

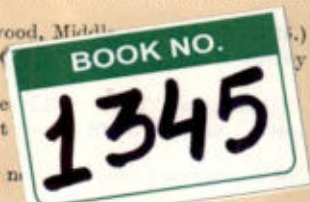
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## List of Members

1st JANUARY, 1934

NOTICE.—Members are particularly requested to inform the Hon. Secretary of any error in the spelling of their names, addresses or descriptions, so that it may be corrected.

- ABELL, Rev. R. B.; SS. Peter and Paul's Clergy House, Gloucester Road, Teddington. (Jan., 1926.)
- ADAMS, JOHN; Darsdale, Raunds, Northants. (Nov., 1930.)
- ALLEN, ARTHUR; 35 Aylesford Street, S.W. 1. (Aug., 1933.)
- ALLEN, Miss GERALDINE RUSSELL; Dabenham Hall, Northwich, Cheshire. (March, 1929.)
- ALLEN, M. T., F.Z.S.; Ravenswood, Northwood, Middlesex. (Nov., 1922.)
- ALLENBY, FIELD-MARSHAL THE VISCOUNT, (1st Viscount) Richmond Gardens, S.W. 5. (Nov., 1922.)
- ALLISON, N. G.; 3 Ashurst Gardens, Tulse Hill, S.W. 15. (1908.)
- AMSLER, MAURICE, M.B., F.Z.S.; Eton Court, Windsor, Berks. (1908.)
- ANDERSON, ALISTAIR; Tullichewan Castle, Perth, Scotland. (June, 1923.)
- APPLEBY, JOSEPH; Farnley, Great Crosby, Liverpool. (Oct., 1923.)
- ARCHER, Mrs. E.; The Gate House, Abberton, near Colchester. (May, 1930.)
- ARMOUR, Dr. M. D. S.; Crichton House, Anstruther, Fife. (Aug., 1932.)
- ARNAU, JOSÉ JULIÁ (Ingeniero); Plaza Constitucion 15, Binisalem, Mallorca. (Jan., 1927.)
- ARNOLD, EDWARD W. C.; Babylon, Long Island, N.Y., U.S.A. (April, 1928.)
- ASHBY, Mrs. R. G.; Stanley Place, 34 Dalblair Road, Ayr. (Aug., 1932.)
- ASTLEY, Mrs. HUBERT; Brinsop Court, Hereford. (Dec., 1901.)
- AUBURN, L. W.; Beech Bough, Barnet Gate, Arkley. (July, 1929.)
- BAKER, E. C. STUART, F.Z.S., M.B.O.U.; 6 Harold Road, Upper Norwood, S.E. 19. (Feb., 1904.)
- BALFOUR, F. R. S.; 13 Collingham Gardens, S.W. 5. (Nov., 1932.)
- BALMAIN, Miss MORA; Alford House, Castle Cary, Somerset. (June, 1930.)
- BAMFORD, WILLIAM; Bridgecroft, Kent Road, Harrogate. (March, 1904.)
- BANKS, GEOFFREY; Tall Trees, Walsall Road, Four Oaks Common, near Birmingham. (July, 1932.)
- BANNERMAN, Mrs. DAVID; 7 Pembroke Gardens, W. 8. (April, 1928.)



## List of Members

- BARCLAY, EVELYN W.; Whitwell Hall, Reepham, Norwich. (Aug., 1928.)
- BARKER, Major G. H.; Villa Fressinet, Grasse, A.M., France. (Feb., 1924.)
- BARKER, Capt. N. L., O.B.E.; Cross Green, Otley, Yorkshire. (Dec., 1926.)
- BARLOW, Mrs.; 45 Bath Road, Swindon. (Sept., 1926.)
- BARNARD, T., M.C., F.Z.S.; Milner Road, Rondebosch, Cape Town, South Africa. (Sept., 1919.)
- BARR-SMITH, Mrs.; Birkegate, Glen Osmond, South Australia. (Sept., 1926.)
- BARRY, DAVID, jun.; 942 S. Ridgeley Drive, Los Angeles, California, U.S.A. (Jan., 1928.)
- BEARBY, W. R.; 34 Church Street, West Hartlepool. (Aug., 1923.)
- BEDFORD, Her Grace the Duchess of, F.Z.S.; Woburn Abbey, Woburn, Beds, and 15 Belgrave Square, S.W. 1. (Feb., 1903.) (*Vice-President*.)
- BEEVER, G.; Brooklyn, Kirkheaton, Huddersfield. (June, 1923.)
- BELL, W. D.; 20 Archhold Terrace, Jesmond, Newcastle-on-Tyne. (May, 1926.)
- BENJAMIN, Mrs.; Yarn Barton, West Chinnock, Crewkerne. (Dec., 1929.)
- BENNETT, C. E. M.; 11 Roswood Gardens, Wallington, Surrey. (Jan., 1932.)
- BENSUADE, VASCO; 153 Estrada da Luz, Lisbon, Portugal. (July, 1931.)
- BERESFORD-WEBB, G. M.; Norbryght, South Godstone, Surrey. (May, 1906.)
- BEST, CYRIL; Glen Doone, Ellesmere Road, Forest Town, Mansfield. (Aug., 1921.)
- BLAAUW, F. E., F.M.Z.S., F.M.B.O.U.; Gooilust, 's Graveland, Hilversum, Holland. (Nov., 1901.)
- BLACKBURN, FRANK; 40 Mount Joy Road, Huddersfield. (April, 1929.)
- BLAIR, G. H.; The Sale Masonic Club, Masonic Hall, Tatton Road, Sale, Cheshire. (Sept., 1932.)
- BLAND, Mrs. G. L.; The Little House, Wellesbourne, Warwick. (July, 1929.)
- BLISSETT, Miss NELLIE; Dover Cottage, Dover Street, Ryde, Isle of Wight. (March, 1928.)
- BONESTELL, Mrs. C. H.; 2610 Mountain Boulevard, Oakland, California, U.S.A. (Jan., 1933.)
- BOOSEY, E. J.; Brambletye, Keston, Kent. (Feb., 1921.)
- BOTT, WILLIAM; Gwent, Walton-by-Clevedon, Somerset. (Dec., 1928.)
- BOURKE, Hon. Mrs. ALGERNON; 75 Gloucester Place, Portman Square, W. 1. (Feb., 1911.)
- BOUSFIELD, Miss; Hazelgrove, New Milton, Hants. (Jan., 1908.)
- BOWER, ROBERT; Husheath Manor, near Goudhurst, Kent. (July, 1931.)
- BOYLE, JOHN; The Farm House, Shirburn, Watlington, Oxon. (Jan., 1929.)
- BRADSHAW, GEORGE; 54 Ingram Road, Wahroonga, Sydney, Australia. (May, 1927.)
- BROADWATER, C. C.; 27 Highland Avenue, Piedmont, California, U.S.A. (March, 1932.)
- BROCK, A. E.; St. Just, Exeter. (Dec., 1929.)
- BROOKES, Miss F. C.; Massam Hall, Old Leake, Boston. (July, 1933.)
- BROOKS, Rev. O. E.; St. Luke's Vicarage, Brighton, Sussex. (Jan., 1930.)
- BROOKSBANK, ALEC; Brambletye, Keston, Kent. (Jan., 1928.)

- BROWN, E. J. ; 37 Dean Road, Bitterne, Southampton. (March, 1931.)
- BROWN, F., Shalimar, 92 Wokingham Road, Reading. (Jan., 1934.)
- BROWN, W. FERHIER ; 10 Ebers Road, Nottingham. (May, 1924.)
- BROWNING, WILLIAM H. ; 260 Fourth Avenue, New York City, U.S.A. (March, 1906.)
- BRUNTON, J. W. ; Inveresk Lodge, Musselburgh. (June, 1923.)
- BRYAN, Mrs. A. H. ; P.O. Box 414, Balboa Heights, Canal Zone, Isthmus of Panama. (Jan., 1928.)
- BUCHANAN, A. ; Viewbank, 33 Townhill Road, Dunfermline. (Dec., 1928.)
- BURN, Lady ; Rydal Mount, Potters Bar, Middlesex. (Oct., 1932.)
- BURY, Commander W. A. ; Bosmere Hall, Needham Market, Suffolk. (June, 1933.)
- BUTLER, ARTHUR LARCHIN, M.Aust.O.U. ; Lower Sandy Bay, Hobart, Tasmania. (July, 1905.)
- CAIRNS, Hon. D. H. ; Carnach, Nairn. (Nov., 1930.)
- CAMPEY, A. D. ; 117 Grovehill Road, Beverley, Yorks. (Jan., 1933.)
- CAPERIN, F. ; Lewin's Mead, Bristol. (Oct., 1907.)
- CARR-WALKER, HERBERT ; Almsford House, Fulwith Lane, Harrogate. (June, 1917.)
- CARLISLE, MELVILLE ; P.O. Onderstepoort, Pretoria, South Africa. (March, 1930.)
- CASE, Mrs. ALICE M. ; Barncroft, Eastergate, Chichester, Sussex. (May, 1918.)
- CHAMBERS, F. G. ; The Beeches, Barlaston, Stoke-on-Trent. (Aug., 1932.)
- CHAPLIN, E. W. ; The Hearne, Great Amwell, Ware, Herts. (Sept., 1903.)
- CHAPLIN, The Hon. ANTHONY ; Greenacre, Balcombe, Sussex. (July, 1932.)
- CHAPMAN, G. B., F.Z.S. ; 24 Tottenham Court Road, London, W. (Nov., 1922.)
- CHAWNER, Miss, F.Z.S. ; The White House, Leckford, Stockbridge, Hants. (July, 1899.)
- CHICHESTER, Mrs. ; The Deer Park Cottage, Glenarm, Co. Antrim, Ireland. (April, 1930.)
- CHILD, F. R. ; Braemar, Down's Road, Luton, Beds. (March, 1920.)
- CHRISTIE, Mrs. G. ; Kellas, By Elgin, Morayshire. (Jan., 1913.)
- CLARK, G. H. ; 28 Elm Grove, Orpington, Kent. (June, 1932.)
- CLEMO, J. ; 18 Claremont Road, Redruth, Cornwall. (Oct., 1927.)
- COATES, Sir EDWARD CLIVE, Bart. ; 14 Sussex Square, W. 2. (June, 1929.)
- COLES, CLIFFORD ; 16 Bancroft Avenue, Roseville, N.S.W., Australia. (July, 1929.)
- COLHOUN, Major J., M.C. ; St. Elmo, Shantallow, Londonderry, Ireland. (March, 1929.)
- COLLIN, HARRY A. ; Tynrodyn, Bangor, North Wales. (May, 1928.)
- COLLINGS, Miss C. ; Woodlands, 125 Harrow-dene Road, Wembley. (Nov., 1932.)
- COLTHURST, Mrs. E. V. ; The Copee, Wraxall, Somerset. (June, 1931.)
- COOPER, Mrs. H. VICTOR ; Villa d'Este, Burgess Road, Thorpe Bay, Essex.
- COOPER, JAMES ; Killerby Hall, Scarborough. (*Orig. Mem.*)
- CORY, REGINALD R., F.Z.S. ; Duffryn, near Cardiff. (August, 1905.)

- COTTERELL, RICHARD; GAYNORS, Hereford. (April, 1928.)
- COWLEY, H.; The Manor House, Bubbenhall, Kenilworth. (Jan., 1926.)
- COWPER, Dr. C. M.; Manor House, Leighton Buzzard. (July, 1933.)
- COWPER, G. ST. JOHN; Rachel Lodge, Apollo Bunder, Bombay. (June, 1933.)
- COX, Miss B.; Marshwood Manor, Bridport, Dorset.
- CROFTS, ROBERT T.; 18 Wheelock Street, Middlewich, Cheshire. (April, 1929.)
- CUBITT, HENRY G. F.; 12 Mountague Place, Poplar, E. 14. (Jan., 1931.)
- CUNNINGHAM, Dr. F. H. L.; "Rahere," High Street, Chesham, Bucks. (April, 1931.)
- CURA, L., & SONS; Bath Court, Warner Street, Rosebery Avenue, E.C. 1. (Sept., 1928.)
- CURRIE, J.; 54 Netherby Road, Edinburgh, 5. (Aug., 1915.)
- CURTIS, Mrs.; Caynham Court, Ludlow. (Sept., 1931.)
- DALE, SYDNEY E.; 14 Lincoln Street, Crewe, Cheshire. (Oct., 1932.)
- DANCOISNE, Abbé H.; Curé de Canaples, Canaples (Somme), France. (July, 1932.)
- DARLING, P. STORMOUTH; Blackwood, Fulmer, Bucks. (June, 1928.)
- DARNTON, Mrs.; Sissinghurst Court, Cranbrook, Kent. (April, 1932.)
- DAVIS, GODFREY, I.C.S., F.Z.S.; 4 Robin Grove, Westhill, Highgate, N. 6. (Aug., 1927.)
- DE PASS, GERALD V.; The Kennels, Satwell, near Henley-on-Thames. (April, 1930.)
- DEBONO, P. P., M.D., F.R.C.S.(Eng.); 8 Windsor Terrace, Sliema, Malta. (June, 1930.)
- DECOUX, A.; Géry-près Aix, Hte. Vienne, France. (April, 1917.)
- DELAOUR, JEAN, F.Z.S.; Clères, Seine Inf., France. (April, 1916.)
- DELL, CHARLES; Ferndale, Moss Lane, Pinner, Middlesex. (July, 1900.)
- DENLEY, C. F.; Winden, Brookville Pike, Rockville Md., U.S.A. (Jan., 1927.)
- DENNIS, Mrs. CYRIL; Oakley Hall, Market Drayton, Salop. (June, 1920.)
- DENNIS, Mrs. H. E.; Holme Manor, Pulborough, Sussex. (March, 1903.)
- DENNY, Mrs. HENRY, C.B.E., Staplefield Place, Staplefield, Sussex. (May, 1924.)
- DENT, Mrs.; The Vinery, Bury St. Edmunds. (Jan., 1934.)
- DICKSON, Miss V. C.; Lea Croft, Crawley, Sussex. (Oct., 1927.)
- DIEMONT, D. E. H.; Rynvliet, Oudenrym, Holland. (June, 1927.)
- DILLON, Miss M.; Longworth Hall, Hereford. (April, 1931.)
- DINGLEY, V. G.; The Poplars, 335 Upper Richmond Road, Putney, S.W. 15. (May, 1930.)
- DIRECTOR, THE; Zoological Museum, Tring, Herts. (1912.)
- DOOLY, THOMAS L. S.; Whimbrel, Kirklake Road, Formby, near Liverpool. (Jan., 1924.)
- DRAKE, Mrs. F. W.; Carrick Cottage, Mylor, Falmouth, Cornwall. (Dec., 1926.)
- Rt. Hon. NORAH, Lady DUNLEATH, Shanes Castle, Antrim, Northern Ireland. (Aug., 1897.)

- DUNMORE, OSCAR E. ; 22 Kingsway Road, Leicester. (Oct., 1922.)
- DUNN, Mrs. C. T. M. ; The Nash, Kempsey, near Worcester. (Aug., 1932.)
- DUNSFORD, Miss E. M. ; The Nash, Kempsey, near Worcester. (April, 1933.)
- DUNSTER, Captain J. E. ; 34 Kensington Gardens Square, W. 2. (July, 1930.)
- DUYEEN, Mrs. ; Broadway, Limpsfield, Surrey. (Sept., 1927.)
- DUYEND, W. C. ; Koppelwig 151, Huize, "Casarca," Zeist, Holland. (March, 1927.)
- ECKWORTH, FRED. C. ; 1258 Marlowe Avenue, Lakewood, Ohio, U.S.A. (Jan., 1934.)
- EDWARDS, Mrs. A. E. ; Three Elms, Kippington, near Sevenoaks, Kent. (Jan., 1925.)
- ELLIOTT, F. S. ; 31 Kelvin Road, Ipswich, Suffolk. (Nov., 1925.)
- EPHROCK, GEORGE ; 118 Harley Street, W. 1. (April, 1926.)
- ELWES, Mrs. ROBERT ; Little Cougham, King's Lynn, Norfolk. (Dec., 1926.)
- ENDTZ, A. M.D. ; Loosduinen, 369 Haagweg, Holland. (Oct., 1932.)
- ENHJELM, C. AF. ; Osterhrogade 42, Copenhagen, Denmark. (Rejoined.)
- ENGLISH, W. L., M.B. ; High Street, Haslington, Crewe. (Oct., 1931.)
- ESSEX, Countess of ; Old Manor House, Wingrave, Aylesbury. (April, 1933.)
- EVANS, C. E. H. ; 86 High Street, Hornchurch, Essex. (July, 1933.)
- EVANS, Miss JOAN ; 8 South Eaton Place, S.W. 1. (Jan., 1929.)
- EVANS, R. M. ; Inglewood, Ratcliffe Road, Leicester. (March, 1927.)
- EUSTACE, C. H. ; c/o P.O. Box 252, Shanghai, China. (Feb., 1927.)
- EZRA, ALFRED, O.B.E., F.Z.S., M.B.O.U. ; (*President*), Foxwarren Park, Cobham, Surrey. (1912.)
- EZRA, Sir DAVID, Kt., F.Z.S., M.B.O.U. ; 3 Kyd Street, Calcutta, India. (June, 1912.)
- FABIAN, CYRIL ERIC ; 29 Meadowcroft Road, Palmers Green, N. 13. (March, 1930.)
- FERGUSON, A. B. ; 22 Duke Street, Kilmarnock. (April, 1931.)
- FETHERSTONHAUGH, Mrs. ; The Rosery, Exning, Newmarket, Cambs. (April, 1930.)
- FIELD, Mrs. NORMAN ; Lartington Hall, Lartington, Yorkshire. (June, 1933.)
- FILLMER, H. R. ; Oakfield, Hurst Road, Hassocks, Sussex. (*Orig. Mem.*)
- FOOK, H. A. ; Zoological Gardens, Alipore, Calcutta, India. (Jan., 1932.)
- FOOKS, F. G. ; c/o Mon. J. Delacour, Chateau de Clères, Seine Inférieure, France. (Jan., 1926.)
- FROST, WILFRED ; c/o Zoological Society, Regent's Park, N.W. 8. (July, 1908.)
- FROSTICK, JOHN ; 303 High Road, Streatham Common, S.W. 16. (April, 1933.)
- FURNER, A. C. ; Oakdene, Whitaker Road, Derby. (Oct., 1929.)
- GAMBLE, Miss KATHLEEN A. ; 31 Roundwood Way, Banstead, Surrey. (March, 1930.)

- GANGULI, S., C.M.Z.S. ; Superintendent Zoological Gardens, Alipore, Calcutta, India. (June, 1931.)
- GARCKE, Mrs. C. ; Ditton House, Near Maidenhead. (June, 1916.)
- GARGINI, G. ; The Bull's Head Hotel, Aylesbury, Bucks. (June, 1933.)
- GARRETT, ROBERT ; Lannevan, Knock, Belfast. (April, 1933.)
- GHIGI, il Prof. ALLESSANDRO ; Via D'Azeglio, Bologna, Italy.
- GIBBINS, WILLIAM B., F.Z.S. ; Ettington, near Stratford-on-Avon. (June, 1895.) (*Hon. Mem.*)
- GLADSTONE, HUGH, M.A., F.Z.S., F.R.S.E., F.S.A.Scot. ; Capenoch, Thornhill, Dumfriesshire. (Dec., 1932.)
- GLENISTER, A. G., F.Z.S., M.B.O.U. ; The Barn House, East Blatchington, Seaford. (June, 1928.)
- GLOVER, PERCY H. ; Broadlands, Fareham, Hants. (June, 1931.)
- GODDARD, H. E. ; Birchcroft, Fetcham, near Leatherhead. (Feb., 1899.)
- GODDARD, Mrs. ; Fernham House, Faringdon, Berks. (Feb., 1923.)
- GOLDER, H. G., F.Z.S. ; Hon. Secretary and Treasurer Norwich Alliance All England C.B.d., 37 Crown Road, Norwich. (June, 1931.)
- GOODALL, A. W. ; 133 Denton's Green Lane, St. Helen's, Lanes. (March 1933.)
- GOODHEART, Commander LEANDER McCORMICK, R.N.V.R. (Retd.), O.B.E., F.R.G.S. ; Langley Park, Silver Spring, Maryland, U.S.A. (Dec., 1927.)
- GOSSE, Mrs. JAMES ; 9 Park Terrace, Park Side, South Australia. (July, 1923.)
- GRAINGER, Capt. LIDDELL ; Ayton Castle, Ayton, Berwickshire. (Aug., 1927.)
- GRAY, HENRY, M.R.C.V.S. ; 85 Earls Court Road, W. 8. (June, 1906.)
- GREED, P. E. ; Superintendent, Zoological Gardens, Clifton, Bristol. (Jan., 1933.)
- GREEN, H. BAREHAM ; The Godlands, Maidstone, Kent. (June, 1930.)
- GREEN, ROLAND, F.Z.S. ; 84 Elgin Road, Seven Kings, Essex. (Sept., 1926.)
- GREENWOOD, HENRY R. ; Kenwood, Bradford Road, Bingley, Yorkshire. (Nov., 1928.)
- GREGORY, Mrs. ; Melville, Parkstone, Dorset. (Dec., 1901.)
- GROVES, Hon. Mrs. McGAREL ; Battramsley House, Lymington, Hants. (March, 1917.)
- GRUNZIG, B. FRANK ; 38 Livingstone Avenue, Avenel, New Jersey, U.S.A. (Jan., 1933.)
- GUBBAY, Mrs. MAURICE ; 30 Hill Street, Berkeley Square, W. 1. (Feb., 1928.)
- GULBENKIAN, C. S. ; 51 Avenue d'Jéna, Paris xvii<sup>e</sup> Paris. (Dec., 1908.)
- GURNEY, DANIEL ; The Grange, North Runcton, King's Lynn. (July, 1927.)
- GURNEY, Miss DIANA ; North Runcton Hall, King's Lynn. (July, 1927.)
- GURNEY, G. H., F.Z.S. ; Keswick Hall, Norwich. (Sept., 1918.)
- HACHISUKA, The Marquess. ; Mita Shiba, Tokyo, Japan. (July, 1932.)
- HAGGIE, Mrs. E. M. ; Endcliffe Crescent, Sheffield. (Jan., 1934.)
- HALL, Lady ; Mogador Point, Lower Kingswood, Tadworth, Surrey. (Feb., 1933.)
- HALL, T. WALTER ; 6 Gladstone Road, Sheffield. (Nov., 1926.)
- HAMERTON, Col. A. E., C.M.G., D.S.O. ; 1 Park Village West, Regent's Park, N.W. 1. (Dec., 1930.)

- HAMPE, ALEX. ; c/o Mrs. Hillmann, Beekstrasse 1, Koenigsberg 1, Preussen, Germany. (Jan., 1927.)
- HANKEY, ALGERNON A., F.Z.S. ; 71 Lissenden Mansions, Highgate Road, N.W. 5. (June, 1923.)
- HANSELL, FRANK A. D. ; The Croft, Muthill, Perthshire. (May, 1925.)
- HARMAN, Miss KNOBEL, F.Z.S. ; 27 Grosvenor Street, Grosvenor Square, W. 1. (Sept., 1928.)
- HARRINGTON, T. J. S. ; 8 Ealing Park Gardens, Ealing, W. 5. (Jan., 1933.)
- HARVEY, P. T. ; Farleigh, 170 King's Road, Westcliff-on-Sea, Essex. (Nov., 1926.)
- HASTINGS, P. H. ; Old Engine House, Milton, Portsmouth. (March, 1930.)
- HATHERTON, The Lady ; Hatherton Hall, Cannock, Staffs. (June, 1933.)
- HEAL, C. H. ; Stanley Villa, Paulton, Somerset. (Sept., 1932.)
- HERB, THOMAS ; Croft House, Old Aylestone, Leicester. (April, 1914.)
- HEGAN, J. A. S. ; Mandeville Street, Portadown, Northern Ireland. (March, 1933.)
- HELLEN, G. H. A. ; 60 Fore Street, Bodmin, Cornwall. (Feb., 1928.)
- HINE-HAYCOCK, A. L. ; Kittery Court, Kingswear, Devon. (Aug., 1932.)
- HIGHAM, WALTER E., F.R.P.S., F.R.G.S., F.Z.S., M.B.O.U. ; The Oaks, Clayton-le-Dale, near Blackburn, Lancs. (Jan., 1934.)
- HIRST, ALBERT ; 10 Talbot Avenue, Egerton, Huddersfield. (July, 1923.)
- HIRST, ARNOLD ; P.O., Box 262 DD, Sydney, N.S.W., Australia. (April, 1929.)
- HIRST, ROBERT S. ; Swincliffe House, Gomersal, near Leeds. (Rejoined.)
- HOBOKEN, J. H. VAN ; Rotterdamsche Ryweg, 193 Oberschie, Holland. (Oct., 1927.)
- HOLLAS, Mrs. K. E. ; Red Scar, Grimsargh, near Preston. (Oct., 1922.)
- HOLLOND, Miss GLADYS M. B. ; 5 Norfolk Crescent, Hyde Park, W. 2. (March, 1930.)
- HOLMES, Mrs. CARL ; 56 Avenue Road, Regent's Park, N.W. (June, 1929.)
- HOLROYD, GEORGE E., F.Z.S., M.B.O.U. ; Cardrona, Baildon, Yorkshire. (May, 1933.)
- HOLT, Miss ESTHER ; Axholme, Noctorum, Birkenhead, Cheshire. (Jan., 1934.)
- HONE, Capt. T. N. ; Highways, Bellingdon, Chesham, Bucks. (Nov., 1927.)
- HOPKINS, W. E., F.Z.S. ; 6 Queen Street, Scarborough. (July, 1933.)
- HOPKINSON, EMILIUS, C.M.G., M.A., M.B.Oxon., D.S.O., F.Z.S. ; Wynstay, Balcombe, Sussex. (Oct., 1906.)
- HOPSON, FRED C. ; Porchester, Newbury. (March, 1897.)
- HORNE, DOUGLAS PERCY ; 95 Oxford Gardens, W. 10. (Sept., 1928.)
- HORNER, Miss D. ; Riccall, York. (Aug., 1931.)
- HORSBRUGH, C. B. ; Blessington House, Hillsborough, Co. Down.
- HORSFORD, D. M. ; Bosvathick, Penryn, Cornwall. (Aug., 1922.)
- HOUSDEN, Major E. F., M.C. ; 98 High Street, Harrow, N. (Jan., 1934.)
- HOUSDEN, Major E. J. T., M.C. ; Royal Artillery Mess, Fenham Barracks, Newcastle-upon-Tyne, Northumberland. (Jan., 1934.)
- HOUSDEN, JAMES B. ; Brooklyn, 31 Cator Road, Sydenham, S.E. 26. (*Orig. Mem.*)
- HOUSDEN, Dr. LESLIE ; Caldecotts, Church Square, Basingstoke, Hants. (March, 1933.)

- HUCKLE, Mrs. GEORGE; The Bungalow, 14 Park Lane, Salisbury. (Jan., 1928.)
- HUMPHRIES, WALTER JOHN; 32 Cedric Road, Crumpsall, Manchester, 8. (Feb., 1931.)
- HUTCHINSON, Miss ALICE; address unknown. (Aug., 1907.)
- IMPARATI, Dr. Prof. EDOARDO; Ravenna, Italy. (Jan., 1932.)
- IRVINE, W. J.; 36 Ann Street, Belfast. (June, 1926.)
- IRVINE, Mrs. CHRISTINE; Blakeway, Allport Road, Bromborough, Cheshire. (March, 1930.)
- JABOUILLE, M. P.; Gouvernement de la Cochinchine, Saigon, French Indo-China. (Feb., 1927.)
- JARVIS, Miss I. F.; The Old Manor, Salisbury. (Aug., 1930.)
- JEFFERSON, Miss D. D.; Beehive Cottage, Maidencombe, near Newton Abbot, S. Devon. (May, 1932.)
- JENNISON, GEORGE, M.A., F.Z.S.; Barwick Lodge, Disley, Cheshire. (April, 1918.)
- JOHNSON, F.; Downham Tavern, Bromley, Kent. (Jan., 1933.)
- JOHNSTON, ROBERT PERCY; West House, Wigton, Cumberland. (March, 1925.)
- JONES, Captain C. F. WARD; Harness Grove, Worksop, Notts. (Oct., 1933.)
- JONES, F. T.; Mile End, Knutsford, Cheshire. (Oct., 1933.)
- JONES, H.; 146 Victoria Street, Blackburn, Lancs. (Jan., 1932.)
- JONES, W. A.; 54 Stockwell Park Road, S.W. 9. (Feb., 1933.)
- KANGIESER, Henry F., jr.; Menlo Oaks Drive, Menlo Park, Calif., U.S.A. (May, 1933.)
- KEATOR, BEVERLEY, R.F.D.; 12 Westport, Conn., U.S.A. (June, 1924.)
- KEMP, ROBERT; 5 Rose Hill, Lostwithiel, Cornwall. (March, 1926.)
- KERR, G. ERNEST; Harviestoun, Dollar, Scotland. (March, 1927.)
- KERR, Miss MOLLY; Russetings, Balcombe, Sussex. (Jan., 1934.)
- KEWLEY, Mrs. M. A.; Old Court House, Whitechurch, Aylesbury, Bucks. (Sept., 1910.)
- KHALEK, J. A., B.Eng. (Sheff.); Engineer in the Egyptian State Railway Loco. Works, 68 Leigh Road, Eastleigh. (Dec., 1931.)
- KINGWELL, Miss FRANCES; Beechfield, S. Brent, S. Devon. (June, 1929.)
- KISNER, BARNETT; Passauer Street, 37A, Berlin, W. 50, Germany. (Nov., 1933.)
- KLAASEN, WM.; c/o Holland-America Line, 120 Market Street, San Francisco, Calif., U.S.A. (Jan., 1932.)
- KNIGHT, RONALD D.; 144 Knighton Church Road, Leicester. (March, 1932.)
- KNOBEL, Miss E. MAUD, F.Z.S., M.B.O.U.; 86 Regents Park Road, N.W. 1. (Aug., 1916.) Hon. Mem. (*Hon. Secretary and Treasurer*).
- KUNTZ, P.; 289 Edmonton Street, Winnipeg, Manitoba, Canada. (May, 1930.)
- LAIDLAY, J. C.; Lindores, Fife, Scotland. (April, 1929.)
- LAMBERT, PAUL; Newton, Yorkshire. (Sept., 1929.)
- LANCASTER, Mrs.; Syerscote, Streetly, Staffs. (Dec., 1923.)

- LANGHAM, Sir CHARLES, Bart.; Tempo Manor, Co. Fermanagh, Ireland. (July, 1932.)
- LAUDER, P.; 646 Barker Road, The Peak, Hong-kong, China.
- LAW, Dr. SATYA CHURN, F.Z.S., M.B.O.U., M.A., B.L., Ph.D.; 50 Kailas Bose Street, Calcutta. (1919.)
- LAX, J. M. S.; Southfield, Crook, Co. Durham. (Jan., 1930.)
- LEACH, C. F.; Vale Lodge, Leatherhead, Surrey. (June, 1914)
- LECALLIER, Madame, F.Z.S.; La Villette, Saint-Pierre-lès Elbeuf (S. 1.), France. (April, 1918.)
- LEGENBRE, M.; 25 Rue La Condamine, 17<sup>e</sup>, Paris. (June, 1928.)
- LEIGH-SMITH, Miss N.; Crotestei, Headley Down, Borden, Hants. (Jan., 1934.)
- LEMP, EDWIN A.; Cragbold, Kirkwood, Missouri, U.S.A. (March, 1929.)
- LESLIE, CLEMENT M.; 22 Meadowside, Dundee. (Jan., 1932.)
- LESSE, MAURICE DE; Villa des deux Jeannettes (pont du Fournat), Saint Raphaël, Var, France. (Jan., 1933.)
- LEWIS, ARTHUR, F.Z.S.; Brambleside, Ferndown, Dorset. (Jan., 1926.)
- LEWIS, E. H.; Box 192, Avalon, Catalina Island, California, U.S.A.. (Sept., 1928.)
- LEWIS, Colonel F. E. C.; Hundridge Game Farm, Ltd., Hambledon, Hants. (Rejoined.)
- LEWIS, J. SPEDAN, F.Z.S.; Leckford Abyss, Stockbridge, Hants. (Sept., 1924.)
- LIBRARY INTERNATIONAL INSTITUT D'AGRICULTURE, Villa Umberto I. Rome, 10.
- LIGHTFOOT, J. G.; The Gables, Upton Heath, Chester. (May, 1927.)
- LILFORD, The Lady; Lilford Hall, Oundle, Northants. (Jan., 1898.)
- LINCOLN, E. R. W.; c/o *Cage Birds*, Dorset House, Stamford Street, S.E. 1. (July, 1932.)
- LLOYD, Mrs.; Greenmore Hill, Woodcote, nr. Reading. (Jan., 1928.)
- LOCKEY, R.; Creighton House, Morpeth. (July, 1927.)
- LODGE, GEORGE E., F.Z.S., Hawkhouse, Park Road, Camberley, Surrey. (May, 1923.)
- LONGDON, Mrs. C. A.; Arreton, Epsom Road, Guildford. (Feb., 1909.)
- LOSKY, R. F.; Chiclayo, Perú. (Jan., 1930.)
- LOVELACE, The Countess of; Wentworth House, Chelsea Embankment, S.W. 3. (May, 1906.)
- LOWE, Rev. J. R.; S. Phillip and All Saints Vicarage, Markesbury Avenue, Richmond, Surrey. (June, 1927.)
- LUPTON, Miss E. M.; Beechwood, Elmete Lane, Roundhay, Leeds. (Aug., 1933.)
- LYNDE, Dr. ROY; Elendale, North Dakota, U.S.A. (June, 1931.)
- LYON, Capt. the Hon. MICHAEL; Glamis Castle, Glamis, Forfarshire. (May, 1927.)
- MCCANCE, DAVID; Strand Town, Belfast. (July, 1932.)
- MCCORQUODALE, Mrs.; Cound Hall, Shrewsbury. (Jan., 1920.)
- MCCULLAGH, CRAWFORD; Lismara, White House, Belfast, Northern Ireland. (June, 1930.)

- McCUTCHAN, WILLIAM A. ; 18 Selby Lane, Menlo Park, California, U.S.A. (Oct., 1931.)
- McGREDY, SAMUEL ; Ashton, Portadown, Northern Ireland. (June, 1928.)
- MACK, WILLIAM ; 26 Wasley Street, Mt. Lawley, Western Australia. (Feb., 1931.)
- MACKIE, PHILIP C. ; Tudor Cottage, Orville Gardens, Headingley, Leeds. (Jan., 1926.)
- MACKLIN, C. H., M.R.C.S., L.R.C.P., F.Z.S. ; 23 Church Street, Amthill, Beds. (May, 1923.)
- McMILLAN, ARNOLD Dr. ; Ivy House, New Romney, Kent. (March, 1930.)
- McLINTOCK, Miss M. H. ; The Grove, Catton Grove Road, Norwich. (July, 1927.)
- MACPHERSON, D. ; Home Farm, Powick, Worcester. (Aug., 1931.)
- MABRAUX, E. (Ingénieur Agronome I.A.G.) ; 41 Rue de la Ruhe, Bruxelles, Belgium. (July, 1929.)
- MALLAM, Dr. D. ; Oakfield, Station Road, Redhill, Surrey. (May, 1930.)
- MALONE, Mrs. M. L'ESTRANGE ; West Lodge, Malton, Yorks. (Dec., 1931.)
- MANCHESTER PUBLIC LIBRARIES ; Charles Nowell, F.L.A. (Chief Librarian), Piccadilly, Manchester. (July, 1913.)
- MANSBRIDGE, Captain H. ; Gellibrands, Chalfont St. Peter, Bucks. (July, 1933.)
- MANWARING, Mrs. ; Crossway, Knole Paddock, Sevenoaks, Kent. (Jan., 1933.)
- MARESI, POMPEO M. ; 36 W. 44th Street, New York, N.Y., U.S.A. (June, 1924.)
- MARSDEN, J. W., F.Z.S. ; Greylands, Lower Heysham, Lancs. (March, 1914.)
- MARSHALL, ARCHIBALD McLEAN, F.Z.S. ; 6 Warrior Square Terrace, St. Leonards-on-Sea. (Jan., 1906.)
- MARTEN, L. H., O.B.E., F.Z.S. ; Tilton, near Battle, Sussex. (June, 1930.)
- MARTIN, A. ; Keswick Hall, Norwich. (Oct., 1930.)
- MARTIN, F. ; Boltro Road, Haywards Heath, Sussex. (July, 1933.)
- MARTINDALE, GERALD ; The Marldon Aviaries, near Paignton, S. Devon. (Jan., 1933.)
- MATSUNAGA, YASUMORI ; Kashima-Machi, Fujigun, Shizuoka-ken, Japan. (March, 1928.)
- MAXWELL, C. T. ; 1 Shardcroft Avenue, Herne Hill, S.E. 24. (Dec., 1908.)
- MAXWELL, P. H. ; Ebberley Hill, St. Giles, near Torrington, N. Devon. (Oct., 1929.)
- MAXWELL-JACKSON, Miss M. ; Percy House, Scatton, Knaresborough, Yorks. (Jan., 1913.)
- MAYER, F. W. SHAW ; Wulfruna, 88 Concord Road, Homebush, Sydney, Australia. (Aug., 1922.)
- MAYNARD, C. GORDON ; Springfield, Northaw, Potters Bar, Herts. (Aug., 1928.)
- MEADE-WALDO, E. G. B., F.Z.S., M.B.O.U. ; Stonewall Park, Chiddingstone, Kent. (Jan., 1895.)
- MELVILL, Mrs. E. G. ; Orchard House, Mount View, Ruxley Heights, Claygate, Surrey. (Jan., 1934.)
- MIDDLETON, John ; 121 Heath Road, Uttoxeter. (Jan., 1934.)
- MILLER, S. P. ; Northend, Gloucester Road, Teddington.

- MINTMAN, Dr. D. : 138 Stoke Newington Road, N. 16. (Aug., 1932.)
- MITCHELL, Mrs. E. W. ; Rosetiles, Le Touquet (Pas de Calais), France. (Dec., 1933.)
- MITCHELL, Mrs. ; Postlip Hall, Winchcombe, Glos. (May, 1933.)
- MOODY, A. F. ; Lilford, Barnwell, Peterborough. (July, 1926.)
- MOORE, H. ; Chapel Road, Tadworth, Surrey. (July, 1928.)
- MOORE, ROBERT T. ; Box 28a, Pasadena, California, U.S.A. (July, 1928.)
- MOORISON, A. ; The Oaks, Paddockhall Road, Haywards Heath, Sussex. (Jan., 1932.)
- MOSS, Mrs. W. E. ; The Manor House, Sonning-on-Thames, Berks. (March, 1928.)
- MOTT, B. ; 11 Wheelcys Road, Edgbaston, Birmingham. (Rejoined.)
- MOUNTAIN, Capt. WALTON ; Groombridge Place, Kent. (Feb., 1923.)
- MOYSER, E. H. ; 36 North Lodge Terrace, Darlington. (Jan., 1934.)
- MULICK, JITENDRO, F.Z.S. ; Marble Palace, Calcutta, India. (Aug., 1933.)
- MURAT, PRINCE PAUL, F.Z.S. ; Chateau de Rocheplatte, par Aulnay-la-Rivière, Loiret, France. (July, 1923.)
- MURPHY, JOHN (District Commissioner) ; Kipini, Tana River, Kenya Colony. (Oct., 1932.)
- NELSON, RICHARD, 735 Holderness Road, Hull. (April, 1925.)
- NEWELL, Dr. D. S. ; 402 First National Bank Building, Connellsville, Pa., U.S.A. (Oct., 1930.)
- NEWMAN, T. H., F.Z.S., M.B.O.U. ; Verulam, 46 Forty Avenue, Wembley Park, Middlesex. (May, 1900.)
- NEWMARCH, C. T., F.Z.S. ; Gamage's Ltd., Holborn, W.C. (Aug., 1915.)
- NICOL, HAMISH, F.R.C.S., F.Z.S. ; Hillside, Christchurch Road, Hampstead, N.W. 3. (Jan., 1926.)
- NICHOLSON, ALFRED E. ; Blenheim, Forthview Terrace, Blackhall, Edinburgh. (Feb., 1925.)
- NICHOLSON, NORMAN. ; Edenvale, Weardale Place, Grange Estate, Stockton-on-Tees. (Feb., 1931.)
- NIGHTINGALE, F. B., F.R.I.B.A. ; 73 Albert Bridge Road, S.W. 11. (Dec., 1933.)
- NORCROSS, HERBERT ; Normanhurst, Mount Road, Middleton, Lancs. (March, 1930.)
- NORRIS, H. M. ; Lowood, 17 View Road, Highgate, N. 6. (Oct., 1931.)
- ORERHOLSER, HARRY C. ; 2805 18th Street, N.W. Washington, D.C., U.S.A. (Oct., 1903.)
- Ogilvie, Mrs. BRENDA ; Bonaly Tower, Colinton, Midlothian. (May, 1927.)
- ORMSBY, Miss E. M. ; Belmont Bungalow, Forest Lane, Harrogate. (Nov., 1927.)
- OSTREHAN, CLEMENT ; Kington Rectory, Worcester. (Jan., 1928.)
- PALMER, G. E., F.Z.S. ; 83 Park Street, Camden Town, N.W. 1. (March, 1926.)
- PAM, Major ALBERT, F.Z.S. ; Wormleybury, Broxbourne, Herts. (Jan., 1906.)
- PARKER, WINDSOR D. ; Clopton Hall, Woolpit, Suffolk. (March, 1930.)

