fine cock Elegant we had before the war. The green of the general body colour, however, was very different, both from the golden-green of an Elegant and the olive-green of a Blue-wing, being a rather rich and dark grass green.

Orange-bellies seem to be temperamentally rather unlike the other members of the family, the nearest affinity being the Rock Grass Parrakeet whose tendency to over-fatness they appear to share. They are extraordinarily silent members of a by no means noisy family, and the only sound I ever heard ours utter was practically indistinguishable from the sibilant cries of an Elegant.

Then again they were, like the Rock Grass, somewhat lethargic, spending most of their time in the shelter and seldom—at any rate when one was anywhere near their aviary—coming out into the flight. This, however, may

have been mainly due to shyness, as on the few occasions when I caught them out in the flight they instantly rushed back into the shelter. This is in sharp contrast to Splendids which are extremely active birds and always take the greatest interest in everything that goes on. One scarcely finishes putting up a bundle of flowering *poa annua* grass in their aviary before they come down to eat it.

The pair of Orange-bellies on the other hand took no interest in *poa annua*—which is relished by other members of the family—and for several months ignored greenfood, though they eventually took to eating spinach beet.

The housing, feeding and general management of Orange-bellied Grass Parakeets should be precisely as I have recommended for Elegants except that, if, as a species, they are all so prone to over-fatness in confinement as the pair I had, it would probably be wise to ration them to plain canary seed, adding hemp, groats and sunflower only when they have young in the nest. Unfortunately, although my hen laid some eggs all of them were infertile, and subsequently both birds died of fits.

Peach-faced Lovebird

(*Agapornis roseicollis*)

WITH the possible exception of the Red-faced, I have always thought this bird the most beautiful member of the Lovebird family. The male is a soft beautiful shade of apple green, paler on the breast. The forehead is vivid rose-red while the cheeks and throat are rosy-pink, tinged with grey at the edge of the cheeks. The rump is brilliant sky blue and the short tail, bottle green with black and flame-coloured markings. The bill is coral-red. It is one of the larger Lovebirds, its total length being about 6 inches. The female resembles the male and is usually, but not always, slightly the larger bird of the two. They are difficult to sex with certainty.

Young birds when they leave the nest are of a duller, more olive-green colouring, and have the forehead brownish-rose and the cheeks and throat medium brown with a pinkish tinge. The bill is dark merging into coral-pink at the tip of the upper mandible.

I have always admired Peach-faced Lovebirds not only for their soft and beautiful colour scheme, but also because they lack the bare white space round the eye, which gives the Masked, Fischer's and Nyasas the appearance of wearing white-rimmed spectacles, an effect I find unattractive.

These birds were among the first members of the Parrot family I ever kept and I devoted one of my two aviaries to them, which meant that I was very struck with them indeed. Unfortunately I was greedy. Instead of listening to expert advice which warned me that two pairs could not be kept together safely, I felt that I simply must have two pairs and put both in the same aviary.

At first all went well, but in the spring, one pair came into breeding condition and went to nest and suddenly and ruthlessly murdered the others overnight.

Some Lovebirds, such as Nyasas, can be bred more or less successfully on the colony system, but I record this incident to deter any fool-hardy aviculturist, as I then was, from attempting the same procedure with Peach-faces. Given an aviary to themselves, however, they are reliable and prolific breeders.

As they continually add new nesting material even when incubating, these birds need a large nest box, and should be provided with twiggy branches of lime or willow. The hen peels the sappy bark from these, cutting off about 2-inch strips, which she bites into an inverted V shape and tucks into the feathers of her rump before returning fully laden to the nest. She does this because in a wild state the entrance hole to her nest might often be on the underside of the decayed limb of a tree, to reach which she would need both beak and feet for climbing.

Quite a large proportion of the peeled bark she so laboriously collects and bestows between her rump feathers gets pushed out and falls to the ground as she enters the nest box hole, and as she takes no further notice of these fallen strips she must be kept well supplied with twiggy lime branches. Quite an elaborate nest is constructed inside the box, with a passage from the entrance hole and a round nesting chamber.

One of the most enchanting sights I can ever remember was when I first stayed with Lord Tavistock at Warblington House in the early twenties and he had Peach-faced Lovebirds at liberty in his garden. The pair had young ones in a nest box hung under the eaves of the house just above my bedroom window. Early of a summer morning I used to draw back the curtains and lie in bed watching the parents flying up at intervals to feed their brood. One has often seen Swallows and House Martins doing this but I certainly never expected to have the joy of watching Peach-faced Lovebirds, loose in an English garden, doing the same thing.

These birds, with Red-faced, Black-checked, and Madagascars, were the four Lovebirds commonly to be found in the pet shops of my youth. The large Abyssinian was also, I believe, occasionally imported. Peach-faces are not suited to cage life, and in any case their harsh, metallic voices would make them highly undesirable birds to have in a living-room.

As an experiment, I once put two Peach-faces' eggs under a Budgerigar. One hatched, and to my great surprise she reared it, as Budgerigars are usually the worst of foster-parents. Unfortunately, probably owing to the dryness of the nest, it was a rickety specimen.

Peach-faced Lovebirds should be fed on a seed mixture of canary and millet, with a little sunflower and hemp, both of which can be increased with safety during the breeding season. Some will eat apple and they are also fond of spinach beet.

They can be wintered in an unheated outdoor aviary only if they are left their nest box to retire into at night. This, however, is a highly risky proceeding as they go on breeding in which case usually either the hen gets egg-bound or the young reared, if any, are useless specimens and die of cold after fledging. Much the best plan is to winter them in either a flight cage in a warmed birdroom, or an aviary with a heated shelter, both without a nest box.

Pennant's Parrakeet

(*Platycercus elegans*)

THIS is one of the largest of the Broadtails, and not only is it one of the most strikingly handsome members of the family to which it belongs, but, to my mind, one of the most beautiful of all Parrakeets.

It was met with and described in its native Australia as long ago as the latter part of the eighteenth century, though the true nature of the bird and the family to which it belonged was not then apparently realised since it was known as the "Beautiful Lory" and afterwards as the "Pennantian Parrot" which must have made confusion worse confounded, as actually it is neither a Parrot nor a Lory, but a Parrakeet! In Australia it is called the Crimson Rosella, but nowadays known there also as Pennant's Parrakeet.

Pennants inhabit South and Eastern Australia where they are said to frequent well-wooded districts, and, if the surrounding country is suitable, to be found in large numbers quite close to towns and cities. They are, as one would expect, extremely fond of fruit and therefore unpopular with orchard owners.

A male Pennant in perfect condition is a wonderful creature, clothed in brilliant scarlet, black, deep sapphire and paler blues. The cheeks, shoulders, wings and tail are various shades of blue, and the breast and mantle are crimson, each feather of the latter being broadly bordered with black. Length is just over 14 inches.

The female is perceptibly smaller than the male and has a rounder and more feminine-looking head. Usually, too, her colours are slightly duller, but this is not always the case. I have seen at least one true pair in which there was little if any difference in the brilliance of the plumage of the cock and hen.

The varied coloration of nestling Pennants is interesting as it seems to point to the bird being in a transitional stage of plumage evolution. Usually, young Pennants, far from resembling their brilliant parents, are mainly rather dull darkish green, with only here and there touches of blue and red. On the other hand, one aviculturist had a pair, a proportion of whose young ones were mainly dull green while the rest were mainly blue and crimson.

Most interesting of all, the late Duke of Bedford wrote of a pair which bred at liberty in his garden and whose evolution seemed complete as *all* their young ones had entirely dispensed with nestling plumage, and left the nest in the blue and crimson garb of their parents.

One striking thing about Pennants, which also takes place to a rather lesser extent with Stanleys, is the way in which their brilliant crimson suddenly fades to a pale brickish-pink just before the onset of the moult, so much so that it almost looks as if the red pigment were withdrawn into the body to be used again when the new feathers appear.

Despite their superior size, Pennants are not among the most aggressive members of their family, in fact, as Broadtails go, they are good-tempered, and they also have rather pleasant voices, lower-pitched and not uttered in such a hurried, excited manner as those of some of their relatives.

I must confess that my own two attempts at keeping Pennants have proved singularly unfortunate. I bought my first pair about 34 years ago when I was a schoolboy, and though they were rather ragged when they arrived, I was very thrilled when they moulted out into perfect condition. The thrill, however, was short-lived, for almost at once they decided to dispense with their tails and bit each feather off almost at the root. They were then such a sorry travesty of their former beautiful selves that I decided to part with them.

Afterwards we had a fine pair at Keston and, strangely enough, after their first moult exactly the same thing happened, and as my old home, where I had the original pair, is only a mile from Keston, it makes one wonder whether there is something in either the soil or water of this locality which does not suit Pennants. This may not necessarily be the case, however, as several other aviculturists in different parts of the country have told me that they have experienced the same trouble with these Parrakeets.

Pennants should be housed in an aviary with a shelter into which they can be shut each night during the winter, and the run should be, if possible, not less than 18 feet long, the width being of less importance. If they are kept in a cage—which I do not advise—it must be a really large flight cage not less than 5 feet long, but even a comparatively small outdoor aviary is much preferable.

Kept under proper conditions they are good breeders and are sometimes double-brooded. They will rear excellent young ones in a nest box with either a decayed wood filling about 8 inches deep, or with half a coconut husk fixed in the bottom. The box, which should not be less than 3 feet deep, and about 12 inches square, should be hung up in the flight under cover.

A breeding pair of Pennants must, of course, be given an aviary to themselves, or at any rate must not be expected to share it with other Parrakeets. If their aviary is really large, probably the most suitable companions for them would be gallinaceous birds such as Pheasants, but though it is quite a common practice, particularly, I believe, in some Continental aviaries, to keep such birds together, it has never been one that has appealed to me, as the ground must become so quickly stale.

Their seed mixture should consist of canary, millet, sunflower, monkey nuts and a small allowance of hemp, which can be increased during the breeding season. As in the case of most Parrakeets a small proportion of oats or groats can also be given. They like spinach beet and should be given plenty of green-food. They are very fond of apples.

Pileated Parrakeet

(*Purpureicephalus spurius*)

AN inhabitant of South-east Australia, this fine Parrakeet is known in its native land as the Red-capped Parrakeet, and also—rather muddlingly—as the King Parrot, but it should not be confused with the much better-known

King Parrakeet (*Alisterus scapularis*). It is said to frequent the tops of tall eucalyptus or blue gum trees, upon the seeds of which it mainly feeds. It is a bird which is becoming increasingly rare chiefly owing to the relentless war waged upon it by Australian fruit farmers, and while this is, from the avicultural point of view, to be deplored, it needs little imagination to realize the immense amount of damage a flock of these birds would do in an apple orchard.

Larger than the Rosella, the Pileated is a very handsome bird with a particularly lovely colour contrast of apple green and purple. The male has a crimson cap, bright yellowish-green cheeks, darker green mantle and wings, the lower edge of the latter and part of the flights blue, central tail feathers green, outer ones blue and white, rump yellowish-green, vent and under tail-coverts red, and the whole of the breast a beautiful shade of violet purple.

The plumage of females is very variable, but in the case of my breeding pair, the hen is merely a rather duller and slightly smaller edition of the cock. Some hens, however, retain juvenile plumage throughout their lives. I think they are unique among Parrakeets in this respect. Young Pileateds are, roughly speaking, green with dark grey breasts, and I personally regard them as very difficult to sex, the only difference being that the hens have slightly smaller, rounder heads. I find the best plan is to take one look and abide by one's first impression, as the longer one looks at them the more exactly alike do they appear to be! They attain full adult plumage when about 16 months old.

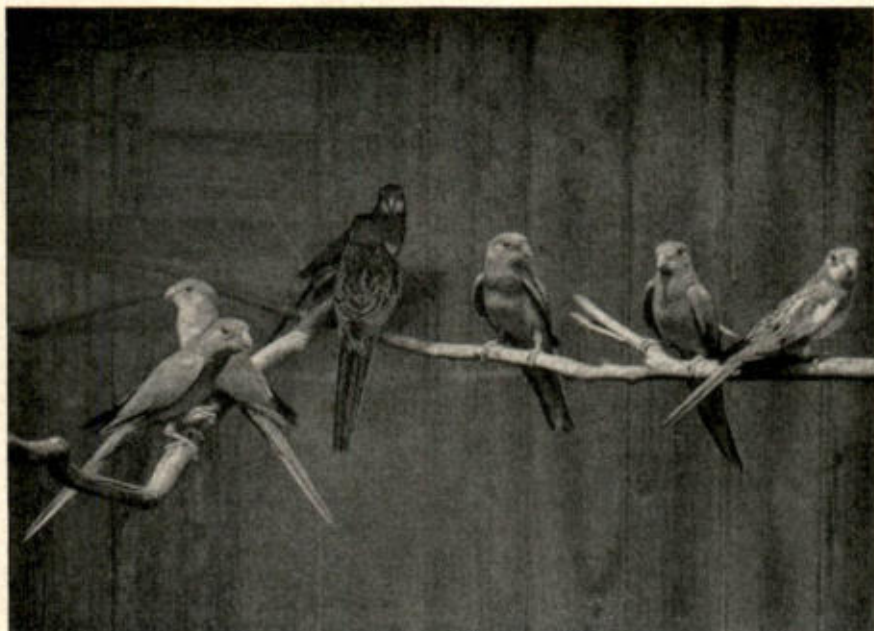
One highly distinctive but rather unattractive feature of these Parrakeets is that their beaks do not close in the same neat way as those of other Parrakeets. When the bird is viewed in profile there is an open space between the mandibles, the reason being that even when the beak is as closely shut as it can be, only the base and tip of the lower mandible meets the upper one. I cannot recall having read any description of this strange beak formation in spite of the fact that it is such a unique feature of these birds.

Efforts to breed up a stock of some particularly rare bird can be, as every aviculturist knows, terribly disappointing, and it has heartened me a lot to be only the third person to breed these beautiful Parrakeets in this country, my predecessors being Mr. Hubert Astley, and that very successful breeder of Parrakeets in years gone by, Mr. Fasey.

My breeding pair are the most model parents, having reared no fewer than 19 young ones in four seasons; six in one nest in 1950, three in 1951, six in two nests of three each in 1952 and a further four in 1953. I may say here that I know of no young Parrakeets that leave the nest so small and then gradually grow to the size of their parents.

Pileateds have always had the reputation of being delicate and difficult subjects in confinement, but I am inclined to think this largely depends on the particular pair you are lucky, or unlucky, enough to get hold of. The late Duke of Bedford has recorded in his book "Parrots and Parrot-like Birds" that he once had a hand-reared pair which were so destructive that they needed Cockatoo-strength wire netting to confine them, and so persistently over-ate themselves that he eventually had to ration each bird to not more than a tablespoonful of plain canary seed plus one or two monkey nuts per day.

My own experience with these temperamentally variable Parrakeets has been that, while neither the old pair nor the three pairs of their young ones I



Young Pileated Parrakeets and young Rosellas. The latter are frequently bred, but the rarely imported Pileated Parrakeet has been bred on only two previous occasions in this country. It is one of the most beautiful of Parrakeets

have kept show any tendency to over-eat, some of the young ones are terribly destructive to the woodwork, though not to the wire netting, of their aviaries; so much so that all exposed woodwork has to be covered with either sheet zinc or wire netting to give it the necessary protection.

This, of course, involves some extra expense, but it is well worth it, as Pileateds are such beautiful birds and so full of character. For some curious reason the old pair—unlike some of their children—have never been in the least destructive to any part of their aviary.

Pileateds are very lively, intelligent, and inquisitive birds, always on the move, and although they are classed as Broadtails, which they undoubtedly are, they remind me in some ways much more of Lorikeets. They have a rather peculiar staccato cry which is perhaps best rendered as: "Cluck-clor-clor . . . crilk-crilk-crilk!" the latter being also their alarm note. Their red cap might almost be called a crest as it is partially erectile, and is slightly raised when they are excited or alarmed.

Unlike Broadtails, they are easy to re-mate, and altogether very good tempered even if their young ones are left with them too long. One of our pairs shared an aviary for the winter with a pair of Redrumps, and they never made any attempt to molest them, even when they were first put in the aviary.

I think that—like many other birds—they are unfortunately named, and although their Australian name, Red-capped Parrot (it should be Parrakeet),

is better, a more suitable one would be "Purple-breasted Parrakeet" as I can think of no other Parrakeet with a really purple breast.

Pileateds are perfectly hardy provided they have a draught and damp-proof shelter into which they are shut each night during the winter months. Their feeding and nesting arrangements should be the same as I have recommended for the larger Broadtails, except that, unlike the latter, Pileateds are very fond of bread soaked in sweetened diluted milk, which is an invaluable daily extra when they are rearing young ones, and should be given twice a week out of the breeding season. As greenfood they particularly like the fleshy stalks of seakale beet, and (as Australian fruit farmers would agree!) they are passionately fond of apples.

Plum-headed Parrakeet

(*Psittacula cyanocephala*)

A VERY beautiful Parrakeet which was at one time widely kept and considered both hardy and prolific, the Plum-headed is, in my experience, quite hardy but by no means prolific.

The male is green, brightest on the breast which has a yellowish tinge. The head is of the deep rose pink of a ripe Victoria plum and has the same velvety blue "bloom" on it. The cheeks are tinged with carmine. The throat and collar are black and there is a small patch of red on the wings. The outer tail feathers are green tipped with greenish-yellow, the central ones being blue tipped with white and very long and tapering. The total length is about 14 inches and the bird has a very streamlined and elegant figure.

The female has a mauvish-grey head and a yellowish collar. She lacks the red wing patch and has a slightly shorter tail. Young birds assume full colour with their second complete moult.

Plum-heads inhabit Ceylon and are also to be found throughout most of India. They are said to be sociable, forest-loving birds in a wild state, going about in parties and nesting sometimes in natural holes in trees but more often hollowing out a cavity for themselves.

Very occasionally a Lutino Plum-head has been imported. Over a long period I have seen perhaps two or three of these, but in each case their appearance was marred by the yellow plumage being ticked, more or less heavily, with green feathers, giving the birds a mottled appearance.

At the time of writing I have a male, which almost certainly is the first pure Lutino Plum-head ever to be imported into this country. He is a most beautiful little bird, his general body colour being a rich golden yellow. The head is deep rose-pink, tinged with carmine on the cheeks, but lacking the blue bloom found in the normal form. The latter's black throat and collar are white, as also are the two central tail feathers. Each wing is adorned with a small patch consisting of a few bright red feathers.

He arrived from India in pale yellow immature plumage, and achieved full adult colour after the second moult. After the first moult the yellow deepened and the head became pale flesh-pink. He was sent over on an inadequate diet consisting of nothing but small brown Indian millet, and would eat no other seeds. After twice nearly dying, he fortunately started to eat boiled maize and sweetened boiled rice. At once he started to pick up and was eventually got on to a normal seed diet.

Although they belong to a family most of the other members of which are willing enough to go to nest I have always found Plum-heads extremely shy breeders. Why this should be I don't know. All one can do is to offer them as attractive a nesting site as possible. Perhaps a miniature grandfather clock nest might tempt them, particularly if the upper half was covered with bark. It is worth going to a good deal of trouble in order to try to establish a breeding strain of them, for there are few lovelier Parrakeets.

As Parrakeets go, Plum-heads have very musical voices, and it is no exaggeration to say that, at the approach of the breeding season, the male utters quite a song.

For some unexplained reason female Plum-heads were always very difficult to procure, the birds imported being nearly always cocks. It used to be supposed that this was because the males, having the brighter plumage, would be more easily saleable. This, however, does not appear to have been the real reason, because I remember that among a dozen or so immature birds we imported from India before the war only one or two were hens.

Plum-heads are quite amiable in suitable mixed company, but if it is intended to breed them they should be given an aviary to themselves. It need not necessarily be particularly large, as they are among the smallest members of this family.

They are quite hardy if shut into a shelter each night in winter, but like others of the Ringneck family they are rather liable to frostbite of the feet so should not be let out too early to sit on frost-rimed perches in the flight. They will eat spinach-beet and are very fond of apple, and their general housing, feeding and management should be the same as that I have recommended for the Ringneck Parrakeet.

A very similar bird called the Blossom-headed Parrakeet (*Psittacula rosa*) comes from Burma and Indo-China. It is slightly smaller, has a paler head and is much scarcer in captivity.

Princess of Wales Parrakeet

(*Polytelis alexandrae*)

THIS very beautiful and extremely elegant bird was named after Queen Alexandra when she was still Princess of Wales, as a tribute to her own grace and beauty. It is also sometimes called Queen Alexandra's Parrakeet.

The male has the crown of the head, nape and forehead pale lilac-blue, and the mantle, back of the neck and innermost secondaries a light olive-green. There is an extensive bright apple green patch on the wings, the outer webs of the primaries being bluish-green, narrowly bordered with yellow. Central tail feathers yellowish-green and very long, the outer webs of the lateral ones slate blue and the inner ones partially rose pink. The rump is lilac-mauve. The chin, throat and cheeks are rose-pink, as are the lower flanks and thighs, some of the feathers of the latter being bordered with pale bluish-mauve. One primary in each wing is prolonged into a spatule. The breast and underparts are an opalescent mother of pearl colour, and the beak is reddish-pink. The bird's head is distinctly small for the size of its body. Total length is slightly over 16 inches. The female has no spatule on the primary, a rather shorter tail, and her crown and rump are slaty blue-grey.

As is the case with so many Parrakeets, there is a dull and a bright race of Princess of Wales'. The latter are glorious birds with all the colours far more brilliant and with purple rumps, whereas in the duller race the males are little brighter than the females of the brighter race.

The Princess of Wales Parrakeet inhabits arid country in Central and North-western Australia, where it is said to feed chiefly on the seeds of the spinifex and—as I can well imagine—to be of a particularly fearless and confident nature; in fact, I seem to remember reading somewhere that when they were first discovered they alighted upon the shoulders of their discoverers—thereby, as it were, discovering them rather than being themselves discovered!

In an aviary, this extraordinary and rather fool-hardy fearlessness persists. One of the pairs we had at Keston before the war seemed to regard me as an animated tree trunk and loved nothing better than for me to bend down in their aviary so that they could have terrific fun and games rushing about on my back trying to push each other off. This performance proved useful when a newsreel was taken just before the war, as they were only too willing to oblige for the camera.

Altogether I should say that they are fearless and familiar rather than actually tame, as, in my experience, they do not offer one the intelligent and affectionate tameness that is such an endearing trait and so characteristic of many other members of the Parrot family. Nevertheless they make delightful aviary birds, and when excited or displaying, cocks have a curious habit of erecting a tiny shield of opalescent feathers on the forehead, while uttering excited cries, running about, rhythmically lowering and raising their heads—exactly like a mechanical toy whose feet and head are worked by the same mechanism!

Princess of Wales' are—if you are lucky enough to get hold of a good pair—excellent breeders. Large numbers are reared annually in confinement at the Adelaide Zoo in South Australia, and even nowadays a few people are breeding them regularly in aviaries in this country.

Before the war, however, the very few that occasionally reached European aviaries were often worse than useless as a breeding proposition. Their tiresome habit of either smashing or eating their eggs gained the species an undeservedly bad reputation as breeders in confinement, whereas actually, good breeding pairs are extremely prolific.



One of the loveliest of Parrakeets, the Princess of Wales, was named after Queen Alexandra when she was still Princess. It is an elegant bird

Some years ago we had one particular pair the hen of which laid only two, or at most three, eggs each season, and hatched and reared one of them. The hen of another pair laid a normal clutch, but invariably smashed her eggs, which gave me a violent desire to thwart her. I succeeded in doing this by substituting a wooden saucer for the filling of decayed wood upon which she had been accustomed to lay (and smash!) her eggs. The wooden saucer had a hole in the middle so that each egg laid dropped immediately into a drawer below filled with sawdust, and in this way I managed to collect a full clutch of unbroken eggs, some of which were put under a pair of Redrumps who successfully reared three of the finest young Princess of Wales' I have ever seen.

These birds should be given a hang-up nest box of suitable dimensions, with a filling of several inches of decayed wood, the box being hung in the flight under overhead cover. They are perfectly hardy and should be fed on a mixture of canary, oats or groats, sunflower, monkey nuts, and a little hemp—the last being increased when they have young in the nest. They like the usual wild greenfoods and are very fond of apple and spinach beet. They must, of course, be shut into the shelter each night during the winter.

As Parrakeets go, they are not at all quarrelsome and in a large aviary it should be quite possible to breed them successfully on the colony system.

Queen of Bavaria's Conure

(*Aratinga guarouba*)

THIS is certainly one of the most striking of the Conures, but possesses in a marked degree the failing that has always put me off keeping members of the Conure family, namely a truly ear-splitting voice. This failing will not, of course, deter everybody, but it does me.

The male is a bird of barbaric splendour, being brilliant golden yellow, with flight feathers of a rich dark green. Length is about 14 inches. The female is almost as brightly-coloured as the male, but she is slightly smaller and has a less massive head and beak. This Conure inhabits North-Eastern Brazil, and is rarely imported.

The only experience I have had of keeping Queen of Bavarias was with a pair I looked after one summer before the war for a friend. The noise they made had to be heard to be believed, but they were certainly very beautiful as well as amusing to watch, and quite as playful as Swainson's Lorikeets.

They have been bred by Mrs. Clark of Bromsgrove, Worcs. This was no mean achievement, and as far as I know is the only time they have ever been bred in confinement in this country.

They are said to make intelligent and affectionate pets (if you can put up with their voices!) and to learn to talk a little; also to be very delicate when first imported, needing a heated shelter, or else a flight cage in a warm bird-room during the winter months.

I think they may be one of those birds so rarely imported that the few aviculturists who have ever possessed a pair have naturally hesitated to experiment with them, so that they may be hardier than is generally supposed.

They are extremely prone to feather-plucking, particularly if a single unmated bird is kept in a cage, though even pairs in aviaries are apt to feather-pluck unless given plenty of occupation in the form of fresh branches to whittle. It is important, therefore, to give them a plain diet of canary seed with a little sunflower and a few monkey nuts, as well as a plentiful supply of fruit and greenfood, such as apple and spinach beet.

Red-faced Lovebird

(*Agapornis pullaria*)

ONE of the smallest of the Lovebirds, the Red-faced from Western and Equatorial Africa is also, in my opinion, quite the prettiest of the whole family. Where, in appearance, it most excels its relatives is in its possession of a body colour of that very lovely brilliant green which also adorns the Crimson-winged Parrakeet and the beautiful little Blue-crowned Hanging

Parrot. Its face-mask, too, is a clear, rich vermilion, a much more striking contrast than, for example, the orange-brickish hue of a Nyasa's.

In addition, not the least of its claims to beauty are the brilliant blue of the upper rump, the contrasting black of the under wing-coverts, the bright red beak, and the handsome tail, which, when spread, displays bands of black and scarlet. One great advantage it possesses over most other Lovebirds is that it is very easy to sex. The hen's face-mask is rather smaller than her mate's and orange instead of vermilion, while her rump has less blue on it. The most obvious difference of all is her green instead of black under-wing coverts.

To complete the list of the virtues of this species, it is amiable in mixed company and has a weak and quite inoffensive voice, two compliments that certainly cannot be paid to its larger, though scarcely less beautiful relation, the Peach-faced Lovebird.

Unfortunately, to counterbalance these many merits and in sharp contrast to other Lovebirds, the Red-faced is excessively difficult to breed, so much so indeed that no record of complete success—at any rate in Great Britain—appears to exist. Occasionally, claims have been made but in every case it has proved to be the Peach-faced and not the Red-faced Lovebird that has been bred. Whereas most Lovebirds seem to have but one aim and object in life, namely, to reproduce their kind with as little delay as possible, the Red-faced not only refuses to breed in an aviary, but two pairs which Lord Tavistock kept loose at Warblington for several years never made the slightest attempt to breed even under such ideal conditions.

An interesting theory was once put forward that the reason for this disinclination to breed in confinement is that these birds do not nest in ordinary holes in trees but burrow out for themselves a nesting cavity in the soft fibrous bole of a tree fern. It has always been one of my ambitions to breed this species and during experiments I was engaged in just before the war I came very near to success.

As these Lovebirds invariably ignore every type of nest box and even natural logs, I decided to try them with a bale of peatmoss encased in wood except for the top and front of the bale. Shortly after this was put up on brackets against the wooden back of the flight, a small hole appeared in the lower half of the front of the bale. At first, of course, I said to myself "those accursed mice again," but then I was not so sure. One day I caught the hen busy tunnelling away with only her tail still visible, but she flew off as soon as she saw me.

The tunnel was exactly like a mouse hole, and I watched its progress with great interest until finally the hen disappeared from view and was obviously sitting. Eventually, as there was no sign or sound of young ones and the hen had reappeared, I had the bale of peatmoss taken down and sawn in half, and what was revealed was most interesting. They had tunnelled into the peatmoss for perhaps twelve inches and had then gone straight upwards. The hen had then doubled back and at the end of this upper tunnel, which, of course, was above and parallel to the one below, she had scooped out a nesting chamber about twice the size of a cricket ball.

In this chamber were several eggs, one or two of which contained almost-hatched young ones dead in the shell, and I am certain that this was because

conditions in the nest were too dry. I had plans for remedying this defect, but then war broke out so we parted with the pair, and that was the end of what had been an interesting and very nearly successful attempt to breed Red-faced Lovebirds.

It is, perhaps, of interest to add that I was at the same time experimenting with another pair, but in a different type of aviary. In this case the results were the same, even to the curious construction of the tunnels and nesting chamber.

The Red-faced Lovebird was among the first members of the family to be imported into this country, there being indisputable evidence that it had the status of a lady's pet as long ago as the end of the sixteenth century.

When first imported, they are delicate and must be kept very warm. To make matters worse they can seldom fly, their flight feathers usually having been cut by the trappers. Once recovered from the journey, however, and thoroughly acclimatised, they are quite hardy and can be wintered out of doors in an aviary that has a dry, draught-proof shelter into which they should be shut each night during the winter.

Their food should consist of canary seed and millet, with the addition of a little hemp and sunflower seed, and the usual greenfoods. They are fond of millet sprays, and the ones I kept ate a little apple if it was cut in a thin slice and pushed through the wire netting, close to a perch.

Red-sided Eclectus Parrot

(*Lorius roratus pectoralis*)

THESE parrots are famous for the totally dissimilar plumage of the sexes which gives the impression that they are two birds of different species. The male is brilliant grass-green with deep royal blue in the wings and the outer tail feathers are of the same rich colour. There is a large patch of bright red on the side of the body. The lower mandible is dark but the upper one is orange-red merging into yellow at the tip. The eye is brown and, what I always think gives this bird a curiously un-parrot-like appearance, is set finch-like in the head with no surrounding area of bare skin. Also most parrots have more or less horn-coloured bills—very unlike the brilliantly coloured beak of the male Eclectus and the entirely gunmetal-black one of the female.

The female is bright red, being more crimson on the back wings and tail and there is a blue band across the mantle, and a narrow circle of blue feathers round the eye. There is deep blue in the wings and the abdomen and sides of the body are purplish-blue. The tail is tipped with orange-red.

Total length: about 14 inches.

Distribution: New Guinea and neighbouring islands, north Queensland.

It is always said of Eclectus that they are almost the only birds in which the female is more brilliantly coloured than the male, and this is perhaps true, but



The Adelaide Parrakeet is closely related to the well known Pennant's. The plumage of this species is very variable



The Redrump is a charming Parrakeet. It is a great favourite, a prolific breeder, and an excellent parent

the male's colouring is extremely brilliant also; in fact among the larger parrots (excluding the rainbow-hued Lorries) they are just as outstanding for vivid colouring as are Gouldians among Finches.

My pair of Red-sided Eclectus are housed by themselves in an outdoor aviary with a slightly heated shelter in winter and have done very well under these conditions. They are very shy birds and hurry into the shelter as soon as one approaches. They are also rather silent creatures, but when they do give tongue the resultant "crrah" is a sound of such incredible volume and harshness as to be audible from a great distance. In the open air it is not too bad, but in a room it would almost shatter one's ear-drum and I cannot imagine anyone keeping an Eclectus as a pet indoors unless he were stone-deaf. But in any case they are not, I believe, easily tamed and are far better kept in pairs.

Eclectus Parrots are not always considered easy subjects, and I have found that they need rather more than the ordinary parrot diet to keep them in perfect health and condition: that is to say, while their staple diet should be sunflower seed, monkey nuts and a little hemp, they should be given as much variety as possible in the way of extras. These should consist of a piece of bread soaked in sweetened milk and given twice a week. Also a variety of fruits such as apples, pears, grapes, chopped dates, and blackberries and elderberries when in season. Greenfood such as leaves of spinach beet should also be supplied.

Redrump Parrakeet

(*Psephotus haematonotus*)

WITH the exception of the Budgerigar, this bird is by far the most widely-kept and frequently bred of all Parrakeets. The male has the head, neck and upper breast grass green with a bluish tinge on the head, the mantle being a darker olive-green tinged with brown. The outer webs of the primary coverts and flights are rich dark blue. The rump is red, and the thighs and abdomen pale yellow merging into white on the under tail-coverts; under wing-coverts dark blue; central tail feathers dark green, bluer at the tips, and the outer ones medium blue, broadly tipped with white. The female is mainly brownish-olive, paler on the under surface and tinged with a brighter green on the cheeks and rump. Young hens resemble their mother, while young cocks are merely a much duller edition of their father, so their sexes can be told at a glance as soon as they leave the nest.

Redrumps inhabit Australia where they are common throughout Victoria, New South Wales, and Southern Australia generally. During the winter they are said to be found in quite large flocks which later separate for the breeding season. They are useful birds as they eat and destroy the seeds of many noxious plants and do no damage to crops or fruit orchards. Unfortunately their favourite nesting sites in hollow trees are often purloined by the common Starling which was so foolishly introduced into Australia.

As no doubt is the case with many other aviculturists, the Redrump was the first Parrakeet I ever kept, even Budgerigars coming later. I bought my first pair about 1916. They were kept in an aviary about 12 feet long by 8 feet high by 4 feet wide, roughly one-third of the total length consisting of an enclosed shelter at one end, and some 3 feet of the roof of the flight adjoining the shelter being covered with glass—a good idea in its way, as it provided an outdoor shelter from the rain; but it must have been extremely hot for the birds during summer!

I remember very well a nest box I gave them because I went to infinite pains to make it myself. It consisted of a box about 1 foot square by 2 feet 6 inches long, hung up horizontally, the entrance hole being at one end and at the other a wooden cash bowl which I had seen recommended as a suitable receptacle for the eggs. The fixing of this bowl caused me a good deal of difficulty, but eventually I made a false bottom to the box with a hole in it into which the bowl was lowered and fixed. In this box they reared numerous families.

Redrumps are certainly the birds for anyone who may be thinking of going in for Parrakeets. Indeed, although I have never tried it, I believe they can be bred in a cage, as I seem to remember reading of a Mr. Savage, of Rouen, who many years ago successfully bred them in a large box cage. They are excellent parents and a good breeding pair can usually be counted on to rear from eight to ten young ones in two broods during a single season.

The ideal nest box for the species is one about 10 inches square by 18 inches deep, with a hole near the top and half a coconut husk fixed in the bottom, or, alternatively, it may have a filling of about four inches of decayed wood.

Redrumps are very simple to feed. They should be given canary with the addition of groats in moderation, hemp and sunflower, the last two being increased when they have young in the nest. They are fond of greenfood, and while they appreciate groundsel, chickweed, flowering grass, etc., they will rear perfectly good young ones on seed and spinach beet alone. Most pairs appreciate a small piece of apple pushed through the wire netting, but fruit is not essential for them.

After the young ones are fledged they should, of course, be left with their parents for at least a further fortnight, and even if the hen goes to nest again at once, as she usually does, the cock will continue to feed them until they can fend for themselves. This, of course, applies not only to Redrumps but to all other Parrakeets.

There is, nowadays, a yellow variety of the Redrump which I originally propagated at Keston. The male is a pastel edition of an ordinary cock Redrump, although the red of the rump retains its depth of colour and brilliance. In appearance it is perhaps best described as bearing the same relationship to an ordinary Redrump as the Silver Zebra does to the common form.

The hen Yellow Redrump, on the other hand, is entirely creamy-yellow, which is a great improvement on the normal muddy brownish-green. Yellow Redrumps breed true to colour. It is interesting to note that one of our yellow hens, which was for two years a normal Yellow except for a few red feathers on the rump, moulted out during 1951 with all her plumage spotted with red feathers, particularly on the wings. Possibly, by line-breeding, that

is to say, by mating her to one of her sons, one may eventually produce an all red Redrump. I may say that it was because she had a few red rump feathers that I originally kept this hen, although it never occurred to me that at the end of three years her appearance would change so completely.

Yellow Redrumps are now widely kept and bred, and as they are all directly descended from one bird, I think a short account of how I originally propagated them may be of interest.

In the early nineteen-thirties the late Duke of Bedford lent us for breeding purposes a hen Yellow Redrump (presumably a "sport" wild-caught in Australia) which, as far as I know, was unique even in its own country, and was certainly the first ever to be imported to Europe. I mated this hen to an ordinary green cock and, much to my surprise, instead of their aviary being destroyed by a thunderbolt or blown away by a hurricane, the pair were permitted to survive, and the following spring successfully reared ten fine young ones in two nests, all greens, of course, and by an incredible piece of luck they were five cocks and five hens. I mated these, brother to sister, and their broods contained several yellow hens, exactly like their grandmother. It was, however, only when I mated the original yellow hen to one of her sons that a yellow cock was at last produced, showing that this is a case of sex-linked inheritance.

It is, of course, only by systematic breeding in aviaries that such colour varieties can be perpetuated. Redrumps have hybridised with other Parrakeets, and I myself have bred hybrids between this species and the Stanley, the Hooded and the Mealy Rosella.

Incidentally, Redrumps make excellent foster-parents for rarer Parrakeets, and a pair we had before the war reared three of the finest young Princess of Wales' Parrakeets I have ever seen. In addition they have the asset, which is rather rare in the Parrot family, namely, very melodious warbling voices. A cock I have at the moment has a particularly varied selection of notes which it would be no exaggeration to describe as a song.

Ringneck Parrakeet

(*Psittacula krameri manillensis*)

THE Green Indian Ringneck is one of the commonest birds in its native land where it is frequently taken from the nest and hand-reared as a cage pet. Though possessing no particularly bright colours it is a beautiful bird with a notably slim and elegant figure.

The main body colour is apple green, darkest on the wings and tail. A curved double band, of which the upper half is black and the lower pink, runs from the base of the lower mandible and round the back of the neck thus forming an incomplete collar, and it is from this that the Ringneck takes its name. The green is brightest about the head, the back of which is tinged with

blue, while the bill is red shading into blackish at the tip. The total length is about 17 inches, much of which is accounted for by the long tapering tail.

Ringnecks are easy birds to sex as the hen lacks the pink and black neck-ring. Immature birds resemble their mother, and full adult plumage is not attained until the second complete moult. They inhabit India, Ceylon and part of Burma.

There is also an African race of the Ringneck which differs little from the Indian one, except that it has the head tinged with mauve instead of blue, is a slightly smaller bird, and has a blackish beak merely tinged with pink at the base. It is rarely seen in aviaries in this country.

One very interesting thing about Indian Ringnecks is that there are colour varieties which—unlike those of Budgerigars—have apparently evolved themselves in a wild state. A friend of mine who was stationed in India in the army during World War II told me of a nest in a tree in their compound in which he, being a keen aviculturist, naturally took great interest. When the four young ones eventually fledged, three were ordinary green ones but the fourth was a blue.

The Blue variety is a very beautiful bird indeed, though it is not by any means the vivid sky-blue of a Blue Budgerigar, being more of a soft powder blue, darkest on the wings and tail and with a black and white neck-ring. The shade of blue is, in fact, as one would expect, much the same as that of Mr. Ezra's famous pre-war strain of Blue Alexandrine Parrakeets.

I believe one of the Indian Maharajahs had a pair of Blue Ringnecks before the war, which he kept—so legend has it—in a cage made of pure gold. There were no breeding facilities although doubtless the birds themselves would have appreciated these more than the golden cage! It is said that efforts were made by wealthy European aviculturists to induce him to part with these treasures, but while money meant little to the Maharajah, this particular pair of birds apparently meant much, although he had no intention of breeding from them. And so the pair of Blue Ringnecks remained, I believe, in India.

The late Duke of Bedford had the first pair of Blue Ringnecks ever to be imported into this country, and did extremely well with them, breeding a number of excellent young ones. On his death they passed into my care, and I have a nest of young ones as I write. Some colour sports are none too good specimens, but these, in addition to their great beauty, are an exceptionally fine pair of Ringnecks, as such.

The cock, the Duke noted, is an uncertain-tempered bird, being inclined to attack his newly-fledged young ones. Out of the breeding season, he is also bad-tempered with his wife, lunging at her if she tries to sit on the same perch. In this he is quite exceptional, as it is usually the hen Ringnecks that are short-tempered.

The next Ringneck colour sport to appear will presumably be an Albino.

The other colour variety of the Ringneck is the Lutino. I must confess I had always looked upon this as a fairly modern invention like Lutino Budgerigars until, on re-reading Greene's "Parrots in Captivity" I found, much to my surprise, that it was already in existence so far back as in the eighteen-seventies, though only, I gather, as a much-prized bird in India. It is of great beauty, the green of the normal bird being replaced by a rich clear buttercup

yellow, while the pink and black neck-ring is retained and the eyes, of course, are pink, as in all Lutinos.

I have always tried to maintain a breeding stock of these lovely Parrakeets, and in one of the best seasons a Green hen mated to a Lutino cock reared two Greens and one Lutino, while a Lutino hen mated to a Lutino-bred cock reared three Lutinos and two Greens.

On one occasion I tried a Lutino cock mated to a Lutino hen, and though they at first bred fairly successfully, rearing three Lutinos their first year together, subsequent broods were smaller each season until eventually they became unproductive. I then decided to try a change of partners, mating the hen Lutino to a Lutino-bred cock, and the Lutino cock to an ordinary Green hen. The result of this swapping of husbands was all that could be desired, and both pairs bred most satisfactorily. The Lutino hen did particularly well one season, producing a fine brood of three Lutinos and two Greens. At the time of writing, I have a pair of Lutinos which produce good young ones.

Male Ringnecks have a most quaint courting display, drawing their plumage very tight and squirming about in the oddest positions, one of these being with head low down while glancing coyly upwards at the hen. The following extraordinary action which I have observed on several occasions takes place when a male Ringneck is feeding his wife. Letting go of the perch with the foot nearest to her, he proceeds to tap smartly three times with, as it were, his open palm, on the perch before each feed. The result is a sort of One . . . two . . . three . . . go! One . . . two . . . three . . . go!, the hen, meanwhile, looking anxious lest she should not be ready at the right moment!

Ringnecks are hardy birds, but it is most important that they should be shut in their shelter each night during the winter months as their feet, particularly those of Lutinos, are apt to get frostbitten in spells of hard weather if they are allowed to sit about in the early morning on frost-rimed perches. Such hard spells, however, are usually sunny during the day and I never have the Ringnecks let out into their flights until the sun has been up long enough to thaw the rime from the perches.

They will live and breed well in aviaries of quite moderate dimensions, of an overall length of, say, 15 to 18 feet, but of course the larger the aviary you can give them the more you will be able to appreciate their marvellous powers of flight. At liberty I know of few other Parrakeets which indulge in such wonderful aerial displays.

Lord Tavistock, writing of these Parrakeets in his book "Parrots and Parrot-like Birds," said that they are extremely destructive to any unprotected woodwork in their aviary, but I have found that their destructiveness is confined chiefly to chewing up their perches, which have to be frequently renewed.

Before the war I used to give Ringnecks nest boxes of the grandfather clock type to breed in. These, however, are somewhat unwieldy contraptions to set up and get in and out of an aviary, so I decided to try them in boxes hung up in the usual way on the front of the shelter under overhead cover. In these they have reared broods whose quality could hardly be bettered.

As I think they dislike shallow boxes I have them made about 10 inches square by 3 feet deep with a filling of about 6 inches of decayed wood for the

hen to bite up to form a depression for the eggs. It is important that the wood should not be too decayed and soft or she will reduce it to the consistency of sawdust, and the eggs are liable to become buried in it.

They are usually early breeders and may be given their nest boxes in March. In this respect they need rather careful watching because if a hen in breeding condition is left too long without a box she is quite capable of scalping her husband, presumably holding him responsible for failing to provide her with one!

Ringnecks should be fed on canary, groats, sunflower and monkey nuts with a little hemp, the amount of which can be increased when they are rearing a brood. At such a time it is a good plan to give them a morning and evening feed of bread soaked in sweetened watered milk. As greenfood they should be given seakale beet and this should be picked with as much as possible of the fleshy stalk which they will eat before starting on the leaves. They are also very fond of apples.

Ringnecks make charming pets if tamed when young, and they will sometimes learn to talk a little. For this purpose young cocks are much preferable to hens as they are better-tempered, make better talkers and become more attached to their owner. They are very intelligent birds, and the Indian natives teach them to do all manner of complicated tricks. One of the most famous and adept of these performing Ringnecks was owned by the President of the Avicultural Society, Mr. Ezra.

