



BOOK NO.  
107

FOREIGN BIRDS  
FOR BEGINNERS



RED-EARED WARBLER

BICHENO

PARSON FINCH

CHERRY FINCH

# FOREIGN BIRDS FOR BEGINNERS

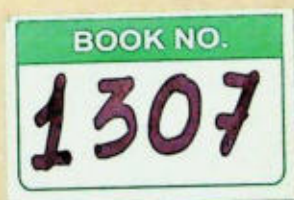
*Eighth Edition*

*Completely revised and rewritten*

*by*

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CAGE BIRDS

DORSET HOUSE, STAMFORD STREET, LONDON, S.E.1

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## FOREWORD

MANY books have been written on the popular hobby of Foreign bird-keeping, but not a few of these, especially the works of older writers, contain a fair amount of errors and misleading statements. I have, on the other hand, never read any treatise on this subject so full of useful information based on personal experience, as Mr. D. H. S. Risdon's book, which should prove of the utmost value, especially to beginners in aviculture.

I have seldom come across more concentrated "birdy" wisdom than is contained in a few sentences in his preface.

"The qualities required (in a bird-keeper) are a keen sense of observation and loads of common-sense; a keen sense of observation because you should study your birds' behaviour and spot at once anything that is amiss . . .; and common-sense to enable you to act sensibly as a result of what you see."

Bedford.

Crowholt,  
Woburn.

## PREFACE

WHEN writing a book of this kind, it must be realised that the bulk of its readers will be those who wish to learn something about the art of keeping foreign birds. The more experienced aviculturist, if he reads it at all, will probably do so with a critical eye, in which case I hope he will be tolerant enough to realise that no two of us experience quite the same results with birds. This is not surprising when one considers the many and varied conditions under which they are kept in this country.

For the beginner's sake, therefore, advice and descriptions have been worded as simply as possible, so as not to confuse him with too much detail. For instance, in the chapter on housing, a general outline of what is required in an aviary is thought preferable to detailed instructions on how to build it. If the reader is handy with tools, he will know how to set about this anyway, and if he is not, he will get someone else to do it, but in either case, if he follows the advice in Chapter 1, he will know what to aim for.

Likewise, in the chapters on the birds themselves, descriptions have been kept to a minimum, especially in cases where there is a coloured plate. Where it has been thought necessary to amplify the illustrations, it is hoped that the brief word sketches will give a general idea of what the bird under discussion looks like, without boring the reader with feather by feather descriptions. Such details, it is felt, are not for a book of this kind. They should be sought from one of the many excellent specialist books on the market.

Having known the joys of Aviculture (the sophisticated name for bird-keeping) since boyhood, the author is anxious that newcomers to the hobby shall derive the same pleasure from it as he has, and not be put off by what they might easily be led to believe is an irksome and complicated business, requiring all their spare time and patience.

He has tried to show that the keeping of a few foreign birds for the pleasure they afford can be a simple hobby, demanding little of one's time. True, in many cases, it becomes an all-absorbing passion, and what happy people these really keen aviculturists are, simply because they have cultivated an interest which "takes them out of themselves", and makes them forget the dull routine of everyday life.

Non-bird-keepers often think you must have a vast store of technical knowledge, in order successfully to keep birds, but nothing is further from the truth. The qualities required are a keen sense of observation and loads of common sense; a keen sense of observation, because you should study your birds' behaviour and spot at once anything that is amiss, such as a bird with a chill, or notice a door left unfastened, or a seed-hopper not functioning properly; and common sense, to enable you to act sensibly as a result of what you see.

Knowledge will come as a result of experience, and by all means read everything you can about the birds you keep. It is hoped that the advice offered in this book, the result of many years of practical experience, will stimulate interest in this most satisfying of pursuits, and help to answer some, at least, of the questions which the newcomer to the hobby inevitably asks.

D. H. S. RISDON.

January, 1953.



## CHAPTER I

### HOUSING

A GOLDEN rule which is often quoted but seldom applied is to have your accommodation ready before the birds are acquired. In this way, you can have everything prepared for the comfort of your future pets, so that they can go straight into their new quarters after perhaps a long and trying journey and have a chance to settle down undisturbed.

What usually happens, however, is that the beginner perhaps wins a bird at a fair, or his young son is presented with a pair for his birthday, or his eye is taken by the bright colours of some tiny bird in a pet shop. He gets them home and then comes the trouble of where and how to keep them.

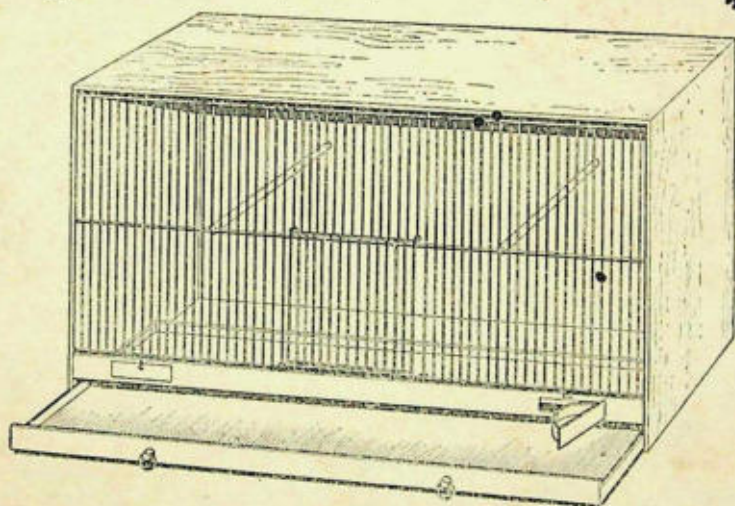
Small birds are very accommodating as regards the quarters they occupy, provided certain simple, common-sense rules are observed, so the temporary cage or aviary need not present such a poser as might at first be supposed. The rules to remember are that birds like plenty of light and freedom from draughts. These are the two main factors. Freshly imported birds, or those not in good condition, also require a certain amount of warmth, so to start with, until you have learned a bit more about them, do not expose them to undue cold if it is winter-time.

Foreign birds can be kept in cages or aviaries. The distinction between these is not very clear but generally speaking a cage presupposes an enclosure small enough to house a single bird, or at most, a pair, whereas an aviary suggests something large enough to hold a collection. Even this definition is open to criticism, because many a foreign-bird breeding establishment consists of a range of outdoor aviaries, each containing only one breeding pair of birds. Let us deal with cages first.

#### ESSENTIAL FEATURES OF CAGES

Cages should always be as large as possible. Minimum dimensions are 18 in. long, 12 in. wide and 12 in. high. Such a

size would suit a pair of tiny birds like waxbills or domesticated species like Bengalese. Do not be misled by the size of cages in which birds are exhibited at shows. These, for reasons of space and economy in travelling, are made as small as possible and are only meant to house birds temporarily. Remember that practically all foreign species are wild birds in their countries of origin and the more space they have in which to exercise, the



Box pattern cage with drawer tray partly withdrawn. Dimensions are given on page 13, food and water pots can be seen, also sliding door on wire front

better will be their health. Length and breadth are much more important than height, as the birds get more exercise by flying to and fro than up and down. Some of the old-fashioned types of ornamental cage which are much higher than they are long or broad, are bad for this reason.

Cages can be either of the box pattern or open wire type. The box cage is the best from the birds' point of view. The back, sides, bottom and top are of wood, plasterboard or metal, and only the front is of wire. Its great advantage is that it excludes draughts and gives the birds a feeling of security—very essential if breeding is to be attempted. For obvious reasons, a box type cage should face the light. A rough and ready box cage can be made from a wooden packing case with  $\frac{1}{2}$  in. mesh wire netting, stapled over the open front, provision



PINTAILED WHYDAH

BRONZE-WINGED MANNIKIN

ST. HELENA WAXBILL

LAVENDER FINCH

naturally being made for a door in the side for feeding, and a narrow space along the bottom of the front to facilitate cleaning out.

The open wire cage is the type generally in use where one wants to keep foreign birds in a living room. Many shapes and patterns are on the market. Choose one for preference without a lot of fancy trimmings, but which gives the inmates plenty of space in which to move about. The position of the open wire cage is important; it should be where the birds get plenty of daylight, but out of the way of draughts—between a window and a chimney or a door are obviously situations to be avoided.

If you buy a ready-made cage, it will be already fitted with standard sized perches. These may be all right for a bird the size of a canary, but are most uncomfortable for, say, a waxbill, whose tiny feet are incapable of gripping them properly. The author's advice is to remove at least some of the standard perches and substitute some natural twigs, preferably still green and with the bark on. These can be replaced as and when they become brittle and dry. More details are given about perches in the chapter on general management.

The wire spacing wants watching. The normal spacing of  $\frac{1}{2}$  in. is satisfactory for most small foreigners, but waxbills will slip through this with ease. Should you decide to go in for waxbills, therefore, your cage should be of wires spaced not more than  $\frac{3}{8}$  in. apart.

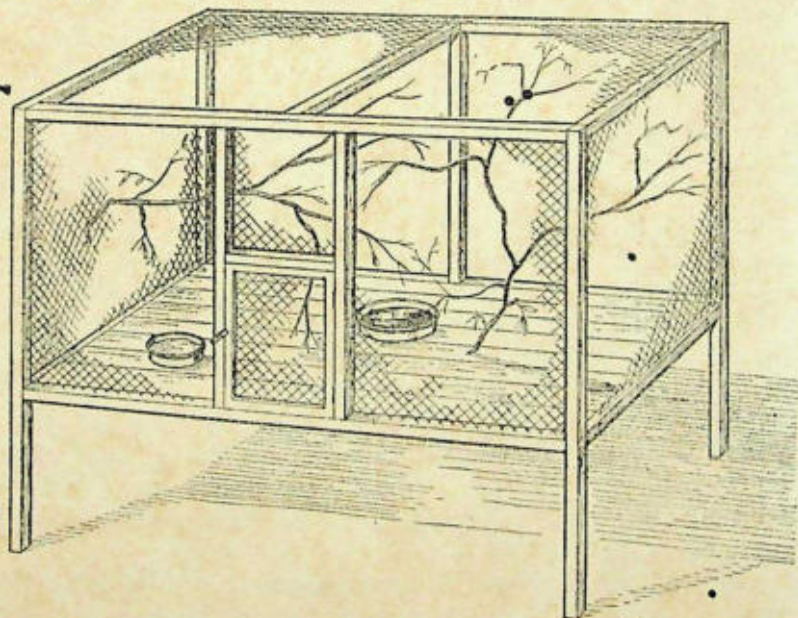
Cages bought ready-made will have draw boards which pull out for cleaning, and similar provision should be made if you decide to make your own cages. Avoid those fitted with food and water pots outside the cage, the bird having to put its head through a hole in the wire to feed and drink. Unless these fit perfectly, your pet may be prevented from getting its head through properly and go hungry or thirsty. So always go for inside pots and play safe.

#### AVIARY ACCOMMODATION

Aviaries may be designed for indoor or outdoor use. The indoor aviary is a great improvement on a cage. It gives more freedom to the birds, allows a greater number and variety to be kept, and the chances of breeding successes are greater. Probably

the best type of indoor aviary is the whole or part of a spare room given over entirely to the birds. In such a place, semi-natural conditions can be simulated with judicious arrangement of natural twiggy branches. Nest boxes and bunches of heather or similar material may be fixed round the walls and quite a number of the birds will attempt to nest.

The indoor aviary must, like the cage, receive plenty of daylight. Birds are creatures of the light; they cannot thrive



A suggestion for a simple indoor enclosure

in dark, dismal conditions. If you are unable to spare the whole or part of a room, then a large wired-in enclosure, really like a glorified cage, can house quite a collection of small foreign finches satisfactorily. Size and shape can be entirely to personal taste. One, say, 6 ft. long, 3 ft. wide and 4 ft. high, raised waist high off the ground, would make a nice indoor enclosure. If it is entirely of open wire then the same remarks about avoidance of draughts apply.

A structure of this kind is easily made, the framework being of 1 in.  $\times$  1½ in. timber and entirely covered with ½ in. mesh



DIAMOND SPARROW

SPICE BIRD

AFRICAN SILVERBILL

AFRICAN FIREFINCH

wire netting, with a door, say 2 ft. square, in the front for cleaning and feeding.

An outdoor aviary is an enclosure consisting of a closed-in shed with a wire netting flight attached. The shelter is where the birds roost and the flight is for exercise. The flight merely consists of light framework with wire netting stretched right over it. It is undoubtedly the ideal way in which to house foreign birds, for they live under as natural conditions as is possible in captivity. They obtain direct sunlight and fresh air, and the rain can get to their plumage, all of which factors help to keep them in perfect health and condition.

Contrary to popular belief, most foreign birds, once acclimatised, are perfectly hardy and can live outdoors in this country all the year round, provided they have adequate shelter to protect them from inclement weather, but the shelter-shed must be really well constructed; that is, completely draught-proof. It must also be of reasonable dimensions and be equipped with at least one window to illuminate the interior satisfactorily.

#### AVIARY CONSTRUCTION

An outdoor aviary can be of almost any shape or design to suit the owner, but the larger it is, the better. As with cages, length and breadth are more important dimensions than height, but for your own comfort alone, I strongly recommend that no aviary be built which does not allow its owner to walk about upright inside without banging his head. Moreover, nothing is more tiring than, when looking at your birds, to have to stand in a crouching position simply because the aviary is not high enough for you to view them comfortably. It is, therefore, suggested that 7 ft. is a good minimum height.

Really large aviaries look better when built even higher. They can be turfed and planted with shrubs; in fact, they are just a part of the garden wired-in, and are really the best of all ways in which to enjoy foreign birds.

As a guide to beginners, however, it is suggested that one enclosure, say, 10 ft. long, 4 ft. wide and 7 ft. high (overall dimensions), of which the shelter occupies 3 ft. of the length, leaving a flight of 7 ft., would make a nice little aviary capable of housing up to 20 small finches as a collection, or three breeding pairs. Remember that in a breeding aviary

birds want much more space, and you have to allow room for possible additions to the family later on.

Whatever design is adopted, certain basic rules apply in all cases. The birds must have adequate shelter from cold and wet. This means that at least one-quarter, but preferably one-third, of the overall dimensions of the aviary must be a good sized, well lighted, dry and draught-proof shed, which can be of wood or asbestos-cement sheeting. This is really the most important part of the aviary, as it is here that the birds congregate when roosting at night and in bad weather, and also where many of them will nest in the summer.

It should be completely enclosed except for a hole 1 ft. square through which the birds pass to and from the flight. This hole should be made to close at night by means of a door fixed in grooves to slide across the opening. The height of the entrance hole should be about 5 ft. from the ground and in such a position that it can be operated by anyone without the necessity of entering the aviary, simply by means of a long stiff wire or rod attached to the sliding door and sticking out through the wire front of the flight.

When you wish to shut your birds in for the night, all you have to do is to stand at the end of the aviary opposite to the shelter, gently drive them in, and when the last bird is inside, quietly slide the door across by means of the wire.

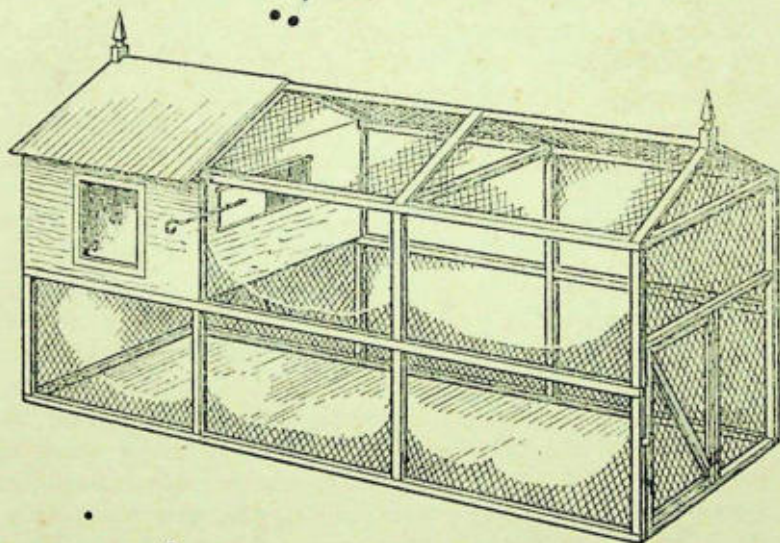
The shelter must be well lighted with plenty of windows or the birds will not use it, preferring to roost outside in the cold even on the worst winters' nights, with disastrous results. At least one window should be made to open in hot weather, and all glass should be protected on the inside with  $\frac{1}{2}$  in. mesh wire netting. Neglect of this precaution may mean broken necks through birds trying to fly through clear glass, and if the glass itself gets broken, the wire will prevent escapes until it can be repaired.

Everything should be done to encourage the birds to use the shelter shed. To this end, the best and most comfortable perches should be placed inside. Some, at least, of the feeding should be done in the shelter. As birds choose always to roost in the highest portions of the aviary, the shelter should be at least as high as the highest part of the flight, preferably higher.

There is no need for the shelter part of the aviary to extend

right down to ground level. In a small 7 ft. high aviary, such as the one under discussion, the floor of the shelter would be better 3 ft. off the ground, thus giving you a shed 4 ft.  $\times$  3 ft.  $\times$  4 ft. high. I am against shelters which are taller than they are long or broad. They form a sort of well and can be a trap for a bird which falls to the bottom and may be unable to fly straight upwards and regain the perches, due to the restricted space.

When calculating the number of birds to be kept in an aviary, you should work on the shelter dimensions alone and not the



A sketch illustrating the author's description of the principal basic requirements in an outdoor aviary

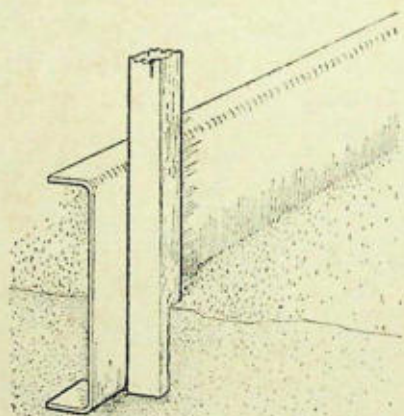
flight. A good guide is to allow one square foot of floor space to each small bird of ordinary finch size, or to each pair of waxbills. If the shelter accommodation is right, it does not matter how large or how small the flight is.

The flight is really for the birds to exercise in and also where they show themselves off to the delight of their owner. Obviously, therefore, the larger it is the more enjoyment it will bring to the birds and to you. The wire netting must be of  $\frac{1}{2}$  in. mesh. Anything larger will let small species through.

Unless the floor is of concrete, the wire netting of the sides

should be sunk into the ground all round the aviary for a depth of at least 9 in. and then turned outwards 3 in. or 4 in. to exclude rats. Another good method to exclude vermin, is to sink bricks or breeze blocks to a depth of 1 ft. all round the foundations and then build the aviary framework up on these.

It is fairly easy to exclude rats, but mice are quite another matter. These can be an absolute curse in an aviary, especially where birds are breeding. They waste seed, foul what they do not eat, usurp nest boxes, destroy eggs and nestlings, and often cause night frights among the birds, which can be fatal.



Sheet metal nailed to the uprights and turned over above and below ground is recommended for making an aviary mouseproof

Half-inch mesh wire netting will not exclude mice, but  $\frac{3}{8}$  in. mesh is effective. Unfortunately it is expensive, and since the war such fine mesh material has not been easy to come by.

Assuming, therefore, that  $\frac{1}{2}$  in. mesh is used, mice can be excluded by nailing sheet metal to the base of the uprights of the framework, extending a foot below the ground and a foot above the ground all round the base of the aviary.

Sheet metal is usually unclimbable by mice, but to make doubly sure, the top edge can be turned outwards for 3 in. If this job is carefully done and checked over frequently, mice *can* be kept out of an aviary, but should they gain entrance in spite of all precautions, then the great thing is to keep them from getting at the seed and nest boxes, and especially from gaining access to the shelter. This can be done by making the walls unclimbable with sheet metal, particularly in areas where the seed hoppers and nest boxes hang.

Another good way to prevent mice getting at the seed is to nail a flat baking tin to the top of a wooden post, stand it well away from the walls or overhanging perches, and place the

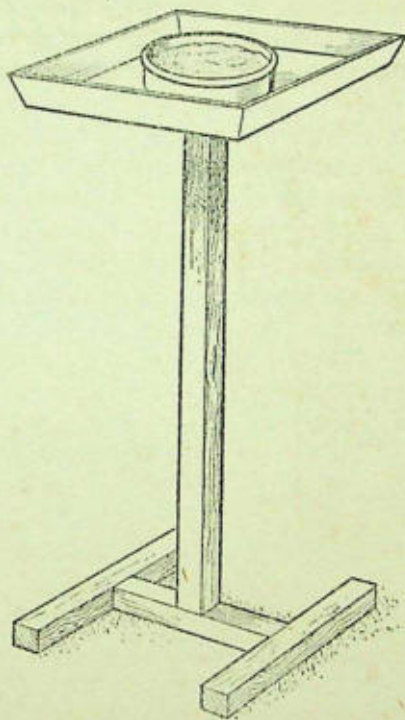
seed dishes in it. The mice may climb the post, but will be unable to get further.

The framework of the flight may be of wood or metal. Larch poles with the bark still on make a very decorative and effective framework, and if the wire netting is stapled on to the inside and not the outside of the posts, climbing plants may be trained to grow up them and the general effect is much enhanced.

If the aviary is in an exposed position, it is a good plan for the back or north side of the flight to be boarded in. This will give much protection from wind. Choose a sunny spot for your aviary and let it face south if possible. North or east are the worst aspects.

The material used in making the floor of an aviary depends to some extent on its size. The ground area of the shelter shed is always best concreted to exclude vermin and to facilitate cleaning, unless, of course, the floor is off the ground, when wood is the obvious material to employ. The floors of small flights are also best concreted, so that they can be periodically scraped and washed down.

If sufficiently large, an earth floor is more natural for the birds, but nothing is more unsightly nor more unhygienic than an earth floor covered with birds' droppings. It can never properly be cleaned and becomes fouler every year, with the consequent spread of disease among the birds.



Home-made mouseproof feeding table. Some bird-keepers make this appliance with the tray inverted, but the author prefers this method as it retains the seed husks and prevents spilled seed from falling to the ground and attracting mice

If your aviary is a small one, therefore, it is better either to concrete the floor over completely or else to make it movable on to an alternate site each year. The old site can be dug over, treated with lime, and left "fallow" for a year, during which period the ground has time to sweeten itself and will then be ready for the aviary to be transferred back to it.

If, on the other hand, your flight is large enough to be turfed and planted, then by all means do so; but do not attempt to plant growing shrubs in a small aviary crowded with birds. Their droppings quickly cover the leaves and kill the bushes, besides making them look unsightly.

Opinions differ as to whether or not part of the flight should be roofed over. Personally, I am against it, maintaining that if an adequate shelter is provided, the birds will retire to it when the weather is bad. An open wire netted flight allows them the maximum sunshine and rainfall which is beneficial to their health and wellbeing, and, moreover, affords the owner a better view of his birds.

## CHAPTER 2

### FEEDING

SMALL foreign birds fall into three main categories—Doves and Quails which swallow grain and seeds whole; Hardbills which crack their seed, discarding the outer husk and eating only the kernel, like Parrots and Finches; and Softbills which embrace all the insectivorous and fruiteating species.

Most of the birds dealt with in this book are seedeaters, as will be seen when we come to the appropriate chapters.

The feeding of Hardbills is simpler than that of Softbills, for provided you leave sufficient of the right kind of seed in front of them, together with water to drink, you cannot really go wrong. There is actually more to it than this, but until the beginner has learned something about the rudiments of bird keeping, the seedeating bird is the best for him to start with.

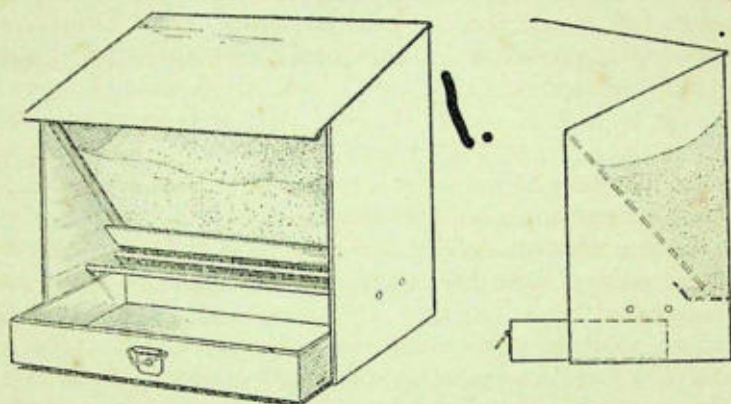
#### SEED

Different species require different kinds of seed. Those generally used for foreign birds are canary, millet, sunflower and hemp, mixed according to the kinds of birds you keep. The correct seed mixtures will be given in the appropriate chapters dealing with the different groups of birds.

Millet sprays, that is, millet in the ear, are adored by all seedeaters. Why, it is not easy to say, as it looks much the same as millet which is sold loose by the pound, but there is some mysterious quality about spray millet which makes it well worth while giving as an extra tit-bit.

Here it is important to remember that the *right kind of seed* must be available. Many birds will starve in the midst of apparent plenty rather than eat seed to which they are unaccustomed. It is no use, for instance, expecting a bird to eat canary seed when it normally feeds only on millet. If you are ever in doubt offer a mixture of all the seeds you have and watch which the bird eats.

Seed should be of good quality, clean-looking, plump and free from mustiness or dampness. The grains should be heavy and full and not light and empty-looking. It should be offered in shallow pots, dishes, or in automatic self-filling hoppers. A hopper consists of a container which holds several days' seed supply. The seed trickles from this into a trough from which



Glass-fronted metal seed hopper. Front view and side view in section showing the lid open and drawer tray partly out

the birds feed. As fast as they eat it, the trough is automatically replenished from the supply held in the container.

Hoppers have the great advantage of not requiring such regular attention as open dishes, but there is one danger—the groove at the bottom of the container through which the seed trickles into the feeding trough is liable to become clogged in time, and if this happens unnoticed, although the container will appear to be full, the birds may, in fact, be starving. It is advisable, therefore, to inspect hoppers regularly to ensure that the seed is flowing freely.

Hoppers with glass or glass-fronted containers are better than those made of metal, for the simple reason that you can see at a glance when they require replenishing.

Pots and dishes need daily attention. As mentioned above, Hardbills crack the seed and leave the husks, which must be blown off regularly or the birds will be unable to find the good seed underneath. Many a beginner has inadvertently starved

his birds by thinking they had a pot full of seed, whereas it contained nothing but empty husks.

The position of all food containers is important. They should always be in places easily accessible by the birds and where they can see them. In aviaries, it is usual to put hoppers and seed pots inside the shelter shed, so that when the birds are shut in at night during the winter they can feed first thing in the morning before they are let out. Do not put containers in dark corners, but choose spots where the light from the windows in the shelter shows them up.

#### INSECTILE FOOD

Softbills *must* be given fresh food daily as the very nature of their diet means that it goes sour quickly. Seed can be placed in metal containers, but insectile food should always be given in china, glass or earthenware receptacles, which can be properly washed out.

By insectile food is usually meant a mixture of equal parts of fine biscuit meal, dried meat meal, ants' cocoons and dried flies. This is kept stored dry in a tin. To make it fit for the birds to eat, sufficient for the day's consumption is placed in a basin and a little hot water or milk stirred into it until it becomes crumbly moist.