- PATRICK, LEON, M.D.; Smith Grote Building, Orange, California U.S.A. (Dec., 1926.)
- PATTERSON, A. J.; Ripon, Ruxley Lane, Ewell. (Jan., 1933.)
- PATTON, J. V.; Hollister, California, U.S.A. (Oct., 1930.)
- PEARSE, Mrs.; Channel View, Bembridge, Isle of Wight. (Rejoined.)
- PEART, Miss; Edgarley, Broomfield Avenue, Palmers Green, N. 13. (March, 1927.)
- PEERS, E. R.; Lee Cottage, South Nutfield, Surrey. (Rejoined Jan., 1932.)
- PEMBLETON, THOMAS; Sudbury Aviaries, 120 Watford Road, Wembley, Middlesex. (March, 1930.)
- PETERSON, Mrs.; Applehill, Kelling, near Holt, Norfolk. (July, 1929.)
- PHILLIPS, Dr. JOHN C.; Wenham, Mass., U.S.A. (March, 1910.)
- PICKFORD, RANDOLPH JOHN; Etherley Lodge, Nr. Bishop Auckland. (Feb., 1903.)
- PIERRE, Mrs. LILLIAN C.; Hotel Pierre, Fifth Avenue and 61st Street, New York City, U.S.A. (April, 1932.)
- PIKE, L. G., F.Z.S.; King Barrow, Wareham, Dorset. (1912.)
- PLATH, KARL; 2847 Giddings Street, Chicago, U.S.A. (July, 1924.)
- PLEDGE, Miss BERYL ISABEL DE; 9 Beaufort House, Beaufort Street, Chelsea, S.W. 3. (June, 1932.)
- POLE, Lady; Calcot Place, Reading. (Jan., 1933.)
- POLTMORE, Lady; Court Hall, North Molten. (Jan., 1926.)
- PORTER, SYDNEY, F.Z.S.; The White Gates, Stenson Road, Derby. (April, 1920.)
- PORT, Miss J.; Twisly, Catsfield, Battle, Sussex. (Oct., 1928.)
- POTTER, BERNARD E., M.B., M.R.C.S., L.R.C.P., F.Z.S.; 17 Portland Place, W. (Mar., 1914.)
- POTTER, W. H.; Whetherill, Fitzwillian Avenue, Harold Wood, Essex. (July, 1926.)
- PRINCETON UNIVERSITY LIBRARY; U.S.A.
- PYCRAFT, W. P., A.L.S., F.Z.S., M.B.O.U., etc.; British Museum (Nat. Hist.), Cromwell Road, S.W.7. (Nov., 1904.) (*Hon. Mem.*)
- PYMAN, Miss E. E.; West House, West Hartlepool. (June, 1919.)
- QUINCEY, R. S. DE Q.; The Vern, Bodenham, Hereford. (April, 1913.)
- RATTIGAN, Capt. G. E.; Hillcrest, Osney Gardens, Paignton, S. Devon. (Aug., 1908.)
- REEVE, Capt. J. S., F.Z.S.; Leadenham House, Lincoln. (March, 1908.)
- REVENTLOW, AXEL; Zoological Garden, Kobenhavn F., Denmark. (Jan., 1928.)
- RICHARDS, H.; 22 Southgate, Redruth, Cornwall. (March, 1929.)
- RIEVELEY, JOHN W.; St. Oswald's Gate, Fullford, York. (June, 1929.)
- RIX, G. W.; Lime Tree House, Stone, Staffs. (Jan., 1933.)
- ROBERTS, H.; Bagatelle, Market Harborough. (Aug., 1927.)
- ROBERTS, Miss IDA; Beaumaris, Montpelier Street, Hobart, Tasmania. (Jan., 1923.)
- ROBINSON, Miss ELSIE; Oatlands, Camberley, Surrey. (Sept., 1929.)
- ROBINSON, JOHN H.; 23 Cavendish Street, Ramsgate. (Sept., 1927.)

- ROGERS, H. E., F.Z.S.; Zoological Park, Emswood Road, Mossley Hill, Liverpool. (June, 1919.)
- ROGERS, Col. J. M., D.S.O., F.Z.S., M.B.O.U. (late Royal Dragoons); Riverhill, Sevenoaks. (April, 1907.)
- ROGERS, Mrs.; Keston, Sea Road, Barton-on-Sea, Hants. (Feb., 1925.)
- ROOPER, Mrs. F.; 11 Maze Hill, St. Leonard's-on-Sea. (Aug., 1924.)
- ROTHSCHILD, JAMES DE; 46 Park Street, W. I. (March, 1923.)
- ROTHSCHILD, LIONEL DE; 18 Kensington Palace Gardens. (Nov., 1913.)
- ROUSE, R. F.; Mountlands, 64 Westfield Road, Edgbaston, Birmingham. (Nov., 1932.)
- ROWE, WINSTON S.; St. Lawrence, Lansdown Road, Torquay. (Jan., 1934.)
- ROY-LEWIS, Mrs. LE; Craythornes, New Romney, Kent. (June, 1933.)
- ROYSTON, Mrs. R. C.; Kibore, Sotik, Kenya. (Jan., 1932.)
- RUDEIN, FRANCIS H.; R.I., Box 31, Fillmore, California, U.S.A. (May, 1929.)
- RUMSEY, LACY; 23 Rua de Serpa Pinto, Villa Nova de Gaya, Oporto, Portugal. (April, 1919.)
- RUSHWORTH, Mrs. CYNTHIA; Beechfield, Walton-on-Thames, Surrey. (Aug., 1932.)
- RUSSELL, Sir CLAUD, K.C.M.G.; The Foreign Office, Whitehall. (Jan., 1930.)
- RYAN, B. J.; Executive Engineer, P.W.D., Jaipur State, Rajputana, India. (Aug., 1926.)
- RYAN, G. E.; 31 Porchester Terrace, Hyde Park, W. (June, 1931.)
- RYGROFT, Mrs.; Stratton Rise, Cirencester, Glos. (Oct., 1927.)
- SALTER, FRANK H.; 5 The Crescent, Scarborough. (April, 1930.)
- SCHÜTZE, EDUARD; Humboldestr. 25, Kassel, Germany. (Feb., 1927.)
- SARABHAI, AMBALAL; The Retreat, Shahibagh, Ahmedabad, India. (Jan., 1934.)
- SCHUYL, D. G.; Kralingscheweg 332, Rotterdam, Holland. (Jan., 1914.)
- SCLATER, W. L., M.A., F.Z.S.; 10 Sloane Court, S.W.3. (Aug., 1904.)
- SCOTT, Capt. B. HAMILTON; Drayton, Foxhall Road, Rushmere St. Andrew, Ipswich. (1912.)
- SCOTT, C. B.; Whitton, New South Wales, Australia. (Aug., 1932.)
- SCOTT-HOPKINS, Capt. C.; Low Hall, Kirby Moorside, Yorks. (July, 1928.)
- SCRIBE, Monsieur RENÉ; 38 Coupure, Gand, Belgium. (Oct., 1925.)
- SEPPINGS, Lieut.-Col. J. W. H., F.Z.S.; c/o Lloyd's Bank, Ltd., Cox & King's Branch (K. Section), 6 Pall Mall, London, S.W. 1. (Sept., 1907.)
- SETH-SMITH, DAVID, F.Z.S., M.B.O.U.; Zoological Society, Regent's Park, N.W. 8. (Dec., 1894.) Hon. Mem. (*Editor.*)
- SEYMOUR, Mrs.; Kilbers Farm, Winkfield, Windsor. (Rejoined.)
- SHAKESPEARE, WALTER; Sefton, St. George's Hill, Weybridge. (Aug., 1926.)
- SHEARING, A. P.; The Aviaries, Foxwarren Park, Cobham, Surrey. (Dec., 1931.)
- SHERBROOK, WILLIAM; The Old Vicarage, Tadworth, Surrey. (April, 1931.)
- SHERRIFF, A., F.Z.S.; Edge Hill, 8 Ranulf Road, N.W. 2. (March, 1923.)
- SIBLEY, C. L.; Sunnyfields Farm, Wallingford, Conn., U.S.A. (Jan., 1934.)
- SILVER, ALLEN, F.Z.S.; 18 Baneswell Road, Newport, Mon.

- SIMPSON, ARCHIBALD ; Stone Gappe, Bardsey, Yorks. (Feb., 1901.)
- SIMPSON, H. W. ; 6 Barry Road, Stonebridge, Willesden, N.W. 10. (Nov., 1924.)
- SIMSON, Capt. RUFERT, O.B.E. ; Rickham, Bray, Berkshire. (July, 1932.)
- SISSONS, H. P. ; 8 Potter Street, Worksop, Notts. (April, 1927.)
- SLADE, G. J. ; Shenley, Wilton Crescent, Southampton. (Feb., 1915.)
- SMITH, A. GORDON ; c/o S. Smith & Sons (Motor Accessories), Ltd., Cricklewood, N.W. (March, 1931.)
- SMITH, A. ST. ALBAN, F.Z.S. ; Peradin Estate, Pontian, Johore, Malaya. (Feb., 1929.)
- SMITH, H. B. ; 3 Claremont Road, Redruth, Cornwall. (Oct., 1927.)
- SMITH, PAUL H. ; 11 Parkhill Road, Hampstead, N.W. 3. (June, 1927.)
- SMITH, W. PROCTOR, F.Z.S. ; Moorlands, Broad Road, Sale, Manchester. (Nov., 1917.)
- SMITH, W. W. ; Cranmer, Dower Avenue, Wallington, Surrey. (April, 1920.)
- SNELL, Mrs. NORRIS ; Redcote, Paget Road, Ipswich. (Feb., 1928.)
- SOUTHOFF, GEORGE DE, C.M.Z.S. ; 9-11 Via S. Spirito, Florence, Italy. (1921.) (*Hon. Mem.*)
- SOUTHPORT CORPORATION, CURATOR OF ; Hesketh Park, Southport. (Jan., 1904.)
- SWDEN, NORMAN ; Kirklands, Menston, near Leeds. (Feb., 1930.)
- SPALDING, Mrs. KEITH ; Maryland Hotel, Pasadena, California, U.S.A. (July, 1929.)
- SPENCER, HENRY ; Yew Court, Scalby, Yorkshire. (Sept., 1928.)
- SPICER, Dr. G. EVAN ; Fifield House, St. Albans, Herts. (Feb., 1933.)
- SPRAWSON, EVELYN ; M.C., M.R.C.S., F.Z.S., Cranford, Welcomes Road, Kenley, Surrey. (June, 1923.)
- SPROSTON, Mrs. ; Elm House, Nantwich, Cheshire. (June, 1917.)
- SPURWAY, N. B. ; Glenwood, Stoneygate, Leicester. (April, 1923.)
- STARK, J. ; Woods Cottage, Haddington, Scotland. (Jan., 1924.)
- STEPHENS, JOHN ; Kingswood Chase ; Hindhead, Surrey. (Sept., 1932.)
- STEVENS, RONALD ; Chapel Farm, Elmley Castle, Pershore, Worcestershire. (Feb., 1932.)
- STEYNE, ALAN N. ; American Vice-Consul, American Consular Service, Hamburg, Germany. (Sept., 1932.)
- STIGAND, Mrs. PEARSALL ; Antica Casa Colonica, 19 Via Augusto Baldesi, San Gervasio, Florence, Italy. (Dec., 1932.)
- STILEMAN, GERALD R. ; Chelsea Cottage, Hockering Gardens, Woking, Surrey. (Rejoined Feb., 1932.)
- STOKES, Capt. H. S., F.Z.S., M.B.O.U., M.C. ; Longdon, Stafford. (Oct., 1922.)
- STOREY, Mrs. A. ; Hawling Manor, Andoverford, Glos. (Nov., 1912.)
- STROMBI, Miss DORA A. ; 26 High Street, Brechin, Angus. (April, 1930.)
- SUGGITT, ROBERT ; Suggitt's Lane, Cleethorpes, Grimsby. (Dec., 1903.)
- SUMMERSKILL, C. C. ; 19 Alma Road, Winton, Bournemouth. (March, 1925.)
- SUTCLIFFE, ALBERT, F.Z.S. ; Beechfield, Grimsby. (Feb., 1906.)
- SWAN, J. C. ; Barclay's Bank D. C. & O., Dar-es-Salaam, Tanganyika Territory. (Nov., 1933.)
- SWEETNAM, Rev. J. E. ; The Vicarage, Taunton. (Feb., 1931.)

- SYKES, JOHN; Home Park Poultry Farm, Musselburgh, Midlothian. (Jan., 1912.)
- SYMES, IVER T. J.; Bridge House, Tadley, Hants. (July, 1930.)
- TAKA-TSUKASA, PRINCE NOBUSUKE, F.Z.S.; Kamimeguro, Meguro, Japan. (Feb., 1914.)
- TALBOT-PONSONBY, C. G.; Glebe House, Lindfield, Hayward's Heath, Sussex. (May, 1927.)
- TANNER, DR. FRANK L.; Vanvert House, Guernsey. (Jan., 1914.)
- TARONGA ZOOLOGICAL PARK TRUST; Mosman, Sydney, Australia. (Aug., 1913.)
- TAVISTOCK, The Marquess of, F.Z.S.; The Place House, Peasmarsh, Rye, Sussex. (1912.)
- TAYLOR, F. W., J.P.; Beachholme, Sunderland. (April, 1933.)
- TEAGUE, P. W.; The Knoll, Kilpeck, near Hereford. (June, 1930.)
- TENNANT, HON. STEPHEN; Wilsford Manor, Salisbury. (April, 1926.)
- TESCHEMAKER, W. E., B.A.; Ringmore, Teignmouth, Devon. (May, 1904.)
- THOM, ALFRED A.; Whitewell Lodge, Whitchurch, Salop. (June, 1913.)
- THOMAS, F. E.; "Edendale," Creswick Road, Springfield Park, Acton, W. 3. (Oct., 1931.)
- THOMASSET, BERNARD C., F.Z.S.; Seend, Near Melksham, Wilts. (July, 1896.)
- THOMSON, DR.; Bankstown, near Sydney, Australia. (Jan., 1926.)
- THOMPSON, MRS. A. C.; Glaisdale, Ely, Cambs. (Dec., 1924.)
- THOMPSON, Capt. G. W.; Ardwell, Steel Cross, Crowborough. (March, 1930.)
- THORNTON, JOHN ROBERT; Picture House Chambers, 4 Thornton Road, Bradford. (July, 1930.)
- THORPE, D. LOSH, M.B.O.U., F.Z.S.; The Aviaries, Loshville, Etterby Scarf, Carlisle. (Aug., 1930.)
- TODD, HORATIO, J.P., M.P.S.I., F.C.S.; Bromleigh, Neill's Hill, Belfast. (Aug., 1924.)
- TOMLINSON, MALCOLM R.; Shepherd's House, Inveresk, Midlothian. (April, 1913.)
- TRANSVAAL MUSEUM; The Director, Transvaal Museum, Pretoria. (Jan., 1921.)
- TRAVERS, MRS. J.; Windmill Cottage, Mayfield, Sussex. (Dec., 1903.)
- TUMA, F. L.; Riegrovo nab 34, Prague 2, Czechoslovakia. (May, 1933.)
- TURNER, A. L.; 476 Pitt Street, Sydney, N.S.W., Australia. (Oct., 1930.)
- TURNER, H. B.; Malverleys, near Newbury. (April, 1928.)
- TYSER, MRS.; Dudbrook, near Brentwood, Essex. (Jan., 1934.)
- UPPINGHAM SCHOOL; the school library, the Old School House, Uppingham. (Nov., 1920.)
- VALENTINE, ERNEST; 7 Highfield, Workington. (May, 1899.)
- VENNER, Rev. P. K.; Gosfield Vicarage, Halstead, Essex. (April, 1923.)
- VENNING, H. C.; Willett, Bicknaller, Taunton. (Jan, 1927.)
- VIERHELLER, GEO. P.; St. Louis Zoological Park, St. Louis, Mo., U.S.A. (March, 1928.)
- VOIGT, WALTER; 13, Feodorastrasse, Jena, Germany. (Jan., 1926.)
- VROOM, MRS. DOUGLAS E.; 555 South Wilton Place, Los Angeles, California, U.S.A. (Rejoined.)

- WALKER, Miss H. K. O.; Chesham, Bury, Lancs. (Feb., 1895.)
- WALL, Mrs.; Meadowside, Marlborough, Wilts. (Nov., 1924.)
- WATKINS, T. R. HOLMES; Shirley, Griffithstown, Monmouthshire. (May, 1932.)
- WATSON, Miss; Field Burcote, Towcester. (Jan., 1933.)
- WATSON, A. D.; c/o Feather Hill Ranch, 1595 East Valley Road, Santa Barbara, California, U.S.A. (June, 1930.)
- WAUD, Capt. L. REGINALD, F.Z.S., M.B.O.U.; Bradley Court, Chieveley, near Newbury. (May, 1913.)
- WAXMAN, A. E. WRIGHT DE BERRI; Maitai, Murray Road, Beecroft, N.S.W.
- WEBB, C. S.; Fairmeade, Canterbury Road, Lyminge, near Folkestone, Kent. (March, 1928.)
- WEBB, PATRICK B.; Barney's Brae, Randalstown, Co. Antrim, N. Ireland. (Aug., 1929.)
- WEBSTER, M. D.; 90 Kings Street, Inverbervie by Montrose. (April, 1931.)
- WESTMACOTT, Captain G. R., D.S.O., Rodwell Farm, near Lewes, Sussex. (Feb., 1933.)
- WESTMACOTT, Lady; Hotel Vendôme, Place Vendôme, Paris, 1°. (Dec., 1928.)
- WHARTON-TIGAR, Mrs. N., F.Z.S.; 67 Haverstock Hill, Hampstead, N.W. 3. (July, 1932.)
- WHITE, JOHN YORK; Chaseley, 22 Willett Way, Petts Wood, Kent. (Jan., 1925.)
- WHITLEY, HERBERT, F.Z.S.; Primley Hill, Paignton, S. Devon. (Sept., 1923.)
- WHITTINGHAM, W. NEVILLE; Stonefall Hall, near Harrogate. (Feb., 1928.)
- WILCOCKE, JOHN, B.A., M.B.O.U.; Hill Crest, Weston Coyney, Stoke-on-Trent. (April, 1931.)
- WILDEBOER, Dr. H. G.; Burnbrae, Holderness Road, Hull. (1924.)
- WILKINS, A.; Rendcombe, Chesham, Bucks. (April, 1930.)
- WILKINSON, Mrs.; The Hollies, Royston, Herts. (Oct., 1932.)
- WILLFORD, HENRY; Sans Souci, Havenstreet, Ryde, Isle of Wight. (Nov., 1907.)
- WILLIAMS, SIDNEY, F.Z.S.; 19 Beechdale, Winchmore Hill, N. 21. (Oct., 1910.)
- WILLIAMSON, T. F. M.; 339 McGee Avenue, Mill Valley, California, U.S.A. (Aug., 1917.)
- WILSON, AND., F.Z.S.; 233 Angyle Street, Glasgow. (April, 1927.)
- WILSON, Mrs. MAITLAND; Bagshot Heath, Camberley, Surrey.
- WILSON-JONES, Mrs. KATHLEEN; Lanivet, near Bodmin, Cornwall. (Jan., 1934.)
- WINTER, DWIGHT; Center and Negley Avenue, Pittsburgh, Pa., U.S.A. (1922.)
- WITHINGTON, Mrs.; Fringford Lodge, Bicester. (March, 1932.)
- WOOD, Dr. CASEY, F.Z.S.; McGill University Library, Montreal, Canada. (Sept., 1922.)
- WOOD, Miss ELLEN; Nokhroy, 27 Scott's Avenue, Shortlands, Kent. (Aug. 1933.)
- WOOD, Mrs. MURIEL; 8 Lambolle Road, N.W. 3. (July, 1927.)
- WOODCOCK, GEORGE; Bingwood, Hillside, Green Curve, Banstead, Surrey. (Jan., 1933.)

WORKMAN, WILLIAM HUGHES, F.Z.S., M.B.O.U. ; Lismore, Windsor Avenue,  
Belfast. (May, 1903.)

WRIGHT, R. N. ; 24 Clinton Road, Redruth, Cornwall. (Feb., 1930.)

YOUNGER, Major CHARLES ARTHUR JOHNSTON (Retired); 85 St. Thomas's  
Street, Portsmouth. (July, 1932.)

YOUNGER, Mrs. CHARLES ; 85 St. Thomas's Street, Portsmouth. (Feb., 1932.)

ZOOLOGICAL SOCIETY OF PHILADELPHIA ; 34th Street, and Girard Avenue,  
Philadelphia, Penn., U.S.A. (Jan., 1920.)



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 HAGLEY, S. V. ; Renmark, South Australia.  
 HAMILTON, Dr. WM. ; Wakefield Street, Adelaide, South Australia.  
 HARVEY, S. (*Hon. Secretary*) ; St. Austell, Burnside Road, Kensington Gardens, Adelaide, South Australia.  
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 KITCHEN, F. C. ; P.O., Box 16b, Broken Hill, N.S.W., Australia.  
 LEWIS, G. ; c/o A. & E. Lewis, Pirie Street, Adelaide, South Australia.  
 LIENAU, C. H. A. ; Newbury, 23 Victoria Avenue, Unley Park, South Australia.  
 MINCHIN, R. ; Zoological Gardens, Adelaide, South Australia.  
 SHEPHERD, Rev. H. E. G. ; Waikerie, South Australia.

## THE AVICULTURAL SOCIETY OF WESTERN AUSTRALIA

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HIGHAM, H. V. (*Secretary*); Dawne, 6 Karoo Street, South Perth, Western Australia.

## THE AVICULTURAL SOCIETY OF NEW ZEALAND

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 Auckland City Council; Mr. GRIFFIN, Representative, Auckland War Memorial Museum, Auckland, N.Z.  
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 GILFILLAN, Mr. S. E.; 3 Muritai Road, Takapuna, Auckland, N.Z.  
 HENLEY, A. E.; 66 Victoria Street West, Auckland, N.Z.  
 HOLDEN, L.; 29 Wapiti Avenue, Epsom, Auckland, S.E. 3., N.Z.  
 HUTCHINSON, G. ROLAND (*Hon. Secretary and Treasurer*); 5 Keith Avenue, Remuera, Auckland, N.Z.  
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 JONES, Mrs. E.; 337 Victoria Street, Hamilton, N.Z.  
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AUCKLAND, N.Z.  
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WHITNEY, GREY : 21A Victoria Avenue, Remuera, Auckland, N.Z.  
YOUNG, ROBT. : Tahora Avenue, Remuera, Auckland, N.Z.
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## Rules of the Avicultural Society

*As amended, November, 1930*

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1.—The name of the Society shall be THE AVICULTURAL SOCIETY, and its object shall be the study of Foreign and British Birds in freedom and in captivity. Poultry, Pigeons, and Canaries shall be outside the scope of the Society. The year of the Society, with that of each volume of the Society's Magazine, which shall be known as the AVICULTURAL MAGAZINE, shall commence with the month of January and end on the 31st of December following.

2.—The Avicultural Society shall consist of Ordinary and Honorary Members, and the latter shall be restricted in number to six, and be elected by the Council.

3.—The Officers of the Society shall be elected, annually if necessary, by members of the Council in the manner hereinafter provided, and shall consist of a President, one or more Vice-Presidents, a Secretary, an Editor, a Treasurer, an Auditor, a Scrutineer, and a Council of eighteen members. The Secretary, Editor, and Treasurer shall be *ex officio* Members of the Council.

4.—New Members shall be proposed in writing, and the name and address of every person thus proposed, with the name of the Member proposing him, shall be published in the next issue of the Magazine. Unless the candidate shall, within two weeks after the publication of his name in the Magazine, be objected to by at least two Members, he shall be deemed to be duly elected. If five members shall lodge with the Secretary objections to any candidate he shall not be elected, but the signatures to the signed objections must be verified by the Scrutineer. If two or more Members shall object to any candidate, the name of such candidate shall be brought before the Council at their next meeting, and the Council shall have power to elect or to disqualify him from election.

5.—Each Member shall pay an annual subscription of £1, to be due and payable in advance on the 1st of January in each year. New Members shall pay, in addition, an entrance fee of 10s.; and, on payment of their entrance fee and subscription, they shall be entitled to receive all the numbers of the Society's Magazine for the current year.

6.—Members intending to resign their membership at the end of the current year of the Society are expected to give notice to the Secretary before the 1st of December, so that their names may not be included in the "List of Members", which shall be published annually in the January number of the Magazine.

7.—The Magazine of the Society shall be issued on or about the first day of every month, and forwarded, post free, to all the Members who shall have paid their subscriptions for the year; but no Magazine shall be sent or delivered to any Member until the annual subscription shall have reached the hands of the Business Secretary or the Publishers. Members whose subscriptions shall not have been paid as above by the first day in November in any year shall cease to be Members of the Society, but may be re-admitted, at the discretion of the Council, on payment of the annual subscription.

8.—The Secretary, Editor, and Treasurer shall be elected for a term of five years, and, should a vacancy occur, it may be temporarily filled up by the Executive Committee (see Rule 10). At the expiration of the term of five years in every case it shall be competent for the Council to nominate the same officer, or another Member, for a further time of five years, unless a second candidate be proposed by not less than twenty-five Members of at least two years' standing, as set forth below.

In the November number of the Magazine preceding the retirement from office of the Secretary, Editor, or Treasurer, the Council shall publish the names of those members whom they have nominated to fill the vacancies thus created; and these members shall be deemed duly elected unless another candidate or candidates be proposed by not less than fifteen Members of at least two years' standing. Such proposal, duly seconded and containing the written consent of the nominee to serve, if elected, in the capacity for which he is proposed, must reach the Secretary on or before the 15th of November.

The Council shall also publish yearly in the November number of the Magazine the names of those members nominated by them for the posts of Auditor and Scrutineer respectively.

9.—The Members of the Council shall retire by rotation, two at the end of each year of the Society (unless a vacancy or vacancies shall occur otherwise) and two other Members of the Society shall be recommended by the Council to take the place of those retiring. The names of the two Members recommended shall be printed in the November number of the AVICULTURAL MAGAZINE. Should the Council's selection be objected to by fifteen or more Members, these shall have power to put forward two other candidates, whose names, together with the signatures of no less than fifteen Members proposing them, must reach the Hon. Secretary by the 15th of November. The names of the four candidates will then be printed on a voting paper and sent to each Member with the December number of the Magazine, and the result of the voting published in the January issue. Should no alternative candidates be put forward, in the manner and by the date above specified, the two candidates recommended by the Council shall be deemed to have been duly elected. In the event of an equality of votes the President shall have a casting vote.

If any Member of the Council does not attend a meeting for two years in succession the Council shall have power to elect another member in his place.

10.—Immediately after the election of the Council that body shall proceed to elect three from its Members (*ex officio* Members not being eligible). These three, together with the Secretary, Treasurer, and Editor, shall form a Committee known as the Executive Committee. Members of the Council shall be asked every year (whether there has been an election of that body or not) if they wish to stand for the Executive, and in any year when the number of candidates exceeds three there shall be an election of the Executive.

The duties of the Executive Committee shall be as follows :—

- (i) To sanction all payments to be made on behalf of the Society.
- (ii) In the event of the resignation of any of the officers during the Society's year, to fill temporarily the vacancy until the end of the year. In the case of the office being one which is held for more than one year (e.g. Secretary, Editor, or Treasurer) the appointment shall be confirmed by the Council at its next meeting.
- (iii) To act for the Council in the decision of any other matter that may arise in connection with the business of the Society.

The decision of any matter by the Executive to be settled by a simple majority (five to form a quorum). In the event of a tie on any question, such question shall be forthwith submitted by letter to the Council for their decision.

The Executive shall not have power

- (i) To add to or alter the Rules ;
- (ii) To expel any Member ;
- (iii) To re-elect the Secretary, Editor, or Treasurer for a second term of office.

It shall not be lawful for the Treasurer to pay any account unless such account be duly initialled by another Member of the Executive.

It shall be lawful for the Secretary or Editor to pledge the Society's credit for a sum not exceeding £50.

Should a Member wish any matter to be brought before the Council direct such matter should be sent to the Secretary with a letter stating that it is to be brought before the Council at their next meeting, otherwise communications will in the first place be brought before the Executive.

A decision of a majority of the Council, or a majority of the Executive endorsed by the Council, shall be final and conclusive in all matters.

11.—The Editor shall have an absolute discretion as to what matter shall be published in the Magazine (subject to the control of the Executive Committee). The Secretary and Editor shall respectively refer all matters of doubt and difficulty to the Executive Committee.

12.—The Council (but not a committee of the Council) shall have power to alter and add to the Rules, from time to time, in any manner they may think fit. Five to form a quorum at any meeting of the Council.

13.—The Council shall have power to expel any Member from the Society at any time without assigning any reason.

14.—Neither the office of Scrutineer nor that of Auditor shall be held for two consecutive years by the same person.

15.—The Scrutineer shall not reveal to any person how any Member shall have voted.

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## The Society's Medal

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### RULES

The Medal may be awarded at the discretion of the Committee to any Member who shall succeed in breeding, in the United Kingdom, any species of bird which shall not be known to have been previously bred in captivity in Great Britain or Ireland. Any Member wishing to obtain the Medal must send a detailed account for publication in the Magazine within about eight weeks from the date of hatching of the young, and furnish such evidence of the facts as the Executive Committee may require. The Medal will be awarded only in cases where the young shall live to be old enough to feed themselves, and to be wholly independent of their parents. No medal can be given for the breeding of hybrids, or of local races or sub-species of species that have already been bred.

The account of the breeding must be reasonably full so as to afford instruction to our Members, and must appear in the AVICULTURAL MAGAZINE before it is published or notified elsewhere. It should describe the plumage of the young, and *be of value as a permanent record of the nesting and general habits of the species.* These points will have great weight when the question of awarding the Medal is under consideration.

In every case the decision of the Committee shall be final.

The Medal will be forwarded to each Member as soon after it shall have been awarded as possible.

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The Medal is struck in bronze (but the Committee reserve the right to issue it in *silver* in very special cases) and measures  $2\frac{1}{2}$  inches in diameter. It bears on the obverse a representation of two birds with a nest containing eggs, and the words "The Avicultural Society—founded 1894". On the reverse is the following inscription: "Awarded to [*name of recipient*] for rearing the young of [*name of species*], a species not previously bred in captivity in the United Kingdom."

The Council may grant a special medal to any member who shall succeed in breeding any species of bird that has not previously been bred in captivity in Europe.



Illustration from the Journal of the Royal Society of London.

*Falkenstein's Sunbird*  
(*Cinnyris venustus falkensteinii*)  
*Reichenow's Golden-winged Sunbird*  
(*Drepanorhynchus reichenowii*)

Drawn from life by the Hon. Anthony Chaplin

Acc. No. 441  
12/12/06



THE

# AVICULTURAL MAGAZINE

THE JOURNAL OF THE  
AVICULTURAL SOCIETY

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## SOME NOTES ON A COLLECTING TRIP IN KENYA

By C. S. WEBB

This was my sixteenth voyage to Africa as a collector, but my first to Kenya Colony, and although well seasoned to travelling I was quite thrilled at the prospect of seeing new country, new birds, and different native tribes. I had previously been to the port of Mombasa *en passant* but it is of no great interest, being very hot and steamy with a cosmopolitan population comprised mostly of Indians, Arabs, Goannese, and Natives, with a very small percentage of Europeans. My objective was the far interior where I could come across many new species of birds which only frequent the mountainous country. With this object in view, I took the train to Nairobi some 330 miles inland. It was rather disappointing that the only daily train left Mombasa late in the afternoon, so that all the low bush country was passed through at night. I was very anxious to see such places as Tsavo, where in the early days when the railway was being built the man-eating lions completely held up the construction for a time, and were so fearless that men were attacked and dragged out of the trucks at night. The whole native population of this district was terrorized until the culprits were finally shot. It is surprising what havoc a few man-eaters can play, but fortunately these are few and far between, as the majority of lions are quite afraid of human beings. Those which develop the

habit of attacking man are usually very old specimens, who find it difficult to catch game, and once having sampled a native they seem to prefer human blood and flesh to any other. The same applies to crocodiles, although I cannot say if it is a question of age with them, but it is certain that only a small percentage will attack man.

The country rises gradually on leaving the coast, and having gone about 280 miles inland, the train reaches an altitude of about 5,000 feet, and we awake to find that the bush country has been left behind. We now commence to cross the Kapiti and Athi Plains, an enormous stretch of open country where one can see for miles and miles, and which is a sanctuary for wild animals. It is an impressive sight and one never to be forgotten. On both sides of the line vast herds of antelope can be seen, the commonest being Kongoni, Thomson's, and Grant's Gazelles, and Wildebeeste, also wild Ostriches and Grant's Zebras. Occasionally lions can be seen, but this is a matter of luck, and Giraffe are plentiful on the coastal side of these plains, where there is plenty of bush for them to feed on. Of course, this type of country is of no great interest to anyone wishing to see tropical bird-life, although it is a fine sight to see a crowd of Vultures squabbling over the remains of some animal which the lions have left after having had their fill.

The clarity of the atmosphere at this altitude is extraordinary and Mount Kilimanjaro (19,700 feet) with its snow-capped peak can be seen distinctly at a distance of 100 miles from the train, and from the Aberdare Mountains where I did my collecting it can also be seen at about 180 miles distant. After crossing the plains one reaches Nairobi (5,500 feet), the capital of Kenya Colony. This marks the end of one plateau, and on proceeding towards Uganda, the train rises rapidly to the Kenya Highlands where nearly all the white settlers are situated, growing coffee and maize, etc., and ranching. The line quickly rises to 7,000 feet and soon one sees the great Rift Valley. This great trough in the earth, formed in the days when Africa was dotted with active volcanoes, was evidently caused by the shrinkage or collapse of the earth's crust, for a very great distance, and it can be traced for hundreds of miles, some parts being rather ill-defined owing to subsequent volcanic action. In some places the Rift Valley is bordered by escarpments with an almost sheer rise of 1,000 feet, and is about 20 miles

across. The country now becomes full of interest, as birds are numerous as well as game, and the difference in bird-life in the Valley and above the escarpment is remarkable. After following the edge for some distance the line descends into the Rift Valley by a very difficult course, and then reaches Lake Naivasha. This was my destination as far as the railway was concerned, but from here I had to journey about 25 miles north to the Aberdare Mountains over roads not easily described without resorting to bad language.

Lake Naivasha is a beautiful sight and its shores are teeming with bird-life, although very little in the way of rarities was to be seen.

The giant Acacia trees which surround the lake afford a home for Blue-eared Glossy Starlings (*Lamprocolius chalybeus*) and Superb Starlings (*Spreo superbus*), which are exceedingly numerous but do not venture far from the lake. The Red-billed Wood-hoopoe (*Phœniculus purpureus*) and White-fronted Bee-eater (*Melittophagus bullockoides*) are also common here. The only Sunbird I saw close to the lake was Falkenstein's (*Cinnyris venustus falkensteini*), which is extremely beautiful with its shining blue upper parts and breast and light buff belly. On the water the Red-knobbed Coot (*Fulica cristata*) is to be seen in thousands, while in the reeds and among the water-lilies may be seen the African Jacana or Lily-trotter (*Actophilus africanus*) and the Black Crake (*Limnocolox flavirostra*). Waders are also fairly plentiful, being mostly migrant Sandpipers from Europe, and the beautiful Blacksmith Plover (*Hoplopterus armatus*) is to be met with sparingly. But Ducks are getting scarce, as within recent years there has been a boom in land sales round the edge of the lake, and houses are springing up everywhere. These are mostly week-end residences for people in Nairobi. It is completely spoiling this beautiful spot which was once a sanctuary for all sorts of wildfowl, but now when the shooting season opens one might imagine that there was another war on. The main object seems to be to blot out as much as possible, even if you have to throw the carcasses away, and a man who can boast that he has shot fifty or more Ducks in a day imagines that he has done something really clever. It is little wonder that few Ducks breed on Lake Naivasha now, and the rarer kinds are almost non-existent. The country between the lake and the escarpment some 10 miles across, known as the

Karati Bush, is more interesting and after a good deal of exploring one may get a glimpse of that charming bird the Purple Grenadier Waxbill (*Granatina ianthinogaster*), which belongs to the same genus as the Violet-eared Waxbill (*G. granatina*) but is much more beautiful. These may sometimes be seen in semi-bare places in the bush, apparently pecking in the soil. There are no seeding grasses in such places, and probably never were, and it can only be concluded that they are eating minute wind-borne seeds which are more easily found where the ground is bare. In the tropics where the hot air is constantly causing miniature whirlwinds, dust and small seeds and leaves, etc., are carried high into the skies, and in this way the small dust-like seeds of many weeds travel tremendous distances. This is particularly noticeable where a clearing has been made in the middle of a big forest, where under ordinary circumstances none of these weeds and plants can grow, but immediately there is sufficient air and light they spring up in a few days, although there may be no similar things growing within many miles. It has happened sometimes that, after fields have been cultivated and sown with grain, that there has been an invasion by Doves (*Streptopelia*) which have been slaughtered wholesale, only to be proved by someone with a little more knowledge, by examining the stomachs, that they were not eating any grain at all, but were devouring the wind-borne seeds of obnoxious weeds carried from fallow native lands, many miles away. I mention this to illustrate that very little is known about the economic value of birds, and if a little of the vast amount of money which is spent in trying to find new sub-species were devoted to this purpose it would be doing a service to mankind, and to the birds themselves. Other rarities to be found in the Karati Bush were the Kenya Highlands Scarlet-chested Sunbird (*Chalcomitra senegalensis lamperti*), the Kenya Highlands Amethyst Sunbird (*C. amethystina doggetti*), the Bronzy Sunbird (*Nectarinia kilimensis*), the Golden-winged Sunbird (*Drepanorhynchus reichenowi*), the Kenya Malachite Sunbird (*Nectarinia famosa anigularis*), and the Falkenstein's Sunbird already mentioned.

These are all exceedingly beautiful. The Bronzy Sunbird, Falkenstein's, and the two *Chalcomitras* do not go above the escarpment. Besides Sunbirds there are also a fair quantity of Rollers

(*Coracias caudatus*), the rare d'Arnaud's Barbet (*Trachyphonus darnaudii*), and the beautiful little Red-fronted Tinker-Barbet (*Pogoniulus pusillus*). In this Bush there are still plenty of Buffalo and that graceful antelope the Impala.

On climbing the escarpment one comes to open Highland plains (8,000 feet) where the temperature is much lower than in the Rift Valley, and again one sees game in plenty, especially Zebra, Kongoni, and Thomson's Gazelles, which are exceedingly numerous and tame. Ostriches are also fairly plentiful, and I once saw a herd of sixty-four Eland, the largest of the African antelopes, which was a beautiful sight.

An interesting Plover—the Black-winged (*Stephanibyx melanopterus*)—is to be found here and it is very partial to the paddocks where cattle are herded at night near the homesteads. It was only seen at this elevation, its place being taken by its near relative, the Crowned Lapwing (*Stephanibyx coronatus*), in the Rift Valley. All the African Plovers do well in captivity and are very long-lived.

The base of the forest-clad Aberdare Mountains is a very peculiar formation. Looking across the open country it looks for all the world like rolling plains, practically treeless, but there are all sorts of unseen wonders when you come to explore. The many streams which rise in the Mountains flow through incredibly deep gorges, which are not visible at a distance. They are not formed by the action of water, but by the natural shrinkage of the earth's crust. Being thickly forested they are full of interest, and near the water in shady places there are beautiful ferns of all descriptions. To descend from the plains into one of these gorges is almost like going to another country as far as bird-life is concerned. Instead of seeing Pipits, Larks, Whydahs, and other plain-loving species, one comes across denizens of the jungle such as Hartlaub's Touracos (*Turacus hartlaubi*), Narina Trogons (*Apaloderma narina*), White-headed Wood-hoopoes (*Phœniculus bollei jacksoni*), White-starred Bush-robins (*Pogonocichla stellata*), and many Bulbuls, Zosterops, and Flycatchers. Animals include the beautiful Colobus monkeys and Bushbuck.

In the period corresponding with the English winter there are a tremendous number of migrant Warblers from different parts of

Europe, and I learnt more about European birds here than I had ever done in England. One of the commonest trees is the wild olive, and when the berries are in season there is a sudden influx of vast numbers of the beautiful Rameron Pigeons (*Columba arquatrix*), also Masai Red-headed Parrots (*Poicephalus gulielmi massaicus*) and Sharpe's Starlings (*Pholia sharpei*).

The latter are so numerous that any nets set in the trees are certain to catch many of these Starlings, thus preventing anything rare from getting caught. As soon as the olive crop falls off a little all these birds disappear as quickly as they came, but not so the Touracos. They continue to live on olives almost exclusively for a long period even though they may be hard to find. So used to olives are some species of birds that it is very difficult to get them to eat anything else for some time after capture. The Pigeons are said to be inedible during this season owing to the flesh being tainted with olive oil, which is very bitter and quite unlike the refined oil from cultivated trees.

The fruits or berries are almost round, and are about the size of a cherry. The Parrots feed on the nuts inside the stones, whereas the Touracos swallow the berries whole and then cough up the stones after the fleshy part has digested.

On a few occasions I saw a small flock of not more than eight of the pretty little Black-headed Waxbills (*Estrilda atricapilla kandti*), a pair of which I brought home. They are exceedingly difficult to catch as they are not attracted by any bait in the form of seed, and I never once saw them feeding on seeding grasses. They follow the mountain streams in places where there is sufficient light to allow a small species of rush to thrive, and it is on the seeds of these that they subsist. Supplies of this had to be given for three weeks before the birds took to millet, and they are certainly very difficult at first, but hardy enough afterwards. I might mention that the temperature at night at this altitude falls tremendously, and there is frequently a frost, although it is only about 12 miles from the Equator.

The beautiful Golden-winged Sunbirds and Tacazze Sunbirds (*Nectarina tacazze*) are to be found in the more open parts of the river beds and deserted native "shambas", for it is here that their favourite food-plant, the leonotis, grows. To be seen at their best both

these very large species must be seen in the brilliant tropical sunlight, and I think the Tacazze is perhaps the most beautiful Sunbird in the world when so viewed, but it looks quite different in a cage where its colours do not show up to the same extent. It is curious that all the Golden-winged Sunbirds in the Rift Valley had the gold on the throat and breast, and were considerably brighter than those from the Aberdare Mountains, which were black in the parts mentioned. From about October to March these highlands are teeming with European Yellow Wagtails, both eastern and western forms. It is interesting to note that many migrants arrive here in a weak and emaciated condition, having made the long and trying journey from Europe as rapidly as possible, whereas in the spring they proceed homewards in easy stages and are in breeding condition soon after arrival.

In the forests of the Aberdare Mountains the rare and local Jackson's Francolin (*Francolinus jacksoni*) is to be found, which is confined to the Kenya Highlands. It is the largest of a very big genus and is quite attractive to look at, but none of the African Francolins are at all popular with aviculturists in England.