One of its numerous tricks was to pick out a particular card in a pack. The cards were laid out separately face-downwards in a row on a table, and his owner would then name a card and tell the bird to pick it up. The Ringneck would then walk along beside the row of cards, his owner meanwhile placing his hands on the table. The way the trick was done, I believe, was that when the bird came to the right card, his owner would slightly move one thumb, which would pass unnoticed by the spectators, but not by the Ringneck, as it was the signal for him to pick up in his beak that particular card!

Rock Grass Parrakeet

(*Neophema petrophila*)

I MUST confess that of all the Grass Parrakeets this is the only one about which I have never been able to work up much enthusiasm. The male Rock Grass is dull brownish-olive, yellowish on the abdomen and under tail-coverts. The lower edge of the wing is dark blue outlined at the top with a pale greeny-blue, and the frontal band is of the same two colours; outer tail feathers are yellow, the two central ones being dull bluish-green.

The colours of the female are rather duller than those of the male, in fact, the difference between the sexes is much the same as in the Elegant, the relative they most nearly resemble, but, of course, with the lovely golden-green of the

latter's plumage replaced by a muddy olive colour and the turquoise blue areas by dull greeny-blue.

Rock Grass Parrakeets inhabit the coastal areas of South and Western Australia, and perhaps the most interesting thing about them is the striking difference in their habits and habitat from those of all the other Grass Parrakeets, which are inland birds mostly frequenting tree-studded grasslands, whereas Rock Grass prefer the company of sea birds and are found on precipitous cliffs directly facing the sea, and on small rocky islands off the coast.

Apparently they never nest in holes in decayed limbs of trees as most Parrakeets do, but instead lay their eggs, as do our coastal Jackdaws, in suitable cavities in the cliff-face, or under the shelter of overhanging boulders on the shores of the rocky islands they frequent.

Incidentally their dull colours are probably a considerable protection to them in their (for a Parrakeet) very unusual habitat and must make them difficult to see among the greenish-grey of rocks, whereas if they were the bright grass green of a Splendid or Turquoise, they would provide a sitting target for Hawks and other birds of prey.

My experience of keeping the Rock Grass is confined to a pair we had before the war. They were fat birds when received, and as they took a minimum of exercise in their outdoor aviary it is hardly surprising that, despite a frugal diet of canary and millet, they soon became fatter still. Of course, they may have been an old pair which had already spent many years in an Australian aviary before being sent to this country.

At any rate, the net result was that the corpulent couple eventually, and rather surprisingly, came into breeding condition and disported themselves in the flight, which brought on such palpitations that I thought at any moment one or both of them would drop dead of apoplexy. However, they survived these unwise exertions, and the hen, to my astonishment, even took to the nest box and was safely delivered of a full clutch of eggs!

After watching the cock puffing and blowing about the aviary, I never had much hope of any of the eggs being fertile—nor were they. I was, however, interested to see how willingly the hen took to an ordinary Parrakeet nest box, as I thought it quite possible that she would refuse to go to nest at all unless provided with some semblance of her natural nesting site, such as rocks and boulders on the ground.

Rock Grass Parrakeets should be fed like other Grass Parrakeets, except that all such fattening seeds as hemp, sunflower and groats should be entirely omitted from their diet. It might even be safest to feed them on nothing but canary and millet, together with a liberal supply of greenfood. They have been bred in confinement in Australia, but even there it seems to be the exception rather than the rule for the eggs to be fertile.

The only instance of their having been bred in Europe is one recorded by Dr. Russ in Germany during the eighteen-seventies when he apparently bred them—of all improbable places—on the floor of a flight cage! Possibly he managed to get hold of a pair that were young and slim. In any case he was most fortunate to get fertile eggs in a cage from a species that is notoriously infertile even in an aviary.

I expect that Rock Grass Parrakeets would prove as hardy as Elegants.

Rock Peplar Parrakeet

(*Polytelis anthopeplus*)

THE Rock Peplar, from South and South-west Australia, Victoria and the interior of New South Wales, has never been very popular with aviculturists, probably because its plumage lacks any very brilliant colours, though I must say I always think a male in perfect condition—particularly one of the yellower race—is a very handsome bird indeed.

The male is pale yellow with a faint greenish tinge, this being darker and of a more olive hue on the crown and back of the neck. The mantle and scapulars are bluish-green, while the greater upper wing-coverts and primary coverts are darker steel blue and the inner ones ruby red with yellow tips. The outer webs of the flights are dark steel blue, as also is the upper surface of the long tail. The beak is red. The total length of the bird is a little over 16 inches. It has a rather more stocky and less streamlined figure than its very elegant relative the Barraband's.

Females are similar except that the male's yellow areas are replaced by olive-green, with the tail feathers dark greenish-bronze, broadly bordered with salmon pink on the undersides. It is the tail that proves the surest method of sexing adult Rock Peplars. Some cocks have almost the same olive-green hue as hens, but in what is much the loveliest race, the yellow body-colour, with only the faintest tinge of green in it, makes a lovely contrast to the steel blue and ruby red in the wings and tail. Young birds resemble their mother but the yellow, particularly in the case of young cocks, soon starts to show through the olive colour.

Although Rock Peplars, particularly hand-reared specimens, tame easily I do not like to see them in cages, as they are such a joy to watch on the wing. Their aviaries should, therefore, always be as large as possible, length, of course, being of more importance than breadth.

Before the war we used to house our Rock Peplars in aviaries with flights about 25 feet long by 7 feet high by 5 feet wide, and in these they bred quite satisfactorily. Their nest box should be either of the grandfather clock or hang-up type and should have the usual filling of decayed wood. They should be fed on a mixture of canary, sunflower, monkey nuts and hemp, the latter being increased when they have young in the nest. They are very fond of seakale beet and apple. Hardy birds, they need no artificial heat in winter.

Roseate Cockatoo

(*Kakatoe roseicapilla*)

K NOWN in its native country of Australia as the Galah, the Roseate is much the commonest of the Cockatoos, and before the Parrot ban came into force, hundreds of these birds used to be imported annually, and being then of little value they did not, to say the least, receive "priority treatment" at the hands of some of the dealers. I was always sorry for the wretched creatures herded together as they often were in cages of quite inadequate size under indescribably filthy conditions.

Roseate Cockatoos are really too well known to need a detailed description, so I think it will suffice to give a general idea of the bird's appearance. The whole of the upper parts are silvery-grey; the helmet-shaped crest is a mixture of pink and white, the breast and underparts being mainly a deeper pink—very much the colour of strawberries and cream. Length is just over 14 inches.

Both sexes are alike except for the eyes, the iris of the male being so dark as to make his eyes appear almost black, while those of the hen are of a pinky fawn colour. Her crest, too, is less white and more suffused with pink than that of the male. Thus adult specimens are perfectly easy to sex. When first fledged, young ones have all the colours rather paler and duller, the pink of the breast having a pale greyish tinge and the crest being less well-developed. At this age the male's crest has a pink suffusion while that of the female is greyish.

There is a very beautiful mutation of the Roseate which differs from the common form in having all the grey areas of the plumage snow-white. The pink areas are retained and appear to be of a deeper richer shade—possibly in contrast to the dazzling white of the rest of the plumage.

These lovely "sports" are rare, and the only ones I have ever seen were in the late Duke of Bedford's collection. He lent me a cock for breeding purposes before the war. Unfortunately, however, like so many abnormally-coloured birds, he proved useless as a breeder, merely regarding his wife's eggs as toothsome morsels obligingly provided for his breakfast! The white strain has yet to be established, and it is greatly to be hoped that one day this will be achieved.

Roseate Cockatoos are found practically everywhere inland in Australia, but they do not frequent the coastal areas. They are said to congregate in large flocks in winter which separate and pair off at the beginning of the breeding season. They are held in abomination by Australian farmers owing to their habit of raiding fields of ripening grain. They are also, I believe, extremely difficult to shoot because, when engaged in foraging, they make a practice of taking turns as sentry in the nearest isolated tree, so that the temporary, as it were, "fire-watcher" can raise the alarm at the approach of the man with a gun.

While, of course, one cannot but sympathise with the Australian farmers, the method they have, I believe, adopted for the wholesale destruction of Roseates—namely the poisoning of the water-holes at which they drink—has



The Roseate is the commonest of Australian Cockatoos

inevitably had deplorable results. In the drier parts of Australia the birds for miles around habitually assemble in the morning and evening to drink at one of these water-holes, and if the water has been poisoned the fearful slaughter that must ensue among the bird population of the district can be imagined.

I shall never forget an Australian telling me how, on one occasion, as he approached a field close to a water-hole he was astonished to see that, from a distance, it appeared to be dotted with purple and yellow crocuses, but that as he got closer he realised that they were hundreds of poisoned Gouldian Finches lying dead on their backs.

Another Australian—not, I need hardly say, a farmer!—told me of what he considered to be one of the loveliest sights in nature, namely, a vast flock of Galahs turning and wheeling against a stormy sky, at one moment almost invisible with the grey of their backs merging with the dark grey background of clouds, and the next a wondrous transformation as the whole flock wheeled in unison, suddenly revealing the glorious rosy pink flush of their breasts.

Roseates, if taken young enough, that is to say shortly after they leave the nest, often make charming and affectionate pets and will learn to talk a little.

Their noisiness is merely due to a passing mood of cheerful exuberance which overcomes them morning and evening, causing them to spread their Roman helmet-shaped crests and give vent to cheerful cries which might, while they last, be a bit overpowering in a sitting room, but are, to my mind, a gay and pleasant sound out of doors.

This morning and evening chorus, however, does not last long, and I do not consider that at other times they can be considered unduly noisy for Cockatoos, although if an enemy, fancied or real, is sighted, they spread their wings, raise their crests and kick up a truly hideous din which usually has the desired effect of making the intruder beat a hasty retreat. This, I am convinced, they thoroughly enjoy doing, and it is amusing to watch them with our farm cat who never takes any notice of the birds, but spends her time quietly, and very effectively, mousing round the aviaries. We have had her for about three years, and all the other birds have long ago got used to her, but if she ventures anywhere near the Roseates' aviary she is greeted by a din as if all hell were let loose, and hurries away with flattened ears as much as to say "I can't bear it; I simply *can't*!" and the Roseates, highly delighted, give a few triumphant ear-splitting screams to speed her on her way!

Roseate Cockatoos have a most amusing display and go through the quaintest antics when first given a nest box. Usually the cock takes the lead and flies on to the alighting platform beside the entrance hole. After he has peered gingerly inside to make sure that there are no lurking dangers such as venomous snakes within, he invites the hen to come and sit beside him. They then both squat rather low and do a kind of nautical roll by rhythmically lifting up first one foot and then the other. All this is accompanied by rapid clicking, nibbling noises with the beak, which Roseates always do when feeling affectionate, and at the same time they periodically glance coyly at each other and preen each other's crests or—as it has been aptly described: "do each other's hair"!

At frequent intervals during this session of squirmings, nibblings and caresses, the partners will change places, which is a laborious and difficult manoeuvre when two large birds are seated side by side on a small wooden platform. But the hazards entailed always seem to add rather than detract from the pleasure, and it is fair to say I have never yet seen one actually fall off!

Adult Roseate Cockatoos are excessively hardy creatures, so it is quite unnecessary for their aviary to have an enclosed wooden shelter, which in any case they would lose no time in biting completely to pieces. All they need is an aviary 5 feet wide by 7 feet high by about 18 feet long, the North-facing end of which has the back, top, and sides boarded over, *outside* the wire netting (so that they cannot bite the wood), for about one-third of the length of the aviary; and it is, of course, in this sheltered part that the nest box should be hung.

The aviary should be covered with the strongest gauge inch mesh netting, and if the framework is of wood the netting should be nailed on to the inside of the wood instead of the outside as in an ordinary aviary, as this makes it impossible for them to bite it to pieces.

Ordinary perches are quickly reduced to something closely resembling a heap of sawdust, after which you find them clinging to the wire with reproachful expressions as much as to say: "You might *at least* provide us with a perch

to sit on!" I have found that the only perch that will really resist their beaks is one made from that hardest of woods, teak; oak will also hold out for some time. It is important to remember, however, that this perpetual whittling away at their perches is not just wanton destruction but a natural method of exercising their beaks, so although the main perches should be of hard wood, a natural branch or perches of softer wood should periodically be provided for their exercise and amusement.

To provide them with an ordinary wooden nest box is quite useless, as there will soon be nothing left of it. I find that the best nest box for them is a sort of armour-plated one; that is to say, a box made of the thickest wood available and completely covered on the outside with sheet zinc. A small quantity of the usual decayed wood filling can be put in, though actually this is hardly necessary as the amount of whittling they will do to the wooden interior of the box will soon provide a cradle several inches deep for the eggs to rest on.

All I have said with regard to the destructiveness of Roseates applies, of course, to most other Cockatoos as well, so unless one wants a caged pet only, one must be prepared to give them rather specially-constructed aviaries and nest boxes, which to my mind—considering their charm and beauty—is well worth the trouble.

Roseate Cockatoos are good breeders and excellent parents, though in my experience they do not go in for large broods, and a nest of two or three—such as our pair usually rear—can be considered quite satisfactory.

I have bred these Cockatoos regularly for a number of years, and one brood in particular proved so tame that it was hard to part with them. They would fly to the front of the aviary as I approached and delighted in gently nibbling my fingers and exploring them with their soft rubbery tongues; and they much enjoyed having their juvenile crests stroked.

These birds should be fed on canary, sunflower, and monkey nuts, with a limited quantity of hemp, which can be increased during the breeding season. They are very fond of sweetened bread and milk, and this is a particularly valuable food when they are rearing young.

They are extremely fond of all kinds of greenfoods, particularly seakale beet, and almost more than anything else they love the flowers of clover. Our breeding pair take singularly little interest in fruit, refusing to be tempted by even the sweetest of ripe apples, though this is probably exceptional.

Rosella Parrakeet

(*Platycercus eximius*)

THE Common or Red Rosella, from Queensland, New South Wales, Victoria and Tasmania, is the best known and most widely kept of all the Broadtails, and Parrakeet breeders usually start off by keeping either this species or the Redrump, which is discussed on page 211.

The male has the head, neck, bib and under tail-coverts bright vermilion; cheek patches white, sometimes faintly tinged with blue. The back is green and the feathers of the mantle are black, broadly bordered with pale yellowish-green, yellowest near the neck; lower breast and abdomen are yellow and greenish near the thighs. The inner, lesser and median upper wing-coverts are black and the outer wing-coverts and the bend of the wing turquoise blue. The flight feathers are dusky merging into dark blue at the outer edges. The central tail feathers are bluish-green and the outer ones are various shades of blue merging into white at the tips. Length is rather over 12 inches.

The female resembles the male, but her colours, particularly in the case of the red areas, are usually paler and her head is rounder and less massive than that of the cock. Hen Rosellas vary considerably as to the brightness or otherwise of the red areas in their plumage, some being almost as brightly coloured as cocks. Young Rosellas are paler editions of their mother, young males being, in the red areas of their plumage, rather more brightly coloured than young females. They are not always easy to sex, but the shape of the head is the best guide.

There is a particularly brilliant race of this bird, known as the Golden-mantled Rosella, inhabiting a restricted area north of the Darling Downs, in which the red areas are bright scarlet rather than vermilion, the yellow areas a deeper yellow, and the black feathers of the mantle bordered with pure orange instead of greenish-yellow. I have given up breeding the ordinary Rosella in favour of the more brilliantly-coloured Golden-mantled for which there is, naturally, much greater demand.

Rosellas are perhaps the most brilliantly-coloured of all Parrakeets. They may even seem a little too garish for some tastes, and although I myself prefer the Many-coloured Parrakeet, it is really the Rosella that should have been given its name.

Rosellas are quite as pugnacious as the other members of their family, and a breeding pair must always have an aviary to themselves. A male fluffs up his head feathers and wags his tail from side to side if he sights a rival, and also does much the same thing, though not quite so whole-heartedly, when his wife is first given a nest box. This box should be about 10 inches square by 20 inches deep and can either have a half coconut husk fixed in the bottom or a filling of about 4 inches of decayed wood. It should be hung up under overhead cover in the flight about the last week in March or the beginning of April.

Food for Rosellas should consist of a mixture of canary, oats or groats, monkey nuts, sunflower and hemp. Supplies of the last two seeds can be considerably increased when there are young in the nest. They are very fond of apple and greenfood, particularly spinach beet.

After they fledge, the young ones should be left with their parents for about a fortnight, or until they can feed themselves. Careful watch, however, must be kept at this stage because if they are left too long, the parents will turn and kill them, and this applies to most Parrakeets, though more particularly to the Broadtails.

Rosellas have hybridised with many other Parrakeets, and I myself have crossed them with Mealy Rosellas and Brown's, the latter cross being of

extreme beauty. Rosellas are not really suited to cage life, nor easily tamed, but a pair are most attractive and they are free breeders in an aviary. Although hardy, they should be shut into the aviary shelter for winter nights.

Salvin's Amazon Parrot

(*Amazona autumnalis salvini*)

THIS is a rarely imported and a very delicately-coloured Amazon. The general body colour is a soft green with a greyish tinge, merging into brighter green on the throat and cheeks, and the feathers of the mantle, if closely examined will be seen to be bordered with grey. The feathers of the crown are a delicate lavender-mauve, those of the hind-neck being green broadly bordered with lavender and minutely edged with dark grey. The forehead and area between the beak and eye are rose-red, this being also the colour of the eye which is encircled by a patch of bare white skin. The wing-bar is red and the secondaries show blue and green as well. Tail feathers are green, palest at the tips and with a patch of bright red near the base. The beak is whitish-brown. Length is about 14 inches.

The sexes are said to be alike except that the female lacks the red in the tail.

Salvin's Amazon inhabits tropical South America. This description is from a specimen in my possession which, from the way she crouches on the perch, is quite obviously a hen. As there was no chance of getting a husband of her own kind for her, I put her with a young male Blue-fronted Amazon.

She is a very tame and sweet bird indeed and loves being made a fuss of. Even when I had had her only a short time, she greeted me from quite a distance with a wonderful medley of whistlings and chortlings when she saw me approaching her aviary. Her food is the same as that of a Blue-front and she likes, every few days, a small piece of bread which has been soaked in sweetened watered milk, and spinach beet also appeals to her. At first she was not at all keen on apple but eventually become as fond of it as are most Parrots. Although she cannot be said to be a talented talker, as her sole accomplishments in this direction are to say "Hullo" and "Come on" rather hurriedly and indistinctly, she whistles two short tunes very nicely.

Senegal Parrot

(*Poicephalus senegalus*)

AS anybody who has kept one will agree, there are few more enviable possessions than a really tame Senegal Parrot, part of their charm being the fact that they are true miniature Parrots, only about 9 inches long.



Although not usually a particularly gifted talker, the Senegal Parrot makes a delightful and affectionate pet with its colouring of green, grey and orange

The Senegal is green with a silvery-grey head, the lower breast and abdomen being orange-yellow and the flights almost black with a green tinge to the outer webs. The beak is silvery shading to black at the tip, and the short tail, which when the bird is in repose is completely concealed by the noticeably long wings, is dark brownish-green.

They are fairly easy to sex, particularly when several are seen together, as the cock's head is rather darker grey and more massive-looking than the hen's, and his lower breast and abdomen more orange and less yellow. A young Senegal can always be recognised—as is also the case with the well-known African Grey Parrot—by the dark grey iris which later changes to creamy-yellow when the bird becomes adult.

Senegals come from Africa, being inhabitants of Gambia, and most of those which used to reach this country were taken from the nest and hand-reared by the natives. They had a good start, therefore, as pet birds and the most critical period was when they had to be weaned from the boiled white maize

on which they had been reared and brought over to a normal diet of seeds and fruit.

As a schoolboy one of the first things I used to look forward to when I came home for the holidays was a visit to the livestock departments of the various big London stores. I always used to pester my mother until she took me to the one which was my favourite and where I, or rather my mother, bought most of my birds.

One day, when I was about fourteen, we paid our usual visit to this store and I could not be dragged away from a cage containing four young Senegal Parrots which, we were told, had been brought over by a sailor. They were in nestling plumage with the limpid dark eyes that give young Parrots such an innocent appealing expression. One of them seemed particularly appealing to me, and after a rather half-hearted token opposition from my mother we bought it together with a suitable cage. The latter was not an ordinary square Parrot cage, but an all-wire one about 2 feet long which seemed to me a better proposition for such a small Parrot as it could have two perches, one at each end.

I had not quite realised what I had let myself in for, as young Senegals imported on boiled maize are just as tricky a proposition to acclimatise and wean on to a more suitable diet as nestling Greys similarly fed. My little Senegal, however, pulled through and lived for no fewer than twenty-one years in my possession.

Polly was one of the tamest and sweetest things I have ever possessed. She would lie motionless on her back in my hand and would even allow me to put her head in my mouth, always accompanying the latter performance by awed clucking noises as much as to say "Well! . . . Well! . . . what a sight!" She talked a certain amount in her younger days, asking for sugar of which incidentally she wasn't particularly fond, and calling and whistling the dogs only to laugh derisively at them when they obediently appeared in the dining room!

Several times I tried her at liberty but it was never a success. Although it was obvious she had not the slightest desire to stray, she used to fly about getting gradually higher and higher and usually ending up on the topmost branch of some tall tree from which she seemed quite unable to descend. She would remain there saying "Come on Polly" until I climbed up and retrieved her in my pocket, as I needed both hands to climb down with.

Indoors, however, she used to spend much more of her time out of her cage than in it, and would fly after me from room to room, perching on my shoulder or head. I have little doubt that the fact that her cage was her home and not her prison—the reverse I'm afraid being true of all too many "pet" Parrots—was one of the chief causes of her longevity for so small a bird.

Towards the end of her life, when she was about eighteen years old, she used to spend more and more of her time asleep, and though her cage door remained open she preferred to sit quietly dozing on her perch. Finally, when she was twenty-one years old she had some sort of fit or seizure and died in my hand.

I never had any desire to replace her because to me she was irreplaceable, but I have since had a pair of Senegal Parrots in an aviary. They were not



A little bird of matchless brilliance and beauty, the Splendid Grass Parrakeet is one of the rarer members of this family



The Elegant Grass Parrakeet lives up to its name. It is a very quiet little bird and is a willing though not a prolific breeder

tame, so ought to have made good breeders and I should have said they were a very obvious pair, yet, even so, over a period of two to three years, until I parted with them, they never showed the slightest desire to breed.

They were fed on a mixture of canary seed, oats, sunflower seed and monkey nuts, with a little hemp and plenty of apple and greenfood, and were very fond of the midribs of seakale beet. They proved perfectly hardy, wintering successfully in an outdoor aviary in a sheltered situation, and being shut into the shelter shed for the night during the winter months.

My advice to anyone coming into possession of a young hand-reared Senegal Parrot would be to give it greenfood and plenty of ripe sweet apple, and to wean it very gradually from a diet of boiled maize, bread and milk, etc., on to a normal seed diet. Above all it should at first be kept very warm.

Splendid Grass Parrakeet

(*Neophema splendida*)

I FEEL sure that those of my readers who have been fortunate enough to see this exquisite gem in the flesh will agree with me that it is one of the loveliest little birds in the world. But as it is difficult in any written description to give an adequate idea of its brilliance, I think a general description may provide a better picture of the bird than a more detailed one.

The male has the upper parts grass green with a face-mask of the deepest shining sapphire blue which, round the beak, merges almost into black, and at its outer edge into a paler blue and finally into green. The flight feathers are almost black, and the lower edge of the wing is dark blue with a broad area of turquoise blue above. The central tail feathers are dark bluish-green and the outer ones mainly yellow. The lower half of the breast and under surface of the tail are yellow. The upper breast, apart from a few green feathers at the sides, is brilliant scarlet.

Splendids vary considerably as to the extent of this scarlet patch, and I don't think I have ever seen any two males exactly alike in this respect. In old coloured illustrations they are usually portrayed with a neat round red patch about the size of a half-crown piece, but actually the patch is never a clear-cut circle, and it varies enormously in extent. Some of the males I have kept have had only about one third of the breast scarlet; others about half. One example—the finest I have ever kept or seen—had the whole of the breast brilliant scarlet, and as one at least of his sons was equally magnificent, I think there are probably two races of the bird, one of which might well be called the Scarlet-throated and the other the Scarlet-breasted Grass Parrakeet, the latter being if anything the lovelier of the two. The female is green with pale blue on the cheeks and forehead and at the lower edge of the wing.

It is a curious and rather interesting fact that while a cock Splendid is more brilliantly coloured than a cock Turquoise, the reverse is true in the case of

their hens. A female Turquoise, though superficially like a female Splendid, has much brighter colouring, both the green and particularly the blues in her plumage being considerably deeper and richer in hue.

Young Splendids resemble the hen when they leave the nest, but the blue areas of the young cocks are slightly brighter, particularly about the head, and single scarlet feathers start to appear on the upper breast, usually in the late autumn of the year in which they were hatched.

The Splendid Grass Parrakeet inhabits New South Wales and Western and Southern Australia, having been first described by Gould about 100 years ago. Always rare, these matchless little birds were for many years considered practically extinct, the only record of their continued existence being that of a pair which took refuge in the barn of an Australian farmer during a thunderstorm. It is said that he hastily fetched his gun and shot them to add succulence to Sunday's Parrakeet pie!

The Splendid seems always to have been considered a rare and local species in Australia, preferring dry, scrubby country in the interior, where it is never met with in flocks, but usually in isolated pairs, which occasionally have their young ones with them. It is said to be an extremely shy bird, which is in sharp contrast to its behaviour in an aviary, where it is one of the steadiest of the Grass Parrakeets.

The first Splendid to be kept in confinement appears to have been one captured by a Mr. White about the year 1863, after which—except for the barn episode (and I don't know if or when this really took place)—there seems, for some unaccountable reason, to have been no further record of their existence for rather more than 60 years, so it is only natural that they should have been thought to be extinct.

There is, however, a record of two of these birds being received by the London Zoo, I believe towards the end of the nineteenth century, but owing to some muddle in the entry they were recorded as having not only been received, but successfully bred as well, though this claim has since been discredited.

Actually Splendids were first bred in this country at Keston, and for this achievement we were awarded the Avicultural Society's breeding medal in 1935.

It was I think, in 1933 that I first beheld a pair of the fabulous Splendid Grass Parrakeets in the flesh, an occasion which is likely to remain one of the most thrilling moments of my avicultural career. The way this came about was that the Australian Government had presented a pair to H.M. King George V whose interest in foreign birds may have been inherited from his grandfather, the Prince Consort, and was particularly exemplified by a tame Roseate Cockatoo to which His Majesty was extremely attached.

I have been told that this bird would sometimes be sitting on the King's arm or shoulder when he bade a guest goodbye at Sandringham, and also that it was slightly less popular with Queen Mary, as the King used to put it on a towel rail in his dressing room while he was dressing for dinner and—as I can well imagine—the Cockatoo showed a tendency to chew up the towels.

To return to the pair of Splendids. They were looked after for the King by Mrs. Featherstonhaugh, who, at that time, lived at Royal Lodge, Windsor Great Park, and it was she, who by asking me to go over and advise as to their

housing and treatment, afforded me my first and never-to-be-forgotten sight of these wonderful little Parrakeets, which turned out to be far more brilliantly coloured than I had even imagined from reading descriptions and seeing coloured plates of them.

Shortly after this, the late Duke of Bedford obtained a pair which he very kindly sent to Keston. Incidentally, the male of this pair was the particularly lovely bird already referred to, with the whole of the breast scarlet.

They arrived at Keston in the autumn of 1933 and spent the winter in an outdoor aviary with a heated shelter, and although I did succeed in breeding them for the first time in Europe the following year, it was perhaps only natural that being so rare, beautiful and precious, as well as the only pair in the country, except those belonging to the King, they should have had to endure more than their fair share of the "slings and arrows of outrageous fortune." In fact, the thing that astonished me most, was that X, Old Nick,—or whatever you like to call him—did not contrive to dispose of one or both of the Splendids before the breeding season started!

April came round and they were given a box and went to nest at once, and soon the hen was incubating seven eggs. What, I wondered, happens now? I was not left wondering for long, however, because when the hen was about half way through the incubation period, the wings and feet of the cock suddenly and unaccountably became completely paralysed, and although he eventually recovered, I was confronted with the immediate problem of what to do with the seven eggs. As it was a particularly large clutch it seemed to me that if all, or even most of them, hatched it was most unlikely that the hen would rear them single-handed.

Eventually they were taken away and divided between a hen Turquoise and a hen Bourke's, whose eggs were at a similar state of incubation. All seven eggs hatched, and as this seemed altogether too good to be true, again I wondered what would happen next, and again I didn't have to wonder for long.

Disaster first overtook those under the Bourke's, whose nesting log split from end to end, hurling the recently hatched young Splendids to the ground where—the tragedy conveniently taking place at night—they were found dead in the long grass the following morning.

The Turquoise was permitted to get a little further with her brood, but they eventually came in for X's attention, for just as she stopped brooding them at night, the weather, previously mild, suddenly became arctic and remained so, killing all but the eldest two of the young Splendids, which were both eventually reared. Actually of the seven originally hatched, three survived, the third being reared by a Nyasa Lovebird which had been given a Splendid's egg in mistake for a Bourke's.

Meanwhile the cock Splendid had recovered and been returned to his wife's aviary and they again went to nest, hatching a nice brood about the beginning of August. To begin with all went well, then for some reason all but two of the young ones died, these two being successfully reared. So things did not end up quite so disastrously as at first seemed probable, as we started the breeding season with only two Splendids and ended it with seven. After that I managed to build up a really fine breeding stock of Splendids at

Keston and when war broke out in 1939 and put paid to all one's endeavours, we had, if I remember rightly, either five or six breeding pairs.

Splendids are in some ways very unlike other members of the Grass Parrakeet family, particularly with regard to their voices. One would naturally imagine their closest relative to be the Turquoise, yet no two birds' cries could be less alike. The call of most of the Grass Parrakeets is a weak, sibilant twittering, which is practically inaudible unless one is close to their aviaries. Turquoisines, on the other hand, indulge in high, excited, batlike squeakings which are audible from some distance away; yet the Splendid, which in appearance is the only other Grass Parrakeet which at all closely resembles them, has the low-pitched and rather plaintive piping notes of a Bullfinch.

The behaviour of a cock Splendid when his wife is inspecting a newly hung-up nest box is also unique. He sits on a perch just below and indulges in a waterless bath, fluffing out all his feathers, slightly stretching his wings and tail and vigorously shaking himself.

At first we used to give Splendids an aviary with a heated shelter in winter, or put them into a cage in a heated birdroom, but later experiments showed that they are perfectly hardy, at any rate in an aviary in a sheltered situation facing south, and with a dry, draught-proof shelter into which they can be shut each night during the winter months. Their nest box, hung up under overhead shelter in the flight should be about 8 inches square by about 15 inches deep with either a half coconut husk or a decayed wood filling at the bottom.

Most Splendids will eat apple, and all are very fond of spinach beet and the usual wild greenfoods, particularly flowering rye grass. Their staple diet is extremely simple and should consist mainly of canary with a little hemp and sunflower (increased when they have young to feed). They also appreciate oats or groats, but on no account should they be offered too much if over-fatness is to be avoided.

Splendids would probably be as harmless to growing shrubs and to smaller companions in a mixed collection as are the other Grass Parrakeets, but I feel sure that no aviculturist who was fortunate enough to obtain a pair of these matchless little birds would begrudge giving them an aviary to themselves and every opportunity to propagate their kind.

Stanley Parrakeet

(*Platycercus icterotis*)

THIS charming little Broadtail has always been one of my favourite Parrakeets and because of this I have worked hard, and I think I can say successfully, to bring it once more into circulation as a widely-kept aviary bird.

When in 1933 we received our first breeding pairs of Stanleys from Australia, they had almost completely died out as aviary birds in this country, only

an occasional and usually degenerate specimen being sometimes offered for sale. From then on, until war broke out in 1939, we annually bred and sold increasingly large numbers of sound, healthy young Stanleys, and that our efforts eventually bore fruit is evident from the fact that Stanleys, even with the sterile war years intervening, are now almost as commonly offered for sale as Redrumps.

The male has the whole of the head, neck, breast and abdomen bright red; cheek patches daffodil yellow; feathers of the mantle almost black, some being bordered with red and others with green. The rump is green and there is blue and green in the wings; outer edges of the flight feathers are rich blue. The central tail feathers are green, the outer ones palish blue tipped with white. The total length is about 11 inches.

The female has the brilliant red of the cock's head, neck, breast and abdomen replaced by brick red; the cheek patches a dull, dirty yellowish; no red edges to the feathers of the mantle, and considerably more green than blue in the wings. Although not nearly so brightly-coloured as her mate, a hen Stanley is, nevertheless, a very neat and attractive little bird and I always think that, fully to appreciate these Parrakeets, one should see a pair sitting side by side, as their respective colour schemes make such an effective foil to each other.

One great advantage, from the aviculturist's point of view, which Stanleys (alone of the Broadtail family) possess is the ease with which they can be sexed at a glance; an advantage which anyone who has spent hours trying to make up his mind whether an unusually feminine-looking cock Rosella, and an unusually masculine-looking hen are really a pair or not, will appreciate!

Young birds when they leave the nest are rather duller editions of the female, but the sexes can usually be distinguished at quite an early age by the brighter red foreheads of the young cocks.

The Stanley is a very variable species, particularly with regard to the hen's cheek patches which are sometimes fairly clear-cut dull whitish-yellow areas, sometimes merely represented by a few scattered pale yellow feathers; and occasionally not present at all.

Stanleys are much the smallest of the Broadtails, and although plumper and of a more stocky figure, are actually not much larger than a Redrump, so they do not need such a big aviary as, for example, their large and handsome relative, the Pennant's, which is a great advantage when space is a consideration.

There are, I consider, at least two definite races of the Stanley; one with the mantle feathers bordered with grass green, and the other in which they are bordered with a darker bluish-green. In the former race, the whole of the breast is vermilion and in the latter, crimson. There is to my mind little to choose between the two, both being equally beautiful.

Stanleys are perhaps the best and most reliable breeders of all the Broadtails. Before the war, when all one's birds, probably owing to better and more varied feeding, seem to have been more prolific than nowadays, I can remember one of our pairs rearing ten young ones in two nests in a single season. Individual pairs, however, vary considerably, and from season to season, as to whether they are single or double-brooded.

The Stanley, which is known in its own country as the Western Rosella, inhabits South-western Australia where its range seems to be somewhat limited.

They are said to be quite fearless and very partial to cultivated land in the vicinity of farmsteads, where they are much disliked and persecuted owing to their habit of raiding orchards and garden crops.

Although they are the smallest member of the family, it must not be supposed that they lack any of the fiery family temperament, and each pair must consequently have an aviary to themselves. One about 12 feet long by 7 feet high by 5 feet wide suits them very well. The nest box, which should be hung up in the flight under overhead cover, should be about 10 inches square by 18 inches deep and may either have a half coconut husk fixed in the bottom or a filling of about 4 inches of decayed wood. It should be supplied towards the end of March so that if the pair prove to be double-brooded, they will have plenty of time to rear both their families.

In an aviary, they are hardy, long-lived and very easy to breed and feed, and should be given a diet of canary and millet with the addition of sunflower, groats, and a few monkey nuts (shelled ones being preferable) and a little hemp, which latter can be increased considerably when there are young in the nest. Stanleys like all the usual greenfoods and are very partial to spinach beet and apple.

They have the usual cheerful, ringing call-note of the Broadtails, but it is rather less loud and more melodious than that of the larger members of the family. They need no artificial heat, but their aviary must have a dry, draught-proof shelter into which they should be shut each night during the winter.

Swainson's Lorikeet

(*Trichoglossus hæmatod moluccanus*)

LORIKEETS differ from Parrakeets in having what are known as brush tongues which are furnished at the tip with numerous small, fleshy tubes through which the bird is able to suck up nectar.

Some Lorikeets—Swainson's and the Red-collared (*Trichoglossus hæmatod rubritorques*) in particular—are superficially almost exactly like Parrakeets in their shape and general build, but temperamentally and vocally and in the matter of the food they require, they are totally different.

I have thought it best to include Swainson's and the Red-collared in the same article as the latter is really only a glorified edition of the former, and both birds are exactly alike as to size, temperament and habits, and therefore require precisely the same treatment.

Swainson's Lorikeet is green, with the head dark purplish-blue flecked and streaked with paler blue feathers, and succeeded by a greenish-yellow nuchal collar. The upper breast is a mixture of red and yellow feathers giving a fiery orange effect, and there is a patch of dark blue in the middle of the lower breast. An added touch of brilliance is contributed by the under wing-coverts which are orange, and the bill which is bright sealing wax red tipped with

yellow. The flanks are orange and green, and the thighs green, orange and yellow.

The Red-collared differs from Swainson's chiefly by its possession of a double nuchal collar, the first of orange-red being backed by one of dark blue. The hens in both cases are almost as brilliantly coloured as their mates, but, to the practised eye, their heads are perceptibly rounder and less massive. Total length in each case is about 12 inches.

Swainson's Lorikeet inhabits South Australia, Victoria, and New South Wales, while the Red-collared is found in Northern Territory, N. W. Australia. Swainson's are met with in very large flocks.

It has been my experience that the majority of people who keep foreign birds demand bright colours first and foremost, and I can think of few birds more calculated to satisfy their requirements than one or other of these Lorikeets, which indeed may even be a bit too gaudy for some tastes.

That they have never achieved supreme popularity as aviary birds is, I think, mainly owing to two drawbacks they possess—their extreme ferocity towards any other bird they are put with, and the fact that they are not really seed-eaters, their staple food consisting of semi-liquid foods. Our breeding pairs used to come in for endless admiration from visitors to the farm before the war, but when told that liquid food was essential, they were put off from buying them.

Both Swainson's and Red-collared will eat canary seed, and it has even been claimed that they will live in perfect health and rear young for years on a diet consisting solely of hemp, but personally I doubt it. It is possible that they might exist for some time on such (for them) an unnatural diet, but there is all the difference between merely existing and living, and I feel sure that really to live and breed successfully they must have nectar or its equivalent, for the consumption of which the brush tongues with which nature has provided them are so admirably suited.

The best food of all for Lorikeets is Baby Food (I used to give Dr. Allinson's), prepared as for infants and sweetened with sugar, and with a few pieces of bread or spongecake soaking in it or they can be given ordinary nectar mixture. They are also very fond of all kinds of sweet ripe fruit, but seldom take any interest in greenstuff.

Their food is not really very much trouble to prepare, though of course it must be freshly made each day, and should on no account be left in the aviary if it has gone sour. Unfortunately, the copious, liquid excreta resulting from this diet is squirted in all directions, thus making a mess of an aviary shelter, and this unpleasant habit is responsible in no small measure for putting people off keeping Lorikeets.

Then, too, a pair must have an aviary to themselves as they certainly are avian gangsters of the first water, capable, owing to their sinister "combined operations" tactics—which consist of one bird engaging the victim's attention in front while the other creeps up and launches a savage attack from the rear—of slaughtering or putting to rout birds far bigger than themselves.

To set against these disadvantages, however, these two Lorikeets have many saving graces. They are natural clowns, and few aviary birds are more entertaining to watch as they hop, skip and jump about their aviary, albeit these

antics are accompanied by a series of ear-splitting screams and screechings compared with which the voices of most other so-called "noisy" birds are as soothing as the cooing of Turtle Doves.

Sometimes they will roll together on the ground like kittens at play; at others the pair will do a trapeze act, the cock holding on to a branch with one foot, while with the other he firmly clutches one of his wife's feet, swinging her to and fro beneath him like a pendulum!

I have frequently bred both Swainson's and Red-collared Lorikeets, but to do so successfully involves certain problems. For instance, unlike most Parrakeets, these Lorikeets are not hardy enough to winter out of doors in an unheated shelter unless they have a nest box to roost in, and so long as they have a nest box there is no way of preventing them breeding in the winter, other than housing them in a flight cage, without a nest box, in a heated birdroom or heating their aviary shelter.

Both methods are quite successful as far as the birds' health is concerned, but the first has the disadvantage that, as these Lorikeets lay only two eggs in each clutch, and as, furthermore, the young spend a very long time in the nest, the parents cannot be expected to rear many young ones during the six months they are permitted to breed.

Although I am generally averse to allowing continuous breeding, as I think it tends to weaken the stamina of both the parents and their offspring, it seems to have no detrimental effect on these Lorikeets, possibly because they have at most two, and more usually only one young one to rear in each nest, which imposes considerably less strain on the parents than the four or five, or even more, youngsters which will be reared in a single nest by a good breeding pair of Parrakeets. I have had young Red-collareds fledged out of doors at Christmas, but I cannot remember a single case of egg-binding, however cold the weather may have been when the hens were laying.

These birds should be given a Parrakeet nest box of sufficient depth to permit of its having a filling of several inches of decayed wood at the bottom. I have known pairs of Lorikeets to foul their nests, but generally speaking they manage to keep them remarkably clean, though how they do this—considering the liquid nature of the droppings of both the parents and the young ones—has always been a mystery to me.

Tahiti Blue Lory

(*Vini peruviana*)

I COUNT myself fortunate indeed to have had the opportunity of keeping this very beautiful and extremely rare little Lory. The male is a wonderful deep sapphire blue with a high gloss on the feathers, the rather elongated head feathers, which are often slightly raised, being particularly glossy. The cheeks and throat, extending into a large bib, are snow-white, which makes a striking contrast to the dark blue of the rest of the plumage; the tail is quite



Male Lutino Plumhead – an extremely rare and very beautiful mutation of the green Plumhead Parakeet from India



The most brilliantly coloured of the Broadtails, the Golden-mantled Rosella is easy to cater for and a free breeder



The Peach-faced Lovebird is one of the prettiest of this genus. It is, however, extremely spiteful to other birds



The Stanley Parrakeet is the smallest and one of the prettiest of the Broadtails. It is an excellent breeder and very easy to sex

short and wedge-shaped; the feet are yellow, and the beak yellow with a tinge of orange. The sexes are alike except that the hen's beak is paler and lacks the orange tinge.

Part of the charm of these birds lies in the fact that they are true miniature Lories, being, if I remember rightly, about the size of a Peach-faced Lovebird. They inhabit the Marquesas group of islands.

The *Coriphilus* Lories were, I believe, thought to be extinct until about 1936, when some were brought alive to Europe for the first time. It was, I think, the following year that the well-known American aviculturist, the late Mr. Eastham Guild, personally brought over a number of these Lories for the late Duke of Bedford, and it was because the latter asked us to meet them in London for him and house them in flight cages in our heated acclimatising room for the winter, that I had the opportunity of looking after these great rarities.

As they arrived in such excellent condition, I continued to feed them just as Mr. Guild had during the voyage to Europe, that is, on a much watered-down edition of the usual Lorikeet nectar (made with Baby Food). They were also given a few mealworms, as well as plenty of fruit, especially sweet ripe apple of which they were particularly fond. Their nectar, so heavily diluted with water, did not seem a very nourishing diet, but as they were not my property, being only, as it were, on deposit, I was loth to try any experiments with them, so left their food as it was.

Their cage floors were covered with granulated peatmoss instead of sand, in order to absorb more readily their very copious, liquid droppings. Although a number were kept together, there was never anything more than a certain amount of mild squabbling, partly because they were hardly in breeding condition, and partly because—as I always think—there is safety in numbers.

Having wintered very satisfactorily, they were sent to Peasmarsch the following spring, and their owner eventually achieved the great avicultural feat of breeding them successfully. At first, however, he had difficulty with them as he gave them the same food, but in greater concentration, and although this suits other Lories, it proved to be too rich for *Coriphilus*, and there were several losses from liver troubles.

The late Duke of Bedford bred them in a natural, hollow 6 feet high tree trunk filled with peatmoss, and with a shallow layer of decayed wood on top to about 12 inches below the entrance hole. The tree trunk was placed in the shelter, and its base stood in a shallow vessel of water.

He found that both sexes incubated the eggs in turn, and, rather unexpectedly, that the cock spent most of the time brooding the young in the nest, while the hen went out foraging. He also noted that they were spiteful with their own kind when in breeding condition, and that males were even inclined to turn upon and suddenly attack their wives.

As far as I can remember, their voices were weak and inoffensive, in sharp and pleasant contrast to the shrill, strident cries of some other members of the Lory and Lorikeet family. Although I have never had the opportunity of trying to breed these lovely little Lories—and shall probably never see one again—I always look back with pleasure on the few months they spent in my care.

Turquoise Grass Parrakeet

(*Neophema pulchella*)

NEXT to the peerless little Splendid, the Turquoise is certainly the most beautiful of the Grass Parrakeets. The male has the general colour above grass green, while the underparts and under surface of the tail are lemon yellow, brightest on the lower breast and belly, the latter being occasionally tinged with orange, and the yellow of the upper breast having some green feathers at the sides. The under wing-coverts and most of the flights are dark blue, the lower edge of the wings being a rich medium blue.