As can be imagined, these dry materials will absorb quite a quantity of moisture before the particles swell up and become soft enough for the birds to eat. Insectile food should not be made sloppy or stodgy. You will learn by experience just how much moisture to add. Keep stirring the mixture with a spoon for a minute or two before putting it in the food dishes.

There are nowadays some excellent brands of proprietary insectile food on the market. These are already made up in the correct proportions and sold in packets or bags. In some cases, they are already mixed with fats and oils and do not require the addition of any moisture. Foods so prepared have the great advantage of not turning sour so quickly in hot weather as do mixtures which require moistening. The beginner is therefore strongly advised to buy one of these proprietary brands to start with. When he has gained experience, then by all means let him try his hand at making up his own mixtures.

The range of ingredients required is not really as formidable as

it sounds. Your local bird shop or seedsman should be able to supply all your wants in the way of insectile mixtures, seed mixtures and food receptacles.

#### GREENFOOD

Seedeaters will require fresh greenfood in one form or another. The simplest and best liked are turfs of grass put into the cage or aviary, roots and all. The birds will spend many a happy hour pecking this over, eating the earth as well as the grass with beneficial results. Make sure you dig your turf from a clean place, however. Localities which may have been fouled by cats and dogs or treated with a weed-killer, should, for obvious reasons, be avoided.

Other good forms of greenfood are lettuce, spinach, cabbage, dandelion, groundsel and chickweed. A great treat is seeding grass heads, much loved by all seedeaters, and almost essential if they are rearing young.

The beginner is usually advised not to feed frosted greenfood. What is more to the point is to remember never to feed greenfood which is not absolutely alive and fresh. Stale, limp greenstuff, whether caused by frost or any other agency, is a source of danger and should not be used.

Greenfood can be tied in bunches and hung in cage or aviary or fixed between the wires at the ends of perches. In aviaries a good practice is to put it in bunches in jam pots full of water. In this way it keeps fresh till eaten. Care must be exercised with this method, to prevent birds creeping down between the stalks and getting drowned, by packing the stalks closely together so that they fill the mouth of the jar.

#### FRUIT

Softbills will require fruit instead of greenfood as well as their insectile mixture. Apples, oranges, pears, grapes, bananas, in fact, almost any sweet ripe fruit as sold in the shops is good. The various wild berries as they come in season—blackberries, elderberries, privet berries and so on—make a welcome change of diet from the ordinary fruit of commerce.

Large fruits such as apples and oranges should be cut open and hung on pieces of bent wire in cages or spiked on nails in the aviary at the end of perches where the birds can conveniently

reach them. Cut them across the centre so as to expose the cells and pips, and not down the centre. Grapes should have part of the skin removed and be spiked on pieces of wire. Small berries are best given whole in dishes.

#### GRIT

Grit is essential for seed-eating birds, but not Softbills. Doves and Quails which swallow their seed whole need it most, as they have to digest the hard outer covering of the seeds as well as the kernel.

The best grit is a mixture of sand and crushed oyster shell of about the grade of granulated sugar. Grit is best supplied in small heaps placed in dry, clean corners of the aviary or in shallow trays away from perches where it cannot be fouled by the birds' droppings. In cages, it is usually scattered over the floor, and provided the cages are cleaned out regularly, this will suffice.

Cuttlefish bone, the white, chalky-looking skeleton of the cuttlefish, found in flat oval pieces on the seashore or bought from your seedsman, is a valuable adjunct to grit. It contains, among other things, salt and lime, and birds show a decided preference for it at certain times, particularly when laying or rearing young, at which periods their requirements of lime are above normal. Cuttlefish bone can be stuck through the wires of cages or nailed to the walls of aviaries at the ends of the perches, where the birds can get at it.

#### WATER

Water has been left till last, but it is as important as food. All birds require a constant supply of clean water for drinking as well as bathing. It can be given in shallow pots, dishes or fountains of which there are many designs on the market. Do not use deep pots or there is danger of your birds drowning themselves, especially if the level of the water gets low and they have to reach down to it. However you supply drinking water, always remember to give your birds ample bathing facilities as well.

Shallow pans, big enough to allow them to get right in and flutter about, are essential if you want them to have perfect plumage. Practically all birds like a daily bath, whatever the weather, and it is the finest feather conditioner there is.

Now I come to the most important part of this chapter, and that is the *absolute necessity of ensuring that small birds never run short of food and water*. Generally speaking, the smaller the bird, the more often it has to eat, in order to maintain its body heat and energy. To deprive it of food for even a few hours will inevitably lead to chill and quick death. More beginners have lost their birds through this than any other cause.

A bird normally fills its crop with food at sunset and this suffices until the following morning. Therefore when buying birds, try to ensure that they travel overnight and arrive early in the day. They can then be given a feed and drink and by nightfall they will have settled down. A bird which goes to roost on an empty crop is likely to be in a bad way next morning.

Never turn new arrivals into an aviary without putting in an extra dish of food and water in an obvious position, where they can see it immediately. Remember, if you use self-filling hoppers, that a new bird may never have seen such contraptions. The above precaution will ensure that it gets sufficient to eat until it has become accustomed to a hopper.

If a bird arrives late in the afternoon, keep it indoors in a cage overnight, leaving the electric light on for a few hours to give it a chance to feed and drink. Neglect of this precaution may mean that you will have a lovely corpse on your hands the following morning.

#### LIVE INSECTS

So far we have dealt with the main essentials of bird feeding, but now we come to what we call extras, "the jam on their bread and butter," as it were. As this book is primarily for beginners, I feel I ought not to make this chapter seem too complicated by telling the reader that almost all birds, with the possible exception of the Parrot and Dove family, are more or less insectivorous in a wild state, even the so-called seedeaters. But if only for the sake of his birds he should be told that this is so, and, moreover, that their condition is much improved by this addition to their diet in captivity.

A daily ration of live food is essential for the insectivorous species, and some seedeaters like Cardinals, but practically all the Finches, Weavers, Whydahs and Waxbills benefit from it as well. True they will live on a diet of plain seed with a bit of

greenfood for years, but they so obviously enjoy live insects, and their health is so much improved by these tit-bits, that it is well worth the little extra trouble of providing them. It need not be a regular task, but whenever you find insects in your garden or make a trip into the country, remember to take a tin with you for the sake of your birds.

• The most easily procurable form of live food are mealworms, the larvæ of a beetle, which are bred commercially and sold by weight and are obtainable through your seedsman. They are easily kept in a tin containing some bran or similar meal, are clean to handle, and all birds love them; so much so, indeed, that they have to be strictly rationed or the birds will develop liver trouble, and die of overeating them.

Next to mealworms come maggots or gentles, the larvæ of bluebottles. These are also bred commercially and sold by weight, usually by firms specialising in live bait for fishing. Gentles can be kept in a tin of bran, but they will not last as long as mealworms as they soon turn into chrysalides and then into adult bluebottles. Even so, birds like them in all stages of their development and I have never known them to come to harm through over-indulgence, as they can with mealworms.

Gentles are cheaper to buy than mealworms and, of course, you can provide yourself with large numbers of them during the summer months if you do not mind the smell engendered by pieces of rotting meat hung up in some secluded spot with a tray of bran underneath to catch the creatures as they drop out.

The purpose of the bran is to clean the gentles. After they have wriggled about in it for a few hours, they will have rid themselves of all traces of rotten meat and will then be fit to handle and to offer to your birds. You will have to protect your "gentle farm" in some way from the wild birds which, once they have discovered it, will regularly wolf the lot before you have a chance to collect them. A simple way to do this is to get an old Parrot cage, hang the meat in it, cover the top with a piece of tarred felt to keep out the rain, and place the tray of bran under the meat.

Live ants' cocoons are the finest live food procurable for all birds. They actually contain the living ant pupæ and should not be confused with the dried ants' "eggs" sold commercially

and already mentioned as one of the ingredients of insectile mixtures. Being alive, they have a far greater food value.

Collecting cocoons presents something of a problem and space forbids a description of how to do it here. But if you have an aviary, a few spadefuls of an ants' nest containing cocoons, earth and all, can be pitched on to the floor and the birds will be only too eager to help themselves.

Greenfly or aphids are beloved by tiny birds like Waxbills. Sprays of the plant infested with them should be placed as they are in the cage or aviary and you will be more than rewarded by the delight with which your birds will climb about the sprays eating the greenfly.

Such things as flies, small moths, smooth green caterpillars (but not hairy or brightly coloured ones, which are poisonous), spiders, earwigs and woodlice are all excellent changes of diet for birds.

## CHAPTER 3

### BREEDING

THIS chapter will not be too elaborate, because the systematic breeding of foreign birds is a matter for the more experienced aviculturist. Many of the seedeaters are, however, easy to breed and references will be made to this in the chapters dealing with the relevant species.

Insectivorous and fruit-eating birds are definitely not beginners' subjects for breeding because, although many of them will go to nest readily enough, successful rearing of the young depends on a continuous supply of live insects and very careful management. The remarks in this chapter will therefore apply only to certain "easy" species like Zebra Finches, Bengalese, White Java Sparrows, Diamond Doves, and certain birds of the Parrot family.

Generally speaking, the conditions required for successful breeding are the right sort of companions, seclusion, the correct kind of nesting site, and the proper rearing foods.

Birds which have agreed together quite amicably in a non-breeding collection will not necessarily be fit companions when nesting begins. As they come into breeding condition, their natures undergo a change, and what were once peaceful inmates of cage or aviary, may develop into ferocious bullies quite suddenly.

Fights occur mostly between closely related species or those with similar colouring, largely for reasons of jealousy. Therefore, when selecting breeding pairs which have to share an aviary, choose them from quite different families. For instance, Zebra Finches, Diamond Doves and Bengalese should agree perfectly, as they have nothing in common and therefore nothing to quarrel about.

Birds will not readily go to nest unless they feel they can conceal their activities from prying eyes. Remember, that in a wild state, this is essential for their survival. Therefore, if you

decide to use breeding cages, these should be of the box pattern and part of the wire front opposite the nesting site should be screened off for privacy. Incidentally, no breeding cage should be less than 36 in. long by 12 in. wide by 18 in. high.

In an aviary, the shelter shed will be the place where most of the nesting takes place, since it is the most secluded spot. It is, however, a good plan to fix up a few sheltered corners in the outside flight for those birds which prefer to nest outside. This is usually done by nailing up clumps of twigs, gorse or similar thick foliated branches in corners and arranging hollows among it which will accommodate the nest boxes. Place these at varying heights as some birds prefer to nest high up and some nearer the ground.

These remarks do not apply to Parrakeets and Lovebirds, whose nests should always be in the open flight. For some reason these birds fail to rear healthy young inside a shelter shed.

The different types of nest boxes required by different species will be dealt with in the chapters devoted to such matters, but here let it suffice to say that a golden rule is always to provide more nesting sites than you have pairs of birds. To use only the same, or, worse still, a less number of possible nesting places, than you have breeding pairs, is asking for trouble. The more you have the better, because the greater the choice the less likelihood is there of two pairs picking on the same site and spending the rest of the breeding season quarrelling over it instead of getting down to serious breeding.

#### BREEDING CONDITION

This means nothing more than a desire to breed, and such a condition will only occur in birds which are correctly fed and given all the little extras mentioned under the chapter on feeding. If it is the right time of year and birds are in breeding condition, the sight of a possible nesting site will stimulate them into wanting to go to nest at once, but no amount of suitable nesting sites will induce birds in poor fettle to breed.

Signs of breeding condition are increased activity and very sleek plumage. A pair of birds which wish to breed show an unusual amount of interest in each other. The cock will be seen frequently feeding the hen and both will be continuously poking and prying into corners, looking for a possible nesting



CORDON BLEU

NAPOLEON WEAVER

GREEN AVADAVAT

INDIAN SILVERBILL

site. In the case of nest-builders, which includes practically all the birds mentioned in this book, except birds of the Parrot family, they will carry pieces of dried grass and feathers about in their beaks. In fact, part of the breeding display of some of the small Waxbills consists of the cock holding an enormously long wisp of hay by one end in his beak while he dances up and down singing to his mate.

As has been mentioned earlier, birds in breeding condition also become much more quarrelsome and this is the time when they can be very dangerous to weaker companions.

With Parrakeets the breeding season more or less coincides with that of British birds, but the foreign Finches do not usually show signs of wanting to nest until the advent of warm weather in May or June. There are exceptions, notably among some Australian Finches, which seem unable to adapt themselves to our seasons and persistently start nesting in August or September, remaining in breeding condition right through the winter and starting to moult in the spring.

Not many foreign birds will breed successfully in a cage, except the domesticated species like White Java Sparrows and Bengalese. Indoor aviaries are a little better, but naturally much the best results are obtained in outdoor aviaries where the birds are subject to the stimulus of sunshine and fresh air. The dry conditions usually existing indoors too are bad for hatching eggs and young birds, with the two above exceptions.

Do not expect to breed birds successfully in crowded conditions. As already mentioned, they are more quarrelsome at this time and will not tolerate the too close proximity of other companions. To give some idea, an aviary with overall dimensions of, say, 10 ft. long, 5 ft. wide and 6 ft. high should not be expected to hold more than three breeding pairs of Finches, although it might easily accommodate twenty small non-breeding birds. If you try breeding in cages, place only one pair in each cage.

#### INCUBATION

The incubatory period varies according to the species, but as a general guide, most Finches' eggs hatch in about twelve days and those of Parrakeets in about eighteen days. Do not under any circumstances interfere with nesting birds. Looking into

nest boxes to see if eggs have been laid or young hatched, must be strictly taboo or there is great danger of the parents deserting. Once you see a pair of birds taking an interest in a nest box, curb your natural curiosity and let well alone.

You can tell near enough when incubation starts as soon as you see only one of the pair about the cage or aviary. Bear in mind that with some birds, cock and hen share the duties of hatching, so do not be surprised if the hen only is seen about during the day and the cock only in the early morning and evening.

When you feel that youngsters are about due, make sure that the birds have all the extras necessary to feed the chicks—such items as fresh greenfood, millet sprays, cuttlefish bone and, of course, a plentiful supply of their ordinary seed mixture. More than this you cannot do.

If your birds make a success of the job of rearing, you can expect to see youngsters flying at 14 to 21 days after hatching, in the case of Finches, and 28 days in the case of Parrakeets. Do not be perturbed, however, if no young ones appear at these times. It may be that incubation started later than you imagined.

An experienced aviculturist can almost always tell when there are young birds in the nest by the behaviour of the parents. Birds feeding young consume more seed than usual and show an obvious appetite for particular foods like millet sprays, greenfood and cuttlefish bone. If you see a bird making regular journeys between the nest and the food dishes, you may feel pretty sure it has young ones. As the babies grow, you can often hear them squeaking as they are fed. Frequently, birds with young become tamer than usual and will come to the wire to see what you have brought them in the way of tit-bits.

When young birds first leave the nest they are almost invariably nervous, and until they have got the "hang" of their aviary and know where the perches are, they will dash wildly about, banging into the wire netting and even falling to the ground. Do not add to the confusion by fussing around. Leave them quietly to find their way about, and they will soon learn to follow their parents and behave normally.

It is, however, a good plan to check up at dusk and see that all newly-fledged youngsters are roosting off the ground. If they are up on the perches do not disturb them, but if you find

any on the ground, gently pick them up and pop them into the shelter where they will be safer for the night. These remarks do not, of course, apply to birds bred in cages, which are inside anyway.

Do not be disappointed if your young birds look dull in comparison with their parents. Young Finches in particular, are usually a uniform dull brown hue and lack all the bright colours of the old birds until their first moult. The same remarks apply to young Parrakeets and Lovebirds which are plainer editions of their parents.

## CHAPTER 4

### GENERAL MANAGEMENT

UNDER this heading will be grouped those matters essential to success which have not been dealt with in the chapters on housing, feeding and breeding.

*Perches:* These deserve more consideration than they usually get. It must be remembered that a bird spends most of its time on a perch, and therefore the diameter is important. Perches, whether in cage or aviary, should be of different thicknesses to give the birds different grips. For this reason, natural twiggy branches are much the best as they afford varying thicknesses and angles. They are more springy and thus give more readily when birds alight on them. Moreover, if you have a garden, or live anywhere near the country, they are easily replaced as they become dry and brittle.

Birds of the parrot family like to whittle the bark off natural twiggy branches and there is no doubt they derive great benefit from doing so. If you cannot get natural perches, artificial ones made from dowelling will have to do; but make sure they are of the right thickness. A comfortable perch for a bird is one round which it can completely close its claws. Birds usually prefer thin perches to thick ones, so it is better to err on the side of the former. Artificial perches should be removed when dirty and washed in hot water.

The position of perches must be studied. They should be placed to enable the birds to take the maximum amount of exercise. Too many perches will prevent them flying properly. Generally speaking, a cage should have a perch at each end, but sufficiently far from the end to allow clearance for the birds' tails. In this way, they can fly, hop to and fro, and make the most of the available space. Perches in aviaries should be arranged on the same pattern, but you can obviously make more use of the walls by nailing up twiggy branches on them at varying heights.



OLIVE CUBAN FINCH

• VIOLET-EARED WAXBILL

CHESTNUT-BREADED FINCH

SAFFRON FINCH

While on the subject of perches, remember that nearly all birds like to roost high at night. It is a deep-rooted instinct which serves them well in a wild state. The higher they roost, the farther they are from enemies on the ground. Therefore in an aviary, place your highest and most comfortable perches in the shelter shed where they should be encouraged to sleep.

*Bathing:* All the birds mentioned in this book are keen bathers. Moisture is essential to the proper condition of feathers, and I cannot over-stress the importance of good bathing facilities for all birds if you want them to look their best.

Many writers advise baths only on warm days or once or twice a week, but birds will bathe in all weathers, at all times of the day. It is not always convenient to leave a bath in a cage the whole day through, as the resultant splashing makes a mess of the floor. Put the bath in first thing in the morning and after the bird has bathed, remove it and clean out the cage. This problem does not arise in an aviary, where a bath should always be available.

"Hang on" baths, made to hang on the open doorway of a cage, are very useful if the cage is a small one, but until they have got used to them, nervous birds may suspect a trap and refuse to use them.

The best bathing dishes are earthenware flower pot saucers. They are easy to clean and their rough surface gives a good grip to the birds' feet—an important point where a nervous bird is concerned. Shallow enamel and china dishes are quite good, but here again a shy bird may not take readily to a white vessel, where it cannot see the bottom. Sometimes a few small pebbles on the bottom of a white dish will help to overcome this fear.

A bathing dish should be large enough for the bird to stand in, tail and all. In a garden aviary, the bath can be larger. Small, shallow concrete "ponds" can be made, or any of the ornamental stone birds' baths advertised can be used. The water should vary in depth between  $\frac{1}{2}$  in. to 1 in. for small birds and between 1 in. and 2 in. for larger kinds like parrakeets.

It is most desirable to keep the bathing water sweet and fresh. Birds are particular about this, and it will be noticed how quickly they fly down and have a "tub" as soon as the bath is filled with

fresh water. To prevent fouling with excreta, never place a bath under a perch.

Occasionally, a newly-acquired bird refuses to bathe itself. In this case, it should be sprayed. Special bird sprayers can be purchased, or a scent spray may be used, filled, of course, with plain cold water. Give the bird a good wetting which will cause it to start preening its feathers, and will almost invariably make it begin to bathe itself. These remarks concern birds kept in cages. Birds in aviaries seldom fail to bathe regularly and often.

*Temperatures:* It is a common fallacy that foreign birds from tropical countries require keeping warm in winter. Actually, once acclimatised, the majority will stand an English winter without artificial heat provided they have dry, draught-proof shelters to which they can retire at night and in bad weather. Hence my remarks in the chapter on housing, on the importance of making aviary shelters comfortable.

It is, however, never wise to be dogmatic about anything connected with livestock keeping, and it may well be that in certain cold, bleak parts of the country, foreign birds require more protection than in others. The great thing is to watch your birds. They will soon show you if they are cold by fluffing out their feathers, shivering their wings and looking miserable. If they do this, they must be brought inside, or else some form of heating must be supplied in the aviary shelter.

Electric tubular heaters are excellent. Oil heated radiators are equally effective. An ordinary oil stove also works well provided the wick is kept clean. Most acclimatised small birds are quite comfortable at 45° F.

If one's stock is housed in an outdoor aviary, it is a good plan before the onset of winter to provide oneself with some form of heating appliance on the above lines, which can be brought into use at the first sign of the birds looking uncomfortable. Alternatively, acquire a few spare cages indoors to which any birds suffering from cold can be removed at short notice.

If you do not take one or other of these precautions, you are liable to last-minute panics if there is a sudden cold spell, and you have no emergency measures to hand.

A very good arrangement if you have indoor accommodation

as well as a garden aviary, is to bring all the birds indoors in October and put them out again in April or May during a warm spell. This not only ensures against deaths from bad weather, but also gives you the opportunity to overhaul and clean the outdoor aviary, to say nothing of resting the ground—an important point—during the winter months.

Do not, however, be put off keeping foreign birds owing to lack of both indoor and outdoor accommodation, because, as already stated, the majority will stand the winter outside, given proper protection. As a rough guide, the minimum temperature required by the various groups of birds will be given in the appropriate chapters.

During the winter birds housed in outdoor aviaries should be shut in the shelter shed at night. Gently drive them into the shelter each evening at dusk and quietly close the entrance hole. After a few evenings they soon become accustomed to this routine and will fly in when they see you coming.

*Acclimatising freshly imported birds:* The temperatures given in this book relate to acclimatised birds. Obviously, it would be too much to expect a bird fresh from the tropics to be turned straight into an outdoor aviary in this country without adverse effects, except perhaps in the height of summer when the weather is warm and sunny.

The beginner is strongly advised only to buy acclimatised birds, that is to say, those which have been in this country for at least two months and have been hardened off to the conditions under which he proposes to keep them, whether indoors or outdoors. He may have to pay rather more for such birds, but it will be well worth it, if only because it saves him disappointment.

The more experienced birdkeeper who can tell a healthy bird from a sick one may well like to try acclimatising his own birds. Briefly, this consists of keeping them at a temperature of not less than 65° F. to start with and gradually, week by week, reducing this to cold room or outdoor conditions.

Acclimatising birds imported during the spring and summer is a fairly easy matter, but for birds which come over during cold weather, great care must be taken that they don't get chilled.

Watch them carefully and at the first sign of their looking cold, increase the heat.

Bread and milk is a great help as an additional food at this time to small foreign seedeaters and seems to prevent the intestinal troubles to which they are prone when newly imported. Small cubes of white bread should be soaked in milk and given in china or earthenware dishes. Some seed scattered over this will start the birds off feeding. Once they get the taste they will eat it greedily.

When buying birds watch most carefully for the signs of sickness described in the chapter on diseases. Ragged or broken wing and tail feathers are unimportant. They will moult out in due course. Personally, I would prefer to select a bird with faded and tattered plumage that was alert and bright of eye, rather than a more perfect looking specimen which was listless and had a tendency to sit with its head "under its wing".

Another important point to watch is the vent feathers. Avoid like the plague all specimens whose feathers under the tail have become soiled with excreta. They are probably suffering from enteritis in one form or another.

*Catching:* This is a problem usually fraught with misgivings for the beginner, who is afraid to handle his birds lest he harm them in some way. While the constant handling of birds is not recommended if only because it frightens them and spoils their plumage, there are times when it must be done.

To move a bird from one cage to another, the simplest way is to put the two cages side by side, with the doors against each other. Open the doors and gently drive the bird from one to the other. If you have to catch a bird by hand do not make wild, ineffectual grabs and keep missing. You will only terrify it and do more harm than ever. Quietly manoeuvre it into the most convenient position and then quickly catch hold of it, grasping it firmly but gently. Above all, don't squeeze it round the middle.

The correct way to hold a small bird is with its neck between first and second fingers, closing the thumb over its back. If you are handling parrakeets, use gloves, as these birds can bite badly. Never catch a bird by the tail or wing feathers as these are liable to come out in your hand, and it will take six weeks to grow another set.

In aviaries use a butterfly net. Put this quickly over the bird you want as it clings on the wire netting. The same remarks apply about making wild, ineffectual swipes with the net which terrify not only the bird you want but all the others as well.

Needless to say, one should never attempt to catch birds in an aviary where breeding operations are in progress. Any such activity will almost certainly result in mass desertions of eggs and youngsters. In these circumstances, if you have to catch up a specimen, use a small wire trap cage, baited with seed, removing temporarily the normal seed supply from the aviary. To the open door of the trap cage attach some thread and pass it through the aviary wire to a point of vantage outside where you keep watch. When the bird you want enters, pull the thread and you have made your capture without fuss or panic.

*Cleaning out:* The floors of cages and aviaries must be cleaned out regularly except if pairs are breeding when the less they are disturbed the better.

Most cages are made with sliding trays that are easily removed and cleaned. Some sort of floor covering is generally used if only to facilitate cleaning. For seedeaters, sand is as good as anything, and for softbills, sawdust, blotting paper or newspaper make the best floor coverings. The droppings of insectivorous and fruit-eating species are more liquid than those of seedeaters, and sawdust or blotting paper are excellent absorbers of moisture. Whatever material you use, change it regularly and often, thoroughly scraping the tray with a paint scraper or similar tool.

The floors of aviaries also require scraping clean from time to time and relaying with sand or sawdust. If you use sawdust, lay it fairly thick or the fluttering birds will blow it into corners leaving the main floor bare. Any kind of sand will do provided it is from an uncontaminated source.

## CHAPTER 5

### DISEASES, PARASITES AND ACCIDENTS

LET it be said at the outset that not a great deal is known about the diseases of cage and aviary birds, and in a book of this kind it is not proposed to go into the subject at all fully. It must be mentioned, however, that certain common ailments are easily cured.

Before dealing with specific maladies, there are two cardinal points to remember. The first is that you start treating your sick birds in good time. Cultivate the habit of looking all your birds over every day, preferably in the morning, so that you can spot incipient illness.

A healthy bird is tight of plumage, bright of eye and generally alert. A sick bird puffs out its feathers, and holds the wings slightly away from the body, often with a shivering motion. The head feathers are ruffled, making the eyes look small. It will have a tendency to tuck its head "under its wing" and sleep on both feet at every opportunity. There is not much wrong with a bird which sleeps on one foot even in the daytime. It is probably having a doze but watch most carefully one that sleeps on both feet even if it *looks* well otherwise. At the first sign of any of these symptoms catch up your patient and take it into a warm room.

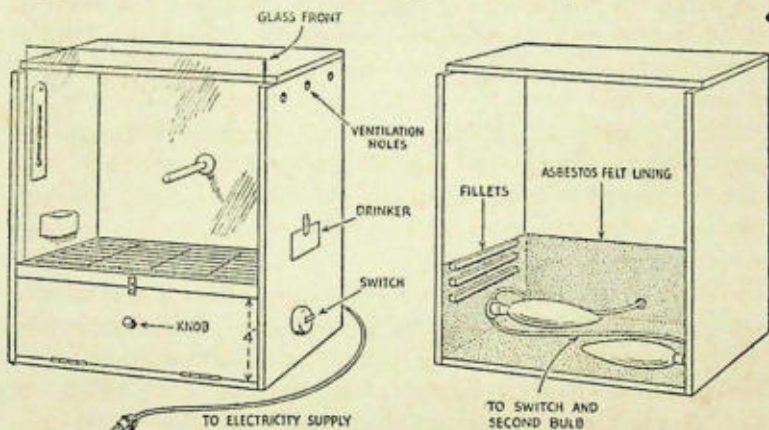
This brings me to the second cardinal point, namely, the importance of heat in curing bird ailments. It has been my experience that without heat all the medicines in the world are of little use, but with heat you stand a good chance of curing the commoner ailments, at any rate.