I must now mention the curious soda lakes to be found in the Rift Valley. They are Lake Nakuru and Lake Elmenteita. These waters are strongly impregnated with soda, and in the dry season when the lakes shrink considerably there is a deposit of soda all round the shores glistening like snow. The water has a very soft feel about it and after wading in it a little while one's legs become quite white where the water has dried and left a coating of soda. These lakes are the home of the Lesser Flamingo (*Phæniconias minor*), which are in countless thousands. It is a magnificent sight and has to be seen to be believed, the numbers being almost incredible. They are so close together that when disturbed the outside ones have to rise first before the inner ones can flap their wings. It is a mystery at first sight what such an army can live on, as there is nothing noticeable in the water and the lake is devoid of vegetation. A close inspection will reveal a very minute crustacean in the water, which is in myriads and is hardly larger than the larvæ of mosquitos, and this must be their main diet. These Flamingos are only half the size of the Greater Flamingo (*Phænicopterus ruber*) and belong to a different genus. In

the latter species the upper mandible fits *over* the lower, whereas in the Lesser Flamingo, it fits *into* the lower.

They are extremely difficult to trap as they are very wary and will not go near any nets or snares placed in the water. Even a stick is enough to arouse their suspicions. The strong winds which sweep down, first from one mountain and then another, changing very rapidly, also interfere with any netting operations and causes very strong currents. No doubt, in the rainy season when the water rises to the surrounding vegetation and when the birds are nesting, they would be easily caught. It is strange that they never visit Lake Naivasha which is only a few miles distant, but is fresh water. It is also noticeable that Flamingos in captivity do not look as well in places where they have fresh water as in places where it is somewhat polluted. Perhaps the finest specimens in England are to be seen in the London Zoo where the water in their pond is far from being fresh. I was surprised to find Hippo in these soda lakes and Cape Widgeon (*Anas capensis*) were very numerous,; a pretty species which I believe has not yet reached Europe. Blacksmith Plovers are met with sparingly and remain always near the water's edge, and there are numbers of the European Sandpipers. It is quite interesting driving a car at night in this area as the eyes of the various animals reflect strongly, the most noticeable being Impala and the curious Jumping Hare (*Pedetes surdaster*) which progresses in the same manner as a Kangaroo.

Collecting in Kenya, and especially in the Aberdare Mountains, is a somewhat strenuous business, as at this altitude it does not take much exercise to make one puff and blow and it is difficult to go anywhere without descending and climbing the deep gorges. Everything has to be caught by oneself, which means walking miles and miles and climbing trees and steep gradients, for the natives are of no assistance whatever. Most settlers will tell you that this region would be one of the finest on earth to live in, if only the natives had a little intelligence, for they certainly try one's patience to the utmost. I am speaking of the Kikuyu tribe, surely one of the lowest physically, and mentally, in Africa. They have not survived through any fighting qualities, but by receding into the forests whenever attacked by the neighbouring Masai. These latter are a fine race physically and live on the open plains, their chief

mission in life being to produce as many cattle as possible, for they live almost entirely on the blood and milk of these animals but never touch the wild game. There is no doubt that this warlike tribe, but for European settlement, would have eventually driven the Kikuyu off the map, as most of the forests have been burnt to make way for cattle. The various tribes have now been allotted well-defined reserves and under European protection they are not allowed to fight. To get an idea of the intelligence of the Kikuyu, he is best seen at night when he is asleep. You may then shout, roll him over, or pull his nose, but all to no avail. He is like some animal gone torpid and reminds one more of a sloth than a human being. If you wish to bring him back to life quickly, a bucket of cold water is fairly successful and I have been told that propping the head up with a forked stick and then lighting a fire under it is also quite effective. This may not be too good for the exterior of the cranium, but there is certainly nothing inside it to hurt. Even "boys" who have been trained for a long period cannot be trusted, and are always doing something idiotic when you least expect it. An amusing example of this was when my host and hostess had rather a lot of visitors one day and the house boy couldn't find room for sufficient knives and forks when laying the table for lunch. After a little deep "thinking" he laid a place for the odd guest right in the centre of the table. No doubt he thought that the powers of the white man were unlimited and that the person in question could stand upside down on the ceiling and eat his lunch off the centre of the table without being in anybody else's way.

In this region I heard quite a lot about the "Nandi Bear". This is a mythical beast which hundreds of people have "seen" and is, of course, the survival of some native belief which is now well rooted in the minds of many local Europeans. Many countries have similar elusive creatures and in Australia the "Bunyip" is known far and wide. This is a monster which inhabits rivers,\* but is most frequently reported from the neighbourhood of bars and has even been seen crawling up the walls and in these situations is usually green in colour. So far all attempts to shoot or capture one have failed but "Bunyip" stories are as numerous as ever.

It seems that most people really love to believe in something

fantastic and it is amazing the number of people in the tropics who have "seen" things which never happen, for besides the mythical animals, almost daily one hears of queer habits of existing creatures. Round any camp fire, or place where people are gathered together recalling hair-raising experiences and peculiar animals they have seen, one hears of the Hoop Snake, which puts its tail in its mouth and rolls down hills in the manner of a hoop. There are other wonderful snakes which jump backwards for colossal distances, and I once had a snake described to me which "roared like a lion". Another interesting animal is the porcupine which "shoots its quills". It is not certain whether William Tell studied the antics of one of these before having a go at the apple. It is, of course, very thrilling to imagine that you are in great danger the moment you set foot in any part of Africa, and while on the subject of imagination I must mention that most people in Africa at some time or another have been chased by that terrible monster the Black Mamba. This snake "attacks man on sight" and if bitten you are "dead within a minute".

Almost every African newspaper contains thrilling stories about them, but it is strange that the London Zoo has never had one, and I have been knocking round the wilder part of Africa ever since the war and have never seen one.

There is certainly a dark phase of the green Mamba which is no more aggressive or venomous than the typical form, but usually it is not even this which figures so largely in snake stories. Any black snake such as the Ringhals, or Black Cobra, or even a dark-coloured Boomslang, is taken to be a Black Mamba. To all intents and purposes, this snake, like many other wonderful things, is imaginary, although I daren't say so in Africa. I should probably be "certified", or deported as an undesirable.

By the time this appears in print, I shall be on my way to the Usambara Mountains in Tanganyika Territory, where I hope to collect many specimens new to Europe.

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## NOTES ON NEW ZEALAND BIRDS

By SYDNEY PORTER

*(Continued from Vol. XI, page 445)*THE LONG-TAILED CUCKOO (*Urodynamis taitiensis*)

A Maori told me that in the old days before the coming of the white man, the first call of the Cuckoo was a signal for the planting of the kumeras, the native sweet potato, and even to-day should a native run out of these vegetables, his neighbours will ask, "Where were you when the Cuckoo called?"

This very handsome Cuckoo is a migrant to New Zealand from the Western Pacific Islands, and I frequently made its acquaintance in the Urewera country, and also at the Little Barrier. At first sight it rather resembles an immature European Cuckoo, but on close examination it will be found that the plumage is most beautifully patterned with varying shades of brown. It is a fairly lengthy bird, but of exceeding slimness. Its call was one of the most characteristic sounds of the forests on the Barrier, but the bird itself was very impatient of observation. It is not a common bird on the mainland, but is plentiful in the island sanctuaries.

It mainly hides away in the dense bush, for as soon as it emerges into the open it is persecuted by the smaller birds, especially by the Tuis. These birds make combined assaults on the Cuckoo and use every endeavour to drive it from the neighbourhood.

Whilst at Waikaremoana I spent the whole of a morning observing one of these handsome birds. It seemed practically tame, but I rather think that it was too frightened to leave its leafy refuge owing to the abundance of Tuis in the vicinity. Usually the birds are very difficult to observe. On the Barrier Island the birds seemed to utter their extremely loud notes from the higher foliage of some of the giant forest trees, such as the kauri, etc. So shy and retiring is it that one finds it very difficult to become acquainted with much detail of its wild life.

THE NEW ZEALAND KINGFISHER (*Halcyon s. vagans*)

This fine Kingfisher is a very near relation of the Australian Sacred Kingfisher (*Halcyon sanctus*), and is distributed over the whole of New

Zealand, being quite common in many parts but scarce in others. At Takahue, a remote farming district near the North Cape, I found this species quite common and on my arrival there found that it was the breeding season. All along the Takahue Valley it appeared to be, if not the commonest bird, the most conspicuous one. Every few hundred yards one was sure to be greeted by the loud raucous calls of a pair of these birds as one approached their nest. Their cry is somewhat like the scolding note of the European Blackbird.

The nesting sites differ; the birds dig either into an old decayed tree stump or into a high bank. The nests are often made in the most accessible positions and often only a few feet from the ground. One old willow tree by the river was literally riddled with holes made by the Kingfishers, as also was a high cutting on the mountain road which was very little used.

This bird is over twice the size of the European Kingfisher, and belongs to an entirely different genus which does not obtain its food by fishing; in fact, fish form but a very small part of its menu. Most of its food consists of various land animals such as lizards, beetles, worms, centipedes, mice, etc., which it picks up from the ground. A bird will take up its position on a dead tree stump and very little in the way of edible insects escapes its exceedingly keen eyes. This bird is not averse to visiting gardens in the towns if it can obtain an adequate food supply.

When wandering in the mountains near Takahue, I chanced to come across a nest of this species in a bank by the roadside, about 3 feet from the ground, it was only about a foot in depth; in fact, I have never come across a nest placed in such an accessible position. It contained two young ones in the "pin-feather" stage. Thinking that they would be easy to rear, I took them. The first night I put them in a box filled with dry earth and covered them with wool, but in the morning I found that they had swallowed quantities of the wool and earth. I tried feeding them on insectivorous food mixed with chopped egg, which had been sent from Auckland. This they vomited up. We tried earthworms, but they appeared to grow weaker and lose strength. Then one of the young boys on the farm where I was staying devised an impromptu net, made of a piece of sacking

and wire, for catching a tiny and almost transparent fish found in the rivers in the district.

The method of netting them was to wade into the stream, lay the net on the bed of the river, weighted down by stones, then stir up the mud at the bottom with one foot. This attracted the fish, and as the shoal came over the net it was raised. In this way we caught hundreds in a day. After this, the birds were fed on the fish and they never looked back; they ceased vomiting the food up, soon regained their lost weight and would snatch the fishes as soon as they touched the beak. They thrived apace, soon getting their feathers. At last the day came to leave and return to Auckland; the day before, we collected a large bucketful of the *koriwockas*, as the Maoris in the district called them, and put the reward of our many hours' labours in a bucket outside the farmhouse door, but alas! half-a-dozen hungry ducks discovered the succulent feast and made short work of it. The "service car" left at 5.30 a.m. on an eighty-mile journey to catch the train, so there was no time to get a fresh supply. There were thirty left, one each per hour for the long railway journey. One is not supposed to take livestock into the carriages, but it did not seem a very large parcel, so I thought it would remain undiscovered. Every hour I took the package to the rear of the carriage and fed the youngsters, but after the first hour or two they protested against the inadequacy of the food supply. Their cries were not so bad at first, but, as time went on, they increased in volume until at last it sounded as though there were two cats having a desperate fight in the compartment. It was a slow train, a station every few miles; as soon as the brakes began to be applied, the wretched birds started calling louder until by the time the train had stopped their cries were almost deafening. The long saloon carriage was full almost to crowding capacity, and inquiring looks were cast from all quarters in my direction. To say the least it was extremely embarrassing. At the first station where there was a buffet, I purchased ham sandwiches and tried to feed them upon the ham, but no, they knew the difference between ham and fish, and the former was speedily vomited up. I felt sure that the guard would ask me to leave the carriage with my screaming charges, but as luck would have it whenever he came in the din seemed to die down for several minutes.

To cut a long story short ; after an interminable length of time, about fifteen hours, but it seemed more like fifty to me, we arrived in Auckland. The birds were almost exhausted by this time, and my first action was to hail a taxi, ask for the nearest fish shop, and purchase filleted flounder. This was cut up in the taxi with the aid of the driver's knife and administered to the starving Kingfishers. They seemed to thrive for a time on this. Then we went away for a week-end on the West Coast, and the birds were taken with us. We found an abundance of live food on the beach for them, tiny flounders, shrimps, crabs, etc. Then we went back to town and away to Little Barrier Island. The birds had to be left. Some kind friends took them and for a time they seemed to do well. Then the smaller one died. By the time I got back the survivor was nearly adult size, but in a few weeks he, too, joined his companion. I was sorry, for he was a dear little thing and so tame, but there is little live food to be got in a city, and I am afraid that the raw meat and fish were insufficient to support him. So vanished all my dreams of bringing these interesting birds to England, and I regretted wasting the lives of two of New Zealand's most beautiful birds.

#### THE WHITE-BREASTED TIT (*Petroica toitoi*)

Wherever there are patches of native "bush" one is sure to see this delightful little creature. In all the heavily forested regions it is very common and perhaps one of the most confiding and familiar denizens of those parts ; and upon entering the forest one is almost sure to make its acquaintance before that of any other bird. It is exceedingly inquisitive and will come within a few feet and make a thorough examination of the intruder. It is usually the strikingly coloured male that is in evidence and not the sombrely clad female ; that keeps in the background.

Although in its demeanour it exhibits the same restless activity as the European Tits, it is not closely related to them. Around the cultivated patches and clearings on the edge of the remaining forest areas, this bird becomes exceedingly familiar, very much like our own native robin, watching the gardener at work and frequently alighting on his spade as it comes for the grubs which are turned over in the

soil. The striking black and white plumage renders it one of the most conspicuous birds of the forest; the plumage is loose and fluffy, the tail is carried in an upright position and the wings lowered. A striking feature is the large shining beady black eye. Just above the beak are two spots of shining white feathers, which are at normal times concealed but when displaying and fighting are exposed.

The Tit is common throughout the whole of the North Island and especially so in the various island sanctuaries. In fact, one can never walk through a patch of forest without seeing two or three pairs of these interesting little birds. They are usually found only in pairs as the birds seem to exercise territorial rights over certain given areas and will not tolerate other birds of their species in that particular part. This Tit is one of New Zealand's most useful birds, feeding solely on small insects that infest the trees and lower vegetation in the forests. I find that I have very few notes of this bird, though I was perhaps more familiar with it than any other, I regret that I rather overlooked it in seeking the rarer ones.

It would doubtless make a very charming cage-bird, and with a good insectivorous food should present no difficulties in keeping.

#### THE WHITEHEAD (*Mohoua albicilla*)

This is exclusively a forest bird and is not found in any of the cultivated districts. To find this beautiful and very distinct bird one has to penetrate far from the beaten track into the "back blocks" or into the large Government reserves and there one is sure to meet with flocks of the inquisitive little Whiteheads. On hearing their short sweet song, one has only to sit down, whistle a few notes in imitation of it and in a few minutes the Whiteheads will be around showing the utmost interest in the intruder.

Extremely active, as are all the small forest birds of New Zealand, this species keeps in small companies and moves in a quick and business-like way through the forests searching minutely every cranny and nook as it passes along for small insects upon which it mainly feeds, uttering all the time its short but very sweet song.

On the Little Barrier, these delightfully friendly little birds were decidedly common, in fact one would think that they were the

commonest birds on the island. Lacking the pugnacious qualities of most of New Zealand's birds, they are singularly friendly to one another and also to human beings. As the small agile flocks pass through the forest and spy the traveller, first one and then another will come down to within a few feet, taking full note of the intruder before passing on. One would imagine them saying, "Hello, pleased to see you, but sorry that I cannot stop." To my mind theirs is the most musical song of all the birds inhabiting the New Zealand forests, not loud, nor is it sustained, but what there is of it is incredibly sweet, in fact they have earned for themselves the vernacular name of "bush canary". Like most of their other forest companions they have a great variety of notes. One flock which I occasionally encountered during my stay on the Barrier had a very striking call; a male would whistle "Diddly, diddly, dee" very distinctly, and his mate would answer in a lower and softer strain the same call. I only heard the birds in this one flock utter this very distinctive call.

In their actions, the Whiteheads greatly resemble the Zosterops, in moving restlessly from one part of the forest to another, never for one moment still. During their search for insects they assume all manner of poses, often running like a Creeper up the branches or trunks of the trees. On the mainland the Whitehead is scarce, for it is not a bird which has in any way adapted itself to the conditions of civilization, and as the forest disappears so does the friendly little Whitehead, and no doubt in the years to come when most of the remaining forest tracts have been burned, like the Stitchbird, it will find on Little Barrier one of its last refuges.

The names of the Little Barrier Island and the Whitehead are to me synonymous, for it is impossible to think of one without the other.

This bird is about the size of a Sparrow, and of a cinereous brown, the whole head, neck, and upper breast, pure white, fading to grey where it meets the brown. The female has the white parts much greyer.

The Whitehead is one of the few birds which have made a welcome reappearance during the last twenty years or so. Buller, in his great work on the birds of New Zealand, speaking of the Whitehead, says "The last-named was certainly at that time the commonest bird of

the country, its cheerful chirping note being heard on every hand, whilst its nest might be confidently looked for in every suitable clump of undergrowth. Now the banks are silent and the Whitehead has gone!" From 1880 or so, the bird was to all intents and purposes extinct on the mainland, while a small number existed on the Little Barrier, a prey to every avaricious collector who cared to make a journey over there. A matter of twenty years or so ago the Bird Protection Act was brought in and ever since then the Whitehead has steadily come back to the forest reserves, until now it is found in many places on the mainland. As mentioned before, from a mere remnant on the Little Barrier, it is now the commonest bird on the island, everywhere one goes from the highest peaks to the nanuka scrub by the seashore one is sure to find flocks of them. So strongly is the gregarious spirit developed that one never sees a solitary bird, they are always in small flocks. This is perhaps the only true endemic bird which does so.

#### THE KAKA OR NEW ZEALAND NESTOR (*Nestor meridionalis*)

In the Maori language, the name of the lovely Lake Waikari-iti (3,000 ft. above sea level) means "Little Sea of Glittering Waters" and the full significance of this is brought home when one sees for the first time its sparkling crystal waters.

Between this lake and its sister Lake Wai-karemoana, which is a thousand feet lower, is a forest reserve with a walk of over six miles through the most wonderful virgin forest and it was in these glades of unsurpassed splendour that I had ample opportunities of observing this strange aberrant parrot, for in this forest it is to be found perhaps more plentifully than anywhere else in the North Island to-day. In other parts the birds are few and far between and very wary, no doubt owing to the incessant persecution, for the Kaka was esteemed alike by the white man and the Maori for food. In fact, such an important article of diet was it to the natives that battles have been fought regarding certain areas containing a plentiful supply of the birds.

At Waikaremoana the Kaka was comparatively tame and one day, when on the bush track coming down from the higher lake, I had

the most amusing encounter with these birds. I was attracted by the cries of three of them in a very high forest tree in which the birds were searching for wood-boring grubs. Sitting down near the tree I whistled and made various noises; after a minute or two the birds stopped their work and became very attentive; eventually they descended lower and lower, whistling and calling and making altogether an amazing variety of sounds. Finally, they began to "show off" very much as an Amazon or Grey Parrot does when spoken to. I continued to whistle and call, and eventually the noise attracted the Kakas from the neighbourhood, until at last twelve or more were within twenty feet or so, all calling and screaming at once. How long this strange concert would have lasted I do not know, but, getting tired and short of breath with so much whistling, I moved away and the birds then dispersed in different directions.

The Kaka is another bird which requires large areas of forest to support it. As soon as the forest burning begins and settlement creeps in, the Kaka disappears, and it is only far from the beaten track, especially where there are large areas of protected forest, that one is at all likely to see this Parrot. As long as these areas are preserved there is no danger of the Kaka becoming extinct. If once these districts are given over to settlement, of which there is a danger, with a change of Government, it will not only mean the death-knell of the Kaka, but many other birds as well. Fortunately, this bird is very plentiful on both the island sanctuaries of Little Barrier and Kapatī, so there is no danger of its becoming extinct altogether.

The Nestoridæ is the family to which this bird belongs, and is composed of large and sombrely-coloured Parrots confined now to New Zealand and represented by only two species, this and the better-known Kea. Formerly there were several other species much brighter in colour than the two surviving ones. How many there were we shall never know, for they are now extinct except these two already mentioned. There are skins and records of three more, one from Lord Howe Island, another from Norfolk Island, and the strangest of all from Philip Island, a small islet only a few miles from Norfolk Island. Without a doubt there were more of these strange birds confined to the various Antipodean Islands, but owing to their size and edible qualities they

were soon exterminated when the island became inhabited by human beings.

There is little doubt that New Zealand and the surrounding islands are the remains of a vast tropical continent which in the course of time has become submerged and the remaining portions much more temperate in climate than formerly. The Nestors gradually adapted themselves to the changed environment and with the change in climate the Parrots put on a more sombre colouring, while those on the islands nearer the equator retained their more brilliant plumage.

Very often in the Kaka we see traces of atavism or throw-backs to the remote ancestry or revision to ancestral type. These specimens have in time past caused great confusion to naturalists, and the birds have been named as different species such as *Nestor esslingi*, *Nestor superbus*, *Nestor montanus*, and many others, but to my mind they are merely throw-backs to the more brilliantly-coloured primitive types.

The Kaka seems to have descended from some type of aberrant Lory, or at least a connecting-link between the Lories and the proper Parrots. Many of these brilliantly-coloured specimens, in which red predominates, are very Lory-like indeed. All its demeanour in the trees is that of a Lory; it has all the quick whisking movements of the latter birds, its progression is rather by quick bounding hops than by climbing, its tongue is brush-tipped, a great portion of its food being derived from the nectar of the flower-bearing forest trees, and a glance at the long, slender beak shows that it has no true affinities with the true Parrots. In reality, the Kaka, in spite of its looks, is a large and very aberrant Lory, having many superficial characteristics in common with the strange Presquet's Parrot of New Guinea. I think that in time we shall find that this latter bird is also a type of Lory.

In common with the other members of the Parrot tribe in New Zealand, this bird will at times nest quite near to the ground, and I was shown on Kapatu Island a nest where the eggs had been laid only a few inches from the level of the ground in a decayed tree stump. The clutch consists of four rather large, white eggs.

In the years gone by the Kaka was greatly esteemed as a pet by the natives, in fact nearly every Maori village had one, usually an accomplished talker and mimic, which also acted as a decoy when

the natives speared the wild birds for eating purposes. The natives made special perches for the birds, some of them beautifully carved and inlaid. I saw many of these in different parts of the country; they were called *tutu-kaka*. These perches were also used for catching the birds, a noose being attached which, when the bird alighted, was pulled by the native who was concealed nearby. Many Kakas were also kept by the old settlers who stated that they were the most delightful pets, being very intelligent and full of life. Nowadays, it is very rare to find a Kaka in captivity. Many people have had them up to a few years ago, but I only came across one specimen, an exceedingly fine bird and very tame. I used every endeavour to try to obtain it, but failed to do so. I am sure that it was the only one in captivity in New Zealand.

In former years when the whole of New Zealand was covered with the wonderful sub-tropical forest, Kakas existed in countless thousands, if not millions, and they formed a goodly percentage of the animal food of the Maoris. How they were trapped and preserved for future use is well described by Buller in his *Birds of New Zealand*. This work is certainly the finest of any works dealing with the birds of any single country, and provides a mine of information for the ornithologist.

In flight, this bird resembles a hawk; not having the swift direct flight of most Parrots, it flies with an ease and grace unknown to the majority of the Parrot tribe. Towards the evening these birds indulge in wonderful aerial exercises. Rising up from the forest uttering their harsh, grating cries, they ascend in huge spirals until they are almost lost to view in the heavens. Often they rise up and sweep round with hardly a motion of their outstretched pinions. That this Parrot is semi-nocturnal there is little doubt, for it is active long after dark has fallen and it can be heard high in the skies far into the night.

I made the acquaintance of the so-called Green Kaka in Stewart Island. Its name is rather a misnomer for there is no trace of green in the plumage, and it seems to differ in no way whatever from the bird of the North Island. It is intensely inquisitive, and one has only to call, or whistle loudly and one is soon surrounded by a dozen or so, Kakas all shrieking and uttering a great variety of sounds, for no

bird in the forest has such a repertoire as this one. It is when surrounded by a flock of excited birds as they hop and skip from one branch to another that their affinity to the Lories is so very apparent.

Sad to relate, Stewart Island is a veritable slaughter ground for these interesting birds; parties of people with launches come over from the mainland and indulge in Pigeon- and Kaka-shooting expeditions. They sail up the quiet inlets where there is no fear of detection and make heavy bags of both of these birds. We found many piles of Kaka heads and feathers and often freshly-killed birds. It seems as though little can be done to stop this disgusting slaughter, for the island is very large and it is impossible to have rangers about all the time.

The food of this bird is mainly berries and fruit from the various forest trees; it also sucks the nectar from the honey-bearing flowers with the aid of its brush-tipped tongue. It finds much of its sustenance in the large wood-boring grubs, and to reach them it will bite through thick branches of living wood. It is amazing the depth to which it will bore through the wood. The Maoris tell me that the birds listen for the grubs and then bite into the wood until they are reached.

The Kaka is about the size of the Lemon-crested Cockatoo and a peculiar shade of greyish-brown, each feather edged with a darker colour; the crown is light grey, the ear-coverts yellow or orange-red, the lower parts, rump, lower, and upper tail-coverts, dull crimson; the feathers around the hind neck are often suffused with this colour. The under-wing-coverts are bright scarlet, barred with brown. From these latter feathers the Maoris make many of their beautiful feather cloaks. Incredible patience must have been used in the manufacture of one of these garments and the feathers of many hundreds of birds must have been used in the making of a large one.

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AN EARLY NEW ZEALAND SETTLER TALKS  
ABOUT BIRDS

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Being a lover of New Zealand native birds, I have studied them in their natural state in the heavy forests of the North Island ever since I can remember, which takes me back fifty years.

When only a small boy 6 years old (I had only just arrived with my parents from England) we settled in a small township called Ashhurst, at the mouth of the Manawatu Gorge. On the one side of us was the Ruahine Range, untouched by man, and the home of the famous Huia, and on the other side for hundreds of miles dense bush with small townships here and there ; so I was in a position to see and study most of the birds in that area. The forest at that time was teeming with bird life, and a more joyous and happy family (to judge by the beautiful singing and the fluttering of countless wings) could not be found. It was an experience one could never forget. These joyous sounds were more in evidence early in the morning of a bright sunny day, and yet often after a spell of wet weather, when the birds seemed to try and make up for lost time and outdo each other in song, I always gave the honour in this direction to the Tui, whose beautiful notes I have often listened to on a bright moonlight summer night when the bush was still. He sings at intervals right through the night and his notes then are the more golden with no other sounds to spoil the effect. You also get the full benefit of the bell-like notes.

At that time our native birds had very few natural enemies besides man, and the forests supplied an abundance of food for every kind of bird in the way of honey flowers, berries, insects, etc., so it is no wonder bird life was so happy and free. The predominating species at that time were the Pigeon, Tui, and Kaka. They were in their countless thousands.

A sight I never shall forget was when a very large flock of Pigeons

got weather-bound in a small patch of bush near our school in the township for some days. It cleared up late in the afternoon after school hours, and all of a sudden the mob rose out of the bush—the noise was terrific—there must have been between five and six hundred of them, and if anybody had asked me at that time I would have said thousands by the noise they made with their wings. To realize what I mean one has only to hear a single Pigeon rising out of the bush. This mob had evidently been on its way to new feeding grounds when overtaken by bad weather.

The Pigeon's chief food in those days, in season, was first tawa, then white pine, miro, and finally late in the winter hineau berries. On the latter the Pigeons get very fat and are too lazy to fly much. I have seen them shot and burst when they struck the ground. These berries are also taken by the Tui and Kaka, but we all know the Tui is a honey-eater through the spring and summer months while the poor Pigeon has to live on leaves and loses his condition, and then is the time to see how swift he is on the wing for so large a bird.

The Kaka can change his diet, too ; he loves to get a dead standing pine-tree full of hu hu grubs, of which there were plenty in our forests : trees that had lived their span, rotting away and making room for others to follow. I have spent many pleasant hours watching Kakas busy on a dead tree, ripping out lumps of rotten wood with their strong beaks, looking for grubs. It was amusing to see the way, when a large lump was dropped, they watched it hit the ground before starting on the next piece.

One day in recent years I was going along a track in my bush and was passing a big dead Rimu and got a hard knock on the top of my head, and I glanced up and saw Mr. Kaka looking down at me with a mischievous look on his face (at least I thought so) ; he seemed quite pleased at the result of his shot.

I am sure one could not be gloomy watching a mob of these birds ; they are so happy, mischievous, and funny, and their whistle call to their mates is worth hearing—it is very loud and clear. I have often wondered why the Kaka seems at his best in dull wet weather or just before or after heavy rain (this applies to the Huia too). My theory is that perhaps the grubs in the trees come more to the surface in dull

wet weather and the birds have a good time ; it seems a shame they are so few and far between these days.

Anyway, going back again to between forty and fifty years ago, all the vast bush was quickly taken up for settlement, this resulting in thousands of acres being felled and burnt each year, and gradually the birds were forced further back until the high, rough, hilly country and mountain ranges were their only place of refuge, and nearly all their feeding grounds were destroyed. I think before the next generation our beautiful native Pigeon will be a thing of the past [the Pigeon has shown a marked increase of recent years in some districts.—ED.], and our children to come will blame us if our Government do not set aside large reserves of native bush—the rougher the better—in the back country well away from cities, towns, and roads—and man if possible. Country that is unfit for farming. We have so much like that in the North Island ; yet much good bush has been destroyed, abandoned, and is now just waste going back to scrub and fern ; forests that could have given our native birds like Pigeon, Kaka, Tui, native Parrakeet, Crow (*Kokako*) (who by the way I still think should have the honour of being our Bellbird) their natural food, and I do not think there is any substitute for them.

Our beautiful Parrakeet seems to be dying quicker than the others. I have only seen one pair in the last seven years in the Manawahe forest.

Fourteen years ago, when I first came here, they were fairly common. I saw the last pair about two months ago in a bit of reserve bush I have close to my home. They only stopped a short time, chattered a lot, then left.

I remember, as a boy, when they were plentiful, being amused by their cry in the evenings when flying to their roosting places, always in pairs. It sounded just like " Good evening ", " Good evening ". We really thought they said " Good evening " ; it is the only call I have heard, but they make a lot of chattering noises when feeding and rearing their young. They are beautiful talkers when caught young and trained. It was quite common then to see them in the settlers' homes, but alas ! they never lived many years without their freedom and natural foods. [There is a bird in Auckland to-day which has been seventeen years in captivity.—ED.]

The hen of my present pair is one of four who had lived at Keston in enforced spinsterhood for a number of years. For a time she was paired to a Red-rump, but although they were quite friendly they did not nest. When my first hen died she was sent to console the widowed cock.

I made every effort to induce her to adapt herself to British seasons, removing her nest firmly in September when she was just beginning to take an interest in it in the hope of forcing her to moult earlier and make an earlier start the next summer. This plan answers with some hens but not with this one. Refusing to be discouraged, in 1931 she deposited her eggs on the sand tray on the floor of the aviary shelter and sat on them resolutely but, though two were fertile, they failed to hatch. She made another attempt in the same place in January but got egg-bound with her second egg and on being returned to the aviary fortunately gave up further thoughts of breeding. In February she and her mate raised my hopes of an early moult by dropping a few feathers but they never properly got down to the job and went at it again in earnest at the end of May, wasting June, July, and August.

In September she again laid on the floor of the shelter and sat like an Albatross on the top of a raised mound of peat. This time she hatched two young but they died almost at once although their crops were full of food. In January she made another attempt, got egg-bound as before, and faithfully repeated all her tactics of 1931.

This year I surrendered to the point of allowing her a wooden nest-box with a coco-nut husk bottom when the return of autumn made outdoor nesting no longer possible. I did not for a moment expect her to do any good as I have never reared decent young even of much hardier species in an aviary shelter with artificial heat. Rather to my surprise the three eggs all hatched. Still more to my surprise the young did not immediately die. I was giving the parents, instead of ordinary drinking water, a small tea-cup of water to which had been added some drops of orange juice and some raw yolk of egg. To the use of this preparation, which has given remarkably good results with other broods, I attribute most of my success. The parents in the way of food had spray millet, of which they are very fond, white millet, hemp, sunflower and canary, some dry, some thrown on the earth in the

much more slender. The cock has the cheeks, throat, breast, and rump a lovely pale blue with a tinge of sea-green. The cap, back of the neck, and mantle are sooty black and sooty grey and in each wing is a large patch of buttercup yellow. The tail is very narrow and the central feathers are dark. Both sexes have the under tail-coverts salmon coloured. The hen is very different from her mate as is usual with the Psephoti. Her general plumage is pale yellowish olive with a pale blue rump and a pale bluish mother-of-pearl tint on the cheeks, throat, breast, and under parts. The young of both sexes much resemble the hen, immature cocks being a little bigger than their sisters and having bluer cheeks. Unlike Red-rumps and Many-colours, they do not assume adult plumage until they are a year old.

The call of the Hooded Parrakeet is less musical than that of its allies but is not loud enough to be in any way objectionable. The cock when displaying depresses his wings, puffs the feathers of the head and lower breast, and tucks in his "chin", making a slight curtsey as he alights and uttering a call rather like the syllables "Chissick"!

Hooded Parrakeets do well in certain districts; badly in others; an inland situation appearing to be healthier for them than one near the sea. They thrive extremely well at Woburn with no particular care and do well with Mr. Boosey at Keston. Mr. Ezra's pair also appear to thrive. Peasmarsh, unfortunately, does not really suit them. I lost my first hen and both of my present breeding pair have been ill more than once though I hope they are now more acclimatized.

Hooded Parrakeets in a wild state breed in termite mounds, making a burrow like their cousin the Paradise. Australian aviculturists have, I believe, induced them to use artificial nests of baked clay which, no doubt, are the healthiest type for the young, but so far I have not been able to induce them to patronize such nests at a reasonable time of year.

No Parrakeet in proportion to its size needs more flying exercise than the Hooded and none is more easily harmed by close confinement and hard artificial perches. Deprived of exercise and slender twigs to perch on, its beak and feet quickly become deformed, its tail feathers grow crooked and unsightly, and in a year or two it makes its exit to a happier world.

It is extraordinary how they ever raised the last brood as we had some very cold weather. About the time the young hatched we had two nights of quite hard frost and later had much cold, rainy weather. The last nest was built against the outside wire and sometimes the nest seemed to be soaked. How the young were not drowned I cannot understand.

So far I have not found Cordon Bleus delicate or hard to breed, which may be beginner's luck. The record for the one pair for one season was twenty young and I did not lose one. They built a new, dome-shaped nest among the brush every time.

Three years ago a Vancouver man was presented with a medal for raising two Cordon Bleus, the first ever raised in Canada. None, to my knowledge, have been raised since. I would very much like to know the record for one pair in one season in England.

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## THE BREEDING OF THE HOODED PARRAKEET

(*Psephotellus dissimilis*)

By THE MARQUESS OF TAVISTOCK

The successful breeding of this, the most graceful and lovely of the smaller broadtails that are occasionally imported into Great Britain, is a rare event; indeed, apart from Mr. Astley's first record and a couple of very miserable specimens reared indoors during the winter when my collection was in temporary quarters at Binstead, I do not know of any other instances for England or even in Europe.

For one thing Hooded very rarely come over and then only in very small numbers. For another, although some individuals are more accommodating than the majority, they are, as a species, most tiresome about sticking to Australian seasons, moulting all summer and trying to breed in October when their delicate young have not the remotest chance of survival in the only healthy environment for a Parrakeet nest, viz. the open air.

Hooded Parrakeets are about the same length as a Red-rump but

if looking for something he could not find. I knew they required insect food to raise young so secured dried ants' "eggs", which I soaked and mixed with egg food, but they did not seem to want that. They would dig it over with their beaks as if trying to find something else. I tried them with earwigs and wood bugs, but these they would not touch. I offered them mealworms chopped up, but they did not want them. I then got some live ants' "eggs", which they seemed to like better, and I believe they would have raised their young on them, but still there would be ants' "eggs" on the floor and they would be hunting among the litter looking for something.

At this time, while hunting for ants' pupæ, I came across white grubs in the ants' nest which were so soft that I could hardly pick them up without crushing them; I believe they were ant larvæ. I took some home and threw a handful to the birds. As soon as they saw them they flew down and ate them most greedily, and from that moment their food problem was solved. After they tasted them they would not touch live ants' pupæ (eggs) and they raised all their young on the larvæ alone. They scarcely ever touched seed, and egg food they hardly tasted, although I offered it every day. They ate very little green food.

#### TWENTY YOUNG FROM ONE PAIR IN ONE SEASON

In the first nest they raised four young and as soon as they had left the nest the cock bird started to build another among the brush and in two days, working by himself, he had it completed. The young started to feed themselves when about a week out of the nest. I left them along with the old ones until just before the next were due to hatch.

In the second nest they raised six fine, strong young, and as before, as soon as the young left the nest the cock started to build, and in a few days the hen was again sitting. As before, I left the young with the parents until the next young were due to hatch.

In the third nest they raised seven young, and in the fourth nest, three young, which left the nest on 30th October, and I am sorry to say they have gone to nest again, but I will certainly not let them hatch. As soon as the young can feed themselves, I will take them all out of that flight for the winter.

These birds are all a lovely rich pure yellow, without the faintest tinge of green, even on the rump. We had the greatest difficulty in building up the small original stock, as such birds are extremely difficult to obtain, and the demand always exceeds the supply. Pure yellow Budgerigars were, we believe, fairly abundant, even before the War, and certainly before the advent of all the other various coloured varieties which, presumably, overshadowed them in popular favour, causing the original Yellows to be carelessly mated and inter-bred with Greens.

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## BREEDING CORDON BLEUS IN CANADA

By WILLIAM FIRTH

In the early spring of 1933 I bought two pairs of Cordon Bleus. They are the first Cordons I have owned and I did not know anything about them or their nesting habits but had been told that they were delicate and hard to breed.

The weather was very cold at the time, so I kept them in the house until May, when I fixed up a flight in the aviary 4 feet square. I put in different kinds of nests, some covered and some open, and in one end of the flight placed brush about 8 inches thick.

I regret I cannot give the date I put the two pairs in, but I did not expect to raise young, so did not keep any record. However, both pairs were quite friendly for about a week and you would often see both males sitting on the same perch with a straw in their beaks, dancing up and down and singing.

The birds took no notice of the nests I had fixed up, but in about a week one of the hens commenced to build a nest among the brush and completed it in about three days. At this time one male turned against the other, and would certainly have killed him had I not removed one pair to another flight. The nesting pair sat close from the first, and whenever the hen came off the nest the cock at once went on. In fact, the cock seemed to sit almost as much as the hen.

I think the young hatched in about fourteen days. However, about that time the cock began busily picking amongst the litter, as

from some of the species that we had anticipated, taking into consideration our previous years' averages.

The farm is situated, of course, in a very sheltered position, looking due south, consequently from dawn to dusk the aviaries are bathed in sunshine, and we noticed during the dreadfully hot days of summer the Finches were inclined to come off their nests and leave the eggs to look after themselves. The only species that did even moderately well during July and August were the Bichenos. Of these a good many youngsters were reared, and a cross between a double-banded Finch (Black-rumped Bicheno) and a Ringed Finch (White-rumped Bicheno) seems to point to the fact that the Ringed Finches are the dominant species, as all the young had white rumps.

In previous notes we have said that these birds are rather difficult to breed. After our experience this season we are inclined to think this statement should be qualified. Provided one can obtain true pairs (they are undoubtedly very difficult to sex) all they seem to us to require is a "Keston" wire box, some clean grass and feathers with which to construct their nest, and plenty of millet spray and flowering grass when feeding young. We have never succeeded in getting them to take any live food. The eggs are pure white and extremely small, incubation takes fourteen days, and the young when they leave the nest are grey. But the cocks usually have a faint sign of the black band across the breast, and in consequence they could be sexed, we believe, with greater certainty when young than later on when fully adult.

All the Long-tailed Grass and Heck's Grass Finches had young in May, and not again until September, October, and November. At the time of writing (15th November) there are two nests, one of five and the other of four, just fledged. All these youngsters are good birds, and the latest we can remember rearing. No doubt they have been considerably helped by the very mild autumn, but we shall be curious to see if they are as large, when adult, as those hatched in the spring.

Zebra Finches did very moderately, our average dropping to approximately six young per pair. We have, however, bred a practically pure white hen at last.

Two of our best breeding *Ruficaudas* died at the beginning of the

latter's bat-like squeakings. One's astonishment, therefore, can be imagined when his voice turns out to be low-pitched and not unlike the quieter notes of a Many-colour, varied with rather plaintive piping calls reminiscent of a Bullfinch.

So far as we have been able to observe, the Splendid's display is very like that of a Bourke's. At any rate, he occasionally indulges in the latter's short quick runs up the wire netting with shoulders forward and wings slightly depressed.

Of other comparatively recent arrivals, by far the greatest rarity is a pair of Yellow-fronted New Zealands, the cock being in many ways the most attractive and intelligent little Parrakeet we have ever possessed. The hen came early in the spring, and as there seemed not the remotest prospect of getting her a proper mate, she was given a cock Blue-wing to keep her company. The two quickly became very attached to each other, and the New Zealand laid four eggs, all of which proved to be infertile. On the unexpected arrival of a husband of her own species, she was put in an aviary with him, but it was too late, and she refused to lay again. One can only hope that with heat they will come through the winter safely and perhaps breed next year.

Another rather interesting arrival is a true and very fine pair of the Splendid or Golden-mantled Rosella. This rare and much more brilliantly coloured relation of the common species is by no means easy to obtain, and even when a so-called pair are offered, one can usually take for granted that the cock alone is of the rarer race, and it is, therefore, particularly satisfactory to have been able to obtain a pair in which both sexes are genuine Golden-mantles.

Malabars did not breed, but the cock being newly imported was unable to fly, and has been busy moulting most of the summer. Pennants and Yellow-rumps were both too young to breed, as also was the hen of a pair of Crimson-wings.

We wish we could say the Finches have done as well as the Parrakeets. Unfortunately, this is not the case. They unquestionably did worse than we have ever experienced before. Whether the extremely hot summer or the loss, through illness, early in the year of several of our old breeding pairs was the cause we cannot definitely say, but the fact remains only about half the number of young birds were reared

for it must be remembered that immature Hooded take far longer than the young Red-rumps to assume full adult plumage. They are wonderful mimics of their neighbours and, like most mongrels and hybrids, extremely lively and intelligent.

Ring-necks bred successfully, a particularly fine pair going to nest almost immediately on arrival here, and rearing three young ones. Young Cockatiels also left the nest after one false start.