There is an irregular bar of maroon-red near the shoulder, and the forehead and cheeks, to just behind the eye, are brilliant turquoise blue, this face-mask shading to emerald green at its outer edges and the blue being deepest on the forehead. The tail is green above, the outer tail feathers being tipped with yellow. Length is 8 inches or a little over.

The female is also very beautiful, being mainly green, rather paler and of a more yellowish tinge on the throat and merging into pure yellow on the abdomen. The forehead and cheeks are washed with blue, while the lower edge of the wing has a considerable area of very rich medium blue.

Young Turquoisines resemble the female, and are none too easy to sex when first fledged, the only difference I have ever been able to see at this period being that young cocks—and then only if you view them in a very bright light—have a suggestion of brown on the wing near the shoulder where the irregular maroon bar will later appear. They are very variable, however, and two young cocks recently bred at Keston, left the nest in almost adult colour.

Turquoisines were first described about the end of the eighteenth century. They inhabit New South Wales and South-Eastern Australia, but little of interest seems to have been recorded of their habits in a wild state, though they would appear to have been fairly widely-kept and sometimes bred in confinement in their native land.

In Britain this beautiful little bird is nowadays an extreme avicultural rarity, those we have at Keston being among the very few in this country at the present time.

The history of Turquoisines in confinement is depressingly typical of the general improvidence of aviculturists, for during the middle and latter half of the last century they were very well-known aviary birds both here and on the Continent, being even recommended as suitable subjects for the beginner. They were widely kept and bred even, it is said, in flight cages. Yet as soon as importations from Australia began to dwindle, and finally ceased altogether, the number of Turquoisines in confinement decreased accordingly, until there was not a single one to be found in an aviary anywhere in Europe.

Such a state of affairs can, of course, only have been brought about by the grossest carelessness and mismanagement on the part of those aviculturists who

possessed breeding pairs at a time when it was becoming increasingly obvious that no fresh supplies were to be expected from Australia. One would have thought that those who still had pairs of these lovely little Parrakeets might have got together, concentrated upon breeding from them, and pooled their resources. But nothing of the kind was apparently ever attempted, and soon Turquoisines in British aviaries were merely a cherished memory.

Not long after the 1914-18 war, a few Turquoisines were once more imported into this country and a few aviculturists such as Mr. Whitley, at Paignton, Devon, reared quite a number, I believe, and the fact that they again died out almost, if not quite, completely, must be blamed upon the outbreak of the Second World War.

The first Turquoisines I ever saw were at Warblington in the early nineteen-twenties, and not long after we started our farm the late Duke of Bedford lent us two pairs for breeding purposes. Unfortunately these never flourished quite so well as I had hoped, for not only were the broods they reared disappointingly small, but the parents themselves proved none too easy to keep alive for any length of time, usually succumbing to that autumnal avian scourge coccidiosis, of which so much more is known nowadays as to its prevention and cure. Those we now possess, however, have proved a very different proposition, and are fully living up to the reputation for prolificacy that they gained in the old days.

An imported pair and an odd cock came into our possession rather late in the summer of 1949, the pair at once going to nest. Although only a single young one was reared, it fortunately turned out to be a hen which I was able to mate to the odd cock. From this small nucleus and their progeny, I have bred numerous young ones, including 18 during the 1954 season.

It would be a mistake, however, to suppose that breeding this species is just as easy as falling off a log. For one thing, Turquoisines—particularly young birds of the year—are very prone to coccidiosis, especially during the dangerous autumn months of September and October, when germs and microbes, having flourished all the summer, are at their most virulent just before the first frosts reduce their numbers. Again, Turquoisines, unlike most Grass Parrakeets, are temperamental to a marked degree, and if they could obtain as many divorces as some of the more frequently-married film stars, I have little doubt they would do so!

With Turquoisines you may have what appears to be a perfectly happily-married couple, yet in less than no time the contented atmosphere of matrimonial bliss is suddenly rent with violent squabbings.

These matrimonial rows seem to have two main causes, the commonest of which is that a cock sometimes comes into breeding condition before his mate, whereupon there is bound to be trouble if she refuses to take any interest in the nest box. A second and rather less usual reason for squabbling is caused by the cock chasing the hen about and swearing at her when the young in the nest are perhaps only a week or so old, because he considers—quite unreasonably—that it is high time she went to nest again.

The cock of one of our pairs made a practice of doing this, and as the young ones were piteously crying for food in the nest while their father would neither allow his wife to eat in peace or enter the nest box to feed them, I had to

transfer him to another aviary and hope his sorely-trying wife would rear the brood single-handed, as hen Parrakeets often will.

The staple diet of Turquoisines should consist of canary seed, to which may be added some oats or groats, with a daily pinch of hemp and sunflower. The amounts of the last three may safely be increased when young birds are being reared. I do not myself give millet, as I have heard of cases of nestlings being killed by being fed whole unhusked millet. They are very fond of all the usual wild greenfoods, particularly rye grass and poa annua, and though they are not a frugivorous species in a wild state, they nevertheless become very fond of sweet ripe apple if it is offered in the right way, that is by pushing a thin slice through the wire netting close to a perch.

The nest box should be of the same kind as I have recommended for other members of the Grass Parrakeet family.

Turquoisines are perfectly hardy provided their aviary has a cosy shelter into which they should be shut each night in winter. No artificial heat is necessary. I always put a wattle hurdle over the further end of Grass Parrakeets' flights, as this serves the double purpose of shading them from the hot summer sun, and making them invisible to any Sparrowhawk which may chance to fly over their aviaries.

Ultramarine Lory

(*Vini ultramarina*)

THE Ultramarine or Goupil's Lory is a relative of the Tahiti Blue Lory. It comes from the same part of the world, and is perhaps even more beautiful.

The male has the wings, back and tail a beautiful powder blue. The underparts are mainly snowy white with a broad band across the upper breast of peacock blue, this colour also appearing on the crown, and in spots and markings on the lower breast and abdomen. The beak is yellow, tinged with orange, and darkest at the base. Size is about that of an Abyssinian Lovebird. The sexes are much alike, except that the hen is slightly the smaller bird of the two.

Although these lovely creatures are very small as Lories go, they are not quite the miniatures that Tahiti Blue Lories are. I have never had the opportunity of trying to breed them; indeed, I consider myself very lucky to have been privileged to keep them at all. The reason I was able to do so was because some were brought over for the late Duke of Bedford by Mr. Eastham Guild at the same time as the Tahiti Blue Lories, and both species spent their first winter in this country in flight cages in our heated acclimatising room.

As in the case of the Blue Lories, the watered-down Lorikeet mixture on which Mr. Guild had brought them over proved to be the correct staple diet for them, in addition, of course, to a few mealworms and plenty of ripe fruit.

Ultramarines have a weak, sibilant cry, and though they fly rather heavily, they are very active climbing about among branches or on wire netting.

The Duke achieved the considerable feat of breeding these Lories just before the war, unfortunately at a time when—as he himself wrote in one of the 1939 issues of the *Avicultural Magazine*—"I am sure X only spared the young Lory to leave the nest because it amused him so much to see me too worried by 'crises' to take a proper amount of interest in its welfare, or joy in its appearance!"

The young one was reared in the same type of nest box as he had used successfully for the Blue Lories, and he found that both species needed the same sort of housing and feeding. In each case the hens were very liable to egg-binding and the laying of soft-shelled eggs. He also found that Ultramarines are much gentler birds than their smaller blue relative, and, indeed, are apt to be bullied by them.

Varied Lorikeet

(*Psitteuteles versicolor*)

THIS charming and beautiful little Lorikeet is a bird of which it is rather difficult to give an adequate description, as much of its beauty is due to the various streakings and delicate gradations of colour in its plumage.

The most striking features are its extensive cap of bright vermilion, and the large, golden patch in the region of the ear. The upper breast is vinous streaked with gold, while the abdomen and lower breast are also green and similarly streaked. The back of the neck is dark mauvish-blue, handsomely streaked and speckled with gold; back and wings green, streaked with a paler shade of the same colour. The tail is green, of medium length and pointed; the beak red. Total length is about 8 inches.

They are not by any means easy birds to sex, though colours in some hens are slightly duller than in cocks, and their red caps are a trifle smaller.

The Varied Lorikeet comes from tropical Northern Australia where it is apparently met with in large flocks feeding on the honey from the *Bauhinia* blossoms, and on the nectar to be found among the topmost branches of the flowering *Eucalypti* or gum trees. These Lorikeets were apparently only discovered about 1831.

In a wild state they lay their two white eggs in the hollow, broken-off limbs of trees. It is recorded that if one is captured and held in the hand, its vigorous cries of protest will quickly attract numerous sympathisers and would-be rescuers who will swarm—literally in dozens—all over its human captor. This must be a unique spectacle and would make a wonderful "shot" for the modern ciné camera—particularly in colour.

Just before the war we received a few of these Lorikeets, and though they were easy enough to keep and feed, we found them very difficult indeed to sex.



The Yellow-fronted Amazon is perhaps, after the Blue-fronted, the best known of the Amazons and readily becomes tame. It can be taught to talk

One couple we tried together did, however, turn out to be a true pair, and though housed only in a small aviary measuring about 5 feet long by 6 feet high by 2 feet wide, they successfully reared a young one—the first I believe ever to be bred in confinement in any part of the world, including Australia, and for which we were awarded the medal of the Avicultural Society.

Neville Cayley, in his book "Australian Parrots," says that Varied Lorikeets are "by no means easy to keep in captivity, being very susceptible to cold." I can only say, however, that at Keston we found them quite as hardy as Swainson's, in fact hardier; as the young one we bred spent the winter in an outdoor aviary with an open-fronted shelter, in perfect health and condition, and although it was provided with a nest box to roost in, it never used it, always preferring to roost on a perch.

When it left the nest it was like a slightly duller edition of its parents, except that, oddly enough, it had a patch of brilliant orange-yellow on the back of the neck which was most attractive, and it seemed a pity it had to lose it.

The fact that Mr. Cayley says that Varied Lorikeets are by no means easy to keep in captivity makes one wonder whether their feeding was not perhaps at fault. If, in this country, with its erratic and often very trying climate, they do so well on Baby Food prepared as for infants and sweetened with sugar—the ideal food for all Lorikeets—one would have imagined they should do even better if similarly fed in confinement in their own country.

Our pair bred in a fairly deep nest box hung up under overhead cover, and with a filling of peatmoss with a layer of decayed wood on top.

The young are rather noisy in the box, and sounds of nestlings being fed were first heard in December; but they must have died as the sounds presently ceased altogether. The parents, however, laid again, and by March there was once more the sound of young being fed, so, greatly daring, we peered into the depths of the nest box with the aid of an electric torch, and were thrilled to see a very vigorous and healthy-looking youngster.

Lorikeets are not everybody's birds by any means, but for those who are prepared to take the small amount of trouble entailed by their liquid diet, which has to be freshly mixed each day, and the rather greater amount of trouble their copious liquid droppings entail in the way of keeping their aviary clean, the Varied Lorikeet can be recommended as one of the least gaudy, though at the same time most attractively coloured members of the family, and they are much less noisy than many of their relatives.

Yellow-fronted Amazon Parrot

(*Amazona chrocephalao*)

THIS Amazon is fairly often imported, but it is not so well-known in confinement as the Blue-front. The main body colour is green, rather paler below. The flights are dark blue and green and there is a red bar on the secondaries. The shoulders are red. There is a red patch near the base of the

outer tail feathers, the rest of the tail being green, palest at the tips of the feathers. The crown and forehead are bright orange-yellow and the bill is pinkish brown colour, darker at the tip. Size is about that of a Blue-front.

Distribution: Brazil, Ecuador, eastern Peru, Trinidad and Venezuela.

I have only ever kept one Yellow-front which arrived at Keston in the spring of 1951. It is a very charming bird indeed but by no means a brilliant talker. They have, however, the reputation of being good talkers, but this, as in the case of most species that learn to talk, probably applies chiefly to males and my bird is a female.

Judging by my bird, Yellow-fronts must make most delightful pets, for I have never known a gentler or more affectionate Amazon. She is blissfully happy if she can sit on my shoulder, making curious chortling noises and nibbling my ear! When she sees me the Yellow-front greets me with a selection of the loud ringing clarion calls and chortlings typical of the Amazon family. She arrived here in quite good condition for a bird that had probably been long caged, but not too long to show at once her joy at being in an outdoor aviary.

At first she walked rather gingerly about what must have seemed to her a vast selection of natural branches. Then there came the day when it occurred to her that she might fly. Seeing me at the further end of the aviary she took her courage in both feet (as it were) and instead of climbing along the wire netting as she had always done previously, launched herself into the air and made a quite creditable, if slightly unsteady, landing on the perch nearest the front end of the aviary.

I always think it is quite extraordinary how quickly the plumage of a caged Amazon which has become dry and lustreless will improve in an outdoor aviary, so that even after three weeks or so out of doors one would hardly recognise it as the same bird. I think this is partly due to being in the open air, but even more so to the beneficial effects of rain on their plumage, the green parts of which, curiously enough, go for some reason quite brown when wet, though I have not observed this with other green birds.

The Yellow-front was overjoyed when it first rained after she was put in an aviary. I watched her clinging ecstatically to the wire netting with spread wings and tail, getting thoroughly and delightfully soaked through. Even though her plumage was certainly in better condition than that of most caged Parrots, it steadily improved after that first shower until it recovered the lovely gloss and bloom which should be characteristic of every Amazon Parrot, and which so brilliantly enhances all their colours.

About the middle of May we were able to obtain a fine, though I should say rather elderly Blue-front mate for her. He had, incidentally, the purest and brightest yellow shoulders of any male Blue-front I have ever seen.

He was very cage-cramped indeed and at first the Yellow-front treated him with scant courtesy, snatching away pieces of apple he was given and knocking him off the perch if he was in the way. However, he soon began to recover his vitality and spirits and one morning when they were let out of their shelter the hen appeared with one toe streaming with blood, having apparently knocked the cock off the perch once too often. However, far from resenting this cave-man behaviour, she seemed to think it was just what the doctor ordered, and thereafter treated him, if not with respect, at least as an equal.

Towards the end of June she surprised me by showing signs of interest in the grandfather clock nest box I had given her, and shortly afterwards she laid two eggs which, presumably because she was so out of practice, were strange-looking objects. One was very large with a waist and shaped like an hour glass, while the other was about the size and shape of a green pea! Naturally these were infertile, but she obviously thought the world of them and incubated them assiduously until I removed both eggs and nest box.

The following year she laid and incubated again, but once more the eggs were infertile. Subsequently she was mated to a male of her own species and at the time of writing is just getting her nest box ready to lay again. The two are much alike, but the male has a larger though paler area of yellow on the head.

Her present husband is, I should say, an ancient bird and, on arrival he was very cage-cramped, which necessitated putting several pots of food within easy reach in various parts of the aviary. However, he recovered with amazing speed and is now capable of flying the full length of the aviary if he thinks there is any chance of biting off one of my fingers.

Unfortunately the hen, with a constancy typical of female Parrots, still cherishes a deep affection for me. People often think you are exaggerating if you say that it is usually hopeless to try and breed from tame Parrots; nevertheless it is true and I doubt if her eggs will be fertile.

Yellow-fronted Amazons should be fed, housed and treated in the same way as I have recommended for Blue-fronts. It is equally important to let out caged specimens as often as possible to climb about on their cage and exercise in the room, and to see that they are enabled to keep their plumage in order either by spraying with tepid rain water or occasionally putting them out in their cage in a light shower of warm summer rain.

The important point to remember when putting a long-caged Parrot into an aviary is that its food must be easily reached in a pot at the end of a perch, as in a Parrot cage. Later on it will learn to climb down to reach the food container, but if expected to do so at once it is liable to starve.

Yellow-fronted New Zealand Parrakeet

(*Cyanoramphus auriceps*)

A MOST attractive little Parrakeet which was always an extreme avicultural rarity even before the war, and as far as I can see is always likely to remain so, because, although a prolific breeder, it seems impossible to keep either the adults or their young alive for more than about eighteen months or so.

So rare are these birds in confinement that Mr. D. Seth-Smith, the well-known "Bird Man" of radio fame, and for many years Curator of Birds at the London Zoo, when visiting our farm in the days when we had Yellow-fronted New Zealands, told us that they were the first he had seen.

The male is green, rather paler on the breast, with a red patch on the flanks, a red forehead, and with the front part of the crown yellow. The lower edge of the wings and the outer webs of the primaries are slaty blue in colour, the bill being a pretty silver, shading into black at the tip. A striking characteristic of the bird is the brilliant ruby red iris of the eye. Length is a little over 9 inches. The female resembles the male but is considerably smaller, with a smaller, rounder head. They are at all times easy birds to sex, as this difference in size is apparent even in newly-fledged young ones.

The Yellow-fronted New Zealand is one of the smallest of the *Cyanorhamphus* Parrakeets—a family whose members are, in many respects, quite unlike all other Parrakeets, particularly in their voices and actions. They have, for instance, the curious habit of scratching in the ground like domestic poultry, and this is facilitated by their long legs, which also enable them to run and jump very quickly, and although, of course, they can and do fly from end to end of their aviary in the normal manner, their method of progression is generally more of the hop, skip and a jump variety.

It is interesting, too, that while most Parrakeets can run more or less quickly *up* wire netting, Yellow-fronted New Zealands can, in addition, run very rapidly *down* the netting of their aviary from top to bottom. All this makes them most fascinating, and before the war I used to spend a long time watching them, when I should have been doing other things!

Their voices are not all what one would expect from a member of the Parrot family, and resemble the bleating of sheep heard from a distance.

The first Yellow-fronted New Zealand to arrive at Keston about 1933 was a single hen which I mated to a cock Blue-winged Grass Parrakeet. The two became so attached to each other—the cock frequently feeding the hen—that a brood of unique hybrids seemed possible, but nothing came of it.

A male Yellow-fronted which arrived subsequently was put with her, but he was not a very good specimen and she would have nothing whatever to do with him, so again she laid and incubated a clutch of infertile eggs. Then, by a great stroke of luck, we were able to obtain two fine males, the larger of which was mated to the hen, and she at once fell for him in a big way. She laid again almost at once—six eggs this time—and not only did all of them hatch, but the whole brood of six young ones was successfully reared.

This was certainly a propitious start, but better was yet to come, as on another occasion a brood of seven was reared, and, of course, one began to indulge in dreams of working up a really large breeding stock, perhaps to the extent that, while they were far from common in their native land, they would eventually become common and widely-kept aviary birds in this country.

Dreams, however, have a distressing habit of fading, and my dream with regard to Yellow-fronted New Zealands started to fade very quickly indeed, for it soon became apparent that, while they were exceptionally free and prolific breeders, their rate of mortality in confinement was such that any attempt to build up a breeding stock was foredoomed to failure.

I tried them in every way and on every diet I could think of. I housed them in unheated outdoor aviaries; in aviaries with (in winter) a heated shelter; in large flight cages in a warm birdroom; with and without hemp seed (of which they were inordinately fond); with mealworms and bread and milk—

both of which they refused to sample. Always, however, the result was the same. They would live—apparently in perfect health and breeding freely—for about eighteen months and then, one by one, they would start dying until eventually, much to my regret, I had to give them up in despair.

That there is some very real, though at present, unaccountable difficulty in keeping these Parrakeets alive for any length of time, was borne out by the late Duke of Bedford's experience with them, as he, too, eventually gave them up as a bad job, his reasons for doing so being precisely the same as ours.

It is much to be hoped that some ingenious aviculturist of the future—should he be fortunate enough to obtain a pair of these very charming and entertaining little Parrakeets—will solve the problem of keeping them alive for their allotted span, for, being such prolific breeders, they should then soon become as widely-kept aviary birds as Redrumps.

Yellow-fronted New Zealands should be fed on a mixture of canary seed, millet, sunflower seed and hemp, the last being given sparingly except when they have a brood to feed. They might also take to shelled monkey nuts and groats. They are fond of ripe sweet apples, spinach beet and the usual wild greenfoods.

Their nest box, which should be about 9 inches square by 16 inches deep, with either half a coconut husk fixed at the bottom, or else about a four-inch filling of decayed wood, should be hung up, under overhead cover, in the flight.

Finally, I suppose I ought to give a word of warning as to the alleged wife-murdering tendencies of these Parrakeets. The late Duke of Bedford in his book "Parrots and Parrot-like Birds" says of this species: "Criminal cocks are of frequent occurrence. Canon Dutton told me of one which not only killed but also ate its companions, and there are records of wife-murder as well!"

Having read this with considerable alarm, I kept a very close watch on the new cock when he was first introduced into the hen's aviary, but I am bound to say that he never caused me a moment's apprehension, as he never showed the slightest sign of attacking his wife and was at all times a model parent to his offspring. Nor, incidentally, did the latter ever indulge in anything but the usual occasional mild squabbling as they grew up, after they had been taken away from their parents and given an aviary to themselves. The other male, received when adult, was also of entirely non-aggressive temperament.

I do not think, however, it would be wise entirely to ignore the above-mentioned accounts of murderously-inclined individuals, as it may be that I just happened to be lucky in the specimens that came into my possession.

Yellow-naped Parrakeet

(*Platycercus zonarius semitorquatus*)

THIS is a large, powerful and very handsome Parrakeet. The male has the upper surface and the upper half of the breast a rich dark green, while the lower half of the breast and the under tail-coverts are greenish-yellow and the

thighs darkish green. The head is jet black with a red frontal band and a primrose yellow nuchal collar. The cheeks are bluish; flight feathers dusky brown, dark blue on the outer webs. The central tail feathers are dark green, the outer ones blue tipped with bluish-white. Total length is about 15 inches.

The female resembles the male but her head is rather smaller and rounder and not quite so intensely black, while in place of the cock's red frontal band she has merely a few small red feathers.

Yellow-naped or Port Lincoln Parrakeets inhabit South, Central and Western Australia. There are several races of this bird of which the one best known to aviculturists is Bauer's Parrakeet, which is a smaller edition of the Port Lincoln with the upper surface a rather paler green and no red frontal band.

Port Lincolns are said to be sometimes found in small flocks in Australia, presumably consisting of an adult pair with their young ones of the year. They are also (and I can quite believe it) said to be extremely pugnacious during the breeding season, and to be perpetually on the alert to see that no other members of their kind invade their nesting territory. They are also, I believe, great apple orchard raiders, much disliked and persecuted by fruit farmers.

Pugnacious—even at complete liberty—there is a case on record where they would not tolerate any bird that dared to dispute their supremacy, and that a liberty Barnard which was unwise enough to do so, was killed and literally torn limb from limb by a pair of Port Lincolns.

It, is perhaps, superfluous to add that a pair of these birds must always be given an aviary to themselves, and that only one constructed of very stout wire netting will resist their powerful beaks.

Before the war we had both Bauers and Port Lincolns at Keston, and though small nests of young ones were reared, our particular pairs did not prove to be nearly such free breeders as are most Broadtails. This experience was, I believe, exceptional, as I have heard of people breeding them quite freely and they are said to be sometimes double-brooded in confinement.

Port Lincolns are extremely hardy. They will winter successfully in any aviary which ensures them protection from wind and rain, so an entirely enclosed wooden shelter into which they can be shut each night, during the winter, is not a necessity. They have a clear, ringing whistling call which is very attractive when heard in the open air. Their feeding and the nest box with which they should be provided, should be the same as I have recommended for Pennant's Parrakeets.

Tame Port Lincolns are on record which sometimes learned to say a few words, but they are not to be recommended as caged pets, because the more they lose their fear of humanity, the less they are to be trusted. In other words, they become cheeky rather than tame, and no one who has tried to scratch the head of a tame Port Lincoln—and been bitten for his pains—will wish to repeat the experiment!

BARNARD'S PARRAKEET (*Platycercus zonarius barnardi*) is a very beautiful but rather seldom-imported relative of the Port Lincoln Parrakeet. It is green with a strong tinge of blue. The forehead is red and the head and mantle are tinged with dark grey. The lower breast and a half-collar round the nape of the neck are yellow. The sexes are alike. They are hardy and quite good breeders, and inhabit south and south-east Australia.

Yellow-rumped Parrakeet

(*Platycercus caledonicus flaveolus*)

ON one occasion I housed a pair of these birds temporarily for a friend, but not long enough for them to have a chance to breed. It is really hardly necessary to give a detailed description of this Parrakeet as a very good idea of its appearance can be conveyed by saying that it is like a rather small Pennant's with all the crimson areas of the latter's plumage replaced by a yellowish-straw colour with a tinge of olive; the only red in its plumage being



A large and handsome Australian Parrakeet of aggressive disposition, the Yellow-naped is not to be trusted in mixed company. It is very hardy

a red frontal band. Total length is just over 12 inches, about 2 inches less than a Pennant's.

The female has a rather smaller, rounder head; a wider and less clearly-defined red frontal band; less blue and more bronze-green in the central tail feathers, and a brickish-red tinge on the throat and upper breast.

The Yellow-rumped is found in Victoria, New South Wales and adjacent parts of South Australia, where it is said to be a shy bird usually found among eucalyptus trees growing near swamps or on river-banks. And not only does it nest in the hollow limbs of these trees, but it depends upon them to a great extent for its food, feeding as it does upon their seeds and blossoms.

Yellow-rumps were always rare birds in confinement in this country, which may be partly accounted for by the fact that there was not much incentive to bring them over, as they are so much less brightly coloured than most of the other gorgeous members of the Broadtail family.

I have always wanted to try crossing a Yellow-rump with a Pennant's as the rather attractive Adelaide Parrakeet is exactly intermediate in appearance between the two, being neither the crimson of a Pennant's nor the straw-yellow of a Yellow-rump, but a brickish-pink colour.

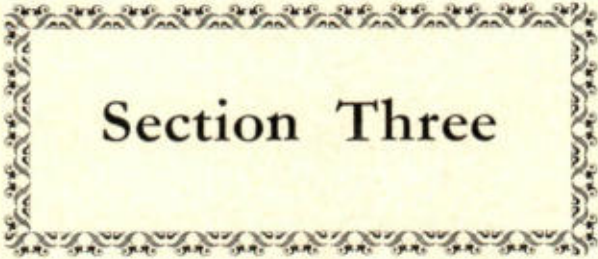
I believe the Adelaide—formerly looked upon as a distinct species—is now regarded as merely a variety of the Pennant's, and as both the Pennant's and the Yellow-rump inhabit roughly the same parts of Australia, it has always seemed to me that the Adelaide may be that rare thing—a natural hybrid which has become established in a wild state. The plumage of Adelaides seems to vary considerably according to the locality from which they come.

When the hen of our pair of Yellow-rumps arrived she was in a deplorable state, resembling that of a French-moult Budgerigar, but since then she has come into perfect condition and seems rather surprised to be able to fly again! She is "tame"—by which I mean that she would just love to bite off the end of one's finger—and she is also the only "talking" Broadtail I have ever seen. She never tires of most inappropriately calling herself "Pretty boy . . . Pretty boy . . . Pretty boy!" with a *very* strong Australian accent!

Yellow-rumps and Adelaides are quite as hardy as the other Broadtails and should be housed, fed, and given exactly the same nesting facilities as Pennants.

The YELLOW-BELLIED PARRAKEET (*P. caledonicus*) is closely related to the above, the main difference in the plumage being that *caledonicus* has the back, wings and rump, dark green. The sexes are much alike, except that the cock has a rather larger, flatter head, and the hen a rounder more feminine-looking one. They inhabit Tasmania, and are seldom imported.

We once had a pair of these Parrakeets, but only for a few weeks as we were short of aviary space at the time. I thought them quite attractive, although, for a member of the gorgeous Broadtail family, rather sombrely-coloured. They have the reputation of being delicate and prone to various diseases in confinement.

A decorative rectangular border with intricate floral and scrollwork patterns, enclosing the text "Section Three".

Section Three

INSECTIVOROUS,
OMNIVOROUS
and
NECTAR FEEDERS

Amethyst Starling

(*Cinnyricinclus leucogaster*)

TO my mind this is one of the most beautiful of the smaller Starlings and in every way a most desirable aviary bird, though unfortunately it is not often imported.

The male has a glittering purple-violet upper surface and throat and a pure white breast. The gem-like beauty of the bird lies, however, in the fact that the feathers of the upper surface have a high metallic gloss and a remarkable "shot" effect so that they appear at one moment deep violet-blue, at another, purple and in certain lights, a glowing carmine red. The female is entirely different and is best described as resembling a small Song Thrush.

Total length: a little over 7 inches.

Distribution: Africa north of the Equator.

Two forms of the same bird have been imported: this one and *C. verreauxi*, known as Verreaux's Starling which inhabits Africa south of the Equator, but the only difference between them is that in the latter the outer tail-feathers are bordered and tipped with white. In its native South Africa Verreaux's Starling is usually known as the Plum-coloured Starling.

The Amethyst does not strike one as being at all a typical Starling either in appearance or behaviour for it is a quiet bird and, unlike most Starlings, very seldom goes on the ground. Nor, like some starlings, in the wild state, does it give much trouble to the fruit grower, as it lives mainly on the berries of various indigenous trees, supplemented by such palatable insects, caterpillars, etc., as it may come across. Nevertheless, although it seldom attacks fruit on the tree, in confinement it is fond of chopped dates, grapes, apples and slices of pear, as well as berries such as elderberries, when in season. The rest of its diet should consist of insectivorous mixture and gentles plus a rationed daily allowance of mealworms.

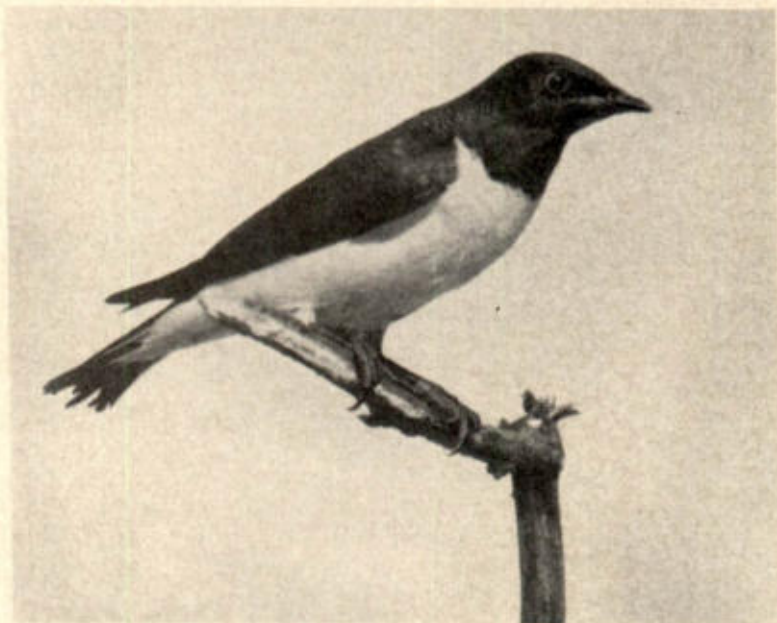
Both sexes sing a rather quiet song consisting of a series of notes on a descending scale. The male, when excited or displaying, has a curious habit of raising first one wing and then the other in rapid succession. When they are coming into breeding condition, a pair will chase each other about a good deal, the cock being alternately the pursuer and the pursued, but this is spasmodic and seldom amounts to much.

The Amethyst Starling was first bred in his country by the late Dr. Maurice Amsler in 1935, the second breeding taking place here at the Keston Foreign Bird Farm in 1958. Dr. Amsler did not specify whether he bred the typical form or the *C. verreauxi*, but those we bred were the latter.

Normally these birds breed in holes in trees, but ours readily took to a wooden parrakeet-type nest box hung under overhead cover in the open flight which was planted with various bushes and of which the Amethyst Starlings were the sole inhabitants. The nest itself was a marvel of artistic construction, being made entirely of fresh leaves, during the gathering of which they almost stripped a sizeable privet bush. In form it was like a fully-open

green flower or rosette, each of the leaves pointing upwards and superimposed one upon the other from the bottom upwards. No other materials of any kind were used and one wonders whether the birds would have gone to nest at all, had no supply of fresh leaves been available.

As soon as we got the chance of catching both birds off the nest, we shut them in the shelter and found that the box contained one unhatched egg and



The Amethyst Starling is one of the most beautiful of the family and is a highly desirable aviary bird. Unfortunately it is seldom imported

two young ones about a week old. From then on we very gradually increased the daily allowance of mealworms. This is important, because on a subsequent occasion we started to increase the supply of mealworms too soon and the parents, becoming over-stimulated, threw the young out of the nest and laid again.

When the two young ones eventually left the nest, they were remarkably self-possessed and did none of the usual panicky flying about and clinging to the wire netting, which is so nerve-racking to have to watch. They turned out to be two young cocks, but when first fledged and for several months afterwards they were exactly like their mother. Full adult plumage is not achieved until the third year and the way it is assumed is interesting; the process is a very gradual one so that they cannot be said to moult out into adult plumage, the change being more like that of a Weaver or Whydah coming into colour. First a small area of purple-violet appears on the throat, soon followed by others on the back and mantle. These gradually increase

in size until they merge and the throat and the whole of the upper surface are purple-violet. Simultaneously, the thrush-like specklings on the breast gradually disappear, until eventually it becomes pure white.

Our Amethyst Starlings remain in their outdoor aviary all the year round, but their shelter is heated and they are shut into it each night during the winter.

Bengal Pitta

(*Pitta brachyura*)

A BIRD of great beauty, the Common or Bengal Pitta is the only member of the family that was ever at all commonly imported into Europe. Pittas are birds with plump thick-set bodies, long sturdy legs enabling them to run very swiftly, and short stubby tails which they frequently bob up and down.

The male has the top of the head biscuit brown with a broad black stripe down the centre which is joined by another black stripe from below the eye. There is a narrow white stripe over the eye, while the back is dark grass green and the lower part of the rump is shining turquoise blue. The wings are black and various shades of blue, the latter making them a glorious sight when spread. The tail feathers are black tipped with blue. The throat is white and the lower plumage biscuit brown with a brilliant scarlet patch on the abdomen. The female resembles the male, though all her colours tend, if anything, to be a trifle duller.

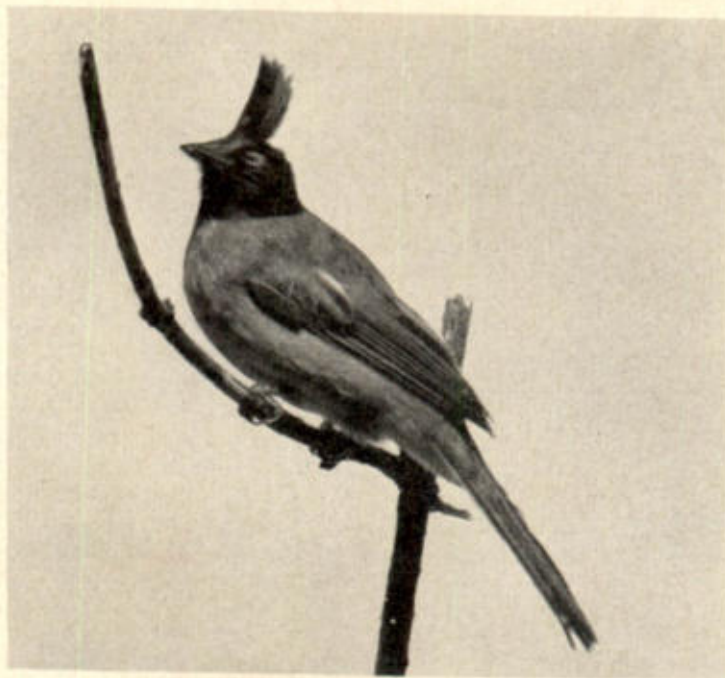
This species inhabits most of India, its range extending southwards to Ceylon. It breeds in the foothills of the Himalayas and in the western and central portions of the country. Although chiefly a bird of the jungle, it is said sometimes to be found in more open country containing tree-clad ravines in which it can take shelter. It is also said to be easily approachable and not shy which seems astonishing to anyone who has kept these birds in a planted aviary. Under such semi-natural conditions they are the shyest and wariest birds imaginable, so much so indeed that if the undergrowth is thick enough they will be hardly ever seen.

My own experience of keeping these birds is confined to a single specimen which lived for several years in a planted aviary before the war. As Pittas are not hardy it had to be caged in a heated birdroom each winter, which I must say provided the only opportunity I ever had of fully appreciating its great beauty. I used to put him out in the aviary in May and, provided the autumn was a mild one, bring him in again towards the end of October.

During his six months in the aviary I scarcely saw him and he hardly ever flew except at dusk to reach a high perch on which he roosted at night. Most of the rest of his time was spent skulking in a thicket of snowberry, and only occasionally would he come out to walk about on the grass with his stumpy tail bobbing up and down. This he did when he imagined himself to be unobserved, after which, if he still thought there was nobody about, he would hop up on to a log lying on the ground, which I had provided for his special

benefit. Generally speaking, however, I must own that he was about the dullest planted aviary inhabitant imaginable.

Curiously enough, when caged for the winter my Pitta did not dash wildly about in his more confined quarters as one would have expected, but instead became at once perfectly tame and steady. During that time, I used to keep him in a large flight cage of the box type with wire only in front—about



The Black-crested Yellow Bulbul is a vivacious aviary bird with a pleasant liquid song

4 feet long by 2 feet high by 18 inches deep. This I furnished with a perch fairly high up one end where he used to roost and a small decayed moss-covered log on the floor, upon which he sat for long periods.

The actual floor of the cage was covered with a fairly deep layer of peatmoss, and I kept the whole suitably moist by spraying it (as well as the Pitta who seemed to thoroughly enjoy it) daily with a fine misty spray of rain water.

The most important thing to remember about Pittas is that they *must* have moist conditions as nearly as possible resembling those they would find in their native jungle. Otherwise their health and plumage suffer, and their feet, particularly under the dry conditions of an ordinary cage with a sanded floor, quickly go wrong.

I am sure there can be no doubt that the ideal way to keep birds of this genus is in the warm moisture-laden atmosphere of a greenhouse or conservatory, as the well-known French aviculturist Monsieur Delacour did so

successfully. Failing that I think my alternative method has much to recommend it, and I can truly say that my bird was always in perfect health and condition. In the difficult time of winter his plumage benefited enormously from its daily spraying with rain water.

Male Pittas are said sometimes to attack their wives and to be pugnacious towards aviary companions. As to the former I cannot say, having never kept a pair, but I do know that my bird never showed the slightest sign of animosity towards any of the other birds that shared his aviary, although in some cases they were much smaller.

I used to feed him on insectivorous mixture, with a few finely-shredded scraps of raw meat given twice a week, and about seven mealworms or a few gentles per day. Sometimes, he would also eat ripe sweet apple, particularly if it was chopped up small and put on top of the insectivorous mixture. I gave the shredded scraps of raw meat only during the winter months that he spent in a flight cage.

Black-crested Yellow Bulbul

(*Otocompsa flaviventris*)

IF this Bulbul were—as its name implies—a yellow bird with a black crest, it would be very striking indeed. But actually its body colour is a dull yellowish olive-green, which is not an attractive combination with the black of the crest.

The sexes are alike, though the hen is perhaps slightly smaller than the cock.

The Black-crested is one of the larger Bulbuls and is found in Indo-China and Malaya. Its rather dull appearance is compensated for by the fact that like most of the Bulbuls it is a vivacious aviary bird with the pleasant liquid notes that are characteristic of the family. Its feeding and general requirements are the same as those of other Bulbuls.

Black-headed Oriole

(*Oriolus xanthornus*)

A VERY beautiful bird, this Oriole is fairly often imported. It is bright, golden yellow, with the head, throat and upper breast, as well as the major portion of the wings, black, and there is also black on the tail. The legs are plumbeous-grey; the bill pink; and the iris of the eye red. The sexes are alike. Length is 9 inches. There are several local races of this

Oriole, but the typical one inhabits the sub-Himalayan ranges from Kangra to Upper Assam, and also the Ganges plain.

Except for the greater amount of black in the plumage, it much resembles the European Golden Oriole (*Oriolus oriolus*), which, though a rare visitor to these shores, is officially listed as a British bird. There is, however, one curious disparity between two such similar species, namely that, while the sexes of *xanthornus* are alike, the plumage of the sexes in *oriolus* is totally different, making it a simple matter to pick out a pair.

In a wild state the Black-headed Oriole is said to be a noisy and active bird, sometimes to be seen in gardens, and abundant in well-wooded plains. Their voices are described as sometimes melodious, and at other times a harsh cawing note. The nest is a neat cup-shaped affair, carefully constructed between a slender forking branch towards the end of one of the boughs of a tree.

At the time of writing, I have two of these Orioles in a very large planted aviary containing a pond, and, so far, I have never heard either of them utter a sound of any kind. On the rare occasions when one catches a glimpse of them flying about in the aviary, they look extremely handsome—a wonderful flash of black and yellow—but they have the unfortunate Scarlet Tanager habit of plunging into the depths of the thickest bushes the moment anyone approaches the aviary. I hope, however, they may become steadier when they are more used to their surroundings.

They are difficult birds when first imported as they are sent over on a bean-flour mixture which we do not have in this country, and are not easy to wean on to anything else. Eventually, however, one can usually induce them to eat insectivorous mixture and fruit, and I have found that they are particularly partial to thin slices of sweet apple pushed through the wire netting close to a perch. Figs can also be tried, as wild figs are said to constitute one of their chief sources of food in a wild state. They will also eat other summer fruits, and chopped dates and soaked currants are a useful standby in winter.

Orioles are also very insectivorous, but, curiously enough, my experience with newly-imported specimens has been that, at first, they were strangely reluctant to sample either mealworms or gentles. Eventually, however, they usually take to both, and I think gentles are probably the more suitable, with mealworms given occasionally as a succulent tit-bit.

None of the Orioles, so far as I know, has ever been bred in confinement in this country, so they provide a good target for an ambitious aviculturist.

Black-headed Sibia

(*Leioptila capistrata*)

THIS is the best-known and most frequently imported of the Sibias, and a most attractive aviary bird which readily becomes tame. The head is adorned with a bushy erectile black crest and the black beak is slender and slightly curved. The rump and under parts are cinnamon-brown and the back

is brown with a greyish tinge. The tail is long and slate-grey banded with slate-black at the tip. The wings are the same colour as the back and have a white band on the shoulder.

The length is about 10 inches.

It is an Indian bird, inhabiting the Himalayas, and is very common at Simla and Darjeeling where its ringing call note and striking appearance must have made it familiar to many a British resident in days gone by.

The sexes are alike and the only slight difference I have ever noticed is that the hen's head is perhaps a trifle smaller and the crest not quite so bushy.

In a wild state they are said to be purely aboreal, seldom descending to the undergrowth, and are gregarious out of the breeding season. Like the Jay Thrushes (*Garrulax*) to which they have a considerable affinity, they are extremely lively, restless, inquisitive birds and are thus seen at their best in a roomy planted aviary either by themselves—which is practically essential if one wants to breed them—or else with companions of similar size and strength.

They have been bred in captivity and have also been successfully kept at liberty in this country—an experiment which I have always wanted to try myself as they must be most attractive liberty subjects.

Black-headed Sibilas are quite hardy and their diet should consist of a good-quality insectivorous mixture as well as plenty of fruit of which they are usually very fond. They must also have live food and this is best supplied in the form of gentles and a rationed daily allowance of mealworms, the latter being increased when they have young in the nest.

They can of course be successfully kept in an indoor aviary or a really large flight cage, but it is only in a spacious planted outdoor aviary that one can fully appreciate them and see them at their best.

Black-winged Mynah

(*Cracupica melanoptera*)

THIS Mynah is not often imported but makes an attractive aviary bird. It is white with black wings and tail. The legs, beak and the patch of bare skin on the face are pale yellow. The sexes are alike.

Distribution: Java.

We have had quite a number of these Mynahs at Keston, and kept four in a large planted aviary. They made no attempt to go to nest, but it was quite safe to keep them out all winter as they roosted in nest boxes at night.

We also kept a couple at liberty, but although they stayed well for a few weeks, they eventually strayed. They were, however, very handsome and showy at liberty while they stayed. Probably the chief reason why they departed was because it was impossible to prevent starlings from eating the food meant for the Mynahs.

Their diet should be the same as for the Indian Common Mynah.

Blue-shouldered Mountain Tanager

(*Compsocoma somptuosa*)

AS well as being extremely beautiful, these are altogether charming birds with a delightful natural tameness, which was noted by the well-known collector, C. S. Webb, who wrote of them some years ago in *The Avicultural Magazine*: "They are not wary of man, and also become very tame immediately after capture".

The head and back are black, the crown to the nape being yellow. The tail and wing feathers are black edged with turquoise blue, and there is a large cobalt blue patch on the shoulder. The whole of the under surface is rich gamboge yellow, and the legs and feet are greyish flesh colour. The bill is black with a silvery grey patch at the base of the lower mandible. The sexes are alike. The size is about that of the well-known Scarlet Tanager, but with a shorter tail.

Distribution: The Western Andes of Ecuador and Colombia, where it is found up to an altitude of between 5,000 and 6,000 feet.

Mr. Webb also wrote of this bird: "The Tanagers are noted for the brilliance of their coloration, and when the term 'outstandingly beautiful' is applied to a member of this family, it means that the bird is a living gem. I think this can truly be said of the Blue-shouldered Mountain Tanager"—a well-merited and fitting tribute to the beauty of this charming bird.