By heat I mean a constant temperature of 85° F. Hang a thermometer in the hospital cage so that you can regulate the heat accordingly. A quick method of applying heat is to place the sick bird in a small cage covered over except for the front and stand it in front of a fire. Sometimes the hot pipes in an

airing cupboard will do in an emergency, but leave the cupboard door open for light and air.

If you keep a number of birds, the best way is to construct or purchase a proper hospital cage with a glass front which can be heated from underneath, thus forming a small "oven". Such a cage will pay for its cost many times over in the value of birds saved. Those on the market are heated by means of electric bulbs in a false bottom, but it is simple to construct your own.

Briefly, a hospital cage consists of a box-type cage some 15 in. long  $\times$  12 in. wide  $\times$  12 in. high, with a glass front which



A glass-fronted hospital cage with exposed heating arrangements. The author prefers the perch little lower and across the cage rather than from back to front

slides up and down in a groove, and a false metal floor under which is a cupboard containing the heating element. An electric heating element is ideal, but for years I used a paraffin lamp with great success. In the former case, fit two, or even three, 40-watt electric bulbs, which can be switched on independently, thus controlling the amount of heat required. In the latter case, the paraffin lamp can be turned up or down as necessary.

The hospital cage should have a perch fixed rather low across the middle, say, about three inches off the floor. Provide a food and water pot and you are ready for all emergencies.

#### CHILL

This is the commonest bird ailment and if taken in time the most easily cured. If neglected, it can also be the most fatal,

usually leading to pneumonia and death in a few hours. The symptoms are fluffed up plumage, shivering wings, heavy breathing and a strong tendency to sit on *both* feet with "head under wing."

A chill can be caused through a sudden change in the weather, shortage of food, shock, and sometimes for no apparent reason at all. Cold weather does not necessarily cause it. Very often a sudden change from cold weather to mild muggy conditions, will bring about an outbreak of chills among birds. Shortage of food is more frequently a cause than is generally supposed. Small birds cannot go for long during daylight hours without food. If they are compelled to do so they quickly succumb. As soon as you see a bird showing the above symptoms, check the food and water supply.

The only remedy for a chill is heat. Bring the bird into a temperature of 85° F. and keep it there until it shows signs of recovering, which is usually in a few hours. Don't forget to give it food and water. After twenty-four hours reduce the heat gradually until in a further forty-eight hours it can be dispensed with. If you have had to bring the patient in from outdoors, don't turn it out again too soon, and certainly not until the weather is mild and sunny. In fact, a bird brought in during the depth of winter is best kept inside until the spring unless it is very hardy.

#### ENTERITIS

The symptoms here are the same as when a bird is suffering from a chill, but in addition the droppings are watery and the feathers under the tail are soiled with excreta. Enteritis is often said to be caused through eating dirty food, stale greenfood and unsuitable grit. While I do not dispute these possibilities, my own opinion is that this trouble is another form of chill, not affecting the lungs, but the intestines. This belief is borne out by the frequency with which enteritis can be cured by the application of warmth. Birds kept in hygienic conditions seem to contract enteritis as freely as those less fortunate. The disease occurs more frequently in wet weather than in dry.

Treatment is much the same as for a chill, but during the first twenty-four hours give syrup of buckthorn in the drinking water in the proportion of twelve drops to a small wineglassful of water,



GREY SINGING FINCH

PINTEAILED NONPAREIL

RED-BILLED WEAVER

PARADISE WHYDAH

and then follow up with a mild internal disinfectant, like chlorozone, also given in the drinking water, in the proportion stated on the bottle.

#### CONSTIPATION

The chief symptom of constipation is a continual effort to evacuate without result. A constipated bird sits about looking sluggish and bored with life. Treatment consists of twelve drops of syrup of buckthorn or a pinch of Glauber or Epsom salt in a wineglassful of water. Continue this treatment until cured. Make sure the medicine is drunk by removing all baths or other sources of water.

#### EGG-BINDING

Symptoms are the same as with a chill, but in bad cases an egg-bound hen will be found prostrate on the ground and almost unable to move. A much swollen abdomen in the region of the vent is another obvious sign to look for. Be careful how you handle an egg-bound hen. She is in great pain and rough handling may break the egg inside her—with fatal results.

Egg-binding is caused through inability of the oviduct muscles to expel the egg when it should be laid, and is liable to occur with nesting birds in cold weather. Watch for it, particularly if a bird starts nesting early in the spring and there is a sudden cold snap. It is easy to cure if taken in time, but fatal if neglected.

Treat exactly as for chill and in a matter of hours the egg should be laid. Some writers recommend anointing the vent with a drop of warm olive oil, but in my experience this is unnecessary and unless expertly done is liable to spread all over the bird's plumage and make it uncomfortable.

When the egg is laid, gradually reduce the heat until eventually the patient can be returned to its aviary. Sometimes a hen which has been egg-bound will lay the remainder of its clutch in the nest and proceed to incubate normally, but more often than not it will take no further interest in nesting for a while. I have found that some individual hens are more prone to egg-binding than others. Once a hen has been egg-bound, I have always found it advisable to keep a careful eye on her with future

nests as it is almost certain that this will happen again and in which case immediate action can be taken.

#### PARASITES

Although the presence of parasites does not mean that birds are suffering from any disease, these pests are an affliction and it is felt that this chapter is the best place in which to deal with them.

Redmite are the worst offenders, especially where birds are kept indoors. They live in the cracks and joints of wooden cages, in the spaces between the ends of perches and in the backs of cages. At night they crawl out of their hiding places along the perches to where the birds are roosting and thence on to the birds themselves, where they suck their blood and return to their lairs at daybreak.

Nest boxes are a particularly happy hunting ground for redmite, where, as can be imagined, a brood of nestlings or a sitting hen fall ready victims. Redmite are easily kept in check, provided all cracks and joints liable to infestation are regularly doped with some form of liquid disinfectant. Creosote is an excellent deterrent, and a small paint brush dipped in this and applied, say, twice a year, should keep redmite off the premises.

These pests thrive best in warm, dry conditions. Outdoors they seldom seem to give much trouble except possibly in aviary shelters during the height of summer. But indoors, unless the above precautions are taken, they are liable to be about all the year round. It is no use trying to disinfest the birds themselves, as redmite do not live on their hosts but as explained above merely crawl on to them at night to suck their blood and leave them in the morning.

They are easily visible to the naked eye, usually red or reddish brown in colour. Their presence can nearly always be noticed by a deposit of white powder which can be seen round the cracks they are infesting.

Feather lice are an entirely different proposition. These creatures which live on the birds eat the webbing of the feathers. While they are not such a serious menace as redmite, they can cause irritation and, in bad cases, spoil the birds' plumage. Treatment consists of catching the infected bird and dusting it with some effective insect powder, working it well into the feathers, particularly under the wings and on the rump, care

being taken not to get any of the powder into the eyes or beak. Repeat this treatment at weekly intervals for several weeks until the pest is eliminated.

#### BROKEN LIMBS

From time to time you will experience broken wings or legs. Accidents are bound to happen, even in the best regulated establishments, and birds' bones are extraordinarily light and brittle. The setting of bones is normally a job for a veterinary surgeon, but in case one is not available, the following first-aid measures will prove helpful:

If the break occurs at a joint, it is best to destroy the bird, as I have never known such a fracture to heal with success. A broken joint remains stiff ever after. Broken leg "shanks" can be mended by using a piece of narrow rubber tubing as a splint. Split the tube down one side and bind it round the broken leg with cotton. Keep the patient quiet in a small cage from which the perches have been removed and in about twenty-one days the broken bones should have knit together.

If the leg is snapped clean through, amputation at the break is the simplest operation and can usually be performed with a sharp pair of nail scissors. The stump quickly heals and the bird will get about quite happily.

Broken wings are best left to heal on their own, provided the injury is not too bad. A damaged wing can be "slung", but I have never known this limb to reassume its natural position under these circumstances. It always remains unsightly, and the patient seldom regains the full power of flight. Don't confuse a fractured wing with a sprained wing which will often recover completely of its own accord. In a fracture, the patient loses all power in the broken limb, whereas in the case of a sprain, although it may not be able to fly, it can usually move the wing to a certain extent.

Although birds' bones break easily, they knit together remarkably quickly. Incidentally, it is no use trying any form of splint or sling on a parakeet or lovebird which will rapidly remove it with its powerful beak, probably doing further damage to the fracture in the process.

## CHAPTER 6

### *Collection No. 1*

#### SMALL FINCHES, MANNIKINS, WAXBILLS, DOVES AND QUAILS

IN this and the following chapters, it is proposed to devote to each chapter those birds which can be safely associated and require the same treatment, rather than adhere to any scientific classification. Thus any of the species in this chapter will agree together in an aviary; likewise, all those in Chapters 7 or 8. It is unsafe, however, to mix birds from the different groups.

The seed mixture required by this collection, is 2 parts small Indian millet, 1 part white millet and 1 part canary. Extras include, millet sprays, seeding grasses, turfs of grass, lettuce, dandelion or chickweed. Cuttlefish bone and grit of the size of fine granulated sugar should always be available.

With the exception of Green and Grey Singing Finches and Diamond Doves (of which more under their own headings), all make dome-shaped nests in a wild state with a hole in the side, but in aviaries they take to closed wooden nest boxes for breeding, approximately 6 in.  $\times$  6 in.  $\times$  6 in. with a hole in the side about  $1\frac{1}{4}$  in. in diameter. Line these with a handful of hay hollowed out in the centre. Supply extra hay and some chicken feathers with which the birds will line the nests. The lids of such nest boxes should be removable for inspection and cleaning out at the end of the season, but do not make this an excuse to be too inquisitive while nesting operations are in full swing.

The position of nest boxes is important. Generally speaking, they should be fairly high in the aviary, although some species, particularly waxbills, like to nest fairly near the ground. Dependent on the type of birds you keep, therefore, place most of your nest boxes fairly high up, with just a few in lower situations. Choose the darker, quiet corners of the aviary, and



BLACK-HEADED NUN

INDIGO BUNTING

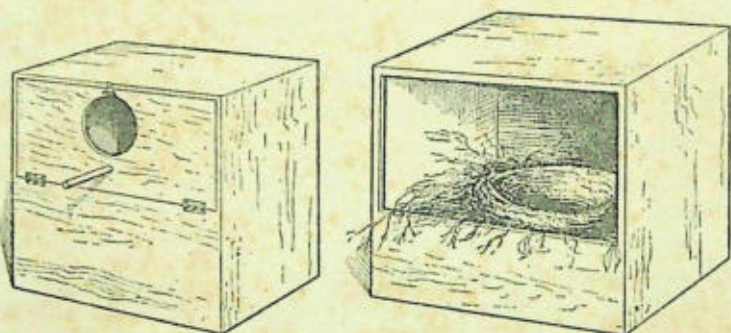
GREY JAVA SPARROW

ORANGE WEAVER

put some nest boxes in the shelter and some outside in the flight where certain birds may prefer to nest. It is a good plan to screen the boxes with a sprig or two of twiggy branches to give privacy.

## FINCHES

THE ZEBRA FINCH (*Teniopygia castanotis*) from Australia, is grey and white with a red beak. Cocks have orange cheek-patches and orange flanks spotted with white. Hens lack these adornments. Young in immature plumage are like the hen with black beaks. There are now several domesticated colour



Closed Finch nest box and, right, the open-fronted type referred to on page 51.

varieties: The pure white, which has a red beak and pink legs but no other markings; the silver, which is marked like a normal Zebra Finch, but the grey areas are a very pale silvery colour—this is a very pretty variety; the fawn, which in many ways resembles the silver, but again the grey areas are replaced by a pale biscuit fawn colour. Like the silver, this variety also retains all the beautiful markings of the normal Zebra Finch.

This is probably the best known of all small foreign birds. It is also about the best for the beginner, as it is hardy, a free breeder, and easy to cater for.

Most Zebra Finches have been bred for several generations in this country, and such birds will live perfectly happily all the year round in an outdoor, unheated aviary, provided they have good roosting quarters at night. They like to sleep in nest boxes rather than on the perches, but it is better not to allow them to do this during the winter. If given the chance they will breed

all the year round, and if nest boxes are available, the hens are liable to egg-binding in cold weather.

Several pairs may be kept in one aviary, and they are good mixers with other birds of their own size, which is approximately  $2\frac{1}{2}$  in. in length. They require nothing but the above seed mixture and a bit of greenfood, especially seeding grasses during the summer months. A good pair will rear brood after brood of young ones. The only trouble is that being such prolific nesters, they are liable to usurp every available nest box and drive away other would-be occupants, filling the boxes with hay and laying eggs which they do not even bother to incubate. Sometimes on taking down nest boxes at the end of the season, I have discovered alternate layers of hay, eggs, hay and more eggs.

These birds are not good singers, but the cocks make a quaint little twittering which is most amusing. Their call is rather like the sound made by a small toy trumpet. As an instance of their hardiness, the writer has had young Zebra Finches fledging on Christmas Day in an outdoor aviary, and the brood was successfully reared. These particular birds were in a large planted outdoor aviary and it was most intriguing at dusk to watch the parents doing their best to coax their offspring back into the nest for the night.

THE GREEN SINGING FINCH (*Serinus mozambicus*) comes to us from tropical Africa. In colour, it is greenish grey above, yellow below. The illustration gives a good idea of what a cock bird looks like, but in life there is a good deal more grey on top of the head and back and not quite so much yellow. Cocks are usually brighter in colour than hens and have a deeper yellow on the breast, but this is not an infallible guide, because old hens may well be brighter than young cocks, which in their first year are of an appreciably paler shade.

A much better guide is the necklace of small grey spots across the throat of a hen, which is lacking in the cock. Here again, however, the beginner may be confused at times, because young birds of both sexes in nest feather are not only pale in colour but all tend to show this necklace of spots. With adult specimens, however, it is a fairly reliable method of sexing by appearance.

The third and surest way of telling cocks from hens is, of course, by the song. As its name would imply, the Green

Singing Finch is well known for its fine song. This applies to the cock only, the hen being a silent bird, except for the call-note. The Green Singing Finch is related to the Canary and its song in many ways resembles that of the latter bird. Moreover, it will hybridise on occasions with the Canary, the usual mating being a cock Green Singer to a small Roller or Border hen Canary.

In size it is similar to that of the Zebra Finch. It is a fairly good mixer with birds of its own size, but cocks in breeding condition can be spiteful at times, even towards their own hens. When a cock Green Singing Finch is in a temper, his hen usually makes herself scarce, crouching unobtrusively in some corner, until his fury subsides.

While not being what one would call a free breeder, the species has nevertheless been bred on many occasions. Unlike other birds mentioned in this chapter, it does not take kindly to a closed-in nest box with only a small round entrance hole. In a wild state, it builds a cup-shaped nest in a bush, rather resembling that of a Chaffinch only much smaller.

In an aviary, it will take to a nest box 6 in.  $\times$  6 in.  $\times$  6 in., but with two-thirds of the front open, instead of the small entrance hole, the lower third of the front being filled in merely in order to retain the nest. Alternatively, it may revert to its natural habit and build its nest in a clump of leafy twigs or gorse, nailed up in a corner on the wall of the aviary, particularly if well secluded.

If young are hatched, no special feeding is required, but some pairs will take a little Canary rearing food, such as biscuit meal mixed with hard-boiled egg, or bread and milk, at this time.

Incidentally, both this and the following species are great greenfood eaters. This is a habit common to all Serins, a family which includes the domestic Canary, and it will be found that they relish all the kinds of greenfood already mentioned in the chapter on feeding. Green Singing Finches are perfectly hardy and will winter outdoors without artificial heat, provided the usual precautions are taken concerning draught-proof, cosy sleeping quarters.

THE GREY SINGING FINCH (*Poliospiza leucopygia*), also from tropical Africa, is the same size as the Green Singing Finch, but

here the resemblance ends as it is plain grey all over, mottled with darker feathers on the head and back. The sexes are identical in appearance, and the only way to tell cocks from hens is by the song. A cock Grey Singing Finch is an even better singer than his green cousin, and as good vocalists are not very prevalent in the foreign bird world, a pair of this species is well worth inclusion in any collection of small Finches for the sake of their song, if for nothing else. The trouble is to make sure you get a cock bird, and unless you have the opportunity of actually hearing one sing, it is better to buy several and thus increase your chances of getting some birds of each sex.

Treatment and breeding habits are exactly the same as in the case of the Green Singing Finch. Cocks have the same tendency to pugnacity when in breeding condition, but at other times they are quite sociable. They are perfectly hardy, and will winter outdoors without heat. Hybrids between this species and the Green Singing Finch, as well as the Canary, have been produced, the Grey Singing Finch  $\times$  Canary, being a particularly fine songster.

Freshly imported specimens are subject to a kind of eye disease, which takes the form of swollen eye-lids. In bad cases, the eyes are almost closed up, preventing the bird seeing properly. It is almost certainly caused by dirty conditions, the bird contracting the infection from wiping its eyes on dirty perches. Mild cases can be fairly easily cured by bathing in warm boracic solution and then anointing with some healing ointment, such as golden eye ointment. Unless you have very steady fingers, this is best applied with a camel hair paint brush. Bad cases are difficult to cure and beginners are advised, when buying from a dealer, to look the birds over carefully and pick specimens with clear, fully open eyes.

**THE CUBAN FINCH** (*Tiaris canora*). This delightful little Finch from South America is rather smaller than the foregoing. The cock is olive brown with a black face and a brilliant yellow collar. The hen's colours are altogether less pronounced, the black areas being replaced by dark brown and the yellow by a much more subdued shade. It is a sprightly, chubby little bird, always on the move, reminding one very much of a small Blue Tit. It has much to recommend it, being harmless in mixed

company. Several pairs can be housed together, without much bickering.

A hardy and quite reasonably good breeder in an aviary, it requires no special treatment when rearing young, although like the Green and Grey Singing Finches, breeding pairs will sometimes take a little soft food as prepared for Canaries.

As might be gathered from the foregoing remarks, Cuban Finches are sociable little birds, and family parties like to stick together, often roosting all huddled up side by side on a perch or some cosy ledge in a corner of the shelter shed.

THE OLIVE FINCH (*Tiaris olivacea*) is a close relative of the Cuban, coming from the same part of the world and, in fact, resembling its cousin in all but markings. Instead of the yellow collar, it has only yellow eyebrows and chin. The rest of the colour scheme much resembles the Cuban Finch. The hen Olive Finch is merely a dull edition of the cock, the yellow eyebrow and chin markings being very faint.

It requires exactly the same treatment as the Cuban and will breed under the same conditions. In fact, pairs of Olive and Cuban Finches may be kept together without much likelihood of fighting. It is quite hardy and will winter outdoors without artificial heat.

THE LONG-TAILED GRASSFINCH (*Porphila acuticauda*) comes from Australia. In body size, it is about that of a Zebra Finch, but it looks considerably larger because it has a much longer tail which ends in two hair-like points, hence the bird's name.

The coloured plate, while giving a fair idea of its markings, does not do justice to its colour, which is pinkish fawn with a jet black bib and tail. There is also a black patch on each flank. These black areas have an extraordinary density, particularly the bib which looks as if an oval piece of velvet had been stuck on the bird's throat. The head is French grey and the beak and legs yellow. There is a race known as Heck's Long-tailed Grassfinch in which the beak and legs are bright red. Although not what one would call a brilliantly coloured bird, the Long-tailed Grassfinch is most strikingly marked and attractive.

The black bib plays a prominent part in the display and the birds are for ever shaking their heads and fluffing up their bibs

at one another in a most fascinating manner. The sexes look identical; in fact, the experts are often nonplussed when faced with the problem of picking out a true pair for the cock has no song. Various methods are put forward from time to time on how to sex Grassfinches, some people saying that cocks have broader and heavier beaks, and others that cocks have a wider and more pronounced black bib. In practice, however, neither of these theories is infallible.

If you look at a true pair, you will probably notice that the hen's bib is, in fact, rather smaller than the cock's, but it is no easy matter to sex a single bird, or to pick out a cock or hen from a number of birds, by this means alone, as the size of the bib varies a good deal in individuals. Age, I think, has something to do with the dimensions of these markings, old hens possessing larger bibs than young cocks. The only method I know of sexing this species is to watch a number of birds together for a while and note their behaviour. Cocks are given to much more showing-off than hens, nodding their heads more frequently, fluffing up their bibs and generally asserting themselves.

While Long-tailed Grassfinches can be wintered outdoors without artificial heat, I never like to subject these birds to a temperature below 45° F. For one thing, they are fairly expensive to purchase, and it is, therefore, a wise form of insurance to supply a little heat, or, alternatively, to bring the birds inside during the winter months.

Grassfinches are free breeders, a good pair producing almost as many young ones as a pair of Zebra Finches. They take readily to the type of Finch nest box recommended at the beginning of this chapter, and with luck will rear two or three broods in a season. They require no special foods at breeding time beyond plenty of seeding grass when there are young to be fed. Some breeders recommend a few mealworms at this time, but many young Grassfinches are reared without this extra.

THE PARSON FINCH (*Pephila cincta*). This is a relative of the Long-tailed Grassfinch, coming also from Australia. It is not often imported these days, and even before the war one seldom saw specimens, although many years ago, I believe, the species was imported more frequently. In size and general colouring, it reminds one of the Long-tailed Grassfinch, but it lacks the long

tail. Although not such a free breeder, it requires exactly the same treatment as the foregoing bird.

The Parson Finch has a reputation for being rather more spiteful than the other Grassfinches, so when introducing these birds into a collection they should be watched carefully for signs of bullying, particularly if there are smaller birds like Waxbills in the same aviary.

THE MASKED GRASSFINCH (*Pæphila personata*), comes from Australia and is a very close relative of the Long-tailed and Parson Finches. Although its colours are much the same, consisting as they do of warm brown, fawn and black, the pattern and markings are somewhat different. Briefly, the bird may be described as similar in size and shape to the Long-tailed Grassfinch with a long, pointed tail which does not, however, bear the two hair-like wires. It is rufous brown above, pinkish fawn below with a black mask which more or less circles the yellow beak. There is a black patch on either flank, similar to that of the Long-tailed, and the tail is black. The legs and feet are pink.

As with its two cousins, sexing is a problem, but given a true pair, it will generally be noticed that the hen's mask surrounding the beak is slightly narrower and less extensive than that of the cock.

For some reason, this bird is not as freely imported as it used to be. Years ago it was much commoner than the Long-tailed Grassfinch. Nowadays it can be obtained only from time to time. One of the reasons for its loss of popularity may be that it is not quite so colourful as the Long-tailed; also it is not quite such a free breeder, although a good pair, once they settle down to nesting duties, will rear brood after brood with little extra in the way of feeding beyond two or three mealworms per day, spray millet and seeding grass heads. In general, its food and treatment is the same as for the Long-tailed Grassfinch.

THE GOULDIAN FINCH (*Pæphila gouldiæ*). I think from the time when I first started keeping foreign birds and began to read about the feathered beauties that one day I hoped to have, my ultimate aim, certainly as far as finches were concerned, was to own some Gouldians. To my mind they were quite the loveliest of all the small seedeaters sent to us from abroad, and I

was later to discover that they had many other desirable characteristics.

But let me say right away that I would not recommend beginners to keep them. For one thing, they are expensive and need the care of an experienced bird keeper, yet once you have mastered the rudiments of successful aviculture, there is no bird more to be recommended than the Gouldian Finch. These birds are by nature tame and steady, which means that you can stand and watch them at ease and admire their brilliant colours of emerald green, yellow, purple and turquoise, set off by a bright red or velvety black head according to the variety which it is your good fortune to possess.

They are easy to cater for, and apart from millet and canary seed, millet sprays and seeding grasses when in season with the usual additions of cuttlefish bone and grit, their wants are few. They consume large quantities of cuttlefish bone, particularly when there are young to be fed. They are also easy to breed provided you make allowances for somewhat erratic behaviour. Coming as they do from Australia, they refuse to conform to our own seasons, and instead of breeding during the spring and summer, they spend the best and warmest months of the year moulting heavily and come into breeding condition about August and remain thus all through the English winter.

Like most small foreign Finches they are very subject to egg-binding in cold weather, so it will be understood that unless you are in a position to supply some reliable form of artificial heat, you are unlikely to be very successful in breeding Gouldians. Given the right conditions, however, a good pair can be almost as prolific as a pair of Zebra Finches, producing nest after nest of young ones with no trouble at all. Even if you have not the advantage of heated quarters, you can usually get a nest from them during the late summer before the autumn frosts set in, but after that, unless extra warmth can be given, it is fatal to leave the nest boxes in position.

Gouldians will usually nest in the standard type of Finch nest box already described. Four to six white eggs are laid in a clutch and the incubation period is approximately fourteen days. Both cock and hen share this duty, a habit common to nearly all the Australian Finches, but not to those from other parts of the world. The babies in the nest have two little phosphorescent.

blue warts on each side of the mouth. These warts are about the size of a pinhead and it is quite an extraordinary sight when peering into the dark interior of a Gouldian's nest to see these little clusters of shining blue waving about in the darkness. There seems to be no doubt that they are a help to the parents in finding the gaping beaks of their young in the dark.

As this is one of the species not illustrated, a brief description will not come amiss. The Gouldian Finch exists in three varieties, namely, the Red-headed, the Black-headed and the Yellow-headed, otherwise the colour scheme is the same in all varieties. The back and wings are grass green, the belly is deep yellow, the rump turquoise green, and there is a broad band of purple right across the breast. The head is black, red or yellow, according to the variety, and dividing this colour from the green at the back of the neck is a narrow band of turquoise. As can readily be imagined, this lovely combination of brilliant colours must be seen to be believed.

The Black- and Red-headed varieties are both well known to aviculture. The so-called Yellow-head is very rare; actually the colour of the face in this variety is amber. The hen of each kind has the same general colour scheme as the cock but her various colorations are much paler and more subdued, her breast in particular being pale lilac rather than purple. It is therefore a very easy matter to sex Gouldians in adult plumage.

Young ones in nest feather are a sort of greenish grey above and yellowish grey below with no distinct colour pattern at all. They remain like this for anything from six to twelve months old and during this time are practically impossible to sex.

The display of the cock Gouldian Finch is most entertaining. He has not much of a song, and when he does make an effort his voice is little more than a whisper. He starts his display by dancing up and down on the perch before his hen, expanding the black or red feathers on his face and the purple ones across his breast, the while uttering his whispering song. Then suddenly, depressing his beak on his chest, he bows right forward till his face almost touches the perch. This generally ends the display, but sometimes he will draw himself up to his full height and repeat the performance.

While Gouldian Finches have been wintered out of doors without artificial heat in the southern half of England, I would

not recommend this spartan treatment for a bird which obviously thrives best under reasonably warm, dry conditions, a minimum temperature of 45° F. being safe. If you decide to try to breed these birds during the winter, their room temperature should not drop below 60° F. or the hens will be prone to egg-binding.

THE CHERRY FINCH (*Aidemosyne modesta*). The accompanying illustration of this bird conveys such a good idea of what it looks like that a verbal description is unnecessary, except to say that the crown of the head is of a deep wine colour, and presumably it is this which gives the bird its name. It is also one of the means of telling the cock from the hen. The female shows very little of this wine colour, and she also lacks the black bib immediately under the chin.