Of the Grass Parrakeets, Turquoise, Elegants, Bourke's, and Blue-wings were all reared, though the two former did less well than usual, for various more or less unpreventable reasons, such as a hen refusing to sit, or young ones dying in the shell just as they were due to hatch (as in the case of all but one of a brood of Elegants), or a particularly prolific hen dying while incubating her second clutch. On the other hand, nine young Bourke's were reared from two pairs, and the same number of young from a single pair of Blue-wings, this being, we imagine, a record number in one year from a single pair of this species.

The arrival—too late to breed—must be recorded of a pair of the excessively rare and beautiful little Splendid Parrakeet. Probably very few aviculturists have ever seen this species alive, but it is worth going a long way to see. The hen is not unlike a hen Turquoise, but the cock is far and away the most beautiful of all the Grass Parrakeets, with his blue mask shading to an almost sapphire colour, in striking contrast with the rich cherry-red of his breast. Incidentally, this red breast-patch is much more extensive than it was usually represented to be in the old coloured plates, nor are they correct in portraying it as an almost completely circular, hard-edged blob of colour. Actually, the two colours are merged into each other, by small oblong red spots, which rapidly dwindle in size as they overlap into the yellow of the lower breast.

Perhaps the most remarkable thing of all about the Splendid, certainly the one that most strikes anyone who has kept other members of the Grass Parrakeet tribe, is the extraordinary unlikeness of his voice to that of other members of his family. In appearance he is so much like a tremendously glorified edition of a Turquoise, that one instinctively expects him to utter but a slight variation of the

much to our astonishment, a most beautiful family in spite of the fact that from her general decrepit appearance she seemed anything but promising as a stock bird. The same thing happened with a pair of Rosellas, of which the cock was a fine and extremely healthy aviary-bred specimen and his wife an obviously aged bird with an overgrown beak. Having been caged for many years, she was somewhat alarmed at the sight of a nest-box, and even when her young husband eventually induced her by force to enter it, she showed how out of practice she was by laying as her first egg a curious-looking object with a waist, shaped like an hour-glass! Her subsequent efforts were more normal, and it is to her credit that she finally reared two fine youngsters.

Barrabands did well, though one infanticidal cock tried, as usual, to murder the first of his family of five to emerge from the nest. He has to be most carefully watched, and the moment the first young one appears he is put into a small adjoining aviary, where his wife can see him but where he, much to his disgust, is forced to contemplate his growing family without being able to tear them to pieces. Luckily, such behaviour in a Barraband is entirely abnormal.

Many-colours did very well and one young hen in a brood of four has moulted out with nearly as much red on the lower breast as a cock. She is being kept for experimental purposes. Two of our pairs alone reared ten between them.

Early in the year one of our hen Hooded Parrakeets was mated to a cock Red-rump, the result being a brood of four hybrids. As far as we are aware, this cross has only once been obtained before, in the case of Lord Tavistock, but the young ones died almost immediately on leaving the nest. It was amusing to see the hen Hooded's outraged astonishment on being expected to nest in the spring, when no self-respecting Hooded dreams of setting up house until September at the earliest! One hopes that if another year she can be provided with a mate of her own species, she will be able to persuade him of the many advantages to be enjoyed by children who leave the nest in June instead of December. The three young cock hybrids are at present somewhat like a Red-rump to look at, but they are getting red patches on the wings, orange feathers round the vent, and a greyish back and hood. The latter, of course, may eventually go jet black,

Purple Sunbird comparatively dull and listless until the sun shines on him; then he becomes instantly alert, shakes his feathers, and begins his warbling song. He bathes on a spray of flowers which I have dipped in warm water.

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## BREEDING RESULTS AT THE KESTON FOREIGN BIRD FARM, SEASON 1933

By E. J. BOOSEY AND ALEC BROOKSBANK

In spite of the glorious summer of 1933, with its long hot days and wonderful sunshine average, the breeding results here at the Keston Foreign Bird Farm have not been noticeably better than usual among the Parrakeets, while some of the Finch results were definitely disappointing.

The following is a list of birds which reared young ones successfully during the season:—

Parrakeets: Brown's, Rosella, Stanley, Barraband, Turquoise, Bourke's, Blue-wing, Elegant, Many-coloured, Ring-neck, and Red-rump × Hooded hybrid. Budgerigars, Cockatiels, and Swainson's Lorikeets. Lovebirds: Black-cheeks, Nyasa, Fischer's, and Peach-faced. Finches: Gouldian, Zebra, Red-headed Parrot, Ruficauda, Long-tailed Grass, Heck's Grass, Bicheno, Cherry, Silverbill, Bengalese. Also Diamond Doves.

Our old breeding pair of Brown's, who have regularly produced seven and sometimes more young in one season, hatched and reared only two in the first nest this year, the remaining three chicks being dead in the shell. While in their second nest they hatched four out of five all of which they allowed to die when about one week old. At the time this happened the weather was stiflingly hot and thundery. In fact, just about the day they must have died, our house narrowly escaped being struck by lightning, though whether this had anything to do with the death of the young Brown's it is naturally quite impossible to say. It is curious, however, that never before has this particular pair of birds failed to rear every single one hatched.

Stanley's did quite well, one hen with a dropped wing producing,

coloured print, and if half-ripe growing seed is available and a sufficiently large nest-box is given, I should say these little birds could be bred without difficulty. I have found the breeding pen I have described quite large enough, though if I were breeding Grass Finches or St. Helena Waxbills I think I should make the cage 40 inches long. In Ahmedabad I grew for my St. Helena Waxbills a seed called "Cheena", which appeared to me to be yellow millet, and they preferred it to the Indian millet I grew. *Munias* undoubtedly like the half-ripe seeding heads of Indian millet, because when I gave my *Munias* a few seeding heads that had sprouted in the garden, they left the half-ripe bajri seeds at once for these. Anyhow these little White-backed *Munias* made model and devoted parents; their partial failure was not due to them.

A word on Purple Sunbirds. We found an injured Purple Sunbird lying on the drive in front of the bungalow. It seemed to have been injured in the spine. It could only drag itself along. We put it in a small cage and gave it Horlick's and honey, and gradually it recovered to the extent that it could stand on a perch and just fly from one perch to another. I found one heaped teaspoonful of Horlick's and one level teaspoonful of brown sugar dissolved in a breakfast cup of hot water better than the thicker mixture with honey; at least, it seemed better, for the stronger mixture seemed to lead to foot trouble and after I had changed the food the foot trouble ceased. It has kept the real yellow breast the Purple Sunbird has when wild and in eclipse plumage, though in England I have found this yellow, which is a real canary yellow, "jonque" and not "buff", fade almost to grey, but I have noticed in wild Sunbirds the yellow varies, being deepest and brightest in colour in the rains when it is hot and damp.

I have also found that the white Indian jasmine is a very favourite feeding flower of Sunbirds, so that Sunbirds in England could be given the winter jasmine. I should imagine Sunbirds would also greatly favour Honeysuckle. I have also found that Lotens, Vigors Yellow Back, and the Purple Sunbird will eat any spider that is not too big for them to swallow; and it is surprising the bigish spiders they will seize and beat on the perch, as a Kingfisher beats a fish. Also Sunbirds deserve their name. They are birds of the Sun and I have found my

A and D, the vitamins of growth. The only thing I could think of were the ripening heads of bajri or the lesser millet, which was growing in the fields. Bajri, when ripe, is a little hard, grey-green seed, much liked by the Grey Partridge, and the seed is ground up fine between two stones and fed to the young Partridges, which the Indians are so fond of rearing, and this, with white ants, seems to rear them well. But Munia and other small birds cannot or will not eat this seed when ripe and hard but apparently they are very fond of it when it is half-ripe. I got some half-ripe bajri heads and stripped off the seeds, which are closely embedded in the head. I found I could get the half-ripe seeds from the head by stripping the head downwards towards the stalk and I gave the small, soft half-ripe seeds to the Munias and Bengalese. They took them greedily at once and thereafter scarcely ever touched the Indian millet, soaked or dry. I had tried paddy or unhusked rice, as Munias, when wild, are supposed to feed largely on this, but while they may feed on the half-ripe heads I found they took very little of the hard and ripe paddy.

The little Munia had left the nest before I had thought of the half-ripe bajri, but after I had started to feed it on bajri the feathers on the head started to grow and in a week its head was covered with black quills, and clearly the feathers on the head are going to be the same colour as the parents, or velvety black; the flight feathers of the young bird and the tail feathers are like the parents, or velvety black, but where the parent birds are white the young bird is ashy grey, tinged with brown. There are no striations on the neck and back, as with the parent birds, but instead of the fine light-brown striations there are some light-brown spots. When the little Munia came from the nest it had a conspicuous white spot at each corner of the mouth and when it opened its beak to be fed, its mouth was a bright greenish white. This apparently is to guide the parents when they feed it in the dark recesses of the nest. I do not know if White-backed Munias have been bred in cage or aviary before, but from my experience I should say they are most suitable little birds for aviculture. They quickly get tame and confiding: when noticed the cock used to spread out his tail fanwise and commence to "sing"; the contrasting black and white plumage is very effective, suggesting to me a Japanese

seed jar. The three eggs did not hatch till the next day but thereafter none of the young was thrown from the nest. The eggs were white, like the eggs of Bengalese, but more pointed.

I did not attempt to use the Bengalese as foster-parents because no parents could have been more attentive than the Munias, but unfortunately by the end of September seeding grass was difficult to find; my crop of Indian millet had been destroyed and I was forced to rely on soaked seed. To this I attributed the slow growth of the Munias and Bengalese, because according to my calculation neither the Bengalese nor the Munias left the nest till thirty days after hatching. When they did so, one Bengalese was a very feeble little thing; one other was small; two others only were strong and well developed, and the little White-backed Munia, though exceedingly lively and alert, had no feathers on its head and neck. It looked like a miniature vulture. One of my servants from Goa, however, assured me that young Munias often left the nest in this state; he said he had seen many of them wild, as they are common in the rice-growing tracts of Goa whence he comes and, indeed, the flight feathers of the little Munia were very well developed, his tail was quite perceptible, his little legs were strong, only his head and neck were bare. I know some favour soaked seed; others say it is nasty, smelly stuff. In the morning I used to fill a cup half-full of seed, Indian millet, and fill the cup with water; in the evening I used to pour off the foul water and fill with fresh water and pour out and refill with water again six or seven times, thus thoroughly washing the seed; this I, or rather my servant, used to do again on the morning and evening of the second day, and on the morning of the third day the seed was just sprouting and clean. It was then poured out of the cup and dried in a bit of muslin. It was a lot of trouble and did not seem to me to take the place of half-ripe growing seed.

Two of the young Munias died when they were just feathering; whether it was the soaked seed or that I had cramped the nest by placing too much dry grass inside I do not know. I thought I must do something to change the diet. Two young Munias had died and the growth of the others and of the young Bengalese appeared very slow. Vitamins, that blessed word, was what they probably wanted, and

in the oblong wire cage did, in fact, build a nest and the hen laid eggs but the birds did not seem to have the feeling of confidence and security that the "breeding pen" seemed to give. I ascribe the increasing confidence and tameness of the Munias in the "breeding pen" to its size and to the gabled roof which, with the cross-pieces, seemed to give the birds confidence and a feeling of security. The cock and the hen in the smaller oblong cage both rushed into the nest when anyone passed the cage or stopped to look at them and the young, though hatched, survived only a few days. The Green Avadavats merely played about with grass, the cock birds fixing it at the entrance of the nesting-box so that it always fell down. Contrary to my previous experience the Green Avadavats did not appear to want to build in the box, but outside it. I planted seed of Indian millet to get half-ripe growing seed heads for the parent birds to rear their young on, but unfortunately excessive rains and grasshoppers destroyed the crop and I had to rely largely on soaked seeds. It is to this that I attribute, perhaps wrongly, the fact that I only reared one out of the three young Munias. About the end of August the pair of White-backed Munias in the breeding pen got really busy. The cock bird took the seeding grass I gave it and carried it into the nesting-box; the hen sat contentedly inside but the cock kept reaching to his full height, pushing the grass up and then drawing it over to form the domed roof and covered entrance to the nest. I think I must have put too much dried grass in the nesting-boxes to form the foundation and side supports of the nest because Munias build large nests and even in the case of the Bengalese, which I was keeping for foster-parents, one of the four young which left the nest seemed cramped: at least he had practically no tail. In future I should put only a thin lining of dried grass into the nesting-box. About 12th September I took the Munias nesting-box out to see if there were eggs, as on the 9th the Bengalese had four eggs. There were four eggs. The Munias seemed to have become even tamer than the Bengalese, though wild-caught only early the same year, and the cock always carefully pulled back any grass in the front of the nest which I had disarranged. I did not take the nesting-box out again until all the four Bengalese eggs were hatched and then I found one little Munia and three eggs. But the next morning the young Munia was dead in the

the description of this cage is long and tedious and much of it may be unnecessary if the photos I have sent to our Editor are fit for reproduction.<sup>1</sup> Perches were merely thin branches pushed into the wire netting but thick enough at one end to fill the mesh.

I had occasionally seen some black and white Munias in the bird market in Crawford Market in Bombay, and when I knew I was going to be for some months in one bungalow during the rains in the Deccan I asked Hussain, the "bird merchant", as he calls himself, to get me two pairs and a few pairs of Bengalese. The Munias were to supply the eggs and the Bengalese were to hatch them and feed the young. Hussain, with his usual generous interpretation of my orders, arrived in due course with two pairs of Munias, three pairs of Bengalese, two pairs of Green Avadavats, and three pairs of Silverbills. The black and white Munias are, in fact, White-backed Munias and Silverbills are White-throated Munias. The White-backed Munias are more southern birds, hence their dark, rich plumage; the Silverbills are more northern birds, inhabitants of sandy tracts of country, hence their pale fawn plumage. I had a few spare cages but not sufficient for this little flock, so I got my Sikh carpenter to make me a flight cage, 4 ft. long by 2 ft. wide by 3 ft. high to the ridge, on the same pattern as the cage he had made before, and in this I put my spare Bengalese and the Silverbills. In case they should be inclined to breed I hung on the wire netting six nesting-boxes until the cage looked like a miniature dovecot, but when the Bengalese and Silverbills got into condition, they fought and so interfered with each other that successful breeding was impossible. My experience has been that no more than one pair of small birds, if in breeding condition, can be kept without fighting in one large cage, but the experience of others may differ. I had another cage of the pattern I have first described, and which I think may fairly be called a "breeding pen", made for a pair of Bengalese, while the two pairs of Green Avadavats and one pair of White-backed Munias were put into separate cages, oblong wire cages measuring 24 in. long by 14 in. high by 14 in. wide, but though I hung nesting-boxes on the ends of these cages, it was only in the "breeding pen" that eggs were hatched and young reared. The pair of White-backed Munias

[<sup>1</sup> The photos were unfortunately too small for reproduction.—Ed.]

of fact these two doors were the only weak spots in my model cage because they will not bend backwards, and unless a cage is made to fit in exactly in the space left when they are opened, there is trouble. I should get over this difficulty in a future model by having hinges which would allow the doors to be lifted off; there will then be no opening outward doors to prevent another cage from being brought close alongside. All the doors were fastened by small wooden buttons. The frame of the cage and of the doors were covered with  $\frac{3}{8}$  in. wire netting. In fact I have found this not so satisfactory as  $\frac{1}{2}$  in. mesh which I had fixed on a second of the cages I had made. The  $\frac{3}{8}$  in. mesh wire netting is heavy and the very small mesh rather obscures the view. The bottom of the cage also was covered with wire netting, and a tray of thin galvanized sheet iron nailed on to a wooden frame slid in and out over the wire netting; the tray actually slid upon a thin guiding rail of wood let into the centre of the bottom framework, lengthwise from beneath, thus guiding and supporting the tray; a wood flap hinged by wire on to the first bottom cross-bar lifted up so as to allow the tray to be put in and taken out. The tray pulled out beneath the doors from the end farthest from the nesting-box and so caused as little disturbance as possible. The cage stood on the floor of the verandah, end-on against the wall, so that the doors at the end could be lifted without undue disturbance or movement when food or water was to be supplied. The verandah measured 10 by 22 ft. and opened into the garden. In fact the birds became so tame that food could be put in at any of the doors and the little hen seemed to wait till you were looking to go in and feed the young. The nesting-box was made of thin white wood; it was 6 in. square on three sides with a piece of stout wire passed through two holes in the back and twisted into a hook to hang on to the wire netting; the front of the nesting-box was half-open, the lower half being closed with a 3 in. strip of wood. As a matter of fact in the cage in which the Munias nested I had two nesting-boxes, and it turned out this was an advantage, because after the young left the nest it would seek shelter from the sun in the empty nesting-box, and both the cock and the hen would go inside the box to feed it, but it returned to the box in which was the nest at night and at midday when the cage was brought in from the garden. I am afraid

carefully made as if it were a fine bit of furniture. But, of course, the cage need not be of teak wood or joiner-made and teak wood is a disadvantage as it is so heavy, and one essential quality of this cage is that it should be light, so that it can easily be moved from the verandah into the garden and back again. It can be made of pine and "rough carpentry", the woodwork protected with solignum or creosote. The cage I designed, then, was merely a wooden framework, 30 in. long and 20 in. wide and 20 in. high. The uprights were 1 in. square, the cross-pieces  $1 \times \frac{3}{4}$  in., and the door frames 1 in. deep and  $\frac{5}{8}$  in. wide. The legs of the cage were  $1\frac{1}{2}$  in. long. One of the ideas in this cage was to be in the roof. The nesting-box, I thought, ought to be inside the cage because of rats and other things, and it ought to be possible to put the nesting-box in and take it out without a struggle. I am not particularly troubled about birds escaping because I have always found that small birds like *Munias* come back and wait to be "let in". So the roof was made, not flat, but with a gable to its apex 9 in. high, and one side of the roof lifted up; in fact one side of the roof consisted of three doors hinged from the ridge. Each of the three doors was in fact  $9\frac{1}{2}$  in. wide and  $11\frac{1}{4}$  in. high measured along the slope, but that was only because my Sikh carpenter made each door the same width as the others and fitted the three perfectly into the side of the sloping roof. In fact I do not think three doors in the roof are necessary. I should in future have only two doors; one 10 in. wide at one end through which I would put in and take out the nesting-box and the other door I should make to fill up the rest of the opening; but I would have all one side of the roof to open so that all parts of the cage could be thoroughly washed and scoured. Also in the past I had found it difficult to put in bunches of seeding grass or really good-sized earthenware saucers for the birds to bathe in, so I decided the doors should be large. Therefore, one end of the cage I made all doors; two at the bottom-half which lifted up, hinged from the wooden cross-bar fixed half-way up the side, so that if necessary both doors could be lifted open at once and bundles of seeding grass could be pushed in; and two doors at the top half, but these were hinged on the uprights of the framework so as to open outwards, and these doors were to allow the birds to pass from one cage to another. As a matter

- 1 Baya Weaver (*Ploceus baya*).
- 1 Paradise Whydah (*Steganura paradisea*).
- 2 Lark Sparrows (*Chondestes grammacus*).
- 1 White-crowned Sparrow (*Zonotrichia leucophrys*).
- 1 White-throated Sparrow (*Z. albicollis*).
- 1 Andean White-throat Sparrow (*Z. pileata*).
- 4 Zebra Finches (*Taeniopygia castanotis*).
- 2 Strawberry Finches (*Sporæginthus amandava*).
- 2 Green Singing Finches (*Scrinus flaviventris*).
- 1 South American Silky Cowbird (*Molothrus bonariensis*).
- 1 Green Hunting Crow or Cissa (*Cissa chinensis*).
- 2 Mexican Parrotlets (*Forpus cyanopygia*).
- 1 Spix Macaw (*Cyanopsittacus spixi*). Am trying Mr. Hasting's remedy for a mild case of feather-plucking.
- 1 Lesser Sulphur-crested Cockatoo (*Kakatoe sulphurea*).
- 1 Sora Rail (*Porzana carolina*).
- 1 Virginia Rail (*Rallus virginianus*).
- 1 Yellow Rail (*Coturnicop noreboracensis*).
- 1 Turnstone (*Arenaria interpres*).
- 3 Black-necked Stilts (*Himantopus mexicanus*).
- 2 Ruffs (*Philomachus pugnax*).

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## BREEDING THE STRIATED FINCH OR WHITE-BACKED MUNIA (*Uroloncha striata*) IN INDIA

By GODFREY DAVIS

I am at present debarred by circumstances from having aviaries, either movable or fixed; and I have come across few cages which I have really liked; one was a triple breeding cage of French manufacture which I bought in Guernsey and in which I bred the little Red Avadavat and then, as the cage was made for Canaries, I had to make two doors at the end on which to hang the nesting-boxes. But these French cages, nice as they were, were not made to hang nesting-boxes on nor to be moved in and out from the verandah to the garden, for I believe in keeping birds as far as possible in the open air, and that means in India only in the morning and evening sun. So I thought I would design a cage of wood and wire netting because it is another of my ideas that cages must be cheap if the little ornamental Finches are to be domesticated like the Canary. As a matter of fact the cage when made was not cheap, but that was because it was made by a Sikh carpenter out of teak wood, with joints as skilfully and

- 1 pair Red-eared Bulbuls (*Otocompsa emeria*).
- 1 Yellow-crowned Bulbul (*Trachycomus ochrocephalus*). Its song is beautiful and varied; many of the notes having an organ-like quality.
- 1 Finch-billed Bulbul. I do not know the species but it is not *Spizixos canifrons*. It has no crest and a white ring separates the black head from the greyish-green breast.
- 1 pair Fairy Bluebirds (*Irena turcosa*).
- 1 pair Mountain Bluebirds (*Sialia currocoides*). Male very beautiful. Cerulean above and turquoise below. Female mouse coloured. Blue on wings and tail.
- 1 pair Western Bluebirds (*Sialia occidentalis*). Differs from the better known *Sialia sialis* in its all-blue head, grey-blue under parts, and a patch of deep chestnut on each shoulder. The chestnut on the sides and front of breast is also of a deeper tone. The blue is of a slightly deeper tint but one must see the birds together to distinguish the difference. This pair has nested several times but always throw the young out of the nest. Female is a paler edition of the male.
- 1 Olive-backed Thrush (*Hyllocichla u. swainsoni*).
- 2 Hermit Thrushes (*H. guttata pallasi*).
- 1 Wren Tits (*Chamaea fasciata*). Peculiar to the State of California.
- 2 Blue Tanagers (*Tanagra cana*).
- 1 pair Scarlet Tanagers (*Pyrranga erythromelas*).
- 1 Western Tanager (*P. ludovicianus*).
- 1 Brazilian Scarlet Tanager (*Ramphocelus brasilius*).
- 1 Maroon Tanager (*R. carbo*).
- 1 Chestnut-headed Calliste (*Tangara vitriolina*).
- 1 Black-cheeked Calliste (*T. cayana*).
- 1 Blue-winged Calliste (*T. cyanoptera*).
- 1 Emerald Calliste (*T. guttata*).
- 1 European Waxwing (*Bombycilla garrula*).
- 2 Cedar Waxwings (*B. cedrorum*).
- 3 Pekin Robins (*Liothrix lutea*).
- 1 Blue-naped Coly (*Colius macrourus*). Six years in the aviary.
- 1 Black and white Warbler (*Mniotilta varia*)
- 3 Bay-breasted Warblers (*Dendroica castanea*)
- 1 Black-throated Blue Warbler (*D. c. caerulescens*)
- 2 Myrtle Warblers (*D. c. coronata*)
- 2 Audubon Warblers (*D. auduboni*)
- 3 Tennessee Warblers (*Vermivora peregrina*)
- 1 American Redstart (*Setophaga ruticilla*)
- 1 Long-tailed Chat (*Icteria virens longicauda*)
- 1 Ovenbird (*Seiurus aurocapillus*)
- 2 New Zealand White-eyes (*Zosterops caerulescens*).
- 2 Japanese White-eyes (*Z. japonica*).
- 2 Spotted-breasted Hangnests (*Icterus pectoralis*).
- 1 Rose-breasted Grosbeak (*Hedymeles ludovicianus*).
- 1 Nonpareil (*Passerina ciris*). (Odd, in the fact that its green back changed to red almost as bright as the breast. Has been thus for several years.)
- 1 Lazuli Bunting (*Passerina amana*).
- 2 Leclancher Buntings (*Passerina leclancheri*).
- 1 Napoleon Weaver (*Pyromelana afra*).
- 2 Orange Weavers (*P. franciscana*).

These American Wood Warblers are among the daintiest of birds. Very rich colouring.

it to the side of the aviary, and then arranged the opening so that it could be closed without too much disturbance. It was not long before the female again built a nest and laid three eggs, and when I saw that they were hatched I closed up the nesting-box so that she could not fly into the aviary and opened the other side so that she could be at liberty in the garden. She was all over the neighbourhood and even the neighbours, who did not know much about our native birds, wondered about the fearless little reddish-brown bird that came so familiarly to their gardens. One day I found that one of the youngsters had fluttered out, so when I had the opportunity closed up the nesting-cage and removed the mother and her offspring to a large cage. One morning I found that she was gone—how I never found out. I tried putting the male parent in with the young, but he was concerned only with his own food and one by one they died. Had I had the time I would have tried hand-feeding, but just at that time I was unable to give them proper attention. The youngsters were quite strong and of a dusky brown colour.

It may be that some of the readers would be interested in knowing how these photographs were secured. Most people think that birds in an aviary would be easy to photograph. It is so with the exceptionally tame ones but just the opposite with those that are timid. After much wasting of film my neighbour, Ralph Fallert, an expert in almost all lines of photography but to whom bird-photography was an unconquered field, devised a special box for the purpose. It is a frame 20 × 20 × 30 inches long and is covered with celluloid more from convenience in handling than any other reason. The further end is of plain wood on which the branch is fastened and the opposite end is of screen with an opening admitting the camera. While it may not be exactly "sporting" to photograph birds in this manner my contention is that for illustrative purposes bird-photographs cannot show too much detail.

I am giving here a list of the birds now or recently living in my aviary. To keep our native birds one must have the proper credentials and both Federal and State permits. Many of our native birds are as fascinating as any exotic foreigner and I have quite a number.

frequently stand in the water up to their bellies and enjoy bathing, as do all the other shore birds, with a comical tip-up motion. Like all the other birds of this class, they often doze standing on one leg. Suddenly awakening, they seem to forget that they have two legs and go hopping off on one for some distance.

At one time I had a beautiful Cuban Trogon which lived well for over four years then suddenly dropped dead. It was a harmless creature and very tame. I tried for years to get another then had the opportunity to get two. These were even more beautiful as the red under parts were exceptionally rich and deep in tone. Then suddenly we began to find a small bird dead occasionally and more or less mangled. It was very mysterious and there was no clue to the culprit. One day one of the Trogons was seen with a Wren Tit in its bill but dropped it as soon as it saw that it was observed. But I did not suspect the Trogon as being the killer until one day it was seen with my prize beauty of the small birds, an exquisite American Redstart, not only holding it in its beak but savagely beating it up and down on a rock. This was enough, and though I had not seen any of this misbehaviour both Trogons were removed. To the average person both were alike, but I was able to distinguish between them and had I seen the affair would have known which was the guilty one. But to be on the safe side I took them out and later sent them to the Catalina Island Bird Park. I think this aberration of conduct is unusual in the Trogons, and Mr. Crandall, of the New York Zoological Society, says they have never had any trouble in their molesting other birds. It is my thought that the bird confused the small birds with butterflies and would seize them as they fluttered near. I regretted very much having to give them up as they were very difficult to obtain and it may have been that one of them had not caused any harm.

For years I have had a pair of Red-crested Finches (*Coryphospingus cristatus*) but the male had a crippled foot and though the female frequently laid nothing ever came of it. I also had a male Pileated Finch (*Coryphospingus pileatus*), and when later the male Red-crested Finch died the female mated with the Pileated. Several times eggs were laid and hatched but the young always disappeared after a day or two. So I took one of the small wicker travelling cages and fastened

seen alone would be quite beautiful. It was possible for me to acquire these exquisite birds through the generosity of Mr. E. H. Lewis, superintendent of the Catalina Island Aviaries in California. On a recent visit to Chicago he made the remark that my Bluebirds were in better plumage than his owing to the fact that his had to be kept indoors for show purposes all the year round. The Fairy Bluebirds have been happy all summer long in the outside aviary and I hope they will continue to do well in their winter quarters. They sit more or less upright with the tail pointed down and are usually quiet. The note most often heard is a sharp, whistled "whit-whit". (I have just seen Lord Tavistock's article on his Fairy Bluebirds and his description of the note is "kwit-kwit", which is just as accurate a description.) Their food seems to be mainly fruit mixed with the Mocking-bird food. They have never taken a mealworm but I have seen them fly to the ground to pick up a cricket or moth. Owing to the short legs they do not appear to be at home on a flat surface. I have heard—and seen—the female warble a subdued song that was rather pleasing, but the male so far has not shown any musical ability.

Another favourite bird—kept in a separate cage for obvious reasons—is a Cissa or Hunting Crow (*Cissa chinensis*). When I received this bird in July it was a lovely shade of green, especially on the head and breast, where it reminded me much of the peculiar tint of the Luna moth's wing. The jet black band on the head and the mahogany brown of the wings, together with the vermilion beak and legs composed a colour scheme that was very fascinating. In certain lights the wings showed crimson lights. I had to go out of town for several days and just before it was time to leave, my neighbour called me and said that my "Crow" was out. I found him on the roof and then—gone. As I had exchanged three of my rarer birds for him and planned to use him in a special painting I had to carry this frustration away with me. But before leaving I took time to sketch the bird in colour in two letters I sent out to friends in public museums. Whenever a peculiar bird turns up it is immediately reported to them so that if my Cissa ever was captured I knew they would hear about it. On the day of my return, in fact it was just an hour before, one of my friends telephoned and reported that my bird was located.



*Photos by Ralph Falbert.*

**CUBAN TROGAN AND VEERY THRUSH.**

Aviary of Karl Plath, Chicago.



**MALE FAIRY BLUEBIRD.**

In Aviary of Karl Plath, Chicago.

separate dish has a small quantity of scalded chopped heart and chopped hard-boiled egg. This is primarily for the few shore birds I have, though all of the birds take some of the egg.

I have often wondered why there are not more people interested in aviculture in this large city of nearly four million inhabitants yet except for a few estates in the adjoining suburbs which may have a few Pheasants or Ducks or Peafowl no one seems to go in for the keeping of birds. Of course, there are single cages of birds but the rarities are the exception. In all the years of my keeping birds and the several years of my interest in the American Avicultural Society I have only known of one other person having more than, say, twenty birds, and he was the late Mr. Metzger, who so unselfishly gave of his time and funds to further the interests of the magazine *Aviculture* of which he was the editor.

To return to my own inside aviary. It is so arranged that it serves as an acclimatizing station, for the large window about 5 feet square opens out on to an outside extension where the birds may enjoy the warmth of the day and yet have protection from the sudden chills of night. So that by the time they are ready to be put downstairs in the garden aviary or after they are brought up to their winter quarters they are quite well accustomed to the change.

Concealed in the wall are two 100-watt lamps so that on dark days or in the evening there is an abundance of light. As I write in my studio I have an unobstructed view of the aviary and it does not need much imagination to fancy oneself many miles away in a sunny outdoor region. Perhaps the most gorgeous of all the birds and the ones which immediately intrude on one's consciousness are the gorgeous Fairy Bluebirds (*Irena turcosa*). I have a true pair and the male has the upper parts a most beautiful shade of cerulean blue which in certain lights changes to turquoise. These upper feathers are highly polished and gleam and flash with every movement. They are in startling contrast to the velvety jet black of the lower parts and sides of the head in which the ruby-coloured eye is set off beautifully. The female is slightly smaller and in colour reminds me of a gigantic Indigo Bunting though the colour is a bit duller. When the birds sit side by side her colour inclines to greenish blue. She is also a handsome bird and if she were

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## NOTES FROM A CHICAGO AVIARY

By KARL PLATH

Now that cold weather is at hand one has a greater ambition to write about the happenings in the aviary during the past season, though naturally the interesting events occur during the warm summer months when the birds are all in their outside home. All of my birds are now in the winter aviary which is partitioned off from my studio on the top floor of my home with glass and wire. This forms a room  $9 \times 12 \times 8\frac{1}{2}$  feet high, and is perhaps half the size of the summer cage. To the left along the entire side is a ledge made of artificial rock and extending up the wall is a rocky formation down which water trickles into a shallow pool. Numerous branches are arranged in a natural effect and sprays of arbor-vitæ impart a pleasing green effect that lasts for months. The floor is covered with about 2 inches of coarse sand which is sifted once a week or oftener if necessary. The seed is placed in a home-made hopper of glass so that it is readily noticed when it needs replenishing. As the supply of seed lasts from four to six weeks, having it in this hopper does relieve from the daily feeding. As both fresh water and seed are taken care of the only feeding necessary is the soft-food mixture prepared every morning and which consists of apple, banana, and grapes chopped up and mixed with the staple Mocking-bird food, to which ant-eggs and dried insects are added. A



GREEN HUNTING CROW OR CISSA.  
In Collection of Karl Plath, Chicago.



*Photos by Ralph Fullert.*

BLACK-NECKED STILTS. (Immature—nine weeks old.)  
Aviary of Karl Plath, Chicago.

## BREEDING OF THE LAMMERGEYER IN CONFINEMENT

Mr. Hampe's record (1933, p. 459) of the breeding of the Condor in the Berlin Zoo is most interesting, and inspires me to put more on record as to the breeding of another big bird of prey, the Lammergeyer (*Gypaetus barbatus*), than I was able to do in the note which appeared on p. 84 of last year's volume.

This merely mentioned that Lammergeyers had been bred at Sofia for many years. The further details I can now give are taken from the German Zoological Journal, *Der Zoologische Garten*, New Series, Band i, July, 1928, pp. 32-57, in an article by Dr. Schumann, of the Zoological Gardens, Sofia, Bulgaria, and for my knowledge of them I am indebted to Mr. Grunzig, of Avenel, New Jersey, U.S.A., who has kindly sent me a translation of these essential parts of the account, which I give here:—

"A writer in the *Zoologische Beobachter* for 1916 described the first successful rearing of the Lammergeyer in the Sofia Zoo. Since then the pair have bred regularly and raised their offspring every year; altogether up to 1926-7 eight young Lammergeyers were reared and only one failure recorded. Two eggs were the regular clutch, except in 1928, when only one was laid, and generally the first was laid about 9th January, the second about the 13th. The female sits most eagerly . . . only leaving the nest to feed in the mornings. She begins to sit as soon as the first egg is laid and the incubation period lasts fifty-five to fifty-six days. . . . The second nestling to hatch (? the weaker) was killed by the parents in every case. . . . The success was achieved in an aviary 6 metres long, 7 deep, and 8 high. In March, 1929, there were eleven offspring of the original pair living at the Sofia Zoo."

E. HOPKINSON.

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 OBITUARY

## MR. C. T. METZGER

It is with sincere regret that we have to record the death, which took place on 28th October, 1933, of Mr. Metzger, of Chicago, a member of this Society since 1923, but better known as the energetic founder and editor of our American contemporary, *Aviculture*.

Mr. Karl Plath writes:—"Our own Society here, which has functioned so haphazardly during the illness of the editor, Mr. C. T. Metzger, has suffered a severe loss in his death. He did much to bring the Society to its prominence and, until his illness early in the year, gave practically all of his time to it. We have not given up, however, and hope to come back bigger and better. In the meantime, much luck to your Society; it is one of the few of the many things I belong to that I thoroughly enjoy."

## NOTES ON NEW ZEALAND BIRDS

In regard to the letter of Mr. Alex. R. Strang in the December issue of the Magazine, in which he refers to my description of the destruction of the native forests as nonsense, I would ask Mr. Strang, or any one else interested in the matter, to look up the maps issued by the New Zealand Government, showing the areas of forest before the settlement of the country and the areas existing at the present time, and possibly after perusing them they will agree that my remarks are justified. I still maintain that outside of the Government reserves the forest areas are infinitesimal compared to the barren ones.

All the New Zealanders I spoke to agreed that the forest-burning in the past had been both wanton and in many cases unjustifiable. In regard to having no sense of proportion, I think that often a stranger sees things in a better perspective than many of the inhabitants. One has only to read the reports of the various societies for the protection of the native flora and fauna in New Zealand to find that I only echo their sentiments. Why has the Company referred to in Mr. Strang's letter purchased the 7,000 acres, except to destroy it?

It is only by criticism that one helps to right defects or wrongs. Surely one is tired of the type of person who visits a country and says "How handsome your men are and how beautifully your women dress". It is much more helpful, but not quite so pleasant, if they point out some defect in the drainage system!

I spoke to many eminent botanists and they all agreed that the New Zealand forest can never be replanted and attain its former splendour.

I regret very much if I have given offence to my friends in New Zealand by implying that the colonial farmer is a blackguard. This is far from the truth; the ones I met proved to be most charming and hospitable, typical only of the rest of New Zealanders I met.

Economic circumstances force us to do many things which in the eyes of other people are wrong, and I do not blame the farmers for destroying the forest, for every extra acre cleared means more pasturage for so many more sheep and cows and a few more shillings in the farmer's pocket. But does the economic struggle justify the destruction and extermination of all natural products, whether they be kauri trees, Egrets, Birds of Paradise, sables, whales, or such like products of Nature, which have been made the object of commercial exploitation? It is not the fault of the farmer but of the social system.

All I can say is, that after spending nearly six months travelling about over many parts of New Zealand my chief impression was of the absence of native vegetation compared to the amount of "exotics", and of the wanton and unnecessary destruction of the forests, especially on the mountain ranges.

I suppose that, owing to my observations being so misleading, Mr. Strang would have us believe that the native birds are plentiful as well, that the native Robin visits the door-steps of the farmhouses for crumbs, that the Saddlebacks and the native Thrushes sing on the orchard boughs, and the Huia and the Stitch-bird can be heard on every hand, and the Moa is still to be found in the recesses of the vast tracts of forest!

SYDNEY PORTER.

I have never noticed it disturbing them. Perhaps Nature has provided them with ways and means of keeping out of its way, and has made the Owl the enemy of the rat, who in turn is the enemy of small birds. There we have the balance of Nature again before the interference of man. I have always thought, and still do, that the rats destroy a lot of our native birds' nests and eat both the eggs and young.

I will now tell you a little about the famous Huia, now extinct (or supposed to be), but I still think there is a chance of finding isolated pairs along the Ruahine ranges in the high, rough country. Between thirty-five and forty-five years ago I used to roam about the bush a lot on the Ruahine ranges pig hunting, chiefly between the Manawatu Gorge and Mount Wharata, and used to use what is known as the old Napier track, a track used in the early days by both Maori and White before the Gorge road was made. It was on this track that I saw my first pair of Huias climbing about the limbs of a big rata-tree on the summit, and that was the time I learnt their call. It was a very dark day and threatening to rain, and I noticed afterwards that when it was dull and rain was near it was the time I mostly saw these birds. Of course they were always in pairs, and if any were about you could hear them calling. I would imitate them and it would not be long before they would come down quite close to me, sometimes on to the ground. They were quite tame if you kept still. I saw about six to eight pairs altogether. Of course I am not sure, I might have come across the same pair at different times. Along this track there were plenty of old dead forest trees—probably killed by the fires used by the travellers along this track. These dead trees provided the Huia with his natural food. I have always got mixed up which was the male and female. One has the long curved beak and the other a short beak, and they both are dependent on each other and would die if separated it seems. It must be the male bird with the long beak, which he drives into the holes made by the hu hu in the dead trees and pulls out the grub, and Nature has made it dependent on its mate. It cannot get the grub into its mouth, and passes it to the other, who breaks it up and divides it between them, having to put the other's share into its mouth. They have a beautiful shaped body with slim, long, black legs, and they

is responsible for this statement could never have seen one in flight. I noticed when they first introduced the Californian Quail in our district our native Quail disappeared very quickly. I think they must have been robbed of their natural food and starved out. The imported Quail thrived so well that it was not long before you could see them in big mobs. I have seen them from fifty to a hundred in big droves, so what hope did our native birds have?

The Owl, or Morepork, used to interest me a lot, and when I was a school boy roaming about the bush near my home I used to see lots of rat skins on the ground. I knew the Moreporks killed the native bush rats [Maori Rat—there is no rat indigenous to New Zealand.—ED.] and ate them. The peculiar thing about these skins was they were always turned inside out and with no flesh on them, and not a sign of a break in the skin. One day our school master, who was just out from Scotland, and a naturalist, asked if we had noticed the rat skins, and I told him I had. He said it was a puzzle to naturalists how the Moreporks turned the skin inside out without breaking the skin (the head was always missing), and it is still a puzzle to me.

In my younger days I spent a lot of pleasant hours eel fishing and Duck shooting along the lagoon and on the river-bed flats. On still, moonlight nights, when waiting for Ducks, I have heard the weird scream of some small animal up in the air and then a rat would come falling through space with a Morepork following it. It would scarcely hit the ground before the bird would have it again up in the air and would keep at it until the rat was stunned or dead. Of course the Morepork would not have a chance with a rat in the ordinary way, but Nature supplies it with a light body, strong swift flight, and good claws and beak, which gives it its power over its victim.

On very dark, calm nights when I have been eel fishing I used to hear queer whispering noises, and wondered what they could be; I thought at the time it must be bush rats, but years after I found out the noise was made by the courting Moreporks. Of course they did not live entirely on rats and mice. I have seen one in the day time in the dense shade of the bush with a Sparrow in its claws. What drew my attention to it was the noise of a big mob of Sparrows all round it. I do not think it bothers much about our small native birds, at least

will always find one or two pairs with you. Of course they are after the grubs and insects you disturb in the soil. Every spring when I start digging in my garden I have scarcely begun when I feel sure the same birds come year after year; one seems on the look out, and you will hear a very cheerful cheep "Here he is again", and you will hear his mates answer and come at once: very seldom more than two pairs, and often only one. I am sorry to say they fight a lot, so perhaps that is why you never see many together. It is strange, being ground birds, that they have been able to hold their own. They are a much finer looking bird than the imported Skylarks, and it is a pity they have no song. Their nest is built on the ground, and is similar to that of the Skylark, but I have noticed they always pick the side of a hillock to insure the nest keeping dry and not so liable to be trampled on by animals, a thing I have often seen happen to the nests of other Larks. Their plumage is not very striking, but they are very trim and neat, and they look very dainty hopping about.