In a cage, and particularly with hard perches, the feet of these Tanagers soon become swollen and inflamed, and the yellow areas of the plumage are apt to fade to cream colour. But under the more natural conditions of a planted aviary they do very well, their feet soon recovering, and the original brilliance of their colouring can be regained by careful feeding. I give mine a home-made insectivorous mixture which contains soya flour, and is moistened, before being given, with grated raw carrot; and they should, if possible, be given plenty of elderberries when in season, which fortunately coincides with the period of the moult. In addition to the basic insectivorous mixture, they should be given fruits such as apples, grapes, pears, and chopped-up dates, and they are very fond of sultanas that have previously been soaked in water for 24 hours to enable them to swell.

As to live food, mine are given a rationed daily allowance of gentles which, unlike some birds, they seem to prefer in the chrysalis stage, but only a few mealworms are given occasionally, as I think they are apt to cause over-fatness which in turn may lead to fits.

I have four of these Tanagers in my private collection of rare Softbills at Keston, and among them there is certainly a pair, as a nest was built last spring in a privet bush and two of them were seen pairing. We naturally wanted the pair to have the aviary to themselves, as we thought the other two might interfere with breeding operations, but in catching these up I am afraid we disturbed the breeding pair, as thereafter they seemed to lose interest in the nest. Perhaps we would have done better to have left all four together, but

it is always difficult to know what is best to do under circumstances of this kind.

These Tanagers seem to have no proper song, but when excited they utter a rapid series of rather high-pitched chirping notes as they chase each other about among the bushes; but the chase is of short duration, and generally speaking they live very amicably together.

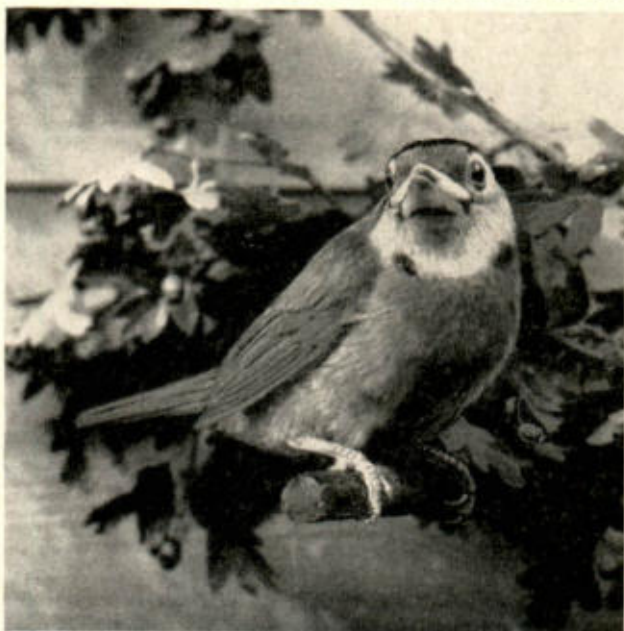
Being mountain birds from the High Andes, they are quite hardy, but as I do not feel inclined to take any chances with such rarities, mine are shut into a well-lighted shelter each night during the winter.

Blue-throated Barbet

(*Cyanops asiaticus*)

THE Barbets always remind me a little bit of Shrikes, and range in size between a Bullfinch and a Jay. Their colours are bright and similar to those of many psittacine birds. The Blue-throated, sometimes also called the Blue-checked Barbet, is one of the prettiest as well as the most frequently-imported member of the family. It is found in the Himalayas.

It is bright green with a sky blue head. The crown and two small spots on the sides of the neck are carmine red. There is a black band across the



The Blue-throated Barbet is by far the most frequently imported of the Barbets. It is a well known and common species in its native land of India. In addition to this it is one of the prettiest and most gaily coloured of the Barbet family.

head, which is continued above the eyebrows. The beak is horn-coloured, and has some small stiff forward-pointing bristles at its base. I have never had a hen, but I believe her colours are rather less vivid than those of the cock. The size is about that of a Thrush.

These birds are not to be trusted with weaker companions. I kept one, however, in an aviary with a heated shelter in winter, his companions being Crested Bronze-winged Pigeons, Purple-headed Glossy Starlings and Black-headed Golden Orioles, without there being any sign of squabbling.

These Barbets should be fed on insectivorous mixture, and they will also usually eat a certain amount of sweetened bread and milk as well. They require live food and this is best supplied in the form of gentles. Mealworms can be given, but care should be taken not to give too large a daily allowance of these as they are very stimulating, and, unless rationed, can lead to over-fatness. An allowance of from four to six medium sized ones per bird per day is ample, unless they are rearing young ones.

They are very fond of fruit, particularly of thin slices of sweet apple pushed through the wire netting close to a perch, as well as other fruits, according to season. Soaked currants can be offered in winter.

They do well in large flight cages and also in indoor aviaries, and are quite easily tamed. Their rather metallic voices are loud, and can be heard from a considerable distance.

The Blue-throated Barbet would appear to be, more or less, the typical race of this genus, as a great many kinds closely resemble it, the only difference being their sizes and the colours of their heads and necks. Of these, *C. flavifrons* from Ceylon has certainly been imported into Europe and *C. franklini* from the Eastern Himalayas, probably so.

Blue-winged Siva

(*Siva cyanouroptera*)

AN inhabitant of the Himalayas, the Blue-winged Siva is an extremely neat and active little bird, whose plumage is a blend of pale fawn below with some greyish-olive above. The crown, back of the neck, wings and tail are sky blue, with black and white markings. Length is about 6 inches. It is seldom imported, but is quite hardy and perfectly easy to cater for, requiring a fine-grade insectivorous mixture, a little fruit such as sweet apple or banana, and a few mealworms or gentles daily.

The cock I had at one time in my bachelor aviary used to capture quantities of small insects for himself, and I should advise anyone who keeps a Siva in a cage to supplement his live food diet with any spiders, caterpillars etc., that he may come across. My bird simply adored a Pekin Robin that was in the same aviary, though it always appeared to me a somewhat one-sided affair as the Pekin often seemed extremely bored with his restless self-constituted satellite.

I should, perhaps, use some stronger word than "restless" to describe him, for the little Siva came, I think, nearer to my idea of perpetual motion than any bird I have ever kept with the possible exception of Red-headed Parrot Finches. Never for a second was he motionless, and he was usually dashing about when it was almost dark and all the other birds had gone to roost.

The Blue-winged Siva is said readily to become tame, and I should think that in a cage, with the aid of mealworms, this would probably be the case, though I cannot imagine such a quicksilver little bird being anything but a tiresomely restless companion in a room.

Bronze Sunbird

(*Nectarinia kilimensis*)

THIS is one of the larger Sunbirds, being about the same size as the Malachite, and comes from East Africa. The head, neck and throat are metallic green. The back is deep, fiery copper-red, the wings, tail and underparts being black.

Like most of the Sunbirds, it is very beautiful, but I found it no less pugnacious than other members of the family, which is a pity, as I think that there could be few lovelier sights than a planted aviary in summer containing a number of different species of Sunbirds, if only it were possible to keep them together.

Bulbuls

(*Molpastes cafer* and *Otocompsa emeria*)

THE Red-vented Bulbul (*Molpastes cafer*) is a well-known Indian bird which has a very wide Oriental range, and is generally (though erroneously) supposed to be the Bulbul of Persian literature, which by pouring forth a glorious song adds the finishing touch to amorous delights in a rose-scented Persian garden. Actually the bird has a few cheerful ringing notes but no proper song, and it would appear that the songster so lauded by Eastern poets is a race of the Nightingale (*Luscinia megarhyncha africana*) and not a Bulbul at all.

The Red-vented Bulbul is brown, the feathers of the back, wings and breast being whitish bordered, which gives a scale-like effect. The throat and slightly-crested head are glossy black. The abdomen and upper tail-coverts are whitish and there is a bright red patch on the vent. The tail is handsome; brown at the base shading into almost pure black at the tips of the feathers,

which are bordered with white. The sexes are alike. Length is about 8 inches.

These are among the commonest of Indian birds, and are as attached to gardens and the haunts of man as is our English Robin. They have a few clear ringing notes and a habit of fly-catching from some vantage point in the evenings. Because of these characteristics they are usually among the few birds that even those European visitors with no interest in ornithology cannot fail to notice and remember. With the Indians they are favourite pet birds.

They live well in confinement, either in a large flight cage or an aviary, and should be fed on best-quality insectivorous food with a small daily allowance of mealworms or gentles. Fruit can be offered and mine were fond of elderberries. It is a great many years since I kept Red-vented Bulbuls, but, as far as I can remember, I found them extremely pugnacious in mixed company. I have always thought, however, that both this and its relative the Red-eared Bulbul (*Otocompsa emeria*) would be admirable subjects for a controlled-liberty experiment such as are described in the case of Shamas and Dhyal Birds.

The RED-EARED BULBUL is an attractive bird, more so I think than the Red-vented. The back, wings and tail are brown, the last very dark and having all but the two central feathers tipped with white.

There is a conspicuous white patch on the cheek, with a red tuft or whisker across it springing from just below the eye. The crest, crown and a narrow line below the white cheek patch, are black, and the crest, which is quite a perky little affair, points forward like that in miniature of a cockatoo. The underparts are mainly whitish, with a broad brownish-black gorget across the chest broken by whitish in the centre. There is a crimson patch under the base of the tail. The sexes are alike. Length is about 8 inches.

This bird also comes from India, and with the Red-vented is the most commonly imported of the Bulbuls. It has much the same notes, but they are, perhaps, rather more musical. The advice I have given with regard to the feeding, housing, etc., of the Red-vented Bulbul applies also to this bird, which is rather more fond of fruit.

Common Hangnest

(*Icterus icterus*)

THE Hangnests are closely allied to the Troupials, and this bird is sometimes called the Orange Troupial. As well as being the most common, it is also one of the prettiest of a very beautiful family.

The male is bright orange with the head, neck, throat, and tail black, and the wings a mixture of black, white and orange. Length is about 10 inches. Hens are very seldom imported and I have never had one, but I believe they are greyish-olive on the upper parts and pale yellow on the underparts. These birds are found in Colombia and Venezuela.

The Common Hangnest makes a charming cage or aviary bird and has a cheerful whistle. Provided it is kept in a really roomy cage, preferably of the

box type, a single male makes a most engaging pet, as he will become extremely tame and is a clever mimic. I believe there is one on record that was taught to whistle no fewer than seven tunes.

A friend of mine once had one which, though delightfully tame, could never be let out of its cage as it always made a bee-line for people's eyes, apparently thinking they would look far better without them! This bird was, of course, an exception, as most Hangnests can safely be let out of their cage for periods of liberty in a room and are most entertaining. They are by nature just as inquisitive as Starlings and Jackdaws and will probe every nook and cranny with their sharp beaks, presumably in the hope of finding some toothsome morsel in the form of an insect.

A single male Hangnest makes a very beautiful, active, and entertainingly acrobatic member of a bachelor aviary, provided he is associated with other birds of his own size and strength and preferably not those with mainly yellow or orange plumage because, as is so often the case with birds, he strongly objects to others with the same colour-scheme at his. He is not to be trusted in a communal aviary where breeding operations are in progress as I should say that he would be quite capable of raiding nests and devouring newly-hatched young ones.

These Hangnests should be fed on a good-quality insectivorous mixture, plus about eight mealworms per bird per day or a few gentles and plenty of sweet ripe fruit.

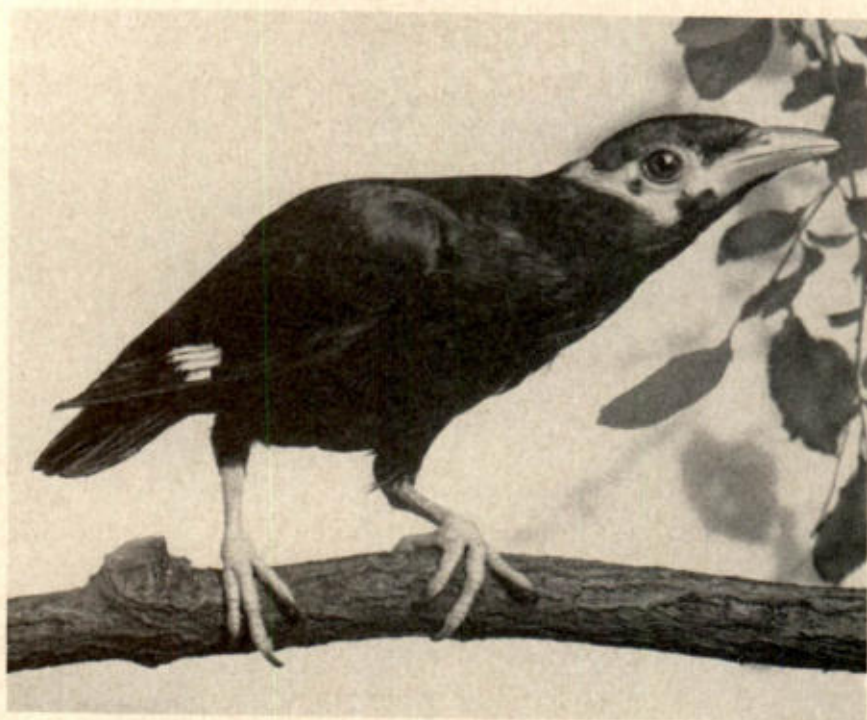
A disadvantage is that the lovely brilliant orange in their plumage is inclined to fade to yellow in confinement. It has been suggested that this should be combated by colour-feeding them as is sometimes done to deepen the colour of Canaries, and it would be very interesting to see if this was effective in retaining their colour.

Common Mynah

(*Acridotheres tristis*)

THIS bird must not be confused with the Greater Hill Mynah, the large black bird with yellow wattles which makes such an excellent talker and is always a centre of attraction at Zoos. The Common Mynah has the head, upper breast, and neck, black, and the rest of the plumage rich cinnamon-brown paling almost into white on the abdomen. The outer flight feathers are white at the base and then dark brown, while the tail is almost black with all but the two central feathers tipped with white. The bright yellow beak, legs, and face wattle are conspicuous features, and both sexes are alike. Length is about 10 inches.

As their name implies, they are one of the best known of Indian birds being found everywhere in the vicinity of man and his dwellings. Like our own Starling, they spend much of their time walking sedately about on the



A bird of considerable intelligence, the Greater Hill Mynah makes a fascinating pet. It is a great mimic and will often learn to say a few words as well as being a wonderful whistler of various tunes

ground, usually in pairs which display considerable affection for one another. They are said to be excellent watchdogs in Indian gardens, collecting in an angrily chattering throng if one of them has discovered the presence of a snake or mongoose, much as our Blackbirds do if one of their number comes across a roosting Owl in the daytime.

As in the case of our Starlings, converging parties of these Mynahs all make at dusk for some favourite roosting place, and it is only after much wrangling and many noisy disputes about someone having, as it were, pinched someone else's pet armchair, that the community at last falls silent. They are said to be very combative and should certainly never be kept with small birds, though in my experience a single bird is quite harmless in an aviary with other birds of about the same size.

The Common Mynah I shall always remember best was one I had in a planted aviary when war broke out in September 1939. Fearing I should no longer be able to get food for them, I decided to liberate most of the birds in the aviary. As the Mynah had always been so stupidly wild I felt sure that he would make off at once and I should never see him again.

Strangely enough, however, nothing of the kind occurred. On the contrary, he proved to be the best of stayers and one of the nicest liberty birds

I have ever had. He adopted as his home a large plum tree in the middle of the garden, and to this tree he became so passionately attached that he couldn't bear to be away from it for long. He made expeditions about the garden, but if not in evidence elsewhere he could always be found in his pet plum tree. Curiously enough, he never seemed to attack the good fruit, though he was very fond of overripe windfalls, or ones on the tree that had already been attacked by wasps.

I still had one or two Softbills in a planted aviary and when I went to feed them the Mynah invariably appeared in an overhanging tree. Though, for some reason, he had been so desperately wild in the aviary he was now quite tame and would almost, though not quite, take mealworms from one's fingers. He is about the only pleasant memory I have of the first of the war months, and was a handsome sight as he winged his way about the garden with a rather laboured yet buoyant flight, the white-marked wings and white-tipped tail being very conspicuous as he flew.

He had a perfect passion for earwigs and it was amusing to watch him from a window as he walked sedately along a path in front of the house methodically tapping with his beak the wooden stakes to which the dahlias were tied, and then looking up expectantly to catch such earwigs as he could dislodge by this rather ingenious method.

He seemed to feel neither interest in nor animosity towards the native birds in the garden so long as they remembered that the plum tree was his own exclusive property, and that its sacred precincts must on no account be profaned by strangers. On the few occasions when this did occur, there was a terrific shimmozzle, and I saw the Mynah angrily put to flight a Jay which had been so impertinent as to put foot on his beloved tree. This, I thought, was a pretty good effort on the Mynah's part.

Somehow it was rather nice to have at liberty a bird that so obviously treated one's garden as its home where it could always be found, and completely ignored the surrounding fields and woodlands which, so far as I know, it never once visited.

If it is desired to breed these Mynahs it would be as well to give them a fair-sized aviary to themselves, and as they are omnivorous feeders, they will need as varied a diet as possible, particularly when they have young in the nest. They should be given a coarse grade insectivorous mixture and are very fond of house scraps put through a mincer. Soft fruit, preferably overripe, and insects are also appreciated. As live food I should give them when rearing young plenty of cleaned gentles and, more sparingly, mealworms. They should also be provided with any other insects that they will eat, and would doubtless appreciate strips of raw meat and small mice.

Out of the breeding season or when kept singly as cage pets (their cage *must* be a really large one) they will flourish on an insectivorous mixture, a little fruit, and a daily ration of mealworms or gentles. Like all omnivorous species, the more varied their diet the happier they will be.

Any prospective breeder of these birds who has a suitable garden—one of two or three acres in extent would be quite large enough—could considerably lighten his labours in the feeding line by letting the parents loose as soon as the brood hatched. I have not tried this myself, but judging by the single specimen

I had at liberty I feel sure they would prove the best possible stayers and very attractive and useful gardeners as well. No doubt they would take a great interest in digging operations, helping to rid the soil of unwelcome pests such as wireworms etc., by eating or feeding to their brood any that were turned up.

Their selection of nesting sites in a wild state appears to be as catholic as their choice of foods. They will, in fact, nest almost anywhere and hardly



The Dhyal Bird, sometimes called the Magpie Robin, is almost as well known to aviculturists as the Shama, and it, too, has a very pleasing song

anything seems to come amiss with which to construct their large untidy nests, which often include bits of string and cotton and old rags. In an aviary I should try them with a large half open-fronted nest box, also a bundle of branches nailed up under overhead cover, and let them choose between these, giving them as varied an assortment of nesting materials as possible.

The Common Mynah will learn to whistle and sometimes to talk, though in the latter respect it is far less gifted than the Greater and Lesser Hill Mynahs of the genus *Eulabes*, both of which require the same treatment.

Dhyal Bird

(*Copsychus saularis*)

A COMMON Indian bird with the alternative name of Magpie Robin, which gives rather a good idea of its appearance. It is slightly larger than a Shama and has a tail of medium length which it often carries cocked up at such a steep angle that the end of the tail is rather higher than the crown of the head. When excited it fans out its tail and flirts it vigorously up and down.

The male is glossy black, with the lower breast, belly and under tail-coverts white. The central pair of tail feathers are black, the others being white, and the black wings have conspicuous white markings. The beak and legs are black. The black areas of the male's plumage are replaced in the female with dark greyish-brown, the head and upper breast being dark slate-grey. She has the same areas of white in her plumage as the male.

The typical race is the Indian one, but it is a bird of wide distribution and there are several slightly different forms which are found in Ceylon, China and Malaya.

Its habits in a wild state appear to be similar to those of our own Robin, as it is a familiar bird in Indian gardens and seems to prefer the vicinity of human dwellings. Normally it is a ground-loving bird, and spends much of its time hopping about searching for the insects on which it lives, but like our own Blackbird it sings from the topmost branch of some garden tree, usually in the morning and evening. Its song is very beautiful, and in a land where songbirds are scarce ranks next only to that of the Shama, which it somewhat resembles.

In confinement the Dhyal Bird's requirements are the same as those of the Shama. As I have dealt with the latter at considerable length, the reader who desires detailed information regarding the housing, feeding and general management of Dhyal Birds should refer to the account of the Shama.

Before the war I tried a pair of Dhyal birds at controlled liberty in the same way as I had Shammas the previous year. They went to nest at once and were liberated as soon as the young ones hatched. Once again, however, I was thwarted of complete success, for the hen must have come to an untimely end—probably as a Sparrow Hawk's meal—when the four nestlings were growing fast and already well-feathered.

They are particularly nice birds to have at liberty because the male's black and white plumage shows up well, and being so essentially garden-loving birds they seldom strayed beyond the confines of the garden. The surrounding meadows and woodland apparently had little attraction for them.

Although officially classed as an insectivorous species, Dhyal Birds are also partly carnivorous, and the pair I had at liberty were very keen mousers. I first became aware of this when one day I saw the cock laboriously dragging out of some undergrowth at the bottom of a thick hedge something I took to be a large insect of some kind. However, it turned out to be a small mouse,

and one could tell by the expert way in which it was killed and eaten that he treated mice as a normal part of his diet.

These birds will live well in confinement on insectivorous mixture, apple, and about eight mealworms or a few gentles per day per bird, but as my experience when keeping them at liberty shows, they would undoubtedly appreciate an occasional small mouse or strip of raw meat as a tit-bit. It might also be beneficial to vary their live food by giving mealworms and gentles on alternate days. They must be provided with regular bathing facilities, as they are just as keen on their bath as is a Shama.

Egyptian Plover or Crocodile Bird

(*Pluvialis aegyptius*)

THIS beautiful little Plover is known as the Crocodile Bird because it is said to perform the rather perilous service of keeping the crocodile's teeth clean.

The crown to the nape is black, continued in a long V shape down the centre of the back, and there is a broad black stripe through the eye and a broad white one above it. The back and wings are ash grey; the flights are



The Egyptian Plover, a very attractive bird, prefers a warmer climate than is usual in Britain, and is best housed in a large indoor planted aviary

white, tipped with black, and with a broad black band across the centre, so that the bird looks very striking when in flight. The chin is white and the rest of the underparts are creamy yellow, with a black band or necklace across the chest curving upwards to join the black band through the eye. The bill is black and the rather short legs are greyish-blue.

Distribution: Egypt, Uganda, Senegal, Northern Nigeria, etc.

This bird will sometimes stand motionless and hunched up for a time, and then advance with a curious quick jerky step. We had a couple at Keston in our largest planted aviary which contains a pond, and they did quite well on a mixed diet of gentles, mealworms, scraps of raw meat, etc. and, I think, occasionally ate insectivorous mixture.

We found, however, that they were really lively only during spells of hot, dry weather and that our normal English summers did not suit them at all. They really seem to do best all the year round in large indoor aviaries with a sandy floor, pool, rocks and some vegetation, such as one finds at some of the larger zoos: under these conditions they prove both lively and decorative.

Fairy Bluebird

HERE is one of those birds that seldom fail to evoke a gasp of astonished admiration even from the ordinary layman who takes no particular interest in aviculture. Nor is this to be wondered at, for truly the Fairy Bluebird is a creature of surpassing beauty.

The cock is clad in rich velvety black, contrasting with the intensely vivid cobalt-blue of the head, neck, mantle, and tail-coverts. These blue parts of the plumage, perhaps owing to the faint mauvish-pink lights in them, give the impression of highly glazed china. Not content with all this splendour, he also has red eyes which glow like rubies in their jet black setting, and are one of his most beautiful features. The black beak is fairly strong and hooked slightly at the tip, but the legs and feet, which are dark grey, are curiously small and weak for the size and sturdy build of the bird itself. Length is about 10 inches.

The hen is dark greenish-blue. They inhabit India, Malaya and Indo-China. Both sexes have a curious way of sometimes sitting bolt upright, with their tails pointing straight at the ground and their beaks raised. The usual note uttered by the cock is a double-syllabled one, resembling "Twit-twit." Fairy Bluebirds are sometimes called "Blue Drongos" and this is perhaps the more correct name for them, as they are very closely related to that family.

Irena puella used to be fairly frequently imported, but it was always expensive to buy. The other races, *I. p. cyanea*, the Malayan race, *I. p. criniger* from Sumatra and Borneo, and *I. p. turcosa* from Java, do not differ widely from *I. puella*, with the exception of the first named which is completely blue.

I have had experience of keeping Fairy Bluebirds only in a large flight cage indoors, and they will do quite well under such conditions provided their

plumage is frequently sprayed with tepid rain water, as a dry atmosphere causes their feathers to become brittle and lose their gloss. Undoubtedly, the ideal way to keep them would be in an aviary consisting of a shelter capable of being heated in winter and communicating with a roomy outdoor flight.

While Fairy Bluebirds are not exacting in their diet, they do not seem particularly keen on fruit, yet I feel sure a certain amount of this is beneficial to them. Apples, for example, if hung up in the usual way, they will seldom touch. Much the best method of supplying them with fruit is to chop a ripe sweet apple into small portions and mix this with their insectivorous mixture. They will then go down to their usual food pot and in eating the insectivorous mixture will consume a fair amount of apple as well. In addition to this they should be given mealworms, the correct allowance per bird per day being about ten, preferably five in the morning and another five in the evening. Gentles also make an excellent live food for them.

When mealworms are included in a bird's diet, I consider it most important that they should not be given all at the same time so that the bird can gorge itself and probably have violent indigestion as a result. This, after all, is only common sense, for wild birds living chiefly on insects have to search for them, consuming them here and there at probably fairly long intervals as they happen to come across them.

Fairy Bluebirds usually lay only two eggs in a clutch, but though they have nested I do not think young ones have ever been reared in confinement. Two major obstacles to be overcome by anyone desiring to breed them would be that hens are rather prone to egg-binding and even if the eggs are successfully laid, the parents, as likely as not, will proceed to eat them.

I should imagine, too, that they would be liable to throw their young out of the nest a few days after hatching, particularly if too lavishly supplied with mealworms. Instead, I should cut down the latter, giving plenty of gentles in their place, as well as other live foods less stimulating than mealworms. A little sweetened bread and milk might also be offered.

Golden-eyed Babbler

(*Pyctoris sinensis*)

THE Babblers form an interesting group of birds which includes those attractive and entertaining avian clowns the Jay Thrushes.

The Golden-eyed Babbler is a warm chestnut-brown above, with the lores and eyebrow streaks, as well as the throat, cheeks, chin and breast, white. The sides and abdomen are light buff, and the bird takes its name from the fact that the irides of the eyes are pale yellow, and the eyelids bright orange. The tail is fairly long, the beak black, and the legs yellow. Total length is about 7 inches. The sexes are alike.

It is a bird of wide distribution, being found throughout India, Siam and Burma, and also in China. In a wild state they are usually to be met with in small parties, frequenting gardens and open country studded with clumps of bushes, and avoiding densely-forested areas.

They are noisy birds, but of rather skulking habit, so are more often heard than seen, spending most of their time in the depths of the thickest bushes,

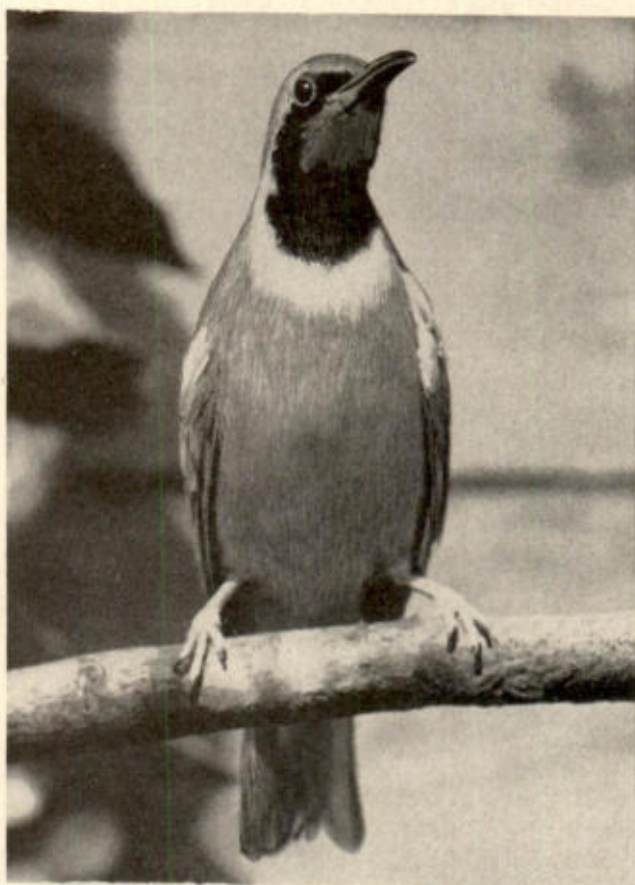


This common Indian bird, the Golden-eyed Babbler, is gregarious, going about in parties in its native land methodically searching low growing trees and bushes for the insects which form the chief item of its diet in a wild state. It is not very often imported, probably because there are other Indian birds much more attractive to the aviculturist.

tirelessly searching for the various insects, caterpillars, etc., which form the bulk of their food. My own experience of keeping these birds is restricted to a single specimen—I think a male—which spent a summer before the war in a planted aviary at Keston.

These Babblers quickly become tame, and being full of character and very intelligent they make delightful cage or aviary birds. If caged, however, they should be housed in a flight cage of ample dimensions, and it greatly benefits their health to let them out periodically so that they can have a fly round the room.

They should be fed on an insectivorous mixture of good quality, and, of course, live food. The staple part of the latter should consist of a small daily



The Golden-fronted Fruitsucker is freely imported and readily becomes tame allowance of mealworms or a less restricted one of gentles, as well as any live foods one can find for them such as spiders, caterpillars, etc. Fruit can also be offered, and they appreciate a little minced raw meat, but this should only be given occasionally, and not as a daily item of their diet.

Golden-fronted Fruitsucker

(*Chloropsis aurifrons*)

THE Fruitsuckers are related to the Bulbuls, and the Golden-fronted is the one most often imported. The male is bright green, paler on the breast and rather darker on the wings and tail, and there is a blue patch at the

bend of the wing. The tail is short and square and the beak long, tapering to a sharp point, and slightly curved. The throat and cheeks are dark steel blue bordered with black which widens out to form a large black gorget extending as far as the upper breast. This black area is, in turn, broadly bordered with yellow, and the forehead and front half of the crown are bright orange.

The Fruitsucker is about the size of a Lark. The female resembles the male, but her colours are rather less bright. These birds inhabit the Himalayas, Malaya, Eastern India and Indo-China, and are quite often imported.

When I was young I had one for years which used to live in a cage in the dining room. He was a nice bird, extremely tame (owing mainly to his fondness of mealworms) and had quite a pleasant, though not very varied, song. He would sometimes take a little insectivorous mixture, but I fed him chiefly on nectar (such as I have recommended for Yellow-winged Sugar Birds) and plenty of sweet ripe fruit, of which his favourites were oranges, grapes and bananas. This species will take insects and small mealworms and is particularly fond of gentles. It is however, as its name implies, chiefly a fruit-eater.

I once tried them with other birds in a large planted aviary, but found them hopeless in a mixed collection. They mounted guard over the food pots and would quickly have starved to death every other bird in the aviary as they drove them off as soon as they ventured anywhere near the food. They are, however, very beautiful and do well in a flight cage. As they are not hardy, it is necessary to winter them indoors in any case, unless they can be given an aviary with a heated shelter.

Greater Double-collared Sunbird

(*Cinnyris afer*)

ONE of the larger and most freely imported of the Sunbirds, this is also one of the most beautiful. The male has the head, neck, throat and mantle shining metallic green, the wings and tail being dark slate-grey. The abdomen is lighter grey and the rump blue. The pectoral tufts are yellow and there is a wide red band across the breast between the green of the throat and the grey abdomen. There is also a narrow band of blue separating the green throat from the red breast band.

The female, and the male when out of colour, are greyish, considerably darker on the wings and tail, and washed with yellow below.

Distribution: South Africa.

Unfortunately this is one of those birds that do not retain the red colour in captivity, but even when the red band across the breast has become orange, it is still very beautiful; in appearance only, however, for in disposition it is just as pugnacious as other Sunbirds, which makes it impossible to keep even a pair together except during the comparatively short period when both are in full breeding condition. Consequently a single male is usually kept in a

flight cage indoors, where he will delight his owner by his beauty, his tameness and his quite pleasant song. Sunbirds often prove remarkably long-lived under such conditions, provided, of course, that the cage is a really roomy one, allowing plenty of flight space.

They require the same diet as the Purple Sunbird.

Green Glossy Starling

(*Lamprocolius chalybeus*)

THIS beautiful bird is the commonest and most-freely imported of the Glossy Starlings. It is green with a high metallic gloss on the feathers. The ear-coverts, lesser wing-coverts and the sides and thighs are blue. The beak and legs are black, and the eyes yellow. Length is about 9 inches. Both sexes are alike, but hens are, if anything, very slightly smaller and slimmer than the cocks, and their eyes are not of quite such a brilliant yellow.

They are common throughout most of tropical Africa, especially Senegal.

Green Glossy Starlings can be kept in a large flight cage, but fully to appreciate their beauty they must be seen in an outdoor aviary, when the sun glinting on their metallic plumage, which seems to change colour with every movement of the bird, making an unforgettable picture. They should, of course, be associated only with other birds of their own size and strength. If it is intended to try breeding them the chances of success are far greater if a pair can be given an aviary to themselves.

They are very willing to nest, but will need a large and varied supply of live insects on which to rear their brood, as mealworms alone are nearly always too stimulating, causing them to throw their young ones out of the nest and start again. Various insects and caterpillars, as well as cleaned gentles and large live ant pupæ are, however, all suitable.

When not breeding, these Starlings are easily catered for in the matter of live food, as an allowance of about eight mealworms or a few gentles per bird daily suits them very well. Their staple diet should consist of insectivorous mixture, and some fruit such as a thin slice of apple pushed through the wire-netting of the aviary close to a perch.

If I had a pair that went to nest and hatched a brood I would unhesitatingly keep them at "controlled liberty" while they were rearing their young ones. That is to say, let the parents loose to forage for themselves as soon as the brood hatched. By this method not only would they be doing great service in helping to rid the garden of insect pests, but with their marvellously iridescent plumage would be a continual joy to the eye as well.

Capt. G. W. Thompson successfully adopted this method with a breeding pair of Green Glossy Starlings and published a most interesting account in the *Avicultural Magazine* in 1930. In this he records that the parents spent much

of their time searching for insects on the ground. Soon, "to their great joy" they came upon some cows, and discovering that insects abounded in the grass around them, spent much of their time there. Being tame, they would follow him about and soon got to know where the tin of mealworms was kept, but, very wisely he gave these sparingly as he wanted the birds to forage for themselves. He found the old birds well able to take care of themselves and noted their aversion to wild Starlings, which they would chase away, pursuing them for a considerable distance.

Finally he says:—"As the young grew they could be heard calling like young Starlings, but in more musical voices. Food for them became larger



Of all the members of this gorgeous family the Purple-headed Glossy Starling is undoubtedly one of the loveliest, with its brilliantly metallic plumage

and more varied. Large moths, beetles, and many baby frogs and grasshoppers and cherries, all went the same way, but never any kind of artificial food until the young were out of the nest. Then anything seemed to do—meat, egg, dried currants etc."

Hunting Cissa

(*Cissa chinensis*)

THESE fine birds remind one of both the Shrike and the Jay families. The male is jade green with chestnut flights. The tail feathers are green, except the two central ones, which have a white tip behind which is a black bar. The head is adorned with a bushy partially erectile green crest. The eye which is encircled with red is in a broad black streak running from the beak to the back of the head, thus separating the crest from the rest of the plumage. The legs and beak are red. Length is about 13 inches, the bird's general build being very Jay-like. The female is much like the male but is slightly the smaller bird of the two.

Cissas inhabit Malay and Indo-China. They are said to be very noisy in the early morning and late afternoon and to be found usually singly or in pairs. They are among those birds that change colour in confinement, in their case with extraordinary rapidity. However, unlike all the other birds that do this, their metamorphosis is an improvement rather than otherwise, as the



Related to the Shrike family this very beautiful bird, the Hunting Cissa, is unique in that its green plumage becomes blue in confinement—a change which does not in the least spoil its appearance. It has a buoyant flight

black, white and chestnut in the plumage is retained, while the green, which is the bird's predominant colour, becomes a beautiful shade of soft powder-blue.

I have always greatly admired these birds, and having successfully bred Occipital Blue Pies was anxious to try my hand with a pair of Cissas. About two years before the war I managed to get a cock still in wild green importation plumage, which rapidly changed to blue. The following year I obtained a hen whose plumage was already blue. Unfortunately there the story ends as the hen escaped when the pair were being moved into a large planted aviary in which I hoped to breed them. As it seemed certain that war was bound to break out sooner or later I made no attempt to obtain another hen, and shortly afterwards parted with the cock.

The hen, incidentally, was almost the only mated escapee I have ever known to vanish without trace. Single birds often wander off at once, but she and her husband already seemed attached to each other at the time of their removal and it is very rare for a bird to stray if its mate is still in the aviary.

Hunting Cissas have the attractive buoyant flight of our native Jay, and leap from perch to perch like Blue Pies. They also utter a similar repertoire of strange and often harsh and discordant cries.

I was very disappointed indeed not to have a chance of breeding them, and should like to think I may still do so one day. This is doubtful, however, as one never seems to be offered them nowadays, and in any case when I obtained a true pair, it was probably a bit of luck that would never be repeated. I must rest content with having been able to keep them and enjoy their great beauty, even if only for a comparatively short time.

It is unnecessary to give detailed instructions as to the feeding, housing and general management of Cissas as this should be in every respect the same as that I have recommended for Occipital Blue Pies, and they should be given similar nesting facilities.

Cissas are sometimes exhibited at bird shows, and will live in a really large flight cage, but to see them at their best they must be housed in an aviary which they should have to themselves as they will attack other birds.

There are various races of this bird, one of which—a mountain race—was first discovered about 70 years ago in North Borneo by my uncle John Whitehead, and named *Cissa jefferyi* after my grandfather, Jeffery Whitehead.

Japanese Blue Flycatcher

(*Cyanoptila cyanomelana*)

THIS beautiful Flycatcher is obviously very closely related to the Niltavas and has a crown and nape of the same brilliant blue. The male is blue, with the throat, breast and sides of the head black. The abdomen is white. The female is quite unlike her mate, her plumage being mainly brown. Females are very hard to come by as they seem to be hardly ever imported,

doubtless because the trappers concentrate on the more brightly coloured males.

This Flycatcher is found in China as well as Japan and migrates to Indo-China and Malaya for the winter. It is about the same size as a Rufous-bellied Niltava and its diet in captivity should be the same.

I have owned several male Japanese Blue Flycatchers, but have not yet succeeded in getting a hen. Personally I have found them somewhat difficult subjects in confinement, as an outdoor aviary with the shelter heated in winter,



The Japanese Blue Flycatcher is closely related to the Niltavas and, like them, is rather difficult to keep in condition. They are not hardy, but heated winter quarters do not suit them

which is the ideal treatment for most foreign softbills, does not seem to suit them at all; kept under such conditions, they are apt to go into a soft moult.

With Rufous-bellied Niltavas I found that heated winter quarters did not suit them, but they did extremely well when kept in a large planted aviary all the year round, always looking fit, even in spells of really hard weather. But this treatment does not suit the Flycatchers, as they appear to feel the cold when the weather is really bad, so possibly the best way to keep them would be in an outdoor aviary during the summer and in a cage in an unheated birdroom during the winter months.

Knysna Touracou

(*Tauraco corythaix*)

DESPITE their beauty, I cannot say that I think the Touracous as a family really deserve the reputation for amiability and gentleness—at any rate to each other—that some writers have given them.

The Knysna is a case in point—a friend of mine had a couple of Hartlaub's, believed to be a pair, together in a large aviary, yet eventually one of them murdered and scalped the other in the most brutal fashion.

This species is green with carmine wings, violet back, and dark green tail shot with violet. There is some bare white skin above and below the eye, and the fine large green crest is tipped with white. Total length about 18 inches. As with other Touracous, the sexes are alike, but the female is slightly the smaller bird of the two, and has a more feminine-looking head.

Distribution: South Africa.

A couple of Knysnas I had which were supposed to be a pair and certainly looked a pair, proved impossible to keep together for long even in a large aviary, as sooner or later the cock invariably attacked the hen. This was the more extraordinary because when first put together they always seemed overjoyed to be in each other's company. We tried them together on three separate occasions, but always with the same result.

One of the chief beauties of most Touracous is the lovely carmine of their wings which is said to be of a different sort of red pigmentation to that of any other bird, and to be soluble in water. I confess I had always rather doubted the truth of this, but I can only say that when my Knysnas first arrived (badly in need of a bath) the first thing they did was to bathe, and afterwards the water was undoubtedly pink!

These birds require the same diet as the Purple-crested Touracou, and, like the latter, they are not hardy and need artificial heat in winter.

Lilac-breasted Roller

(*Coracias caudata caudata*)

OF all the many birds I have kept I always think of this as not only the most beautiful, but the tamest and the most interesting as well. The back is khaki-brown and the large bushy head is of a delicate shade of sage-green with some whitish colour round the base of the beak and above the eye. The throat and upper half of the breast are rich purplish-mauve, the lower breast, abdomen and under surface of the tail being pale sky blue. The wings are deep sky blue merging into a large patch of glossy purplish-violet on the shoulders, this being also the colour of the rump, and the flights are royal blue of a wonderful depth and richness. The central tail feathers are dark greyish



The Lilac-breasted Roller is one of the most beautiful, tame and interesting of all aviary birds, and when in flight its gorgeous colours make it look like a tropical butterfly. Unfortunately it is incredibly noisy

green and the outer ones are pale blue shading into dark blue at the tips. The outermost tail feather on each side is greatly elongated into a long, narrow black point, slightly club-shaped at the tip, and it is this that gives the bird its alternative name of Long-tailed Roller. The bill is dark slate colour.

These Rollers are not easy to sex, but generally speaking the male is slightly larger, with a heavier beak, legs and feet. Also the white round the beak and above the eye is more pronounced and the tail feathers are even more elongated than in the female. Total length: about 15 inches.

Distribution: Angola and south-eastern Africa as far north as Kenya.

Beautiful as this Roller is in repose, it is even more so in flight, and to see it on the wing is a quite unforgettable sight. It looks for all the world like some huge tropical butterfly with azure and purple wings bordered with dark blue; and the butterfly illusion is heightened by the nature of its flight and its complete soundlessness, which doubtless, owl-fashion, enables it to pounce unheard on its prey. This consists, in the wild state, of spiders, beetles, locusts, scorpions, centipedes, etc., for which, perched on some bare branch or telegraph wire, it is for ever on the watch.

Mine—of which I have four, three females and a male—have as their staple diet minced raw meat, chopped-up hard-boiled egg yolk and a constant supply of live gentles and a rationed daily allowance of mealworms. In addition they are given small mice when available, and they have been seen to catch and eat any lizard or small grass snake that strays into their aviaries. The grass snake took quite a time to eat, being gradually gulped down until it had completely disappeared.

These Rollers are incredibly noisy birds with their harsh, chattering, barking cries, and the snag about them is that it is often difficult to keep two—even a pair—together for long. Also, when they are first introduced to each other the ensuing din is quite indescribable. This is followed by a wild chase round the aviary, and if one bird gets the upper hand of the other, it will be found necessary to separate them and put one in an adjoining aviary, before trying them together later on.

Rollers are totally unsuited to cage life, and not only is a really large aviary with plenty of flying space necessary to them for health reasons, but it is also the only way in which their owner can enjoy their spectacular beauty to the full. They are not hardy, so the open flight of the aviary must communicate with a well-lighted enclosed shelter which can be heated in cold weather, and in which they should be shut each night during the winter months.

I have never been able to get mine to eat insectivorous mixture and I doubt if they could be kept in health for any length of time unless one were prepared to keep them constantly supplied with live food in the form of gentles and mealworms—supplemented, as above, with raw meat and hard-boiled egg.

It is extremely rare for these Rollers to be imported, and they were the last birds I ever expected to have the good fortune to keep. But one of our customers in South Africa came to see our Bird Farm when on a visit to this country, and on his return home was good enough to make us a present of a Lilac-breasted Roller. This turned out to be a hen and was, and still is, delightfully tame. Then by a stroke of luck, I managed to obtain another Roller from a Cornish aviculturist and this, although considerably larger and more brightly coloured than the first one, also turned out to be a hen, so the prospects of obtaining a pair seemed remote indeed. Finally, however, a gentleman in Portuguese East Africa, who had read an article of mine about these Rollers, very kindly sent me a true and in this case obvious pair. Although they only arrived in the early spring, the cock was put with the largest of our two hens as soon as she came into breeding condition; after a few skirmishes and a great deal of noise they settled down together and soon afterwards the cock was seen pairing with the hen.