Although not a brilliant species, the Cherry Finch is most beautifully marked and appeals to those who prefer a quietly coloured bird. This species, however, is not one to be recommended for the beginner, being particularly delicate when newly arrived in this country, and even when acclimatised, subject to epidemics of a fatal nature for no apparent cause. As opposed to this, they are easy to breed and a good pair will produce several broods of young in a season. Moreover, their requirements are simple and the food and treatment as for the Long-tailed Grassfinch suits the Cherry Finch admirably, the only difference being that I would not subject them to a temperature below 50° F.

THE PARROT FINCH (*Erythrura psittacea*), or to give it its correct name, the Red-headed Parrot Finch, is a member of a family of several species all hailing from the Far East, and presumably so named because green and red predominate in their plumage, these two colours for some reason usually being associated in people's minds with parrots.

While the Red-headed Parrot Finch is beautifully coloured and has many qualities to recommend it, I would not advise the beginner to try it until he has gained experience with commoner and cheaper species, if only because it is expensive and rare. In expert hands it is a free breeder. There is, moreover, a perpetual demand for aviary-bred specimens at high prices, and there is no doubt that a good breeding pair can be a veritable goldmine.

Parrot Finches are quite hardy and their wants are few. They are not too easy to sex, but generally speaking the red areas in the hens are slightly duller than those in the cocks. Expert breeders who know their birds well can probably pick out true pairs, but for anyone else, there is nothing for it but to put three or four birds in an aviary and let them sort themselves out. They breed in the standard type of Finch nest box, but, like the Zebra Finch, have the annoying habit of making "egg sandwiches", consisting of alternate layers of nesting material and unhatched or infertile eggs.

Although beautifully coloured, they are not always easy to see, as they are remarkably quick in movement, darting to and fro like greased lightning. In fact, I have hardly ever seen a Parrot Finch sit still for more than a second, which at times can be rather annoying.

THE PIN-TAILED NONPAREIL (*Erythrura prasina*) is another species of Parrot Finch hailing from the Far East, where apparently it is so common that I have heard of cases of animal dealers using them as food for snakes! It is a most beautifully coloured species, even more brilliant than its congener, the Red-headed Parrot Finch, but is even less to be recommended as a bird for the beginner.

Pin-tailed Nonpareils, while appearing to thrive for a time on the same treatment recommended for their Red-headed cousins, never seem to live very long in this country. I have known them do well for months, even wintering out of doors in an aviary without artificial heat, when quite suddenly they are picked up dead, usually from pneumonia. They have, therefore, little to recommend them, apart from their beautiful colouring.

As far as the writer is aware, they have not been bred in this country. They are, however, easy to sex, the cock being as shown in the illustration, and the hen a plain dull green with a much shorter, dull red tail and rump. She lacks the blue face and scarlet breast. Young cocks in immature plumage look exactly like the hens, so do not assume you have a pair merely because one is more brightly coloured than the other, until you have kept them long enough for them to have moulted.

Pin-tailed Nonpareils are very fond of "paddy" rice, that is,

rice in the ear. In fact, when freshly imported, they will eat little else and should be gradually weaned on to canary and millet seed by sprinkling the "paddy" rice over the usual seed mixture.

THE BICHENO FINCH (*Stictoptera bichenovii*) is another Australian species, which, although not brilliantly coloured, is the most beautiful study of markings in black, white and grey that can be imagined. The coloured plate is excellent, but does not bring out the delicate studding of tiny white spots which cover the back and wings.

The Bicheno Finch, while not to be recommended for the beginner because it is rather expensive, is, nevertheless, well worth cultivating when experience is gained. In size it resembles the Cuban Finch and in many ways has the demeanour of that bird, being round and chubby in shape and rather Tit-like in habit.

Another name for the Bicheno is the Owl Finch, and one realises the aptness of this when looking at a Bicheno head-on, the black line encircling the white face, reminding one for all the world of a tiny Owl.

There are two races of this bird, the ordinary one (*S. bichenovii*) which has a white rump, and the so-called Ringed or Black-rumped Finch (*S. annulosa*), which, as its name implies, has a black rump.

I would describe Bichenos as being only half-hardy, and while I have known them winter outdoors in the south of England, without artificial heat, I would not recommend that the temperature in their shelter be allowed to drop below 45° F. The alternative suggestion of bringing them inside in November is better than leaving them out in the open to suffer the rigours of an English winter without some form of warmth.

They are sociable in mixed company, and several pairs will agree together. They like to huddle together in a nest box at night and at such times present a most amusing appearance, their tiny Owl-like faces all staring at one from the entrance of the nest.

Bichenos are fairly free breeders in an aviary, taking to the usual type of Finch nest and requiring the same treatment as for Cuban Finches. Sexing them is a problem as they are another species where there is absolutely no apparent difference. In

pairs which I have known to be true pairs, I have noticed that the base of the cock's bill is broader than that of the hen, but I would not like to recommend this as an infallible guide.

THE QUAIL FINCH (*Ortygospiza polyzona*) comes to us from South Africa. Its chief interest, as its name implies, is its extraordinary similarity to a minute Quail. Its size is the same as that of the Zebra Finch, and it has a shortish, down-pointed tail which helps to add to its resemblance to its namesake. Although these little birds can and do perch freely, they like to spend most of their time on the ground, running about and scratching in the sand.

It is not a brightly coloured species, being mainly a mixture of grey, brown, buff and white, but what it lacks in brilliance it makes up for in beautifully delicate markings, particularly along the flanks, which are finely pencilled in brown and black. The hen is duller than her mate and less conspicuously marked. When once acclimatised, it is perfectly hardy and will thrive on the normal treatment advised for other birds in this chapter. It is particularly fond of an occasional mealworm or other small insect.

Although there are authenticated records of its nesting in captivity, the species is not easy to breed. One difficulty may be the provision of suitable nesting sites. As might be expected, it nests on the ground, building under an overhanging tuft of grass or other vegetation. It therefore seems unlikely that an artificial box would be any good unless it were placed on the ground and well screened with grass tufts or some similar material.

The most likely chance of success would be in an aviary, the floor of which was overgrown with coarse grass and bushy plants. Should any young ones be hatched, continuous supplies of live insects would almost certainly be necessary for successful rearing.

THE MELBA FINCH (*Pytilia melba*). This is another South African bird, which has been scarce since the war, and even in pre-war days Melba Finches were by no means common. Small consignments used to come over from time to time and were quickly snapped up by the more discerning type of foreign bird

enthusiast who wanted something out of the usual run of common species and which also stood a good chance on the show bench.

The term "Finch" as applied to this species is actually a misnomer, as Melba Finches are classified among the Waxbills. One usually thinks of a Waxbill as something tiny, but the Melba is quite large—as big as a Redpoll, in fact.

They are pretty birds in a quiet way. The cock is yellowish grey with a red face and red rump; the tail is black; the lower breast and belly are spotted and striped with thin white lines. The hen is duller and lacks the red face; sometimes she shows just a trace. The beak is red in both sexes and is unusually long and pointed, denoting a strong partiality to an insectile diet.

This is borne out by those who have had experience with these birds under controlled conditions. It has been found that they thrive best when they can have mealworms, gentles or other insects as a regular addition to their menu. They are very fond of soft food and will eat hard-boiled egg and biscuit or bread crumbs as prepared for Canaries, with evident relish.

Although not big greenfood eaters, Melba Finches should have the chance to nibble at chickweed, lettuce or spinach beet. Seeding grasses should, of course, be offered *ad lib* when in season.

When once acclimatised they are as hardy as most small foreign Finches, that is to say, they can live out of doors for seven or eight months of the year but are safer under cover or indoors between November and March, unless the shelter of their aviary can be artificially warmed to a temperature of not less than 45° F.

The species has been bred in this country, but only rarely. This is surprising, as the sexes are easy to distinguish, and they appear to go to nest readily enough. Probably the difficulty is the usual one of providing sufficient live food of the right kind when there are young to be fed, the parents preferring to let them starve rather than go without themselves.

THE RUFICAUDA FINCH (*Bathilda ruficauda*) is another Australian. Its alternative name of Star Finch suits it very much better, because the first thing that strikes you about the bird is the way its face and breast are peppered all over with tiny white spots. Although not one of our most brilliant foreign Finches, it is

much sought after by foreign bird enthusiasts, probably because it is a fairly free breeder, commands a high price, and is usually successful on the show bench.

The cock is yellowish olive above, shading to pale yellow on the breast and belly. He has a sealing wax red beak and a bright red face. The aforementioned white spots are distributed very finely over the red face and gradually increase in size as they come down the breast towards the belly. The tail and rump are dark rufous. Legs and feet are pink.

The hen resembles her mate in a rather more subdued way, the yellow of her breast being paler. But the main distinction is that the red area on the face is very much smaller than that of the cock, so there is little trouble in sexing adult birds. Aviary-bred specimens never seem to acquire such a bright red face as the imported birds. Why this is so, is difficult to say, unless it is lack of insects in the diet in captivity. Nevertheless, this is a fact confirmed by practically all who have bred this species in any numbers. *Ruficaudas* do, however, increase in brilliance with the years, a cock of three years and upwards being much more brilliant than a year-old bird, and as breeders usually dispose of their young stock before they are a year old, it may well be that they never get a chance to compare them with the older specimens.

Star Finches thrive under the treatment advised for Grass-finches. They should be treated as only half hardy and either be brought inside during the winter or have their shelter heated to a temperature of not less than 45° F. There are plenty of cases on record of their having been wintered outdoors in the south of England without any artificial heat whatsoever, but personally I would not subject any small bird to dangerously low temperatures merely to see how much it will stand.

*Ruficaudas* will take to the usual type of Finch nest and breed under the same conditions as the other birds dealt with in this chapter. They like a few mealworms when actually rearing young, but these should be rationed to not more than six per day per pair. Mealworms are not only liable to cause liver trouble, but they are a very stimulating diet and too many will make the parent birds want to go to nest again before they have properly reared their first brood. This may well cause the desertion and loss of a nest of young ones.

Some Ruficaudas will take soft food, as recommended in the chapter on feeding, or this may consist of the usual type of Canary rearing food slightly moistened. One way to get all small finches to take this type of food is to sprinkle a little of it over their dish of seed.

Star Finches are attractive little birds for aviaries or cages, but I would not advise a beginner to start off with them. They are good mixers in an aviary with other birds mentioned in this chapter.

THE WHITE-THROATED FINCH (*Sporophila albogularis*). This is one of a number of species belonging to a South American genus, usually referred to as the Sporophila. None of them is brilliantly coloured, although the cocks have a reputation for being songsters. In their own country, they are reputed to be very popular as cage birds for this reason. In size they are about the same as the Green Singing Finch, but in shape they remind me very strongly of miniature Bullfinches. They have the same short, curved beak.

This bird is a study in black, grey and white, being grey on the back with a black cap and a dirty white breast. The hen is a fawnish brown colour, rather paler on the breast. White-throated Finches have a bad reputation with some bird-keepers for bullying, but personally I have always found them harmless in a mixed collection in an aviary of moderate size. Like all birds, individuals vary in temperament, and if you have a savage specimen, the only remedy is to remove him.

Although they are recorded as having been bred, White-throated Finches are, in general, shy breeders. In a wild state, they build a cup-shaped nest in a bush after the style of the Chaffinch, so if you decide to try to breed them in an aviary, you should supply several nest boxes with two-thirds of the front open as described for the needs of Green and Grey Singing Finches. These should be well screened with twiggy branches to give privacy. They are generally considered as half hardy and should not at any time be subjected to a temperature lower than 45° F.

Under this heading should be mentioned the Reddish Finch (*Sporophila bouvreuil*), which is cinnamon brown below and black above, the Guttural Finch (*S. gutturalis*), and the Plumbeous



MAGPIE MANNIKIN

GRENADIER WEAVER

AUSTRALIAN FIRE FINCH

ZEBRA FINCH

(*S. plumbea*), all of which are similar in size to the White-throated Finch and require the same treatment.

## MANNIKINS

These exist in several species, of which the names are descriptive enough. They are often called Nuns by bird dealers. A group of small seed-eating birds, they are particularly suitable for the novice, as they are hardy and extremely easy to cater for, requiring little beyond the usual seed mixture of millet and canary and seeding grasses when obtainable. In size they vary from the Bronze-wing Mannikin, which is as big as a Zebra Finch, up to the Java Sparrow which is as big as a Weaver, and for that reason is dealt with in the next chapter and not under this heading.

Mannikins are characterised by a rather stocky build with heavy, broad beaks. They are inclined to be sluggish in a cage, but full of life in an aviary. They have rather short, rounded wings and give the impression of being heavy fliers, but for all that they are well-behaved companions for other small birds of similar size. Their colour pattern, although not brilliant, is very pleasing, usually consisting of various shades of black and chestnut, set off with pure white.

With certain exceptions, notably Bengalese, Silverbills and White Java Sparrows, of which more anon, they are not free breeders, but all will winter outdoors without artificial heat. Excluding the Cuthroat Finch, which is dealt with in the next chapter, the sexes are identical, so much so that it is always very difficult to pick out a true pair. This may well be one of the reasons why not much success has been achieved in breeding them.

Cocks when displaying, do a little song and dance, but this is not much use when trying to sex a number of birds, because the moment you start trying to catch up the one you saw singing, unless you can keep your eyes on it all the time, it will quickly lose its identity among its mates, and the whole lot will continue to look as alike as a row of peas in a pod.

Most of the Mannikins come from India and the Far East, but there are several African species. Strangely enough, the latter are more inclined to breed in captivity than their Eastern relatives. One great feature of all Mannikins is their immaculate state of feathering, even when first imported. When most birds can be

excused for looking a little travel worn, your Mannikin will come out of his travelling cage ready to put straight into a show. They have tight, smooth plumage and seem to possess the knack of always looking smart.

Their nesting requirements are the same as for other birds mentioned in this chapter. They will all take to the usual type of closed-in Finch nest with a small hole in the side, wherein they build a domed shape nest of dried grasses lined with a few feathers. Another advantage from the beginner's point of view is that they don't require extras when feeding young. They can raise sturdy families on nothing but seed and greenfood.

THE BLACK-HEADED NUN (*Munia atricapilla*) comes from India and is chestnut with a black head and neck. Its beak and legs are bluish grey. In size it is about 3 in. long and freely imported these days. It is quiet and docile in mixed company and perfectly hardy. The reason why it has seldom been bred may well be because the sexes are identical, so that many a "breeding pair" may have been two cocks or two hens.

The Black-headed Nun seems prone to overgrown toe nails, and if these are not cut back from time to time it is liable to get hung up in the wire netting of its aviary with fatal results. It is more liable to this trouble in a cage than an aviary. Nails are easily cut back with a pair of sharp nail scissors. Hold the foot up to a strong light and a thin vein will be seen running some way down the nail. Cut below this vein, and you will in no way harm the bird.

THE WHITE-HEADED NUN (*Munia maja*) might best be described as the white-headed counterpart of the foregoing bird, as apart from having a white head instead of a black one, it is in every way exactly like its Black-headed cousin, even down to the habit of overgrown toe nails! Breeding records are few, and the reason is probably the same as that given for the Black-headed Nun.

THE TRI-COLOURED MANNIKIN (*Munia malacca*) is to my mind the handsomest of this family, being black, white and chestnut arranged in a sharply contrasting pattern, of which the coloured plate gives an excellent idea. It is a shade larger than the two

foregoing species, and slightly easier to breed, although it is certainly no easier to sex, both cock and hen looking alike.

THE BRONZE-WING MANNIKIN (*Spermestes cucullatus*) is grey above, white below with a black bib and a metallic bronze green patch on each wing, hence the bird's name. Unlike the foregoing, it is an African species, and for some reason is very much easier to breed than its Asiatic cousins. It is an ideal beginner's bird, and a true pair will almost certainly go to nest in an outdoor aviary.

In size and shape it resembles in many ways the Zebra Finch. Moreover, it has not such a heavy beak as some of the other Nuns. I have seen these little birds wild in West Africa where they fly about in flocks and nest in the eaves of houses, rather after the manner of House Sparrows in England. Out of the breeding season, they frequent fairly open country, and when walking through long grass, one sometimes puts up a flock of a hundred or more, which fly a short distance and then alight on the ground again where they appear to feed on various grass seeds.

When nesting they select some likely nook or cranny in the eaves of a house and stuff it with long, dead grasses and therein rear their brood. In an aviary they take to a wooden Finch nest closed in but for a small entrance hole in the side. The eggs are white and the incubation period is about 12 days, the young leaving the nest in a further 18/21 days. When they first come out, they are not a bit like their parents, being a uniform snuff colour. They assume adult plumage with their first moult, which is not many weeks after they leave the nest.

THE BENGALESE (*Munia striata*) is a domesticated variety of Mannikin which originated in Japan but is now bred freely both in Great Britain and on the Continent, as well as in America. Its true origin is obscure but it is generally supposed to be a fertile hybrid between the Striated Mannikin and the Sharp-tailed Mannikin, both of which are common wild birds in the Far East. Being as domesticated as the Canary, it is an ideal beginner's bird, as it will thrive and breed in cage or aviary. It is, in fact, what one might call the white mouse of the bird fancy, but is nevertheless a delightful little bird.

In size it is about as big as the Zebra Finch, but it has the typical

Mannikin shape and rather heavy beak. It is bred in quite a number of colour varieties—fawn-and-white, chocolate-and-white and pure white. Strangely enough, although one can get self coloured whites, I have never seen or heard of a self coloured chocolate or self coloured fawn, these two varieties always being very much piebald or variegated. There is now also a crested variety. This has a top-knot rather like that of a Crested Canary.

To the eye the sexes are identical, but cocks can be detected by the "song", which to human ears is little more than a whisper and is uttered with a curious stretching of the neck and a side to side motion of the body, an attitude which is particularly well illustrated in the coloured plate depicting the Spice Bird.

The simplest way to sex Bengalese is to put several birds singly in cages. After they have been thus separated for some hours, put two together and watch the reaction. If one of them is a cock he will almost invariably start his song and dance. Unfortunately, it does not always mean that a non-singing bird is a hen. If you have a quick ear for bird voices, there is a further method of telling the sexes when the birds are separated and calling to one another. The cock's call note is a single syllable high-pitched note, and the hen answers with a three- or four-syllable twitter.

Some aviculturists say that Bengalese, being domesticated birds, breed better in small cages than aviaries, but this is not necessarily so. I have had equally good results with both methods, and on one occasion bred them in a 25 ft. planted aviary along with other Finches. They were interesting to watch under these conditions, although not particularly strong on the wing. Even so they managed to make their way about the enclosure and spent much time creeping up and down the stems of the growing shrubs, flirting their tails, examining everything, and obviously enjoying sensations which must have been foreign to their kind for centuries.

Whichever way they are bred they require a wooden nest box, either partly open at the front or with a fairly small entrance hole. In this they will construct an untidy domed nest composed of dried grasses. Four or five eggs usually form a clutch. It is difficult to tell when incubation actually begins, because both birds spend a good deal of time in the nest, generally using it at night for sleeping purposes.



RED-HEADED PARROT FINCH

SYDNEY WAXBILL

TRI-COLOURED NUN

WHITE JAVA SPARROW

Incidentally, the cock incubates as well as the hen. If, therefore, during the day time only one of a pair is seen about, the other being on the nest, this is a fairly certain indication that eggs have been laid. Incubation lasts about 12 days, and the young are easily reared on regurgitated seed. They require no extras at this time but greenfood, especially seeding grasses if obtainable, should be supplied daily, and they will eat an abnormal amount of cuttlefish bone. Some pairs will take bread and milk when there are young to be fed, but it is a moot point whether this is necessary.

When the young ones first fledge they resemble their parents, except for their shorter tails. The old birds are very solicitous for their welfare, especially in the evening when they spare no pains to coax them back into the nest.

From then on the whole family will use the nest for sleeping purposes, so unless there are plenty of other boxes available the youngsters should be removed from their parents when their tails are full length. At this age, they can usually feed themselves. If this is not done, the chances of another brood being successfully reared are somewhat remote. Five or six Bengalese all crowded into one nest is hardly conducive to good incubation!

Bengalese are renowned among foreign birdkeepers for their capabilities as foster-parents of the young of other small seed-eaters. Individuals vary a good deal in this respect; some will rear almost anything, others will not.

Strangely enough, two cocks will sometimes build a nest and if given the eggs of other Finches, will often hatch and rear them as well as would a true pair. If you intend to use a true pair as foster-parents you would naturally only put eggs under them at the same stage of incubation as their own. Incidentally, in such a case it is advisable to remove all the Bengalese' eggs. Should the parents hatch a mixed brood of their own young as well as those of other species, it is more than likely that they would favour their own offspring to the detriment of any foster-children.

Bengalese are perfectly hardy out of doors all the year round, if they have a box in which to roost at night. The trouble here is that if they are given a box they will probably attempt to nest and lay in it even during the depth of winter with all the attendant risks of egg-binding, to which hens are prone in cold weather.

The alternative is, of course, to bring them indoors for the winter and keep them in cages without nest boxes until the following spring. In this way they are reasonably protected from the outside elements and at the same time have not the temptation to start breeding at the wrong time of year.

In America, the Bengalese is known as the Society Finch, a name which is very descriptive of the sociable habits of this little bird. Several pairs will live and breed in the same aviary, and they are harmless to other species.

• THE CHESTNUT-BREADED MANNIKIN (*Donacola castaneithorax*), or Chestnut-breasted Finch as it is often incorrectly called, is one of the few Australian members of this family. Its colours are a pretty mixture of light brown above, white below with a dark brown face and a band of sandy brown across the breast. This latter marking presumably gives the bird its name, but I would hardly call it chestnut.

This attractive bird is about the same size as the Tri-coloured Mannikin, that is, about 3 in. long. The sexes are alike in all respects. Although they have been bred on more occasions than the Asiatic Nuns, this does not mean that they are particularly easy to breed. As Australian seedeaters go they are rather difficult, but this may well be because few people have bothered to try them, being as they are comparatively quietly coloured and therefore not so popular and widely kept as other Australian birds.

Their nesting habits are in no way different from those of other Mannikins, and they thrive on exactly the same treatment. Moreover, they are quite hardy, and will winter outdoors without artificial heat.

THE YELLOW-RUMPED MANNIKIN or FINCH (*Donacola flaviprymna*) is a close relative of the Chestnut-breast, and also comes from Australia. Its colour scheme is somewhat similar, the obvious difference being a yellowish fawn rump which is particularly noticeable when the bird is flying.

The breeding records of this species are much the same as those of the Chestnut-breasted Mannikin, that is to say, it is easier than most Nuns but more difficult than most other Australian seedeaters. It thrives under exactly the same treatment.

THE PECTORALIS FINCH (*Donacola pectoralis*), or more correctly, the Pectoralis Mannikin, is the third Australian bird of this group which is familiar to aviculturists. In size and shape it resembles the two foregoing species, but apart from the dark brown or blackish face, its colour scheme is quite different, being a particularly attractive shade of pinkish grey, darker on the top and lighter and more pinkish below. The breast feathers are edged with black and white which gives a particularly scaly effect and is very pleasing. Unlike the other two, the sexes are fairly easy to distinguish, cocks having much more white "scaling" on the breast than hens.

The chances of breeding them are about the same as for Chestnut-breasts or Yellow-rumps. Food and treatment should be as for other Mannikins. They are equally hardy and once acclimatised, will winter outdoors without artificial heat.

THE SPICE BIRD or NUTMEG FINCH (*Munia punctulata*), from India, is so well illustrated in the coloured plate that a word description is not necessary. The plate shows a cock bird in the act of singing, which is an attitude typical of all this family, namely, with neck stretched and breast feathers ruffled while it emits a sort of sizzling whisper.

The chief attraction of the Nutmeg Finch, to my mind, lies in the beautiful scale-like markings on the breast. Although they are no easier to breed than other Mannikins, when they do decide to set up house, a pair will take to the usual type of closed-in wooden Finch nest with a small entrance hole. This they will line with dried grasses in the orthodox manner. Four or five white eggs form a clutch. Incubation lasts about 14 days and both parents take turns at sitting, the cock by day and the hen by night.

The Spice Bird is an ideal species for the beginner, being freely imported and, therefore, cheap to buy. It is perfectly hardy, wintering outdoors without artificial heat when once acclimatised.

THE SILVERBILL (*Euodice cantans*) exists in two varieties. One comes from Africa and the other from India. The coloured plates show very clearly the distinction between the two birds, the main difference being that the Indian has a rather conspicuous white rump, is altogether a darker shade of brown above, and

rather lighter below. The African is of a more uniform shade of yellowish brown. The bird takes its name from its leaden grey beak, which in the dim and distant past some naturalist or bird-lover must have thought looked silvery.

Although quietly clad, this little Mannikin has much to recommend it, especially to the beginner. It is perfectly hardy and will winter outdoors without artificial heat. Moreover, both kinds are free breeders, even indoors in cages, and the young are easily reared on regurgitated seed. As with all this family, sexing is the only difficulty, and the simplest way is to buy three or four birds, put them together and watch them carefully. After a while you are bound to see the cocks doing their typical display and whisper song. Several pairs of Silverbills will live together and are harmless to other birds.

#### WAXBILLS

The Waxbills comprise a group of very small seedeaters, so called because of their scaling-wax-like red beaks. Some of them have the distinction of being the smallest birds in the world next to the Humming-birds; in fact, there is little to choose in diminutiveness between the Golden-breasted Waxbill and the smallest species of Humming-bird. Their very smallness is an added attraction to many people, particularly ladies. These birds also thrive in comparatively small aviaries, and a number will live happily together in a cage indoors, although they are not likely to breed under such conditions.

Many Waxbills are perfectly hardy and make ideal subjects for beginners. All are brightly coloured, usually with some form of red in their plumage. They are, moreover, quite ready to go to nest in a garden aviary, but a constant and plentiful supply of live insects in the form of small gentles or fresh live ants' cocoons must be supplied when there are young in the nest if they are to be reared successfully.

Although they will keep fit without live food when not breeding, they all like living insects as an occasional tit-bit. A sprig of roseleaves covered with greenfly is regarded by them as a great treat.

It follows from these remarks that Waxbills are more likely to rear their young successfully in fairly large, naturally planted aviaries wherein they can find plenty of small insect life.

Bread and milk is something of which all Waxbills are particularly fond; they will eat this greedily once they have got the taste for it. Ordinary white bread should be soaked in milk and offered to the birds in shallow china or earthenware dishes. If a little seed is scattered over this, they will quickly get the taste of the bread and milk, and there is no doubt that this diet is of great benefit to them, particularly when they first arrive.

Their feet are tiny, and they prefer thin twigs to perch on as they cannot grip properly the ordinary standard sized perches. They all love seeding grasses when in season, and being good mixers they will live quite happily with other birds mentioned in this chapter. If, however, you include Waxbills in your collection, make sure there is plenty of small Indian millet in the seed mixture, as these little birds live largely on this. Needless to say, spray millet is as much a treat to these as to all other foreign seedeaters.

Their nesting habits are the same as already described for other birds in this chapter. They require a closed-in type of box with a  $1\frac{1}{2}$  in. diameter entrance hole at one side. In this they will make the usual type of domed nest and line it with soft feathers.

All cock Waxbills do a little song and dance when displaying to their hens, very often with an enormously long stalk of hay held by one end in the beak, presumably as an inducement to their hens to take up housekeeping.

One point needs stressing concerning the care of these tiny birds, and that is the ease with which they can slip through wire netting which is more than half-inch mesh, or the bars of cages which are wider apart than  $\frac{3}{8}$  in. If you keep your birds in cages, therefore, make sure the bars are not more than this distance apart.