Another native ground bird, which I am sorry to say has died out, is the native Quail. Between forty and fifty years ago, on the Ashhurst flat (opposite Manawatu Gorge), the native Quail were in their hundreds, and many a scare I have had from them while running in the early morning to get our cows. You could not see them when they were hiding. Nature making them the same colour as their surroundings, you would be on the point of walking over a mob when all of a sudden a whirl almost in your face: this first explosion seemed a signal for the rest, the mob would whirl away one at a time. Very seldom would you see two rise together, although there were generally about twenty to thirty in a mob. It used to make my heart jump every whirl, just as if they had been fired up with a spring, and their swiftness of flight was wonderful, but they never seemed to fly far. Sportsmen who could shoot them on the wing were considered first-class shots in the early days of muzzle-loaders.

The native Quail was very similar to the imported Australian Quail in size and shape, only the New Zealanders were lighter in colour and much more plump. I have read quite lately in a book of New Zealand birds that it was through being slow fliers they had been shot out, falling easy victims to shooters. It quite amused me, for whoever

they are not ; it is only shooting that makes them afraid of man. When I have been fencing-off a new burn the Pigeons would after the first few days (when they found I did not harm them) sit on the stumps and logs in the sun quite close to where I was working, and sometimes on the top of the posts I had just erected, so that shows they are not naturally shy or timid.

Now I must tell you something about another old favourite of mine, the Weka, or Wood Hen. When I first came here I made sure I would see and hear them again, but was greatly disappointed to find they had died out. When a boy living in the Manawatu district, there were hundreds of them around the township of Ashhurst, and in the evening, just as it was getting dark, you would hear them calling to one another. If rain was coming you would hear them calling for miles around. They seemed, like the Kaka, to know. The settlers used to say " Rain coming. Did you notice how the wood hens were calling " ? Their call just sounds like " More wet ". They are chiefly night birds, but I have seen them come to a camp door in the shade of the bush in the daytime and eat scraps we would give them.

We used to wonder where our soap, spoons, etc., went, until we found the thieves were the Wekas, who seem to have a failing for bright things, and are full of mischief.

Being a flightless bird, they have very powerful legs and beak, which I know to my sorrow, for when a boy I tried to carry one home alive, but was glad to let it go. They are very swift runners, but with the coming of dogs to New Zealand they have had no chance, or against the cat, stoats, and weasels either. I remember seeing some of their eggs found by a bushman under the roots of a tree. I was struck by their beautiful shape. They were tapered and about the size of a big pullet's egg, white, with spots on the big end. I forget what colour the spots were, but I know they were dark. There were three eggs in the nest. They are very hardy birds and could be fed in places safe from dogs, cats, etc., and I believe we could have them in their hundreds again.

Another bird friend here is the native Ground Lark, one of the most friendly birds I know. It does not matter if you are at the cowshed, digging, ploughing, stumping, and clearing up logs, you

Bushfellers would find the nests high up in holes in the big trees when felling the bush, and give the young birds to the nearest settlers, if unhurt, when the tree fell. They were always in great demand.

I enjoy writing about the Tui, or Parson Bird as he is commonly called. He seems very proud of that white tuft of feathers on his throat, and rolls it up and down like an Adam's apple when he bursts into song. When younger I could imitate the calls of most of our native birds and I used to delight in giving the distress cry of the female Tui. All the cock birds would come that were in the vicinity with their feathers all fluffed up looking for a fight and very angry. But they soon took a tumble and left me on my own again. The distress call sounds like a long string of "pee-pee-pee". It is, I find, one of the hardest calls to imitate. You have to make it with the lips and throat, not the tongue. At one time the Tui was supposed to be the Game Bird of our forests, and he could be a bit of a bully. I have seen him tormenting the inoffensive Pigeon until showers of white breast-feathers were flying in all directions. Anyway, I know of one imported bird about his own size that is too many for him, the Starling, but the Tui is the one who always starts the trouble and then is glad to get back to the bush again.

Watching the Tui in the shade of the forest you would think it was just a plain black colour, but when it starts darting about in the sun you are surprised at the flashes of beautiful blue-green of its plumage. In the early days before flax mills started there were thousands of acres of flax bushes in virgin state, and in the summer months there was a sea of flax sticks in flower, heavy with honey, and then the Tuies would leave the bush and have a glorious time. That was the time to hear their song. They also love the gum-tree flowers, and will travel long distances to them in season even when growing close to towns.

When I first came to the Manawahe my farm was nearly all heavy bush, and after felling and burning it and sowing with grass seed I used to notice the Pigeons flying on to the ground, a thing I had never seen them do before, so I got curious and waited my chance, and finally found out they were fond of the lumps of new cow grass (large clover). It surprised me to see the way and the amount they ate in a short time. It is said the Wild Pigeon is a timid bird, but I have proved

flight. They also had groundsel and growing grass *ad lib.* Every week I expected disaster but the brood continued to grow at quite a good rate and in time it became apparent that they were fairly good on their legs instead of being hopelessly rickety as I expected. Towards the end of November sounds of active scrambling in the box announced the coming exit of the family and a day or two later a young cock was sitting on the floor of the shelter. He could not fly but was fully feathered and quite well grown. With such unfavourable conditions it was hardly to be hoped for that the young would be free from every kind of temporary weakness. Two days later a sister joined him, and after about three days another little hen more inclined to be weakly than the others.

For about ten days the family continued to prosper, still, however, keeping to the floor of the shelter. Then I made a mistake. Although the shelter was well warmed with a petrol heater it was very dark on the ground and I felt that the sooner the young birds were moved to a nice roomy flight cage the better. Also I was not sure of the tempers of the parents. They were obviously anxious to nest again and many cock Psephoti hold pretty decided views about children earning their own living as soon as they can fly. It would be a tragedy to have them killed when they had got so far. I had no fear about their being unable to feed themselves as I have never known young Parrakeets that length of time out of the nest fail to start eating if well supplied with soaked seed and especially soaked spray millet. I therefore told my aviary attendant to bring them into the bird-room, but I was going to be absent from home myself and did not return till three days later. When I did get back it was already dark and it was more or less by accident that I decided to go across to the aviary field to make sure the young Hooded were going on all right. When I turned on the light to my horror I saw that they were anything but all right. They had never fed at all and the aviary attendant had not noticed it before the afternoon of the third day and had failed to get them properly started with hand-feeding. Consequently they were in a state of collapse and when I touched the cock he had a kind of convulsion and I thought he was going to depart this life straight away.

I at once rushed them into the hospital and a temperature of 85°,

got some milk with raw egg beaten up in it, some brown bread, soaked sunflower seed, and soaked wheat. Starving as they were, they were old and nervous enough to be very awkward patients. The stronger little hen was the least far gone and after a good deal of protesting wriggling she began to nibble some brown bread chewed up and moistened with egg and milk. Her sister, though very feeble and unwilling to touch anything solid, condescended to drink a little egg and milk off the end of a paint-brush. But the cock, who, by reason of the superabundance of the opposite sex in my collection I most wanted to rear, seemed hopeless. He was too far gone to swallow and even the tiniest drops of milk put gently into his beak only came back through his nostrils and produced fits of gasping.

I spent about three hours in the exceedingly cosy atmosphere alternately coaxing first one and then the other to take more nourishment. In time the heat and the wonderfully nutritious properties of egg and milk began to take effect. Even the cock seemed a little stronger and at length the happy moment arrived when he, too, began to nibble feebly.

When you have a sick nestling Parrakeet to deal with it is no use doing things by halves. I went out again at midnight, at 3 a.m., and at 6 to continue the feeding. By midday the situation appeared to have been saved, and even the little weakly hen made quite a good meal. She preferred to be held on my knee but her brother and sister liked having their food offered them in the cage off the tip of a finger very cautiously put out to them. By this time they had passed a definite veto on brown bread and insisted on soaked sunflower and soaked wheat carefully chewed up.

Alas! that afternoon the hospital temperature was allowed to drop ten degrees and when I came to give the evening feed the babies were looking less well and with very little warning the smaller hen collapsed and died. I was anxious about the cock but the raising of the temperature and another night of broken slumber for me put him right again and next morning I got them both to take their chewed seed freely from a dish. They are now back in the bird-room and are beginning to fly but are still extraordinarily slow to learn to shell seed, living mainly on soft food and during the last few days

eating a little crushed seed and soaked spray millet. They have also begun having baths. Whether their abnormally long babyhood is characteristic of the species, or is merely the result of an early environment not too favourable, I cannot say, but I am inclined to suspect the former; other much more weakly Parrakeet babies I have had to deal with have been mentally little behind their normal brethren, i.e. they have begun to feed themselves at the usual age however feeble in constitution.

## CORRESPONDENCE, NOTES, ETC.

### ASSUMPTION OF BREEDING PLUMAGE IN THE RUFF

It may interest Members of the Avicultural Society who make a special study of the waders to know the length of time taken by Ruffs (*Machetes pugnax*) to assume the extraordinary breeding plumage. I have two Ruffs in one of my aviaries, a white and brown variety, and in spring I took a careful note of the time taken to complete the change; here are the extracts from my diary:—

- 19.4.31. The white and brown Ruffs have just begun to change colour on the head only.
- 24.4.31. The Ruffs are now very decidedly changed. The brown has descended down the neck and the white one has got a decided white head.
- 6.5.31. Ruffs: These two birds are getting whiter and browner respectively. The brown bird is beginning to show the ruff or collar, the white bird is getting very much whiter.  
Reeve: This bird is losing its grey winter coat and assuming the summer plumage, breast and sides of head getting light grey, large black feathers appearing on the breast here and there.
- 7.5.31. The white Ruff now shows a most distinct collar if one comes on him unawares, if startled he immediately flattens the collar down, it is then practically unnoticeable.
- 23.5.31. The Ruffs have now got quite full collars which they spread out giving them a very pugnacious appearance.

W. H. WORKMAN.

### THE BLACK MAMBA

Members are, I am sure, deeply interested in the experiences of your widely travelled correspondent, Mr. C. S. Webb. He is, however, in my humble opinion, a trifle sceptical despite his varied travels and experiences.

Although our Society is not primarily interested in snakes Mr. Webb's contribution in your last issue dealing with these reptiles was most interesting. Mr. Webb casts doubt upon the coloration and temperament of the Black Mamba. I can assure him he need have no doubts about either.

The first man I saw die in Bechuanaland in 1895 was a white man who died from a Black Mamba bite. We kept him alive for some hours by pouring

neat whisky down his throat and marching him up and down. In relays we took turns at this, forcing him to stagger along when he would have lain down. He died, and so did all things bitten by Mambas until F. W. Fitzsimons, F.Z.S., Curator of the Port Elizabeth Museum and Snake Park, perfected his serum. If any man living knows anything at all about African snakes it is Professor Fitzsimons and his black assistant Johann. The latter has survived more snake-bites than any living person.

In his book *Snakes*, Professor Fitzsimons writes, upon page 177, as follows:—

“In the day’s post there was a letter from a Civil Commissioner in Northern Rhodesia to the effect that he had shot a snake which measured 11 ft. 9 ins. and he was posting its pickled head to me for identification. It proved to be a typical BLACK Mamba, which had been the cause of a reign of terror. Its lair was a shrub and rock-strewn hill-side, and from this retreat it occasionally sallied forth, chased and bit passing natives or herd boys. Eleven human beings it has accounted for over a period of three years, and in no instance did the victim live beyond one hour—most of them died in twenty minutes—owing to the fact of their being bitten on the bare body.”

The Black Mamba was, in my African days, much more common than the green variety, which was regarded as a sport. They move with incredible swiftness. Although averaging 12 feet in length they move over the ground so quickly that the human eye cannot follow their movements for long.

Personally I am not a sceptic. I remember only too vividly the fools who laughed at the stories of the spitting snakes (now scientifically admitted), the pigmy-people (long ago “cinematized”), and the Okapi. There is always something at the basis of these legends although the legends may become greatly exaggerated in course of time. Unfortunately for hundreds of poor humans and animals who have died horrible deaths there is no legend surrounding the Black Mamba. He is a 100 per cent killer.

P.S.—The colour of the Black Mamba (*Dendraspis angusticeps*) is shiny gun-metal black.

H. MOORE, F.Z.S.  
(Bulawayo Field Force Artillery, 1896.)

*The above letter was shown to Dr. Burgess Barnett, Curator of Reptiles to the Zoological Society, who makes the following observations:—*

There are four species of Mambas, one of which, *Dendraspis angusticeps*, varies a good deal in coloration, being bright green, olive or blackish above and yellowish or blackish beneath. The darker phases of these snakes are known as Black Mambas, though they are never, I believe, entirely black.

It is interesting to learn that the so-called black variety is, or was, commoner than the green in parts of South Africa, for the London Zoo has never been able to procure one.

In the only case of Mamba-bite that has come under my notice the snake had been handled for several days before it bit, and the patient recovered after the use of the serum prepared by the Pasteur Institute.

I am, however, in full agreement with Mr. Moore as to the deadly character of Mambas, though I have no evidence that one variety is more fatal than the other.

[Several letters and notes unavoidably held over.—ED.]



Kea  
*Nestor notabilis*

of its haunts it will never be shot out, but there are few spots now in the South Island of New Zealand where the sheep farmers have not penetrated, and the Kea is to the average sheep farmer what a red rag is to a bull. Other observers state that the Kea will linger on only in the places where it is protected. I am not in a position to make a statement either way except that in passing through a great portion of the Southern Alps I only saw this parrot at Mount Cook where it is protected.

If it does become extinct, perhaps they will tell us that, after all, it might have been a mistake about its carnivorous habits, but it will be too late then!

Everything is being done to foster the idea about the Kea's feeding upon mutton. Children in schools are taught about a horrible rapacious bird which feeds on the kidneys of living sheep. People who should know very much better have cases set up in museums with half a dozen Keas in the act of devouring the carcass of a lamb heavily daubed with crimson paint.

Most people, naturalists included, love to add a little sensationalism, often at the expense of truth, to what otherwise appears to them dry scientific fact. Any out-of-the-way trait in the life of an animal is at once seized upon and enlarged beyond recognition, such as the fictitious remnants of the third eye in the Tuatara (*Sphenodon punctatum*) a very rare and primitive form of lizard found only on one or two islands off the East coast of New Zealand. And so it is with the Kea, the association of this bird and sheep seems inseparable. Every time we see a Kea pictured in a scientific book, in the background there are usually two of these "monsters" in the very act of tearing out the kidneys of a sheep. To my mind it would be just as incongruous to represent human beings every time they were pictured, to be feasting on a mutton chop, and I'm sure that humans are far more entitled to be shown eating sheep than these parrots. For the majority of people feed at least once or twice a week on a sheep's carcass, and that is far more than the average Kea does. In fact, I still have to be convinced that this bird kills sheep at all. No one I ever met had ever seen a Kea kill a sheep, except one man whom I met, who said that he had seen two hundred killed in a night!

I hardly liked to say that he was lying, so I merely said that at that rate they might easily dispense with the services of the slaughterman. But with the tales of sheep-killing it is always the old story of someone who knew someone else whose friend had seen them.

No bird in the world is more malignantly libelled than the Kea, and usually by people who know nothing whatever about it.

It is hard to imagine a bird, belonging to a family whose members are confined solely to the tropics, being able to sustain itself in such inhospitable regions, especially in the winter time, and sometimes even in the summer when bitter winds and furious blizzards roar up the alpine valleys where the Kea makes its home. For days at a time torrential rains beat down, and the valleys fill up with drifting clouds and mists. Sometimes the winds are so strong that it is impossible to stand upright.

Not only does this bird manage to maintain itself, but it is able to "do itself very well" as they say in Yorkshire. With a specially adapted beak it digs amongst the alpine vegetation finding succulent roots, etc., it also feeds to a great extent on the berries of the dwarfed trees. It is a remarkable thing that some of the stunted trees which grow only a few feet high bear larger berries than the same species which grows to the height of a hundred feet or more in the low-land forests. Most of the droppings which I examined contained the seeds of various alpine plants; as these were intact the bird must act as the distributing agent for many of the berry-bearing shrubs of those regions.

I have often seen them pull out quite large stones from the hill-sides obviously looking for something underneath; possibly for grubs or insects of some sort.

Keas are fascinating birds to watch; never in my travels have I met a bird of such interest. The chief trait in its character is unbounded curiosity. One has only to sit down quietly, especially in the evenings and in a quarter of an hour or so one is surrounded by a crowd of these inquisitive birds. They never seem to alight near one, but usually a distance away and with a kind of a hop, skip, and a jump gradually get closer and closer until at last one is surrounded on every side by throngs of quietly speculating birds. They come

within a few feet showing not the slightest fear. It is rather embarrassing and reminds me of going into an African village at the back of beyond and becoming in time the centre of attraction to a crowd of dusky youngsters who seem to have gathered from nowhere. The birds watch every action and examine every article left lying about. Sticks, cameras, glasses, coats, etc., come in for the closest scrutiny. At first the birds touch each article very gingerly with the tip of their beak, then they feel it with their tongue and when at last they feel that it is safe it is dragged away and if possible destroyed.

A stranger they seem to recognize and crowd around, but the ordinary people at one of the rest huts at Mount Cook they seem to take little notice of. A new extension to the hut was being built and the birds showed the greatest interest in the wood and tools which were lying about. Everything unusual they examined with the greatest interest. They would also come round and watch the workmen at their various jobs.

A carrot is a great attraction to them and if cut into small pieces will attract a crowd. If one throws the pieces towards the birds they dodge as quick as lightning out of the way as though they expected a stone or some other missile to be thrown, then they come up cautiously and pick up the bits. Sometimes a bird will tolerate another quite close to it and at other times they make furious digs at each other. It is very amusing to watch a bird trying to push another away with its foot, especially if it is trying to push it over the cliff. The one on the defensive will hang on as long as possible until it is finally forced to take flight. Sometimes a bird will trot up to another and affectionately lay its head against the other's.

I think the fascination of the Kea lies in the fact that it has such a human element in its nature. I could have spent months watching them and their curious habits. I often wondered whether, if only their persecutors knew them as intimately as I did, they would have the heart to massacre them as they do.

Thanks to the untiring efforts of the New Zealand Native Bird Protection Society and a few other enlightened people, the Government subsidy has been taken off the head of the Kea. At one time it was 7s. 6d., then it dropped to 5s., later to 2s. 6d., and now it is nothing at all.

It was not for love of the Kea that the subsidy was taken off, far from that. The argument the N.Z.N.B.P.S. used was, why should the taxpayer have to pay for ridding the sheep farms of vermin? Why should a man buy a farm over-run with Keas and the taxpayer be asked to pay for the clearance and give him a good income into the bargain? Why did not the Government pay for rats, mice, rabbits, etc.? There was a publicity campaign, and a deputation saw various ministers. The money question saved the day. It was the old, old story of why should some one pay for some one else. The old saying, "The hand that signs the cheque book rules the world" is very true. The fate of the Kea didn't matter a little bit. They could have pleaded for ever for the bird but when the money question came up, ah, well! That was a totally different matter!

When the subsidy of 5s. per head was being paid, quite a few of the alpine guides supplemented their incomes by shooting the birds surreptitiously. They would take up small pea rifles and at a distance of a few feet would kill half a dozen Keas. The heads would be cut off and sent to the nearest depot and the killer would be awarded 5s. per head. This meant quite a nice little income. It is little wonder that these men and also farmers and the shepherds were anxious to keep alive the rumour about the Keas sheep-eating propensities.

Travellers come into the alpine regions where the bird is found, ask a few questions about it, usually never see the birds at all, then write a book. The two following are extracts from such types of books, "These most destructive creatures are found in great numbers at the foot of snow mountains and kill the sheep by fastening their strong claws to the wool while they tear the flesh and eat out the livers," and again, "The Kea has a strange history. Once it lived on berries and grubs but years ago it became fond of mutton, and according to widely credited accounts it is very destructive to sheep. Alighting on the back of a sheep, the Kea fixes its claws in the wool or flesh and quickly makes an opening with its two-inch beak." And so the lies grow. This kind of tosh is usually written by people who know nothing whatsoever about the habits of this bird, but who jump at any bit of sensationalism to enliven the otherwise dull pages of their literary products.

I was going to say that the Kea is completely terrestrial, but that is pretty obvious, for it lives mainly above the tree line, but it is also a bird of the air, spending almost as much of its time in that element as upon the ground. It is a wonderful sight to see a flock of these birds wheeling round and round in the brilliant and intense sunshine in the rarified atmosphere of the great ice peaks.

They are transformed from the dull greenish bird which we see in captivity or in museums ; for it is then that we see the bright yellow-spotted flight and tail feathers and the beautiful bright orange underwing coverts. In its proper setting the Kea is a beautiful bird, often the only splash of colour in the sombre, desolate and stony valleys. I was astounded to find another bird which one does not usually associate with alpine regions, namely the Southern Black-backed Gull (*Larus dominicanus*) with which the Kea consorts. I have often seen a flock of Keas and Gulls mingled together wheeling overhead. The call of the Kea, when once heard, is never forgotten, for it is very distinctive. It is somewhat between the mewing of a seagull and the yelp of a dog. Sometimes the birds will make a call like that of a cat, at other times there is a strangely human sound in the calls.

They are extremely noisy birds, especially when on the wing and up in their mountain home. Few other sounds are to be heard except the continual thunder of falling avalanches or the cracking of the ice in the glaciers. When in the air the tips of the primary flight feathers are separated and upturned like those of an eagle ; in fact the bird looks very hawk-like when in flight and this, no doubt, lends colour to the sheep-eating tales. Around the Ball Hut by the Tasman Glacier at Mount Cook (12,349 feet) the Keas are fairly numerous ; there must be from fifty to sixty in the locality. Fortunately they are protected by the authorities at the Hermitage, the hostel at Mount Cook. But there are even people, including certain members of Parliament, who are using every effort to get them destroyed, and yet never in the history of the Hermitage has a Kea been known to touch a sheep, although there are hundreds around there, and Keas and sheep live on quite friendly terms.

A garbage dump at the foot of a stony cliff at the Ball Hut, was a great attraction to the Keas. They found many scraps to their

liking especially potato peelings. Their inquisitive nature also led them to spend a good deal of their time examining various objects such as tin cans, bottles, etc. There were one or two wild cats to be seen consorting with the Parrots and though the cats wandered in amongst the Keas, the birds took not the slightest notice of them.

The sexes are easy to distinguish, the male bird appears to have the cere and the skin round the eye yellow, while in the female it is black. The lower mandible in the male is also a much brighter yellow. he also has a much lighter coloured cap. I have never seen this way of sexing the Kea mentioned before but I am almost sure this is correct. I thought at first that the dark coloured birds might be the young ones, but there are several in the Wellington Zoo which have been there for a considerable time and the skin still remains dark. I am open to correction, though, on this matter.

Like many other New Zealand birds this Parrot is semi-nocturnal, and can be heard flying around long after the light has fallen. It can also be heard before the dawn in the mornings. With the four birds which I brought back to England, I found that most of the feeding was done at night. They roost in crevices in the rocks, under overhanging boulders or beneath the thick, matted alpine bushes. The Keas nest in deep holes in the rock, usually in places utterly inaccessible to human beings. This is one thing that has been to a large extent the salvation of the Kea. During the whole time that "The Hermitage" has been in existence no one has ever found a single nest and yet the guides are always penetrating to very remote parts.

I was at Mount Cook in April and was told that the young ones had been round for a month or so. By allowing four weeks for incubation and six weeks for the young in the nest, it must be some time in December when the eggs are laid.

It has been reported that eggs have been found in July, which would be in the midst of the very severe alpine winter; one would hardly think that the birds would nest then.

The guide residing at the rest hut by the Tasman Glacier told me that the Keas have a very annoying habit of flying up onto the central ridge of the roof with small stones and then letting them roll down the

corrugated iron, the birds being amused apparently by the noise. This must be very annoying for the inmates of the hut.

The colour of the Keas blends perfectly with the alpine vegetation and yet the bird certainly needs no protective agency, for until the coming of man it had no enemies except the elements.

One would think that this hardy Parrot would do well in an outdoor aviary in England, but in its native sphere it does not meet with the damp clinging cold of the English winter. In spite of the bitter and intense cold there are long periods of brilliant sunshine which are quite unknown in the Homeland in the winter time. Recent attempts at importing Keas into England do not seem to have been very successful. A few years ago twelve were captured and sent to the London Zoological Society on board the *Tahiti* on her last unfortunate voyage and although it was a long time before the boat sank, the Keas were deemed to be not worth saving. Two more were brought home by the captain of a certain ship, who, rather than bother to inquire about the Parrot restrictions, threw them, cage and all, into the London Docks. A couple of birds were sent to me last year but they succumbed just before they reached these shores, mainly owing, I think, to the effects of mutton broth upon which they were largely fed. I was more successful in landing four birds in June of last year. It is said that the bird is called the Kea after its cry and it does not need a great stretch of imagination to pick out the particular cry which resembles a long drawn out "Ke—ah".

Cold does not seem to effect them much, for I have seen them sit for lengthy periods on the ice crags of the glaciers. They do not seem to mind the extreme coldness to their feet, in fact they seemed to enjoy it.

The birds seem to feed to a certain extent on the juicy roots of a certain mountain tussock grass, I noticed that they always pulled the sections out of the middle of the clump, never at the sides; after the edible portion was chewed off, the fibrous part would be rejected. In captivity the birds feed mainly on roots, such as carrots, kumeras (the native sweet potato), swedes, etc. They are also fond of biscuits; they seem to take very little seed of any sort, although the ones at the Wellington Zoo seem to be fed solely on dry maize. I think mealworms

would be beneficial in lieu of the grubs which they get in the wild state. The Kea makes one of the most delightful pets that it is possible to imagine and in my opinion ranks second to none in intelligence. Even in the old days before there were any restrictions on New Zealand birds the Kea was only very occasionally imported and then only to Zoos. Very few, I think, have been in private hands. Given a large outdoor aviary and a heap of large stones or rocks I see no reason why it should not breed.

Those in authority at Mount Cook offered to let me take away several Keas. I already had four, which I believe are cock birds. I was offered hens, but somehow I had not the heart to take the birds away from their happy little protected colony. Perhaps if they had been in danger of extermination from the sheep farmers it might have been a different thing. My own birds came from a different district, and in time I may be able to procure hens.

The Kea stand for something so essentially New Zealand; not the New Zealand of to-day, but of that land of strange anomalies where, until the coming of the "pakeha", the unique vegetation and strange bird life reigned supreme.

Like all the other natural products of that country, it does not fit in with the scheme of things now. Barren hill-sides, destitute of the alpine vegetation, barbed wire fences, and corrugated iron sheds are no proper setting for the Kea. Every native product is sacrificed on the altar of Mammon. The sheep farmers have extended their domains right up to the snow line and all the alpine flora has been burnt off; no single ledge or patch where a sheep might get a mouthful of grass has been spared.

The farmers in those regions, being true Britishers, had to kill something, and in those days before the introduction of the chamois and the thar the only living things were the sheep and the Keas, so the Kea had to pay the price. As he was not on the list of conventional sporting birds, an excuse had to be made for massacring this good-natured and inquisitive bird, so they said that he ate the sheep. To make this worse they said he ate the kidneys from living sheep. These stories are very much on a par with the stories told in the English country side of Nightjars sucking goat's milk, of eagles carrying off

children, and cuckoos changing into hawks on the approach of winter.

Most observations of the ordinary person about birds are incorrect, and it is quite an easy matter for a person to see Keas examining a dead sheep, for they are exceedingly inquisitive birds, and for the rumour to grow and grow until it was seized upon as a commercial proposition.

In a New Zealand magazine appeared an article written some little time ago by a journalist obviously of the sensational school, and judging by the literary ability displayed, he had been taught by that highly efficient system which is guaranteed to produce a fully fledged journalist in the short space of six months by the simple method of postal lessons. Judging by his aptitude to produce the sensational, he would have been far better reporting murder cases than investigating the habits of the Kea. After a long discourse on the blood-thirsty habits of this bird, absolute and conclusive proof was brought forward, a photograph of a Kea with a huge lump of mutton just torn from the living sheep. It was entitled "Guilty". What evidence was there to be brought forward to dispute this? The photographer's trump card, a camera cannot lie. No, but sometimes photographers do! It doubtless had convinced some people, but it didn't quite convince me, for the Kea was stuffed, and very badly stuffed at that!

The journalist would possibly get £5, for his article and a unique photograph, and the case against the bird was again strengthened. So after all the Kea is a good commercial proposition for some people. Talking about that reminds me of a little story which I heard from a one-time gold prospector. A few years ago when seeking the precious metal in the most southerly part of New Zealand, he came across a professional Kea hunter, where there were no sheep or likely to be any. He told the prospector that he was not such a fool to seek the illusive metal as the Kea heads proved a veritable gold mine for him.

I also met in the South Island a person who had been a companion in nearly all parts of the bush where the Kea is found, with one of New Zealand's well known naturalists, and he stated that they had never in all their travels come across an authentic case of the Kea killing sheep.

The Kea, like a picture which needs a frame to set it off, also needs

a fit setting. Seen in an aviary or cage, he isn't the same bird as the one seen amid the glittering snow-capped peaks of his native home. Bluebells in a jam jar are not like those in the misty blue haze in the beech woods in the spring. And so it is with the Kea. He loses a great deal of his charm when taken out of his proper setting. I have taken people to see the Keas and they have usually been astonished when they saw them. "Why, that can't be a Kea, it's a nice bird, I always thought it was a horrible thing, something like a vulture", is the remark usually made by the lay person on seeing the Kea for the first time.

Between the years of 1920 and 1928 the Government paid a subsidy on over twenty-nine thousand Kea heads.

I was told of a district on the western slopes of the Alps where Kakas and Keas were found in the vicinity, but I was told that the two birds, although so closely allied, never consorted together.

Perhaps I have talked too much about this bird, but I must ask to be forgiven, for to my mind it is one of the most interesting birds in the whole world, and so many lies have been written about it that I feel I must say something to vindicate its character.

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## BREEDING NOTES FROM THE KESWICK AVIARIES FOR 1933

By G. H. GURNEY

The following notes are a rather belated account of some of the more interesting species which bred at Keswick during the past summer. Considering the abnormally hot dry summer we experienced in Norfolk, as everywhere else, perhaps one might have expected more species to have nested, but, owing to the abundance of live insect food, those which did breed had more chance of rearing their young successfully than in a cold damp summer, when live food, so absolutely necessary for the majority of young birds, was scarce and difficult to get.

Gallinaceous birds, in good-sized pens where the grass was allowed to grow long, were able to secure a fine supply of live insects and on our light soil the supply of fresh ants' eggs was unlimited; and how

young birds, of nearly every species, do gobble them up! It seemed as if their parents could not fill their beaks full enough, or often enough, to satisfy their always clamorous offspring.

I have never known waterfowl wander so far afield to nest, my small collection of ducks are generally satisfied with using natural, or artificially-constructed, nesting-sites fairly near their water; but not so this year. They all seemed to be possessed with a perfect mania to get as far away from it as possible and, as the pond on which I keep them is not enclosed in any way, they can go where they will and as far as they will, and such species as South American Wigeon, Japanese Spot-bills, Bahamas, and Mandarins nested in copses a long way off. In some cases the nests were never located and the female, when returning from feed, would show a perfectly uncanny instinct in misleading any one who was trying to follow her in order to locate the nest. If the nest was discovered, the eggs were probably taken and reared under a foster mother, when they were very far away, and if not found one hoped, in due course, one would see, some fine morning, the old bird leading her newly-hatched family of youngsters to the water.

Silver Pheasants, which are now well established here, practically wild, nested all over the place, they are well adapted for semi-liberty, as besides being extremely ornamental they stop in the paddocks and enclosures, even though these are surrounded by woods, and they could easily fly over the wire-netting divisions if they wanted to. Ten or twelve old cocks in full plumage walking about together make a very good show.

None of the Cranes laid at all, and the pair of Horned Screammers, also having complete liberty and wandering where they will, disappointed me. In the aviaries I think the following species were among the most interesting ones which nested:—

Donaldson's Turaco, *Turacus donaldsoni*. A large nest of sticks was made in a basket in the aviary shelter, and the hen sat well for a long time, but no eggs were laid. I do not think the pair were disturbed by various other birds in the same aviary.

Giant Kingfisher, *Alcedo gigas*. Nested in a hollow log in the aviary flight. The first egg was laid on 12th May, and two others on

the following consecutive days. Of these, two eggs were broken, whether accidentally or the reverse I do not know, but knowing the predilection of this species for eggs, I rather suspected the latter, and if I had anything sitting at the time, the least bit suitable, I would have removed the remaining egg, as I feared it would suffer the same fate as the other two. However, the hen settled down and on the whole sat well, though always popping out at the least alarm, but the egg hatched successfully on 11th June. The young Kingfisher was incredibly ugly, with black naked skin, and its huge beak and staring eyes. The feathers took a very long time to grow, and for a good fortnight it remained in practically the same state as when first hatched, except it increased greatly in size but, when the feathers did begin to start, it feathered very rapidly and left the nest on 18th July a very fine bird, which before long became difficult to tell from its parents. It consumed an enormous amount of food and was for ever calling for more. This species has been bred at Lilford, and here many years ago, but I do not think elsewhere.

Black-headed Grosbeak, *Orizoborus torridus*. This handsome species nests here regularly, but always with the same result—the young are thrown out of the nest when a few days old. This year the first egg was laid on 9th May, and the full clutch of four followed but, after sitting in exemplary fashion, the old birds disposed of their offspring as mentioned above after seven days.

Starlings, as a whole, were very disappointing: pairs of Purple-headed, Green Glossy, Red-eyed, and Salvadoris, although in perfect breeding condition, showed no signs of going to nest.

Superb Glossy Starling, *Spreo superbus*. I have two breeding pairs of this species: one pair made no attempt at nesting. The other pair hatched several young, but none were reared, as they were thrown out of the nesting log when about a week old.

White-headed Starling, *Heteropsar albicapillus*. A pair built several nests, but did not seem able to settle down and no eggs were laid. They may have been disturbed by other birds, and if they survive I shall give them an aviary to themselves next summer.

Rose-coloured Pastor, *Pastor roseus*. I have had a pair of these birds for several years and, though alone in what I should have

considered a suitable aviary, they never made any attempt to breed. Last spring, for the sake of convenience, they were moved into another aviary, where there were a number of birds. However, they paid no attention to these, and at once took possession of a Parrakeets' nesting box fixed high up in the aviary shelter. I am not sure of the exact date, as it was impossible to inspect the log without great disturbance, but I believe the first egg was laid on 30th May. Only two eggs were laid, and only one hatched, and a fine young bird appeared outside on 24th June. The amount of mealworms and fresh ants' eggs this youngster consumed was simply incredible; it seemed impossible to satisfy it, and the parents from having been very shy became quite the reverse, and if any one passed the outside of the flight would immediately fly to the front and cling to the wire-netting, clamouring for more, and yet more, mealworms for their insatiable baby. This young Pastor, from six weeks old to three months, was indistinguishable from an immature Common Starling, *Sturnus vulgaris*, and, as the two species mix together on the Continent, it must very often pass quite unnoticed. Several very eminent ornithologists who visited the aviaries during the summer—men who would not hesitate to name correctly the most difficult Cisticola at sight—were completely non-plussed by the young Pastor, and one well-known aviculturist spotted it from an adjoining aviary and remarked, "Oh, what have you got there?" It was not till November that any trace of black appeared; now it is rapidly assuming adult plumage. This species has never before been bred in England, though I believe there is a Continental record for it.

Green Cardinal, *Gubernatrix cristatella*. A pair made a nest in a box-bush. The first egg being laid on 30th April. Three eggs were laid, two hatching. Both young were reared until fully feathered, and then for some inexplicable reason died.

Red-headed Cardinal, *Paroraria larvata*. This species nested, and two eggs were laid on 7th and 9th July respectively. Both were hatched, but the young were thrown out of the nest by the old birds. One was subsequently fully reared by hand.

Red-rump Parrakeet, *Psephotus hamatonotus*. Three eggs laid on 6th May, two hatched and were fully reared.

Ring-necked Parrakeet, *Psittacula krameri*. Two young ones reared. Laid 1st April.

Cockatiel, *Leptolophus hollandicus*. Several clutches of eggs were laid, but none were hatched.

Black Crane, *Limnocorax niger*. The first nest was made in a large tuft of grass near the water pool. On 1st May there were three eggs in the nest, but only one hatched, this was fully reared. The second clutch was laid on 8th June—the full lot of four eggs—of these two hatched, and were successfully reared. It was a pretty sight to see the half-grown young bird of the first clutch tend and feed his brothers and sisters of the second brood. Numbers of double brooded birds will do this, noticeably waterhens and some of the partridges. The young Black Rails when first hatched are tiny little balls of black fluff, for the first few days really not much bigger than a large bumble bee, and easily able to squeeze through half-inch mesh wire-netting. They are rather slow in growing, but not specially difficult to rear.

Cayenne Rail, *Creciscus cayennensis*. Four eggs were laid during May, but they were unfertile, and I rather doubt if I have a true pair. This species has been bred here in the past, as well as the larger species, *Aramides ypecaha*.

Crowned Lapwing, *Steganibyx coronatus*. These birds started to nest as early as 14th February, on which date the first egg was laid, two more being added on the 16th and 18th. The nest was in the open flight, partially concealed by a large tussock of grass, it merely consisting of a shallow scrape with a few bents of dried grass laid in it. Both birds took turns in sitting, but the eggs, although fertile, did not hatch, and I put this down to the early laying and cold weather at the time. They laid again on 2nd May, this time the eggs being placed on the sand in the aviary shelter without any attempt at concealment. Three eggs composed the clutch, and again both birds sat tight and were never seen off the eggs for a minute, when the change was made, one bird coming off to feed, the other immediately took its place. Again we were disappointed, the eggs for the second time failing to hatch although containing fully developed chicks. Possibly they were too weak to break the shells.

Russet-tailed Bamboo Partridge, *Bambusicola thoracica*. My pair,

which successfully reared young for the first time in captivity last year, again repeated their success this year. Five eggs were laid and four young ones fully reared. This species is intensely susceptible to damp.

Diamond Doves, *Geopelia cuneata*. A number of young ones were washed out of their nests by heavy rainstorms; they will nest in such exposed places. But a fair number were fully reared.

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## SOME NOTES ON THE ARGENTINIAN FLAMINGO

(*Phænicopterus chilensis*)

By F. E. BLAAUW, F.M.Z.S.

Whilst travelling by train from Buenos Aires to Mendoza I saw this species in a wild state in a large shallow lake.

It was a couple of hours after we had passed Rufino that the train travelled over a dam that had been constructed in that lake.

It was in the month of March, 1911, and as soon as we came upon the dam I was struck by the sight of countless numbers of the beautiful pink birds standing in the shallow places.

I was also agreeably surprised by the sight of half a dozen Coscoroba Swans which were swimming quite close to the railway track. It was probably a summer or autumn resort for the Flamingos, because when about two months later I re-passed the lake nearly all the birds were gone.

Later on when I visited the north-western part of Tierra del Fuego, staying at a sheep farm at Zentes Grande (name of the farm), I saw again some Flamingos, five in all, standing in a shallow lagoon and I was told by the manager of the farm that the Flamingos were *winter* visitors there and that the birds I had seen were probably the first ones of that season.

They frequented mostly, he told me, the salt lagoons which were less liable to be frozen over than the fresh-water ones.

The birds were rather shy and I could not get very near them as they flew away on my approach.

In the same lagoon, which was apparently very shallow in some places, stood numbers of Blackbanded Geese, *Chloephaga dispar*. There were also several pairs of the Flying Steamer Duck, *Tachyeres patagonicus* and several *Anas cristata*.

In the year 1920 or 1921 I succeeded in getting two pairs of Argentine Flamingos alive at Gooilust. One pair was in the adult dress and one pair in the immature feathering. These last two birds were greyish-white with a number of spots and stripes of a brownish-black colour on the upper side and they had also greyish legs and feet and white and black bills. The four birds did very well and were fed on soaked wheat and dried ground shrimps, and they fed the greater part of the day on the minute animals which they found in their pond.

Towards autumn the birds moulted and the two adult ones improved considerably in colour, the red "paillettes" and the red lengthened wing coverts becoming gorgeously beautiful.

The young birds also began to show some pink, but it took years before they had quite got rid of their immature dress, improving, however, at every moult, so that at the present time they are perfect specimens of coloration. Last autumn was favoured by very fine weather and the month of August was particularly hot and I suppose that the result of this is that the birds showed a coloration which they had never shown before and which I never found mentioned anywhere.

As a rule the legs of this species of Flamingo are bluish-grey or slate colour with scarlet tarsal joints and feet. This autumn, however, the upper parts of the legs from the red tarsal joints to the feathered thighs became of a wonderful shining yellow colour with a greenish shine in it, whilst *under* the joint the tarsus itself only showed the slightest indication of this glorious coloration. Very likely this is the usual thing for these birds to assume in the breeding season and that the hot August and sunny autumn enabled the birds to show it on this occasion. I have always hoped to see the birds nest but only once a few years ago did they make any attempt at nesting.

That summer was rather sunny and warm and the water in the pond got very low and this induced one of the two pairs to make a

small mound of sand. Before it was finished, unfortunately, the weather changed and the water rose considerably and those two things apparently so discouraged the birds that they gave up the attempt and they have never repeated it. When the birds are courting each other they erect the beautifully coloured and lengthened feathers of the upper side.

In this country I have to take the birds in the bird-house during the winter as extreme cold gives them leg-sores.

The males are larger than the females.

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## SOME AIMS AND IDEALS IN AVICULTURE

By JOHN WILCOCK, B.A., M.B.O.U.

It is not imagined that any new views or theories are to be put forward in what I should like to say; rather is the intention to emphasize a few general facts and principles realized by most of us, but sometimes overlooked to the detriment of the ends we have in view. In doing this I may imply, in all humility, one or two faults which I think are sometimes prevalent amongst some of us.