They went to nest in an ordinary parrakeet nest box hung up outside against the wall of the shelter under overhead cover, and three eggs were laid, two of which hatched. Both parents took turns at incubating the eggs, although the cock seemed to be on them more often than the hen. All went well until the elder of the two young ones was about ten days old, when the usual commotion was heard, and as the cock was found to have taken exception to the hen's presence, she had to be removed to an adjoining aviary.

This may seem very unnatural behaviour on the part of a mated pair with young in the nest, but I think the explanation is that in an aviary, and with a

supply of live food constantly at hand, they tend to, as it were, get on each other's nerves; whereas, in the wild state, they would both be too busy searching for food for their young to have the time or energy left for quarrelling.

The cock fed the young ones on gentles and mealworms and small mice were also given. Fortunately, we managed to obtain a supply of live locusts for them, and these, of course, were accepted with relish, as they are one of their chief foods in the wild state. Despite this, however, the young died in the nest not long after the hen was removed from the aviary.

Malachite Sunbird

(*Nectarinia famosa*)

ONE of the largest of the Sunbirds, the Malachite is often imported and is very striking in appearance. The male is shining metallic green, coppery above, with two large tufts of yellow feathers on the sides. The beak is long and curved, and the two central tail feathers are very much elongated. When out of colour the cock resembles the hen, being olive-grey, paler below, and with a yellowish eyebrow streak. It is about the same size as a Siskin and is a native of South Africa.

Despite its great beauty, the Malachite has the failing which is common to all Sunbirds—their extreme aggressiveness and pugnacity.

This was strikingly evident recently when some Sunbirds, consisting of the Bronze, the Malachite and the Greater Double-collared arrived at Keston. We had not ordered them, so did not expect them and had no suitable accommodation ready for them. They arrived in poor condition and as they were very weak we thought it would be safe to put them all together in a very large flight cage. Not a bit of it, however, for even their weak state did not prevent them expending such energy as they had left in fighting each other incessantly, so they had to be separated.

On one occasion I bought a pair of Malachites thinking I could safely keep them together in an aviary consisting of a roomy shelter communicating with a large flight planted with bushes and creepers; but the cock mercilessly persecuted the hen, and as she was never even allowed a chance to feed, they had to be separated, each being put in a similar aviary among larger and stronger birds such as Doves and Bulbuls.

This however proved no solution at all for the cock soon showed that he intended to rule the roost and uttering a shrill volley of defiance and abuse in his high-pitched voice, chased the Bulbuls (who appeared to be terrified of him) round and round the aviary. When one of the Doves had the temerity to sit on the perch on which he was ensconced he seized and nearly pulled out one of its tail feathers and it too fled in terror. Nor was the hen's behaviour to her companions much better, so I had had enough of them and sold them.

I suppose if one wanted to attempt to breed them the only thing to do would be to put them side by side in separate aviaries until both were in full breeding

condition, and then put them together. But personally I think the best way to enjoy their beauty is to keep a single cock in a roomy flight cage indoors as they readily become tame, have quite a pleasing song and usually prove very long-lived under such conditions.

The Malachite should be fed on the same diet as I have recommended for the Purple Sunbird.

Marsh Birds

(*Leistes militaris* and *Agelaius icterocephalus*)

MEMBERS of this mainly South American group of birds are very rarely imported, so I only propose to deal here with the two species I happen to have kept, namely the Cayenne Red-breasted Marsh Bird and the Yellow-headed Marsh Bird. Both, incidentally, were received under the wrong names, the former as Military Starlings and the latter as Yellow-headed Troupials.

The CAYENNE RED-BREASTED MARSH BIRD (*Leistes militaris*) is simply coloured, but very handsome. The male has the throat and about two-thirds of the breast, as well as a patch at the bend of the wing, crimson, the rest of the plumage, save for a yellowish stripe above the eye, being black with a tinge of very dark brown. The upper surface is said to become paler and more brownish out of the breeding season. The beak is intermediate in shape between that of a Finch and a Starling. The tail is quite short, and the bird's figure somewhat plump and stocky. Length is about 7 inches. Habitat: Northern South America. The female is brownish-grey with a scarcely-perceptible tinge of red on the breast.

An unusual feature is that the two sexes are said to fly very differently, the male's flight being like that of a Starling, only more laboured, while the female's is zig-zag and erratic. They are partial to meadows containing a rank growth of herbage and coarse grasses, among which the female usually remains hidden. The male, on the other hand, periodically soars vertically up to a height of 70 feet or so, uttering the while a powerful musical long-drawn note which changes to harsh guttural Giant Whydah-like sounds as he descends.

As I write, I have two males in a large planted aviary containing a pond, their companions being, among others, Purple-headed Glossy Starlings, Spree Starlings, Black-headed Orioles, and Scarlet Tanagers. I doubt if they are to be trusted with birds weaker than themselves. Their terrestrial habit is very evident in an aviary, and this is rather a disadvantage, as it means that one sees little of the crimson glow of their underparts.

The YELLOW-HEADED MARSH BIRD (*Agelaius icterocephalus*). This bird is much the shape of a Scarlet Tanager, though perhaps a little smaller, and has a fairly long, pointed, Starling-like beak. The plumage of the male is very easy to describe, being simply jet black, with the head, neck and throat, bright

lemon-yellow. The hen is dark grey-brown, darkest at the tail end and becoming yellower towards the head with a good deal of yellow showing on top of the head. The whole throat is yellow as in the male but the yellow colour diffuses on to the breast.

Its natural habitat is South America.

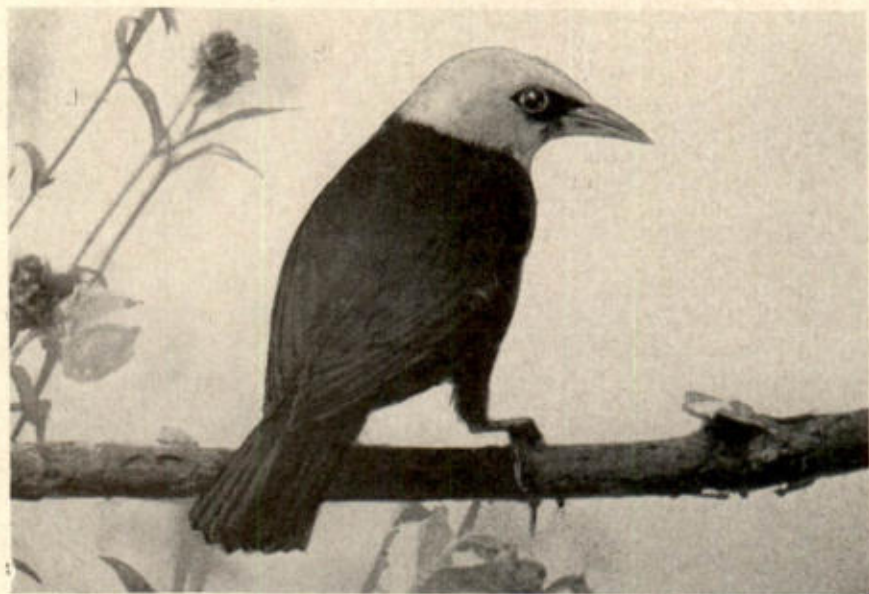
I kept two males in a large planked aviary for two years. They were cheerful active birds continually uttering their rather metallic "Plink-plonk-plink . . . plink . . . plink-plonk," with considerable carrying power. They were remarkably good tempered, never attempting to molest other and very considerably smaller birds in the same aviary.

They lived mainly on insectivorous mixture, sweetened bread-and-milk, and gentles, but I think they also ate some canary seed and apple.

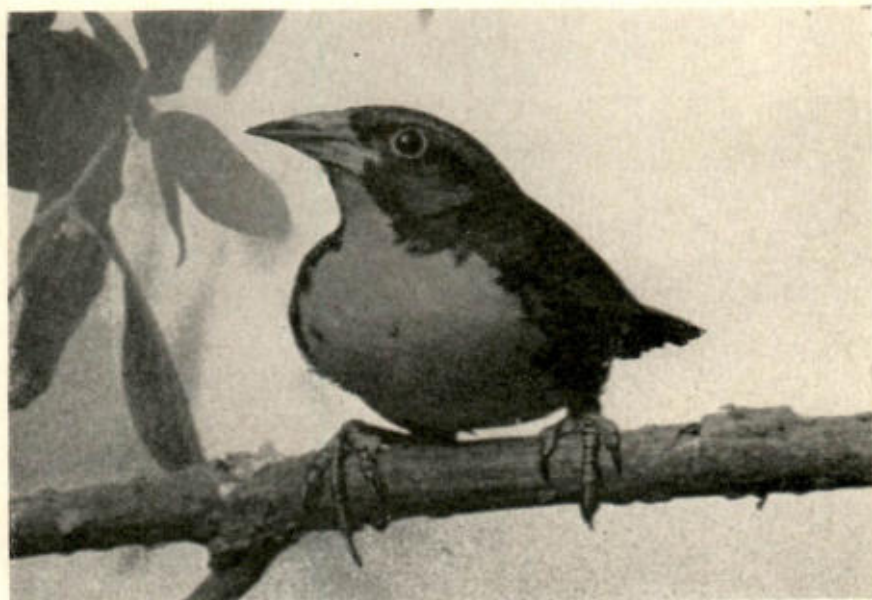
We have bred the Yellow-headed Marsh Bird at Keston, the first breeding of the species in this country.

Having had the two males for a couple of years, we then managed to obtain a female which we put in the same aviary, and as this was very large and thickly planted with various bushes, we left both males in it, since they had always got along so well together, and the odd one would in any case have been difficult to catch up.

All went well until they went to nest, when the cock that had mated with the hen became a perfect fiend incarnate, murdering the other cock and terrorising everything in the aviary—including a pair of Purple-crested Troupials! He also attacked and injured a Red-breasted Marsh Bird considerably larger than himself; the change in temperament was extraordinary.



Sometimes erroneously called the Yellow-headed Troupial, the Yellow-headed Marsh Bird is occasionally imported and makes a cheerful aviary bird



Handsomely garbed in sooty black and crimson, the Cayenne Red-breasted Marsh Bird is not nearly such an active aviary inhabitant as the Yellow-headed

One young one was reared, mainly on gentles and mealworms, but soon after fledging it managed to squeeze through the inch-mesh netting of the aviary, and although it was recaptured and put in a cage in the aviary, through the bars of which the parents continued to feed it, it eventually died before it was independent of its parents, having become weak through lack of food during the period that it was loose. It was thus not eligible for the Avicultural Society's Medal for a First Breeding, as the young have to live long enough "to fend for themselves".

Mexican Bananaquit

(*Coereba flaveola mexicana*)

THESE tiny birds are not often imported and I had never seen one until we were quite unexpectedly sent a dozen of them from Puerto Rico. They are members of the Sugarbird family and a good name for them would be "Lemon-breasted Sugarbird".

The crown is dark slate-grey, bordered at either side by a white superciliary line. The remainder of the head and also the chin and throat are pale grey. The rest of the upper surface is greyish-olive, with an olive rump and a small

white patch on the wing. The breast and sides are lemon-yellow, the flanks olive, and the belly and under tail-coverts white. The outer tail feathers are tipped with white on the inner webs. The beak is pointed and slightly curved, with a small red patch at the base of the lower mandible.

The sexes are much alike, but in the female the yellow areas are paler and less extensive, as is also the red spot at the base of the beak. The length is a little over 4 inches.

Distribution: Mexico.

Although not at all brilliantly coloured, these are rather attractive little birds and require the same diet and treatment as the Yellow-winged Sugarbird.

Incidentally, another variety of this species—*Coereba chloropygia* from South America—is called the Yellow-breasted Sugarbird or Brazilian Flowerpecker.

Military Starling

(*Tropialis militaris*)

MANY years ago, it would appear that these birds were fairly often imported, but they are seldom brought over nowadays. This is a pity as they are rather handsome, and said to be quite good songsters. In shape and size they are something between a Starling and a Troupial.

The upper parts are, like those of many of the Weavers and Whydahs, brown, streaked with blackish, the feathers having paler borders. There is a wide creamy-buff streak above the eye. The underparts are mainly scarlet. The beak is longer and more sharply-pointed than that of a Weaver, but less so than that of a Troupial. The scarlet of the female's underparts is said to be less intense than in the male. Habitat: South America.

Curiously enough, another South American bird belonging to a different, though related family, namely the Red-breasted Marsh-bird (*Leistes guianensis*), strongly resembles the Military Starling, the chief difference being that the upper parts are sooty black with only a tinge of very dark brown.

It is many years since I had Military Starlings so I am afraid my recollection of them is somewhat vague; nor does much seem to have been written about them as aviary inhabitants. There is, however, a short article on them by Mrs. E. Warren Vernon on page 164 of the Third Series, Volume III of the *Avicultural Magazine*.

In it she agrees with another writer as to their admirable qualities as aviary birds, and adds: ". . . they are most gentle to the other inmates of my conservatory-aviary, and these consist of Waxbills, Nightingales, Long-tailed Tits, etc., so there is a variety of them to quarrel with if so inclined; and considering their long punishing bills and heavy build, it is the more remarkable as I think Starlings are usually most aggressive."

This account of hers is very interesting, but, at the same time, I must say that according to my own experience, I consider it a most risky proceeding

to associate any member of the Starling family with the small and defenceless birds she mentions.

Military Starlings are, as the shape of their beak suggests, seed-eaters, but like most Starlings, they are more or less omnivorous as well. Fruit can be offered, and in addition to such seeds as canary, sunflower and a little hemp they appreciate insectivorous mixture and a few mealworms or gentles daily.

Mountain Bluebird

(*Sialia currucoides*)

THIS always strikes me as being the true Blue Bird of folk lore, and very beautiful it is. The male is sky-blue above, and grey-blue below, with a faint suggestion of buff mottling on the breast. The blue is most brilliant



The Military Starling is marked and coloured rather like an out-of-colour Whydah, but with a large area of bright scarlet on the breast. It is often confused with the Red-breasted Marsh Bird, and both come from South America

on the tail and wings, particularly the flight feathers, so it is when the bird is seen on the wing, with its rapid glancing flight, that it presents such a wonderful flash of blue. The female is also very beautiful with her stone-grey body colour which blends so well with the blue in the wings and tail.

Distribution: From the high Californian mountains northwards to Southern Yukon.

This bird differs considerably in temperament from its close relative the Western Bluebird, and pairs are so apt to fight that they are best kept separate except during the actual breeding season, whereas a pair of Westerns hardly ever bicker, and can safely be kept together all the year around.

Although it can hardly be called a song, Bluebirds have a pleasant warbling note which is frequently uttered at the approach of the breeding season. The cup-shaped nest is built in a half-open fronted box which they seem to prefer to one with an entrance hole in the upper half of the front.

We have bred the Mountain Bluebird at Keston, but with us it has not proved so prolific a species as the Western. When first fledged, the young ones have thrush-like markings on the breast, but these soon disappear.

Bluebirds should be fed on a best grade insectivorous mixture which can be bought, although we make up our own as we have a considerable number of insectivorous birds to cater for. As live food they should be given a daily allowance of gentles and a few mealworms, the amount of the latter being increased when they have young in the nest. They rear the young ones entirely on live food and often have more than one brood in a season. A point to bear in mind is that the newly fledged young ones are apt to be terribly wild and to bang their heads in panic against the wire roof of the flight, so it is a good plan to cover it with wattle hurdling during the breeding season.

Although live food should be freely supplied when there are young in the nest, it should be rationed at other times, so that they are made to eat insectivorous mixture as well, since the latter contains valuable ingredients which are good for them. Most insectivorous species, if given the chance, will live exclusively on live food, but they should not be allowed to do this.

I have always found that it is best not to put Mountain Bluebirds which have been separated during the winter back with their mates until late April at the earliest, otherwise clear eggs may result.

They are perfectly hardy, but I have found it is best to shut them each evening into a dry draught-proof shelter during the winter months.

Occipital Blue Pie

(*Urocissa melanocephala occipitalis*)

THIS magnificent member of the Pie family is certainly not to be recommended to anyone who wants only birds that can be kept and bred with a minimum of exertion. Nevertheless it is so beautiful that it is worth taking a good deal of trouble over.

The male has the head, cheeks, throat, and upper breast glossy black with a narrow snowy white, slightly erectile crest which extends from the forehead to the mantle. This, perhaps, can hardly be called a crest as its usual appearance is as a long white streak against the black background. The back and wings are French grey, the flights having some blue in them and being tipped with white. The under-surface is very pale greyish-white merging into pure white on the abdomen and under tail-coverts. The tail is rich deep cobalt blue, each feather being tipped with white, the two central tail feathers being very long, tipped with pale blue and white, and slightly incurved. The beak and feet are bright orange. Both sexes are alike. At least I was never able to discover the slightest difference in the plumage of my breeding pair.

There is an even more beautiful race of this bird namely the FORMOSAN BLUE PIE (*Urocissa carulea*) its plumage being a wonderful combination of Royal blue and black with touches of white, but it has rarely been imported and the only specimen I have ever seen belonged to Mr. Ezra.

Occipital Blue Pies are found in India, China and Formosa. One of the most attractive things about them is the wonderful light airy buoyancy of their flight, which is very reminiscent of that of our British Jay. For that reason I always think half their attraction is lost unless they are housed in a reasonably large outdoor aviary, with a flight not less than 5 feet wide by 7 feet high by about 25 feet long. This is roughly the size of the aviary I kept and bred them in at Keston before the war.

Originally I had a single bird and one of our customers who had another very kindly let us have it to put with ours. That they should prove to be a pair seemed just too good to be true. Nevertheless, such was the case, as shortly after the introduction of the newcomer I noticed our bird crouching low on the perch while the cock, as it turned out to be, took a series of gigantic leaps to and fro across her prone form.

I was at the time quite close to their aviary and was surprised to hear the low sweet song—rather like the muted notes of a Thrush—with which the cock accompanied these acrobatics. It was quite the last sound one would expect to hear uttered by a member of the harsh-voiced Pie family. However, this mixture of opera and ballet evidently constituted his courtship display, and I was very interested to have witnessed it. I doubt if hitherto it has been recorded, particularly the song, as one has to be pretty close to hear it.

I had a thicket of nailed-up laurel branches arranged at the covered end of the aviary. In this the pair at once constructed a large nest mainly of twigs, rootlets and coarse grasses, and soon the hen was sitting.

I felt that sooner or later we should have to find out how matters were progressing, so one day when the hen was off we peered into the nest from outside the aviary (we should probably have been attacked had we ventured inside!) and managed to catch a glimpse of three eggs. All of these hatched, two of them being fully reared into very fine youngsters, though the third disappeared at an early age. The really hard labour which the breeding of these birds in confinement entails began after hatching.

Normally they should be fed on a coarse-grade insectivorous mixture with a daily allowance of a few mealworms or gentles and some small strips of raw meat about twice a week. Being really omnivorous they also appreciate

minced-up house scraps. In addition they should be given freshly-killed mice, young rats and sparrows whenever available. No delicacy gives them greater pleasure than a nest of young mice still in the naked pink stage, and these they swallow whole—as also, I believe, do the Chinese, though in their case they are said to dip them first in honey!

When Occipital Blue Pies have young in the nest, however, their harassed owner has to keep up a non-stop supply of mice, young sparrows, young rats



Few members of the Pie family are more magnificent than the striking Occipital Blue Pies. These two were bred at Keston

etc., and though they should still be given the insectivorous mixture, raw meat and mealworms, etc., there would not be a chance of their rearing their young on these alone. Another natural food, of course, is the eggs of other birds, and I used to give ours any infertile Budgerigar and Parrakeet eggs, which they would rush down to at once and thoroughly enjoy.

The chief difficulty in rearing these carnivorous species is that, since their diet in a wild state consists largely of the eggs and nestlings of other birds, there is always the danger that if they are not given quite enough food they will eat their own young. On the other hand, as they do not have to hunt for their food they are inclined to stuff themselves if given too much, and becoming bored with their young, either let them die or throw them out of the nest and start breeding again, only to repeat the whole process.

The only thing to do, therefore, is to feed them every few hours all the time the young are in the nest. Each time they should be given only as much food as they will consume and feed to their young ones during an hour or so. I used to feed our breeding pair about four times a day, giving them an extra large final feed so that there should be some left to carry them over until the first morning feed the following day.

The young grew quickly and the hard work entailed was amply compensated for when I went to their aviary one morning to find two very fine young Blue Pies—dull-coloured short-tailed editions of their magnificent parents—perched on a laurel branch just beside the nest. Soon, however, another problem arose, as I had read that members of the Pie family had a nasty habit of attacking and killing their young in confinement soon after they were fledged. After a few days, therefore, I had the young placed at one end of the aviary, separated from their parents by a screen of wooden slats wide enough apart to enable the old birds to go on feeding them through the gaps.

This they did but seemed so distressed to be parted even to that extent from their young ones that I had the screen removed, and no parents could have been more exemplary. I never saw them give their young more than a mild peck of reproof if they were pestering them for food when they had already been fed. I left the young birds with their parents for just over a fortnight and then removed them to a separate aviary.

Occipital Blue Pies have all the intelligence and inquisitiveness of our own Magpie, and they also make the same harsh chattering and scolding cries when alarmed or angry. They are very dangerous companions for other birds, even in a large aviary.

Paradise Tanager

(*Calospiza (Tangara) paradisea*)

THERE are few more brilliantly-coloured birds in the world than the gorgeous Tanagers of the Calliste group, and the Paradise is generally considered to be the most beautiful of them all. It is small as Tanagers go, being rather less than five inches in length.

The upper back, shoulders, nape, wings and tail are black. The rest of the upper parts, as well as the throat and breast, are a wonderfully vivid deep sky blue; the head is an almost metallic golden-green with a narrow black area round the base of the beak.

Males and females are so much alike that they are extremely difficult birds to sex, though some writers say that the female's colours are less brilliant than those of the male.

All the Calliste Tanagers inhabit South America, and the Paradise comes from Guiana, where they are usually found living together in flocks and feeding mainly on fruit and berries, often in the company of Sugar Birds. Like many

brilliantly-coloured species they cannot boast of much in the way of a song, and this, I always think, is as it should be, for it seems only fair that the more sombrely-coloured birds, such as the Nightingale, should be compensated for their lack of colour by the brilliance of their song. While most of the Calliste Tanagers frequent well-wooded mountainous country, the Paradise is also to be found in the low country in Guiana.

I cannot claim to have had extensive experience in keeping these Tanagers. I do recall having a short-lived specimen when I was a schoolboy, but my chief recollection is of trying to help pull round a small consignment of half a dozen or so of these birds that arrived at Keston in very poor condition before the war. I am afraid, however, they were a hopeless proposition from the start, and despite all the care we lavished on them sooner or later all died.

The trouble was, of course, the careless way in which they were so often managed on the journey over. Whereas the hardier seed-eating birds will, once properly housed and fed, usually recover from such treatment in an amazing way, there is little hope for delicate insectivorous and frugivorous species such as the Calliste Tanagers unless they receive the best possible feeding and attention during the journey.

They should be fed on the best quality insectivorous mixture plus a little hard-boiled egg and sweetened bread and milk if they will take it. In addition they should always be given a generous supply of sweet ripe fruit, such as grape, banana, pear and orange; fruit being, to a great extent, their natural food. They must also be provided with live insects, ant pupæ and cleaned gentles which are preferable to mealworms—unless these are strictly rationed they will lead to over-fatness and fits.

I think there is little doubt that, suitably fed and housed, these birds might flourish, particularly in an aviary, with plenty of exercise, which I believe to be far more important to their well-being than continuous heat.

If ever I had the chance of trying Paradise Tanagers again, I should try to get them sent over from South America by air. Once they had recovered from the journey, I should house them in an aviary, not necessarily of very vast proportions, but with a shelter that could be heated in the winter, and in which they would be shut each evening during all but the warmest summer months.

Kept under such conditions I believe that Paradise Tanagers might live for years, and if the aviary contained suitable bushes for them to build their cup-shaped nest in, they might even breed there. Surely this would be a triumph enough to satisfy even the most ambitious of aviculturists! The Calliste Tanagers have always been considered difficult subjects in confinement, but their great beauty makes them well worth taking a great deal of trouble over.

Pekin Robin

(*Leiothrix lutea*)

MANY birds are badly named, but perhaps the Pekin Robin more so than most, for it neither comes from Pekin nor is it a Robin! It is a native of China, and a similar species (*L. lutea calipygus*) is found in the Himalayas. The typical bird has been given an alternative name of Chinese Hill-Tit but is always known as the Pekin Robin.

It is in every way a most attractive bird, the upper parts being olive-green and the forehead yellow. The tail is black, somewhat forked. The underparts are pearly-grey; the bright yellow of the throat merging into reddish-orange on the upper breast. The wings are dark olive-green brilliantly marked with orange, yellow and red, while the beak is sealing wax red. The size and shape are roughly those of a Robin. Although the sexes are much alike, the cock has a bolder look and his colours are slightly brighter than the hen's.

Pekin Robins are probably the best-known and most widely-kept of all the foreign insectivorous species. It would be more accurate, perhaps, to describe them as omnivorous rather than insectivorous, for they will even subsist for some considerable time on a diet of such seeds as white millet, hemp and canary. This, however, is not a complete food for them. They should have access to a good insectivorous mixture and be given, particularly if kept in a cage, a small daily allowance of mealworms or gentles.

Pekin Robins were among the very first birds I ever kept in the "Crystal Palace Aviary" I was allowed to have in my nursery when I was a very small boy. Although they survived for a while, doubtless their lives were considerably shortened by their being fed solely on canary, millet and a little hemp, which the dealer from whom my mother bought them assured us was all they needed.

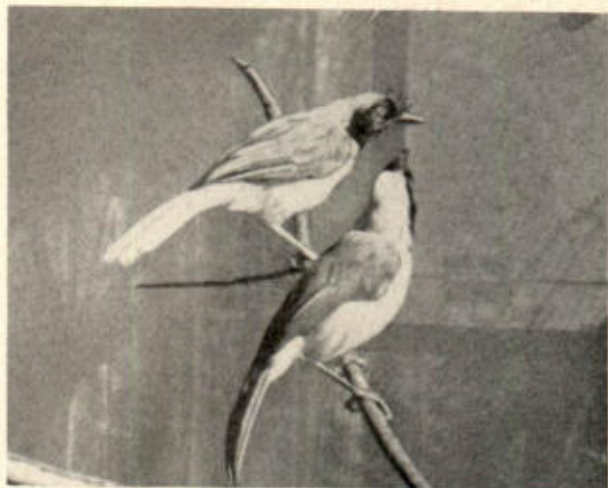
Pekin Robins are in most respects admirable aviary birds and have a brief but very melodious song with much the same liquid notes as a Garden Warbler. I have always found them perfectly harmless to even the smallest companions, but they have two disadvantages when kept under such conditions. One is a tendency to eat the eggs of other birds, and the other their skulking habit of spending most of their time hidden in the thickest bushes and undergrowth if kept in a naturally-planted aviary. The latter is, perhaps, only to be expected, as in a wild state they live in small parties frequenting the densest jungle.

When World War II broke out we liberated most of our commoner birds, and a very fascinating sight they were. Nevertheless, although I know the Pekin Robins stayed at any rate for several weeks, as I used to hear their sweet song issuing from the depths of the thickest bushes and undergrowths, I hardly ever saw them.

In his autobiography "The Years of Transition" the late Duke of Bedford says of Pekins in a short chapter devoted to foreign birds liberated at Woburn before the 1914-1918 War: "Pekin Robins left the garden, but established themselves in a dense privet plantation near one of the ponds. There they

maintained themselves in practically a wild and independent state for a number of years, but ultimately they disappeared. They are charming little birds and very sweet-voiced, but secretive and difficult to see."

From their owner's point of view, therefore, they are not satisfactory birds in a thickly-planted aviary. Some years ago I turned a couple of Pekin Robins loose in one of my planted aviaries containing a small thicket of



Peruvian Green Jays, like some other green birds, fade to blue if kept in a cage or aviary.

Snowberry, and in this they spent much of their time. Fortunately the thicket was not extensive enough for them to spend all their time in it, so they did do a certain amount of flying about in the aviary. I am quite sure, however, that had the thicket been larger I should have seen practically nothing of them.

If suitably fed and treated—by which I mean that they should be supplied with an insectivorous mixture as well as seed and live food, natural twiggy perches, and plenty of opportunities for bathing—they are very lively, amusing, and as acrobatic as Tits, when kept in a really large flight cage. It is possible that under these conditions their owner derives the most enjoyment from them.

If, however, the chief desire is to breed them, they must be quite differently housed, and the owner must resign himself to seeing them but seldom. Pekin Robins always used to be so cheap and easy to obtain that few aviculturists have bothered to breed them. This, however, is possible, provided they are housed in a really densely-planted aviary and supplied with extra live food such as gentles and a limited daily ration of mealworms, in addition to such insects as they can capture for themselves.

On two occasions I have had them hatch young in a planted aviary, but each time the nest either collapsed as their brood grew or was interfered with by other birds in the aviary.

Of course, if the aviary is a really large one of the wilderness type with only a few other inhabitants, it is quite possible that the parents will find sufficient insects in it on which to rear their brood, as they would be living under practically natural conditions. If, however, mealworms are supplied, it should be remembered that they are a highly stimulating food, and if too many are given they usually have the disastrous effect of causing the parents to throw their young ones out of the nest and start breeding again. Gentles are, preferable.

The nest is a deep cup-shaped affair constructed in the midst of a dense bush or thicket, and the eggs are pale green spotted and blotched with reddish-brown.

Pekin Robins are perfectly hardy, and in a planted aviary will usually choose to roost both summer and winter in the bushes rather than the shelter. As to feeding they are practically omnivorous, and as I have said will even subsist for some time on whole or crushed hemp seed, and millet and canary, but essentially they are insectivorous birds.

Peruvian Green Jay

(*Xanthoura yncas*)

THE Peruvian Green Jay has a green back, wings and tail, and yellow underparts. The crown is ivory white, while the rest of the head and the throat area, widening out into a deep semicircular bib, are black. The bushy frontal crest, as well as a small area above the eye and a large one below it are cobalt blue. The eye is pale gold.

The sexes are similar, but the female can be distinguished by her rather smaller size.

The Venezuelan Green Jay (*X. caruleocephala*) is like the Peruvian, but lacks the white on the crown, and the Mexican Green Jay (*X. luxuosa*) has green instead of yellow underparts and no crest.

Judging by my pair of Peruvians, these Jays, like the Hunting Cissa, change colour in captivity, the green of the upper surface becoming blue, and the yellow underparts white. In spite of this, however, they are quite as beautiful after the change as before it.

My pair had changed colour before I received them, as the birds had already been in captivity for two or three years; and I think it is rather interesting that, after their last moult, the blue of the back, wings and tail has become suffused with green and the white of the underparts with yellow, so it seems possible that after a further moult or two they may resume their normal colouring. I think this is because their home-made insectivorous mixture contains soya flour and they are given a regular supply of elderberries during the moult—both of which are said to help certain birds to retain their original colour, or, in this case, regain it.

These tropical Green Jays are of less robust build and constitution than our native and some other Jays, and I should imagine that in a wild state they

might be rather less carnivorous than other Jays, probably feeding to a great extent on caterpillars and large insects, such as beetles, etc.

They certainly feel the cold, and my two are the sole occupants of a fair-sized planted aviary with a roomy, well-lighted shelter which is heated during the winter months.

They should be given a varied diet, and mine have insectivorous mixture, gentles and mealworms, a little minced raw meat and sometimes some chopped-up hard-boiled yolk of egg. They are also very fond of fruit such as grapes, chopped dates, soaked raisins, pieces of pear and apple, and elderberries when in season. Very young mice in the pink, raw-meat stage are much relished. In fact, one can offer anything, within reason, provided it is wholesome, for these, like other Jays, are more or less omnivorous.

The cock displays with head held high, pin-point pupils and puffed-out breast feathers. He then lowers his head and opens wide his beak as though about to be sick, but instead there issues forth a strange medley of curious



The Purple-crested Touracou is dark green shot with violet, except for the neck and upper breast which are pale green tinged with pink. It is not hardy and require some artificial heat in winter

popping sounds and rather strangulated whistlings. The hen is a quiet, subdued creature, but the cock is aggressive and ever ready to put on a defiant display if one goes close to his aviary.

When the bunch of laurel branches which had been nailed up outside under overhead cover was examined last autumn, it was found that the pair had made a nest, but it was empty. So we shall never know whether or not the hen had laid, or whether the eggs or the newly hatched young had been devoured by the parents, but we hope for better luck with them in the future.

Since writing the above, the hen of this pair died and as there did not seem to be much prospect of getting another, we parted with the cock. Early in 1961, however, I was able to obtain another and obviously younger pair of these Jays, which were in their importation plumage of green and yellow, as they still are at present. It will be interesting to see whether, with careful feeding, they retain their original colouring after they have moulted.

Purple-crested Touracou

(*Gallirex porphyreolophus*)

THIS very fine Touracou is one of the two members of the genus *Gallirex*, the other Touracou, of mainly green body plumage, having the genetic name of *Tauraco*.

It is dark green shot with violet except for the neck and upper breast which are pale green with a pinkish tinge. It has a fine Roman helmet-shaped purple crest, and the eyes are surrounded with bright red skin. The wings are carmine. Total length is about 17½ inches. The sexes are alike in plumage, but the female is perhaps slightly smaller than the male and has a more feminine-looking head.

Distribution: South Africa, Natal and Eastern Cape Province.

My pair were in a very large aviary containing a pond, and the vivid carmine of their wings made them a magnificent spectacle in flight. They were delightful birds in every way because, unlike the only other Touracou I have kept, namely the Knysna, they were a most affectionate couple.

They have the loud ringing call note which is characteristic of Touracous in general, and their flight is wonderfully buoyant. When flying the length of an aviary they have the odd habit of bouncing on a perch or the side of the aviary on their way from one point to another. They also climb in an extremely agile and rather un-birdlike fashion among the branches of a tree in a manner that reminds one more of some arboreal mammal such as a squirrel.

There is something rather pigeon-like about Touracous and they build exactly the same kind of nest consisting of a platform of twigs, and—like pigeons—their eggs are white and usually two in number. In an aviary it is best to fix up some sort of platform or a shallow box such as seedlings are pricked out into, or best of all, a large round shallow basket for them to build their nest on, and this should be put under overhead cover either outside or preferably in the shelter.

In a wild state Touracous feed on fruit, leaves and shoots, and their liking for the two latter is very evident when they are kept in a planted aviary.

Mine did not seem interested in mealworms, gentles, or insectivorous mixture, and except for leaves and shoots, they lived almost entirely on fruits such as apples, pears, grapes, soaked sultanas and chopped-up dates—the latter having a high nutritional value—and some people recommend sprinkling

soaked biscuit meal on the fruits. They can also be offered chopped figs and sweetened cooked rice and potatoes, and they are fond of freshly gathered elderberries.

Touracous are not hardy and require some artificial heat in winter. The best way of all to keep them is in a roomy planted aviary with a cosy well-lighted shelter which can be heated in winter, and in which they can be shut each night during the winter months.

Finally I may add that of the genus *Tauraco*, the SENEGAL TOURACOU (*T. persa*) seems to be good-tempered, and a pair will behave amicably towards each other, as is the case with the Purple-crested Touracou.

Purple-headed Glossy Starling

(*Lamprocolius purpureus*)

WITH the exception of the Royal, this is the most beautiful of the Glossy Starlings. The head, underparts, and the short tail are deep violet-purple, while the back and wings are shining steel blue with green reflections. The legs and beak are black, and the large eyes have bright golden irides. It is one of the larger members of this family.

These birds are by no means easy to sex, but the hen is, if anything, slightly smaller than the cock, and with a less massive head. There is little difference, however, in the actual plumage colour.

Distribution: West Africa.

At the time of writing I have what I believe to be a true pair of these Starlings in a very large planted aviary containing a pond. The aviary is about 70 feet long by 25 feet wide by 12 feet high, big enough for one to appreciate the speed and grace of their flight, which starts with powerful wing-beats and ends in a glide before alighting.

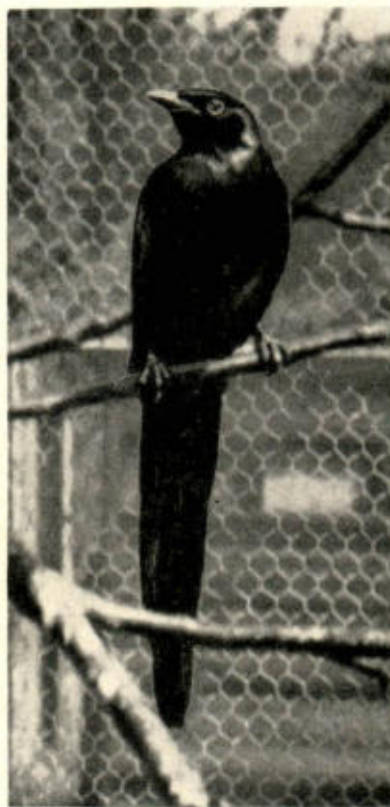
They are particularly active in the morning, flying from end to end, and sometimes right round the enclosure. At such times they are a truly magnificent sight, particularly with the sun glinting on all the varying shades of their brilliantly metallic plumage, the wings and back appearing blue or green according to the angle at which the sun strikes them.

I have been told by at least one person of the murderous tendencies in mixed company of the males of mated pairs of these birds. Mine, however, share their large enclosure with a very mixed collection, which includes Mandarin and Carolina ducks, Oyster Catchers, Ringed Plover, Shamas, Fruit-suckers, Scarlet Tanagers, Crested Bronze-wing Pigeons and Necklaced Doves.

Possibly because of the large space at their disposal, and the fact that they may not be a true pair, they are singularly well-disposed towards their companions, and have never shown the slightest sign of aggression towards any

of them. If, however, a pair are to be housed in a large cage, or small aviary, it would probably be advisable that they should be the sole occupants.

They appreciate a rather varied diet, which should consist of insectivorous mixture, and a daily allowance of mealworms or gentles, preferably the latter. These should be the staple foods and in addition they are fond of fruit; apples and chopped dates being particular favourites and easily obtainable. They



The Long-tailed Glossy Starling is more Magpie-shaped than the rest of its family

will also eat pieces of stale bread previously soaked in sweetened watered milk, and this should prove a valuable rearing food when they have young in the nest.

THE LONG-TAILED GLOSSY STARLING (*Lamprotornis caudatus*) is quite often imported, and about half of its total length of 20 inches is accounted for by its long tail. It comes from West Africa, and has the metallic plumage ranging from blue and green to violet characteristic of other members of the same family. Moreover, similar feeding and general management are required.

It looks particularly fine in a large aviary, but is not to be trusted with weaker companions. Its voice has been described as harsh and disagreeable, but I find the strange assortment of "scroogling" sounds it makes not at all unpleasant out of doors but it might be trying in an enclosed room.

Purple Sunbird

(*Cyrtostomus asiaticus*)

SUNBIRDS are gorgeous creatures rivalling the New World Humming-birds in the metallic brilliance of their plumage, and they are natives of Africa, Southern Asia and Australasia. The various species differ considerably in size.

Most of them feed on the nectar of flowers and also on small flies. They will occasionally hover like a Humming-bird on rapidly-vibrating wings in front of a flower as they sip its nectar through their long tubular tongues. It is this habit of theirs, together with their iridescent plumage, which doubtless accounts for travellers' tales of having seen Humming-birds where actually none exist, as, for instance, in India.

Some of them, such as the Indian Purple Sunbird (*Cyrtostomus asiaticus*), are no mean songsters, and as they are also familiar garden birds flitting boldly about the flowers in front of a verandah or among the blossoms of the creepers that cover a porch, they are noticed by even the least ornithologically-minded of visitors to the countries they inhabit.

Sunbirds make beautifully-constructed hanging purse-shaped nests, which, in the case of a particularly fearless species such as the Purple Sunbird, are sometimes not in the garden at all but attached to some hanging piece of rope or a hook in the ceiling of a verandah. Incidentally I can imagine few more enchanting experiences than to be able to sit in the verandah of one's house, and observe at leisure the domestic affairs of a pair of Sunbirds. Many nests are placed in the centre of the large spiderwebs that so often drape whole bushes in the tropics.

Sunbirds have never, so far as I am aware, reared young in confinement in this country, although the Purple Sunbird nested on one occasion at the London Zoo, while another pair of the same species laid and incubated their eggs in 1913 in Mr. Brook's aviaries, but failed to hatch any young ones.

There would surely be no lovelier sight than a large "garden" aviary planted with flowering shrubs and creepers, and inhabited by a number of males of the various species of Sunbird, with the sun glinting on the marvellous metallic colouring of their plumage. Unfortunately, I am afraid this will remain a pipe-dream as Sunbirds have less beauty of disposition than of plumage. They are, in fact, terribly pugnacious, so much so, indeed, that not only is it impossible to keep several unmated males together, but even a pair are sometimes apt to scrap so badly that they have to be separated.

Males, however, make charming and very easily-tamed pets when housed singly in cages. The late Duchess of Bedford had a Purple Sunbird in a flight cage indoors, which lived with her for no fewer than twenty-one years, a really astonishing age for such a small and fragile-looking bird to reach.

Sunbirds do well on a diet of nectar prepared in the same way as I have recommended for Sugar Birds. They are also fond of insects and though these

are not an everyday necessity in their diet, they should be offered some from time to time, such as live ant pupæ, aphid (greenfly), fruit flies, small spiders etc. Some of the larger species might take very small mealworms.

A single male Sunbird will often live for many years in excellent health in a cage if it is a really large one preferably of the box or semi-box type, and provided the feeding and general treatment are all they should be. There is, however, one very important point to remember in this connection. The cage as delivered from a shop or the manufacturers will be furnished merely with three or four ordinary hard straight perches. These do well enough for certain birds, but are quite unsuitable for Sunbirds, which *must* be provided with resilient natural twiggy perches of various sizes. These are essential to keep their feet in good order and should be renewed fairly often.

A disadvantage with Sunbirds that have red in the plumage—and these are among the loveliest of the whole family—is that in confinement the red areas are inclined to fade to a yellowish-straw colour. There seems no way of preventing this in a cage, though I believe Monsieur Delacour found that it did not happen, at any rate to the same degree, if the birds were kept in the warm moist atmosphere of a tropical house containing a luxuriant growth of vegetation. It is probably under such semi-natural conditions that they would be most likely to breed successfully.

The late Duke of Bedford found that those he kept retained their red, but it must be borne in mind that they were housed in very large aviaries of the type in which he kept his Parrakeets. He told me that he had kept both Purple and Red Sunbirds satisfactorily in an outdoor aviary with a heated shelter, and if they got *lots* of insects and spiders and had unlimited sun and fresh air even the Red did not lose its colour.

Although Sunbirds do well in the very warm moist atmosphere of a tropical house, it must not be supposed that they are always used to similar conditions in a wild state. Far from it, indeed, for some of the mountain-dwelling species such as *Nectarina johnstoni* are found at very high altitudes, even up to 14,500 feet, but curiously enough these are not always by any means the easiest to keep in confinement in a cold climate.

Single males of this family make charming cage birds as they are cheerful, lively, quickly become tame, and often have a very pleasant song into the bargain. I don't think even the most exacting person could ask more!

Over forty species of this large family have, at one time or another, been imported into this country, but I will confine myself to giving a brief description of a few of its better known members. The Bronze, Malachite and Greater Double-collared Sunbirds are described elsewhere in this book.

PURPLE SUNBIRD (*Cyrtostomus asiaticus*). The male is black, with blue, green and purple reflections and, by way of contrast, there are two striking orange pectoral tufts. In winter both male and female are greenish-brown above and yellow below, but the cock retains his dark wings and has a broad metallic stripe of dark violet from the chin to the abdomen. Distribution: India.

HIMALAYAN YELLOW-BACKED SUNBIRD (*Æthopyga siparaja seheriæ*). The male has the crown of the head metallic green, duller on the nape. A steel blue band runs from the beak to the sides of the neck, and the rest of the head, the breast, and the upper portion of the back are carmine red, the lower part of the

back being bright yellow and the tail green. The female is olive with a reddish tinge on the throat. They are found in the Indo-Malay region. This is one of the very beautiful Sunbirds, the red in whose plumage fades to yellow in confinement.

AMETHYST-RUMPED SUNBIRD (*Cyrtostomus zeylonicus*). The male is chocolate-brown above and yellow below. The crown of the head is green, while the throat and rump are shining metallic violet. The male, when out of colour, resembles the female, being grey above and yellow below, with a greyish-white throat and russet-brown markings on the wings and tail. Distribution: India and Ceylon.

LESSER DOUBLE-COLLARED SUNBIRD (*Cinnyris chalybeus*). Like the Greater, see page 273, but smaller and slimmer, and with no red in the plumage. They also inhabit South Africa, and are the most common of all Sunbirds in captivity. Males of this species go into eclipse plumage.

AMETHYST SUNBIRD (*Chalcomitre amethystina*). The male is deep velvety black with the crown of the head a shining metallic green. The throat is mauve, and the fold of the wings violet. The female, and, it is said, the male, when out of colour is grey above with a blackish throat, the underparts being light yellow spotted with black. There seems to be, however, a conflicting opinion as to whether the male does go into eclipse plumage, and although it would appear that this is sometimes the case, it seems to be a question of the individual bird rather than a characteristic of the species. They inhabit south and east Africa, and are among the less rarely-imported members of the family.