Moreover, if your cage has the usual type of hole in the wire through which a bird is expected to put its head for feeding and drinking, this should be carefully wired up and the seed and water pots put inside the cage, or you will have your Waxbills loose all over the room.

THE CORDON BLEU WAXBILL (*Uræginthus bengalus*) from Africa is about 3 in. long, half of which is tail. Cocks are brown above and blue below with red cheek patches. Hens lack the red patch.

Although inclined to be delicate when freshly imported,

Cordon Bleus become quite hardy after a period of acclimatisation. I would not, however, recommend that they be subjected to a temperature lower than 45° F. even when acclimatised. True, I have known many people who have kept Cordon Bleus successfully in outdoor aviaries all the year round without artificial heat, but this rigorous treatment is not to be recommended.

These beautiful little birds will go to nest readily, but unless your aviary is large and naturally planted, wherein they can pick up plenty of their own live food, or alternatively, unless you are prepared to keep up a regular supply yourself, the young are seldom reared to maturity. The Cordon Bleu has a particularly slender, pointed beak, which shows it to be partial to an insectile diet, and this is really the secret of keeping the species healthy and happy.

While normally perfectly good mixers with other small birds, sometimes a cock Cordon Bleu in breeding condition can be quite spiteful, but this is no more than can be said against almost any cock bird which is contemplating nesting, and in any case, this aggressiveness soon diminishes once the birds have got down to breeding operations.

THE ORANGE-CHEEKED WAXBILL (*Estrilda melpoda*) from Africa, is well illustrated in the coloured plate, but in life the tail is rather longer. In fact, this is the most noticeable characteristic of the bird, which has a most delightful habit of fanning its tail out and wagging it from side to side, particularly when excited.

Approximately the same size as the Cordon Bleu, the sexes appear to be much alike, but on careful examination it will be found that cocks have slightly brighter orange cheek-patches than hens. In addition, there is a yellow patch on the belly which is much more pronounced in male birds, so with a little experience, it is quite easy to tell one sex from the other.

Orange-checks are hardier than Cordon Bleus, and even when freshly imported they seldom seem to ail. Although one hesitates to recommend subjecting any of these tiny Waxbills to our English winter without some additional warmth, the Orange-check is really quite able to winter outdoors without artificial heat, at any rate, in the southern half of England.

I have seen this species wild in West Africa, where it seemed

to frequent the open scrub in parties of a dozen or so. One's attention was first attracted by these little birds creeping up the long grass stems to see who was intruding, all wagging their black tails to and fro, their curiosity obviously having got the better of them when they were feeding on the ground hidden in the long grass. When one got too near, they would take wing and alight about ten yards away, still keeping a vigilant eye on the intruder until he moved away.

Orange-cheeks will nest as readily as other Waxbills, but they require live insects for the successful rearing of their young ones.

THE RED-EARED OR PINK-CHEEKED WAXBILL (*Estrilda troglodytes*) from Africa, is similar in size to the Orange-cheeked, but as the illustration shows, it is coloured quite differently. It takes its name from the red stripe which runs from the beak through the eye nearly to the back of the head. It has a most lovely, delicate pink flush on the belly and this is the simplest way to tell cock from hen, the male bird being a much deeper pink than his mate. They are as hardy as Orange-cheeks and require exactly the same treatment. They nest freely, but require live insects for rearing their young.

THE GOLDEN-BREASTED WAXBILL (*Estrilda subflava*) or, to give it its alternative name, *Zebra Waxbill*, from Africa, is the smallest seedeater imported to these shores. Personally, I do not like the name *Zebra Waxbill* because it is liable to cause confusion with the *Zebra Finch*. In fact, judging by some of the breeding records credited to the *Zebra Waxbill*, I am quite sure that writers in the past have meant the *Zebra Finch*.

Golden-breasts measure about 2 in. long, a third of which is tail. The illustration shows a cock bird. The hen is altogether duller in colour with a yellowish buff breast and lacks the red eyebrow stripe. A cock Golden-breasted is the most lovely bird with a rich, golden yellow breast flecked in some cases with orange. This orange flecking tends to increase with age.

Golden-breasted Waxbills will go to nest as readily as any of the others, and success seems to be more often achieved in the rearing of the young. It may well be that these active little mites are able, even in a small aviary, to seek out plenty of minute live insects on which to rear their brood. They are

fairly hardy, and in the south of England will winter outdoors without artificial heat. Farther north, they should not be allowed in a temperature below 45° F.

THE ST. HELENA WAXBILL (*Estrilda astrild*) from Africa, in some ways resembles the Red-eared Waxbill but it is a shade larger and has a rather longer tail in proportion to its size. Its colour scheme is much the same, but the species can readily be distinguished by the delicate wavy lines across the whole of the body and wings.

There are two races, one large and one small. The larger one is much greyer and the smaller one much pinker and, to my mind, the more beautiful bird. They are as hardy as other Waxbills and the same remarks as to their treatment and breeding habits apply. The sexes are alike, but as with the Red-eared Waxbill, cocks tend to show more pink on the belly than hens. They have the typical attractive habit common to most Waxbills of wagging their long tails from side to side when excited.

THE RED AVADAVAT (*Amandava amandava*) comes from India and China and is also known as the Strawberry Finch or Tiger Finch by dealers. While nearly all the Waxbills are African, this is one of the exceptions. In size and shape it is about that of a Red-eared Waxbill. There are two races. One, known as the Bombay Avadavat, is somewhat larger and nearly approaches in size the St. Helena Waxbill. The other, usually known as the Strawberry or Tiger Finch, is smaller and much more brightly coloured.

Cock Avadavats undergo a seasonal change of plumage. Hens are always a plain yellowish grey spotted here and there with white; their beaks are red. For part of the year, usually during the autumn and winter, cocks resemble the hens, but at the onset of the breeding season they become really beautiful little birds, their feathers changing from their dull hues to bright, deep red, spotted with white.

At this time, the Strawberry Finch really does remind one of a strawberry. Its red is of a much brighter shade than that of the Bombay Avadavat, who turns what I would call more of a mahogany red. In the autumn they moult and change back to the dull yellowish grey of the hen. Unfortunately, unless kept



NONPAREIL BUNTING

GREEN SINGING FINCH

LONG-TAILED GRASSFINCH

ORANGE-CHEEKED WAXBILL

in a large, naturally planted aviary where they can find plenty of small insects, Avadavats seldom acquire such a bright red in captivity as they do in a wild state. The colour, after their first moult in a cage or aviary, is much darker, in some instances almost black.

Avadavats are remarkably sweet singers for such tiny birds; they are, in fact, the only Waxbill with any pretensions to song. Only the cock has this accomplishment and when in the mood will entertain his owner with quite a series of clear, sweet notes.

These birds are as hardy as any of the Waxbills; that is to say, they can stand a reasonably mild winter out of doors without artificial heat, but for safety's sake, they should not be subjected to a temperature less than 45° F. Avadavats have quite often been bred in aviaries, but they won't rear many young ones without a regular supply of small live insects. These birds are ideal for the beginner.

THE GREEN AVADAVAT (*Stictospiza formosa*) comes from India, and although its colour scheme is quite different from that of the above bird, it is in every way equally beautiful, as the coloured plate will show. In size and shape it resembles its cousin, but it is not quite so hardy and needs more care in winter, a safe minimum temperature being 50° F. It has been bred, but less frequently than the common Avadavat, and requires live food for rearing its young successfully.

The sexes are almost identical in appearance and there is no seasonal colour change, but cock Green Avadavats are usually rather more brightly coloured than their mates.

These birds have the unfortunate habit of plucking each other nearly naked when kept in cages, but the practice almost invariably stops as soon as they are turned into an outdoor aviary, so I can only conclude that it is caused either by lack of something to do in a cage, or, what is more probable, an inadequate supply of the insect life which they find out of doors. Even a happily mated pair in a cage will sit side by side and systematically pluck out each other's feathers all down one side as far as they can reach.

For all this the Green Avadavat is one of our loveliest ornamental Finches, and although not recommended as a beginner's bird, it is well worth a place in any collection, its unusual colour

scheme standing out in vivid contrast to the reds and blues of the other species.

THE FIREFINCH (*Lagonosticta senegala*) from Africa occurs in several races, all slightly differing from each other. Among these may be mentioned Jameson's Firefinch and the Vinaceous Firefinch. The Common Firefinch is typical of them all, and also about the prettiest, so I will confine my remarks to this bird as the treatment for the other races is exactly the same.

The term "Firefinch" is, I always think, a misnomer for this little bird. It suggests a bird of fiery red plumage, like the Orange Weaver, whereas the subject under discussion is much more of a plum red. In life it is of a chubbier build and has a shorter tail than shown in the illustration; in fact, I would say it is built much more after the style of a Bicheno or a Cuban Finch.

The cock only is red, with a row of tiny white dots on each flank. The hen is warm brown with a red eyebrow streak. She also has a row of white dots on the flank but they are not so pronounced as in the cock. Firefinches are only half hardy and need exactly the same treatment as advised for Cordon Bleus. They are free breeders but require live food for rearing their young. They are inclined to be delicate when first imported, although hardy enough once acclimatised. Freshly imported specimens enjoy bread and milk, which has already been recommended as an excellent food for acclimatising all small Finches.

The Firefinch is well known among aviculturists as a good stayer at liberty, and if they are carefully trained to use their aviary for feeding purposes, they will stay about a garden during the whole of the summer. If you decide to try such an experiment, you must remember that it is one which needs patience and time.

First of all, put your birds into a garden aviary and leave them to settle for two or three weeks, so that they learn thoroughly that this is the place where they will always find food and water. Then, on a nice spring morning, arrange for an opening to be made in the wire netting flight with an alighting board on which can be scattered some seed. Do not on any account drive the birds out, but leave them to find their own way, which they will inevitably do after a time.

The idea of the seed on the alighting board is to catch their eye once they are out, so that as soon as they feel hungry they will find their way back. Once they have learnt their way in and out of the aviary, they are fairly safe; needless to say, it is no use trying an experiment like this if your neighbourhood is infested with cats. One of these pests on top of your aviary will probably scare away your birds for good and all.

Although not so easy to breed in an aviary, Firefinches at liberty will do so readily enough, and when you come to catch up your birds in the autumn—which you must do anyway, as they do not stand hard frosts without some protection—you should have more birds than you started off with. Under these natural conditions, they usually stuff some nook or cranny with long, dried grass and make their nest, lined with feathers, in the centre.

The young, in nest feather, are coloured exactly like the hen, and many is the time when a buyer is disappointed with his first purchases, what he thought were hens turning out to have been young cocks in immature plumage.

THE LAVENDER FINCH (*Estrilda caerulea*). This is another of the less hardy Waxbills, and so while not recommending it as an ideal beginner's bird, it can definitely be regarded as one of the choicer species and much sought after by the discerning bird keeper. It, too, comes from Africa and requires exactly the same treatment as Cordon Bleus and Firefinches, with both of whom it has much in common in the way of habits and general demeanour.

Lavender Finches are inclined to be delicate when first imported, and need special care until thoroughly acclimatised. Bread and milk is a great help in this direction. The coloured plate is such an excellent illustration that no written description is necessary, other than to say that the sexes are exactly alike, except for a row of small white dots along the flanks which are more obvious in the cock than in the hen.

Lavender Finches, like Green Avadavats, are somewhat prone to feather plucking, probably for the same reasons. This normally occurs only when the birds are caged; it quickly ceases if they are turned into an outdoor aviary. The species has been bred on several occasions, but they are not what one would call

free breeders. If they do succeed in hatching young, they require constant supplies of small insects for rearing them.

Like Firefinches, they are good stayers at liberty, and should you have the luck to own a pair which go to nest, the simplest way to ensure a constant supply of live food is to allow them loose during the period they are rearing their young. A pair of birds which has a nest, are almost certain stayers, and you will not only have an object of interest in the garden, but they will save you an untold amount of work in collecting live food.

THE VIOLET-EARED WAXBILL (*Granatina granatina*) comes from South Africa. While this is probably the loveliest of all the Waxbills, let me say at once, that it is not a bird for the beginner. If you are just taking up bird keeping, therefore, do not be charmed by the beautiful mixture of cobalt, purple, chestnut and red which makes up the colour scheme of the cock Violet-eared. They are extremely delicate when first imported and, even in the hands of experts, need a lot of care and watching.

Being South Africans they are protected birds in that country, consequently they are never imported in large numbers, and their price is in consequence somewhat high compared with what you have to pay for the commoner Waxbills.

To the connoisseur, however, a pair of Violet-ears is a much coveted possession. They are almost certain to win at bird shows and a pair put down in good condition reflect great credit on their owner.

I think one of the reasons why Violet-ears have acquired such a reputation for being delicate is that they are largely insectivorous in a wild state. It is a mistake to expect them to live on a diet of dry seed. They like mealworms and gentles, but too many of the former will kill them as assuredly as no insect food at all.

Bread and milk is a useful standby. It would seem that this contains a lot of the food value to be found in an insect diet. If I were trying to acclimatise these birds, I would also offer them a high-grade insectile mixture as prepared for delicate softbills.

Violet-ears will live outdoors during the summer months, but they must be brought inside for the winter or given a heated shelter which does not drop below 55° F. The illustration shows a cock bird. In life, his cheek patches are a much more vivid



CUTHROAT FINCH

CUBAN FINCH

WHITE BENGALESE

GOLDEN-BREASTED WAXBILL

violet than shown. The hen is a rather duller edition of her mate being buffish brown and lacking the violet cheek-patches. In size, this Waxbill is about half as big again as the Cordon Bleu, which it resembles in general shape and length of tail.

THE BLUE-BREASTED WAXBILL (*Ureeginthus angolensis*). This is another South African species, which in many ways resembles the Cordon Bleu, the only difference being that the cock Blue-breast has no red ear-patch. The sexes are alike, but the blue area on the hen's breast is less extensive than that of the cock. It is also a trifle less brilliant in hue.

Blue-breasted Waxbills are very desirable birds in any collection. They seem to be considerably hardier than the Cordon Bleu although much less frequently imported, the reason obviously being that as South Africans they are protected in their own country, whereas the Cordon Bleu is imported in thousands from French West Africa.

These Waxbills have been bred and are generally accepted as fairly free breeders. They need live food when bringing up young. They should be fed and treated as recommended for the Cordon Bleu.

THE SYDNEY WAXBILL (*Estrilda temporalis*). This is the only Waxbill imported from Australia, and although it resembles other birds of the genus in shape and mannerisms, it is a considerably larger bird, being more the size of a Zebra Finch.

In life, the Sydney Waxbill is a rather prettier bird than the coloured plate would suggest. It is of a decidedly more olive greenish hue on the back, and the eyebrow streak is a deeper, brighter red, likewise the beak. The rump is also deep bright red and the tail is blackish. A popular show bird, and being quite hardy it is a good species for the beginner, although I would not recommend that it be allowed to stand a temperature lower than 45° F.

According to all accounts, Sydney Waxbills go to nest quite readily in an aviary but require a certain amount of live food if they are to rear their young successfully. This, however, is not quite so essential as with other Waxbills, and quite a number of breeding successes are known with this species.

It is an interesting fact that nearly all the Australian seedeaters

are easier to breed in captivity than those coming from other parts of the world. Why this is so is difficult to say, unless it is that the Australian species are less choosy in the matter of live food for rearing their young.

## DOVES

There are only two species of Dove which will be recommended in this particular chapter as being fit associates for small Finches and Waxbills. All Doves are good mixers with other birds not of their own genus, and although several larger kinds could quite safely be associated with tiny birds, their very size makes them look out of place in such a collection. They could, of course, safely be associated with Weavers, Whydahs and some other birds of similar size.

The two species recommended here are, first, THE DIAMOND DOVE (*Geopelia cuneata*), which comes to us from Australia. Although there is, I believe, an even smaller species in existence, this little Dove is certainly the tiniest known to aviculture, being only between 6 and 7 in. long, of which half this length is tail.

These are excellent birds for the beginner and can be recommended for any collection. No Doves are brilliantly coloured, but their soft hues in various shades of blue, grey, brown and black are very pleasing and make a delightful contrast to other more vividly coloured birds in a collection.

Diamond Doves are bluish grey all over with a red circle of bare skin round the eye, known as the cere. The wings are spotted with tiny white dots. The long tail is bluish grey in the centre with the outer feathers pure white. When the bird displays it bows forward and raises its tail, at the same time spreading it so as to show these white feathers. The result is like a tiny peacock pheasant and delightful to watch.

Personally, I have always found Diamond Doves easy to sex, but many people seem to have difficulty with them, and it may well be that in some strains cocks and hens are much more alike than in others. Generally speaking, a cock Diamond is a much bluer shade of grey than his mate. Moreover, his white spots are larger and fewer in number. The head and neck are also thicker than in the hen, which has a very fine head, less red cere round the eye, and more brown on the back and wings.

If you have any doubts as to the sex of your Diamond Doves, a little patience in watching their behaviour will soon set your mind at rest. A cock in anything like good condition is forever displaying and showing off to a hen, and it will not be long before you catch him bowing and spreading his tail, at the same time uttering a very high-pitched "coo", each time he bands forward.

Hens seldom, if ever, do this. Like all members of the Dove and Pigeon family, she is a much quieter and more ladylike bird. Quite apart from the cooing at display time, the normal call of these little Doves is pleasant to hear.

While Diamond Doves are absolutely safe with the tiniest Waxbill, like all their kind they are extremely pugnacious among themselves. It is, therefore, not possible to have more than one adult pair in an enclosure, unless it is very large, or serious fighting will occur.

To look at a Diamond Dove with its soft little beak, one would think it difficult for it to inflict any damage on an opponent, but such is the case, and if a bird takes a dislike to a less vigorous one it will get it down in a corner and batter it unmercifully.

All the other birds mentioned in this chapter are hardbills, that is to say, they crack their seed and eat the kernel. Doves do not do this, but swallow the seed whole, husk and all. They live mainly on white and Indian millet, and seldom touch canary, probably because the round millet seeds are more easily swallowed than canary with its pointed ends.

While grit is an essential for all seedeaters, the Dove family need it particularly since they have to digest whole, unhusked seed. So if you keep Diamond Doves, always make sure there is a dish of fine grit in their aviary or cage of the size of granulated sugar.

Diamond Doves are free breeders; in fact, I should say that most of the stock in this country to-day has been aviary-bred for many generations. Their nesting habits are quite different from those of Finches. They require small wooden platforms approximately 4 in. square and about 1 in. deep, fixed up in one or two quiet corners at the back of the aviary. Line these with a few stalks of hay, and see that there is some more of this material thrown on to the floor of the aviary, when your Doves will probably gather up a few stems and add to the nest. On

this they will lay two pure white eggs, which hatch in about twelve days.

It is a characteristic of all the Dove and Pigeon family that two eggs go to make a clutch. The hen incubates the eggs and broods the young at night, the cock taking over these duties by day. The babies are reared on half-digested seed, which the parents pump up from their crops, the young pushing their beaks almost down the parental throat to get the "pigeon's milk".

Two, three, or even four nests are reared in a season, and no special attention is required at breeding time. Very little green-food or any extras are necessary, although occasionally I have seen these Doves picking at a fresh lettuce leaf.

THE ZEBRA DOVE (*Geopelia sinica*), which comes from Malaya, is the other member of the family which I recommend. It is a shade larger than the Diamond and its colour scheme is quite different, being brown above and pinkish fawn below, with fine black vertical stripes down the flanks and breast; hence the bird's name.

In shape it is similar to the Diamond with the same long tail. In my opinion, it is not so easy to sex, although cocks usually have thicker heads and necks than hens, but if you spend a little time with your birds, you will soon observe any male you may possess displaying in much the same manner as does a Diamond Dove. Hens never do this, so if you have two non-displaying birds you can be pretty certain that they are both females. Conversely, should you have two which both display, they are almost certainly two cocks.

The feeding and treatment for Zebra Doves is exactly the same as for the Diamond although they are not so hardy and either need bringing indoors for the winter or the supply of a little heat in their aviary shelter shed during cold weather. They breed almost as freely and have the same nesting habits. They are inclined to be more nervous than Diamond Doves, and if suddenly scared they may go up in the air like rockets, damaging their head feathers against the wire netting roof of the aviary. Be slow and gentle in your movements, therefore, if you have occasion to enter their enclosure. These pretty little Doves are every bit as much to be recommended as Diamonds, both to the

beginner and as a welcome addition to an existing collection of small foreign birds.

## QUAILS

Quails are what are known as gallinaceous birds, that is to say, they are members of the same family as chickens, pheasants and partridges. They resemble partridges in shape and range in size from THE CHINESE PAINTED QUAIL (*Excalfactoria chinensis*), which is about 4 in. long, to the Californian Quail as big as a common partridge. I will deal here only with the Chinese Painted Quail as this is the species commonly kept by aviculturists. It is quite a harmless bird and may be safely housed in an aviary containing the smallest Waxbills.

These little Quails are round and dumpy in shape, quietly coloured, and beautifully marked. The cock is brown above streaked with lighter centres to the feathers and slate blue below, with a chestnut patch on the belly. The throat is black edged with white. The hen is mottled brown all over and lacks the blue-grey breast and black and white throat markings.

Being non-perching birds they spend all their lives on the floor of the aviary, so this should consist of something suitable in the way of light, sandy soil, or be well turfed, as they do not like damp, muddy conditions.

It is interesting to watch Quails running about among the long grass in an aviary. They seem to elongate and contract their bodies as they work their way among the tall grass stems in a manner more reminiscent of a mammal than a bird. They do not bathe in water but require dust baths, so a corner of the aviary should be kept dry and supplied with clean sand to a depth of two or three inches. In this they will roll about and dust themselves like chickens.

As they feed mainly on millet, which they swallow whole like the Doves, small sharp grit is an essential to their well-being to enable them to digest the hard outer husk. Greenfood is liked, particularly such things as lettuce and spinach beet, and if the floor of their aviary is unplanted, a good square of fresh green turf is much appreciated.

If you keep Quails in an aviary containing perching birds, don't forget to put their food rations on the floor or they may starve. Incidentally, a pair of Quails in an aviary are very

useful for eating up seed scattered from the food dishes by other birds.

Chinese Painted Quails breed quite readily provided conditions are suitable. They do best in an aviary the floor of which is covered with long, coarse grass among which they will scrape out a hollow and line it with a few wisps of dead grass wherein the hen will lay anything up to eight or nine eggs. The young when they hatch are just like bumble-bees and run about a few hours after emerging from the shell. They are quite easily reared on live ants' cocoons and hard-boiled egg mixed with fine biscuit meal, as given to canaries for rearing their young. As they grow they will begin to eat small millet seed.

Quails, like Doves, can be kept either with the small Finches and Waxbills mentioned in this chapter, or the larger ones such as Weavers and Whydahs, as they take no notice whatever of perching birds.

Avoid sudden movements when in or near their aviary, as although they seldom fly they are liable to sudden panics, and when they do take wing, they shoot straight up in the air and may quite easily scalp themselves on the wire netting roof of the aviary. They are remarkably hardy and will winter outdoors without artificial heat.

## CHAPTER 7

### *Collection No. 2*

#### WEAVERS, WHYDAHs AND LARGE FINCHES

IN this chapter we will deal with the next group of birds which can be associated together. Their seed mixtures should be equal parts canary, white millet and Indian millet. Extras should consist of millet sprays, occasional mealworms and other insects, greenfood and seeding grasses, and grit of the same size as for the birds in the preceding chapter. Except where otherwise stated, all acclimatised birds of this group can be safely kept outdoors without extra heat.

#### WEAVERS

These are seedeating birds, so named because of the elaborate nests they weave from grasses, suspended from overhanging twigs. They are insectivorous when breeding, so unless they are kept in a large, naturally planted aviary and can be given plenty of live food when rearing young, success in this direction is unlikely. They are nevertheless ideal beginners' birds, being very hardy and brilliantly coloured.

They weave their nests freely in captivity, and if supplied with raffia or long grass stems, one may observe them making, destroying and re-making their nests from any available branch, or even from the wire netting roof of the aviary itself. The nests are globular with an entrance hole in the side, and are so well woven that they last a long time after the birds have finished with them.

It is a most interesting sight to watch a pair of Weavers nest building. One bird will collect a long grass stem and systematically push it and pull it in and out of the existing fabric of the nest, just as if it were using a needle and cotton. It is said that at times the hen will remain inside the structure with the

cock outside and they will pass the end of the grass stem to and fro to each other as they weave, but I, personally, have never actually witnessed such a spectacle.

I have, however, kept them in a very large planted aviary containing a pond around which grew some coarse rushes, and I was able to observe how the birds obviously get their nesting material in a wild state. A Weaver would fly down to the base of a rush stem, make a nick therein, seize the edge of the rush and fly upwards, thereby tearing a long strip off the full length of the leaf. This was then woven into the nest while it was fresh and green.

These birds, however, are not averse to using dry grass stems or raffia as mentioned above. For amusement's sake, you can give them different coloured raffia, and they will build most gaudily coloured nests of red, blue and green, or whatever colour you like to provide.

During the war, when I was stationed in West Africa, which is the home of most of our better known Weavers, nests were almost invariably to be seen hanging from the very ends of thorn bush branches. These bushes, being covered with inch-long thorns, were virtually unclimbable by any likely enemy, and as the birds nearly always selected situations where the branches overhung water, the nests seemed safe from attack.

Weavers are of special interest because they have a seasonal colour change. The hens are always plain brown, rather like Sparrows. To the inexperienced, females of all the Weaver tribe look much alike. However, experts can tell one from the other generally by the difference in shade of brown or by certain markings on the head and back.

During the winter months, the cocks are indistinguishable from the hens, but as the breeding season comes round their plumage takes on most vivid hues of orange, yellow and red, set off with velvety black. At the autumn moult they drop these bright plumes and the new feathers come through a plain brown, changing again in the spring. This colour phase is termed by bird dealers as "in colour" and "out of colour" as the case may be. The more technical ornithologist refers to the "out of colour" phase as being in eclipse plumage. Dealers often refer to the various Weavers as "bishops".

Cock Weavers in colour are forever showing off, puffing up

their feathers until they look like balls of fire, continually flapping their wings, and uttering their rather harsh, fizzling song.

Strangely enough, genuine hens are comparatively scarce. It seems that young cocks in their first year do not come into colour and many of the imported birds bought out of colour, which might justifiably be taken for hens, eventually don male nuptial plumage. Birds imported out of colour are, nevertheless, hardier and easier to acclimatise. Those in colour, which are doubtless more attractive, need rather more care. My advice to the beginner, therefore, is to purchase a number of Weavers while in eclipse plumage, when, incidentally, they are much cheaper, and keep them until they come into colour.

THE ORANGE WEAVER (*Euplectes franciscana*) comes from West Africa, where it is known locally as the Firefinch. This strikes me as a much more apt name, describing as it does the colour of the cock Orange Weaver in the breeding season, so much better than the little Waxbill which we call Firefinch in this country.

This Weaver is probably the best known of all the genus. Certainly, there is no lovelier member of the family. Out of colour, both sexes are light brown, streaked with darker brown on the back and wings and with a very faint fawn stripe over the eyebrow. In colour, the cock is well illustrated in the coloured plate, which shows a bird in importation plumage.

Under natural conditions, the term "Orange Weaver" underestimates the wonderfully fiery red which the bird acquires. Unfortunately, in this country, once he has gone through a moult in captivity and re-dons his nuptial plumes, the colour is, in fact, orange. This is, I think, due to lack of live insects, for specimens kept in large, naturally planted aviaries where there is plenty of insect life about, invariably moult out a much more vivid colour than those kept in cages and fed on little else but dry seed. This is a very good example of what I stressed in the chapter on feeding, namely, that little extra care and attention on the part of the owner which will bring out the best in his birds.