Perhaps it would be best at the outset to focus attention on what our aims really are. If "aviculture" means anything it is the attempt to produce and *maintain* in captivity various species of birds. I would emphasize as strongly as possible the word "maintain", for nothing less than this, seriously and persistently pursued, justifies in dealers' premises cages of Gouldians and other Grassfinches, the Lovebirds we saw before the parrot ban, and many other species. I would emphasize the word because there is no doubt about it that aviculturists are a fickle lot. A breeding success achieved once or twice, and we turn to "fresh fields and pastures new"; at least, too many of us do. The reason for this fickleness is not far to seek; we have such a diversity of species at our call that it requires a strong will at times not to acquire something we cannot accommodate without sacrificing that which we have already successfully bred. But unless a sufficient number of us find our recompense in breeding for generation after generation chiefly the same species of birds, striving against any

diminution in vitality and fertility, we are no whit better than the generation which has passed without leaving us, for example, a sound stock of aviary-bred Turquoisines, which they apparently might have done. Aviculturists of the stamp of the late Miss Alderson, who could concentrate on her Foreign Doves and find it enthralling, seem singularly rare nowadays. Now that it would appear that we are to be vouchsafed by Nature another opportunity with the *Neophema* it is to be hoped that the lesson has been taken to heart. Fortunately a start is being made by that thorough and experienced aviculturist, Mr. Harvey, of Adelaide, and by others. Surely there ought to be as much pleasure and credit to be derived from attempting to achieve, say, fourth generation aviary-bred birds which are as virile and prolific as their wild-caught ancestors, as in getting a somewhat puny youngster from the nest for the first time, without knowing just exactly how it happened. And would it require much more self-discipline, to adopt and stick to (chiefly) a certain number of species with this end in view, than is required of people who take up other types of livestock, horses, dogs, poultry, etc., and do their utmost to improve the breed they have adopted, instead of squandering their efforts over a wide field as the whim takes them? As to the number of species which could be taken up on these lines, this would of course vary with individuals, according to the extent to which circumstances permitted them to indulge their avicultural activities. I think, however, we are morally compelled to view our hobby in this light and, as I see it, it is going to be more necessary in the future than it has been in the past.

One little bird I have kept and bred for several years now, enjoy keeping as much as ever, and shall enjoy attempting to bring near to domestication, even if I fail, is the little Chinese Painted Quail. I purchased my first pair in 1928, and the little hen soon laid, but would not sit. This I discovered was almost usual, but I also learnt that the father "mothered" the chicks. After attempting, with relatively unsatisfactory results, to use a good modern incubator which was "set" with hens eggs, I got a steady broody bantam and for several years always succeeded in getting off a brood by this means, generally having a few broken eggs, or chicks crushed when hatched, although I was up betimes on the morning the chicks were due to hatch, to get

egg-binding. But I cannot do anything with Gouldians. I have had the same birds three years, and perhaps am unfortunate in my particular specimens. The nearest I have been has been young dying at fifteen days old, and the hen on the next attempt died of egg-binding. Bichenoes have nested more than once, but have been disturbed by the Longtails, but I am glad to say I still get as much pleasure as ever when I have got out a good nest of Longtailed Grassfinches as I did in the days when they were new to me seven years ago. Just the old perennials which have been discarded by the "advanced" ones long ago! I have not yet had an opportunity of trying Ruficaudas and Parrot Finches. But this brings me to the next point I would like to make.

I believe that the amount of satisfaction which can be got from the inmates of an aviary is almost in inverse ratio to their numbers. Of course I mean within limits, and am referring to success in breeding, which is the ultimate aim of our hobby. The "mixed collection" isn't aviculture of course; it is bird-fancying, and can be quite entertaining if carefully assorted. Everyone will readily agree that the Grassfinches, Waxbills, and other smaller finch-like birds, the smaller buntings, etc., cannot be systematically propagated by having what appears to be an aviary full of birds. Even those birds which nest in colonies in nature do not seem to get on together in an aviary. But I do think that, although the above fact is readily conceded, the ideas of many people still cause them to err on the side of overstocking and they would consider their aviary empty if it only contained what at least I consider the proper number.

Apart from the psychological effect on the birds of having to choose nesting sites in close proximity to a neighbour's, even if they could live together in perfect amity, they could not be kept under reasonably hygienic conditions in the breeding season if many birds are installed. Unless the numbers are very few the aviary wants thoroughly cleansing very often and regularly—perches, ledges (if any), and windows as well as floors. This cannot be done without disturbing birds which are incubating, and therefore must be missed or scamped, with a consequent increased incidence of disease and mortality or breeding results jeopardized. We doubtless all feel the temptation to put in

just that "extra pair". Resist it manfully. Many of the parrot-like birds take the matter in their own hands (or beaks) and set about readjusting the density of the population by killing each other; with other birds the error can often be persisted in without actual losses from carnage, but breeding results are poor and we say the species are uncertain or difficult breeders, or deaths result and the birds are blamed for being delicate, not the owners for being bad naturalists. Applied natural history goes a long way to successful aviculture; I suppose that is what is meant by "bird-sense".

[Having mentioned the incidence of disease above, I would like to put in here a word on the use of Yodil as an excellent preventive and cure for epidemic diseases. I fly to it immediately I have a bird at all "soft" and this and warmth generally affect a cure. The rest of its aviary-mates also get a small dose (about five drops to a teacupful of water) as a preventive.]

My own idea of the complement for a medium-sized aviary, carefully assorted so that no pugnacious inmates are included, is some three or four pairs in a 20 by 6 ft. aviary. With a pair of small doves (Diamond Doves are of course ideal) and a pair of Chinese Painted Quail, there is enough to satisfy any one. I am not implying that aviaries ought to be of that size; smaller ones with fewer breeding pairs can be just as good; as can large cages with single pairs, but only provided the owner brings to the birds all that they would get if in a garden aviary—and this involves a lot of time and work—abundant supplies of seeding grass, seeding chickweed, and, for the first few days after the young hatch, live insect food. These are all necessary to make up for the lack of foraging space.

I have bred Zebra Finches in a large cage, producing eighteen really fine young ones in one season from one pair, and destroying one clutch of eggs. Every single bird was a full-sized tight feathered specimen, always as fit as a fiddle. I refer to this because I have mentioned 20 ft. aviaries, and I do not want to give the impression that in my opinion this size is necessary, if the regime is adjusted accordingly. Zebra Finches and Long-tailed Grassfinches search eagerly for insect life when the nestlings are only a few days old; they can be seen imitating fly-catchers on the wing snapping up gnats

and small insects, and hunting about on the ground. At this period, when they are searching over bunches of seeding grass, it is as much for insect life as for seeds. Actual greenfood I find my finches rarely eat, or if they do it is in the smallest quantities, but chickweed seed is much appreciated. Another seed they have always before them is maw ; I think it ought to be one of the stock seeds. I am not sure whether the time will not come when seed hoppers and dry seed are considered obsolete and bad practice, and seed trays with soaked or sprouting seed take their place. Sprouting seed has certainly come to the fore recently and, when one thinks of it, birds in a natural state are rarely likely to find seed in the bone-dry state in which we give it them in hoppers. It seems too much like feeding ourselves with stuff out of tins all the time, and for a young life, whether human or avian, the results would certainly leave much to be desired.

I can quite imagine some of my views being criticized as a counsel of perfection ; many can no doubt speak of apparently moderately satisfactory results from birds rather crowded in small quarters, with little more than the seed hoppers kept filled. I would just point out that I am concentrating on the perpetuation of aviary-bred birds, generation after generation, and whilst aviary-bred birds which are well reared should be in every way more desirable as stock-birds than newly imported ones, not all by any means are, and I am hoping that some of the points I mention may help to make just the difference between dependence on importations, and, except for occasional new blood, independence of them. If the importation of the Australian Grassfinches, for instance, were stopped (and I mention them as being considered free breeders) can we maintain virile breeding stocks of them, or even increase them ? If not, our methods still admit of improvement.

With the larger parrakeets it appears to be accepted that relatively large aviaries are necessary for the raising of first-class young. Our methods with these birds are being put to the test at the present time. If we are pursuing our hobby successfully, and have got on the right lines, we ought to find that aviary-bred birds of at least the more usually bred species are produced to meet a normal demand. This should certainly apply to the Lovebirds, Cockatiel, Redrumps, and

possibly Rosellas, but the prices of these birds have risen considerably. I do not know whether the demand has increased rather rapidly; perhaps it has, and now that the ubiquitous Budgerigar no longer commands a high price people are turning to other Parrakeets. I hope some such explanation is correct, otherwise we are driven to the conclusion that the young from the wild caught birds which were in the country when the ban was imposed are already proving, in the first or second generation of aviary-breeding, not so virile and prolific as their parents. I fear that because they show such a willingness to go to nest and produce young, we sometimes take too much for granted with birds like the Cockatiel, Redrumps, and the Lovebirds, giving them quarters which are only fit for Budgerigars. True, with little room, and on stale ground, they produce young which sometimes look all right—and sometimes don't; Lovebirds sometimes leave the nest half feathered, but fortunately these soon grow and make them look good stock birds. But are they proving so?

The more seriously we take our hobby, the more we realize what a lot is still not known, and that our methods are still empirical, even with the species which are most commonly kept. It seems to be accepted that, with many of the larger parrakeets and particularly the Broadtails, close confinement (as in a cage) leads to sterility in the male, and that cramped quarters, whilst not sufficiently bad to prevent young being produced, have a detrimental result on the young, some being obviously weakly or suffering from some defect. Many of us have doubtless accepted the suggestion of the Marquess of Tavistock that it is desirable to have an aviary 24 by 8 ft. for the larger parrakeets. I gather from our Editor's account in the September number that those at Keston "strike one as being on the small size". It would be interesting to know what size they find satisfactory, and whether they have any information on the subsequent breeding results of the young birds bred in these smaller aviaries. Most people I think would agree that such birds as the Cockatiel, Redrump, and the Lovebirds can be kept in smaller aviaries, for they certainly can produce in small quarters young which appear nice birds. But it is apparently the fact that the reproductive organs are *more* susceptible to adverse conditions than the rest of the birds' make-up.

I purchased a few years ago a particularly fine aviary-bred Rosella cock, good size, excellent feather, energetic, bold, and pugnacious, but the twelve eggs his hen laid were all infertile ; with another cock the next season every egg was fertilized. Perhaps it is exceptional that a fine bird should be totally impotent—it may have been caged too long after leaving the breeding aviary—but I have a feeling that we are not always producing birds which will make satisfactory stock birds in the young we breed—even when they are young which are apparently sound and healthy. I doubt if there is an aviculturist in the country to-day who can say he knows for certain that with our present knowledge and methods he has bred even any of the birds I have mentioned above to the fourth generation and that the fourth generation aviary-bred birds have been just as good as their wild ancestors. I suspect that many of the birds bred to-day are not such as would continue the race indefinitely if no wild blood were available to bring in. In order to get data to arrive at definite conclusions as to the results of our methods, it might be desirable, and possible, to arrange for collaboration amongst members, with a small committee of competent people to collate facts and draw conclusions. If members were invited to give a list of the Parrakeets they are breeding, or attempting to breed ; whether stock are aviary-bred or wild-caught birds ; whether in fixed or movable aviaries, and their size, elevation above sea level, and nature of soil ; details of nesting receptacle and its location ; full details as to diet ; state of weather whilst young were being reared ; particulars as to accommodation of independent adolescents, and any other information the committee may find desirable ; the results of these conditions tabulated ; and the investigation continued with the young produced, by the breeder notifying the committee to which member birds have been sold, we should be much more likely to reach reliable conclusions than we are at present with members carrying on independently, some recording their experiences, but perhaps drawing wrong inferences from isolated occurrences and failing to appreciate all the factors of the case ; others too modest, lazy, or busy to record them. A co-operative plan would supply the incentive to the latter category. From the mass of data thus obtained it is not too much to hope that safe

generalizations might be made and if in time these were then embodied in "official recommendations" we might be spared a number of the unsatisfactory aviary-bred birds which are to be found on the market.

So far as I can remember, no one seems to have given any attention to the humidity of the atmosphere in their aviary shelters yet it may be found that for callow young it has its importance. Perhaps if we have given it a thought at all, we have felt that the usual British weather precludes any danger of over-dryness, but this may not be so. Last season has been an exceptionally fine, dry summer, ideal for foreign birds from warmer climates, one would say. Have aviculturists found it so from their breeding results? The Marquess of Tavistock, writing in the October number of the Magazine, says "1933 has been, on the whole, rather a disappointing season, the number of young birds reared being considerably below the output of 1932" and states that this was partly (but only partly) due to breeding pairs coming to an untimely end before the season commenced. In the August number Monsieur Decoux writes, "The present breeding season has so far been rather good *in spite* of the rainy weather." (The italics are mine.) Ought he to have said "because of" the rainy weather! The Marquess of Tavistock recently wrote that he now finds it is the location of the nest that matters with some species (if I remember rightly he was referring to the Grass Parrakeets) and that it is hopeless to place this inside the shelter. Let me give my experience with Rosellas this year to show the point I am trying to make. I have two pairs and, because I am 750 feet above sea-level and in a rather bleak situation, I neither start breeding early nor have nest-boxes in the flights. But I reason thus. The inside of a well-constructed aviary shelter is as dry as dust, as dry as a desert, or even drier, for there is no dew. Even in a continent of deserts and droughts, like Australia, we find the birds are found along the water courses or grass-banks (purely desert species excepted). My nest-boxes are natural tree trunks, but with artificial (i.e. wooden) tops and bottoms. Throughout the winter they have been where natural nests would be—outside in the rain, not stored in a dry *shed*, so that when placed in the aviary in spring they would not be bone

dry. Then I placed turves on the floor of the aviary and kept them just moist, arranging for ventilation low down to prevent mould growing. A large tray of wet soil changed often, would doubtless give the same result, and be safer. I also sprayed the outside of the trunk, and the wood mould forming the nest bottom, with rain water occasionally. I aimed at producing *normally* dry conditions, not the *abnormally* dry conditions ruling in a well-constructed shelter. Of eight young reared every one was a really fine specimen. Perhaps we ought all to be using wet and dry bulb thermometers in our aviaries, ascertaining just what degree of humidity is desirable. Probably very little is necessary, but that little may be important. In a wet summer perhaps we need take no precautions, the humidity of the atmosphere being sufficient, but anyhow I think that sometimes we do not get as good breeding results from a hot dry summer as we had hoped, and over-dryness of the conditions of our shelters, where the eggs and young are, may be the cause. However, a number of people keeping careful records would soon prove whether there is anything in the theory or not and systematic experiments by a number of people may show that, below and above a certain range of humidity, the young of various species are adversely affected.

[Just a digression. Has any one noticed that the Rosella has a definite sense of smell, and uses it? A nesting log newly placed in the aviary is scrutinized carefully by the bird smelling it all round. It is well known that birds generally have a very poor sense of smell (bird photographers can ignore it altogether in their work). Perhaps the whole genus is similarly gifted. If so, aviculture may here make a small contribution to science, if the fact is not already recorded.]

Do our adolescents get all the accommodation they ought to have? It is, of course, a very important period of their lives, as it is with all living things. With many birds it is advisable to remove the young when they become independent; with some it is essential. Do they then go into cages, with dry seed as sustenance, and, if so, is it not likely to negative much of the result of the thought and care and work that has been put into the breeding aviary. If an adult bird requires a certain amount of space to be fit to propagate the species, then the incarceration of a young bird at a critical period of

its physical development, from early summer until it is disposed of in say late autumn, or given another aviary after the breeding season is over, is surely enough to ruin or impair it for life. And yet most of us find accommodation limited, however many aviaries we possess!

If to any one some of the above views and suggestions seem to call for unnecessary and extreme care, I would only plead that for some reason or reasons not yet fully known there is a considerable output of birds which are not first-class, either through lack of sufficient accommodation, stale ground, unsuitable or incomplete diet for callow young, or unsuitable nesting accommodation or something else no one has yet suspected.

Any suggestion which may seem worthy of trial ought to be investigated. Probably the interest we have in our hobby lies partly in its difficulties and if it were sufficient merely to coup up our birds like fowls in a pen, throw them some food, and confidently await results then it would lose one of its greatest charms.

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## FOREIGN BIRDS AT THE CRYSTAL PALACE

The Crystal Palace show of 1934 will be remembered for its rarities in the foreign classes. I have seen one Humming Bird before at a bird show, but at this show there were no less than seven. Sunbirds were represented here by nine examples belonging to seven different species. And of Birds of Paradise there were a New Guinea Rifle Bird, an Emperor of Germany's, a Lesser Superb, and a magnificent Lesser Bird, all in the finest condition.

One has been led to believe that Guilding's Amazon of St. Vincent is verging upon extinction, and here at the Palace we saw no less than four, and all in first rate condition. There was also here a fine Racket-tailed Parrot. I do not know what business an abnormally-coloured Lesson's Amazon had in this class when there is a special class for abnormalities, but there it was, and it was awarded the first prize.

Mr. Maxwell was very unfortunate in obtaining only third prize for his magnificent pair of Banksians, the first prize going to a fine pair of Hyacinthine Macaws and the second to a very fine Sulphur-crested Cockatoo.

There was a lovely pair of Barrabands in Class 321, which would have been better placed in the previous class alongside the Rock Peplar, if only the schedule had allowed it. The lories and lorikeets and the parrakeets were all classed together, which did not give a chance to a very beautiful pair of Turquoisines, and some very good Bourke's, which a few years ago we thought were gone for ever. Then I sympathize with Mr. Patterson in only getting third for his really exquisite pair of Swifts, which are more difficult to keep in condition than the White-rumped Lory which beat them.

Mrs. Pearce's pair of Jambu Fruit Pigeons well deserved all they got, and so did Mr. Patterson's Bronze-wings. There were two pairs of Plumed Ground Doves.

The class for pheasants, ducks, and such-like was very well supported, including a pair of Curassows, Reeves, Amherst, and Silver Pheasants, Bahama, Mandarin, and Carolina Ducks.

The classes for Waxbills and Grassfinches were splendidly supported, there being between twenty and thirty entries in some, which speaks well for the interest taken in aviculture, and leads us to hope for a little more generous classification in the future.

Amongst the rarer finches were three examples of the very rare Twin-spotted Finches (*Hypargus margaritatus*) and some of the Purple Grenadier Waxbills that Mr. Webb recently introduced to aviculture, also a Black-headed Waxbill (*Estrilda atricapilla*), of which I believe only one pair has ever been imported. Violet-ears and Crimson Finches were well represented, not to mention Parrot Finches of two or three species.

The Tanagers and Sugar Birds were very fine, and Mr. Hopkin's Purple Sugar Bird was a perfect gem. So also were Mrs. Pearce's Festive Tanagers and Mr. Allison's Yellow-fronted Zosterops. Mr. Maxwell's Red-and-black Tanager was looking better than ever.

The seven Humming Birds were the stars of the show, although I hope that Hummers will not be shown too freely, because they are only suitable where special provision can be made for them. Here they were in a small and specially-warmed room, but even so some of those shown did not look too happy. The two exhibited by Mr. Hopkins had become more or less acclimatized, and they certainly

looked very fit. The first prize went to his Ruby and Topaz, the second to a Black-throated Mango.

The Sunbirds were lovely and looking very well one and all. There were two Kenya Malachite, a Scarlet-chested, and a Senegal.

Starlings were a lovely show, Royal, Amethyst, and Purple-headed, and so were the jays, Mrs. Pearce's Hunting Cissas being a most lovely pair.

Mr. Johnson's pair of Green Toucanettes were lovely as they were rare, and so were Mr. Heal's pair of Baillon's.

In the All Other Species classes I greatly admired Mr. Johnson's lovely pair of White-browed Blue Flycatchers, Mrs. Pearce's wonderful Niltava, and Mr. Ezra's White-fronted Bush Chat. Mrs. Pearce's Golden-fronted Woodpecker was also magnificent. Space will not allow of the mention of many other notable exhibits.

D. S-S.

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## CORRESPONDENCE, NOTES, ETC.

### RUFOUS-TAILED OR STAR FINCHES

I was very interested in Mr. H. V. Highman's article on breeding Star Finches, and as he asks for the opinion of other aviculturists on the subject I take this opportunity of giving my experience in this direction.

My pair went to nest within a fortnight of being introduced to each other, and like Mr. Highman's selected some tea-tree. Five eggs were laid and all hatched but were immediately thrown out of the nest.

This, however, did not alarm me. I have found (with finches, at any rate, in which I specialize) that when no attempt at all is made to feed them it is usually a sign that the parents are exceedingly fit and anxious to nest again.

So it proved in this case. Within a week another nest was completed near the first and in due course five more eggs were laid. These all hatched and were successfully reared.

When they had only been out of the nest a fortnight a third nest was made and three eggs laid; these also hatched and were reared.

Now the following points are worthy of note:—

(1) The incubation was performed almost entirely by the male. He also did the greater share in feeding the young.

(2) A fresh nest was built for each clutch.

(3) No soft food was used in rearing the young. Some was provided for the first few days, but as it was never touched it was withdrawn. Nevertheless every egg hatched (thirteen in all) and every chick was reared with the exception of the first brood, where no attempt was made to feed them (their little crops were quite empty).

(4) They—the parents—refused all insects in the shape of mealworms and gentles.

(5) The families were reared entirely on canary, white millet (dry and soaked), pannicum, millet sprays (soaked), and seeding grasses—principally Tall Fescue and *Poa Trivialis*.

In conclusion, it appears that when two pairs belonging to the same species behave so differently as those belonging to Mr. Highman and myself, we have at least one of the reasons why the "golden rules" laid down by one successful breeder are totally unsuccessful with someone else. We must treat our birds as individuals—studying their likes and dislikes—and not as species.

S. D. POTTER.

### AN ABNORMAL AMAZON PARROT

Recently I procured from a sailor an Amazon Parrot coloured differently from any of the Amazon Parrots I have yet possessed or seen described. After searching through all available books, I concluded that the bird was a rarity, as no work contained a description which could be applied to the bird. Further investigation has established that only a few birds of the species this bird is now reputed to be have been imported within the last century, and none exist with the coloration this bird has.

I consulted the Marquess of Tavistock, who informed me that the coloration did not answer the description of any known species, but the Marquess, with his usual enthusiasm, took the matter up with Mr. H. Whitley, who suggested that the bird was a hen Lesson's (*Amazona lilacina*) in a lutinistic condition, a suggestion to which the Marquess agreed.

As there is no doubt both the Marquess and Mr. Whitley are the greatest authorities in Europe on Parrots, I sent the bird to the latter, who confirmed the classification which he arrived at from my written description. He mentioned that Mr. Allan Silver had written an article on the variety some years ago (*AVICULTURAL MAGAZINE*, Vol. XI, No. 2, February, 1920), and Mr. Silver has verified the classification, with different coloration from the specimen of a *lilacina* he had previously seen.

The following abbreviated description of Lesson's Amazon (*Amazona lilacina*) from "Parrots and Parrot-like Birds", by the Marquess of Tavistock, side by side with a short description of the bird under review, will illustrate in what particulars this lutinistic specimen differs from the normal bird.

#### *Lord Tavistock's Description.*

General colour: Green, paler on breast.  
 Cheeks: Yellowish green.  
 Forehead, and area between eyes and beak, red.  
 Crown: Lilac.  
 Neck feathers: Tipped with blackish colour faintly tinged with lilac.  
 Wing bars: Pinkish red secondaries showing blue and green.

#### *The Lutinistic Bird.*

General colour: Green intermingled with heavy yellow feathers.  
 Cheeks: Yellow fading into green.  
 Forehead, and area between eyes and beak: Brick red.  
 Crown: Bright brick red.  
 Neck feathers: Tipped with blackish colour, but no suggestion of lilac.  
 Wing bars: Bright red.

It will be noted that the lilac in the ordinary bird has been replaced in the

abnormal bird by brick red, and many of the green feathers by yellow, indicating the partial absence of the blue factor.

As the bird has created a considerable amount of interest in avicultural circles in Scotland, I have decided to exhibit it at the forthcoming "Palace" show, where readers will have an opportunity of inspecting it.

By rather a coincidence, one of my Fischer's Lovebirds moulted last year, heavy yellow feathers intermingled with the usual green plumage. The bird is, and always has been, in sound condition, so this lutinistic coloration cannot be associated with ill-health.

AND. WILSON, F.Z.S.

#### THE LATE MR. METZGER

As I believe I am the only member of the Avicultural Society who has met Mr. C. T. Metzger in person, I was greatly shocked to hear of his death in the January number of our Magazine.

While on a visit to Chicago two and a half years ago, I rang him up and asked him to call at the hotel where I was staying, and we had a long conversation about avicultural matters. Since then I have carried on a private correspondence with him, and I can assure members of Aviculture they have lost a very good supporter. He worked very hard to establish the American Magazine and also to keep it going, and members of our Society have no idea of the difficulties he had to overcome. I am very pleased to be able to state that he thought very highly of the help I and other members of the English Society gave him, and he seemed to think that we English were far in advance of any others in our knowledge of birds.

However, the great slump in the United States made the carrying on of the Magazine more difficult than ever. As English subscribers are aware, the Magazine improved beyond all recognition during the last twelve months, both in the articles and in the style of print and paper.

Mr. Plath, the writer of the note regarding Mr. Metzger's death, was a great help to Mr. Metzger, and provided him with several very good coloured plates, as one of America's authorities on foreign birds, and I am very pleased to read that according to Mr. Plath the Magazine is going to be carried on in the future.

G. BEEVER.

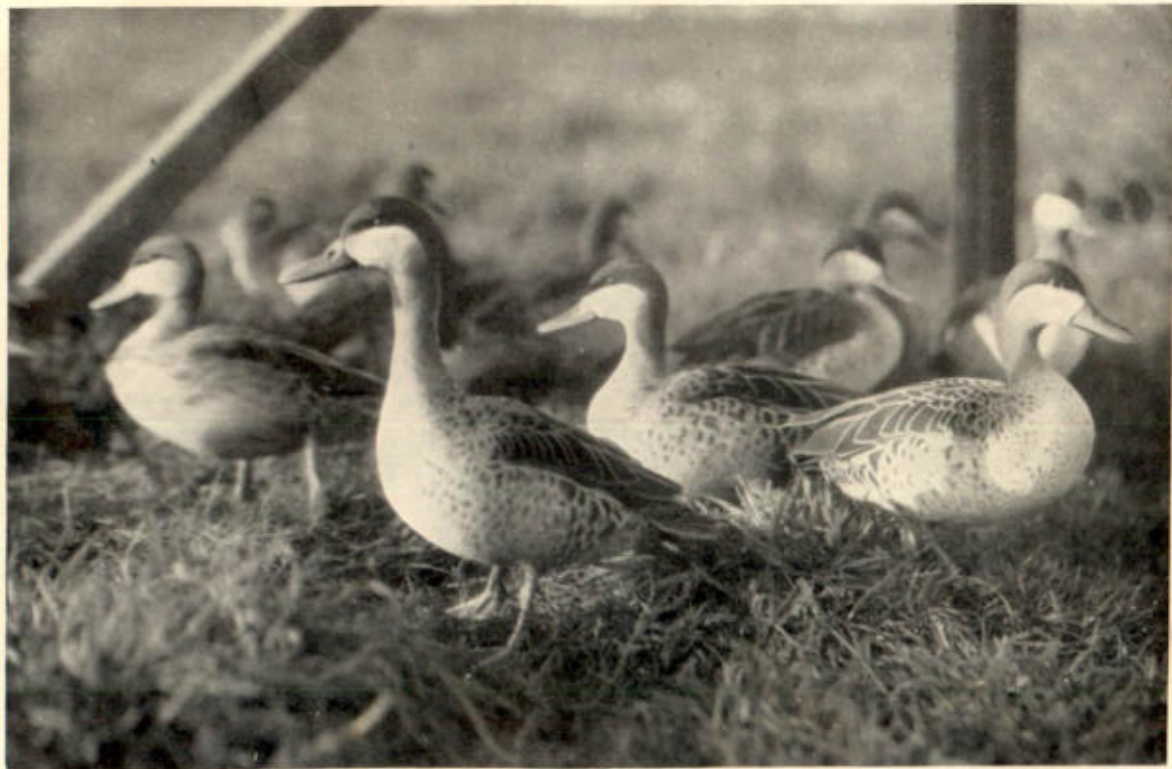
#### SOME REMINISCENCES OF A COLLECTOR

The intensely interesting series of articles by Mr. Walter Goodfellow which have recently appeared in our Magazine, under the above title, have been reprinted as a pamphlet and can be obtained from the Editor for 2s. 6d. post free.

#### BREEDING OF THE SPUR-WINGED GOOSE

Dr. Kadry, Director of the Zoological Gardens at Giza, near Cairo, reports that the Spur-winged Goose bred in his gardens in 1926, four young birds being hatched by their mother.

D. S-S.



A GROUP OF RED-BILLED PINTAIL (*Anas erythrorhynchos*).

There were no duck to be seen except a few Yellowbill and White-faced Tree Duck.

By the end of March I was in Durban again with the knowledge that the waterfowl of Africa were evidently migratory. Reports received from many parts of the Union confirmed this, so now there were only two courses open to me. I could wait until August when the duck would return, or I could go at once to wherever they had migrated. I decided on the latter course, but soon found myself in difficulty again as no one could tell me where the fowl had gone. Providentially, however, I received a letter from my friend Mr. A. F. Moody, the author of *Game Birds and Waterfowl in Captivity*. He had heard from a friend in Northern Rhodesia who informed him that duck abounded in the shallows of the Kafue River. Putting two and two together from further perusal of the letter, I concluded that they would be up there at that moment. I decided to go.

By 1st May I had motored the seventeen hundred miles between Durban and the marsh where I was then camped. After seeing the hundreds of acres of barren water in the south, it was a gladdening sight to see the vast flocks of fowl which were here. There were Yellowbill, Fulvous, and White-faced Tree Duck, Red-billed Pintail, Cape Pochard, Hottentot Teal, Knobnosed Duck, and Spurwinged Geese.

After I had caught Redbill, Pochard, and Knobnosed Duck, not to mention innumerable Tree Duck and Yellowbill which were not required, it soon became evident that the first two species were obtainable as young birds, as the natives soon hunted them up and brought the ducklings into camp. So much the better, as hand-reared duck are always preferable to adult wild-caught birds; they not only become tame in a much shorter time, but nearly always breed in captivity, which the wild-caught adults are very reluctant to do.

Unfortunately, I had arrived unwittingly at the end of the breeding season. The beautiful little Hottentot Teal had bred earlier, its young were all on the wing now, and nothing would induce them to go into the traps so carefully set for them. According to notes I had gathered previously from books, I ought to have been in time for catching young birds still incapable of flight, but the natives declared that they bred in December and January. Later, five adults were caught

in zebra-hair nooses, but they all came to an untimely end. One hung itself, three escaped with some Pochard and Knobnosed when cattle broke into the pen during my absence afterwards, and the survivor met its fate in an accident, of which more anon.

In due course all the young birds were successfully reared, and I thought it time to move on to another part of the country to try for other species. I was advised to go farther north so prepared accordingly. Unfortunately this Land of Promise transpired to be Native Reserve. The Provincial Commissioner pointed out to me politely but firmly that no visitor had ever been allowed to enter this territory and that no exception could be made in my case. He was most vigorously supported by the District Commissioner. I was further informed that there was only one man in the country who had the power to give me permission and that was the Governor himself. So I decided to apply to His Excellency who was expected in the district in a few weeks' time. It meant the loss of at least a month's valuable time and the probability of having to give up all hope of catching any young birds, but there was really no other course open as conditions in other parts of the continent were unknown to me and to everyone I met.

To fill in the time of waiting I decided to visit another pan outside the Reserve, and was actually *en route* when I met a pioneer of the country who persuaded me to return to the pan I had already visited. He said it was the best pan outside the Reserve, certainly better than the one which I had then intended visiting. His advice was much appreciated. Fortunately, the site of my former campaign was not very far distant, and I thought that if I could catch some more Pochard and some Hottentot a revisit would be well worth while.

On arrival at the now familiar surroundings I soon discovered, to my horror, that the duck were not so numerous as before. Further, the water was drying up. Traps were built in feverish haste, but no Pochard were caught as there were few about, and the Hottentot were as disdainful as usual. The only captures were twenty Knobnosed which, besides being the least required among the desiderata, were all immature drakes and so useless to me. These disappointing days of receding water and vanishing flocks were, if I had but known, a

reflection on the changing conditions which were than taking place over the whole of Northern Rhodesia.

After returning to civilization and some further waiting I at length had the honour of being presented to the Governor, His Excellency Sir Ronald Storrs, who was kind enough not only to take a great interest in my mission but to give me the long-sought-for permission to enter the Native Reserve.

I had heard of a marvellous lake fed by hot springs which was reputed to be a duck's paradise and, what was most important, it was believed to be covered with duck at that time of the year when they were scarce everywhere else. So I decided that this lake should be my first destination in the Reserve, and headed for it towards the end of June. On arrival, however, my dreams of hordes of duck which were waiting to walk into my traps were rudely shattered. There was not a single duck to be seen! The natives said the fowl had swarmed on the lake until just recently, but now they were gone, and would not return until November when the rains commenced. They said there was another lake some miles away where possibly duck still lingered, so my boys and I trekked over there with a local guide. However, that sheet of water was as barren as the first.

I felt forced to the conclusion now that it was the same all over Northern Rhodesia, if not the whole of Central Africa. A general migratory movement had apparently set in, and the sooner I cleared out after the departed hosts the better. By the time it would be possible to return to Zululand the fowl should be there in numbers, according to what I had previously learned. At any rate, it seemed something on which to work.

However, when I reported at the Boma and announced my intention of leaving the Reserve, the District Commissioner, Mr. Gordon Reed, the same gentleman who had so much opposed my entry, now most generously persuaded me to try again in another direction. Two of his native boys reported duck in the north-east, so I decided to make another attempt. Mr. Reed kindly gave me two boys who knew the country and would be useful in introducing me to the chiefs. At the time I thought Mr. Reed's magnanimity and helpfulness a good omen for a turn of fortune, but though I shall always have him to

thank for that highly interesting trip, I am afraid the results, as far as the duck were concerned, were absolutely nil. Yellowbill and Tree Duck were there in plenty, but none of the required species.

It seemed useless going any farther, and I felt very disappointed, but before returning to Durban I decided to try to find out what the neighbouring country of Nyasaland had to offer, so telegraphed—"What months constitute the breeding season for Nyasaland Duck. Are young birds on water now?" This was the end of July. I was quite prepared to go on another six or seven hundred miles to Nyasaland on receipt of a favourable reply but, as none came after waiting several days, I started the long journey back to Durban with twenty Red-billed Pintail, six Pochard, and one Hottentot Teal. All fine conditioned, tame, and hand-reared birds except the Hottentot, which was wild caught.

When in the Transvaal and motoring by night, my boy missed a sudden turning in the road, with the result that we went bounding off into the veldt and the car overturned! Already frail, after its months of hard wear, the car was almost completely smashed and all the duck were crushed to death! Thus was the result of four months' work, travel, and expense in Northern Rhodesia nullified in a moment! However, it might easily have been worse as neither my Zulu driver nor myself received the slightest scratch.

Arrived in Durban again, I found a forwarded telegram from Nyasaland—"Yes, young birds on water now therefore advise your coming immediately." Too late. I was now committed for Zululand. There followed soon after a forwarded letter from a friend who had recently returned from Ulendo in the Loangwa Valley of Northern Rhodesia. He wrote that he had been camping by a lake where the duck, according to native report, bred in July, and recommended my going there at once! Truly the duck migrations and breeding seasons of Africa is a study calculated to mystify an ornithologist.

Before starting for Zululand I decided to test information I had gathered from a certain book with regard to the breeding of Cape Teal and Black Duck in the Cape Province in July and August. The best districts were visited but without enthusiasm, for how could duck be expected to breed in such cold with early morning ice on the water?

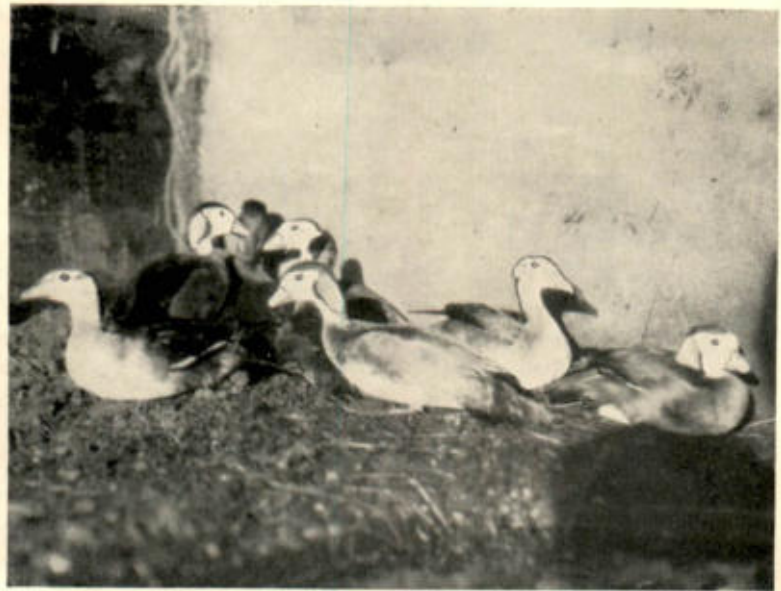
It was then the end of July—midwinter in South Africa—and the Cape winter is not to be scoffed at when degrees Fahrenheit are concerned, particularly at night! The book referred to was written about thirty years ago, and I was told that the Cape winters had become noticeably colder since then. However, I did see some Cape Teal, Black Duck, and Cape Shelduck, which was some compensation for travelling twelve hundred miles on that journey.

Before starting the Zululand trip I took a run up to make a preliminary survey of the best pans to work, and to find out what species of duck were available before coming to any decision with regard to methods of trapping and obtaining permits. I found duck in tens of thousands on the pans in the Ndumu country. About half of them were Tree Duck, but still there were plenty of Redbill, Pochard, Dwarf Geese, White-backed Duck, and a few Hottentot. On Tete Pan I saw my first and only pair of Cape Shoveller. Then I hurried back to Durban and was busy for nearly a fortnight making preparations.

On this last trek I was fortunate in having the company of my friend, Mr. Harold Millar, the well-known South African ornithologist, entomologist, and botanist. When we arrived in the duck country we were disappointed to find that all the Whitebacks had gone, but we were soon compensated by catching thirteen beautiful Dwarf Geese. Although awkward on land these little birds proved themselves able gymnasts, and it was through their climbing their wire-netting enclosure that we lost one. Then we caught twenty Redbills and then, unhappily, Mr. Millar got fever, and as he became seriously ill we had to break up the trip.

By 16th November last I was on a homeward-bound boat with eight Cape Shelduck, which I had bought from farmers, two Knob-nosed Duck from the Pretoria Zoo, twenty Red-billed Pintail, and ten Dwarf Geese, two, unfortunately, having died. It had taken nearly a year to get these birds, and it had been a wonderful experience. I wish I were starting all over again with the knowledge which I now have.

The kindness and hospitality which South Africans so freely give to visitors from overseas greatly added to the pleasure of the trip, and I shall always feel grateful to the officials for their helpfulness.



AFRICAN PIGMY GEESE (*Nettapus auritus*).

[To face p. 102.

It was an extremely cold day when we arrived at Southampton on 11th December, and the journey up to Worcestershire was too much for one of the Dwarf Geese which died. They are undoubtedly delicate, but by carefully acclimatizing them it is possible that our four remaining pairs, which, up to the time of writing, have kept in splendid condition, will eventually prove to be as hardy as their near relative the Indian Cotton Teal, which seems to stand our winters well out of doors, and, having attained hardiness, we hope that *Nettapus auritus* will reproduce its kind for the enjoyment of those who could not wish for anything more beautiful on ornamental waters.

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## THE NESTING OF MACAWS AT LILFORD

By A. F. MOODY

Reference in our Magazine has on more than one occasion been made of the Parrots which we have at liberty at Lilford.

For some years past these have included three Red and Yellow Macaws (*Ara chloroptera*). These beautiful birds are a proved pair and a supposed odd female. For several seasons the pair have interested themselves in certain hollow cavities of trees, etc., but beyond being spiteful to the odd bird, and showing a tendency to drive strange humans from the neighbourhood of the selected spot, nothing further has happened.

In May, 1933, they seriously decided to nest, by taking possession of a hollow cavity near the top of a very tall and partly decayed elm tree. In this cavity the female disappeared for some weeks, and it was only by watching the male going to feed her that we had an inkling how matters were progressing, and that the female was still in the land of the living. Considerable anxiety was felt at this period for fear the female should be exhausting herself by sitting too long upon clear eggs. Matters had reached this climax when the bird in question relieved the situation by suddenly reappearing, and the broken shells of clear eggs were then discovered beneath the tree.

Within ten days of this occurrence (13th July), the female had

again disappeared, and, we rightly concluded, had laid a second clutch of eggs. After some weeks, rather than allow the bird to continue sitting, we decided to investigate. No ladder long enough for the purpose being available, the fire escape was commandeered, and fully expanded to its 50 rungs, rested against the tree. Even this necessitated a climb of about 9 ft. to the nest. After a struggle with the parents, three beautiful, but clear white, eggs were removed. These were somewhat pointed, not so round as the eggs of the Blue and Yellow Macaw, and with considerably more polish than the eggs of that species laid here.

With a view to avoiding the necessity of again scaling this very tall, and, from its decayed state, dangerous tree, the entrance to the cavity was securely blocked with stout wire netting. Not satisfied with their two attempts at breeding, the birds, a few days later, circumvented our precaution by forcing another entrance into the nesting cavity, and, as events proved, laid one, or probably a third, full clutch of three eggs. Owing to the dangerous nature of the tree, we felt that nothing further could be done, and it was decided to let matters take their course, relying upon the male keeping the hen well nourished and upon their natural instinct to discard the eggs if bad.

The possibility of young was, of course, considered, nevertheless it came as a surprise when a young bird descended from the nest during the night, or early morning, of 19th December. News of this was brought me by an assistant, who said the Macaws had been fighting, and that a damaged bird had been picked up under the nesting tree, and put into a warm shed.

On going to view the invalid, I was surprised to find a young bird, which greeted me with the Macaw's usual croak, and as far as first impressions went, differed only from the adults in having a decidedly smaller bill, and the black of the under mandible not so pronounced (more grey). The parents had free access to this youngster, and hopes were entertained that it would be fed. Unfortunately, however, it died within two days, and as a subsequent autopsy proved, from an internal injury, no doubt received in its descent from the nest.

No further young have been seen, and our one consolation in this most unfortunate occurrence, is the certain knowledge that we now possess a true pair. Further, that if an earlier clutch of eggs should prove fertile in 1934, there are reasonable grounds for hoping that, with luck, the young may be successfully reared.