I doubt if any living aviculturist has had greater experience in the keeping of the Sunbird family than Lord Chaplin, so I am pleased to be able to conclude this account of Sunbirds with some very interesting information that he has kindly given me. I remembered that he had told me some remarkable facts as to the hardiness of certain of these birds in captivity and I wrote to him for some details. Here is his reply:—

“Yes, in my experience, Sunbirds are, as a whole quite hardy once they have recovered from the shock of being transplanted from their homes. I have, at different times, kept between 40 and 50 species of all the genera except *Arachnothera* (Spider-Hunters). I have had *Nectarinia tacazze*, *Aethophyga siparaja seheria*, *Cinnyris afer*, *Cinnyris mediocris* among others out of doors in small aviaries in Sussex all the winter without any heat at all. They never used a shelter even in the worst weather.

“An example of *C. afer* lived at liberty for many months in a garden near Porlock early in the war and survived many winter months until it was killed, it is believed, by a Sparrow Hawk. It was seen feeding on *Fuchsia*, *Buddleia* and *Jasminum nudiflorum* and was always in full vigour and perfectly moulted into adult male plumage, including unfaded scarlet chest-band. I actually took a day off from the R.A.F. and went to see it! I am confident that it was a bird I had lost in Chelsea at least a year earlier. This may sound fantastic but Sunbirds are well known wanderers and very strong fliers.

“It is always dangerous to generalise and I think it unwise to call one species hardier than another. It is more likely, in my opinion, that hardy and less hardy individuals will occur in most species. Nevertheless I have found *Antheptes rectirostris tephrolama* and *A. longuemarei*, which are said to feed on

berries in the wild, difficult to keep for long. The high altitude *Nectarinia johnstoni* (11,000 to 14,500 feet) is certainly very insectivorous and difficult at first in this country.

"Many Sunbirds die in captivity after two or three years from fatty degeneration of the liver. Perhaps a diet of very diluted condensed milk and honey without added carbohydrates, in the form of Mellins or other infant foods, would be better than the usually accepted mixture. Even after twenty-seven years' experience of Sunbirds in captivity I am not sure about this. Small spiders are definitely the best live food.

"Incidentally the Splendid Sunbird (*Cinnyris coccinigaster*) is a notably fine, Blackcap-like singer and a good mimic."

Royal Starling

(*Cosmopsarus regius*)

IMPORTED for the first time into this country in the early nineteen-twenties, the Royal Starling is to my mind the loveliest of a very beautiful family, all of which have a high metallic gloss on their plumage.

The male has the head, neck and throat metallic green, passing into blue on the mantle. The rump is blue, the wings and the rest of the upper surface being blue shot with purple and violet. The long tapering tail is brown indistinctly striped with wavy brownish-black horizontal markings. The feet and beak are black, the latter being long and slender. There is a blackish streak running from the base of the beak and separating the crown from the throat and in the middle of this the pale golden eye is very striking. On the crop is a purplish band, and the whole of the rest of the breast and the under tail-coverts are brilliant orange-yellow. Length is about 13 inches.

These birds are generally considered to be very hard to sex, but Lady Wavertree who bred them successfully in 1930 has recorded that in her pair the cock had a slightly longer tail and rather more brilliant plumage than the hen.

I imagine this must have been the first time they had ever been bred in this country and the locality in which this notable achievement took place—Branksome, Bournemouth West—must have been ideal for the purpose. The surrounding pine woods are a favourite haunt of the large wood ants upon whose eggs and pupæ the young were mainly reared, and when Lady Wavertree says that the number of these they consumed "was marvellous" I can well believe it.

I have never attempted to breed these Starlings, but I used to keep a single male in a mixed collection in a planted aviary before the war, and I never tired of his beauty. When he was on the ground, the sunlight shimmering on his resplendent plumage would change it from blue to purple and violet as he moved about, in wonderful contrast to the brilliant orange-yellow breast.

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Unfortunately I had to give up keeping Royal Starlings as they invariably contracted gapes on our rather clayey soil and the present efficacious French remedy "Amyodol Interne" was not known at that time.

They live well in large flight cages and should be housed in one of these in a warm birdroom during the winter, although they can safely pass the summer in an outdoor aviary, and could winter in one if it had a heated shelter. I used to feed mine on insectivorous mixture and a small daily allowance of gentles occasionally varied with mealworms with, of course, any other live food such as ant pupæ and spiders. Some will eat apple and other fruits. Chopped dates and elderberries can also be given.

They will make their nest in a Parrakeet box, such as I have recommended for Rosellas and have the advantage—or at least unmated males have—of being quite harmless to their smaller companions in a fair-sized aviary. If I ever had the chance of trying these gorgeous birds again, I would not keep them in a natural-floored aviary, but in one with a floor of either concrete or several inches of coarse gravel, in order to minimise the risk of gapes.

Rufous-bellied Niltava

(*Niltava sundara*)

THE Rufous-bellied Niltava has always been one of my favourite birds, for it has infinite grace and charm as well as great beauty. The male has the forehead, sides of the head, lores and throat black. The crown, nape and rump, as well as the greater wing and tail-coverts are brilliant shining cobalt blue, the rest of the upper surface being dark blue. The whole of the underparts are copper-coloured. Size is about that of an English Robin. The female is brown with a tinge of olive; a white spot on the throat and two bright blue ones on the sides of the neck, so they are very easy birds to sex. They are found in China, Indo-China and East Himalaya.

I obtained a male Rufous-bellied Niltava in the spring of 1935. He lived in one of my planted aviaries for about seven years and with his charm, beauty and tameness was a perpetual joy to me all the time I had him. He used to spend much of his time in the bushes during a summer day, but towards evening he would fly up on to a high perch and hawk for insects, the successful capture of which was indicated by a sharp snap of his bill. This he would continue to do until long after dusk. It was in the early evening that he used to sing, and his song was a sweet and dreamy sound on a descending scale like a tiny carillon of muted bells.

He was quite the most fascinating of the aviary inhabitants. For minutes on end he would sit motionless, apparently listening intently, with his head cocked on one side and his brilliant cobalt-blue crown shining in the sun, occasionally flirting his tail with a curious upwards and sideways movement. Then he would espy an insect, and if it was on the ground, the flash of blue as he descended upon it almost rivalled that of a Kingfisher.

One day I showed him to Dr. Amsler and I can remember him shaking his head and warning me that Niltavas were very tricky subjects. When I took him into a flight cage in a heated birdroom for the winter I felt I couldn't agree more, for he was always getting ill. On one occasion he had some sort of fit and I left him for dead, but he recovered. This was in early spring and I decided to try him out in the planted aviary because, as he seemed to be in any case destined for an early death, I felt he might just as well die in the aviary as the birdroom.

Far from dying, however, he improved rapidly and I never took him indoors again. Although he spent the bitterest winter nights roosting in the evergreens in the aviary, he never turned a hair and thereafter was always the picture of health. I became very anxious to get a mate for him, but this was not easy, as hens are seldom imported because of their duller colours.

The first "hen" I got for him came from a Continental dealer, and proved to be a male Tickell's Blue Flycatcher! Soon afterwards, however, I was offered one which when it arrived proved to be a genuine hen Niltava but an extraordinary bird. It spent its first day in a cage remaining immobile and apparently on hunger strike. As it had eaten nothing I transferred it the following day to an aviary where it again sat in a corner ignoring the tempting mealworms I had just spread out around it. Then it suddenly took fright and shot out of the aviary door, which I had failed to shut as it seemed most unlikely that the bird would ever move again!

Shortly afterwards I was able to obtain another hen who was a much more reasonable proposition, and as the cock seemed very pleased with her I put them in a planted aviary with a wooden shelter and a flight about 12 feet square. They went to nest at once, using a wicker Hartz Mountain Canary cage hung up in the shelter, and soon there were eggs. This, of course, was very exciting because these Niltavas had never been bred in this country, and I am afraid it was my fault—though I don't think I was entirely to blame—that they were not first bred on this occasion.

I knew the hen had eggs and ought to be sitting. Whenever I passed the aviary, however, she was always flying about in the flight with the cock even a few days after the eggs were laid, so I presumed she had deserted and didn't bother to provide extra live food. Finally, when I looked in the nest I found that the young Niltavas had hatched, but had apparently died at once although the parents had an insectivorous mixture and mealworms. Had I known they had hatched I should have provided them at any rate with cleaned gentles as well as mealworms, and—best rearing food of all—live ant pupæ, upon which alone they would probably rear their brood.

Rufous-bellied Niltavas should be fed on a fine-grade insectivorous mixture, and they will usually eat apple if a thin slice is pushed through the wire netting close to a perch. They should be given about eight mealworms per day per bird—four in the morning and four in the evening—and, particularly if they are caged, their allowance should be varied as much as possible with other live food such as spiders, caterpillars and pupæ, etc.

Probably gentles would prove a more suitable live food than mealworms for a caged Niltava, as it seems possible to give these, even in quite large quantities, without upsetting a bird's liver.

Scarlet Tanager

(*Rhamphocelus bresilius*)

THIS rather large Tanager is in appearance one of the most striking of all foreign birds with a colour scheme that is simple but most effective. The male is deep blood-red with velvety black wings, tail and thighs, while the female is mainly reddish-brown. Length is about $7\frac{1}{4}$ inches. There is no more glorious sight than a number of newly-imported cock Scarlet Tanagers (provided they have arrived in good condition) seen against living greenery in a planted aviary.

Distribution: Brazil.

In pre-war days, however, I used to take one last sad look at my lovely Scarlet Tanagers just before their first moult in captivity transformed their deep blood-red into a pale unattractive brickish-pink. Nowadays the position is changed, chiefly, I think, owing to the wonderful properties of the soya bean.

My two males, which I have had for two years, are fed on a home-made mixture containing no unusual ingredients with the exception of soya flour. As a result their red has to a great extent been retained. I believe the giving of blackberries while they are moulting is said to assist the retention of colour, but I have never tried this, though I gave mine elderberries.

Mine live in a large planted aviary from about the middle of April until the end of October, being transferred to a smaller enclosure with a heated shelter for the coldest months of the year. I think, however, that they might well be wintered successfully without heat, provided their aviary was in a sheltered situation facing south and had a cosy shelter in which they were shut each night.

Their diet should consist of an insectivorous mixture, plenty of ripe fruit such as apples, etc., and the usual small daily allowance of mealworms or, better still, gentles. Some will take sweetened bread and milk. They are also fond of soaked currants and chopped dates.

Unmated males are not in the least aggressive, at any rate in a fair-sized planted aviary. Mine have had as companions Pekin Robins, various Buntings, and tiny Grey Singing Finches, without attempting to molest any of them, though, doubtless a breeding pair would be quite a different proposition. These would need an aviary to themselves.

I have never attempted to breed them, having kept only various males at different times, but pairs are quite willing to go to nest in confinement and young have been reared on several occasions both here and on the Continent. The hen alone builds the neat cup-shaped nest usually in a bush such as privet, and if the young are to be reared successfully, the parents must be kept supplied with a varied assortment of live foods, including a limited supply of mealworms and plenty of gentles.

I have always thought they would be ideal subjects for breeding at controlled liberty as they are large enough to show themselves well, and I can imagine few lovelier additions to a English summer garden than the male in all his glory of black and crimson.



The Pekin Robin is an extremely active aviary inhabitant, with a brief but melodious song



For a Tanager, the Scarlet Tanager is quite easy to keep, and has been bred. Its colour scheme is simple but effective

Scarlet Tanagers have one disadvantage as aviary birds and that is their extreme wildness. Probably this is due to the fact that they realise only too well how conspicuous they are owing to the brilliance of their plumage. In any case, they never seem to calm down, and as soon as one approaches their aviary they dash about, plunging into first one bush then another, thus having a most upsetting effect on the other inhabitants of the enclosure.

Two other Tanagers I have kept at various times but which I have not space here to write about at length are the Palm Tanager and Violet Tanager.

The PALM TANAGER (*Thraupis palmarum*) is, for a member of this gorgeous family, a rather dull-coloured bird being merely olive-green with black wings and tail. It is fairly often imported and has nested in captivity. It ranges from southern Brazil to central America.

The VIOLET TANAGER (*Euphonia violacea*) is a rather attractive little bird which has the forehead and underparts yellow, some white in the wings, and the rest of the plumage almost black with a violet sheen. It is sometimes imported and is found from the Guianas to south-east Brazil.

The Superb and Blue-shouldered Tanagers are described elsewhere in this book.

Shama (Indian)

(*Copsychus malabaricus indicus*)

THE Shama is, I should say, the best-loved of all the foreign insectivorous species that are kept in confinement, and its popularity is well-deserved, for though it lacks bright colours it has charm, elegance, and a really magnificent song. Rather more than half its total length of 11 inches is accounted for by its long tail, which gives it rather the appearance of a miniature Magpie.

Its colour scheme is simple but effective, being mainly glossy blue-black, with a white rump, and all but the two central tail feathers bordered with white, while the lower breast and belly are chestnut. In the female the black areas of the male's plumage are replaced by dark greyish-brown, and the chestnut by a rufous-fawn colour.

The typical form of the Shama is found in India, but as it is a bird of very wide distribution including Siam, Ceylon, Burma, China, and Malaya, as well as India, there are naturally several different races. These are all, as it were, variations on the original theme and do not differ very widely from each other. In any case it is the Indian bird which concerns us here as it is much the most freely imported, and the only one likely to come into the hands of the average private aviculturist.

The Shama is a bird of the dense hillside jungle, where it chiefly haunts well watered ravines. The Burmese form ranges up to 4,000 feet. Although such a well-known singing bird in confinement in India, it is probable that, owing to its shyness and love of forest haunts well away from the dwellings of man, comparatively few people in its native country have ever seen it in a wild state.

The Shama is, of course, chiefly famous for its song, and while I have never been able to see why the Virginian Cardinal should have been given the alternative name of Virginian Nightingale, I do think the Shama's song at its best fully deserves all the superlatives that have been lavished upon it. Certainly, of all bird songs it most nearly rivals that of our own Nightingale.

I say "at its best" because the bird being a very clever and incorrigible mimic its own natural song is sometimes quite ruined by its tendency to copy the songs and what can only be called the noises of other birds. I particularly recall a friend of mine who had a very delightful Shama which he kept in his flat in London. At first the song of this bird, which had previously been in a country aviary and had merely added Blackbird and Thrush to its own repertoire, was a joy to him. In the end, however, it quite forgot its original song, and substituted instead the indiscriminate burlblings of a Starling and the monotonous chirping of London Sparrows.

At its best, however, the Shama's song has few rivals, as it combines the clear fluting notes of a Blackbird with the mysterious lovely liquid cadences of a Nightingale. Though it sometimes sings during the day, its chief singing periods are in the early morning and late evening, sometimes so late that often on warm summer evenings it can still be heard singing when dusk has fallen.

I have kept Shammas at controlled liberty and also in both cages and aviaries. Delightful as they are in the latter, they also make charming cage birds. There are, in fact, few pet birds more intelligent and full of character than a single male Shama kept in a flight cage of ample size in a sitting room, where it will delight its owner both by its tameness and its song.

A suitable cage for a Shama should be about 2 feet 6 inches long, and unless it can be placed in some draught-free alcove a cage of the box or semi-box type is much the best. The bird should be regularly let out for a fly round the room and it is a very simple matter to get it back into its cage. The production of the mealworm tin (which they soon get to know) will usually coincide with the Shama's alighting on one's shoulder, and if a few mealworms are then thrown on the floor of its cage it will hurry inside to get them.

Shammas are tremendous bathers and must be given regular access to a bath or they will be miserable and their plumage will suffer accordingly. Excellent tin baths open only on one side to prevent splashes are obtainable. These hang outside in front of the open door of the cage and prevent the cage itself getting drenched. Nowadays I believe much the same thing is also available in plastic, and a bath should always be considered as essential a part of a Shama's cage as its ordinary food and water vessels.

Their staple diet should consist of best quality insectivorous mixture, and a daily allowance of about eight mealworms—preferable four given morning and evening. If you want to give them a real treat a nice fat spider will admirably fill the bill. Gentles can be given instead of mealworms. Some will also appreciate a few soaked currants.

It must be emphasised that anyone who has the sentimental notion that even the happiest-seeming of tame pet birds is really miserable because it hasn't got a mate, should on no account introduce a female Shama into their pet male Shama's cage, as the result will almost certainly be murder! Shammas

are, in fact, not always easy to mate, and this is probably one reason why they have not been bred more often in confinement.

A male Shama, while he appreciates the presence of a member of the opposite sex when both he himself and his prospective bride are in breeding condition, would seem, rather ungallantly, to regard her room as preferable to her company when the breeding season is over, or before it starts. It therefore behoves anyone who intends to try breeding Shammas to be quite sure that both parties are in breeding condition before putting them together. This should be done in the morning so as to have all day to watch them and separate them if the cock goes for the hen too badly.

If possible it is a very good plan to let them spend several weeks in adjoining aviaries to get used to each other. With all aggressive birds, to whatever species they may belong it is safest to put the cock into the hen's aviary rather than *vice versa*, as this puts the bumptious male temporarily at a disadvantage, for he has first to reconnoitre his unfamiliar surroundings, instead of instantly attacking the female as a savage cock will if she is suddenly put into his aviary.

I very nearly bred Shammas just before the war, when I kept a pair at controlled liberty. I had had a single cock throughout the winter, and in the spring I put him into a moderate sized open aviary facing south, with merely the back and half the top and sides boarded over as a protection from the weather. I was soon able to obtain an excellent hen in show condition, and as in this case I had to put the hen into the cock's aviary, to avoid unnecessary risks she was at first put in a box cage hung up inside the aviary.



The Shama, one of the most popular of foreign birds

However, as it seemed such an obvious case of love at first sight on both sides, I soon let her out with the cock, and they went to nest at once in a wooden box about 12 inches high by 6 inches square with the top half of the front open and hung up under the sheltered part of the aviary. I started the nest for them by putting some dried grass in the bottom of the box and scattering some more on the floor of the aviary with also some fine rootlets, dried moss, feathers etc. With these materials they constructed their nest.

Soon the hen was sitting, and when the young ones hatched I gave the parents their liberty. To do this a small hole should be cut high up in the wire front of the aviary, and small wooden alighting platforms fixed just below the hole, both inside and out. It is important to have the hole in the wire netting only just large enough for the parents to pass comfortably in and out, in order to exclude enemies such as Jays, cats and Magpies.

It is then necessary to show the parents that they can now leave or enter the aviary when they wish. This is best done by sprinkling a few mealworms on the alighting platforms. Having gobbled up those inside they will pop through the hole to finish those on the outer platform, and so find themselves at liberty.

This, while always a thrilling moment, is also a somewhat anxious one for their owner, particularly when the hen, who is the "breadwinner," takes a good look round and then streaks away into the garden, leaving one wondering if she will ever be seen again!

Usually, however, she will soon return with a beakful of caterpillars, and quickly locating the entrance hole, pop in through it to feed her brood. Once this has happened her owner can rest assured that, barring accidents—which incidentally nearly always happen—the brood will be reared.

The accident that happened to my first hen Shama was particularly distressing, and provided me with one of the most horrible moments of my avicultural life. The hen was particularly, indeed embarrassingly, tame and would suddenly descend from nowhere to alight on my head, arms or shoulders the moment I appeared with the mealworm tin. One morning I was walking along a concrete path and offered the hen two mealworms, one of which she took but the other one must have dropped just under my foot and she was after it like a streak of lightning. Before I had time to realise what had happened, she lay squashed and dead on the path. It taught me one thing, and that is never to give mealworms to tame birds unless one is standing still.

After this tragedy which caused me acute distress, but which, it must be owned, seemed to leave the widower quite unmoved and perfectly cheerful, he was provided with another hen. He welcomed her with every sign of joy, and the pair went to nest immediately. This time four young ones were hatched and all went swimmingly.

The hen was considerably less tame than her predecessor, which was in many ways rather a blessing as it caused her to spend more time foraging for insects in the garden. However, once more complete success was denied me, this time by a fatal accident to the hen which really was one chance in a thousand.

All went well until the four young ones were fully feathered and just on the point of fledging. Then there came the day when I noticed whiffs of that dreadful charnel house smell coming from the Shama's aviary, and found all

four young ones dead in the nest. What had happened was really most extraordinary. The hen had got into the greenhouse and there evidently discovered a small mouse which she pursued until it fell into a sunk water tank. She plunged in after it and both were drowned.

I have found both Shamas and Dhyal Birds at liberty to be carnivorous as well as insectivorous, and equally keen to capture a very small mouse or a large spider.

Although no young ones were actually reared, the Shamas were a never-ending source of pleasure to have at liberty, and also a never-ending source of astonishment to visitors to our farm that such a thing was possible. I still recall with pleasure those lovely summer afternoons in the halcyon days before the war when we had tea on the lawn by a lily pool and how things never seemed quite complete without the cock Shama flying to and fro across the lawn from a rose pergola to a planted aviary. Then he would come and perch on the rungs of our deck chairs to be given a bit of fruit cake, from which he was particularly fond of extracting the sultanas and raisins. Sometimes his busy wife would appear from the direction of the garden, and, superintended by her husband, have a hurried bath in the shallow water among the irises at the edge of the pool.

The cock Shama was an extremely charming but, it must be admitted, idle fellow, and apart from remaining vaguely on guard near the aviary, he took little part in the actual rearing of the family. On fine mornings he could usually be found with puffed out feathers and outstretched wings, ecstatically sunning himself on a mossy bank nearby. However, any shortcomings he may have had as a parent were, from his owner's point of view, amply compensated for by his lovely song which was chiefly heard morning and evening, though he sometimes sang a little during the day as well.

Anyone fortunate enough to have a pair of Shamas at controlled liberty which fully rear their young ones, should watch most carefully until the brood is on the point of fledging. At this time parents and young must be confined to the aviary, after which a plentiful and varied supply of live foods must be maintained until all are fledged. After this, as soon as they can feed themselves, they should be gradually weaned on to their parents' normal diet of insectivorous mixture, a little fruit, and a daily ration of mealworms or gentles. They should then be put in a separate aviary.

However, a pair successfully reared a brood here in 1961. It is generally considered to be impossible to keep a pair of Shamas together, and in many cases this is true. This particular cock however is better tempered than most, and the pair spent the winter together in an aviary with a heated shelter which they shared with a hen Lilac-breasted Roller. The presence of the latter helped to keep the peace as the Shamas were rather in awe of her, and if the cock started chasing the hen in the shelter, he would stop at once when the Roller flew in from the flight.

At the beginning of May the Shamas were transferred to a moderate-sized open aviary with the back and half the top and sides boarded over, and they soon went to nest in a hung-up box with the top half of the front open.

A small door high up in the front of the aviary was made in order to liberate the parents as soon as the young ones hatched, but finally we decided to see if

they would rear their brood on an unlimited supply of gentles and a rationed daily allowance of mealworms, and this they did perfectly, four young ones fledging in June. The youngest of the four seemed to have left the nest too soon, and eventually died, but the remaining three were fine youngsters—two cocks and a hen.

When first fledged they had very short tails, but otherwise resembled the hen, except that the upper surface was speckled with buff, and there were dark striations on the throat. It was possible to sex them almost a once, however, as the two young cocks were darker coloured than the young hen.

Shamas rear their young entirely on live food, and the chief thing to guard against is giving too many mealworms as this tends to over-stimulate the parents with the result that they throw their young ones out of the nest in their desire to go to nest again.

Short-billed Minivet

(*Pericrocotus brevirostris*)

THERE are six species of Minivet, all natives of India, and the Short-billed, which is one of the most beautiful, closely resembles its rather larger relative the Scarlet (*P. speciosus*), the commonest member of the genus.

The male Short-billed Minivet is a gorgeous creature with the chin, throat and upper plumage to the middle of the back deep glossy blue-black, and the remainder of the body plumage scarlet. The black wings are adorned with a broad scarlet band, and the long sharply-graduated tail has the two central feathers black, the next pair black edged with scarlet, and the others black at the base and then scarlet. The beak and feet are black. Length of the bird is about 7 inches.

The female, though handsome enough in her own way, is quite unlike her mate. The upper parts of her plumage are light grey while her forehead is pale yellow. The upper tail-coverts and rump are greenish-yellow and the breast and belly creamy-yellow. The wings and tail are the same as in the cock except that the scarlet areas are replaced by yellow, and the wings are brown instead of black.

This Minivet's range extends as far as Eastern China, and it is also found in Assam, Burma, and Northern India. The typical race breeds thousands of feet up in the Western Himalayas, descending to the plains in the autumn when the breeding season is over.

In view of the fact that Minivets have such very tiny feeble feet, resembling those of a Swallow, it is not surprising to learn that their habit is purely arboreal. They spend most of their time flying about the tops of the tallest trees hawking for the insects which form their food. Congregating in large flocks, they are gregarious except during the breeding season.

Minivets have no proper song, but their call note, a cheerful "Whit-whit-whit" with variations, is frequently uttered when they are on the wing. The cup-shaped nest is said to be usually built very high up on the bough of a tree and not among its branches, the eggs being whitish, blotched and spotted with chestnut and grey.

My own experience of keeping Short-billed Minivets is limited to a very lovely pair I had in one of my planted aviaries before the war. They arrived in perfect condition in the early spring, and were at first housed in a flight cage indoors, being transferred to the aviary in May.

As soon as they found themselves with plenty of flying space they were perpetually on the wing, and truly a joy to behold, the cock, of course, being in his importation plumage of steely blue-black and vivid scarlet. This colour, alas—as is also the case with certain other birds having red in their plumage—is replaced after the first moult in confinement by a pale salmon-pink which quite ruins their appearance.

Charmingly tame and beautiful as they proved to be, Minivets are at first one of the most difficult subjects in confinement, owing to the fact that they are so very insectivorous. However, I have fed them satisfactorily on a specially prepared insectivorous mixture and gentles together with a little soft apple. I have also found that they will eat gentles in the pupated stage.

They used to become particularly lively of a summer evening. Uttering their frequent "Whit-whit-whit" as they hawked for insects whose capture was denoted by a sharp snap of the bill, they were very fascinating to watch, particularly the male whose brilliant and very un-English garb made him just my idea of what a foreign bird ought to look like.

During the summer they remained in perfect health, and their end, therefore, was doubly tragic and unexpected. Towards the end of August we had a violent thunderstorm of almost tropical intensity, followed by torrential rain. When I went out afterwards I found that the other birds which shared the Minivets' aviary had apparently taken shelter and were unharmed, and only the Minivets were missing. Eventually, after a prolonged search, both were found dead and drenched to the skin among the long grass in the aviary.

The INDIAN SCARLET MINIVET (*Pericrocotus speciosus*) is perhaps the best-known member of the family. It resembles the Short-billed, but is bigger, not quite so slim and has a larger beak and shorter tail. It inhabits India, Indo-China, and Malaya. It is a fine large bird about 9 inches long.

Spreo Starling

(*Spreo superbus*)

THE family of the Glossy Starlings includes some of the most beautiful birds in the world. The Spreo is the best known and most widely-kept, with the possible exception of the ordinary Green Glossy Starling.

The male is green above shading to dark blue on the head, neck, and upper breast, the whole having the most brilliant metallic sheen. The lower breast and belly are rich chestnut, separated from the upper breast by a wide band of pure white. The beak is black. Length is about 8 inches.

Spreos are not easy birds to sex, but the males are usually slightly larger than the females and have a way of "blazing" their eyes by rapidly expanding and contracting the pupil, just as do many Parrots. They inhabit Abyssinia and were very freely imported before the war.

These birds enjoy a well-deserved popularity because they are not only extremely beautiful but also perfectly hardy and excellent breeders. Another point in their favour is that they do no harm to growing shrubs in an aviary.

I have never attempted to breed Spreo Starlings, but have kept odd males in planted aviaries at various times. They were always a joy to behold, particularly in strong summer sunlight when their brilliantly metallic greens and blues changed and scintillated with their every movement.

I found unmated males perfectly harmless in a mixed collection with such birds as Shamas, Dhyal Birds, Cardinals, Grosbeaks, etc., but mated pairs in breeding condition are, of course, a different proposition, being particularly inclined to fight with other members of the Starling family and some people give them a bad reputation for general aggressiveness. Therefore, it is really much the best plan to give a pair an aviary to themselves.

They should be given a choice of several nest boxes hung rather high up under overhead cover in the open flight. Usually they prefer a Parrakeet type of nest box with an entrance hole near the top, and one of Redrump size suits them very well. They must be given plenty of nesting material such as hay, feathers, and fine dry rootlets. When the young ones hatch, after an incubation period of about fifteen days, the parents must, in addition to their ordinary food, be kept continually supplied with live food such as cleaned gentles and mealworms, the latter sparingly, and anything else suitable such as spiders, green caterpillars, ant pupæ, etc.

It is most important that the live food should be supplied "little and often," say about every two or three hours during the three weeks or so the young are in the nest, and this is really the main secret of success in the breeding of all Softbills. If the whole daily ration is given in the morning the parents will first feed their brood and then stuff the rest themselves, whereas if small supplies are given at regular intervals, they will give their young ones a good feed, only eating themselves what is left over on each occasion.

Spreo Starlings have more than one nest a year, so the young ones, as soon as they are independent, should be caught up and removed to separate quarters, otherwise they are likely to be bullied by their parents when they want to go to nest again.

A single Spreo makes an attractive cage pet and can be readily tamed if advantage is taken of its fondness for mealworms, which it will soon learn to take from its owner's fingers. A really large cage is essential and it is a good plan to let the bird out occasionally for a fly round the room. To get a tame specimen back into its cage is perfectly simple, as if a few mealworms are put in it the bird will usually return at once. They are also admirable inhabitants of a planted aviary, as they show themselves well and never skulk in the thickest

bushes, which is the drawback to some particularly beautiful birds such as the Rainbow Bunting.

A good quality insectivorous mixture should be given with the addition of fruit such as ripe sweet apple, and each bird should receive a ration of about eight mealworms or a few gentles per day, varied, if possible, with any other suitable live food one may come across. They can also be given chopped dates, and are fond of elderberries.

I have always wanted to try these birds at controlled liberty as it would then be unnecessary to supply them with insects with which to rear their brood, and they would be a glorious sight flying about in the garden.

Superb Tanager

(*Calospiza (Tangara) fastuosa*)

HUMMING birds are often described as "living jewels", but to my mind no bird so truly merits this description as the aptly named Superb Tanager with its incredibly brilliant colour combination of royal blue, yellow, orange and black, and particularly the glittering emerald green of the head. The mantle, a fairly wide bar across the throat and the wings are black, the outer webs of the flights being bordered with yellow. The rump and flanks are bright orange and the tail is black edged with blue. The breast is rich royal blue, deepest on the belly, and the bill is black. The eyes, narrowly ringed with black, are so dark as to appear black also.

I have seen the sexes described as alike, but there are actually two differences: the head of the male is blue-green while that of the female is green with a faintly yellow tinge, and her rump is pure yellow, while his is yellow and orange.

Distribution: Brazil; common in the environs of Pernambuco.

In a cage, unless it is a very big one, these Tanagers are apt to be lethargic and get over-fat. In an aviary, however, they are quick and sprightly in movement and are charming little birds, soon getting to know the person who looks after them; I think the same probably applies to all the *Calliste* Tanagers.

I have never heard my Superb Tanagers utter anything that could really be called a song, but they have a series of chirping notes which are uttered in quick succession when the birds are excited.

They are great bathers and the rather sticky nature of their food makes it important that they should bath regularly; for the same reason their perches should be fairly often cleaned or renewed.

They are not hardy, but I have found that they do extremely well in an outdoor aviary all the year round, provided that they have a cosy draught-proof shelter which must be artificially heated during the winter and in which they must be shut each night from about the middle of September until the first week or so in May—depending, of course, on the weather conditions.

I think that they require considerable heat to bring them into breeding condition. Consequently, although they might go to nest in a really hot summer, probably the best chance of breeding them would be in an indoor aviary in a greenhouse or conservatory.

These Tanagers are very tricky subjects indeed when newly imported, and at all times require more than ordinary care, so they are not to be recommended to anyone who wants "easy" birds. Nevertheless, I think that their great beauty amply repays one for the extra trouble entailed in keeping them.

They are mainly fruit eaters, and their daily fruit salad, as one might call it, needs careful preparation. I give mine a mixture of chopped dates, cut-up apple and pear, sultanas previously soaked in water for 24 hours to enable them to swell, and grapes which should be cut in half. They can also be given any other sweet ripe fruits and are fond of elderberries, which coincide with the period of the moult.

They also require live food and I have found that, while a small daily allowance of gentles can be given without harm, mealworms, if given at all, must be severely rationed, otherwise they are apt to cause digestive upsets.

Insectivorous mixture can also be given, but they will seldom touch it if plenty of fruit is available. When I first received these Tanagers they were freshly imported and seemed to need something to stimulate their appetite. So I tried giving them a piece of spongecake dipped in honey and water, and once having sampled this they ate it with relish, and have been given it every day during the three years they have so far been in my possession. It is most important that the honey should be sufficiently diluted—the correct proportion being rather less than a teaspoonful of honey to a cupful of warm water.

Tickell's Blue Flycatcher

(*Muscicapula tickelliae*)

A TRUE Flycatcher, this pretty little bird has a rather similar colour scheme to our own Nuthatch. That is to say it is slaty blue-grey above with black lores and brighter blue ear-coverts. The breast and throat are coppery colour and the abdomen white. The hen is similar to her mate, but all her colours are paler. In its various forms it inhabits India, Ceylon, Indo-China and the Malay Peninsula. Length is about $4\frac{1}{2}$ inches. It has a quite pleasant, though unpretentious, little song.

These birds are fairly frequently imported, and have I believe the reputation of being somewhat difficult. Possibly I was particularly fortunate in the individuals that came into my possession, but to me this alleged difficulty seems imaginary. At any rate, I kept an odd hen in a miscellaneous collection of other birds for some three years before I was able to get her a mate and she was never any trouble. Soon afterwards I parted with the pair owing to lack of space.

It is true that my birds had a spacious aviary containing numerous growing bushes, creepers, etc., so that during the summer they were able to obtain a

Generally speaking the Flycatchers are not at all a freely imported family of birds. However, this attractive little Indian species, Tickell's Blue Flycatcher, is fairly often brought over, and its vivacity is seen to best advantage in a planted aviary where it has a chance to catch flies



continuous supply of their natural food. I put them in a flight cage in a warm room from the end of October till the end of April. During that period they lived quite happily on a fine grade insectivorous food with about eight *small* mealworms per bird per day, plus, of course, any odd insects that I might happen to come across. They can also be given gentles.

They are very expert fly catchers, and the sharp click of their beaks as they captured their prey would be heard long after dusk had fallen and the other inmates of the aviary had gone to roost. They are said to nest in holes in banks and trees. If I were fortunate enough to have a breeding pair that hatched young ones I should feel strongly tempted to try them on the controlled liberty system once the brood was hatched.

Toucan Barbet

(*Semnormis ramphastinus*)

THIS is one of the larger Barbets, and a very beautiful one. The crown and nape are black with a fairly wide white streak extending from just behind the eye to the nape. The cheeks, sides of the head, and throat are silvery grey. The mantle is brown, the rump golden-yellow, and the wings

and tail dark slate colour with a faint greenish tinge. The upper breast is crimson merging into orange on the lower part of the breast. The eyes are red, and the powerful bill is yellow tipped with black.

Distribution: South America.

The sexes are generally said to be alike, but there are two distinct differences in my pair, the most obvious one being that in the female the lower end of the black nape is merely rounded, whereas in the male it extends in a short V-shaped point down the centre of the back. Also the female's bill is perhaps a trifle more slender and less massive than that of the male.

I have been told that the crimson of the breast is apt to fade in captivity, but I hope by suitable feeding to be able to prevent this as far as possible.

These Barbets are not often imported, but they make most attractive aviary birds and are obviously very intelligent, always watching everything one does, and quickly giving their short sharp "cluck . . . cluck . . . cluck" alarm note. They also utter what can only be described as a rather melodious hooting sound of considerable carrying power. And this is always in the form of a duet, the cock uttering the higher note and the hen the lower one—the timing being so perfect that one would think it was the call of a single bird.

My pair have a fair-sized planted aviary to themselves, the shelter of which can be heated during the winter. If it was intended to keep them in mixed company I think it would be dangerous to put them with any birds weaker than themselves.

They are mainly fruit-eaters, and mine are given apples, pears, chopped dates, grapes, soaked sultanas, and such wild fruits as elderberries and blackberries when in season. They also have insectivorous mixture and a daily allowance of gentles with a few mealworms, and a little minced raw meat occasionally.

Verditer Flycatcher

(*Stoporala melanops*)

THIS fairly large Flycatcher has always been a favourite of mine owing partly to its unusual colouring, which in the male is a beautiful sea-green-blue, paler on the underparts, and with a black area in front of the eye. The female is similar, but all her colours are duller and the sides of the throat and chin are mottled with greyish-white. Total length is about 6 inches.

Verditer Flycatchers are found in India, Indo-China, China, and Malaya. In a wild state they are said to be bold and confiding, to frequent both the jungle and gardens, and to be quite good songsters.

A fine cock of this species was in my possession for about two years, during which time I never heard him utter anything that could properly be called a song. He inhabited the same aviary in which my Tickell's Blue Flycatchers had lived, and seemed to thrive under similar treatment.

I used to cage him in a warm room for the winter, though I suspect that he was probably a good deal hardier than one imagined as he was out in some very



The Western Bluebird is one of the most beautiful and delightful of aviary birds

cold late spring weather without turning a hair. To appreciate the beauty of these Flycatchers they must be seen in an open aviary as their particular and very unusual shade of blue looks, by comparison, dull and lifeless in a cage.

Feeding should be the same as for Tickell's Blue Flycatcher.

Western Bluebird

(Sialia mexicana occidentalis)

THE Bluebirds of America are nowadays virtually unknown to most aviculturists in this country, yet about sixty or more years ago, when there was no ban on their exportation, one of the three species, namely the COMMON OR EASTERN BLUEBIRD (*Sialia sialis*) was freely imported and an extremely popular cage and aviary bird, known as the AMERICAN BLUE ROBIN.

We have at Keston several breeding pairs of Western Bluebirds. The male is cobalt blue on the upper surface except for the mantle which is russet-brown.

The throat is grey-blue and the breast russet-brown merging into whitish on the abdomen. The blue is particularly brilliant in the tail and wings, and it is this that gives such a vivid flash of blue when the bird is seen in flight.

The female is mainly earthy brown in colour with blue in the wings and tail.

Distribution: Rocky Mountains and the Pacific seaboard. These Bluebirds are said to range at higher altitudes than any other Bluebird species.

Their size is just right, for they are rather larger than our native Robin, though more like a Wheatear in shape, and this, combined with their great beauty, makes them to my mind ideal aviary inhabitants. Another advantage is that it is possible to breed them in a really large flight cage, although an aviary is really better and can be of quite modest dimensions, provided that a pair are its sole inhabitants.

They are perfectly hardy, but it is best to shut them in the shelter each night during the winter months to be on the safe side. Fortunately Western Bluebirds are not quarrelsome, so a pair can safely be kept together all the year round; this is in marked contrast to the very different temperament of their close relative the Mountain Bluebird, of which pairs will bicker both in and out of season, and must usually be kept separate during the winter.

Western Bluebirds have a swift glancing flight and frequently utter a soft warbling note, although they have nothing that could actually be called a song. The male displays by rapidly raising first one wing and then the other, and they are very willing to go to nest in a wooden box with the top half of the front open, which should be hung up in the flight under overhead cover.

They are excellent parents and as I write one pair have six young ones just fledged, and there are three other broods still in the nest. They are usually double-brooded so a pair can prove extremely prolific even in a single season.

When first fledged the young have a certain amount of blue in the wings and tail, this being brightest in young males, and both sexes are marked with thrush-like specklings which however soon disappear.

At first they are apt to be very wild, and in order to prevent them bumping their heads against the wire roof of the flight, it is a good plan to put a wattle hurdle on top, but it is essential that this should be done *before* breeding operations commence, as to do so later upsets both parents and young. The hurdle should be removed as soon as the breeding season is over.

The diet of Bluebirds should consist of best grade insectivorous mixture (we make our own which contains soya flour and is moistened with grated raw carrot), and a daily allowance of gentles and mealworms. Insectivorous mixture can however be bought, but it is important to choose a really good proprietary brand.

If given the chance Bluebirds will live entirely on live food but this should not be permitted because insectivorous mixture contains ingredients important to their health. Consequently, out of the breeding season, the amount of live food should be reduced so that the birds are forced to eat insectivorous mixture as well.

On the other hand, when there are young in the nest to feed, the parents will not touch insectivorous mixture and must have a constant supply of gentles always before them as well as a rationed allowance of mealworms

morning and evening. A regular weekly supply of gentles can be obtained from firms who deal in live bait for fishing.

Bluebirds are among the most beautiful and delightful of aviary birds, and it is not to be wondered at that in America they are regarded with the same sentimental affection as we accord in this country to our native robin. Of course—like all insectivorous species—they are more trouble to keep than seed-eaters, but to my mind the extra work is very well worth while.

White-capped Redstart

(*Chaimarrhornis leucocephalus*)

THIS is the only member of the Redstart family I have kept and a very delightful little bird it is. The top of the head is pure shining white, and the rest of the head, neck, back, upper breast and wings black. The remainder of the plumage is a deep rich chestnut-brown, the tail being banded with black at the tip. As far as I am aware the sexes are exactly alike. Total length is about 7 inches.

The White-capped Redstart comes from India and is a bird of the Himalayas, its range extending to Western China. It breeds at an elevation of between 8,000 and 13,000 feet, and sometimes even higher. Like our English Dipper, it is always found in the vicinity of water and delights in flying from boulder to boulder amid rushing mountain torrents, all the while catching flies and uttering its note, a rather high-pitched "Te . . . t-e-e-e-," which has considerable carrying power. It makes much play with its handsome tail, spreading it momentarily fan-wise when alighting, and at other times, bobbing it continually up and down as do Wagtails.

The cup-shaped nest is placed usually in a small hollow beneath a projecting rock or among the roots of trees on a steep bank close to the water.

My experience of keeping these very charming Redstarts is of two which inhabited one of my planted aviaries for many years before the war. Although I could not supply them with a rushing mountain torrent, they always seemed very happy and lived for years in perfect condition.

Seeing that they come from the snow-capped Himalayas I always had a desire to rename these birds as Snow-capped Redstarts since their caps always reminded me of glistening new-fallen snow.

This dazzling white cap makes a very striking contrast to the sombre colouring of the rest of the bird's plumage. Sometimes towards dusk of a summer evening when visibility was none too good, I used to watch my two darting about among the bushes in the aviary, catching flies, and all one could see of them was two brilliant white, apparently disembodied, blobs, the rest of their plumage being invisible in the rapidly failing light.

They never showed the slightest sign of aggressiveness to any of their companions, large or small, who shared their aviary. However, since they

never attempted to go to nest during all the years I had them, they were probably two cocks, always a very different proposition in a mixed collection to a mated pair of birds in the breeding season.

My two proved extremely hardy, as was to be expected seeing the altitudes they frequent, and even in the depths of the coldest winter invariably ignored the shelter, preferring to roost among the evergreens growing in the aviary.

Altogether they were among the most charming of the aviary's inhabitants, and were no trouble to feed as they lived mainly upon a fine grade insectivorous mixture with a small daily allowance of mealworms during the winter months. The mealworms were almost discontinued in summer when the birds were able to capture for themselves so much in the way of natural live foods. Although not really a fruit-eating species (though they may consume berries in a wild state), I noticed that mine used sometimes to eat a little ripe sweet apple which had been pushed through the wire netting of the aviary.

Probably, White-capped Redstarts could be kept successfully in flight cages of ample size, but under such conditions they would have to be given bathing facilities in addition to a regular and varied assortment of live foods. I feel sure that if mealworms alone were supplied, these birds would sooner or later develop symptoms of liver trouble. Gentles could be given, these being in many ways a better form of live food than mealworms, as birds seem able to consume quite large quantities of them without ill effect.

White-crested Jay-thrush

(*Garrulax leucolophus*)

ALTHOUGH these birds have been named Jay-thrushes, there is much more of the Jay than the Thrush about them. The male has the back, wings, and tail dark brown, the belly being rather paler and of a warmer more cinnamon tint. The head and breast are pure white, the eye being in the middle of a broad black streak running across the side of the head from the base of the beak. The head is adorned with a fine white crest, usually carried erect, but which can be depressed at will. In size they are rather smaller than the British Jay.

The sexes are much alike although the male is, if anything, slightly the larger bird. Moreover, his head and breast are of a purer white which extends further, almost to the legs. They inhabit India, being common along the Himalayas eastwards from Garhwal, and are known in their native country as White-crested Laughing Thrushes. This is a rather unsuitable name, I think, as they are such very obvious Jays and their weird and varied assortment of cries do not include anything that much resembles laughter.