Orange Weavers are fair nest builders but not so good as some. I shall never forget the sight of these lovely birds in their natural home, flying across the tall grasses of the scrub land where they lived. They have a peculiar bobbing flight, and in

the distance the cocks reminded me strongly of poppies in a field of corn. These Weavers are said to be polygamous, and certainly each cock appeared to be followed by several dull brown mates, but these may well have been his wife and a brood of young. The species has seldom been bred in an aviary.

THE NAPOLEON WEAVER (*Euplectes afra*) also comes from West Africa and might well be described as a lemon and black edition of the Orange Weaver, the main difference being that the Napoleon Weaver has a yellow crown, whereas the Orange Weaver has a black crown and an orange ruff. The Napoleon is equally brilliant in his way and makes a striking contrast in an aviary against the orange and black of his cousin.

Out of colour, Napoleons superficially resemble Orange Weavers, certainly as regards size and shape. To the discerning bird-keeper, however, it will be noticed that the brown of the Orange Weaver is of a distinctly warmer shade than that of the Napoleon, the latter bird being streaked rather more heavily on the back and wings and also having a much more pronounced buff eyebrow streak. They are fair nest weavers, but for some reason, Napoleons are not quite so freely imported as Orange Weavers. Why this is so I am unable to say.

THE TAHA WEAVER (*Euplectes taha*). This bird hails from South Africa, where it is said to take the place of the Napoleon Weaver in West Africa. In colour the cock is a yellow and black bird, but the pattern is different, this bird being black above and yellow below. Out of colour, they are identical with Napoleon Weavers.

Like all South African birds which are protected, this species is considerably rarer in this country than the West African kinds. For this reason it usually does well on the show bench. I would not, however, say it is quite so brilliant as the Napoleon, since it has less yellow in its plumage. It is, nevertheless, a striking little bird and provides an interesting contrast in a collection of Weavers.

THE CRIMSON-CROWNED WEAVER (*Euplectes hordeacea*) comes from West Africa and develops the same fiery colour as the Orange Weaver. It has not the latter bird's ruff, but the whole

of the crown is a mass of bright orange feathers, which the bird can stick up, reminding one somewhat of a judge's wig. It is rarer than the Orange Weaver, and slightly larger, and, I would say, every bit as beautiful.

THE RED-BILLED WEAVER (*Quelea quelea*) also inhabits West Africa. This is not only the best weaver of nests but the commonest and cheapest bird to buy. Unfortunately, it is not nearly as brightly coloured, although somewhat easier to sex, even when out of colour. In eclipse plumage, both birds resemble hen Sparrows, but the cock's beak is red and the hen's is usually orange. The legs and feet are pinkish red. In colour, the cock develops a rather pretty pink flush all over the head and breast.

There are two races, namely, the Masked, which develops a black face as shown in the accompanying illustration, and Russ's Weaver, which lacks the black face. Out of colour, there is no means of telling one race from the other.

The Red-billed Weaver can be regarded as an ideal beginner's bird from every point of view. It is as hard as nails and will thrive under conditions which would kill many other birds. It will make nest after nest, whether in colour or out of colour, weaving them from every available vantage point—ends of perches, or the wire netting roof of its aviary. The bird is, therefore, well worth a place in any collection, if only for the interest it provides from watching its nesting habits. Unfortunately, this seldom gets beyond nest building.

All the Weavers are very restless birds, for ever on the go. No sooner have they made a nest than they promptly pull it to pieces and start building another one; alternatively, they leave one half made and start on a fresh site. I have been told of at least one instance where a pair of Weavers had actually got down to nesting properly and the hen had laid eggs, whereupon the cock unweaved the bottom of the nest and let his wife down badly.

After careful observation, it would seem that most of this industrious weaving is done by the cocks, and as far as I can gather, when a pair really do decide to set up housekeeping, the cock completes the outer shell of the nest and the hen then lines it with some finer grasses and feathers wherein she lays her eggs.

There are several other kinds of Weavers, but as they are larger and, therefore, not suitable for mixing with the birds being dealt with here, I will mention them in the next chapter.

#### WHYDAHs

Whydahs have much in common with Weavers, although they do not make the same elaborate nests. Some are said, like the Cuckoo, to be parasitic on certain small Finches and Waxbills in a wild state. Although difficult to breed in captivity, they are hardy, very showy, and ideal birds for beginners.

The cocks go in and out of colour like the Weavers, the hens always remaining plain brown. When in colour, jet black predominates, relieved with touches of red, yellow or chestnut, but the most remarkable change is the development of the tail, which in most species lengthens to several times that of the body. Like Weavers, when in colour they are continually showing off and make a grand show in an aviary, being always in the picture. All Whydahs come from Africa.

The best known is THE PARADISE WHYDAH (*Stegamura paradisea*) and it is also, to my mind, the most beautiful. Out of colour both sexes are pale fawn below, russet brown above with darker brown markings on the wings and a black streak above the eye on each side of the head. In colour, the cock develops a long, sickle-shaped black tail some 9 in. in length, and considering the bird itself is only about 3 in. long, this is really something of an ornament.

Not content with this, his head and wings turn glossy black; his neck and upper breast change into chestnut, with the lower breast and belly white. While in colour, the cock is given to a very pretty display flight, which is only seen to advantage in a fair sized aviary, wherein he will fly up and down with slow measured wing beats, reminding one of a butterfly.

Generally speaking, Paradise Whydahs are very docile, quiet little birds, but occasionally a cock in colour becomes somewhat aggressive. I have never, however, known them do any serious harm. I know of no record of this species ever having been bred in captivity.

THE PIN-TAILED WHYDAH (*Vidua macroura*), apart from the development of a long tail, resembles the Paradise Whydah

neither in appearance nor temperament. A cock Pin-tailed Whydah in colour is a spiteful little devil, and only fit to be kept with birds of his own strength and size, or larger.

While I would not recommend any of the birds in this chapter as safe associates for Waxbills and small Finches, on no account must the Pin-tail be mixed with smaller birds. The species is aggressive even in the wild state. They are very common about the houses and gardens on the Gold Coast, and I remember seeing cocks in colour ferociously chasing all manner of other small Finches.

In an aviary they have an infuriating habit of taking command of the food dish, and although they are not hungry themselves, they deliberately keep the other birds from getting at the seed. Nevertheless, in spite of this bad reputation, the Pin-tail is a delightful little bird to look at. Out of colour, both he and his mate are yellowish fawn with black markings on the back, black wings and tail and a red beak. In colour, the cock turns black and white and develops a long, ribbon-like, black tail—but not curved as shown in the illustration.

Just as with Weavers, I have found that genuine hens are comparatively scarce, many birds purchased out of colour as females eventually developing the nuptial plumage and disclosing their male sex.

THE COMBASSOU (*Hypochera chalybeata*) or Steel Finch, as it is often called by dealers, although a Whydah is one of the few which does not develop a long tail. Out of colour Combassous resemble almost exactly miniature Paradise Whydahs, being about half the size of the latter bird. When in colour, the cock turns black with a beautiful metallic navy blue gloss and a pink beak. Like other birds of this group, Combassous are alleged to be parasitic on other species in the wild state.

Occasionally, a consignment of these birds is imported in immature plumage when they are plain snuff colour all over with scarcely any markings. I well remember that on the first occasion I saw a number of these I thought they were birds of some rare new species, until they moulted out into the ordinary eclipse plumage of Combassous.

There is a closely related species known as the Resplendent or Long-tailed Combassou (*Vidua lophocherina*), the cock of

which, when in colour, not only develops a long, ribbon-like tail rather after the style of the Pin-tailed Whydah, but also has a red beak and red legs.

These are rarely imported, but as they resemble the common Combassou when out of colour, except for the beak, which is more of an orange hue, you never know your luck when buying them in eclipse plumage. Normally, this is not likely to occur, unless dealers get their consignments mixed up, because the common Combassou comes from Senegal while the Resplendent hails from East Africa.

THE QUEEN WHYDAH (*Vidua regia*), or Shaft-tailed Whydah, is rather rarer than the foregoing. In size it is about the same as the Paradise Whydah, but there the resemblance ends. It may be described as fawn below and black above. The top of the head is black, like a black skull cap, wings and tail being black and the beak orange. The tail develops long, straight plumes, but the shafts of these are devoid of webbing until near the tips, hence the bird's second popular name.

It is an attractive species and its comparative rarity makes it desirable to the connoisseur as a show bird. A pair put down in good condition are almost certain to be "in the cards". The hen Queen Whydah resembles a hen Pin-tail, except that she has more of a fawnish tinge in her plumage and less black and white.

The Queen Whydah is as hardy as others of this genus and makes an interesting and colourful addition to a collection of Weavers and Whydahs.

FISCHER'S WHYDAH (*Vidua fischeri*) is even rarer than the Queen Whydah and much sought after as a show bird. The hen and cock out of colour resemble a hen Queen Whydah very closely. In colour, the cock is black with the crown of the head, breast, rump and tail, yellow. The beak and legs are orange. It is the only Whydah I know which, when in breeding plumage, has a light coloured tail; all the other species have black tails. The Fischer's tail consists of several long, thin, rather curly feathers.

Like other members of the *Vidua* family, it is thought to be parasitic, in this particular case foisting its eggs on to the nests of the Blue-breasted Waxbill.

THE RED-SHOULDERED WHYDAH (*Urobrachya axillaris*) is about twice as big as any of the aforementioned Whydahs. This and the next species although generally called Whydahs because of their mainly black plumage and long tails when in colour, are in fact more nearly related to the Weavers. Moreover, unlike the family *Viduinæ*, they rear their own young.

Hens and cocks out of colour are brown streaked with black, the flight and tail feathers being slightly darker than the rest of the body. In colour, the cock turns black all over and develops a red or orange patch on the shoulders. Those with orange patches are sometimes called Yellow-shouldered Whydahs, but probably they are only geographical races of the Red-shouldered.

Although the tail of the cock bird lengthens a little when it comes into nuptial plumage, it does not become greatly elongated as in some others of this genus. It lengthens about 2 in. and becomes racket-shaped. Part of the bird's display is to fly upwards with an undulating movement, at the same time fanning out its tail. While not so colourful or bizarre as other Whydahs, this is an interesting and hardy species.

THE RED-COLLARED WHYDAH (*Coliuspasser ardens*) in some ways resembles the Red-shouldered, being about the same size and turning black all over when in colour. In fact, out of colour, these birds are extremely difficult to tell from Red-shouldered Whydahs. This species develops a fairly long black tail and gets its name from a narrow band of crimson right across the breast.

There is a closely allied species called the Crimson-ringed Whydah in which this red band extends right over the nape of the neck and the back of the head. Both these Whydahs are to be recommended for the beginner, being hardy and easy to keep.

#### THE LARGER FINCHES, MANNIKINS AND BUNTINGS

Here may be mentioned a few species which, although not Finches in the technical sense, are too large and too aggressive to be associated with the birds mentioned in Chapter 6, though they can safely be mixed with Weavers and Whydahs, whose diet suits them well.

The nesting habits of these birds are varied. Some must be supplied with closed-in nest boxes; others will build open,

cup-shaped nests in bushes. The nesting requirements of each kind will be dealt with separately.

THE CUTTHROAT (*Amadina fasciata*) or Ribbon Finch is a native of West Africa. It is a relative of the Nuns and Mannikins which, in shape, it resembles in many ways. Its somewhat bloodthirsty name is extremely apt, not because of its nature, but because of the extraordinary marking of the cock bird. This consists of a narrow band of crimson right across the throat, looking just as if the bird had had its throat cut from ear to ear. The hen lacks this adornment, so there is no difficulty in sexing them unless one happens to get hold of a young cock in immature plumage which does not show the red band.

Apart from the above distinctive feature, the cock Cutthroat may be described as light brown, flecked and striped with dark brown wavy markings. There is a dark brown patch in the middle of the breast, edged with lighter coloured feathers. The hen not only lacks the red throat but also the dark patch in the middle of her breast, while her brown colour is altogether of a lighter shade than that of the cock.

Cutthroats are smart little birds and appear almost always in show condition. They are an ideal species for the beginner, being hardy, easy to cater for, and free breeders. Quite often they have reared young in large cages.

My own experience of Cutthroats is that the hens seem very subject to egg-binding, particularly if the weather is at all cold. As they like habitually to sleep in a nest box, it is safer to remove this during the non-breeding season to prevent any attempt on the part of the hen to go to nest in cold weather. A pair will take possession of a closed-in nest box about 7 in.  $\times$  7 in.  $\times$  7 in., with a hole in the side, almost immediately they are put into a cage or aviary.

They will hastily pop into such a receptacle at your approach, and if you peer through the entrance hole they will go through the most extraordinary contortions with half-opened beaks and fluffed up head feathers, twisting their heads from side to side in an effort to scare you away.

Hens lay four or five white eggs to a clutch and the young hatch in about twelve days, leaving the nest some three weeks later. The parents require little extra in the way of food while



AVADAVAT

GIANT WHYDAH

FAWN-AND-WHITE BENGALISE

COMBASSOU

rearing young beyond some seeding grasses and a bit of greenfood.

The young in nest feather—their first set of feathers before they undergo the first annual moult and don adult plumage—are coloured like the hen, if anything somewhat paler and with fewer wavy markings.

The cock Cutthroat has a typical mannikin "song", stretching his neck and fluffing out his breast feathers in the same manner as the Spice Bird depicted in one of the coloured plates. The "song" itself consists of nothing more than a very quiet sizzling noise.

A breeding pair can at times be somewhat aggressive, but these birds get on very well with Weavers and Whydahs, which are bold, restless birds and well able to cope with any nonsense from other species of the same size.

THE RED-HEADED FINCH (*Amadina erythrocephala*) is a near relative of the Cutthroat, but being a South African species, it is never so freely imported as its cousin. It resembles the Cutthroat in shape and general habits, but is a good deal larger; in fact, I would say about twice the size.

The cock bird is an attractive shade of grey, finely striped across the breast and flanks with white. There are some white spots on the back and wings and the whole of the head is chestnut coloured. The hen resembles the cock, but lacks the chestnut head, hers being greyish like the rest of her body.

Red-headed Finches are perfectly hardy and will winter outdoors without artificial heat. They require exactly the same treatment as Cutthroats. Fairly free breeders, they take to the usual type of closed-in Finch nest with an entrance hole in the side. Hybrids between this species and the Cutthroat have been produced. No special treatment is required when breeding and the young are easily reared on seed regurgitated by the parents. The Red-headed is recommended for the beginner, because of its hardiness and simple requirements, but it is rather more expensive to buy.

THE JAVA SPARROW (*Padda oryzivora*). This bird, which is also a close relative of the Mannikins, comes to us from the Far East. It is a typical Noddy in build and shape, but a good

deal larger, being about 5 in. long and stockily built in proportion. It is hardy and easy to cater for, and therefore a species to be strongly recommended to the beginner. Moreover, it always appears in show condition, even when freshly imported; in fact, I think it is fairly safe to say that a Java Sparrow which does not look spick and span is either moulting or ill.

The Java Sparrow exists in two varieties, both very well depicted in the accompanying coloured plates. The Grey is the common wild form, the White being a domesticated variety. Imported Grey Java Sparrows are by no means free breeders, but White Javas will breed as freely as Bengalese or Zebra Finches, in either cage or aviary.

Personally, I prefer the Grey form, with its lovely colouring of blue-grey, shading into pink below, set off with white cheeks, a jet black head and tail and a bright coral pink beak. The beak is the only visual method of sexing Javas, that of the cock being broader and rather more swollen-looking at the base. Apart from this, one has to judge from the "song", the male bird doing a typical Mannikin song and dance, involving quiet buzzing noises and a good deal of hopping up and down on the perch, sometimes with a wisp of hay in his beak.

White Javas will take to the usual closed-in Finch nest box, already recommended, and with luck will rear several broods in a season with little extra in the way of food. Seeding grasses are a useful addition, but I have reared Java Sparrows quite successfully on seed alone.

Unfortunately, the White variety does not breed true, there is a strong tendency to "throw back" to the wild form, and even when two pure white birds are mated together, at least half their young are normal grey or pied. Those youngsters with only a moderate amount of dark feathering often turn pure white at their first moult, but the heavily variegated and self-coloured dark specimens remain grey.

Incidentally, in nestling plumage the Grey Java Sparrow is snuff-coloured all over with a black beak which soon begins to turn pink after it has left the nest. It assumes adult plumage within a few months of leaving the nest at its first moult.

The Java is quiet in mixed company, but will stand no nonsense from other birds. He is quite prepared to mind his own business and go about his domestic arrangements without being concerned

with the activities of the other inmates of the aviary. But woe betide the bird which comes too near his nest box! He is soon taught to keep at a respectful distance.

THE DIAMOND SPARROW (*Steganopleura guttata*) is another of the popular Australian Finches. It is also one of the hardiest from that country, and as, when acclimatised, it will winter outdoors without artificial heat quite happily, it is a bird to be recommended to the beginner. Although no larger than an Orange Weaver, being about 4 in. in length, it is inclined to be aggressive and is, therefore, better associated with the birds in this chapter than with other Australian Finches and Waxbills.

The sexes are alike except for the colour of the beak, that of the cock being dark plum red and that of the hen much lighter and brighter. The cock Diamond Sparrow has an amusing display. Puffing out all his feathers until he looks almost twice his natural size, he jumps up and down in front of his hen, meanwhile uttering a sizzling sort of song, which to human ears is anything but musical.

Provided you can get hold of a true pair, Diamond Sparrows are not particularly difficult to breed, and once they have settled down they will rear several broods in a season with little extra in the way of food. They like a closed-in nest box about 7 in.  $\times$  7 in.  $\times$  7 in. with an entrance hole in the side. Some breeders recommend giving two or three mealworms per day when there are young in the nest, and while there is no harm in this, I have known Diamond Sparrows to be reared quite successfully without live insects. Seeding grasses are, however, a great help, and like all Finches with young in the nest, they consume large quantities of cuttlefish bone and fine oystershell grit.

The Diamond Sparrow is no more a member of the Sparrow family than is the Java Sparrow. It would seem, however, that in almost every country in the world, any well-known bird gets dubbed a Sparrow.

The coloured plate of this species is excellent, but showing as it does the back view of the bird, it is as well to add that it has a snow-white breast with a black band running across the upper part of it. Altogether a most attractive species, a pair should find a place in every collection.

Diamond Sparrows are for some reason or other much given to feather plucking. As with Green Avadavats and Cuban Finches, this habit is more likely to be practised in a cage than in an aviary. The only thing to do is to remove the bird which is doing the plucking. It will most likely be the one in the most perfect state of plumage.

THE INDIGO BUNTING or Indigo Finch (*Passerina cyanea*) comes from the United States and Central America. It is a shade larger than the Diamond Sparrow, being about 5 in. long. This and the following three species are members of the same family, but the Indigo has the distinction of being the only one which has an eclipse plumage like the Weavers.

In spring and summer the cock turns the most lovely shade of indigo blue all over, except for some brownish markings in the wings and tail. The hen is light brown and has no particular markings beyond being a shade darker above than below. In the autumn and winter the cock goes through his annual moult, the new feathers coming through brown like the hen's, then gradually changing into blue as spring arrives. It is fairly easy to sex Indigo Buntings, even when the cocks are out of colour, because after they are a year old they are seldom without at least a few blue feathers in their plumage.

This is a hardy bird and will winter successfully out of doors without artificial heat. Moreover, its uniform colouring of blue makes an unusual contrast in a collection of birds of more varied hues. It is, therefore, to be recommended for the beginner.

The Indigo is a difficult species to breed. For one thing, hens are scarce, most of the birds imported being immature specimens which at their second moult turn out to be cocks. Even given a true pair, however, they are difficult to satisfy in the way of nesting sites, because they build a cup-shaped nest, normally in a thick bush. To succeed with this species it is almost imperative to house a pair in a planted aviary or, alternatively, in one where thick bunches of gorse or similar material are fixed up in the corners.

I have never heard of Indigos taking to a nest box of any kind, although they might be induced to use an open-fronted nest, such as that described for Green Singing Finches. Even if



STANLEY PARRAKEET

COCKATIEL

PEACH-FACED LOVEBIRD

RED ROSELLA PARRAKEET

you succeeded in getting a pair to go to nest, they would be unlikely to rear their young without an ample supply of live insects. There are records of hybrids between this bird and the Nonpareil Bunting as well as with the Canary, but whilst the Indigo  $\times$  Nonpareil is quite a possibility I personally have my doubts about the alleged crossing of a Bunting with the Canary, which is a Serin.

The Indigo Bunting has a short, pleasant little song, but like all members of its family it is not particularly gifted in this direction. No special foods are necessary for these birds, but they like a few mealworms or other insects occasionally.

The other Buntings, having a certain amount of red in their plumage, are liable to lose colour after a moult in captivity, but this does not apply to the Indigo. The older a cock becomes, the deeper and more brilliant the shade of his blue feathering. These attractive birds look their best in an unplanted aviary, as given the chance they tend rather to skulk in undergrowth in the large, planted type of enclosure.

THE VERSICOLOR BUNTING (*Passerina versicolor*) is imported from Mexico, and in size and shape resembles the Indigo. It is, however, neither so well known nor so freely on the market. Its colour scheme is difficult to describe, being a mixture of purple, dark blue and vinous red in the cock bird. The hen is plain brown, in fact, she very closely resembles the hen Indigo Bunting.

As far as I can gather, there are no breeding records of the species in this country, although it has been bred on the Continent. It requires exactly the same treatment as the Indigo, but being less hardy, it should not be subjected to a temperature lower than 45° F. in winter.

THE NONPAREIL BUNTING (*Passerina ciris*) comes from the United States and Central America. The cock of this species is excellently illustrated in the accompanying coloured plate, and it only remains to say that the hen is greenish grey above, shading to light grey below.

As with so many birds which have red in their plumage, this tends to fade after a moult in captivity, due, I cannot help feeling, to something lacking in the diet. In almost every case the

birds which lose their red are insectivorous or semi-insectivorous, and it is probable that herein lies the secret of maintaining brilliance of plumage.

The Nonpareil Bunting, like other members of this group, can live on a diet of seed and greenfood, but if this is all he gets his lovely red breast will turn brick-red or even yellow. His colour can, however, be much improved by the addition of mealworms or other live insects to his diet. Not more than one mealworm per day should be given for fear of causing liver trouble, but almost any other kind of insect, including maggots and their pupæ, can be offered as often as available.

There are several breeding records for Nonpareils, but the same remarks apply as for the Indigo Bunting, and one is unlikely to breed them except in a fairly large, naturally planted aviary. Once acclimatised, the Nonpareil is as hardy as the Indigo and can winter outdoors without artificial heat. Incidentally, all these Buntings are good mixers with birds of their own size, and look well among a collection of Weavers and Whydahs.

THE RAINBOW BUNTING (*Passerina leclancheri*) is a Mexican species. It is a most lovely little bird, and may be seen at its best in an unplanted aviary, where its lovely colours present a sharp contrast to the plain surroundings. In size and shape it resembles the other Buntings.

The cock is a most beautiful turquoise blue on the back and wings, reminding one of the colour seen in the wings of Morpho butterflies. The forehead is green, shading into the blue of the neck and back. The breast is orange, shading into paler yellow on the belly. The hen is dull greenish grey and closely resembles the hen Nonpareil. The Rainbow Bunting has a particularly large dark eye, which makes the bird even more attractive.

Unfortunately, in a planted aviary, these lovely colours, brilliant as they appear against a plain background, are a perfect camouflage among green foliage. Moreover, the bird rather likes to skulk in thick undergrowth, so unless you particularly wish to attempt the breeding of this species, you will view them at their best in a rather bare aviary.

Any breeding record of the Rainbow in this country seems doubtful, although it has nested on the Continent. There seems no reason, however, why a pair in a naturally planted aviary

should not go to nest, and if they did so they would need exactly the same kind of treatment as other Buntings.

Rainbows are inclined to be delicate when first imported, and while their relations will live on seed alone, with an occasional insect or two, I would say that the secret of success with these Buntings is to regard them as semi-insectivorous. It would seem that a lot of their troubles are caused through indigestion, probably from being forced to eat nothing but hard seed. If, however, a good brand of insect food is offered, along with one or two mealworms or gentles per day, they seem to be no more difficult than the others. I would not, however, subject them to a temperature lower than 45° F. even when fully acclimatised.

While I would not recommend them as ideal birds for the beginner, they are most suitable for a mixed collection, and once you have had experience at keeping the other Buntings, there is no reason why you should not maintain them in first-rate health and condition.

THE AUSTRALIAN FIREFINCH, Blood Finch, or Crimson Finch (*Neochmia phaton*). Although quite a small bird about the size of a St. Helena Waxbill, this species is of such a pugnacious disposition that it cannot be housed with any birds weaker than Weavers, Whydahs and large Finches. It is a colourful bird, as our illustration of a cock shows. The hen is reddish brown with a red beak.

I sometimes think that "Blood-thirsty Finch" would be the best name for this species, as it is quite the most quarrelsome seedeater I have ever come across. Apart from bullying weaker companions, Crimson Finches will do their best to murder one another. Cocks are certain to fight among themselves, but even true pairs are not always safe, particularly if caged, although it is only fair to say that in an aviary where they can get away from each other, a pair will usually agree quite well.

If one takes exception to the other, it may knock it about so badly as to cause its death. For this reason, they are best excluded from any sort of breeding aviary, because even if they let the bigger birds alone, they are likely to go "tooth and nail" for the nestlings, which on first leaving the nest are not so able to look after themselves.

My advice to the beginner, therefore, is to avoid this species, if he is making up a collection; to include them will almost

certainly cause trouble. They are certainly attractive and colourful birds and rare enough to do well on the show bench; in fact, an exhibitor who can put down a pair of Crimson Finches in good condition deserves to win, knowing how difficult it is to stop them squabbling and pulling each other's feathers out.

They require nothing beyond a seed mixture of one part canary, one part white millet and one part Indian millet, with greenfood and seeding grasses in season. An occasional mealworm is much relished.

THE SAFFRON FINCH (*Sycalis flaviola*) comes from South America. Our illustration shows a cock bird, but hens are almost exactly the same, with perhaps just a shade less orange on the forehead. Immature birds are altogether duller in plumage and are often sold as hens, but once they moult out the sexes are not at all easy to distinguish. Saffron Finches are one of those birds where it is difficult to sex an odd specimen, but usually fairly easy to tell which is cock and which is hen, when looking at a true pair. In size and general shape, Saffron Finches resemble Nonpareil Buntings, being about 5 inches long.

When in breeding condition these birds are inclined to be spiteful, but they cannot do much harm to the other birds mentioned in this chapter, all of which are sufficiently strong to stand up for themselves. Saffron Finches are extremely hardy, and I have heard of a specimen which escaped from its aviary and spent an entire winter at liberty, feeding with the Sparrows.

In pre-war days, these Finches used to be freely imported, but nowadays, coming as they do from a "hard currency" area, they are by no means common. Even so, they are well worth a place in a collection, their bright golden yellow being of a particularly attractive shade. It is a species much to be recommended to the beginner, because of its hardiness and simple requirements, which are little more than seed and greenfood.

It is a fairly free breeder in captivity, and as with the Buntings, which in so many ways it resembles, success is most likely to be achieved in a planted aviary containing thick bushes wherein it can build a cup-shaped nest, after the manner of our Chaffinch, although on occasions it will take to the ordinary type of wooden closed-in Finch nest. Live food would, of course, be necessary when young are being reared.