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## SOME NOTES ON THE BREEDING OF BULLFINCHES IN CAPTIVITY

By GERALD DE PASS

It is now a good many years since I commenced to keep Bullfinches, but I have had them on and off ever since I was a boy. It is, however, only during the last few years that I have been in a position to keep them in outdoor aviaries. It was not long before I decided I must try and breed them, and I was told that it was practically impossible to breed and rear them with the hen Bullie herself, and that to do so I must put the eggs under Canaries to hatch and rear, if I wanted any results. All this made me still keener to try and to succeed, if possible. My first season was not very successful; I got as far as getting eggs, but they did not hatch. I commenced with two pairs, both in the same aviary, as at that time I only had the one aviary. This is where I made my first mistake, as, although the aviary had both indoor and outside flights, the two cocks did nothing but chase each other about. My two pairs of Bullies consisted of one wild-caught cock, and one hand-reared cock that was caught as a baby in the fruit nets the year before by my gardener, and I hand-reared him myself. Both hens were wild-caught. The wild-caught cock and his wife lived and built in the outside flight, but the hen was such a bad nest-builder that all her eggs fell straight on to the ground and were smashed. The other pair lived more or less in the inside part of the aviary, and, finally, the hen built in a Canary travelling cage with the top and side removed. She made a much better job

of her nest, and duly laid four eggs and then sat her full time. Owing, I think, to the other cock always chasing her husband about (he was an older bird), the eggs proved unfertile. This was the end of my first year's efforts.

During the following winter I lost the old cock and his hen, which left me with only the other pair. Early in the following May I saw the hen was commencing to carry bits of grass, etc., about, so I broke up some thin sticks for her, and also got some of the bundles of nesting material sold for Canaries, and some hay and feathers, and gave them to her. She very soon built a beautiful nest in a box-tree and then laid three eggs. She sat beautifully, and whilst she was sitting the cock fed her on the nest and I used to watch him hovering and catching what, I presume, must have been flies for her. On the thirteenth day I put a few live mealworms, some live ants' eggs and soft food into the aviary, and had to curb my impatience and wait, and try and catch the hen off the nest. However, I am nearly certain that the hen never leaves the nest for the first 48 hours or so. Mr. Bullie appears to eat nearly the whole day, and then regurgitates the food to Mrs. Bullie, who, in her turn, feeds the young ones. Bullies are hatched completely naked, and I imagine they must require a lot of heat to keep them alive, and this, I think, is the reason why the hen Bullie does not leave the nest to commence with. The nest is kept most beautifully clean all the time. The young ones leave the nest in about 18 to 20 days and at first seem unable to fly much and, in my case, hid in the grass. I used to hide and watch, and the cock would call, and the young would come out of the grass to be fed. The parents continue to feed them for about 14 days, but before the 14 days are up the hen commences to build another nest, and the cock does all the feeding. The first nest only produced one young one, and the second only two. The young are exactly like the hen, until they have moulted out in the autumn. I am sorry to say I lost all but one young one in the moult. This was a cock, but he died in a fit during the next spring, and before his hen had commenced to build. I find aviary-bred Bullies are smaller than the wild ones, and also much more difficult to get

through the moult. I lost the old hen during the winter, owing, I believe, to my still giving them mealworms. Bullies, being very greedy, overeat themselves if given an opportunity. I now only give them mealworms when they have young ones, or else as a treat. I managed to get another hen in the following May, and by great good fortune she took to the cock at once, and soon had a nest in some gorse branches. She hatched and reared four young ones in the first nest, and hatched four and reared three young ones in the second nest. I lost four young ones during the moult, and I believe they were nearly all hens. Hens I find much more difficult to keep than cocks.

The following summer I had some more aviaries, and so had two pairs put up for breeding, the old pair and a young pair. The old hen went to nest very early, and, although she laid, she would not sit. In May she built another nest, and laid and commenced to sit, but unfortunately I found her dead on the floor about a week before the eggs should have hatched. The other pair built and laid, but the eggs were all taken and smashed by field mice; I think owing to the wire netting being  $\frac{3}{4}$  mesh instead of  $\frac{1}{2}$  in. I moved them into another aviary, and they nested and hatched successfully, but something pulled the young ones out of the nest and bit their feet off, and I had to destroy them. Although my gardener and I both searched all round the aviary, we could never find where anything got in. This year I hope to try with three or more pairs. I am sure half the trouble with Bullies is to get the cocks to fertilize the eggs, and I think one must have aviary- or hand-reared birds to do it, but I intend trying a wild cock this season as an experiment. Hens are far less trouble to get to nest, but, personally, I much prefer small and slightly built hens to big and heavy ones. My feeding for adult birds is canary, best Rubsen rape, and a little hemp, and in very cold weather I add linseed. When feeding young, I give more hemp, mealworms, live ants' eggs, fruit, soft food, berries, etc. I give mealworms four or five times a day, commencing before breakfast. As Bullies are naturally shy birds, quiet is very necessary. The cocks are also very jealous, and it is useless to try and

breed if two cocks can see each other, as they will spend all their time trying to fight. Hens also vary very much in temperament, and some are much easier to manage than others. I believe these birds have been bred in a cage in Germany, and I have seen a hen sitting in a cage in London, but I don't think the eggs hatched. It is to be hoped that now the Buckmaster Bill has been passed that more people will try and breed our native Finches, as I am sure it can be done, and I think one gets just as much interest and enjoyment from breeding them as from breeding rare foreign birds, which are beyond the reach of a lot of us.

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## BREEDING OF THE SCARLET-CHESTED OR SPLENDID GRASS PARRAKEET (*NEOPHEMA SPLENDIDA*) IN ADELAIDE

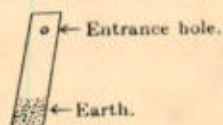
By R. R. MINCHIN.

I should like to record the fact in the Magazine that four Scarlet-chested Grass Parrakeets were reared in this Society's Gardens this season. We started with two pairs and about 20th July, 1933, one of the hens began to incubate eight eggs. After three days she left the log and took no more interest in incubation so the eggs were removed and placed under four hen Budgerigars. Seven of these eventually hatched but the young died one by one until all were lost. They were certainly not starved and no theory can be advanced for their death unless it was that their foster parents left them at night, perhaps being frightened off the nest by their unnatural charges.

During the first week in August the hen began to lay again, but on the 7th she became egg-bound with the third egg, and although it was laid the following day, she became gradually weaker and died on 9th August.

The second pair did not come into breeding condition until later in the season and it was not till 4th September that the cock was seen feeding the hen. They were immediately given seed treated with

cod-liver oil—one teaspoon of oil to a pint of seed. Logs had been hung against the wall in a nearly upright position, thus :—



A few inches of earth was placed in the bottom of the logs and a small hole bored several inches from the top to act as an entrance. They chose a log hanging outside, the measurement of which was 30 inches long with an internal diameter of  $5\frac{1}{2}$  inches. It was some time before the female eventually began to sit and young were heard squeaking in the nest on 3rd November. A week later the hen was spending quite a lot of time off the nest in obtaining food for the offspring, but the cock was rarely seen to feed them, but frequently assisted by passing food on to the hen for due delivery to the nestlings. At this stage the birds had such a craving for green seeding grass that they would readily alight on a bunch held in the hand, but otherwise they were not particularly tame. The first youngster left the nest thirty-three days after hatching on 6th December, and the remaining three appeared on 9th December.

Whilst feeding their young the birds were given their ordinary diet consisting of equal parts of canary and white millet seed, but of course their allowance of green seeding grass was considerably increased.

The young resemble the female but males can usually be distinguished by their slightly superior size and by the fact that the blue of the face is brighter than that on the female.

The father of these birds was taken from the nest last season and reared by hand. On arriving here there were several scarlet spots on the bird's chest and their total area would not have been greater than that of a shilling. Compared with fully coloured males I should say that the scarlet on the chest will increase by at least 25 per cent, so it is quite evident that more than a year must elapse before they are fully coloured.

We are fortunate at the moment in being able to exhibit in the Adelaide Zoological Gardens all the species of Grass Parrakeets except the Orange-bellied, and even this bird we hope to possess before long.

THE BREEDING OF THE BAHIA PASSERINE  
PARROTLET (*FORPUS PASSERINA VIVIDA*)

By C. H. HEAL

I have very little time to devote to the most interesting part of Aviculture, namely, the breeding of rare birds in captivity. My aviaries, therefore, are quite simple affairs, constructed mainly for the purpose of giving the birds the benefit of the summer out of doors.

It was in May last that I turned a pair of the Bahia Passerine Parrotlet (*Forpus passerina vivida*) into one of these aviaries (only 8 by 6 by 3 feet), together with various Lovebirds, large Chats, and Tanagers. I decided it would be useless to attempt to breed any of these birds in such an unnatural place, but in order to make the aviary look as ornamental as possible, I hung up two or three husks.

One day in August last the hen Parrotlet disappeared, but after searching some time, the bird was discovered in one of the husks. I was naturally very anxious to see what was happening inside, but common sense prevailed, and I did not disturb the bird. As far as I know, the hen never left the husk for 29 days, and was fed by the cock Parrotlet the whole time. He would put to flight birds three times his own size when they approached the nest, and one can imagine the busy time he had providing for his wife and five bonny youngsters. The young Parrotlets must have been nearly a fortnight old before the hen decided to leave the nest and take over part of the feeding. The floors of my aviaries are made of concrete, but in spite of this, the rearing of these birds was a very simple matter. As soon as I thought young birds might be in the nest, I supplied sunflower, canary, Italian and Indian millet, together with green food. Everything was refused except sunflower seed and lettuce, and although I believe Lord Tavistock does not recommend sunflower for small Parrot-like birds, I can say definitely these birds were reared solely on sunflower seed and

lettuce, and every one was in show condition until they all started to moult a few weeks ago.

Yes! I most certainly shall try to repeat my success with the *Forpus passerina vivida* this season.

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## REVIEWS

### BIRD LIFE IN THE ISLE OF MAN<sup>1</sup>

Situated right in the middle of the Irish Sea, the Isle of Man is a most favourable spot in which to observe bird life, especially in the Spring and Autumn migrations. Colonel Madoc, Chief Constable of the island, is most fortunately a very keen bird-lover, and his book, admirably written, is the result of the requests of his friends to put into permanent form the many records of observations made "in sunshine and rain, cold and warmth, out in the open spaces amid wild surroundings, and away from all worries and troubles". The author does not claim any distinction as an ornithologist, though his readers will vote him one of the best type; he is moreover a most careful observer, and has made the best use possible of the unique situation in which he has found himself. His book is delightfully written, not a mere record of the names of the species noted (there is not a scientific name in the book), but an account, from his own personal observations, of the habits of each kind. To those who know the island, the book will make a special appeal, but even to others, so long as they are interested in wild British birds, it will prove of much interest. It is illustrated with twelve excellent photographic plates.

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### VÖGEL FERNER LÄNDER

(Vol. viii, No. 1. Published by Friedr Vieweg & Son, Brunswick.)

This magazine will appeal to all German-reading Aviculturalists. The specimen number before us contains an interesting article on

<sup>1</sup> *Bird Life in the Isle of Man*, by G. Colonel H. W. Madoc, C.B.E., C.I.E. H. F. and G. Witherby, 326 High Holborn, W.C. 1. Price 6s. net.

the Wood Hoopoe (*Phœniculus somaliensis*) in confinement, illustrated by good photographs of one which has lived two and a half years in the Zoological Gardens of Berlin.

There are also articles on breeding the Burrowing Owl, and Bourke's Parrakeet; of birds noticed between Lake Victoria, Nyanza and Mount Ruwenzori; on Passerine and Thick-billed Parrakeets by Mr. Hampe, well known to our members and the London Zoo; a bird show held in Erfurt, and a very comprehensive proposal for an all-German Budgerigar breeding club.

The aims of the Society are briefly recapitulated in the opening pages, and will be found to correspond closely to those of the Avicultural Society.

E. F. C.

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#### THE FOREIGNER

Those enterprising aviculturists, Messrs. Boosey and Brooksbank, the founders of the very successful Keston Foreign Bird Farm, have now launched upon a new venture, the production of a quarterly magazine with the above title. It has come into being, we are told, "as a direct result of the numerous and increasing demands of clients and visitors to the Keston Foreign Bird Farm for a booklet containing lucid and elementary articles on the breeding and management of foreign birds."

The first number contains articles by Mrs. Darnton, Lieut.-Col. A. H. Wall, the Marquess of Tavistock, Messrs. Jeffery Lang, G. J. Boosey, A. Sherriff, Denys Weston, Alec Brooksbank, and Richard Cotterell. The price of each part is 1s. 3d., or the annual subscription 5s.

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## OBITUARY

## MR. E. G. B. MEADE-WALDO

The death of Mr. Meade-Waldo, in his 80th year, which took place at his residence, Stonewall Park, Edenbridge, Kent, on Saturday, 24th February, has removed from our midst one of the oldest members of the Avicultural Society, and one of the keenest nature-lovers in the world. Born in Ireland in 1855, he was educated at Eton and Magdalene College, Cambridge. From his earliest youth and throughout his long life Meade-Waldo had taken the greatest interest in natural history. In his younger days he travelled much, and although never a keen collector of specimens, he did, at the request of the Natural History Museum, make several valuable discoveries of new birds in the Atlas Mountains. At one time he kept a number of live birds in captivity, especially the rarer Owls, and he bred Sand Grouse (*Pterocles alchatus* and *P. exustus*), Desert Bullfinches (*Bucanetes githaginea amantium*), the Teydean Chaffinch (*Fringilla teydeæ*), the Nicobar Pigeon (*Calenas nicobaricæ*), Scops Owl (*Otus scops*), and many other species. But it is perhaps as a bird protectionist that Meade-Waldo will be best remembered. He was never opposed to the keeping of birds in captivity, but never spared his efforts to prevent the destruction of rare species or to save those in danger of extinction. He was an energetic member of the Zoological Society, which he joined in 1874, and served on its Council for many years, a member and keen supporter of the Royal Society for the Protection of Birds, the Society for the Preservation of the Fauna of the Empire, and the Society for the Promotion of Nature Reserves. Mr. Meade-Waldo suffered a severe shock by the death, in January, 1933, of his almost life-long friend, Mr. Herbert St. Quintin, with whom he was accustomed to correspond almost daily, and to many of his friends it seemed that he had never been quite the same since. But up to the last he continued to take the keenest interest in the subject to which he had devoted his life. He will be greatly missed by all who knew him.

D. S-S.

## CORRESPONDENCE, NOTES, ETC.

## A CURIOUS BUDGERIGAR

This morning I have had the pleasure, a very great pleasure, of visiting the aviaries and caged birds of Mr. A. Maag, of Green Point, Capetown.

Mr. Maag—a well-known and respected business man at Capetown—has a truly wonderful cock Budgerigar, one of such peculiar markings that one wonders what coloration and markings will eventually be stabilized in Budgerigars. Here is my description of what I call a Mottled or Marbled Budgerigar. It is three years old and a cock. Ground colour of bird throughout rich yellow—deeper than a primrose or daffodil yellow—mottled upon chest, belly, and beneath tail with green.

Head, back, and wings deeply but unevenly mottled with black edgings to feathering, giving the bird a richly mottled or marbled appearance.

Cere is so light in colour as to leave even experts doubtful as to sex, but its sex has been proved by mating for it is the sire of, when mated to an unrelated green hen, a yellow cock and two yellow hens; a green cock and two green hens.

This produce shows no signs of exceptional coloration, excepting one green hen, which shows a tinge of yellow mottling on breast.

Although the cere is so light in colour, the cheek patches are of deep cobalt, the left side cheek patch being suffused with white patches. It has very dark eyes but is what dog-fanciers term wall-eyed, its right eye being broken in colour. Its left eye is a dark black brown colour.

Tail feathering: one clear yellow; one green edged with black; others broken yellow and green edged with black. Legs and feet light flesh colour, with all toe-nails tipped with black.

This bird was bred here in Capetown by an amateur bird fancier having no knowledge whatever of pedigree breeding. It was bred from two greens. Its present owner, Mr. Albert Maag, is an enthusiastic breeder. He has three of the most perfect whites yet seen in the adult Budgerigar. They certainly do, upon close examination, show a slight bluish tinge at the juncture of back and tail, but one has to look for it to find it. Mr. Maag's birds, or at least three of them, are of a much purer white than anything I have seen exhibited in England. He is also an ardent disciple of Mendel and it is lucky therefore that this wonderful marbled bird has come into his possession.

Just how he will pair him up is at present doubtful. I advised pairing the bird back to his daughters and Mr. Maag has also a deep leaning this way. Upon the other hand, he also fancies the mating of an almost pure white hen. One or other of these matings will materialize and I am certain all British Budgerigar breeders will wish Mr. Maag the best of luck.

H. MOORE, F.Z.S.

CAPETOWN.

11th February, 1934.

P.S.—Mr. Maag is also the fortunate possessor of a charmingly tame talking Budgie. This bird he keeps in his bedroom in a roller cage at night. This bird speaks most clearly and also whistles a well-known London street-whistle. There are several talking Budgies in Capetown.

## WHITE-CAPPED PARROTS

It may be worth recording that my White-capped Parrots (*Pionus senilis*) appear perfectly hardy and have passed through the winter up to the present in an outdoor aviary without artificial heat. They make no use of the shelter except to roost in. Possibly their indifference to cold may be explained by the unusual quantity of down the species seems to have in its plumage. In regard to voice they are the quietest Parrots I have ever come across, apparently possessing no loud calls at all. A single bird would probably become attached to its owner, but my pair are anything but amiable towards human beings, the cock, especially, cherishing a life ambition to bite me severely before I have finished putting in fresh food! Even if he sees one at a distance he ruffles his feathers and makes an angry lunge with his beak just to show what he would like to do to one if he got the chance!

I notice that in addition to the plumage differences noted in a previous article, there is a sexual distinction in the colour of the eye. The iris of the cock is of a uniform very dark brown, but the hen's iris has an outer circle of a very much paler and yellower colour.

If all the Pioni are as hardy as *P. senilis* they would possess distinct merits as aviary birds, as some species, notably the Blue-headed, Violet, and Bronze-winged Parrots, are decidedly pretty.

TAVISTOCK.

## BREEDING CORDON BLEUS

I was much interested to read Mr. William Firth's success with Cordon Bleus. I have had my pair two years. The first year they settled down—building about September and sitting many weeks on unfertile eggs. This last year, 1933, they went to nest and had two young, one dying and the second leaving the nest and growing up. This I wrote to you about. Just after my letter was printed they had a further family of four, two cocks and two hens, all growing into fine strong birds. They used the canary rearing food with avidity—egg and biscuit, and bread and milk. Almost daily I dug out ants' nests bringing the whole lot up to them and putting it on the bird-room floor. They generally left the ants, and they very conveniently camped under sods and laid further eggs.

By the autumn I had seven Cordons. I do not know if any one else has succeeded in rearing them in a room. I should be most interested to know.

They have a nest now, but I do not think the eggs are fertile. I have found no fighting between the cocks so far.

CHRISTINE M. IRVINE.

## A HYBRID SILVER AND GOLDEN PHEASANT

A hybrid bred from a cock Silver Pheasant (*Gennæus nyctemerus*) and a hen Golden Pheasant (*Crysolophus pictus*) has been bred by Lieut.-Colonel Bailey, at Lake House, Salisbury.

While hybrids have been produced between many different species of Pheasants, often belonging to different genera, that between the two above-mentioned is very uncommon, if not unique.

D. S.S.

## BREEDING THE GUIANA PARROTLET

The most interesting event of the 1933 breeding season in my aviaries was the breeding of Guiana Parrotlet.

These miniature parrots I find quite peaceful with small finches, but very spiteful towards any other of the parrot-like family. Had I not removed them from one aviary they would have been the death of a pair of Fischus Lovebirds.

The nest-box used was the upright pattern budgerigar box. Four eggs were laid, three hatched but died at three or four days old. Noticing a strong musty smell I put the nest-box out in the open: before doing so, I fixed a block of wood  $3\frac{1}{2}$  in. square to the bottom and arranged a tin about 6 in. square so that the block stood in water and provided a certain amount of dampness to the nest.

The second round, again, four eggs were laid, three hatched; two young reared to maturity and again they went to nest this time rearing three.

As regards feeding, the young were fed almost entirely on spray millet and green food, the staple food being canary, Indian and white millet, sunflower, and a little hemp. All live food was refused.

Wishing you and the Society the best of health and luck for 1934.

THOS. PEMBLETON.

## MILK

I have a little Canary-winged Parrakeet in a cage in my dining-room and late this autumn the little bird got very seedy, in fact it looked as if it was just going to die. It had ceased to take an interest in anything and sat on its perch shivering with head under wing. It was in a miserably poor condition with feathers all wrong. It looked to one as if it wanted some nourishing food besides the dry seeds that these birds eat, so every evening I made up a dessert-spoonful of creamy milk with a little fruit juice, such as apple or plum or anything that was going. The bird took an interest in this at once and even the next day there was a decided improvement. I kept on with this diet every evening and in a short time the Parrakeet was as lively and as noisy as ever. I am certain when I took the matter in hand the bird had only a day or two to live. I now give it this milk food three or four times a week, it seems to thrive on it.

W. H. WORKMAN.

## THE PARROT BAN

Is it not high time that the Members of the Avicultural Society and the Fellows of the Zoological Society joined forces and approached the Government with a view to having this wretched restriction repealed. Surely between the two societies pressure could be brought to bear on the powers that be? It is high time that something was done to reverse what was really a newspaper stunt with, I presume, the Buckmaster crowd in the background. Now that we are to lose the chance of getting British birds for our aviaries perhaps as a *quid pro quo* we might be allowed to purchase in our shops Parrots, Parrakeets, and Lovebirds as heretofore. It is simply a monstrous thing that the liberty of the subject is being interfered with at every turn and yet we are never done boasting about British Freedom! I understand that

Belgium has repealed their "Parrot Act" and that it has become practically a dead letter in France. I am convinced that nothing will be done by sitting quiet and letting ourselves be bullied by permanent Government officials and certain societies which are well known for their interference with our fascinating hobby. In conclusion I may say I am speaking from some very recent experiences of this kind of thing. We have just had a Government Inquiry in this City because the Corporation wanted to borrow a few thousand pounds to start an attractive Zoo in one of our public parks. This was bitterly opposed by the local branch of the Society for the Prevention of Cruelty to Animals who forced the Corporation into the expense of a Public Government Inquiry. Fortunately this narrow-minded society was thoroughly beaten and Belfast is to have its Zoo in spite of them.

W. H. WORKMAN.

#### PHEASANT-KEEPING IN AUSTRALIA

Mr. G. Bradshaw, of Sydney, Australia, writes that, within the past few years quite a number of people have taken up Pheasant-keeping as a hobby, but they are rather handicapped by the scarcity of literature on the subject. He suggests that publishers might advertise such books in the Magazine. We fear, however, that there are very few of such books in existence.

#### AN AGED GOLDFINCH

Mrs. Shepherd, of Chard, Somerset, has just lost a Goldfinch, which was hand-reared from the nest twenty-one years ago.

#### THE BLUE-AND-YELLOW MACAW

I am very much interested in the Blue-and-yellow Macaws Mr. Goodfellow writes about in the December Magazine. The British Museum Catalogue gives *ararauna* and *caninde*, the latter 1 inch longer in body. I have a description of *A. caninde* as under, but I am not sure where I copied it from. [*Cat. B. Brit. Mus.*, vol. xx, p. 152.—Ed.]

"Very like *A. ararauna*, but the forehead with no greenish tinge; the naked skin of the cheeks much reduced, and surrounded by a broad green band, which covers the whole of the throat, the feather lines on the lores and upper part of the cheeks more numerous, and of a lighter green like the throat."

I have been looking for this Macaw for years and have never seen one. Will Mr. Goodfellow tell us if he thinks this was the bird he had? There are two Green Macaws which are confused, *militaris* and *ambigua*. Dr. Green said the only difference was in size. I have had both and compared them side by side; without doubt they are very different in colour as well as size.

JOHN W. MARSDEN.

## AGE OF SILVER PHEASANTS

I received a letter at Christmas regarding some Silver Pheasants that I reared in Natal. I gave these to a friend in 1922, and he writes that they are still alive and doing well. These must have been hatched in 1921 or 1922, I cannot remember which, because I left Natal early in 1923.

P. W. TRAGUE.

## WHITE-NECKED OR TROPICAL CROWS IN KENYA

The birds we have are hand-reared, and are allowed to run loose round the house, roosting at night in a wire and thatch hut. Their wings have been clipped, but they can fly sufficiently to get up a small tree. We have not liked to try allowing them their full flight, as occasionally wild Crows swoop down and call to ours, and try to lure them away. These Crows, which are scientifically known as *Corvus scapularis* or *albus*, are about the size of Jackdaws and are striking looking, with their white collars and chests. The rest of the feathers are blue black and glossy. They are clever fielders, and catch small pieces of bread (they like it buttered) with a loud snap of their bills. They make a variety of curious and amusing sounds. They gurgle and caw softly, then loudly, and in different tones, and some combinations of sound almost like words; but I have never heard them imitate, although they might if kept apart. With their feathers fluffed up, heads on one side, and wings spread out, they gurgle and caw to each other—and sometimes to one of us humans. If we are sitting quietly in the verandah they will sit on a chair-back within a foot or two and gurgle away just as they do to each other. At 11 a.m. they have their bath, preen themselves, then chase with their funny hops the chickens and dogs, whose tails they twitch if they get near enough. They examine and turn everything over, throw things about, and even quite heavy things are dragged off tables and shelves and, if light enough, carried outside and thrown away.

They can fill their pouches with food, which they sometimes bury in the flower beds. I think they are quite carnivorous and suspect them of having dispatched a lame Dove which was hopping around one day. They certainly eat hens' eggs, which they carry about in their bills.

My husband reared these chicks, brought by natives from a nest in a tree by the river. He did not find it easy, as they were rather old, and would not open their bills to be fed. They had to be stuffed for several weeks, doing best on raw liver, and later on took boiled maize, but never seemed to do really well until let out to forage for themselves in the open. Three were reared, and two became great friends, dancing (hopping, rather) to each other, cawing and spreading out their wings, and putting their beaks at each other in an affectionate sort of way. Unfortunately a Toto, strange to the place, saw one Crow and, mistaking it for a wild one, threw a stick in the usual native way and broke its leg. Since then the two remaining Crows have kept together, but obviously do not enjoy each other's company, and sometimes the larger of the two will try to drive the other off.

Tropical Crows are not common round here, they seem to like the hot, low-lying districts better, and at Kisi, near Lake Victoria, I have seen about fifty of them looking over the native market when business was over.

A. ROYSON.



HAND-REARED WHITE-NECKED CROWS IN KENYA.

## A TAME TAWNY OWL

I am sending you what I think you will consider a most interesting and unusual episode in the life of a Tawny Owl who went by the name of "Olive".

The following notes are contributed by Mr. Lionel Vulliamy, of Cauldwell Hall, Ipswich, in whose grounds "Olive" was found.

I had the pleasure of looking after her for a fortnight whilst her owner was away from home, and during that time I found her an extremely interesting and intelligent bird—quite different from what I expected an Owl to be. Every morning she would greet my mother and myself with a contented little "wheeze". And I am quite sure she knew her name, as she would always acknowledge it every time it was mentioned.

She was quite docile in the cage and would gently nibble my fingers, at the same time closing her large dark brown eyes and showing their light-coloured lids. She was always willing to get on to my hand or wrist, and it was then that one realized the immense power of her legs and feet, and one had to be a little careful in disengaging her.

Here is Mr. Vulliamy's account:—

"Coming home one evening early in June, we found a baby Tawny Owl—just a ball of fluff—sitting bolt upright on the ground near an ancient oak tree. We could see, some 60 feet up, the hole where its nest was and out of which it had fallen.

"The baby Owl, lit up by the setting sun, looked steadily at us. It made no movement and did not even wink an eye. The flies were settling round its eyes. It seemed too weak, or proud, even to try to shake them off. It just stared steadily at us out of its great round eyes. When we picked it up it was quite passive, and was evidently upon the point of collapse. We gave it brandy and milk, and it soon began to revive. From the first it showed no fear of us, and took food readily from our hands. Soon both its feathers and its appetite began to grow. Mice, rats, Sparrows, rabbits,—it ate them all with zest. It was rather a dreadful sight to see it seize the body of a dead Sparrow. With one tug of its beak the head would be severed, and at once swallowed whole. Often the Owl—whom we named Olive—would then try to swallow the whole of the rest of the body—wings, feathers, legs and all—in one gulp.

"Olive, in her earlier days, was kept in a Parrot's cage, and at night was brought into the drawing-room. Here she would roam about enjoying her freedom. Soon she began to make short flights. We then put her into a large covered-in enclosure, where she seemed quite happy, and would always fly to a perch and take her food from our hands. She seemed to like being stroked, making a contented twittering sound, and with her powerful beak, with which she could almost have removed a finger, she would gently nibble at one's fingers.

"Towards the end of August we felt that the time had come to give her her freedom, so that she could learn to find food before the cold weather came. She has now been free over a month. Every night, as it gets dusk, my daughter, and I go out into the garden. I whistle, and almost at once Olive's answering call is heard, sometimes so far off that her call can only faintly be heard; sometimes she is quite near, and evidently waiting for us. Gradually her call—too-whu—comes nearer, and soon, across the darkening sky, she is seen in rapid flight, a splendid sight, with her fine span of wings. She generally alights on the ground near to us, and then flies either on to

my head or shoulders. Sometimes she will come down from the sky with a great swoop and alight on my outstretched arm so lightly and gently that I hardly realize she is there. Then we feel her, generally with large chunks of liver, which she loves greatly. Each time she leans forward to take a piece from my daughter's hand I can feel her powerful claws contract and pierce through my coat sleeve in her effort to get a firm grip.

"The other day she evidently intended to alight on my head, but, for some reason, made a bad landing, and alighted on my nose. This gave her an inadequate foothold, and one painful to me, as she dug her sharp claws in. She scrambled up my cheek and forehead into a more secure position, leaving a trail of blood on my face where her claws had penetrated the skin. But it was all done in love. She always knows when she has had enough, and can never be coaxed into having another mouthful, but for some time will continue to sit on my shoulder or arm, looking round and making contented little noises before flying off. She seems to have no fear of us, but, if a stranger is with us, she will not come near however hungry she is.

"We are wondering how long she will continue her nightly visits. I suppose that before long she will grow wilder and cease to be friends with us, but in the meantime it is pleasant to have this large predatory bird on such very friendly terms with us."

HAMILTON SCOTT.

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#### RARE BIRDS IN FRANCE

M. Delacour has obtained a pair of Pheasant-tailed Jacanas (*Hydrophasianus chirurgus*), an Indian species, once exhibited in the London Zoological Gardens. Also a Brazilian Oven Bird (*Furnarius leucopus*) and a Racket-tailed Humming Bird (*Discura longicauda*), the last two being new to aviculture.

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John Bull, King & Co. Limited, 101, London.

Black-chinned Yuhina  
*Yuhina gularis*

# THE AVICULTURAL MAGAZINE

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## THE BLACK-CHINNED YUHINA (*Yuhina gularis*)

By A. SHERRIFF, F.Z.S.

The birds portrayed in the accompanying drawing are inhabitants of Nepal, Sikhim, and Bhutan. There is nothing particularly striking about their colouring but their continuous activity and sharp movements make them most attractive as aviary birds. Like the Black-headed Sibia they are never still. They have no song, but a low "tsee" is frequently uttered and the note of alarm is somewhat similar to the trumpet of the Zebra Finch in a lower tone, continually repeated. Like the Sibia they have the habit of sitting next to one another with their tails crossed.

Heat is, of course, necessary during the winter but for the size of the bird they are extraordinarily hardy. In captivity they do well on ordinary insect food, grapes, honey and milk and they are particularly fond of the last. If meal-worms are cut up they will in time eat them but too many are bad.

They are best kept in an aviary with an outdoor flight because in cages they fight, and it is amazing the injuries they inflict on one another and equally extraordinary how quickly they recover.

There is no outward sex difference and no record of them having been bred. It is unfortunate that they are not more often imported for they are most attractive aviary birds.

AN AMATEUR'S EXPERIENCE IN IMPORTING  
HUMMING BIRDS

By MRS. WHARTON-TIGAR

In September last year I accompanied my husband on a short visit to Pernambuco, Brazil. This place is practically unexplored from an avicultural point of view, so I determined to try and bring home a collection of rare birds. With this end in view, I made a hurried study of the birds to be found in that part of Brazil, and in this I was greatly helped by an article by a Mr. Forbes, written in *The Ibis* in 1881, on the birds he saw in Pernambuco when on a visit there.

Late in July I had met Mr. Seth-Smith and he had accepted my offer to obtain and bring over twenty Humming Birds for the Zoo. As I was returning in November and my stay in Pernambuco would only last three weeks, I rather wondered if I had been rash in making this offer!

We chose the Royal Holland Lloyd line to travel on, as it was the only line we could find that would let us bring back birds and would undertake to keep them warm. We sailed from Southampton on the *S.S. Zealandia* on 28th September, and early dawn of 12th October saw us nearing Pernambuco. As we slowed down to await the pilot boat the air was delicious, clear and not too warm; the port showing itself in a very long line of twinkling lights. After some hours we slowly got alongside the quay, and as we got in we could see natives—niggers and mulattos—with pineapples, highly painted gourds, and many large cages of birds, squirrel monkeys, marmosets, and other small mammals, which they try to sell to the passengers, mostly, of course, on the home-coming boats. I noticed that the birds offered were not in good condition, usually sticky, the Manakins and Hummers especially.

The State is generally known by the name of Pernambuco, but the town there is really called "Recife". It is divided into three parts by the River Capiberibe, which winds in and out, separating the portions known as Recife, Santo Antonio, and Boa Vista. Bridges across give the place a gay appearance and in various parts

of the town there are small public gardens which I thought were quite cleverly laid out. They are planted with beautiful trees of different sorts, some of the acacia family, others resembling huge laburnums; big bushes of oleanders (poisonous to birds, by the way) and bougainvillia (really a creeper) throw rods 15 to 20 feet long, covered with the gayest flowers in bright crimson, purple, and even orange. There are hibiscus, with large single flowers in shades of pink, red, and yellow, and tropical lilies with scented white and rose flowers—these appeared to be crinums—and palms, often in wonderful variety, tower up into the sky. Some of these must be quite a hundred years old. The trees are mostly tall and branching, bearing such fruits as the mango, the Jack fruit, the jaboticaba, the cajú, the mangaba, the araca, the goiaba, the sapoti, and the abacate. All these, when in flower, are a great attraction to the birds, especially the Sugar Birds, Quits, and Hummers, and when in fruit Tanagers and Thrushes abound.

The morning air is most exhilarating out there, and the people of the country are very early risers; from 5 to 7 a.m. is by far the nicest part of the day, the temperature then being about 75 degrees. In the middle of the day, in the houses, it rises to from 80 to 85, but the welcome sea breeze prevents the heat from becoming oppressive. The houses are built to withstand the great heat, with verandahs and plenty of windows which are always open. We were there in the very dry season and the heat was terrific, but I was surprised to find that I could get about with less discomfort than over here during a hot spell.

When I arrived at the "pension", which we had chosen especially because it had a large garden, I found that our room was immediately opposite a very large tree (a "jambo", with pinkish fruits looking like small pink wax pears and tasting like cotton wool dipped in sugar and water!). This was not then in fruit, but was covered with masses of creamy white blossoms from about 15 feet up to a great height and circumference. As I looked up I saw hundreds of Banana Quits, several varieties, some very tiny, others a little bigger, some very bright yellow, others duller. I also noticed several Yellow Tanagers (*Calliste flava*), this being a very

common bird in Pernambuco; and, besides seeing a number in this tree, I often heard their sweet little song when sitting in the garden under the sapoti trees. These latter were just ripening, their queer fruits rather like a bad pear!

The tree opposite my window was a great source of pleasure to me; at five next morning I awoke and looked out, and had a splendid view. Birds were constantly backwards and forwards—all sorts of Quits and many varieties of the Blue Tanagers, some a glorious powder blue, some grey, and some nearly green. I took these to be *Tanagra cana*, *T. episcopus*, and *T. sayaca*. I never managed to buy any of the *Tanagra cana* or of the glorious bright blue ones that might have been something even better. I saw a lot of lovely little yellow birds with orange red heads, which I know now were *Nemosia sordida*. I also frequently saw a beautiful Thrush with crimson sides, all sorts of Doves, and many other birds which were too far off to be distinguished.

I lost no time in going to the market at St. Jose. This is a very disappointing place for birds, but surprises do occur. The bird portion is small and close to the sugar-cane section, where there are stacks of long canes, and natives about, chewing monotonously all the time. The birds are all together, usually in very large cages. Among others were Pope Cardinals in rough condition, Saffron Finches, the several grey *Sporophila* that they call "Patativas" and which are bought by Brazilians as song birds. Often there are big cages of Cassiques; I saw some very bright yellow ones but did not buy any as they are not popular in England. There were plenty of Brazilian Hangnests, which if caught wild are quite cheap, but if pale coloured are hand-reared and command a high price.

Soon after I landed and made inquiries about bird collecting I was told of a Swiss who was very keen on birds, and who, they told me, had reared Hummers from the nest. I lost no time in finding out where he lived. His name is Mr. Cordier and he lives with his charming Brazilian wife in a bungalow where he has quite large aviaries, well equipped and thought out. I arrived there on a Sunday afternoon and he took me round his aviaries at once.

They certainly were a fine sight and I never had a greater thrill. He must have had at least a hundred Hummers, all in glorious condition: the Bizzorro as they call it (probably the Pigmy Wood Hermit, a tiny brown thing no larger than a bumble bee), some of the larger Wood Hermits, and Jacobins with glistening white tails and wings, all of which had been in his aviaries for months.

He showed me with pride a tiny Horned Hummer which nothing apparently would induce him to part with. He found a mate for it, however, and I persuaded him to let me have the pair; but, alas! they both died on almost the first night on the journey home, after the rough usage they had had on the quay and on the ship before I could get things straightened out. Besides the Hummers there was a glorious collection of Manakins—*Manacus manacus*, *Pipra rufocapilla*, rare Tanagers, Cayenne Crakes, Water Tyrants, and even a Swallow.

I was soon told that I could have none of these treasures as they were all booked to go to Germany via Havre in a few days. I believe some of the Hummers were bought by Mr. Ezra for the Zoo. Naturally, I felt crestfallen, but Mr. Cordier told me that more could be found and collected for me. I told him what I wanted and he said he would find all he could, and he did. It was a great disadvantage of course to have to bring over newly caught birds, and under a week before I sailed for home most of my Manakins, *Nemosia pileata*, and several others were still being hand-fed. What an education it was to watch Mr. Cordier do this. If the newly caught birds do not start to feed very quickly he liberates them and they fly straight back to the forests.

Besides Mr. Cordier I went to a certain Joao da Matta, a smart native who had been trained by Mr. Cordier, and from him I got *Sporophila hypoleuca*, the five Hummers of a new species (*Helio-master squamosa*), and several of the rarer birds I brought over.

Around Pernambuco, in the surrounding towns, there are held on Sundays various fairs. I managed to attend two of these and on each occasion I was fortunate in finding something rare. I was in Brazil for three Sundays and would have managed to attend several more fairs—"feiras" they are called over there—but could

not, as my husband took a marked objection to standing about in the blazing sun while I bargained with the natives! So I had to give up the idea and we went to Boa Viagem instead, where surely there is the most perfect sea bathing in the world.

Mr. Cordier undertook to cage and pack all my birds, besides getting me through the Brazilian Customs (no easy matter!), and to buy me all the necessary foods for the journey home. I had taken out well-made cages for the birds to be brought home in, but on arrival I found that I could not bring these in without paying an exorbitant duty, so they remained in bond until I left—I never opened them again until I arrived back in London. They would also not allow me to land my supply of dried flies and ants' eggs, and would have destroyed them if influence had not been brought to bear! These were also put in bond and I was allowed to reclaim them as I left, and they proved very valuable for feeding the birds on the way back. They also object to meal-worms, so I left mine on board in cold storage, and was very glad of them later. I should mention here that we came home on the same steamer as we went out on, the boat cruising down to Buenos Aires and back during our stay in Pernambuco.

Another good way of picking up birds is to meet the Lloyd Brasileiro boats from Para and Manaos. I went on board several, and on one occasion I bought a pair of Stilts from one of the sailors. The poor birds were in a very bad condition, all crowded together in a tiny basket. I also saw two fine Hyacinth Macaws, but could not buy of course. I saw Sun Bitterns and Trumpeters, but I know very little about this type of bird so I did not buy any. I just missed a very rare little monkey and fell in love with "Chico", a little Capuchin monkey now at the Zoo. How fond he was of me! I well remember his joy on my appearance at the door of the bird cabin. Not having seen him for several months, I am wondering what my reception will be like when we meet again.

I shall never forget the day we left Pernambuco. After waiting on the quay with the birds in crates from 10 o'clock in the morning until seven in the evening, we were absolutely exhausted. All the large, roughly made crates were dumped on board, and I was left to

try and make Dutch stewards understand what I wanted done with them. None of the bigger cages would fit in a cabin, so, to make matters worse, I had to take all the wicker cages out of the Hummer crates and carry them one by one to the cabin. The smaller cases with wire fronts were all placed in a position so that the birds got no light or air. Blank despair can only describe my feelings; add to this acute seasickness and you will see how black things seemed. The ship had allotted to me a third-class cabin in the worst part of the ship for my birds, but luckily other passengers complained and I was moved to two outside cabins in a more secluded and unused part of the ship. The heat was so great that within a minute of entering the cabin everything I wore was as wet as if I had got into a bath.

I arranged the birds as best I could and went from them to my bed for several days, wondering if I could manage to hold out, and to add to my troubles the glass Hummer bottles kept on breaking at such a rate that I thought I should never manage to keep any Hummers alive. I can only put this down to the terrible heat as, I am glad to say, none cracked after Madeira, so the situation was saved.

I was greatly assisted on board by a charming Dutch lady, Mrs. Van Eeghen, who offered to help and joined me at 6.30 a.m. and 4.30 p.m., when we fed the birds. At midday I also changed the Hummers' food. It used to take us two hours to do all the feeding, twice a day, working hard. I followed out Mr. Cordier's instructions about feeding to the letter, and they were pretty strenuous.