These birds are said to favour the deeper more densely-forested ravines, seldom wandering far from their chosen habitat where they live in large parties



A handsome bird, the Australian Crested Bronze-winged Pigeon is only seen at its best in a large aviary. This species is aggressive towards its own kind



The Black-headed Oriole is an Indian relative of the European species. It is attractive in a planted aviary, providing a wonderful flash of yellow as it flies

which, when alarmed, utter an extraordinary medley of loud chatterings, squealings, hissings and screamings. They make attractive aviary birds owing to their showy appearance and varied vocabulary, as well as their intelligence and perpetual clowning; indeed I can think of few birds that are more entertaining to watch.

They usually progress by gigantic hops from perch to perch and have the same buoyant gliding flight as our native Jay, whose cunning and intelligence



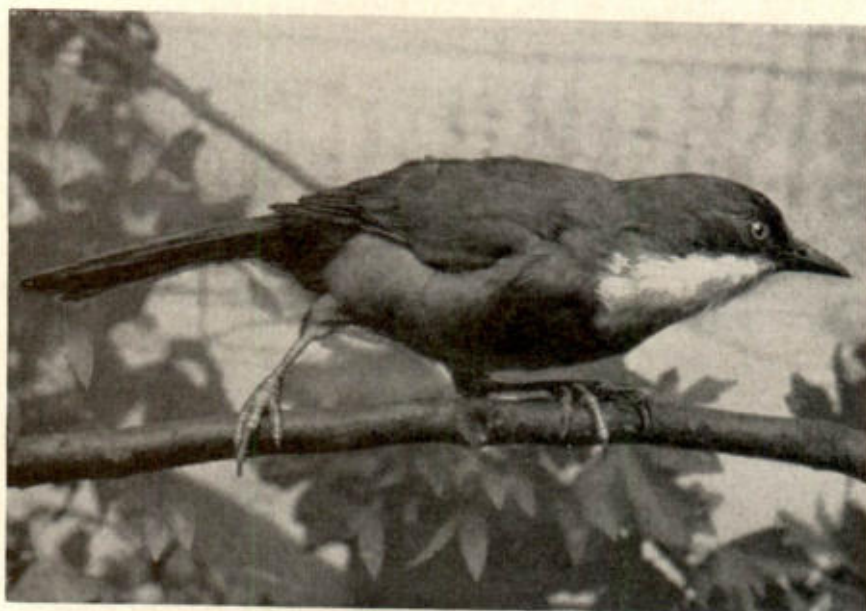
A striking and handsome bird, the White-crested Jay-thrush is a perfect avian clown

they also share as well as his watch-dog qualities. Any stranger or marauder on the premises is greeted by a discordant medley of angry chattering cries which can be heard for some distance.

White-crested Jay-thrushes are perfectly hardy and can be either caged (the cage being not less than four feet long), given an aviary to themselves, or kept with other strong Jay-like birds. They must never be associated, however, with weaker species, which they would certainly bully and probably kill.

The best covering for the floor of the cage is either coarse sawdust or granulated peatmoss. Newspapers are useless as they take the greatest delight in tearing them to pieces, and—typically Jay-like—hiding the bits in any crevice they can find in their cage. They should be allowed frequent baths.

I cannot recall any breeding successes with this species, but they would require a fair sized aviary to themselves. As a nesting site they would probably favour a bundle of twiggy branches nailed up under cover in the flight.



As its name indicates, the White-throated Jay-thrush is something between a Thrush and a Jay. It is dangerous to keep it with weaker companions

They should be fed on a coarse-grade insectivorous mixture and are very fond of fruit. Live food of some sort is essential to their well-being and can best be supplied in the form of about a dozen mealworms per bird per day or some cleaned gentles, with the addition of occasional scraps of raw meat, mice, sparrows, etc.

The greatest treat you can give them is a nest of young mice still in the naked pink stage. When young ones were being reared, these extras would have to be provided three or four times a day and gradually increased in quantity as the brood matured.

The WHITE-THROATED JAY-THRUSH (*G. albigularis*) is closely related to the White-crested, and is occasionally imported. It inhabits the Himalayas and China and is brown with a white throat and black circles round the eyes.

Yellow-winged Sugar Bird

(*Cyanerpes cyaneus*)

THE Sugar Birds are a small genus of birds consisting of two groups, namely, *Careba* and *Cyanerpes*, which are all shaped much like Sunbirds, though their beaks are neither quite so long nor quite so curved, and they require the same feeding and general treatment in confinement. The Yellow-winged

Sugar Bird (of the *Cyanerpes* group) is not only the most freely imported, but also, to my mind, the loveliest member of its family.

The male has the tail, wings, mantle, and round the eyes, velvety black, the flight feathers being bright daffodil yellow on the inner webs. The crown of the head is a shining emerald green, and the bird has a habit of raising these feathers into a sort of small crest when pleased or excited. The remainder of the plumage is a wonderfully rich Royal blue, the whole being set off by pillar-box red legs and feet. The long, pointed and slightly curved beak is black.

These Sugar Birds go into eclipse plumage for part of the year and at this time the males resemble the females, being dark green above, with whitish eyebrows, while the belly is a paler green striped with brownish-grey. They inhabit Guiana and are found in forest country in large flocks which frequent the lower trees of the forest. It is said that they feed mainly on berries, and a flock of these gorgeous little birds must be a truly wonderful sight.

We have had numbers of these birds at various times at Keston, but I remember most clearly the one I had many years ago. I fell in love with its beauty when I was still a school-boy, and though I hesitated because people told me it would be "so messy to feed" I finally succumbed and bought it. Then there was the question of where to keep it. Finally I bought a roomy flight cage about 2 feet 6 inches long, and in this it lived in the dining room of my old home.

Fortunately it did not prove the least bit messy to feed. It was, however, just as well its bath was of the kind enclosed on three sides and hanging against the open door, for had this not been so the water would have been splashed far and wide, as I have seldom known a more frequent and energetic bather.

One thing of the utmost importance to remember with Sugar Birds is that they *must* have natural twiggy branches to sit on. I would go so far as to say that if they are provided with only hard artificial perches, it actually tends to shorten their lives. At any rate there can be no doubt whatever of the remarkably rejuvenating effect it has on a bird that has been confined to hard artificial ones if it is provided instead with resilient twiggy natural perches.

The proper way to perch a Sugar Bird's cage is to provide a fairly thin perch at each end (about half the thickness of a Canary's), and fasten a small twiggy branch to the back where it will not get in the way when the bird flies the length of its cage.

Sometimes I used to let out my bird for a fly round the room, but as it did not care for even the smallest mealworms there was no way of getting it to go back at any time one wanted. It was necessary therefore to wait for it to feel hungry and return to its food.

Sugar Birds are very easy to feed, their staple diet being a nectar mixture made of Mellin's food, Nestle's milk, and honey, into which may be dropped a small piece of stale spongecake. Some are more fond of fruit than others, but they can be offered any sweet soft fruit such as pear, grape, orange, banana or sweet apples of the softer kinds. The last should be cut in a very thin slice and pushed through the bars of the cage. They like their slice of orange with a little castor sugar sprinkled on it.

The nature of their food means that they have very liquid droppings, and the most suitable coverings for the tray of the cage are newspaper or, better

still, blotting paper. Whichever is used must be changed every day. They will also make their perches extremely sticky with the nectar they wipe off their beaks on to them, and these must be either renewed or washed in warm water at least once a fortnight, or preferably once a week. While I do not want to make Sugar Birds sound a great deal of trouble to look after, the frequent washing of perches, and the need to mix their food fresh every morning should be stressed. Those who are not prepared to do these things should not keep nectar-feeders.

The actual daily attention a caged specimen needs consists merely of changing the piece of paper on the floor of its cage, mixing it fresh nectar (and incidentally washing the remains of the old out of the pot before adding the new), and giving it a piece of fruit if it has finished the previous day's supply. Sugar Birds have distinct individual preferences with regard to fruit, and my cock Yellow-winged much preferred very ripe banana to anything else.

Indeed, he really lived entirely upon nectar with a morsel of spongecake in it and banana. His longevity and always perfect condition proved this to be a complete diet for him, as he lived to the ripe old age of fifteen years.

Yellow-winged Sugar Birds utter cheerful squeaky chirpings, but nothing that could really be called a song. I have never tried keeping several males together, but should imagine that the strongest would starve the others by driving them away from the food. However, provided there were no hens present, I doubt if they would actually fight badly.

Mrs. Drake of Mylor, Cornwall, is, as far as I know, the only person who has bred this Sugar Bird in confinement in England, and she achieved this remarkable feat twice about fifteen years ago. She records that they built a nest in



The Yellow-winged Sugar Bird is the most freely imported and at the same time the most beautiful of a truly gorgeous family. It is a nectar feeder, and if properly cared for will live for years in a roomy flight cage indoors. Has been bred in an aviary in Cornwall

a box in their shelter. The young were reared on fruit, insectivorous food, milk sop, and small flies the parents caught in the aviary, and small mealworms. They were grey-green, their beaks being smaller than those of the parents and not curved. The cock is best removed as soon as the brood hatches, as he is a hindrance rather than a help, doing none of the rearing himself, but merely trying to incite the hen to forget her brood and go to nest again.

Yuhinas

(Yuhina and Ixulus)

YUHINAS are of three species, *Yuhina gularis*, *Ixulus flavicollis* and *Yuhina nigrimentum*, and I propose to deal with the last which is perhaps the most often to be had though none are at all freely imported. The common names of these species are: Stripe-throated Yuhina, Yellow-collared Ixulus, and Black-chinned Yuhina.

Yuhina nigrimentum from Eastern Himalaya is mainly grey, paler on the under parts which are tinged with buff, and darker on the upper parts which have a brownish-olive tinge. There is some white on the throat, a tinge of orange at the base of the lower mandible, while the chin and well-developed erectile crest are black, the feathers of the latter being narrowly edged with grey.

It is a small bird, about the size of a Zebra Finch, with a long thin pointed beak. I know of no difference in the plumage of the sexes, and all three species more or less resemble each other.

Yuhinas are certainly not to be recommended to those who chiefly desire bright colours in foreign birds, but their colour scheme has a quiet charm of its own and the crest is an attractive feature. They make up for their lack of bright colours by being just as acrobatic and vivacious as Pekin Robins, and a pair have also the latter's attractive habit of sitting close together on a perch preening each other's plumage.

They are not at all aggressive and can be kept with other Softbills and Finches of about the same size, provided none of these are of a bullying disposition. During the summer and early autumn months they do well in an aviary, particularly a planted one, but require some artificial heat in winter. *Nigrimentum* has nested in confinement, but the parents failed to rear their brood. To do this they probably need a supply of very small insects as even small mealworms seem too large for them.

They should be fed on nectar food, as for Sugar Birds, plus a fine-grade insectivorous mixture and any ripe soft fruits. As tit-bits they appreciate greenfly and are particularly fond of the small live ant pupæ that one comes across from time to time. If given the chance, most Yuhinas will live entirely on the nectar food and ignore the insectivorous mixture. However, they will greatly benefit if they are sometimes made to eat the insectivorous mixture by withholding the nectar food about twice a week.

Zosterops

(Zosteropidae)

ZOSTEROPS, or White-eyes as they are commonly called, are a very large family of small birds numbering about a hundred known species, all of them much alike. They have an enormous range, being spread over Africa, Southern Asia, Australia, Tasmania, and New Zealand, and one of them, the Red-flanked White-eye (*Z. erythropleura*), breeds as far north as Siberia, migrating southwards to the tropics in winter. Of such a large family I propose to describe only the four best-known species:

The INDIAN WHITE-EYE (*Z. palpebrosa*) is olive-green above and pale yellow below, being brightest on the throat, while the flanks are grey. It has the characteristic circle of small white feathers round the eye. Like all the Zosterops, it is a small bird and is rather the shape of a warbler with a slender pointed beak of medium length. It has been bred and is the best-known species in captivity. It inhabits Indian and Indo-China.

The CHINESE WHITE-EYE (*Z. simplex*), found in Indo-China, is rather larger than the foregoing and has less yellow in the plumage. The two species are apt to be confused.

The CAPE WHITE-EYE (*Z. capensis*) resembles *simplex* but is rather larger. It is olive-green above and pale grey below with some brown on the flanks. The forehead, face, and throat are yellow. It inhabits Africa.

The GREY-BACKED WHITE-EYE (*Z. lateralis*) has the neck, breast and upper part of the back light grey, and the sides buff with a reddish tinge, while the abdomen is greyish-white. It has quite often been imported and has been bred, notably by Mrs. Drake of Mylor, Cornwall, who achieved such outstanding success with, among others, Sugar Birds and the notoriously difficult Violet-eared Waxbill.

The Tasmanian form (*tasmanica*) and the New Zealand one (*investigator*) are slightly darker.

The latter is certainly well-named as it evidently decided to investigate New Zealand and first appeared there well within living memory. It was soon spotted by the Maoris who very appropriately named it "Tauhou," the English equivalent of which is "Stranger."


It is extraordinary to think of such a hazardous enterprise being undertaken by such tiny birds. To reach New Zealand from the Australian mainland, or even from Tasmania, they had to fly not far short of a thousand miles across the turbulent Tasman Sea. Yet, not only did they manage this, but they also arrived in sufficient numbers to colonize successfully the Eldorado they had set forth to investigate, a feat which makes many of our much-vaunted human achievements seem puny by comparison.

My experience of keeping Zosterops is of a couple of Indian White-eyes I had for part of one summer in a large planted aviary with various other small birds which they did not molest. Whether they were a pair or not I don't know, as few birds are more difficult to sex. Nevertheless, despite their lack

of bright colours, they were very attractive aviary inhabitants, tirelessly searching the undersides of leaves for small insects when they were not taking a bath which seemed to be their favourite occupation.

I cannot say whether the Indian kind are hardy, as I parted with them in the autumn, but of the New Zealand variety Mr. F. W. Taylor wrote in "The Foreigner" (October, 1935):—"Beyond question the New Zealand Zosterop is a hardy little chap and can safely be kept in our open aviaries and provided the surroundings are reasonably good he will breed. . . ."

Zosterops have sometimes been recommended as cage birds, but they are such active little creatures that if they *are* caged it is most important that the cage should be as large as possible. They are most nearly allied to the Flower Peckers (*Dicaeidae*) and the Sunbirds (*Nectariniidae*) and their food should be the same as I have recommended for the latter, plus a fine-grade insectivorous food. They will sometimes take very small mealworms.



Section Four

DOVES
and
PIGEONS

Ashy Dove

(*Claravis pretiosa*)

VERY small and compact, with a short, square tail, the Ashy Dove is not often imported; nor does it appear to be at all common in the wild state. The male is blue-grey, paler on the underparts and with a whitish forehead and throat. The wings are spotted and faintly barred with black, and the tail is tipped with black.

The female is biscuit-brown above and pale fawn below and the spots on the wings are dark cinnamon-brown. As in the cock, the colour is lightest on the forehead and throat.

Distribution: New Guinea and neighbouring islands, North Queensland.

Although these are pretty little doves, I have found that in confinement—both in large and in small aviaries—their stupid wildness is a great disadvantage. Many birds are wild to begin with and then settle down once they are accustomed to their surroundings, but my pair of Ashy Doves are just as wild and panicky after three years as they were when they first arrived; they even manage to upset and spread their sense of panic among sensible steady birds that are put in with them. I have never thought doves particularly intelligent, and these strike me as being even less so than most. It has been recorded of them in a wild state that “when disturbed, they skulk in the grass until a person is close to them, then rise suddenly with a swift zigzag flight”.

The Ashy Dove is quite hardy in captivity in this country and feeds mainly on brown and white millet.

Bartlett's Bleeding-heart Pigeon

(*Gallicolumba crinigera*)

I HAVE always regretted that the only pair of these rare and beautiful Pigeons which have ever come into my possession did so at a time when we were busily building up our stock of rare Parrakeets. Although I kept them long enough to breed them, I shortly afterwards had to part with these birds as their aviary was needed for Parrakeets.

Bartlett's Bleeding-heart inhabits the Philippine Islands, the best-known race coming apparently from Mindanao, and only a few odd pairs here and there brought over by private collectors were ever imported into Europe. The well-known collector Mr. W. Goodfellow speaks of them as rare and local in their own country, preferring dry wooded areas of land round the coast.

They do, of course, perch—at any rate in an aviary—but their habit, as is indicated by their powerful feet and long legs, is almost exclusively terrestrial.

I can well believe what I have read of them in a wild state, namely, that when flushed they will merely fly low for a few yards before alighting and running rapidly away among the undergrowth.

Bartlett's Bleeding-heart is a most striking and handsome-looking bird both as to shape and colour. On the rare occasion when one catches a glimpse of it sunning itself, it quite vies with some of the Glossy Starlings in the metallic lustre of parts of its plumage.

The head, mantle, back and sides of the neck are shining metallic grass green, and the rest of the upper parts a rich mahogany-brown. The lesser wing-coverts are grey shot with bronze-green, while the greater and median wing-coverts are tipped with grey which forms a band across the wing. All the smaller feathers are bordered with wonderful opalescent colours which glow now pink, now purple, now green. The underparts are buff, the crop being adorned with a large crimson-maroon patch which comes at the base of the pure white chin and throat. A beautiful and unusual feature is the lovely lilac-coloured iris of the eye.

Females apparently vary a good deal as to the brightness or otherwise of their colouring, but the hen of my pair was quite perceptibly smaller than her mate and all her colours were rather duller and less extensive and clear-cut.

It is, of course, from the characteristic red throat patch on the white background that the bird derives its rather unattractive name. However, the bloody illusion must have been strong with those who saw it for the first time, for even the French have dubbed this pigeon "poignardé" meaning, I suppose, stabbed with a sword.

The male of my pair of Bartlett's Bleeding-hearts had a rather deep and rumbling coo, and part of his nuptial display was very unlike that of an ordinary Dove or Pigeon. It consisted of suddenly facing the hen with his wings spread sideways and slightly forwards, rather like a Sun Bittern.

I gave the pair what I thought would be a suitable nest in the form of a wooden frame with wire netting nailed on the bottom, and fixed against the wall of the shelter about two feet from the floor. On this I started a nest of twigs and coarse grasses for them. This they condescended to inspect, but seemed more impressed with the nesting material than the nest, as they removed the former and placed it among the corn in their food pot.

I decided, therefore, to feed them in a different place and substituted a fairly large earthenware flower-pot saucer for their original food pot. They took to this at once, making a nest consisting of a few twigs and rootlets.

As far as I can remember only one cream-coloured egg was laid, and this was of a curious shape for a Pigeon. It was extremely pointed at one end, more like the eggs of certain gulls and seabirds.

The egg duly hatched, and I can recall our consternation when the nest was found to be empty after about ten days or so. We need not have worried ourselves, however, as the squabs of these terrestrial Pigeons become independent almost as soon as the young of gallinaceous birds, and leave the nest as soon as the quills of their flight feathers start to sprout.

The young one, looking very small but not in the least helpless, was eventually discovered squatting beside its parents on a low-placed perch in the shelter. It developed into a very nice young bird indeed, and I have little

doubt that given sufficient aviary accommodation one could slowly but surely breed up quite a large stock of these beautiful Ground Pigeons.

Even if we had had the facilities for doing this, however, there would still have been the problem of disposing of the young ones. In our experience, for some reason aviculturists *will not* buy exotic Doves or Pigeons, with the exception of Diamond Doves, which appeal owing to their extreme smallness and the fact that they can be kept safely with even the tiniest Waxbills. Altogether I consider them a very neglected family.

I fed my pair of Bartlett's Bleeding-hearts on a mixture of corn and seed, and they also ate spinach beet and a little apple. One of them, the cock I think, would occasionally eat a few mealworms. I cannot remember ever trying them with strips of raw meat, which is said to have an excellent tonic effect upon any that go at all off-colour during importation. My pair lived mainly on a mixture of wheat, dari, groats, hemp, millet, and canary.

As they spend so much of their time on the ground I had an entrance hole cut in the door of the shelter at ground level, such as one would have for bantams, and it was this rather than the higher one that they chiefly used.

Blue-headed Pigeon

(*Starnoenas cyanocephala*)

THIS is really a Ground Pigeon (or Dove)—at any rate it seldom perches and spends almost its entire time on the ground. It is dark chocolate brown, the crown of the head being cobalt blue bordered by a black line which passes through the eye. There is a broad white band which passes from the chin below the eye to the back of the head. A large black patch on the throat is bordered at the lower edge by a semicircular white stripe and tipped with blue at the sides. The crop area has a delicate mauve sheen upon it. The bird is rather stockily built with a shortish tail, and the female is slightly smaller and slimmer than her mate.

Distribution: Cuba.

I have always admired this bird's beautiful and unusual colour scheme, and not long ago we had a pair at Keston for a time. They are, however, seldom imported, and their numbers in a wild state would seem to be dwindling, for in "Aviculture" Vol. 3, we read: "With the cutting of the forests in Cuba and planting of sugar-cane their natural habitat there is being gradually eliminated and the birds are becoming more scarce each year . . .".

They make attractive aviary birds, but their feet are apt to become frost-bitten in severe weather, so they require some artificial heat in the shelter during the winter months.

The Blue-headed Pigeon eats mainly seeds and grain, but is also partial to gentles, a few of which may be given from time to time, the quantity being increased if at any time there are young in the nest.

Bronze-winged Pigeon

(*Phaps chalcoptera*)

THIS fine bird is to my mind one of the most beautiful members of the Pigeon family and a highly desirable aviary bird, but a spacious planted enclosure is best, as it looks cramped and quite out of place in a small aviary.

The name "Bronze-winged" gives little idea of the bird's appearance, for the so-called bronze patches on the wings fairly blaze when the sun catches them, and as there are other patches of glittering sapphire blue and emerald green in the same area, "Jewel-winged" would perhaps be nearer the mark.

The male has the front half of the head and the forehead buffish-orange, the crown and nape being greyish-brown. There is a creamy-white line below the eye which broadens out as it extends across the ear-coverts. Below this the side of the head is greyish-mauve, and the throat is white. The mantle and rest of the upper surface are brown with paler borders to the feathers. The breast is vinous merging into grey on the abdomen. The upper wing-coverts have large patches of fiery orange-copper and glittering emerald, and the inner secondaries have patches of shining sapphire blue.

In the female the head markings are rather less extensive and whitish instead of buffish-orange; and the highly metallic wing patches are mainly emerald green, although a few of them are fiery orange-copper as in the male.

Distribution: Australia generally and Tasmania.

The Bronze-winged is quite a large stoutly built pigeon with a comparatively short wedge-shaped tail, and spends a good deal of its time on the ground. It has only one unattractive feature and that is its coo, which is on one note resembling a distant fog-horn, and is the most melancholy sound imaginable.

We have bred these pigeons at Keston, a pair having reared five young ones during the past (1961) season. They are perfectly hardy and can be kept all the year round in an outdoor aviary with sufficient overhead and side protection to enable them to get out of the wind and rain.

They should be fed on the usual pigeon corn mixture with some white millet added and they are very partial to gentles which are undoubtedly an excellent addition to their diet, especially during the breeding season.

Brush Bronze-winged Pigeon

(*Phaps elegans*)

THIS fine pigeon is about the same size as the Common Bronze-wing, but is perhaps rather more thickset in build. The upper surface and wings are greyish olive-brown, the back of the neck and mantle being chestnut, and

there are two fiery bands of emerald green and purple across the wings. The back part of the crown is grey and the front part and forehead ochre with an orange tinge. A chestnut band runs from the corner of the eye to the nape, and the under surface is grey. The female is duller than the male and lacks the orange-ochre colour on the forehead.

Distribution: Southern Australia and Tasmania.

In a wild state this pigeon is said to inhabit scrub and heath lands in coastal districts, and when disturbed takes wing, but seldom perches, usually flying low for some distance before again alighting on the ground. This is borne out by its behaviour in captivity, as it seldom leaves the ground. It has the great advantage of being quite steady, not panicky as are some doves and pigeons.

The male's courting display is a sight of great beauty as he raises and spreads his tail and partly lowers his wings, thus bringing into prominence their shining metallic bands of iridescent green and purple.

I have kept these handsome pigeons, but, if I remember rightly, had to part with them through lack of aviary space. Their general requirements in captivity are the same as those of the Common Bronze-wing.

Cape Dove

(*Oena capensis*)

THIS little bird is also known as the Namaqua or Masked Dove and the Harlequin Dove. It is one of the smallest members of the Pigeon family, being no bigger than a Diamond Dove, though it appears larger, owing to its very long pointed tail. It is found mainly in South Africa, being partial to the vicinity of human habitations and cattle kraals, spending much of its time running about on the ground in search of the grains on which it feeds.

The male has brownish-grey upper parts, silvery-grey on the head, neck, mantle, and wing-coverts, the last being adorned with a few steel blue patches. The lower back is buff, barred by a whitish band between two darker ones. The wings are a beautiful chestnut-brown, very striking when the bird is in flight and giving it a rather butterfly-like appearance. The front of the head and the throat are black, contrasting with the white of the breast and abdomen. The bill is slightly hooked, purplish at the base, and yellow at the tip.

The female is generally duller and lacks the black on the head and throat. Her beak is shorter and straighter and without any yellow, being of a darkish horn colour.

They have quite often been bred, but the young are rather inclined to jump out of the nest at too early a stage. For this reason it is an advantage if they can be induced to use an artificial nesting site rather than constructing the usual flimsy Dove nest in a bush. They can be given a small platform made of a square of inch by inch batten with half-inch mesh wire netting stapled on the underside, nailed high up under overhead cover.

This usually proves attractive to these Doves, but if they ignore it and insist upon nesting in a bush it is a good plan to fix up at the chosen site a round piece of half inch mesh netting shaped into the semblance of a fairly deep saucer and fixed in position with small pieces of binding wire. A few twigs and grass stalks should be placed on it, just to give them the idea, and if they take to it—as they usually will—there is a much better chance of the squabs remaining in the nest until the proper fledging time.

Cape Doves have the reputation of being somewhat dull and lethargic in captivity, and I have certainly found this to be the case if they are kept in a cage or small aviary. In a fair-sized planted aviary, however, I found that they livened up a good deal, sometimes descending to run about on the ground. Even so, I think they must be classed among the least sprightly and active members of the family. This is a pity, as their appearance is attractive, and they have the advantage of being quite harmless to even the smallest companions, provided, of course, that these are not other members of the Dove family. Their feeding and general management should be the same as I have recommended for Diamond Doves.

Chinese Necklaced Dove

(*Streptopelia chinensis*)

IN its quiet way this is a very beautiful little Dove, in shape like a Turtle Dove but rather smaller. It is also known as the Spotted Dove.

The main body-colour is rather the delicate pinkish-grey of the gills of a freshly-gathered mushroom, greyest at the lower edges of the wing. The feathers of the mantle and wing-coverts are slate-grey spotted with buff and streaked with black. There is a wide and striking half-collar consisting of small black and white feathers on the back and sides of the neck and it is from this that the bird takes its name. The tail feathers are very dark slate-grey tipped with white.

The sexes are very much alike, but the female is perhaps slightly the smaller bird of the two, and her black and white "necklace" is narrower. They inhabit India, China and Ceylon.

At the time of writing I have a pair which are incubating eggs in the wooden shelter of a very large aviary containing a pond, while a pair of Crested Bronze-winged Pigeons have a nest in a hawthorn tree in the enclosure. There is a certain amount of scrapping when they meet, but this is seldom as the dimensions of the aviary are roughly 70 feet long by 25 feet wide by 12 feet high.

In such an enclosure it is very fascinating to be able to watch the flight characteristics of the various birds it contains, which is not possible in a small aviary. Necklaced Doves have exactly the swift direct flight of Turtle Doves, and make full use of the great size of their aviary. When courting his hen,



The Cape Dove is one of the smallest members of the Pigeon family. It is best kept in a planted aviary of fair size. Found mainly in South Africa

the cock bows low, while with up-standing spread tail he utters quite a loud "kerr-oo . . . ker-oo . . . ker-oo."

Their nest consists of a few twigs and rootlets which they have placed on a platform of half inch mesh wire netting stapled on the underside of a square of inch by inch batten and nailed to the wall. A few twigs had already been placed there. To these they added a few more, and like the nests of most Doves it is a rudimentary affair, hardly worthy of the name.

Necklaced Doves are very graceful and charming aviary inhabitants, and quite hardy. They should be fed on a grain mixture of wheat, groats and dari with a little hemp and white millet.

Crested Bronze-winged Pigeon

(*Ocyphaps lophotes*)

A FINE handsome bird, this Pigeon is not very often imported. It is grey, rather sandy, on the back and wings, while the crop area has a faintly pinkish tinge. The wings and mantle are barred with narrow black lines. The up-standing pointed crest is dark slate-grey merging into black at the tip. The greater wing coverts and secondaries are, respectively, brilliantly metallic green and purple, bordered in each case with white. These areas come into extra prominence as the cock coos to his hen, bowing low with slightly spread wings and fanned out tail. This is a most beautiful sight as the green and purple markings glitter in the sun. There is little difference in the sexes except that the hen is perhaps a trifle smaller.

Their habitat is Australia, and they are said to be found always in the vicinity of water, congregating in large flocks to drink at morning and evening. At the time of writing I have a pair in a very large aviary containing a pond and they have made their nest in a hawthorn, or perhaps it would be more accurate to say that it has been made for them.

Most Doves and Pigeons certainly are not clever nest builders and often choose the most unsuitable sites, this pair being no exception. They were provided with the usual wire-bottomed platform which suits most Doves, nailed high up to one of the uprights of the aviary. They persistently ignored this, however, spending many laborious hours carrying twigs into a hazel tree, most of which dropped to the ground immediately. How long they would have gone on doing this I don't know, but we finally fixed a sort of wire netting saucer in the place they had chosen and put a few twigs and rootlets in it. This seemed to please them and after themselves adding a few more twigs they adopted it as their nesting site and hatched and reared two young ones. We have also bred them at liberty at Keston.

Their flight in a large aviary is direct and powerful; ending in a glide. On alighting the bird has a quaint way of pointing its tail skywards. At one time a number of these fine birds were liberated at Woburn, where they soon

became established and bred freely. They died out, however, during the first World War.

These Doves are extremely combative among themselves and it is quite impossible to keep two pairs together, even in an aviary and out of the breeding season. They are perfectly hardy, and should be fed on a corn mixture containing wheat, groats, dari and a little hemp and millet.

Diamond Dove

(*Geopelia cuneata*)

ALTHOUGH its actual body (excluding the long tail) is only about the size of an ordinary Starling, this is nevertheless a true member of the Pigeon family and has all the appeal of anything in miniature. The male is grey, darker on the wings and darkest on the tail, and almost white round the vent. The wings are thickly sprinkled with minute white spots from which the bird gets its name, although actually they are much more like seed pearls than diamonds. The legs are red. The eyes are surrounded by an area of bare red skin the colour of which becomes markedly more vivid when the bird is in breeding condition.

Females vary, some being very like males and others having the back and wings much more brown than grey and with rather fewer spots on the wing. This variation makes them sometimes difficult birds to sex. Newly-fledged young ones are of a darker greyish-brown with only a suggestion of spotting on the wings.

Diamond Doves inhabit most of Australia, with the exception of the coastal areas of the South-eastern portion of the Continent, and they prefer the neighbourhood of water.

Doves are inappropriately known as "the Emblems of Peace" so it is perhaps hardly surprising to find that Diamond Doves, like other members of the tribe, fight savagely if one attempts to keep several breeding pairs together. They have, however, the great advantage of being perfectly harmless to even the smallest Waxbill and so are perfect birds for a mixed collection, provided it does not include large birds that would bully them.

They have a pretty display which usually takes place on the ground. It consists of the cock following his hen about, cooing and periodically bowing low to the ground, and at the same time raising and fanning out his handsome tail with its bands of black, white and grey.

Their note has been described as mournful, but that description has never entirely satisfied me, and it was a friend with his genius for hitting upon exactly the right adjective who found the word I had been searching for when he recently said to me as we passed the Diamond Doves' aviaries: "What a *resigned* coo Diamond Doves have"!

These Doves can be kept in either a flight cage or an aviary, but if it is intended to breed them a small aviary to each pair is really preferable, because

if they are kept in a mixed collection, other birds—particularly Zebra Finches—are inclined to pull their frail nest to pieces and annex the nesting material for their own use.

A good nesting platform for Diamond Doves can be made with a wooden embroidery hoop and rug canvas. An embroidery hoop consists of two wooden rings, one slightly smaller than the other. A round piece of rug



Very prettily marked and a free breeder, the Chinese Necklaced Dove is one of the smaller members of the family, being roughly about the size of the well known Turtle Dove. Not quarrelsome except with other Doves

canvas slightly larger than the bigger ring is placed upon it and then the smaller ring is pushed into place to hold the canvas. The larger ring should be about 6 inches in diameter. Alternatively they may be provided with a square frame of wood with $\frac{1}{4}$ -inch mesh wire netting nailed to the underside. But whatever contrivance they are given it should be nailed fairly high up under overhead cover in the flight. They do not like an entirely wooden platform.

For nesting material they should be provided with dry grass stalks, small twigs and fine rootlets, and it is as well to place a few twigs on the nesting platform, just to give them the idea. At first they construct the flimsiest of



The Diamond Dove, an attractive miniature species, is a good breeder and harmless even to Waxbills, but two pairs should not be kept together.

nests, but by the end of the breeding season it often becomes quite a bulky affair, as they add to it after each brood fledges.

The clutch consists of two small white eggs, and the incubation period always seems remarkably short—I should say about 15 days—so it is not surprising that a good breeding pair will sometimes, as did a pair I once had, rear as many as 14 young ones in a single season. Unfortunately, however, really good breeding pairs are few and far between, and what more often happens is that they will hatch both eggs and rear the young ones successfully until the elder of the two fledges, after which they completely forget their younger child, still in the nest, and leave it to starve to death.

As newly-fledged Diamond Doves always spend the first few days crouching on the ground, I have, with such careless parents, found it a good plan to place the younger of the squabs beside the elder one on the ground, the same day as the latter leaves the nest, as there is then no excuse for the parents to imagine they have an only child. It usually works, and they continue to feed both, instead of letting the younger one starve. The parents feed the young on a "milk" which they themselves secrete, so no extras of any kind are necessary when they are rearing a brood.

Diamond Doves are simplicity itself to feed, requiring nothing but white millet, brown Indian millet, and a little maw seed. They should also be given greenfood, including the young, tender leaves of spinach beet of which they are particularly fond. They are perfectly hardy and only require an unheated shelter into which they should be shut each night in winter. Nesting facilities should be given only during the summer months, as otherwise the hens are liable to become egg-bound.

Indian Green-winged Dove

(*Chalcophaps indica indica*)

THIS charming and colourful little Dove is, unfortunately, not very often imported nowadays. The male has a white forehead and eyebrow-streak, merging into dark bluish slate on the crown and nape. The back and wings are emerald green, and the underparts are a rich vinous colour tinged with chocolate. The lower back has two grey bands, the tail is darkish grey, broadly tipped with black and the bill and legs are red. The length is 10 inches.

The female differs in having less white on the forehead, and the crown and nape are brownish rather than bluish-slate. Also the grey bands on the lower back are less pronounced.

Distribution: India to Celebes; some Papuan Islands and New Guinea.

I think the first thing that strikes one about this beautiful little dove is that, although it is a grain-eating species, the very considerable area of green in its plumage is much more reminiscent of the Fruit Pigeons. So this is the perfect subject for anyone who wants a bird that is hardly less beautiful than the Fruit Pigeons but does not require their rather complicated diet.



Unlike grain eating Pigeons, those that feed on fruit are often brightly coloured with green predominating. The Lilac-crowned Fruit Pigeon, one of the prettiest, has been bred in this country. They fight badly

It is sometimes called the Emerald Dove, and I cannot think of any other grain-eating Dove or Pigeon with a large area of green in its plumage.

Curiously enough there is also an Australian Green-winged Dove (*Chalcophaps chrysochlora*), and both species are very alike.

My pair of Green-winged Doves, although apparently in perfect health and condition, never made any attempt to go to nest and I would not call them nearly such free breeders as many doves are. Mr. Seth-Smith bred them many years ago as also did the late Miss Alderson who specialized in the Dove family. The former described their eggs as definitely cream rather than white, while the latter described them as "very dark in colour, almost buff". Usually, of course, the eggs of doves and pigeons are white.

Opinions seem to differ as to their hardiness or otherwise, but from what I have read, and from my own experience with them, I should say that at any rate some artificial heat is desirable for them in winter, if the temperature falls below freezing point.

Green-winged Doves spend much of their time on the ground and in the wild state they are birds of the forest.

They should be fed on the usual dove grain mixture to which some millet may be added, and they are also partial to gentles which are not essential, but may be given from time to time for added variety.

Lilac-crowned Fruit Pigeon

(*Ptilinopus coronulatus*)

I HAVE never really gone in for Fruit Pigeons but am including a short account of this species, as it is the only one I have ever kept. The male is golden-green, with some yellow in the wings and a violet spot in the centre of the abdomen. There is a wide band of dull orange across the breast. The crown is of a beautiful rose pink rather than lilac, merging into purple on the nape, and narrowly outlined with yellow. The female is similar, but her colouring is slightly less bright.

It is a small species, inhabiting the Aru Islands and New Guinea, and is one of the most beautiful and desirable of the Fruit Pigeons. They fight badly and two pairs cannot be kept together.

I found my pair extremely susceptible to cold, and the hen died through an accident, as she was brought in with a chill and was recovering, when the heating in the hospital cage failed overnight.

The cock lived on sweetened maize and rice, boiled until soft, sweetened bread and milk, chopped-up sweet apple, and various soft fruits including elderberries in season. Sweet biscuits previously soaked in Nestlé's milk can also be offered, and soaked currants can be given as well.

He was wintered in an aviary with a heated shelter and spent the summer in a large planted outdoor aviary. He did quite well in the latter, though he



The Plumed Ground Dove is a very attractive-looking bird, but it is very aggressive

To
The Director,
Zoological Garden,
Alipore,
Calcutta-27.

always started to look unhappy if the weather turned at all cold. Eventually, when apparently in perfect health, he died suddenly of a fit.

Some years ago they were most successfully kept by Captain Stokes in an aviary with a heated shelter, and he bred from them over a period of several years. They nested in a box hung on a wall of the shelter, and he found that only a single egg was laid. The young one left the nest when still quite small, and only about a fortnight old.

THE JAMBU FRUIT PIGEON (*P. jambu*) is one of the most beautiful as well as the most frequently-imported of the Fruit Pigeons. It comes from Melanesia.

The male is of a rather dark green above, the underparts being yellowish-white with a pink spot on the breast. The head is carmine and there is white at the sides of the neck. The female is green.

Its feeding and housing requirements are the same as I have recommended for the Lilac-crowned.

Plumed Ground Dove

(*Lophophops plumifera*)

THIS very pretty little Ground Dove is nowadays seldom imported. The general body colour is pale cinnamon brown, the neck, mantle, and wing-coverts being barred with brown. The latter and the scapulars are grey at the base and the forehead and ear-coverts are also grey. Some of the inner secondaries are shining metallic purplish-bronze on their outer webs. The centre of the crown and the long tapering crest feathers are light cinnamon brown and the cheeks and throat are white. The chin, gorget, and a line above the eye are black. There is a whitish band across the chest, and the abdomen is white. The eye is surrounded by an area of bare red skin.

The female is similar but her colours are rather paler and duller and she is slightly smaller than the male.

Distribution: Northern Australia and the centre of Southern Australia.

In a wild state these Doves are said to be tame and difficult to flush from the ground. They feed largely on the seeds of *Spinifex* and indeed are also known as the *Spinifex* Pigeon. They like arid, stony, sandy country and are fond of sunbathing on exposed rocks in the full glare of the sun.

I was sent two pairs of these birds, which were unfortunately sent together in the same travelling box with the result that one of the cocks killed the other, and I disposed of the widowed hen and just kept the pair. Afterwards I was sorry I had done this because when they came into breeding condition the cock attacked and murdered his wife. So that is as far as my all too brief experience of keeping this species goes, which I regret, because they are beautiful little doves.

Their ill-temper and aggressiveness are, however, a disadvantage, and my male, who was entirely fearless, was only too anxious to attack me, always

running to and fro and doing an aggressive display whenever I or anyone else approached his aviary.

They are almost exclusively ground birds so the height of their aviary is of quite minor importance as they seldom fly or perch. What they most dislike is damp; the dry, sandy soil of such places as Bournemouth would probably suit them admirably, and such a locality would be best for breeding them, particularly if there occurred a dry, hot, sunny summer.

The nest consists simply of a slight depression or scrape on the ground under some low-growing bush.

In captivity these Doves will live mainly on brown and white millet seeds but like many doves and pigeons, they would probably eat gentles which would be a useful addition to their diet when rearing young.

Rameron Pigeon

(*Columba arquatrix*)

ALSO known as the Olive Pigeon, this is a large and very handsome bird, but is not often imported. The head is vinous purple, with the crown and nape silvery-grey; striking features are the yellow bill and the elliptical area of bare yellow skin surrounding the eye. The back, scapulars and upper half of the breast are deep purplish-chocolate, the feathers being tipped with white. The outer edge of the wings and also the rump, are grey. The tail is blackish-brown and the legs and feet are yellow. The sexes are much alike.

Distribution: Ethiopia, eastern and southern Africa.

Although it will eat the usual corn and seed pigeon mixture, and also gentles, this splendid bird is said, in the wild state, to be largely a fruit-eater. Its partiality for wild olives gives it its alternative name of Olive Pigeon, which is misleading, as one would naturally suppose that it referred to the bird's colour rather than its diet; so I think "Rameron" is preferable. In addition to corn and seed mixture, it is advisable to feed a certain amount of fruit.

I have only once possessed a pair of these Pigeons; unfortunately one of them succumbed to mycosis not long after their arrival.

Ruddy Quail Dove

(*Oreopeleia montana*)

THESE rather pretty little Doves were seldom imported even before the war owing to their scarcity, caused by the depredations of the mongoose which was introduced into their native Island of Jamaica where the birds were

formerly found in large numbers. Since Doves are usually more remarkable for beauty than intelligence, it must be confessed, it will readily be seen how inevitably such a very terrestrial species as the Ruddy Quail Dove would fall a victim to the wily and blood-thirsty mongoose.

The male Dove is bright chestnut-brown above with a purplish gloss which is more marked on the mantle, back of the head, nape, and sides of the neck. The breast is a rather pale purplish-red, shading into fawn on the throat and under the tail-coverts. The hen is dark olive-brown with a faint golden gloss, and pale buffish beneath.

These little Doves are perfectly easy to keep on a mixture of seeds such as canary, millet, wheat, groats and dari and a little hemp. They are very willing to breed and make the merest apology of a nest, in which they deposit their buff coloured eggs, usually two in number. A pair of these birds I bred from some years ago showed a desire to nest in the shallow round earthenware saucer in which they were fed and as such a receptacle seemed to lessen the risk of the young ones falling out of the nest, I decided to let them do so. In this they deposited a few sticks and an odd dead leaf or two, after which they apparently considered the "nest" complete, and proceeded to lay and sit.

To give them their due, however, this particular couple, unlike so many Doves, proved themselves to be the most model parents. They did not suffer from the maddening absent-mindedness which so often causes Doves apparently to forget that they have a brood to care for until they have died of starvation.

In the end I found I need not have worried about the squabs falling out of the nest, because unlike the young of arboreal Doves they remain in it for only a short time after they are hatched. Having never bred ground Doves before, I was considerably perturbed to find the nest empty when the young ones were still at a tender age, until I discovered them running happily about on the ground with their parents, quite unharmed and able to take care of themselves and even perch on low branches. They matured rapidly and were soon quite as big as their parents.

Scallop-necked Pigeon

(*Columba speciosa*)

THIS fine Pigeon is very seldom imported, but is highly desirable and makes a handsome aviary bird. The head and neck are maroon with a purple gloss. The neck feathers are spotted with white and bordered with metallic green and amethystine reflections which produce a scaly appearance. The breast feathers are medium brown bordered with darker brown and the centre of the belly and abdomen are whitish. The back and wings are chocolate-brown with a purplish gloss, particularly on the shoulders. The tail is dark brown shading into blackish at the tip and the legs and feet are plumbeous red.

The bill is dark red tipped with whitish. The sexes are much alike. The size is about that of a small domestic pigeon.

Distribution: East Mexico through Central America to Colombia, Ecuador, Peru, Guiana and Brazil.

I had what at first appeared to be a fine pair of these pigeons a few years ago, but shortly after arrival they developed mycosis and died. I greatly regretted the loss and hope to be able to obtain another pair some day.

The birds require the usual corn and seed pigeon mixture and will eat gentles, which should be fed occasionally.

Senegal Dove

(*Streptopelia senegalensis aequatorialis*)

THIS rather pretty Dove is about the same size as and closely related to the familiar Turtle Dove which visits this country to breed in the spring and summer months, and whose soothing and soporific coo is such a perfect accompaniment to a drowsy English summer day.