## CHAPTER 8

### Collection No. 3

#### CARDINALS AND BIRDS OF SIMILAR SIZE

THE seedeaters dealt with in this chapter are grouped together for convenience, because of their large size and, in some cases, aggressive habits, particularly when breeding. Foremost among them are Cardinals, which make excellent subjects for beginners, being both hardy and beautiful. They are bold, showy birds, and some have quite a nice song. All are much about the same size—approximately 7 inches long.

The mixture for Cardinals should consist of three parts plain canary, one part white millet and a few grains of sunflower or hemp added occasionally. Greenfood is liked, and some will eat apple, as well as other fruit and berries. Live insects should be offered whenever procurable, particularly when moulting, as most Cardinals have red in their plumage, and they are much more likely to keep this when moulting if they have some live food. Mealworms are relished but should be rationed to no more than three per bird daily. Other insects may be given *ad lib.*

All the Cardinals come from America. They are difficult to breed even when accommodated in a fairly large, planted aviary. The nests made by these birds are cup-shaped, and the sites usually chosen are thick bushes. They are very insectivorous when breeding and require live insects on which to rear their young.

It has always rather surprised me that more people have not tried to breed Cardinals as birds at liberty during the summer months. Once a pair have gone to nest, they are not likely to stray when allowed out, and during these periods of liberty they would be able to find all the requisite natural food for the rearing of the brood. At the same time, the owner would have an

attractive and colourful bird about his garden—provided some idiot with a gun does not destroy it as so often is the case when a bird out of the ordinary is seen.

Although Cardinals look very well in a naturally planted aviary where their red plumage shows up to great advantage, it is as well to remember that, like Weavers and Whydahs, they are inclined to be destructive to growing vegetation.

THE RED-CRESTED CARDINAL (*Paroaria cucullata*) comes from South America. It may be described as white below, grey above, with a bright scarlet head and crest. The sexes are exactly alike except for the song, cocks being quite good performers in this respect.

One way of telling cocks from hens is to watch one's birds carefully for a time, when it will be noticed that certain individuals tend to keep the crest lowered, and, in fact, only erect it when excited, while others carry their crests erect nearly all the time. These are supposed to be the hens. As, however, it has never been my luck to breed Red-crested Cardinals, I have not been able to put this theory into practice. Certain it is that if you pick two birds showing these characteristics, they will agree well together and behave as you would expect a true pair of Cardinals to behave.

These handsome birds have always been favourites of mine, and I think the Red-crested is as beautiful as any. Moreover, the bright scarlet heads of aviary-kept examples does not fade to any appreciable extent as with some of the other kinds. If you put an aviary-moulted specimen next to a freshly imported one, you will see that the head of the latter bird is definitely brighter, but I have found in practice that a few live insects in the diet help to maintain its beauty.

The species has been bred on several occasions, but records are somewhat vague. There is really no reason why it should not be bred more often, as it is hard as nails and will stand up to anything our climate can give it. I suppose it is the usual bogey of having to provide constant supplies of live food when young are being reared that puts people off trying. It certainly needs a lot of time and patience to procure this sort of food. The Red-crested is freely imported and, even in these days, reasonably cheap to buy.

THE POPE CARDINAL (*Paroaria larvata*) from Brazil might be described as similar to the Red-crested Cardinal without the crest. Actually it is a shade smaller and a darker grey on the back and wings. Moreover, the red head is of a deeper colour, which, strange to relate, does not seem to fade at all after a moult in captivity, whereas the red of the Red-crested variety always seems to lose a little of its brilliance.

The sexes are exactly alike and there is, of course, not even a crest to help to tell them apart. The only sure way of sexing them is by the song, which accomplishment is possessed only by the cock. This you are unlikely to hear except in the spring and summer months.

The Pope Cardinal requires precisely the same treatment as the Red-crested and the likelihood of breeding this species is the same. It is definitely a bird to be recommended for the beginner, in fact, I would say the only drawback to this and the preceding one is that newly-imported specimens are inclined to be very nervous and fidgety until they have settled down.

THE GREEN CARDINAL (*Gubernatrix cristatella*). The colour scheme of this bird always reminds me of that of a very large crested Green Singing Finch. Actually it is as big as the Red-crested Cardinal, which it resembles in general outline, although rather more stockily built. It is also a much quieter bird, and less nervous, but it lacks the swagger of the two preceding species, which is one of their great attractions. The crest can be raised and lowered at will.

The cock Green Cardinal is green above, yellow below with darker markings in the wings and tail. The crest is black and there is a small black "bib" on the throat. The hen resembles the cock bird but all her colours are much duller. She also lacks the black markings. It will therefore be seen that Green Cardinals are fairly easy to sex.

For some obscure reason they are also easier to breed than other Cardinals; success has certainly been achieved much more often. Why, it is difficult to say, but it would seem from breeding records that these birds take more easily to an artificial nesting site such as an open fronted wooden box (as already described in earlier chapters), or an old wicker travelling cage such as is used for importing Canaries, with the front removed.

In this they build a cup-shaped nest, rather after the manner of a Thrush, made from hay stalks and lined with moss, feathers and cowhair. A box measuring approximately 7 in.  $\times$  7 in.  $\times$  7 in. would be a suitable size. Several of these should be placed about the aviary in secluded positions, well screened with bunches of heather or gorse to give privacy.

It would appear also that a planted aviary is not absolutely necessary for breeding successes with Green Cardinals. I remember one instance where a brood was raised in an ordinary Budgerigar breeding compartment about 6 ft. long by 6 ft. high and 4 ft. wide. The breeder told me that the parents used a lot of brown bread to feed their nestlings. This was surprising, as Green Cardinals are as fond of insects as any of their relatives. Be that as it may, if I had a pair of Green Cardinals which went to nest I should provide plenty of mealworms and gentles as soon as there were signs of young having been hatched, which should be about fourteen days after the birds have commenced to sit.

This species does not show up so well in a planted aviary, as the pattern and colour of its plumage blends too well with growing vegetation, but in plain surroundings its colours show up delightfully and it is an attractive addition to any collection. Greens are perfectly hardy and require exactly the same treatment as other Cardinals. They are good subjects for the beginner.

THE VIRGINIAN CARDINAL (*Cardinalis cardinalis*). This bird is not really related to the other Cardinals at all, being, in fact, a member of the Grosbeak family, whereas the three former species are distantly related to the Buntings.

The differences between the Virginian and other Cardinals will be quite apparent to any observant aviculturist. I suppose the bird has been called a Cardinal simply because of its red colouring. This seems to be a custom in many parts of the world where any Finch-like bird with much red in its plumage is called a Cardinal. For instance, in Italy one of the local names for the European Goldfinch is Cardinal.

The Virginian is about the same size as the Red-crested but it is altogether a clubbier bird and has shorter, rounded wings. Its kinship with the Grosbeaks will at once be noticed as this bird has a rather heavy, strong beak.

It is a most desirable bird in any collection, the cock being



SHAMA

GOLDEN-FRONTED FRUITSUCKER

PEKIN ROBIN

INDIAN HILL MYNAH

bright scarlet all over with a black chin. The hen is brown with dull red flights and tail. Both sexes are crested and have red beaks. The cock is also quite a noted singer, and is, in fact, often sold under the high-sounding name of "Virginian Nightingale". Personally I think this is rather an exaggeration. Although he has some quite pleasant, liquid notes characteristic of all Grosbeaks, there is absolutely no comparison with the song of the Nightingale.

There is only one drawback to these birds, and that is that the cock, after a moult in captivity, loses his lovely brilliant scarlet colour, especially if deprived of live insect food. If fed on nothing but seed, he will moult out a very dull brick red colour. When housed, however, in a fairly large open-air aviary, where he can find plenty of live food, he will remain a much more brilliant bird, although I have yet to see an aviary moulted Cardinal as vivid as one in fresh importation plumage.

The species has been bred on several occasions, invariably in naturally planted aviaries, where it has made a cup-shaped nest in a bush. While it needs care when first imported, once acclimatised it is perfectly hardy and will stand the English winter outdoors without artificial heat.

Newly-imported Virginian Cardinals have an absolute craving for mealworms, but these must be strictly rationed to not more than three per bird per day, or they will develop liver trouble.

#### LARGE WHYDAHs AND WEAVERS

The following species are included in this chapter as being only suitable for mixing with strong birds of Cardinal size. They are unsafe for association with the smaller Weavers and Whydahs. Their seed mixture should consist of two parts canary, two parts white millet and one part Indian millet, with the usual supplements of millet sprays, greenfood and seeding grasses, as recommended for Weavers and Whydahs generally.

THE GIANT WHYDAH (*Coliuspasser progne*) comes from South Africa, consequently, owing to the bird protection laws there, it does not often arrive in this country in large numbers. These birds usually come over a dozen or so at a time and are eagerly snapped up by keen fanciers. For one thing, they make excellent show birds, a good pair nearly always being "in the cards";

and for another, their tails, consisting of a veritable bunch of long, black feathers, are a wonderful attraction in an aviary.

Actually, although included here because of their large size, Giant Whydahs are the least offensive of these bigger birds, and I have frequently seen odd specimens housed with smaller Weavers and Whydahs. They really look their best, however, in company with large species.

As with all Whydahs, the cock bird has an eclipse plumage, when he resembles the hen. His feathering takes on a typical Sparrow-like brown coloration streaked with darker markings on the back and wings, the only relief in the way of colour being an orange patch on the shoulders.

The bird is about the size of a Cardinal, but when the cock changes colour it looks considerably larger because of the wonderful length of its tail plumes which may measure as much as 15 inches, excluding the length of the bird. At this time, he turns jet black all over, including the long tail. The wing feathers remain edged with brown, and the orange shoulder patch is retained.

Added to this, the bird has remarkably large wings for its size, which give it a most attractive butterfly-like flight. In an aviary of fair dimensions, this is seen to advantage, and several of these Whydahs in colour flapping slowly about the aviary are a truly grand spectacle.

I have said above that the cock in eclipse plumage resembles the hen, but if you look carefully, you will find that male birds out of colour usually carry blacker flight and tail feathers than the females, and there are very often some odd black feathers among the brown ones on the body. There is a closely allied race which comes from Kenya and is known as the Delamere Whydah (*C. delamerei*).

While the long tail of the Giant Whydah is very ornamental, it is said to become easily waterlogged in tropical downpours, rendering the birds almost unable to fly. This may well be so in the tropics, but I have never known it happen in aviaries in this country. Once acclimatised, the Giant Whydah is as hardy as a Cardinal and will winter outdoors without artificial heat.

The jet black breeding plumage of this bird is a most striking contrast to the reds and greys in a collection of Cardinals. The male has quite an attractive display, puffing up all his feathers, particularly a sort of ruff of them round his head and neck, flapping his wings, and at the same time uttering a harsh, gritty

sort of song. Several males displaying to one another are a grand sight, especially as they rise in the air in mock battle, like great black butterflies. Their squabbles, however, never seem to be serious, and I have yet to hear of one bird injuring another.

The species has been bred on rare occasions, and is apparently non-parasitic. According to one record, the nest was built in coarse grasses woven in amongst a clump of rushes in a large, planted aviary.

THE RUFIOUS-NECKED WEAVER (*Hyphantornis cucullatus*), often advertised in dealers' announcements as the Golden Oriole Weaver, comes from West Africa, where it is an extremely common bird, nesting very often in the trees overhanging native villages. I have seen them breeding in large colonies, the globular nests being only a foot or so apart. The breeding colony was a scene of much noise and activity, reminding me of the Starling roosts in some of our big cities at night.

This large, brightly coloured, aggressive Weaver is a menace to any bird smaller than itself. It has a very strong beak, as anyone will realise who handles one of them and allows it to get a grip on one of his fingers. It is the same size as a Cardinal, but with a rather shorter tail. The cock is bright yellow below, yellowish green above, with a black head and beak and a chestnut patch across the back of the neck—hence the bird's name. He also has the most brilliant red eyes as if to act as a warning of his fiery nature. The hen is an altogether duller bird, being yellowish grey all over, lighter underneath. She does, however, have red eyes. The Rufous-necked is absolutely hardy and a suitable exotic for the beginner.

These birds never seem to tire of weaving even out of the breeding season, and in an aviary nest after nest will be built, pulled to pieces when only half-finished and restarted elsewhere.

There are several races of this species, most of them a good deal smaller, notably the Atlas Weaver, or Masked Weaver (*H. abyssinicus*) which is about half the size of the Rufous-necked and, incidentally, should not be confused with the Red-billed Weaver, one race of which is known as the Masked (see Chapter 7). This bird, as its scientific name suggests, comes from Abyssinia, and its colour scheme is almost identical with that of the Rufous-necked Weaver.

THE GRENADIER OR ORYX WEAVER (*Euplectes oryx*) comes from South Africa and may be described as a very large Orange Weaver, which it resembles closely except as regards size. In this, it more nearly approaches the proportions of a Cardinal, hence its inclusion in this chapter.

Being a South African bird, it is not so frequently imported as the Orange Weaver from West Africa, but it possesses exactly the same habits, being, as it is, merely a large race of the same bird. There are, in fact, many intermediate forms, some being smaller than others, which would suggest that the size increases as the bird's range extends south. It is perfectly hardy and requires the same treatment as for other Weavers. A good beginner's bird. The species has been bred, but only on rare occasions. Being larger, it is even more showy in an aviary than its small relative, the Orange Weaver.

THE BLUE GROSBEAK (*Cyanocompsa cyanea*) comes from Brazil and Mexico. Actually, this is a relative of the Virginian Cardinal, which it resembles in size and general shape, as well as heaviness of beak. It lacks a crest, however, and is completely different in colour, the cock bird being a most lovely deep blue all over with brownish markings on the wings and tail. The hen is plain brown.

The cock Blue Grosbeak is a fair singer in the spring and summer months, but he is a somewhat shy bird, and in a planted aviary is apt to skulk in the undergrowth, where his colouring blends with the different shades of green remarkably well. He is therefore seen at his best in an aviary which is bare of bushes and not too large.

There are several breeding records, but all successes have taken place in aviaries suitably planted, so if you aim to breed this bird, you will have to forgo the pleasure of seeing him very often, as he will spend much of his time in the thick bushes in which he likes to build his cup-shaped nest. The same remarks apply to the breeding of Blue Grosbeaks as to those already made concerning the Cardinals, and live food is a necessity for the successful rearing of young ones.

Blue Grosbeaks are perfectly hardy, will winter outdoors without artificial heat once acclimatised, and are strongly recommended to the beginner.

## CHAPTER 9

### PARRAKEETS AND LOVEBIRDS

THERE are many species of Parrakeets now kept and bred regularly in this country, but as this book is dealing with Foreign birds in general, mention will only be made of a few common and easily kept kinds. For further details one of the books specialising in the subject should be consulted.

While Parrakeets are perfectly easy to manage, I can hardly recommend the newcomer to bird-keeping to make a start with them, since they are all rather expensive to buy these days. If you wish to go in for Parrakeets, you would be well advised to procure pairs of Budgerigars with the object of gaining some experience with these birds before launching out and spending a lot of money on the more valuable kinds.

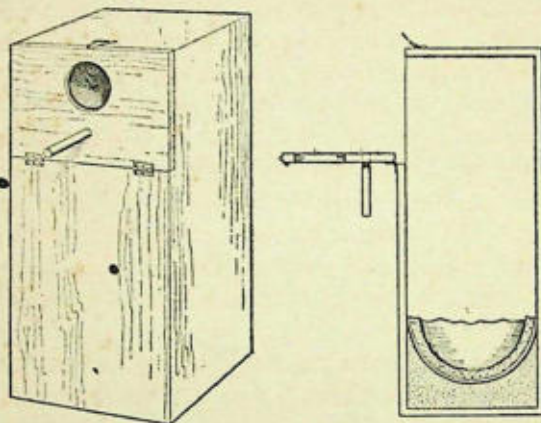
The correct seed mixture will be given with each species. All Parrakeets like greenfood and apple. The various kinds of greenfood mentioned in the chapter on feeding are all acceptable. Apples should be cut in half and spiked on a nail at the end of a perch in the aviary for the larger species, and for the small ones, such as the Bourke's or Redrump, a good method is to cut a slice of apple and push it through the wire netting so that the pulp sticks out into the aviary and is held in place by the hard rind on the outside.

Millet sprays are relished as tit-bits, and should be given regularly when young are being fed. Fine oyster-shell grit and cuttlefish bone should always be available. Parrakeets are keen bathers, but in addition to taking a tub in a shallow dish, they like sitting in a shower of summer rain, so at least part of the roof of the flight of their aviary should be covered with wire netting only and left open to the sky.

Parrakeets in a wild state nest in holes in trees, and in an aviary they require a deep nest box varying between 8 in. and 10 in. square according to the size of the species, and in depth from 18 in. to 24 in. with a hole in one side near the top, just

large enough for the bird to pass through. The box should be partly filled with a layer of sifted earth and on top of this some rotten wood chippings. In this they will scrape out a hole and lay their eggs, using no further nesting material.

If you want to improve on this, substitute for the wood



A Parrakeet nest box with section showing the coconut husk embedded in plaster of paris

chippings half a coconut husk cemented into the box with plaster of paris. This they will bite and chew up to their liking, making an ideal hollow for the eggs. Incidentally, the boards used in the making of a Parrakeet nest box should not

be less than three-quarters of an inch thick, for insulation purposes. If made from thinner wood, the interior of the nest is liable to become overheated if the sun shines on it, or too cold on a dull day. An excellent alternative to the artificially made Parrakeet nest is a natural hollow log covered over at each end and with a hole bored in the side for the birds to get in and out.

Some pairs will often take to one of these logs in preference to the artificial nest box, so if you happen to have a pair which refuse to go to nest, the provision of a natural log may do the trick. The dimensions of the log need not be larger than the other type of nest, but it rather depends on how much hollow there is inside, and the size of the birds in question. Generally speaking, a log of about 2 ft. in length with an internal hollow diameter of 8 in. to 10 in. should be quite suitable.

The position of a Parrakeet's nest is important. To start with, it should always be hung outside in the flight and not inside in the shelter shed, as these birds seldom rear healthy young in the dry atmosphere of the shelter. It seems a good thing for a certain amount of rain and dampness to get to the nest box.

Artificially-made nests are usually hung upright fairly high in the aviary. Log nests are best hung at an angle rather more horizontal than vertical.

Parrakeets do best in outdoor aviaries, but those kept purely as pets will live quite happily in cages. Lovebirds do well in cages or aviaries but both Parrakeets and Lovebirds will not produce healthy young except under outdoor conditions. The species mentioned are perfectly hardy, require no artificial heat in winter, and breed freely in the right conditions.

A breeding aviary for a pair of small Parrakeets should not be less than 13 ft. long, 4 ft. wide and 7 ft. high—overall dimensions—this to include a proper wooden shelter at one end not less than 3 ft. square. The shelter itself need not go right down to the ground, in fact, tall, narrow shelters can be a source of danger as a bird may drop to the ground and be unable to get back on to the perches easily.

The best arrangement is to have the floor of the shelter half way between the roof and the ground. You will thus not only save timber but have a warmer, drier shelter for the birds and one which incidentally will be much easier to clean out. The space left underneath the floor of the shelter can then be incorporated as part of the flight.

Species which may be kept together will be mentioned, but Parrakeets can only be mixed if the aviary is at least twice as big as the above dimensions, or even larger. Not more than one pair of a given species may be associated in the same aviary, however big.

As I have already pointed out, a breeding pair of birds becomes more aggressive than at other times and this is particularly so with Parrakeets. They are very territorially-minded birds and pairs of the same kind simply will not tolerate one another's presence even out of the breeding season.

Parrakeets and Lovebirds are not safe companions for Finches, the reasons being fairly obvious. But they will often ignore other sorts of birds and will even allow themselves at times to be bullied by them, but if they do turn on them and get a grip with their strong beaks on the leg of another bird they will break it like a match stick or even tear the bird to pieces.

An experienced bird-keeper will know just what kinds of birds he can mix together safely, bearing in mind the temperament

of the individual members in his collection, but until you have acquired this sort of knowledge, play safe and don't associate strong birds with weaker ones in case of trouble.

If you do not wish to breed Parrakeets, a collection of bachelor cocks will agree perfectly and make a fine show, but don't have any hens within sight or hearing or there will be serious fighting, resulting in the death of the losers.

Parrakeets and Lovebirds are very destructive to growing vegetation. They need constant employment for their strong beaks and are for ever whittling the bark and leaves from branches of trees. With few exceptions, it is, therefore, quite impossible to have growing bushes in a Parrakeet aviary as the inmates will soon kill them by their destructive habits.

#### PARRAKEETS

THE REDRUMP PARRAKEET (*Psephotus haematonotus*) comes from Australia. The cock is green with a red rump, and there is some dark blue in the wings. The hen is olive with no red or blue. Length about 10 inches. Young hens are like their mother. Cocks in immature plumage are dull editions of their father, so young Redrumps are easy to sex immediately they leave the nest.

Their seed mixture should consist of equal parts of canary and white millet with a sprinkling of hemp and sunflower. Size of nest box 8 in. square and 18 in. tall with an entrance hole 2 in. in diameter. Although two pairs of Redrumps in the same aviary would fight savagely, a pair will live amicably with Lovebirds or Cockatiels. They usually have two broods of three or four young each season.

They are excellent birds for the beginner with Parrakeets from every point of view, being hardy, beautiful, prolific and easy to manage. Incubation period is approximately seventeen days and the young leave the nest four to five weeks after hatching. The hen Redrump will often commence to lay her second clutch before the first brood of babies have fledged, so it is advisable to provide two nest boxes for each pair.

It is also advisable to remove the first brood of young ones from the breeding aviary when the second brood have hatched, as otherwise the parents may turn on them and even kill them. Do not, however, be in too great a hurry to do this, and make

quite certain that the older brood are feeding themselves and are quite independent of their parents. This they usually are when their tails are full length.

There is now a well established colour variety known as the Yellow Redrump which is in reality a very pale edition of the normal green bird. Hens of this variety are a creamy yellow but the cocks always show a certain amount of pale green in their plumage and retain the red rump.

THE COCKATIEL (*Leptolophus hollandicus*), from Australia, is the same size as the Redrump. The adult cock is dark grey with a white patch in the wings, a primrose head and crest, and orange cheek patches reminding one of a painted doll. The tail feathers underneath are black. The hen is paler grey and lacks the yellow head; the cheek patches are duller and the tail feathers underneath are barred yellow and black.

Young birds of both sexes resemble the hen. They do not assume full plumage until the second moult, that is, when the birds are some fifteen months old, although young cocks at their first autumn moult usually develop sufficient yellow feathers on the head and face to make them easily distinguished from the young hens.

Cockatiels breed freely. A good pair will produce two or three broods with three or four young in each in a season. The nest box should be the same size as for Redrumps and the seed mixture similar. They may be kept with Lovebirds or Redrumps. The incubation period is about seventeen days, and both birds take turns in sitting, the cock by day and the hen by night. Young birds leave the nest when approximately five weeks old.

The male Cockatiel has a very pleasant warble when singing his love song to his mate; in fact, I have heard one in a garden aviary imitate the liquid notes of a blackbird remarkably well. It is the only Parrakeet that I know which could be called anything of a singer.

They are very harmless birds and are often kept and bred with Budgerigars, although personally I always think they look very out of place with them, being so much larger. The cock's display consists of depressing his crest and holding his wings out from the body, at the same time keeping them folded across his

back. He then draws himself up to his full height and starts his warbling song. One of the greatest attractions about the Cockatiel is its wonderful flight which is so seldom seen by people in this country unless they have an unusually large aviary.

THE STANLEY PARRAKEET (*Platycercus icterotis*), from Australia, is the same size as the foregoing. The cock is scarlet with yellow cheeks, green back and blue wings. The hen is altogether duller, her red being of a brickish shade and her yellow cheeks being nothing like so bright. Immature birds of both sexes resemble the mother.

The seed mixture should consist of 1 part canary, 1 part white millet, 1 part sunflower and  $\frac{1}{4}$  part hemp. The nest box should be the same size as that for Redrumps and Cockatiels. They usually have one, or at most two, broods in a season, consisting of between four and six young ones. Incubation lasts seventeen days and the young fledge at about five weeks.

The genus *Platycercus*, of which the Stanley Parrakeet is a member, is a very quarrelsome family. Adult pairs will certainly not tolerate others of the group, and while they usually ignore Cockatiels, they would be liable to attack any of the other Parrakeets mentioned in this chapter, particularly if they have red in their plumage.

THE ROSELLA PARRAKEET (*P. eximius*), from Australia, is half as big again as any of the foregoing, consequently its nest box should be approximately 9 in. square and 22 in. high with an entrance hole of  $2\frac{1}{2}$  in. in diameter. The seed mixture should be as for Stanley's with the addition of three peanuts per bird daily.

Cocks are coloured yellow with scarlet head and chest; back green, striped with black, and a mauve patch in the wing. Hens and immature birds of both sexes are duller editions of the cock. They also have a small patch of greenish feathers behind the eyes which can be seen when the birds are handled. Rosellas are the most pugnacious birds of a pugnacious family, and are best kept on their own.

The minimum size of aviary for this species should be 15 ft.  $\times$  4 ft.  $\times$  7 ft. They are usually double brooded and may produce as many as four young per brood. Incubation period and the

length of time young remain in the nest are the same as for Stanley's.

Other close relatives of the Rosella Parrakeet are the Mealy Rosella (*P. palliceps*), which may be described as a Rosella with a bright yellow head and neck instead of a red one. There is also much more blue in the wings and the belly is blue. The Golden-mantled Rosella is simply a glorified form of the common Rosella, differing mainly by being a shade larger and having its back coloured golden yellow instead of green. In a good specimen of the Golden-mantle, all the colours seem to be more intensified than in the common form, consequently it is a more popular bird with aviculturists and most of the Rosellas now kept are Golden-mantles or have Golden-mantle blood.

THE RINGNECKED PARRAKEET (*Palaeornis torquata*), from India, is rather larger than the Rosella. Both sexes are green with red beaks, but the cock has a pink and black ring round the neck which is absent in the hen. Young of both sexes up to 15 months old resemble the adult hen; that is to say, the young cocks do not acquire their distinctive neck ring until their second autumnal moult.

There is a domesticated Lutino variety which is a lovely clear yellow instead of green. Both sexes, however, retain the red beak and the cock develops a pink ring. A much rarer variety is the Blue Ringneck, which is a lovely pale blue all over. Here again, both sexes retain the red beak.

The inheritance of these two colour varieties seems to be much the same as with budgerigars; in other words, a Lutino Ringneck is simply the green form minus the blue pigment, conversely the blue variety is merely the green one minus yellow pigment.

Ringnecks require a nest box about 10 in. square and 24 in. high. The same seed mixture and monkey nuts as for Rosellas suits them. They are usually only single brooded in a season and the brood may consist of anything from two to four young ones. They require the same sized aviary as recommended for Rosellas. If taken in hand at an early age a Ringneck can become a very tame pet and will learn all sorts of tricks, besides a few words.

BOURKE'S PARRAKEET (*Neopsephotus bourkii*). This is a member of the Australian Grass Parrakeet family, all of which are small in size, being, in fact, about twice the size of a Budgerigar. Bourke's are dainty and elegant little Parrakeets, quietly but delicately coloured, having none of the brilliant hues one associates with members of the Parrot family.

The cock may be described as a study in grey relieved with tints of mother of pearl. The head, back, wings and tail are brownish grey with paler edges to the wing feathers. A narrow band runs across the forehead, and the shoulders, underwing coverts and rump are pale blue, the lower breast being pink. The sexes are very similar, so much so that it is not always easy to tell cocks from hens. The pink and blue areas are, however, usually brighter and more extensive in the male, the blue frontal band, in particular, being more obvious. Young birds in immature plumage are like a pale edition of the adult hen and are almost impossible to sex.

Bourke's Parrakeets have much to recommend them as aviary birds. Their beaks being small and weak they do not destroy growing vegetation as much as other Parrakeets, so they will not unduly spoil a planted aviary. Moreover, although the association of Parrakeets with other species is not a normally recommended practice, they will not harm weaker birds. Rather the reverse, in fact, as sometimes an aggressive bird will bully the Bourke's.

One point in the management of these birds requires attention. If they become frightened suddenly, especially at night, they have a tendency to dash straight into the wire netting roof of their aviary, sometimes with fatal results. Night frights are best avoided by shutting the birds in their roosting quarters at sundown where such things as cats and Owls will not disturb them. This, of course, cannot be done when they are breeding and the nest box is in the open flight, as it should be.

Bourke's Parrakeets, being so much smaller than the other Parrakeets mentioned in this chapter, will do quite well in an aviary of about 10 ft. long  $\times$  4 ft. wide  $\times$  7 ft. high. They should be given a seed mixture composed of equal parts canary and white millet to which has been added a trace of oats and hemp seed. Some pairs will eat a little sunflower seed, but too much of either this or hemp is fattening and therefore bad for

them. Spray millet is much enjoyed, particularly when there are young in the nest. Greenfood and seeding grasses should be offered, and while they will usually eat the latter greedily, some individuals are not too keen on greenfood.

These altogether charming little birds have quite musical voices, and just as their colours are pleasing to the eye, so their voices are pleasant to the human ear. They are remarkably nocturnal in habit, and many is the time I have seen and heard them flitting about after dusk; their large, dark eyes would suggest that they can see quite well in the dark or at any rate in the half light.

I know of no better example of camouflage than a Bourke's Parrakeet clinging to a log nest with the natural bark still on, the soft greys and browns of the bird blending perfectly with such a background. At these times I have been struck by its resemblance to a Nightjar.

#### LOVEBIRDS

Lovebirds (*Agapornis*) exist in several different species. All come from Africa. They resemble miniature Parrots, being rather larger and more heavily built than Budgerigars but with short, square tails like those of Parrots. They require nest boxes about 8 in.  $\times$  8 in.  $\times$  8 in. with an entrance hole 2 in. in diameter.

Unlike other members of the Parrot family, they build nests inside these boxes and require, when breeding, plenty of fresh green twigs from which they strip off the bark as nesting material. This is carried to the nest, not in the beak as one would imagine, but stuck in the feathers of the back and rump—a unique performance among birds.

Their feeding should be as for Cockatiels. Some kinds are quarrelsome among themselves, but a pair will often agree with Redrumps or Cockatiels. With the exception of the Red-faced Lovebird they breed freely, having several broods a year, numbering anything from four to six young ones in each brood. But the great difficulty is to pick out a true pair.

Many experts swear by the pelvic bones test; that is to say, if you catch hold of the bird and feel for the two little bones on either side of the vent, those of the hen are alleged to be wider apart than those of the cock, whose pelvic bones are supposed to be almost touching. The argument in favour of this test is,

of course, that the wider pelvic bones in the female are to allow the passage of the egg, but a lot depends on the condition of the birds at the time you handle them. The pelvic bones of very young hens, or hens which are not in breeding condition, are liable to be much closer together, and such birds may easily be mistaken for males.

The only certain way of sexing Lovebirds is to allow them to go to nest and if after a reasonable time has elapsed no eggs appear, you can assume you have two cocks. Conversely, if you have an abnormally large clutch of eggs which never hatch, you obviously have two hens. A normal clutch consists of anything from four to six eggs.

In all the species mentioned below, with one exception, the sexes are identical in colour, shape and markings. An aviary about 6 ft. long, 3 ft. wide and 7 ft. high is suitable for a pair of Lovebirds. Their voices are not unpleasant, and an aviary containing Lovebirds will be no noisier than one with Budgerigars.

THE PEACH-FACED LOVEBIRD (*Agapornis roseicollis*) is apple green with a pink face and skyblue rump. It is the largest of the commonly kept species and also the most quarrelsome. Although I have heard of them being bred in a large aviary on the colony system, i.e., several pairs together, it has been my experience that a pair in breeding condition is quite unsafe with any other kind of Lovebird. Even if two pairs do settle down in the same enclosure, they are liable to murder one another's young as soon as they leave the nest. The sexes are alike in every way.

A good pair will breed almost all the year round if allowed to do so, but it is much better to restrict their activities to the spring and summer months and remove the nest boxes in the autumn.

Unfortunately, Lovebirds like to roost at night in a nest box, and if they are deprived of this and forced to sleep on a perch, Peach-faces are liable to contract chills in very cold weather. It is safer, therefore, when breeding is finished to remove them indoors or supply a little heat in their shelter.

THE MASKED LOVEBIRD (*A. personata*) is bright green with a yellow breast and neck, a sooty black head and red beak. There

is a white circle of bare skin round the eye known as the cere which makes the bird look as if it is wearing spectacles. This, to my mind, is the most attractively coloured member of the family. It is a shade smaller than the Peach-face and not so quarrelsome. Here again, however, I would not advise more than one breeding pair to an aviary, if only because they are liable to damage each other's young ones when they are fledged. The sexes are identical.

A blue variety has now appeared, which is simply the green bird minus the yellow pigment, consequently the yellow areas in the normal variety appear white in the blue bird. Theoretically, this should be a very lovely colour variety, but in fact it is disappointing and, to my mind, not as beautiful as the green form.

Masked Lovebirds are as prolific as Peach-faces and will breed all the year round if given the chance. For obvious reasons, however, it is better to restrict them to the spring and summer months and nest boxes should be taken down in the autumn. Unlike Peach-faces they will winter in an outdoor aviary and do not seem to feel the cold so much.

THE FISCHER'S LOVEBIRD (*A. fischeri*) is green with an orange head and neck and a dark blue rump. It also has a white ring round the eye, and in every way resembles the Masked Lovebird, except in colour. Crosses between the Fischer's and Masked have often been made and the resultant hybrids are fertile, consequently up to the outbreak of the last war, when Lovebirds were freely bred, there were many mongrels about showing traces of mixed ancestry, none of which looked as beautiful as the true species.

THE NYASA LOVEBIRD (*A. liliana*) is green with a red head and neck and is rather smaller than the foregoing. It is also much less quarrelsome and can be kept and bred on the colony system. There is now a very lovely lutino variety, a bird of clear golden yellow with a scarlet head, neck and beak.

THE BLACK-CHEEKED LOVEBIRD (*A. nigriceps*) is similar in size to the Nyasa, but differs in colouring in having a smoky shading over the red on the sides of the head. It has been hybridised freely with the Nyasa, consequently before the war many birds

showed mixed ancestry. Both Black-cheeks and Nyasas have white eye rings. The Masked, Fischer's, Nyasa and Black-checked are often referred to collectively as the "spectacled" Lovebirds, because of this white ring.

THE RED-FACED LOVEBIRD (*A. pullaria*). This most attractive little Lovebird is in many ways different from its congeners. To begin with, it is easier to sex, cocks being bright green with a bright red face, hens having faces of a much paler hue. Both sexes also lack the white eye spectacles. Altogether this is a daintier little Lovebird than the preceding species. Its beak is neater and more refined and it is less quarrelsome, several pairs living amicably together.

One of its great attractions is the brilliant fiery colour of the tail feathers, which is only seen when the tail is spread in flight. It has the doubtful distinction of hardly ever having been bred in spite of many attempts on the part of aviculturists to do so. The nearest approach to success of which I am personally aware was at the Keston Foreign Bird Farm before the war, where two pairs were put up to breed in separate aviaries, each pair being given a bale of solid peat enclosed in a wooden frame.

In this the birds gouged out a long, narrow tunnel which turned at right angles after it had got some way into the block of peat. At the end of the tunnel a fair sized chamber was hollowed out and in this eggs were laid, which unfortunately never hatched.

They certainly never seem to be interested in the orthodox type of nest box, and there is, therefore, an interesting experimental field here for the keen bird fancier to persevere and see what he can do to establish an aviary-bred strain of Red-faced Lovebirds. Incidentally, their diet consists mainly of millet, canary seed and spray millet. Hemp and sunflower are seldom touched.

## CHAPTER 10

### SOME HARDY SOFTBILLS

**S**OFTBILLS are not usually considered suitable birds for the beginner, probably because their diet requires a little more care than just filling two pots with seed and water. True, they cannot be fed from a hopper like seedeaters, for they require fresh food daily, as well as a regular supply of mealworms or other live insects. But in return for this little extra attention, they are hardy, long-lived, beautiful, in many cases lovely songsters, and, being more intelligent than seedeaters, make really tame and companionable pets.

Insectivorous birds, or softbills as the name would suggest, are unable to crack hard seed. In certain cases they will swallow grains whole, but because you see a bird do this it does not mean that it will live on a diet of seed. In a wild state they subsist entirely on live insects, fruit, and berries of various kinds. When kept in cage or aviary their diet is as described in Chapter 2.

Here I would repeat the warning to ration mealworms strictly. Too many of these worms can cause liver troubles and eventual death. In the paragraphs which follow, I have given the daily ration of mealworms for each species. Other insects may be given *ad lib.*, but not mealworms.

Great treats for softbills are such tit-bits as spiders, earwigs and smooth green caterpillars. The wild berries, as they come in season like rowan, elderberry and blackberry, are a welcome change to the ordinary fruit of commerce.

Nearly all softbills can quickly be made finger-tame with mealworms. They seem naturally more confiding than seedeaters and soon learn to recognise their owner and come to him as soon as they see him with the mealworm tin.

Remember never to let the soft food mixture turn sour. Once a day is usually often enough to feed, but in hot thundery weather, it may sour more quickly and require renewing morning

and evening, especially if moistened with milk. Food pots should be washed out daily.

These remarks do not apply to some of the proprietary insectile foods which are now on the market. These are sold already mixed and do not require further moistening, consequently they do not turn sour. But they are liable to become rather dry after a day or two in the air. They have the great advantage, of course, that if for any reason you are compelled to leave your birds for a day or so, you can hand over to the temporary attendant sufficient soft food and know that they will not be compelled to eat anything unsuitable.

Softbills cannot be mixed indiscriminately in aviaries unless they are very large ones. The beginner is best advised to stick to single specimens of different kinds which will usually agree in an aviary of fair size. Generally speaking, pairs should be housed separately in roomy cages or small compartment aviaries. Even then they are likely to fight except in the breeding season.

Many of them live solitary lives when at liberty except when nesting. Therefore, be very careful when introducing a pair to each other. An easy way to do this is to place each bird in adjacent aviaries where they can see each other. Another method is to put one of the pair in a cage inside the aviary containing the other. In this way they will have an opportunity to get used to each other before being allowed together.

Softbills have one great advantage over seed-eaters—they show little or no tendency to nibble growing vegetation. Consequently, if your aviary is large enough to be naturally planted, you can keep these birds without damage to the foliage. All softbills are great bathers and should have an opportunity to enjoy a "dip" daily. The nature of their food tends to make their plumage sticky and they soon get out of condition without plenty of bathing.

Grit is unnecessary and the best floor covering is a good layer of sawdust, or sheets of newspaper. If you use sawdust, place the food and water pots where the sawdust does not get blown about and mixed up with the contents.

As a beginner, do not expect to breed softbills easily. Their care when nesting is complicated, involving a constant supply of various live insects without which they will refuse to rear their

young. Furthermore, they require special aviary accommodation, all of which is more a matter for the experienced aviculturist. It must be remembered, too, that they become savage when breeding, and specimens which at other times are quite harmless and will mix with all kinds of other birds, can, during the breeding season, become an absolute menace and bully weaker companions unmercifully, even killing them. The following species are recommended for the beginner.

THE PEKIN ROBIN (*Leothrix lutea*) comes from the Far East and the Himalayas. It is probably the hardiest of all foreign softbills. Commonly imported and reasonably cheap even in these days, it is lively, pretty and intelligent. Cocks sing sweetly, more especially when kept on their own. In size and shape they remind one of our own Robin, having the same large, dark eyes.

In colour they are greenish grey with red beaks, orange breasts and orange and red markings in the wings. Cocks are rather more brightly coloured than hens, but the surest way to sex them is by their song. If separated the hen will call with a high-pitched "pee, pee, pee" which the cock will answer with a burst of song. If both birds call and neither sing, you probably have two hens. They are happiest when kept in pairs and like to roost side by side. They will live for years on an insectile mixture, fruit of all kinds, and three to four mealworms per bird daily. Pekins are hardy and will live out of doors without heat.

A suitably sized cage for a pair of Pekin Robins is one 30 in. long, 24 in. high and 14 in. from back to front. Several birds will live together in an aviary, in fact, they can be safely associated with the larger seedeaters like Weavers and Whydahs. They have a bad reputation for stealing eggs out of other birds' nests, so don't include Pekin Robins if you are trying to breed other species. They have been bred in large, planted aviaries on several occasions, building cup-shaped nests in bushes. They require a continual supply of live insects when rearing young.

Pekins will swallow seeds whole at times, and in an aviary containing seedeaters will often be seen at the seed dish. Provided they are not forced to live on seed this will do no harm, but is not a habit to be encouraged, especially where the birds are kept in cages with limited exercise.

THE INDIAN SHAMA (*Kottocinclá malabarica*) is a favourite with all bird fanciers. It seems to be a naturally tame species and will almost always take mealworms from the hand, soon after arrival. In body size, it is a shade larger than the Pekin Robin but looks larger because it has a much longer tail—several times the length of its body, in fact.

The cock is glossy black above and chestnut below with a white rump. The long central tail feathers are black, the outside shorter ones being pure white. The hen is grey where the cock is black and her tail is shorter. Immature cocks are coloured like hens, so don't be too sure you have a hen until your bird has moulted. The Shama's great pride is his long tail which he is for ever flicking up and down and spreading to show its pure white outer feathers.

Shamas are noted for their fine song, but this varies a good deal with individuals. A good singer has some lovely liquid notes. They are also good mimics and learn all sorts of noises, especially the utterances of other birds. They are solitary creatures, and except when breeding, even a pair are likely to fight badly, so they are best kept by themselves in roomy cages. An odd cock will usually agree in an aviary containing birds of similar size, but he needs watching in case he becomes a bully. Individual Shamas vary a great deal in temperament so it is impossible to generalise.

The diet should be a good insectile mixture, supplemented with six to twelve mealworms per bird daily. They will not always eat fruit but some specimens like chopped lettuce. Shamas are only half-hardy and require bringing indoors during winter, or, if left outside, they should have a heated shelter.

Suitable dimensions for a Shama's cage would be 36 in. long, 24 in. high and 14 in. from back to front. Remember when fixing the perches to allow clearance at each end of the cage for the bird's long tail. A bird of this species makes an ideal house pet, becoming hand-tame, and if kept reasonably warm it will sing for most of the year. One advantage of keeping a softbill in the house as opposed to a seedeater, is that there is no seed and sand scattered about the place. A tame Shama can be let out of his cage to fly about the room for exercise. Owners of these pets always say there is no bird to equal them as companions.

The species is comparatively easy to breed, as softbills go. A pair will nest quite readily in a medium sized aviary, which need not be planted. They generally take to an open-fronted wooden nest box approximately 7 in.  $\times$  7 in.  $\times$  7 in. with the bottom half of the front closed in. In this they will build a cup-shaped nest. Success is not always achieved in rearing the young, largely because the cock bird seems anxious to make the hen go to nest again before the first brood are properly reared. The unfortunate youngsters are, in consequence, either neglected and left to starve or deliberately thrown out of the nest by the parents.

This distressing habit can often be overcome by allowing the parents complete liberty once they have started to incubate, the cock bird finding fields and pastures new is then kept out of mischief and his mate is allowed to incubate undisturbed. Moreover, when the young hatch, both birds will be kept busy hunting for live food. This is a most attractive way of keeping these birds, and the cock will regale you with his song about the garden. Watch out for cats, however, and arrange to confine the birds before the young ones leave the nest or you may lose the whole brood.

THE DHYAL BIRD (*Copsychus saularis*) from India is the same size and shape as the Shama but with a shorter tail. It is coloured black and white and marked almost exactly like a Magpie. It is almost as tame as the Shama and requires exactly the same treatment. The Dhyal Bird is a well-known frequenter of Indian gardens, where it is known locally as the Magpie-Robin. It breeds as freely and under the same conditions as the Shama.

THE SCARLET TANAGER (*Rhamphocelus brasilius*). This is a member of a very brilliant family of smallish birds, ranging from the size of a Weaver to that of a Cardinal. They all inhabit tropical America. Many Tanagers are delicate and difficult to maintain in captivity for any length of time, so they will not be mentioned here, but the Scarlet is an exception, and with normal, intelligent treatment, it will live for many years in a cage or aviary.

These birds are mainly frugivorous in diet, and this should be remembered when feeding them. They like a good brand of

insectile mixture and about six mealworms per bird daily, with plenty of fruit of all kinds. Fruit is absolutely essential to their welfare, and Tanagers will not thrive for long without it. Banana they particularly like, but this should be strictly rationed as it is fattening. If your birds are kept in cages where exercise is limited, they are liable to go off in fits if fed too much banana. Other fruits such as grapes, apples, pears, oranges, etc., may be given *ad lib.* with impunity.

The cock Scarlet Tanager is about 7 inches long. In colour it is brilliant deep red all over with black wings and tail. Unfortunately, the vividness of the red fades after a moult in captivity, some specimens, particularly those deprived of live insects, fading almost to pink. Latterly, however, some bird-keepers have succeeded in keeping the colour of their Tanagers by feeding soya bean meal mixed up with the insectile food. This would therefore suggest that loss of colour is connected with some vitamin or mineral deficiency in the diet. The hen is a plain reddish brown bird with dark brown wings and tail.

Scarlet Tanagers are nervous birds and when first imported are inclined to dash madly about and rather get on one's nerves, but once they have settled down they become reasonably steady. In my opinion, their great beauty offsets their somewhat flighty behaviour. Their lovely colouring shows up particularly well in a planted aviary.

They will thrive indoors or outdoors without artificial heat. A suitable cage would be one about 36 in. long, 14 in. wide and 24 in. high. They are safe associates for other birds of similar size, but not smaller.

Freshly imported Scarlet Tanagers are very fond of bread and milk, and it is a good plan to let them have plenty until they have started taking insectile mixture of their own accord. These birds make cup-shaped nests in bushes. They have been bred in this country on rare occasions, the young requiring the usual supply of live insects for successful rearing.

#### BULBULS

Bulbuls from Africa and India are represented by many species, all requiring the same treatment, so we will here select one of the prettiest, the RED-EARED or RED-WHISKERED BULBUL (*Pycnonotus jocosus*), and the reader can take this bird as a standard

for the other kinds. The Red-eared is about 7 in. long. It is, in fact, the same size and general shape as a Cardinal. It is coloured black above and white below with a touch of red on each side of the head and some red under the tail. It has a black crest which curls forward over its head. This, it can raise and lower at will. It sings well and soon becomes tame.

A true pair will live amicably together, but as they are difficult to sex, make sure you have two which agree before leaving them in the same quarters or there may be a frightful row. Feed and treat as you would Pekin Robins. They are hardy and will live outdoors in winter.

Bulbuls are generally fairly safe companions for birds of similar size—such as Cardinals and large Weavers. They have been bred on quite a number of occasions, usually building cup-shaped nests in thick bushes. The cocks are fairly good singers.

Other well-known Bulbuls are the WHITE-CHEEKED (*P. leucogenys*), which is brown with a black head and crest and dirty white cheeks; the BLACK-CRESTED YELLOW (*Otocompsa flaviventris*) coloured olive above, dull yellow below with a black head and crest; the RED-VENTED (*P. cofer*), which has a dark brown head and crest and a brown body shading to dirty white on the abdomen. The feathers under the tail are red, giving the bird its name.

THE GOLDEN-FRONTED FRUITSUCKER (*Chloropsis aurifrons*), from India and Malaya, is the same size as the Red-eared Bulbul but has no crest. It is often erroneously called a Bulbul, and while here it is included under this heading for convenience, it should be pointed out that the Fruitsuckers are a genus on their own, and only distantly related to the true Bulbuls.

The Golden-fronted is bright green with a black and blue throat and an orange forehead. It sings well. Sexes are alike and unmated birds are prone to quarrel. It is only half hardy and requires bringing indoors or giving artificial heat in winter time, like a Shama. These birds are what are called nectar feeders. In a wild state they suck up nectar from flowers and sweet fruit juices, with their long, specially adapted tongues.

In cage or aviary they thrive on an artificial nectar made by diluting one teaspoonful each of honey, Mellin's food and condensed milk in a wine glass of water. Mix the three

ingredients first into a paste, then add some hot water and stir well. Fill up the measure with cold water before offering to the bird. In addition, Fruitsuckers take soft, sweet fruit of all kinds, particularly grapes, orange and pear, and three or four mealworms daily. Fruitsuckers are quarrelsome birds among themselves, but odd specimens can be safely associated with birds of similar size.

#### GLOSSY STARLINGS

Glossy Starlings (*Lamprocolius*), from Africa, are larger than any of the foregoing—some even larger than our common Starling. They are among the loveliest of Foreign birds and are perfectly hardy, wintering indoors or outdoors without heat, living for many years on insectile food, fruit and about six mealworms per bird daily. They all have iridescent plumage which reflects the light in shades of green, purple and blue, thus giving them the appearance of having been cast in metal. They are not good singers. Pairs will live happily together but they are not safe associates for weaker birds.

The sexes are alike in all cases. Most kinds have been bred. Planted aviaries are unnecessary as they usually take to a closed-in nest box, being hole nesters in a wild state like the common British Starling. A recommended size of box is 8 in. × 8 in. × 9 in. deep with an entrance hole  $2\frac{1}{2}$  in. in diameter. If kept in cages, these should not be less than 42 in. long, 24 in. high and 18 in. wide.

THE GREEN GLOSSY STARLING (*L. chalybeus*) is iridescent, green with blue reflections, and orange eyes. It is one of the larger members of the family, being a shade bigger than the British Starling. It is a hardy, long-lived species, and can be recommended to the beginner who is starting up with softbills.

THE SPREO OR SUPERB GLOSSY STARLING (*Spreo superbus*) is iridescent, green above, chestnut and white below. It sings better than the others and has white eyes. The Spreo appears to be a freer breeder in captivity than the other species. It can also be bred at semi-liberty like the Shama, but the danger with these brightly coloured birds is that some imbecile with a gun is likely to shoot them the moment he spots them.

THE PURPLE-HEADED GLOSSY STARLING (*L. purpureus*) is iridescent—green above, dark blue below, and purple on head and rump with brilliant orange eyes which look just like glass beads. It has a rather flat, snaky-looking head, which, coupled with the brilliant protruding eyes, give it a very fierce appearance. Odd, unmated birds are usually quiet enough in temperament, but pairs can be very savage, and quite unsafe companions even for birds of similar size.

## HANGNESTS

The Hangnests (*Icterida*) are a group of brilliantly coloured birds hailing from tropical America. They are all about the size of a Starling, which they resemble in general shape, having the same long, pointed beak, but their tails are longer and the wings shorter and more rounded. They derive their name from the globular nests which they build suspended from the twigs of trees rather like those made by the African Weavers. Their colour scheme is usually orange, black and white.

Most species are pleasant whistlers, and tame birds will often give forth notes at the command of their owner. I once had a tame Hangnest which knew my whistle whenever I was in hearing, and would answer me fifty or sixty yards away.

They are hardy birds and once acclimatised will winter indoors or outside without artificial heat.

Tame specimens make delightful and intelligent pets. Pairs will agree well together, but they are unsafe companions for weaker birds. They usually take strong exception to other species showing yellow in their plumage. The sexes in most of the Hangnests are exactly alike, except possibly for size, cocks usually being a shade larger than hens. These handsome birds are often referred to as Troupials.

THE BRAZILIAN HANGNEST (*Icterus icterus*) is a typical example of this family, and the one most commonly imported. It is a lovely bird and well worth having in any collection. It has a bright orange body with a black head, black wings and tail and there is a white patch on the wings. The iris of the eye is white which gives the bird a rather fierce look. After a moult in captivity, the brilliance of the orange fades somewhat, but it still remains a very striking bird. It thrives on insectile

mixture with plenty of fruit of all kinds, and about six meal-worms a day.

#### MYNAHS

All the Mynahs come from India and the Far East generally. They are related to Starlings, which many of them resemble in shape and habits. The different species vary in size from that of a common Starling to almost as big as a Jackdaw. They are all perfectly hardy and will winter outdoors without artificial heat.

In a wild state they nest in hollows and crevices in typical Starling fashion, and in captivity, if you wish to try to breed them, they must be supplied with nest boxes—as described for Glossy Starlings. Although no member of this family is what one would call brilliantly coloured, they are nevertheless very attractively garbed in various shades of black, brown and grey, relieved with white. They thrive on exactly the same treatment as advised for Glossy Starlings. Most species are fairly agreeable with other birds provided they are of about the same size.

THE COMMON MYNAH (*Acridotheres tristis*) is rather bigger than a common Starling. It is dark grey with black and white wings and tail, a yellow beak and rather long yellow legs. Hand-reared specimens make attractive pets and can be taught to say a few words. I once knew of a Common Mynah which escaped from its aviary in the autumn and spent the whole of an English winter at liberty in the neighbourhood, a fact which speaks for the hardiness of these birds.

THE HILL MYNAH (*Eulabes religiosa*) is the biggest kind of Mynah and is the bird which has made the Mynah family famous for its talking ability. There are several races, differing considerably in size, from the Lesser Hill Mynah (about as big as a Mistle Thrush) to the Greater Hill Mynah, which is almost the size of a Jackdaw.

In all races the colour and markings are exactly the same, namely, glossy black all over with an orange beak, yellow legs and some yellow flaps of bare skin behind the head. The sexes are alike. Hand-reared, tame specimens rival Parrots in talking ability, but wild-caught, untamed birds seldom learn to talk.

One advantage which Mynahs have over Parrots is that they will usually consent to talk in front of people, whereas the average Parrot shuts up like an oyster and refuses to say a word as long as he has an audience.

These Hill Mynahs need a big cage, at least 4 ft. long, 2 ft. high and 1½ ft. wide. They are messy feeders and their cage and perches need cleaning regularly and often. There should be a good thick layer of sawdust on the cage floor to absorb moisture from the droppings. They also need a daily bath or their plumage will soon become unsightly as the result of contact with fruit, which is an essential part of their diet.

THE PAGODA MYNAH (*Temenuchus pagodarium*) is rather smaller than a common Starling. It is one of the most prettily coloured Mynahs, being blue-grey above and pinkish chestnut below. It has a black crest of long, backward-curving feathers which lie down on the nape of the neck and can be raised and lowered at will. The tail is black tipped with white; the legs and beak are yellow with a bluish patch at the base of the beak. Sexes are identical.

These little Mynahs make pretty inmates of an aviary and are safe companions for other birds of their own size. They have been bred on several occasions, usually by allowing the parents their liberty while rearing young.

THE MALABAR MYNAH (*Sturnia malabarica*) may be described as like a Pagoda Mynah without the black crest. It is pearl-grey above, chestnut below, and the head is almost of a cream colour.

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