The Senegal Dove is widely distributed throughout the drier parts of Africa, and has a pleasing colour scheme consisting of the delicate pinkish shade of the gills of a newly-opened mushroom and a pale very blue-grey, the latter being on the wings and upper parts of the bird. The tail is handsomely banded with black, white and grey, and the wings make a whistling sound in flight. The throat and sides of the neck are adorned with small triangular black markings which are thrown into prominence and become more sharply defined when the male is cooing and displaying. Both cocks and hens, however, show these black throat markings and I find the species extremely difficult to sex.

Not long ago I had four of these Doves, but I was uncertain as to their sex. After putting them into a large planted aviary, however, I was not long left in doubt, as they soon went to nest. One pair chose an ordinary square wire-bottomed dove nest nailed high up, while the other pair built their frail nest low down on a tangle of "Old Man's Beard," beneath which a hen Amherst Pheasant was sitting.

The sites were at opposite ends of the aviary, and although at first there had been much fighting between the two pairs they eventually settled down in a state of armed neutrality. All was well, so long as one pair did not trespass into the other pair's half of the aviary. This also applied to the young ones of which there were soon so many, that when the Dove population reached eleven I gave them all away to a friend, including the parents.

The Senegal Dove is known in its native land as the Laughing Dove, owing I suppose to what seems to me a rather fanciful resemblance between its drowsy cooing and human laughter. The coo consists of a frequent repetition of Who . . . Who . . . Whooo-who-who . . . who . . . who . . . whooo

who-who, and though some people might find it monotonous, I think it is a pleasant sound.

These birds were tried at liberty before the 1914-18 war by the late Duke of Bedford at Woburn where they flourished and bred for a few years, but



The Scallop-necked Pigeon is very handsome and makes a fine aviary bird. It is about the same size as a small domestic pigeon

eventually died out owing to a canker epidemic from which the wild Turtle Doves also suffered.

For some reason Doves have never been particularly popular aviary birds: possibly this is because, generally speaking, they do seem to be rather lacking in grey matter, often even forgetting altogether that they have young in the nest to feed. Nevertheless, many of them are very beautiful, and I think Doves are worthy of their place in a mixed collection in any fair-sized aviary. A few aviculturists, chief among them perhaps being Madame Lecallier in France, have concentrated upon Doves, keeping large collections of the various species, and I can quite imagine that these were very fascinating.

Senegal Doves are very easy to cater for and should be given a mixture of white millet, dari, wheat, groats and a little hemp. The usual wild greenfoods can be offered and my two pairs eventually became quite fond of spinach beet.

Zebra Dove

(*Geopelia striata*)

ONE of the smallest of the Doves and very prettily marked, this bird takes its popular name from the striped or barred effect of the plumage and is sometimes known as the Barred Ground Dove. The male has the forehead, throat and cheeks ashy-grey, the hind part of the crown having a vinous tinge. The upper surface is brown, each feather being narrowly bordered with black, and the neck and breast are barred with black and white. The centre of the breast is vinous-pink shading into whitish-buff on the under tail-coverts. The tail feathers are blackish broadly tipped with white.

It is many years since I kept these Doves, but if I remember rightly, the barring in the female is continued across the lower breast and abdomen and there is no pink breast patch. This is also the case with young birds of both sexes. Although very small as Doves go, the species is larger than the diminutive Diamond Dove.

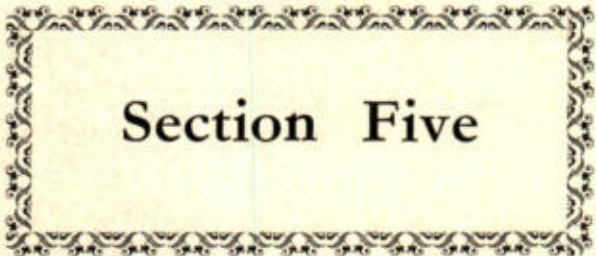
They are very abundant in the Malay Peninsula, being favourite cage birds both there and in India. They feed chiefly on grass seeds, and are frequenters of gardens where they are to be seen walking about on lawns in pairs or small (probably family) parties. Flimsy, typical Dove-like nests are built in hedges or thickets of bamboo.

Zebra Doves are quite often imported, more so formerly, perhaps, than nowadays. Although they have the advantage in a mixed collection of being harmless to smaller birds unrelated to them, nevertheless they are very quarrelsome and pugnacious towards their own kind and with other members of the Dove family.

Usually, they are very willing to go to nest, and should be given the same nesting facilities as I have recommended for the Diamond Dove. If, however, successful breeding is the first consideration, it is essential that they should be the only Dove inhabitants of the aviary, otherwise there will be no young ones and endless squabbling. This applies, of course, to the usual smallish aviary, but I have bred numerous young ones from two pairs of equally pugnacious Senegal or "Laughing" Doves in a large planted aviary. It was interesting the way the two pairs at first fought incessantly and then, apparently by mutual agreement, decided to divide the aviary in two by an invisible barrier.

Both pairs reared young ones and all was well so long as some unsuspecting fledging did not stray into forbidden territory. In that case it was violently chivvied and buffeted back to its parents' half of the aviary, and having learned its lesson, stayed there. This strong territorial instinct is rather like that described by Konrad Z. Lorenz in his enchanting book "King Solomon's Ring" when he tried the experiment of keeping two breeding pairs of Sticklebacks in the same large aquarium.

Zebra Doves live chiefly on millet and should be offered the usual wild greenfoods, and spinach beet. They are also fond of maw seed,



Section Five

GENERAL AVIARY
HUSBANDRY

Housing and General Management

FOREIGN birds can be kept in cages; in indoor or outdoor aviaries; and, provided the conditions are suitable, some can be kept more easily than is generally realised at what is known as "controlled liberty."

Much the best kind of cage is a flight cage, in which the bird has sufficient space to fly from end to end of it, instead of merely hopping from one perch to another. These are made in three types: all-wire, semi-box, and box.

The first of these, being entirely open, is suitable only if it can be placed in a situation entirely free from draughts, but as such situations are rare, a cage of the box or semi-box type is usually better. There should be a perch at each end—preferably natural ones—and the bird's feet will benefit from the resilience of a small natural twiggy branch fixed to the centre of the back of the cage. Thus a maximum of flying space is available. I think this point should be stressed, as I have sometimes seen cages so cluttered up with perches as to be more suitable for a chameleon to climb about in than for a bird to fly in.

The sand on the tray should be frequently sifted to remove any droppings, a sprinkling of fresh sand being added each time. I have found the most satisfactory cage floor covering for insectivorous birds is newspaper, and it is a good plan to lay several sheets, one on top of the other, removing and burning the soiled top one each morning. Nectar feeders have, of course, very copious liquid droppings and as a floor covering blotting paper is really best.

The food and water vessels should not be directly beneath a perch, otherwise they will be fouled by the birds' excreta.

Frequent opportunities for bathing are best supplied in the form of one of the plastic or metal baths, enclosed on all but one side, which hang on the outside of the cage over the space left when the door is open. Such baths prevent splashing, which, if an open bath is put on the floor, would quickly drench everything in the cage. The bath should not be left permanently in place, but should be attached to the cage for an hour or so every day, or at least two or three times a week.

In addition to a handful of the various wild greenfoods for them to pick over, birds derive great pleasure from a small square of turf placed on the floor of their cage from time to time. This, of course, is a luxury rather than a necessity, but if you take the trouble to add such small touches as these, you will be infinitely rewarded by the increased happiness and well-being of your birds.

Greenfood should always be given as fresh as possible. It does not matter if it has wilted during a matter of a few hours before it is given. It is most dangerous, however, to gather greenfood, particularly when wet, and then, perhaps after the lapse of a day or two, remember about it and give it to one's birds.

When constructing an aviary of the non-planted type, certain desirable features should be borne in mind. The shelter, though it need not be large, must be well-lighted, and should have an entrance hole fairly high up which can be closed from outside the aviary by means of a sliding shutter. This is particularly valuable with a breeding pair of Parrakeets, as they can be shut in the shelter with a minimum of fuss before one gets into the flight to look in their nest box. It is a good plan to have the entrance hole large enough for the birds to fly through, to give them the maximum amount of flying space.

The flight should be roofed over for a couple of feet or so adjoining the shelter, as this serves the dual purpose of giving the birds a partly open and partly covered flight, as well as preventing rain from driving into the entrance hole. I do not like entirely covered flights as these deprive birds of a rain bath, which many of them—particularly members of the Parrot family—so much enjoy, and which is so beneficial to their plumage.

As the aviary is not to contain any growing bushes it is a good plan to have the bottom of the flight wired over in exactly the same way as the top and sides. The wire will thus lie flat on the ground, and will soon be hidden by grass and other herbage growing up through it. This method has the great advantage of rendering the flight entirely rat-proof, and also very easy to move should one desire to do so at any time.

It is a wise precaution to have the door of the flight not more than 3 feet high. Although this necessitates bending down to get into the aviary, it eliminates the risk of a bird flying out over one's head as one enters—a risk which is always present if the door is of the same height as the aviary.

A small feeding door about 12 inches long by 6 inches high, placed about waist level in a side of the shelter is useful and time-saving, as it does away with the necessity of entering the aviary in order to feed the birds.

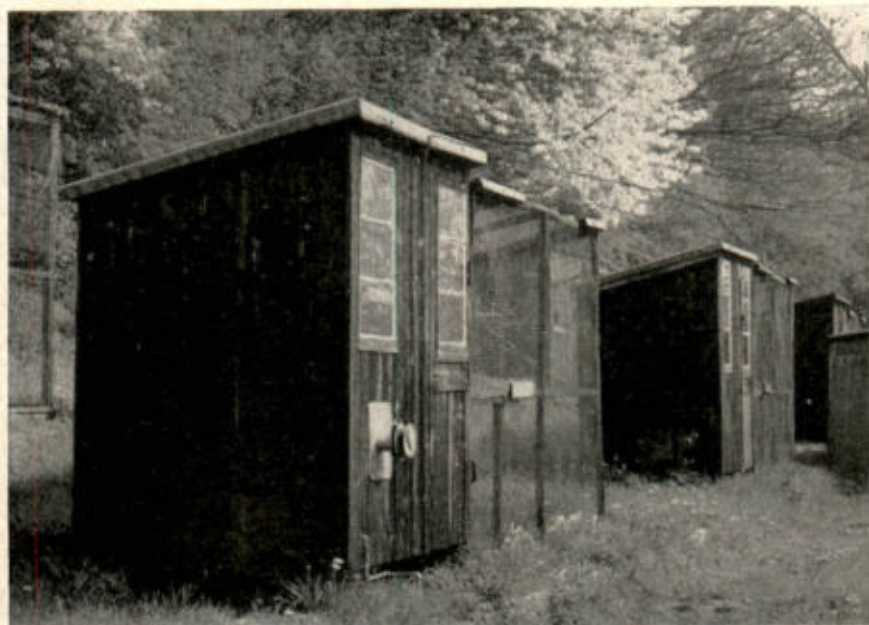
Quite small aviaries are better than none, and are very suitable for a single breeding pair of Finches, a couple of pairs of Budgerigars, or a small collection of Waxbills. At one time we had a number of such home-made aviaries at Keston, and bred practically all the Australian Grass Finches in them, including the difficult Cherry Finch, as well as Bengalese, White Java Sparrows, etc.—always, of course, only one pair of birds being housed in each aviary.

The miniature shelter consisted of a wooden packing case roughly 2 feet square on four wooden legs about three feet high. The front of the packing case was removed and replaced as a door (for cleaning purposes), containing a square of glass or Windowlite in the upper half and a small feeding door just below. A false sloping wooden roof was added and covered with tarred felt. The adjoining flight was about 4 feet long by 2 feet wide by 5 feet high facing due south, as did the shelter, and backed with wood.

Access to the shelter was gained through a 4-inch square entrance hole, fitted with a sliding shutter, and about 12 inches of the roof of the flight where it joined the shelter were boarded over to prevent rain driving into the entrance hole.

I have given these details because such an aviary can be quite easily constructed by anyone with an elementary knowledge of carpentry.

A planted aviary, of course, can be of any size or shape according to the individual preference of its owner. Natural Larch poles make an attractive



These small terrace aviaries are used mainly for Grass Parrakeets, one breeding pair being housed in each aviary. They provide excellent protection

framework, and the portions to be let into the ground should be previously tarred to preserve them. Although more expensive, it is best to use half-inch mesh wire netting, as this will contain any bird whereas a larger mesh limits one's choice.

In order to exclude vermin, a trench about 18 inches deep by 12 inches wide should be dug round the site so that the netting can be continued down this distance and then turned outwards, flush with the bottom of the trench before the latter is filled in.

A shelter, which need not be large, can be inside the aviary, but is really best built-on outside. The birds can take refuge in it during heavy rain storms, and also roost in it if they wish, although I have found that, even in winter, they much prefer to roost outside in the bushes, and for this reason evergreens should predominate. The food vessels are best placed in the shelter.

The flight can be turfed, and there are many suitable bushes that may be planted, including box, euonymus, privet, and the various kinds of cupressus. In a bare new aviary nothing provides greenery so quickly as elder, but it grows so rampantly that it has to be severely pruned each year if it is to form anything like a neat bush. It has disadvantages, being deciduous and therefore useless as winter cover, and also its particular habit of growth does not provide good nesting sites. On the other hand its berries are much appreciated by many insectivorous and fruit eating birds.

There are many kinds of creepers which can be used to cover the central supporting poles of the aviary, including hops, honeysuckle (various varieties),

which are very decorative, and *Polygonum baldschuanicum*. The disadvantage of the last is that it grows so quickly that it has to be kept very severely pruned, otherwise it ramps all over the aviary.

If desired various border plants can be included such as flag irises, michaelmas daisies, etc. Clumps of bamboo are particularly effective in a garden aviary. The bamboo-like *Polygonum cuspidatum* will often flourish in rather shallow chalky soil which does not suit the true bamboos, but though it gives a pleasant jungle effect, it spreads very rapidly by underground runners, and has to be kept severely in check.

Birds that feed on small seeds such as canary and millet can be fed in open vessels or in seed hoppers. The latter are admirable and very labour-saving, but a word of warning is necessary. It is a mistake to suppose that one can just fill up the hopper with seed and not bother about it again until it needs refilling. Through various causes such as dust and the moisture in the atmosphere, the seed sometimes clogs, and it is therefore most important to check up every few days to make sure that it is running freely.

Peaceable little birds such as Waxbills will all feed amicably from the same hopper, but in a mixed collection it is advisable to provide several hung as far apart as possible. This should be done in order to foil any bird that has the tiresome habit of mounting guard over a hopper and chasing away any others that come to feed from it.

It should never be assumed that a newly-acquired bird will feed at once from a seed hopper. It may previously have been used to an open seed vessel, and is liable to starve before it discovers the new source of food. At first, therefore, seed should be supplied in an open vessel, and it is a good plan to scatter a handful on the ground as well. The bird is thus given time to observe where its companions feed, and will soon follow suit. A bird that arrives at all late in the day is much best put into a cage and released in the aviary the following morning.

It should perhaps be remarked, in passing, that, pleasant as mixed collections are to the eye, it is seldom that much in the way of breeding results is achieved under such communal conditions. Generally speaking, therefore, if you have a pair of birds from which you are particularly anxious to breed, every effort should be made to give them an aviary to themselves.

An indoor aviary is, of course, simply an all-wire enclosure in a bird room, the idea being to provide more flying space than would be possible in a cage.

Earlier on I mentioned that certain birds could be kept at controlled liberty, and I will say no more here as details have already been given.

Now a word on the subject of those little pests, mice. These, of course, are every aviculturist's bugbear. They eat and foul seed, and do an almost incredible amount of damage to the woodwork of a shelter, often completely hollowing out the battens until only a thin wooden shell is left. They seem quite able to run for a short distance up vertical matchboarding, and are capable of the most prodigious leaps. They find wooden Finch nest boxes delightful as a nursery for their young, and many a time have I looked in such a box, hoping to find, say, a nest of young Gouldians—only to be confronted with a disgustingly healthy brood of young mice!

Zinc provides one of the few surfaces upon which a mouse can get no foothold, and it is a good plan to nail up the nest boxes on a wide strip of sheet

zinc which has been previously screwed or nailed to the wall of the shelter. An 18 inch dado of zinc round the bottom of the shelter is also useful, as it tends to prevent mice climbing up the walls.

Some people prefer to give seed in open vessels, and for this purpose, many years ago, I designed a rough and ready anti-mouse feeding table which is simple but effective. The principle is that of a one-legged table, the top of which consists of an inverted baking tin on which the seed vessel is placed. The mice can climb the leg of the table, but can go no further once they reach the inverted baking tin.

It is most important that the food table should be put as far away from any perches as possible, since mice display considerable ingenuity in getting at canary seed. If the table is placed beneath a perch they will soon learn to run along it, drop down—several feet if necessary—on to the food table, and, having fed, jump down on to the floor of the shelter.

I have always found that, provided they can get at canary seed, mice are almost impossible to trap in an aviary as that seems their favourite food, and consequently none of the usual baits will tempt them.

The proprietary brands of bird sand contain the requisite amount of grit, but if ordinary sand is used, the smallest grade of limestone grit should be given, and cuttlefish may be supplied as well. Most Psittacine birds are very fond of a lump of ordinary chalk to nibble.

In addition to the wild and cultivated greenfoods, there are various other natural sources of food which are much appreciated by birds. These include plantain heads, sow thistles, and such wild fruits as elderberries, rose hips, blackberries etc. Variety is indeed the spice of life, and this is particularly true in the feeding of captive birds.

Insectivorous species are particularly fond of spiders and live ant cocoons, but the two staple live foods, regular supplies of which can be purchased, are mealworms and gentles, both of which are excellent. I have found, however, that, while birds seem able to consume large quantities of gentles without any ill effects, mealworms have to be rather carefully rationed, otherwise overfatness and liver troubles may ensue.

Apples and also chopped-up dates are both very good in the way of fruit, and have the great advantage of being obtainable at all times of the year.

Cage birds should be trained to regard their cage as their home and to this end they should be let out as often as possible. A pet parrot will often do little more than enjoy itself by climbing about the outside of its cage, or running about on the floor of the room. That great cage favourite, the Shama, however, will fly about the room and can readily be induced to return home by placing a few mealworms in his cage.

Perhaps nowadays the most popular of all household pets in the bird line is the tame, and often "talking" Budgerigar. Nothing could be more charming, and it is hardly necessary to advocate his being let out of his cage, as judging by those belonging to friends of mine, they seem far more often out of their cages than in!

In the past it was the invariable practice of most Zoos to keep members of the Parrot family in cages in stuffy over-heated Parrot Houses, and I think it was this that gave rise to the notion that these birds are particularly delicate.

Actually quite the reverse is true, many members of the Parrot tribe, including, to mention but a few, such well known birds as the African Grey, and certain of the Amazons and Cockatoos, as well as several of the Parrakeets being among the toughest and hardiest of all foreign birds.

Generally speaking, therefore, Psittacine birds should not be coddled, as they do far better leading a healthy open air life in a suitable well constructed outdoor aviary, and this applies to many, if not most, other kinds of foreign birds as well.

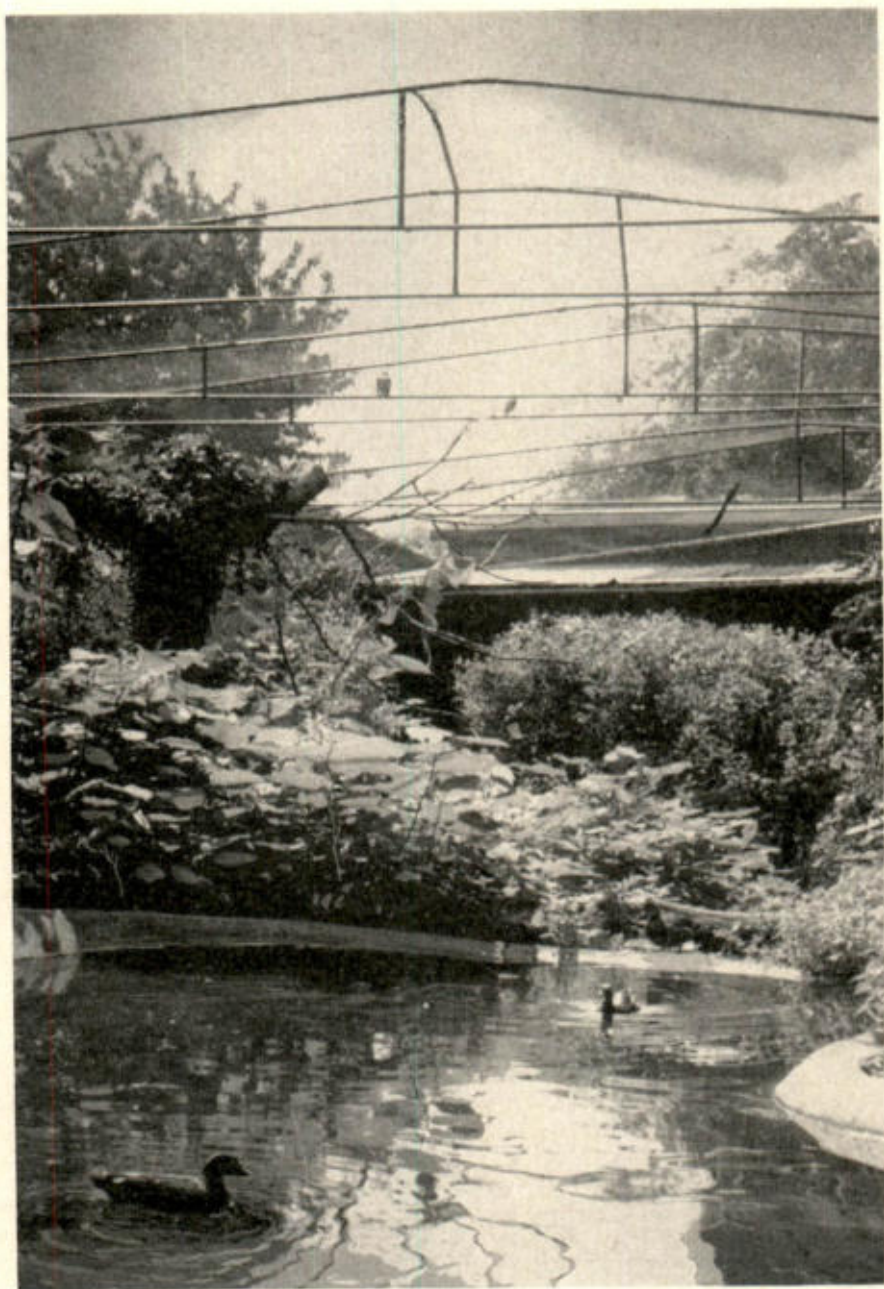
Even for many of the more delicate species, the ideal way to keep them is in an outdoor aviary with a comfortable well lighted shelter, heated during the winter. It is no hardship for them to be kept shut in the shelter during particularly cold or inclement weather, and, even in the depths of winter, we often get mild sunny spells in which, during the day, it is perfectly safe to let them out into the flight. I remember seeing a pair of Fairy Bluebirds, and also the small King Birds of Paradise, which the late Duke of Bedford kept under these conditions, and they were in the most perfect condition. The more delicate species can also, of course, be wintered successfully in a flight cage in a heated birdroom.

If it is intended to keep a mixed collection of birds one should bear in mind the golden rule that, as with human beings, close relatives are far the most likely to squabble. The various species of Doves, for example, while harmless to other birds, are terribly quarrelsome among themselves. Waxbills are the exception that proves the rule, but generally speaking, in forming a mixed collection, it is safest to choose birds that do not belong to the same genus, and to avoid any of a bullying disposition.

Out of the breeding season one should make a practice of checking out one's birds each morning, in order to spot any that are ill, and take them in for treatment. During the breeding season, however, although one should continue to keep a careful eye on one's birds, this practice has to be more or less discontinued as any undue interference is liable to upset sitting hens and cause them to desert.

For the same reason nest boxes should not be inspected, unless it is deemed absolutely necessary. Some birds, such as Budgerigars, will put up with frequent nest inspections, but less domesticated species usually won't. If, say, a hen Parrakeet has been sitting beyond her normal time and there is no sign of her reappearance, it is advisable to look in the box to see if she has died on the nest. If, on the other hand, she has come out of the nest box and takes no further interest in it, the matter should be looked into. Possibly clear or addled eggs or dead young ones will be found, and she will not go to nest again until these are removed. It is the greatest mistake, however, to look in the box from time to time simply out of curiosity.

One of the most valuable assets an aviculturist can possess is the ability to spot a sick bird *when it is only just starting to get ill*. This gift seems to be rather akin to the "green finger" in gardening, and is quite independent of the keenness or otherwise of the individual bird keeper. A practice to be avoided—and one much favoured by those who do not possess this gift—is that of running a stick or finger along the wire netting, and when the potential invalid has been sufficiently startled to make it look round and temporarily sleek up its ruffled



The largest of the author's planted aviaries, an enclosure about 70 feet long and of proportionate height and width, containing a pond and many bushes

feathers, to remark triumphantly: "Nothing much wrong with *that* bird"! Certainly the bird should be roused from its lethargy, but it is then most important to retreat some distance from the aviary, and, standing perfectly still, see how it reacts when it once again believes itself to be unobserved.

A bird that is starting to get ill becomes listless, goes off its food, and shows a tendency to close its eyes, ruffle its feathers, and put its head under its wing. A useful tip to remember with regard to Parrot-like birds is that if one of them sits with its head under its wing, and one foot tucked up among the breast feathers, it is merely having a quiet nap. If, on the other hand, it has its head under its wing and *both feet on the perch*, you can be reasonably sure it is ill.

In choosing a bird, it should be remembered that the chief indication as to the state of its health is the eye. If a bird's eyes are bright and alert there is nothing much wrong with its health. If a bird arrives in good condition, but gets ill after you have had it for some time, it is unreasonable to blame the person from whom you purchased it, and demand a replacement, since the trouble is more likely to be due to your own faulty management.

It is a mistake, particularly in winter, to send away a very small bird in a very large travelling box as it is thus unable to keep itself warm during the journey by generating its own heat in the box. Naturally, however, too small a box must be avoided at all costs. When sending birds away it is most important to give them an adequate supply of food for their journey, and even to add a bit extra in case of possible delays. From long experience at the receiving end I am afraid this warning is by no means as unnecessary as it may appear.

Finally, a word of warning about the sun as there is a rather prevalent but quite erroneous belief that no foreign bird can have too much of it. This notion is particularly false in the case of members of the Parrot family, which, unlike Noel Coward's "Mad Dogs and Englishmen" do *not* go out in the mid-day sun! Indeed—and some people find this hard to believe—they are very prone to sunstroke even in this country, and should never be in an aviary or cage where they cannot get into the shade.

In an aviary a good way of supplying this is by placing a wattle hurdle on top of the end of the flight. An additional advantage is that birds sitting on the perch or perches immediately below it, are invisible from above to Hawks which are their chief enemies.

Common Diseases

SICK birds usually die or recover as the case may be with equal rapidity, and if prompt and efficient action is taken a bird which looked very ill indeed in the morning may have almost recovered by the same evening.

If you discover that one of your birds is ill the most important thing of all is heat treatment, and it should be caught up at once and put in a hospital cage in a steady temperature of at least 85° to 90°. People often make the mistake of supposing that mere warmth such as a temperature of about 70° is sufficient, although actually this is not the slightest use for a really sick bird. Excellent electrically-heated hospital cages are once more obtainable.

A good form of heating is a well-trimmed paraffin lamp, and it really has to be left to the ingenuity of the individual aviculturist to devise a cage in which a steady temperature of 85° can be maintained. Provided there is suitable ventilation a box cage with a glass front is an excellent method of conserving heat, but it is most important that the lamp should not be actually in the cage with the bird as the fumes, of course, would kill it. A box cage made of tin, or with a tin instead of a wooden bottom, is suitable, as the lamp can then be placed beneath it. Great care should be taken, however, to see that the flame is not too close to the metal bottom of the cage.

Failing all else, a sick bird may be put in a box cage in front of a good fire, preferably coal or electric, as close as possible without causing it actual discomfort. Some sort of hospital cage, however, even a home made one, is far preferable. Once the bird has recovered the heat of the cage should be reduced gradually, and the bird should spend at least a day in the hospital without any heat before being returned to its aviary. The hospital cage must be kept scrupulously clean, and when unoccupied it is a good thing to disinfect it with a blow-lamp.

I should say that the three commonest bird diseases are chills, enteritis and coccidiosis, so I will deal with these first.

Chills: A bird with an ordinary chill looks puffed up and miserable and keeps on tucking its head under its wing. If nothing is done, this soon turns to pneumonia, but if the bird is quickly caught up and put in a temperature of 85° to 90°, it will usually recover in a few hours without any medicinal treatment. If pneumonia is suspected, Aureomycin (obtainable only on a Veterinary Surgeon's prescription) should be given. It is a green powder and for pneumonia a saltspoonful should be mixed with a pint of water.

Enteritis: This disease has two forms. Infectious enteritis, or salmonellosis, which sometimes occurs among newly imported birds, is incurable and can be checked only by disinfection and segregation.

The ordinary kind usually follows upon a chill, or can be caused by eating musty or contaminated seed or greenfood. The bird shows all the usual signs of illness with often, in addition, a watery diarrhoea and vomiting. It

should be placed at once in a hospital cage and given to drink a mixture of five drops of Syrup of Buckthorn in three tablespoonfuls of water.

Coccidiosis: This is one of the commonest and most deadly of avian scourges. It attacks chiefly young birds of the year, particularly Grass Parrakeets, and its insidious onset is by no means easy to detect. Usually the first thing noticed is that a bird suffering from the disease sits listlessly about. When caught up it weighs scarcely anything and has a breast bone like a knife blade.

That wonderful drug sulphamezathine, however, can now effect marvellous cures of this dread complaint. The patient should be put at once in a hospital cage and given as drinking water seven drops of a 16 per cent solution of sulphamezathine in two tablespoonfuls of water. This should be given for five days *but no longer* as if continued it has a toxic effect. The treatment can, however, be repeated after an interval of five days.

As the disease is highly infectious it is a wise precaution to give a five day course of sulphamezathine to any companions of the sick bird.

Damp, muggy autumn weather is the time most to be dreaded for one's birds, presumably because germs and microbes that have been breeding all the summer have by then reached their peak. It is in such weather that coccidiosis takes such a toll—heavier in some years than others—of one's young stock.

Lactose (sugar of milk) given daily in the drinking water in the proportion of one heaped teaspoonful in a quart of warm water is a useful but not an infallible preventive. However, it is well worth giving as it certainly does check the incidence of this disease.

Aspergillosis: This is a mould which flourishes on musty straw and seed, decaying greenfood etc., and gets into the throat and bronchial tubes of its victims. Various cures have been suggested, such as making the patient inhale steam containing compound tincture of benzoin or oil of eucalyptus.

It is far best, however, to prevent the disease by keeping the bird's quarters clean and by giving only fresh greenfood and best quality seed. The symptoms, wheezing and shortness of breath, are similar to those of asthma.

Asthma: Like human beings, Parrots sometimes suffer from spasmodic paroxysmal asthma, although they may appear perfectly healthy except when the paroxysm is upon them. If the attack is a prolonged one, a drop of 1:1,000 solution of adrenalin given in a teaspoonful of water gives relief.

Cataract: A disease of the eyes in which a thin film or skin forms over the eye, leading to eventual blindness. The disease is hereditary and incurable.

Cirrhosis of the Liver: This and other liver diseases are rather common among members of the Parrot family and are incurable. They usually afflict elderly Parrots that have been long caged without being let out frequently to take exercise. Sometimes, however, a bird that appears in perfect health will die suddenly and the post mortem reveals chronic liver disease.

Conjunctivitis: There is a non-infectious form of this disease characterised by a watery discharge from the eyes which usually can be cured quite easily by dropping one of the proprietary eye lotions into the affected eye.

The other form—the dreaded infectious or contagious type of eye disease—has different symptoms. Contracted through dirty cages and particularly dirty perches, it is the bane of those who import Australian Parrakeets. All the Grass and Polyteline Parrakeets, the Barraband in particular, are extremely

prone to it, though the Broadtails seem for some reason to be much less susceptible. It does not at the outset affect the general health of a bird, which remains perfectly lively but blinks its eyes more frequently than usual. Gradually, however, the bird reaches the stage where it has its eyes closed more often than open. This is followed by a mucous discharge which clogs the eyelids and unless treatment is given, eventually ends in death.

Until quite recently this contagious form of eye-disease was one of the major scourges. Nowadays, however, it is curable, although I became aware of this fact only through the kindness of Dr. F. B. Lake of Kingston-on-Thames, who was good enough not only to take some newly-imported Bourkes Parrakeets to cure himself, but also gave instructions as to how we could try to cure the remaining three that were rather less seriously infected.

I feel therefore I cannot do better than quote from the letter he wrote me on the subject. In it he said:—"I think the best treatment for the eye disease is a five per cent solution of aureomycin dropped repeatedly into the eye for about three to five minutes once a day, followed by aureomycin eye ointment applied once daily for about two weeks after the discharge has dried up. The next best thing—and this you can get at a chemist—is Chloromycetin drops and ointment, used in the same way. . . ."

I may add that we tried the Chloromycetin treatment on the Bourkes, and they were completely cured. Incidentally, neither of these drugs can be obtained without a prescription.

Constipation: Can be relieved by giving three drops of Syrup of Buckthorn in a tablespoonful of water in place of ordinary drinking water for one day.

Crop Binding: This also occurs in domestic poultry and should be dealt with in the same way by a gentle massaging and manipulation of the crop with the thumb and forefinger to dislodge and break up whatever may be causing the binding.

Crop Sickness is characterised by a fluid vomiting from the beak and often subsides without medicinal treatment. If it persists, however, the patient may be dosed with a powder consisting of one part bicarbonate of soda, one part powdered charcoal and two parts bismuth carbonate. For an average-sized bird about half a saltspoonful should be administered thrice daily.

Convulsions (or Fits): These often occur in birds that are very overfat, and they simply drop dead from the perch. The best preventive, of course, is to try to help the bird regain its original slim figure. This is best done by omitting all such fattening foods as sunflower, hemp and monkey nuts and putting the bird on to a diet of plain canary seed plus a plentiful supply of fruit and greenfood.

It should also be given every opportunity of taking plenty of exercise, preferably in an outdoor aviary. In the case of insectivorous species, mealworms should be reduced to a minimum, or better still, be replaced by gentles and such things as spiders, caterpillars, live ant pupæ etc.

Egg Binding: I have always noticed that some aviculturists have much more trouble with this tiresome complaint than others, and it may have something to do with the locality in which their birds are kept. It is usually supposed erroneously to be caused by the egg itself, but its real cause is cramp of the muscular fibres of the oviduct which grip the immature egg and prevent its expulsion into the outer portion in which the shell is formed.

The chief cause of this cramp is cold weather while the bird is laying. The best cure, therefore, is to put the patient into a hospital cage at a temperature of 85°, after which the egg will usually complete its formation and be laid successfully. Once a hen has suffered from egg-binding the trouble is liable to recur each time she lays, and a preventive worth trying is a few drops each of gin and glycerine mixed with the drinking water in a vessel about the size of an egg-cup. This should be continued until the clutch is completed.

A bird suffering from egg-binding will be found sitting on the floor of its cage or aviary usually in a corner, looking thoroughly miserable with its eyes shut and with drooping wings and ruffled feathers.

French Moults: This is one of the commonest and yet most mysterious and baffling of all diseases, affecting chiefly Budgerigars, the victims being known as "runners." Various theories have been propounded, and cures or preventives suggested, but none of them, so far as I am aware, has yet proved effective.

Some young birds suffering from this complaint leave the nest perfectly feathered except for the tail and flights, and these, in time, recover completely and grow a full complement of feathers. There is, however, every degree between this state of the complaint and that of almost complete nakedness, and, as I have said, the cause remains unknown.

One is inclined to think of French Moults as affecting exclusively Budgerigars, and particularly those bred in captivity. It may therefore be of interest to note that, on one occasion, a number of wild Redrump Parrakeets were observed in Australia running about on the ground and quite unable to fly. Several were caught, and on examination, were found to be suffering from an acute form of French Moults.

Gapes: This tiresome affliction is common among gallinaceous birds such as Pheasants, particularly young ones, and also among certain insectivorous species, such as certain of the Glossy Starlings, but it never occurs among purely seed-eating species.

It is caused by a parasite (*Syngamus trachea*), a minute red forked worm which disintegrates upon being expectorated by its host. This sets free its eggs and after hatching among warm moist herbage these are consumed by earthworms which are in their turn eaten by birds. The parasites then develop and breed inside the body of their host until they finally reach the larger bronchial tubes and the trachea. Here they set up intense irritation, causing the bird to wheeze and gasp for breath, until they are finally expectorated through the beak and so their life-cycle starts all over again.

One treatment recommended for gapes is to use a cotton pipe cleaner with the sharp point turned round on the stem. This is then dipped in a mixture of one part ether, one part oil of turpentine or eucalyptus and ten parts olive oil, after which it is thrust down the bird's throat, being careful not to hurt it, and twisted round several times.

I used to treat a Royal Starling I once had in this way and the gape worms could be clearly seen on the pipe cleaner when it was withdrawn from the bird's beak. I cannot say, however, that I found it an entirely satisfactory or lasting cure, although it certainly did act as a palliative.

The ground of an aviary containing birds susceptible to gapes can also be treated periodically with a strong solution of salt and water as this kills the

embryo gape worms in the herbage, but the best way to disinfect the ground is with a flame gun. In France an absolute cure for gapes called Amyodol Interne is available, but it appears unobtainable in this country.

Indigestion: Birds properly fed, housed and cared for should not suffer from this complaint, but it is very prevalent among such birds as newly imported Gouldian Finches if they have been deprived of grit on the journey over and are then suddenly given unlimited quantities of it. Any bird that has not had access to grit for some time should only be introduced to it very gradually, giving the smallest possible quantity to begin with.

Paralysis of Legs: This is rather prevalent, particularly among Parrakeets. Usually it is caused by chill. Its onset is often very swift and a bird appearing in the best of health may be suddenly afflicted with paralysis of the legs. The best treatment is to put the patient in heat in a hospital cage and massage the legs with methylated spirit. If there is recovery, it is slow, but usually complete.

Scaly-face: The symptoms are a scaly appearance about the base of the beak and sometimes around the eye. This disease was originally believed to be caused by the same parasitical mite as scabies of the leg, but is now thought to be due to a fungus.

Treatment should consist of cutting away the short feathers around the beak and giving an application of sulphur ointment and two of benzyl benzoate applied on alternate days.

Scabies of the Leg: This condition is sometimes to be found in imported Finches but is not very common in aviary birds. The symptoms are scales on the legs, which are caused through a parasitic mite (*Cnemidoptes mutans*).

The treatment should be the same as for scaly-face. If, however, the condition is not very severe, one or two applications of paraffin will very often effect a cure.

Tuberculosis: This is a widespread scourge among birds of all kinds and is incurable. The symptoms are that the bird "goes light" and becomes lethargic and listless. It affects some species more than others, and the attractive Australian Black Banksian Cockatoos are particularly prone to it.

Vertigo: This disease seems to be caused by some sort of disturbance or infection of the semi-circular ear canals and is not uncommon among Parrakeets. The afflicted bird, particularly when suddenly disturbed or excited, staggers about with its head either on one side or strained back so as to almost touch the mantle and it is sometimes twisted to and fro.

As treatment the bird may have a drop or two of glycerine of iodine dropped into each ear twice a week, and 10 grains of iodine of potassium added to every pint of drinking water is also recommended.

A Parrot that is kept in too cramping a cage without being regularly let out for exercise will often acquire a habit of getting up into a corner of the cage and twisting its head from side to side. This, however, should not be confused with vertigo, as it is a habit and not a disease. It can be cured only by more humane treatment on the part of the bird's owner. A caged parrot that has acquired this habit through sheer boredom, will, if put in an aviary, persist in doing it for a time but will eventually forget the habit.

There are four afflictions to which birds, particularly those kept in cages, are prone. These I have kept to the end as they hardly seem to come under the

heading of diseases, with the possible exception of the chronic form of overgrown beak.

Overgrown Toe Nails: These occur most often in rather elderly birds, particularly caged Parrots and Canaries if they are expected to spend their whole time sitting on smooth round artificial perches. That their toe nails should eventually become overgrown under such conditions is only to be expected as they are subjected to none of the normal wearing away processes which would be the case if they were continually exercising their feet by perching on branches of varying sizes and roughness of texture.

This is the natural way for them to keep their toe nails in trim, but if from one cause or another they have become overgrown they must be cut. Care should be taken to do this below the end of the red vein which runs down the centre of the nail and can be clearly seen if it is held up to the light, otherwise the nail will bleed.

Night Frights: This, of course, is not in any sense a disease, but simply an accident and one that is very hard to prevent. What usually happens is that a bird may be perfectly well in the evening and found dead in the following morning, the post mortem examination revealing an extensive bruising on the skull. It can be caused by such things as mice in the aviary running along the perches at night, a cat jumping up on to the top of the aviary, or the shadow of an owl flying past in bright moonlight. Another frequent cause is the light from the headlamps of a car sweeping across the aviary from a nearby road.

Night frights undoubtedly do cause a great many otherwise inexplicable losses. I am afraid, however, I have nothing more constructive to offer in the way of a "cure" than to get rid of the mice in the aviary, which should be done in any case, and to eliminate as far as possible marauding owls and stray night-prowling cats. Also, if possible, the windows of an aviary shelter should not face a road.

Red Mite: Generally speaking this well-known avian parasite (*Dermanyssus avium*) confines its attentions to birds kept in cages and seldom occurs among those in outdoor aviaries. They are blood suckers and although a few may remain on their host during the day, the majority seek the shelter of the crevices in cages and at the ends of perches during the hours of daylight, returning to their host at night.

If a cage full of birds is infested with red mite, the birds should be removed *during the day* and their feathers dusted with a 5 per cent D.D.T. powder to kill any mites that may remain on them. Then, before the birds are put back in the cage, it should be thoroughly disinfected with a blow-lamp, and all the perches burned and replaced by new ones. I would not advise the use of D.D.T. powder in nests or on nestlings. Alternatively use commercial Gam-mexane dust containing 0.5 per cent of the gamma radicle of benzene hexachlorine.

If a single pet canary in the usual all-wire cage has red mite, usually the pests can be eliminated by covering the top and three sides of the cage with dark-coloured flannel at night and leaving this on until about 11.0 a.m. By this time the red mite will have left their host and taken refuge in the flannel, which should then be burnt. The following evening the cage should be covered again and the piece of flannel burnt the next day. This should be

continued for a week after which the bird ought to be quite free of red mite, provided the added precaution is taken of thoroughly cleaning the cage, burning the old perches and furnishing it with new ones.

Overgrown Beak: This is a condition which again most often occurs in somewhat elderly specimens, members of the Parrot family being perhaps most prone to it.

I have had one or two Grass Parrakeets in which the upper mandible persistently became overgrown, and indeed grew at such a rate that it had to be clipped at regular intervals as otherwise it would have pierced the bird's throat and so killed it. Such birds are nearly always old, seldom in really good condition, and generally useless for breeding purposes.

Feather Plucking: This is a vice comparable to nail biting in human beings, and a very tiresome one too, because although the bird remains perfectly healthy, its appearance is completely spoilt. To a certain extent it seems to be hereditary and its cause is unknown. I certainly think, however, that boredom is often a contributory factor, which accounts for the number of wretched naked Grey Parrots one so often sees. These are usually kept in a Parrot cage and never let out, sprayed with tepid water or given a rain bath.

On the other hand, a bird kept in a roomy aviary may suddenly, and for no apparent reason, start feather plucking, usually denuding its breast first. It is recommended that such a bird should be given plenty to occupy it in the form of a fresh twiggy branch to nibble each day, but though this may retard the rate at which the bird plucks itself, I have never had a bird that stopped plucking once it had started the vice.

Certain birds are particularly prone to feather plucking, the attractive little Australian Gang-Gang Cockatoo being more so than any other member of the Parrot family, often even when kept in a really large aviary.

There is a minute spot of oil at the base of each feather and it is probably in order to get at this that a bird plucks itself, but if this be the case a bird that is supplied with animal fats such as butter, suet, etc., should never pluck itself. Many people, however, maintain that it is the very giving of these fats that whets the bird's appetite for them and eventually causes it to start feather plucking.

Fortunately it is only a small minority of birds that start this vice, so it looks as if these individual specimens lack some particular ingredient in their make-up, the nature of which is at present unknown.

Another form of feather plucking is the plucking of nestlings by their mother while they are still in the nest. This again is an enigma and a hen that has never done it before may suddenly start to do it. More curious still, she may pluck her brood badly one year and only slightly the next. Nor is it by any means always birds that are themselves feather pluckers that pluck their brood in the nest. More often than not they are themselves specimens in perfect feather.

Nestlings that are only slightly plucked soon grow their feathers once they are fledged and can escape the unwelcome attentions of their mother. Some, however, are so badly plucked that they leave the nest completely naked except for their tail and flight feathers, and these should be destroyed as they never grow their feathers. Fortunately such severe plucking is rare.

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