On the whole the losses I suffered were moderate considering the terrible and very sudden changes in temperature. After Vigo it became very cold, and owing to the determination of my kind friend, Mrs. Van Eeghen, the place was kept warm enough. She was a great help in managing the Dutch Engineer and the Purser, and also in organizing the preparation for landing the birds at Southampton and tackling the stewards in their own language. We packed everything as warmly as we could, stuck paper over cracks in the crates, and hoped for the best. Overseer Bailey, of the Zoo,

came on board at Southampton and we had an hour and a half on the tender and a long train journey before depositing the birds safely in London. No losses occurred, however, and the Hummers were hurried to the Zoo, the other birds to my home in Hampstead.

It may be of interest if I give below a list of some of the birds which I finally managed to land in England:—

The following are first importations alive, so far as is known: *Helimaster masoleucus* (*Millisuga squamosa*), *Phæthornis superciliosus*, *Nemosia pileata*, *Nemosia sordida*, *Elainia pagana*, *Arundinicola leucocephala*, *Thryothorus genibarbis*, *Thamnophilus palliatus*, *Tænioptera nengeta*.

Other birds I brought over included: *Sporophila hypoleuca*, *Sycalis arvensis*, *Sporophila nigro-aurantia*, *Chrysomitris yarrelli*, *Procnias cærulea*, *Manacus manacus*, *Pipra rufocapilla*, *Chiroxi-phia parcola*, *Calliste fastuosa*, *Calliste flava*, *Calliste festiva*, *Tanagrella cyanomelæna*, *Arremon silens*, *Euphonia pectoralis*, *Tachyphonus cristatus*, *Schistochlamys atra*, *Chlorophanes spiza*, *Dacnis cayana*, *Columbula picui*, *Chamæpelis passerina*, *Chamæpelis talpacoti*, *Scardafella squamosa*, *Cerciscus cayennensis*.

Hummers: *Lampornis mango* (*Anthranothorax violicauda*), *Chlorestes notatus*, *Hylocharis sapphirina*, *Hylocharis cyanea*, *Agyrtia fimbriata*, *Eupetomena macroura*, *Chrysolampis moschita*.

## NOTES ON NEW ZEALAND BIRDS

By SYDNEY PORTER

(Continued from page 75.)

### COOK'S PETREL (*Pterodroma cookii*)

This was certainly one of the strangest birds which we came across during our sojourn on the Little Barrier, one of its few nesting grounds.

Our first acquaintance with it was on our way over to the island from the mainland when small flocks were seen on the water. The first night, however, as soon as it got dark, we were startled by the loud cries which seemed to fill the air on every

hand. They were something like the call of a Guinea-fowl but much louder and interspersed with numerous other strange cries. At first we were baffled as to the origin of these calls, but as our eyes became accustomed to the darkness, we were able to make out the dusky forms of hundreds of the Petrels, always in couples chasing each other at an incredible speed. All night long this continued, and every night afterwards until the early hours of the morning.

The Petrels nest in deep burrows in the densest virgin forest above a thousand feet on the mountains of the Little Barrier. A party of young scientists who were on the island at the same time told us that when they climbed up on to the higher ranges amongst the nests, and camped there the night, the birds kept coming and going the whole time, running in large numbers over the sleeping bags. But always in the morning there were numbers lying about dead, some with their heads chewed off. They thought that the birds must have crashed against the branches or trunks of the trees in the dark and were subsequently mauled by either the large Tuatara lizards or the wild cats.

When on the higher ridges of the mountains, we found innumerable dead Petrels on the track, many of them quite out of the nesting area. It is a very strange thing that large numbers of the Cook's Petrel are always found dead during the nesting season on the Little Barrier. Other Petrels nest there but no dead ones are ever found. I have been on other islands where various other species nest, but this never happens anywhere else. The only solution to the problem is that the birds appear to fight, and chase each other in mid-air, and certain ones get killed and fall into the forest, or, on the other hand, they may kill themselves by striking the trees as they descend into the forest.

High on the ridges in the densest forest, at a height of about two thousand feet, we found innumerable burrows of this Petrel, mostly with a single young one in. This we ascertained by putting a long stick down the hole which caused the young one to make a low grunting noise. We could never reach the birds as the burrows were too long and the ground too matted with roots

to dig down. The same burrows appear to be used year after year, as we found no freshly excavated ones, all the earth round the holes being covered with a growth of lichen and moss.

Considering the weak feet and beak of the bird it is a marvel how the birds manage to tunnel to such a depth. It is also wonderful how these swift, long-winged birds can fly with impunity in the thick forest, especially at night when the darkness is intense. We found an adult bird in the breeding grounds; it was sitting under a log and appeared to be unable to fly. It had possibly been stunned and was unable to find its way to the edge of the cliff. The birds, as they come in from the sea when the night has set in, simply fall down through the dense forest vegetation to their nesting holes, but being unable to rise from the dense vegetation have to make their way to the edge of the cliff, often a great distance, and from there throw themselves over into the air. As with most other Petrels, the legs are weak, the bird being unable to stand upright so that it can only shuffle along with the aid of its wings. Cook's Petrel feeds mainly on minute marine life commonly known under the name of "Plankton".

Petrels are truly birds of mystery. The more one studies them, the more mysterious and fascinating they become. A whole lifetime would be all too short to study their strange and diverse ways.

#### THE NORTH ISLAND KIWI (*Apteryx mantelli*)

The Kiwi is so intimately associated with New Zealand, it was one of my great ambitions when I reached the hospitable shores of that country to see something of the life of these strange birds. The more I pursued my objective, the more remote did my chances of its realization become. After several weeks spent in various parts of the North Island where the only large areas of native forest were left, I began to realize how very rare these birds had become. And it is little wonder, for no New Zealand bird has to combat so many enemies and probably no bird is so inadequately equipped for doing so. The Kiwi is one of the most defenceless of all living birds, for in the distant ages this bird

had no need of self-protection for it had no enemies. Dogs, human beings, and forest fires were, after the first settlement of New Zealand, the worst foes of the Kiwi. On the edge of the forest reserves the farmers allow their cattle, in the winter time, to penetrate far into the forest so that they may feed on the undergrowth, and dogs are frequently used to round them up. The Kiwis having a strong scent are soon found out by the dogs, who in 99 cases out of a 100 kill the birds before they can be stopped.

The burning of the bush is again fatal to these birds, for when asleep in hollow logs or in holes under the roots of the forest trees, they stand no earthly chance when the fire sweeps along. In the early days countless thousands must have been sacrificed in this way, a fitting offering to the god Mammon! And in the remote parts where the destruction of the forest goes on many still perish.

In the Government reserves a new and very formidable enemy is the opossum trapper, who penetrates to the farthest recesses of the virgin forest in his quest. These marsupials, I might mention, were introduced many years ago from Australia, in the mad days when every pest under the sun was introduced into New Zealand, and have since increased and spread themselves all over the country with great rapidity. Though these animals in themselves are quite harmless to the native flora and fauna, their pursuers are not. A few years ago the skins of these mammals became fashionable in Europe and so great was the demand that £1 or more was paid for good skins. A skilful trapper could get 400 in a season, so no wonder the forests were overrun by men, for the main part unemployed, or others desirous of adding to a meagre income.

The usual method employed in catching these inoffensive animals is to find a track, usually at the bottom of a tree, and there set a large steel-toothed trap. In a great many cases the tracks are not those of the opossums but of the Kiwis, who are very local and never wander a great distance from their hiding places, and who make well-worn pathways from their holes to the hunting grounds. The Kiwi sauntering along, probing the ground with

his long sensitive beak, invariably gets caught, the cruel jaws smashing his bill in half. If it were not that organ, it was one of his legs. The trapper, frightened to do anything with the bird owing to the strict protective laws, either kills it outright and throws the body away or lets it go to die a lingering death in the forest.

In an extensive valley, one of the last large strongholds of the Kiwi on the mainland, I was told that over a hundred birds met their doom in one single season. Fortunately for both the Kiwis and the opossums the price of the skins of the latter are down to 4s. 6d. or less, and owing to their numbers being so reduced, they are not hunted nearly as much as formerly, but not before the ranks of the Kiwis have been sadly thinned out as well.

When up near the North Cape of New Zealand I found that numbers of Kiwis are being deliberately killed by both the Maoris and the white settlers, by the latter for eating and by the former to sell to their fellow-countrymen for the making of the feathered cloaks, either to sell to tourists or to use for special occasions.

Then there are, of course, other enemies in the shape of cats, rats, weasels, and stoats, who prey on the eggs or the young birds, and so it is a logical conclusion that in a generation or two Kiwis will have ceased to exist on the mainland of New Zealand. But as long as the island sanctuaries are preserved as such, the Kiwi will not pass away altogether.

As most readers know the Kiwis are probably the most unique of all living birds. The size of a large fowl, they are clothed with brown hair-like feathers, and although they are usually called wingless they possess very rudimentary wings which have no feathers on them. They have no tail. The beak is very long and supposed to be slightly flexible; the nostrils are situated at the tip of the upper mandible which overlaps the lower one. The colour of the beak is a fleshy horn colour and has the appearance of being highly polished. After death the colour fades and the gloss vanishes. From the base of the beak spring long hairs, which no doubt in some way act as feelers. The birds possess very thick and heavy legs, the toes being armed with extremely stout and

sharp nails, a single kick of which can rip open a man's hand or foot.

The Kiwis are strictly nocturnal, only coming out after dark and spending the night in probing in the soft earth for worms and insects upon which they feed. They move noisily through the vegetation and their continual sniffing can be distinctly heard. Before day-break the birds retire to their comfortable burrows, either in a hollow log of some large tree lying prone upon the ground or else to a cavity in the roots of some giant forest tree.

My first acquaintance with the Kiwis was on the Little Barrier Island where they were almost tame. Some of them had been released there many years ago and they do not seem to have moved very far from the spot where they were originally liberated. From what we saw of them the birds seemed to prefer the open grass flats near the shore to the higher forests which, according to most books, is the natural habitat of the Kiwi. An hour or so after darkness had fallen these strange, unbirdlike creatures could be seen ambling along through the grass. One had only to stand still for a few minutes to be aware of their noisy progress through the herbage. When overtaken the birds would break into a peculiar ambling run, swaying from side to side.

On the flats it was very easy to catch them, but not so on the edge of the forest, for the bird, after running a few yards, would hide in a clump of ferns or forest debris, or I have seen them press up against the roots or the trunk of a tree and try to escape observation in that way. In our hunting for the birds we used a powerful electric torch which strangely enough did not seem to dazzle or inconvenience them in any way.

Kiwis make a nest either under a pile of brushwood in a hollow log or in a clump of tangled grass and fern or in a cavity at the base of a hollow tree. One or two enormous eggs are laid, each often weighing a quarter the total weight of the bird. How it manages to lay such colossal eggs is a mystery. These are incubated by the cock bird who, not being able to cover them, lies across them.

Kiwis must be long-lived birds, for a large albino example

released on the island in 1913 was still there at the time of our visit. This bird seemed to haunt the environs of the caretaker's house.

We had no difficulty in catching the birds at night when they were in the long grass on the strip of land between the forest and the sea. They seem to be unable to move with the rapidity with which they do in the forest. The birds made no defence save an occasional snapping with the beak, though had we not held them by the legs we should have undoubtedly been badly scratched. We found the birds in most cases troubled by ticks which we found adhering to the head and ears. These have most probably been brought over with the cattle. Unfortunately the feathers are very lightly held in the flesh and they come out in large quantities when the birds are handled.

Late one evening we caught a fine adult male (the male is much smaller than his mate) intending to keep him over night in a box which we had prepared and take his photograph in the morning. He proved quite tractable until the morning but try as we would we found it utterly impossible to take his photograph. He refused to stand, even in the bright sunlight, the moment he was released he would take a header for the forest. At length we gave it up and restored him to a vacant Kiwi burrow, to brood, no doubt, over his strange experiences.

There is a belief amongst the colonists that Kiwis are dirty birds and are infested with lice. This was, as far as we found, quite erroneous. All the birds we handled were in beautiful condition and perfectly free from all parasites except the few cattle ticks about the ears which doubtless the birds could not remove.

We kept several birds over night. These remained quietly in their box and made no effort to escape, making no sound whatever except an occasional squeak and a sniffing noise as they no doubt searched for the food which we placed in the box. Usually Kiwis are very noisy birds, and we often heard them screaming around our tent at night. Their usual cry is an awful scream, rather terrifying when heard at close quarters in the middle of the night.

We could never understand why the birds came down on to the flat grassland where the soil was hard and dry and it would be impossible to probe into the ground with the bill. Possibly the birds came down for the grasshoppers which abounded there. The birds were certainly more plentiful there than in the forest.

The following is a short extract from a friend who was on the island after we left: "We camped a night near the mouth of the Valley of the Styx and, both there and subsequently on the ranges of the east coast, we heard the numerous Kiwis before the Petrels started in. With regard to *A. mantelli*, on L.B., I would draw your attention to an article by Captain Hutton in Vol. I, page 106, *Trans. N.Z. Inst.*, in which he states, 'It will be noticed that the Kiwi (*A. mantelli*) does not appear in the list, and notwithstanding current reports I am inclined to think that it is either very rare or else does not exist on the island.' However, I wanted to correct the false impression I had given that the Kiwis were confined to the Flat and its environs."

Of the other three species of Kiwis found in New Zealand I saw nothing. They are extremely rare and only found in isolated parts. The largest species of all I should doubtless have seen had I been able to reach my destination on Stewart Island, but I was driven back by tempestuous seas.

In the old days, 1850 to 1900, Kiwis were, at infrequent intervals, imported into Europe and proved to be long-lived in captivity, their food being cut-up raw meat and earth-worms, but they proved uninteresting captives as they only came out at night and during the day remained hidden in the hay or straw. There is now no hope that we shall ever see these interesting birds in Europe, for the Government will not even allow permits for specimens to be kept in the New Zealand "Zoos". I saw one of the Ministers who had to deal with the question and I broached the subject of permits being granted for specimens to be exported to various Zoological Gardens in Europe, but he was very definite in his reply and stated that under no circumstances would birds be allowed to be exported, or even to be kept in their own country.

Perhaps it is for the best that the restrictions are on the hard side, for it shows that at least there is some interest in the preservation of the native fauna, but in spite of every effort on the part of the Government I am afraid that the Kiwi will disappear ere long from the mainland of New Zealand. Perhaps in future days, when sea travel is cheaper, ornithologists will be able to visit that island paradise and see for themselves these strange birds in their natural setting and bless those far-sighted people who set aside this beautiful island for the preservation of their wonderful avifauna.

#### THE SHINING CUCKOO (*Lamprococcyx lucidus*)

Of all the smaller New Zealand birds this is perhaps the most beautiful. It strongly reminds one of the wonderful Shining Cuckoos of Africa. It was two months after landing in New Zealand that I first saw one of these illusive creatures; previously I had heard the strange and very distinctive whistle which caused the Maoris to call them "pipiwarauroa", which word they say resembles their call, but I am afraid that this needs a very great stretch of imagination.

It was only upon coming to the Little Barrier that I made an intimate acquaintance with it. The first pair observed were in the garden of the caretaker's house, where I found them busily clearing the fruit trees of caterpillars upon which these birds mainly feed. Like all the other birds of this island they were comparatively tame and allowed one to approach them within a few feet and watch them at their work.

Up to this last few years the winter quarters of this bird were unknown. It was surmised that they wintered in the islands in the Eastern Pacific. But recently they have been found in the Solomon Group. They leave New Zealand in the early autumn (January or February) returning in the summer at the end of September or the beginning of November. Its habitat is rather the outskirts of the forest than in the interior. It frequents orchards and gardens, proving a great blessing to fruit growers by clearing the fruit trees of insect pests, especially the caterpillars

and plum slugs, etc. The Shining Cuckoo is a peaceful and gentle little creature, seldom forcing itself upon one's notice like the rest of New Zealand's forest birds. In spite of its beautiful plumage it is not easily detected when in the trees, the shining green and striped breast assimilating it into its surrounding.

When the birds arrive at the end of September at the North Cape they quickly spread themselves over the whole of the country, being found quite commonly in the far south and in Stewart Island. This Cuckoo is parasitic and usually places its egg in the nest of the tiny Grey Warbler. It has always seemed a strange anomaly that while birds will refuse to rear the young of other species they will always bring up a Cuckoo; not only that, but very often any small "soft-billed" bird will, upon seeing a young Cuckoo pop some succulent morsel into its mouth. This I frequently noticed with the Cuckoo in question. In fact I even saw a Sparrow drop insects into the mouth of a young Shining Cuckoo. Evidently there is some instinct which forces other small birds to take upon themselves this strange foster-parenthood and about which we understand very little.

One of these beautiful birds was found by some friends and reared for me to take home. It was found as a small nestling and was kept until about two months old. It was a delightful little bird and I very much regretted its loss, which I fear was from feeding it on meal-worms. I am quite convinced that these are too stimulating and indigestible for most small birds. I have also found that they often cause a kind of wasting disease which the pathologists cannot diagnose. Another specimen was reared by some more friends. It was found, I believe, in a washhouse on the outskirts of one of the cities. First of all it refused to feed so we had to cram it by means of a "Filup" feeder. In a short time it began to pick up hairy caterpillars upon which it was mainly reared, but when these became scarce it began to feed upon an insectivorous food mixed with hard-boiled chopped egg and Madeira cake. I really did not expect that it would ever be reared, for it was in such a poor and emaciated condition at first. It picked up quickly when the caterpillars were available,

but I had little hopes of ever bringing it home. Yet though it drooped at first it withstood the hardships of the long homeward voyage of nearly seven weeks and is now one of my most treasured feathered gems.

The Shining Cuckoo is about the size of a Sparrow, a shining metallic bronze green above, white below heavily barred with metallic bronze; the feet, which are black, are exceedingly small and delicate.

#### THE LITTLE BLUE PENGUIN (*Eudyptula minor*)

This delightful miniature Penguin is abundant all around the coast of the North Island. It is to be seen in the Auckland Harbour swimming about amongst the sailing craft, only the head visible out of the water. It looks at first sight like some tiny seal. When on shore it makes its home in a hollow log, a cleft in the rocks, or in one of the thick tussocks of coarse grass. It is only when moulting or breeding that it stays for any length of time on the land. It is then very extraordinary how far it will make its way inland, often half a mile or so, usually up steep cliffs or over rocky ground. On the Little Barrier we found them often right up in the forest. Usually they only go far inland for the moulting and not for breeding, which is carried out quite near the beach, more often than not in a hollow log, two large, chalky white eggs being laid. During the period of moulting the birds undergo a fast of from two to three weeks, but prior to this they get very fat. The old feathers do not drop out like those of an ordinary bird, but are pushed out by the new growth, and these still adhere until the new feather is almost full grown. Sometimes the birds find shelter in a disused shed or outhouse and occasionally under a box. While undergoing this unpleasant process the birds look very disreputable objects, but as soon as this is completed they emerge resplendent in a garb of the most beautiful shining grey blue and silvery white. The texture of the feathers is singularly soft and silky and pleasant to the touch. The pale coloured iris and pupil give them a very peculiar look. In spite of their tiny size they are not wanting in courage, and if taken out of their hole or burrow will defend them-

selves with the utmost vigour, often inflicting severe wounds on the hands with their strong beak, all the while threshing one with their flippers as hard as they can go. Their pluck is amazing, if one stands between the bird and the sea it is almost impossible to stop it reaching its native element.

The Little Blue Penguin does not walk in the usual upright and rather dignified way as most of the larger Penguins do, but shuffles along with a stooping gait, and if hard pressed it will throw itself down and work its way along with the aid of the flippers. It is then surprising how quickly it gets along.

Although so specially adapted for its oceanic life it suffers severely in storms, and after very bad weather many bodies can be seen on the beaches cast up by the tide. Otherwise this little bird has but few enemies. This bird makes the most delightful pet imaginable; a single specimen was being kept for me by a friend, a charmingly tame little fellow who would come up and talk to one in his quaint, guttural Penguin language. All preparations were made for his shipment, including blocks of frozen fish, but alas! the day before I was due to sail he died. I very much regretted his decease for I do not suppose that I shall ever have the chance of another of these charming little birds.

Unlike most other Penguins, this is not a gregarious bird, one only sees them singly or in pairs in the breeding season.

#### THE FLESH-FOOTED SHEARWATER (*Puffinus carneipes*)

The various names under which the different groups of Petrels are known are, to say the least, rather confusing to the beginner: they are called alternately Shearwaters, Prions, Mollymawks, etc., while their vernacular names are legion.

New Zealand and the surrounding islands are doubtless the metropolis of this family, no less than thirty-four species being found around the coasts and islands. Most of the closely allied species are very difficult to distinguish when on the wing. New species are being discovered all the time, many only differing in the length of the primary wing feathers or in the slight variation of the colouring.

Petrels are a group of highly specialized birds, many with extraordinary nesting habits. Their powers of flight are amazing, most species never resting upon land except at the breeding season. In fact, owing to their weak legs, which are only adapted for swimming, they cannot walk upright, but simply shuffle along on their tarsus helped by their wings. Neither can they take off from flat surfaces owing to the great wing span, but have to mount some raised object or throw themselves over a cliff to enable them to take flight. From their method of life, which is purely aquatic, it will be realized how strange are their nesting habits, for a good number of this interesting family nest only in the depths of dense forests on mountain ranges, where they excavate deep burrows in the soil anything up to 15 feet in length, where they lay their single egg.

One of the chief nesting places of the Petrel in question is a group of small islands known as the Hen and Chicken Islands off the coast of New Zealand, which I was fortunate to visit during the breeding season. The birds burrow into the loose soil on the forest-covered slopes of the mountain sides. The burrows instead of going straight down often turn and twist, which must make it much harder work for the birds in getting rid of the loose earth. After a great many preliminaries a single white egg is laid in a chamber at the end of the burrow. In some burrows we found an adult pair of birds with no egg at all. They fiercely defended themselves against our intrusion, and they can inflict very severe bites with their large hooked beaks. Sometimes the burrows are also tenanted by the unique Tuataras (*Sphenodon punctatum*), a strange and excessively rare reptile, supposed to be the last living link with the prehistoric reptiles of the far dim, distant ages. These creatures were once common around the coast of the North Island, but have long since been exterminated and are now found only on one or two small islands off the East Coast. We saw quite a few on the Little Barrier and the Hen and Chickens. Although they look very formidable they are in reality quite harmless. They have very large and expressionate brown eyes. They are very strictly protected by the Government and it is to be hoped that they increase, but it is hardly likely that they will do to any extent as they are very slow

breeders. Though this is hardly the place to dwell at any length on these peculiar reptiles I cannot resist from making mention of what must be one of the rarest forms of animal life now inhabiting the earth.

To get back to the birds, these do not seem to resent the presence of these strange creatures and it has been stated that the Tuataras will attack anyone interfering with the nesting birds. It appeared to us that reptiles did not actually use the same nesting burrow as the Shearwaters, but lived in a joint burrow which had the same entrance. We found several eggs which appeared to have been sucked, but whether it was done by the Tuataras I could not say. No doubt if they did this the birds would resent their intrusion, which they certainly do not appear to do.

Upon one of the islands there had been a copper mine which had been abandoned for many years, and in the "bush" had been a shack used by the miners. This had long since disappeared and only a number of rusted corrugated iron sheets, which had formerly been the roof, marked its site. Under these iron sheets several Petrels had found convenient nesting sites. We released a couple of birds which we found under one of the sheets, in order to see how they would take off, but in this we were disappointed, for the birds shuffled with the aid of their long wings down the hill-side until lost to view.

One day a friend and I thought we would spend the night on the island, so with the aid of a few blankets from the yacht we made our beds under clumps of "flax" on the beach. In the evening just before dark fell the Petrels became very numerous, flying to and fro from the forest-covered hill-sides. Shortly before midnight they began to call. Of all the bird sounds I have ever heard these were the most weird. Perhaps the surroundings accentuated it, but all night long the ghostly black forms of these large Petrels flitted across the star-spangled sky; there was not a breath of air or a movement on the water except the gentle ebb of the tide as it lapped on the stones only a few feet away. Before, all was silent, then they started, first one and then the other until the noise increased so much in volume that sleep was out of the question. The cry was

exactly like the terrified screaming of a child. In the stillness of the night with the sinister black forms like winged demons flitting across the sky, it seemed as though we had chanced upon that inferno where the Catholics tell us the souls of the unbaptized children go for eternal torment. The more one listened the more human and heartrending the cries seemed to become, so that we were not sorry when the dawn broke and these strange creatures retired to their burrows or to the distant sea for their fishing.

It will ever remain a mystery how the birds are able to penetrate through the dense upper tiers of the forest on a pitch-black night and find their burrows, and are then able to take off again and get through the branches without injuring themselves. All around the burrows the ground was bare and perfectly clean; there was none of the dirt and mess one usually associates with sea birds, and in the burrows all is scrupulously clean. Like most other Petrels the young get excessively fat, weighing very much more than the adult bird. In this stage they look like immense balls of fluff. In time the young are deserted by the parents while they are still in the downy stage. Gradually the young lose the down and assume the adult plumage, becoming, during the course of many weeks of starvation, much thinner. At last the pangs of hunger drive them from the burrows, when they make for the sea and, throwing themselves into the air, they are ready to brave the perils of the ocean, not returning to land until they are adult and feel the natural urge of reproduction.

In the olden days many thousands of these birds were collected from the nesting holes by the Maoris on their "Mutton-birding" expeditions, but since the islands have become sanctuaries this has been stopped.

#### THE SADDLEBACK (*Creedion carunculatus*)

A three hours' journey from the Little Barrier Island by motor launch lies another smaller and even more precipitous island, which is also one of the last refuges of an exceedingly rare and aberrant Starling-like bird, known in the old days to the colonists as the "Saddleback", a most conspicuous and striking bird, well known

in the forests of both islands in the early days of colonization, but, like most of New Zealand's endemic birds, its numbers were soon reduced until it finally became almost extinct on the mainland. It is now only found on the Hen Island and one or two very small islets off Stewart Island. Some years ago a few birds were released on Kapiti Island. These are still there, but they do not seem to have increased to any extent.

Our first glimpse of this bird was very fleeting. On leaving the Little Barrier, intending to go to the Poor Knights Islands, we stopped for a short time at the Hen Island to see if we could see anything of the birds. A short time after we landed and made our way up the precipitous hill-side, we heard the loud and extraordinary calls of the birds, and in a few minutes had a view of a very fine male bird only a few yards away; he soon vanished from our sight. The Hen Island is much smaller than the Little Barrier, and is far more precipitous, rising in a short distance from the shore to a height of 1,300 feet. The whole island is covered from the edge of the sea to the top of the ridges with the most beautiful virgin forest, the great pleasure of which is the undergrowth of magnificent Nikau-palms, a very near affinity to the well-known decorative palm so much used in Europe.

On our second visit we were fortunate in seeing quite a few of these very rare birds. In the area of forest where we stopped the birds seemed fairly numerous, but for the main part they were extremely wary and difficult to observe, which is very unusual, for most of the birds in the sanctuaries are very confiding. I believe this was due to a certain expedition calling and shooting many of these birds. This expedition finally arrived in Auckland to ask for permission to collect native birds, which was, quite rightly, refused, but not before great slaughter had been done to the native avifauna in the island sanctuaries and in the Chatham Islands and elsewhere.

We heard the loud and very distinct calls of the birds all the time we were on the island, and noticed the Saddlebacks feeding upon the berries of a tall shrub, *Nothopanax arboreum*. These berries are relished by most forest birds.

Like many of New Zealand's indigenous birds, this species has no near affinities and stands in a genus on its own. It is slightly larger in size than a Starling, of a glossy black, with the whole of the wing coverts, back, and upper and lower tail coverts bright chestnut. At the base of the stout pointed beak below the eye is a bright orange wattle. This species is evidently in an evolutionary phase in regard to the juvenile plumage, for in some districts there is a distinct immature stage in which the young are a uniform cinerious brown, and these do not assume the adult plumage for a considerable time. On the Hen Island and on Kapiti Island the young leave the nest in the adult plumage. There are several species (I believe) which show the same tendency, Pennant's Parrakeet being one of them. In the early days the immature Saddlebacks were described as another species and called by Buller the Jack Bird.

At the beginning of the last century the Saddleback was one of the most characteristic birds of the New Zealand forest, and was well known to the Maoris, who wove many legends about it. Now it is absolutely unknown to the majority of New Zealanders.

It moves through the forests very rapidly, exercising most of the time its great vocal powers. It mainly inhabits the upper tiers of the foliage and does not, as far as I noticed, descend to the ground, though this is no criterion, for my acquaintance with this interesting bird was all too short. Its food is mainly the large grubs found in decaying wood, which the bird procures with the aid of its chisel-like beak. That this species is not difficult to keep in captivity is proved by the fact that several were kept for many weeks on the Hen Island prior to their being transferred to Kapiti Island, where they were released. Otherwise there is no record of its ever being kept. And now there is not the remotest chance that it will ever be seen in the aviaries of aviculturists even in New Zealand, for, like the Stitchbird, it is most rigorously protected, at least in the North, for in the South on the one or two small islets off Stewart Island it is rather at anyone's mercy. But it is to be hoped that no effort will be spared to save this vanishing relic of New Zealand's unique avifauna.

## THE CORMORANTS

New Zealand is noted for the abundance and also for the striking plumage of its Cormorants, or, as they are locally known, Shags. No less than sixteen species are found in New Zealand waters, some of them being of great beauty, but, alas! many of them are now, owing to the insane slaughter of all Cormorants, excessively rare and extremely local, some species being restricted to a single small island or even one isolated rock.

The Pied Shag (*Phalacrocorax varius*) is one of the commonest species, and many have been seen in a good many places around the coast, especially on the outlying islands which are at all forested, for this species is arboreal. On the Little Barrier Island the commonest of the Shags was found there. Not far from the caretaker's house is a fairly large nesting site, on a cliff about 150 feet high and, near the top, where the old and gnarled pohutukawa trees grow out at right angles to the cliff face. The birds built their large and untidy nests on the most exposed branches which hung over the waters in positions quite inaccessible to all foes, except the fool with the shot-gun. At the time of our visit the young had left the nest and were sitting in rows on the bare branches, looking very lovely in their spotless black, green, and white plumage. The old birds were flying backwards and forwards with heavily laden crops from the sea, intent on feeding the youngsters, but this they refused to do until we had moved off.

On Stewart Island it was a beautiful sight to see in the trees by the shores of the placid waters of the many beautiful inlets, large "shaggeries" inhabited by several species of Shags, the Pied being predominant. In Stewart Island, twenty odd miles from the southernmost extremity of the South Island, we have a vision of the splendour that was once New Zealand's. The avaricious hand of Man has touched this beautiful island but lightly, and the slight wounds inflicted have healed. The excessive rainfall has been the main factor which has saved Stewart Island from the mad destruction that has gone on on the mainland, for here the forests are too damp to burn.

Almost the entire surface of this island is very mountainous.

## BIRDS FROM THE NEW HEBRIDES

Messrs. Shaw-Mayer and Walter Goodfellow have just returned from a trip to the new Hebrides, and have brought home a number of birds new to aviculture. There are a number of examples of the Royal Parrot-finch (*Erythrura regia*), a beautiful bird with red head and mostly blue body; a pair of Palm Lorikeets (*Hypocharmonyna palmarum*), two species of Zosterops (*Z. flavifrons* and *Z. griseinota*), three yellow-tinted Honey-eaters (*Glyciphila incana flavotincta*), some Cardinal Honey-eaters (*Myzomela cardinalis*), and a pair of Kingfishers (*Haleyon juliae*).

A very good coloured plate of the Royal Parrot-finch appeared in *The Ibis* for 1881.

D. S-S.

## CORRESPONDENCE, NOTES, ETC.

## PARROTTLETS AND OILY SEEDS; BROWN OWLS

I have never found Parrotlets injured by oily seeds. It is Lovebirds, Brotogerys Parakeets and Conures that are much better without them. Parrotlets are usually fond of moistened bread as an "extra" to their diet.

I do not think Mr. Villiamy is likely to find that his Brown Owl grows wilder when she has been longer at liberty. Owls never seem to forget their friends and the British species, at any rate, usually recognize them after long intervals.

TAVISTOCK.

## LONGEVITY IN BRITISH BIRDS

It would appear that the climate of Somerset tends to produce avian as well as human longevity. The April number records the death, at Chard, of a twenty-year-old Goldfinch. A month ago I found an old lady in my parish (Taunton) bemoaning the death of a pet Bullfinch which she had kept caged in her kitchen for nineteen years—and it was not, evidently, a very young bird when she obtained it. What struck me as even more remarkable was the fact that, apart from occasional green food, the bird had been fed entirely on hemp seed, upon which it appeared to thrive until a few weeks before its death.

JOHN E. G. SWEETNAM.

## THE BLACK MAMBA AGAIN

Your esteemed contributor Mr. C. S. Webb need now have no further doubts as to the existence of the Black Mamba, for I was able to bring two home alive for the Zoo last month, much to the joy of Dr. Burgess Barnett.

Four were packed but two died *en route*. Eight more were located but the catcher, a white man, went down with dysentery and fever before these could be roped in.

Dr. Burgess Barnett in your edition of February last mentions that the only case of Mamba bite known to him was that of a Mamba which had been handled for some days prior to its attack. This could not have been a Black Mamba. No one could handle a healthy Black Mamba without being IMMEDIATELY attacked.

The two I supplied ran "right true to form" when unpacked. Dr. Burgess Barnett climbed to the back of the glass cage while I and his lady assistants rushed out to the public side to watch the proceedings through the glass. The first "out of the bag" was the small five-foot fellow. He was simply five feet of quivering, pulsating rage. He opened his mouth like an angry terrier, he hissed with malice and venomous hatred.

The second "out of the bag" was a larger fellow. He displayed exactly the same unquenchable animosity to the world at large. Both snakes were still at the back of the cage. Suddenly the smaller one saw the faces of the ladies and myself peering through the glass. He was across with lightning rapidity and literally hurled himself at us. The glass gave him a shock. This drew the attention of the bigger fellow to us. He was more cunning. He came across, then turned as if to move away: after moving a short distance he rose some three feet, his back towards us, and hurled himself at us backwards, turning to strike just as he thought he had reached us. He also got a shock. Nothing living could have dodged those two attacks in the open, unless they had been specially prepared to meet them, and were on the look-out for them. Even then they would have had to be terribly quick. Unlike the rest of African snakes the Black Mamba strikes again and again. He does not retreat. He fights to the death. He has been torn to pieces by a pack of six large hounds, probably in less than one minute, but in that minute he struck every hound and every hound died, one almost as the snake died, the last about one hour after the fight. This dog was a Great Dane and probably was struck as the snake was dying and its venom store all but used up. I am proud to have been the first "fellow" of the Society to provide the Zoo with specimens never previously exhibited in England.

H. MOORE, F.Z.S.

#### EGG AND MILK FOR SICK BIRDS

I would like to endorse the remarks of the Marquess of Tavistock in the February issue of the Magazine regarding the wonderful nourishing properties of egg and milk for sick and ailing birds, especially Parrots and Parrakeets. I recently saved the lives of two rare and valuable Parrakeets by administering to them this food, which consists of one raw egg beaten up with a quarter of a cup of fresh milk with the addition of a teaspoonful of brandy.

The first bird, a cock Ngau Island Parrakeet was as near death as any bird I have ever seen: he lay limp with his eyes closed and hardly breathing, another half-hour would have seen him dead. At first I poured the liquid down his throat with the aid of a fountain-pen filler and repeated this each quarter of an hour for the first day; the second day he had so far recovered that he bit the glass filler in half, swallowing the end he bit off! This seems to have caused no ill effect. Later I obtained a small rubber syringe with a bone

nozzle. In a week the bird was able to feed himself on sponge cake soaked in the egg and milk and now he is in perfect condition.

The other bird was a hen Queen Alexandra Parrakeet which fell ill a week after I received her from the docks: she, too, was as near death as any bird I have seen; for a week I forced the liquid down her throat with the aid of the syringe and at the end of that time she was able to eat seed.

I feel sure that if bird keepers realized the great value of this food they would use it. It would doubtless save many a sick and ailing bird. The thing to watch is to try and avoid getting any of the liquid on the bird's plumage. It is best to wrap the bird in a clean table napkin and if any does get on the feathers to wipe it off with a warm, damp sponge at once.

It is perhaps hardly necessary to add that the birds, especially if they are Parrots, should be kept at a high temperature ranging from 85° F. to 90° F.

SYDNEY PORTER.

#### CAYENNE RAILS—A CORRECTION

A slight error occurred in my "Breeding Notes" in the March number of the Magazine.

On p. 79 "Cayenne Rail (*Creciscus cayennensis*)" should read "Cayenne Rail (*Aramides cayennensis*)".

The tiny Cayenne Rail (*Creciscus*) is a much smaller bird than the far commoner *Aramides*, which has been bred on various occasions; the former, I believe, never so far; though there should be no difficulty in doing so, provided a true pair were obtained, as all the Rails are ready breeders if the aviary conditions are suitable.

I had four *Creciscus cayennensis* two or three years ago. Two of these I gave to the late Mr. Edmund Meade-Waldo, who had them in an aviary in which was the end of a water-pipe in one corner, covered with rather large-mesh wire-netting. He several times saw one of the little Rails squeeze itself through and disappear up the pipe carrying bits of grass in its beak, but nothing further came of it. I also had at that time—in fact, it was in the same consignment—a single *Creciscus ruber*, a much rarer bird. The cocks of many of the species of Rails will often build play nests, occasionally in the tops of bushes, in which they will sleep.

G. H. GURNEY.

#### A BOOK ON PHEASANTS

Regarding the question of Mr. G. Bradshaw, of Sydney, respecting books on Pheasants. There is an excellent book on the subject, which seems to be little known in this country. This is a smaller edition of Beebe's magnificent *Monograph of the Pheasants*, which was published some years ago in this country at a cost of £50.

The book referred to is *Pheasants, Their Lives and Homes*. There are coloured plates of all the species and photos of their haunts. The cost is \$10 for the two volumes, which is very cheap and works out at about £2 in English money. It can only be obtained from Messrs. Doubleday, Page and Company, Garden City, New York.

SYDNEY PORTER.



John Nash Lane & Co. Limited, 174, London

White-throated Sapphire Humming Bird  
*Hylocharis cyanea*

Pucheran's Emerald Humming Bird  
*Chlorostilbon aureoventris pucherani*

Ruby-and-Topaz Humming Bird  
*Chrysolampis masquitos*

# THE AVICULTURAL MAGAZINE

THE JOURNAL OF THE  
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## HUMMING BIRDS

By the Hon. ANTHONY CHAPLIN, F.Z.S., M.B.O.U.

“Of all animated beings this is the most elegant in form and the most brilliant in colour,” wrote Buffon: a daring statement if we pause to consider Nature’s many other works of beauty, for among the Lepidoptera are there not jewels without rival? Yet we must forgive one, who has, like ourselves, fallen under the spell of the Trochilidæ to the extent of being unable to find in our vast vocabulary terms fit to express their surpassing loveliness. Be that as it may, these panegyrics are by no means confined to that illustrious Frenchman, for Wilson, Waterton, Audubon, and Gosse are among others who have been prompted to give vent to their feelings on this subject. Indeed, so much has been written about Humming Birds that we need only recommend the writings of the above and other authors, while we confine our efforts to recording a few observations on the birds in captivity.

Humming Birds have much about them that seems hardly in keeping with very small birds. At times we are forcibly reminded of much stronger types such as Rollers and even Hornbills. I will give as an instance the deliberate and slow manner in which even the tiniest Hummer scratches its neck with its claw; there is none of that almost invisibly rapid movement we are so used to in most small birds generally. Again, a typical Hummer attitude is to sit with the

head drawn well back between the shoulders and with the bill slightly elevated—a position very characteristic of Hornbills. This comparison may seem far-fetched to those who do not realize that it is interesting to the student of habits to find characteristics persisting in related groups, irrespective of differences in size and gainliness.

The manner of flight in these birds has received its due share of comment, but we think it necessary to point out that the wings perform a *horizontal* semi-circular beat when the bird is hovering, so that the haze produced by the rapid beating is not visible below the body but only above. In all attempts made to draw Humming Birds in flight this fact has been overlooked, and the "hazy semicircle of indistinctness" is made to envelop the entire bird.

Many species have the habit of drawing the bill through the clenched claw in order, no doubt, to clean it. This habit can be shared by few groups, and then only by such versatile creatures as Parrots. It is a most peculiar manœuvre and one interesting to watch, especially when the individual grasps its own bill with its own claw and very very slowly wipes the entire length in as deliberate a manner as you could wish to see.

Some species, notably *Lampornis*, *Chrysolampis*, and *Lepidolarynx*, if disturbed when in an otherwise completely torpid condition will utter a long drawn-out and plaintive call. This is difficult to account for, as it can hardly be considered conducive to the sleeper's greater safety, and we would defer from expounding any theory, at any rate for the present, on this pleasantly surprising trait. It can be stated that this torpidity is due as much to dietetic as to atmospheric conditions, although it is a subject about which little can with certainty be said at the moment.

The brilliancy of the Humming Birds' plumage is entirely different from—although often compared with—that of the Nectariniidæ and Paradisidæ. A Humming Bird will glow in partial darkness like a tiny lamp, while the Sunbirds need a light playing directly on them in order to be seen at their best. Indeed, the plumage of the former may be called luminous, while that of the latter is best described as metallic.

As far as it is possible to say, Humming Birds undergo both a partial moult and a true moult: during the former the wing feathers are

replaced in pairs at a time. When the wings are perfect there is a short recuperative period, and then follows the more complete moult for the body and tail feathers. The whole change of dress takes six months and is virtually two moults running into one another.

In a former article it was pointed out that it was extremely doubtful whether these birds ever take insects from flowers. We are now more certain than ever that insects are taken only in the air, and small spiders from their webs. The birds of the tooth-billed genus *Androdon*, however, are probably divergent in their habits.

Finally, for the benefit of those interested in the classification of this remarkable family, it may be remarked that *Chrysolampis moschitus* bears many points of resemblance in its habits to *Lampornis nigricollis*. In fact, we think it would be pardonable to place *Chrysolampis* in the genus *Lampornis*. This view is in some measure substantiated by the fact that Simon considers the peculiar bird known as *Chrysolampis chlorolæmus* (Elliot) to be a hybrid between *Chrysolampis moschitus* and *Lampornis nigricollis*.

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## NOTES ON MY BIRDS

By the REV. KINGSFORD VENNER

It is now eleven years since I contributed to the Magazine, and my apology for doing so now regarding a large and varied collection of mainly common, but beautiful, birds is that many of us in these days can only afford such. At the head of my collection I will mention my lovely Leadbeater's Cockatoo, "Dawn", absolutely tame and affectionate. Curiously enough, I had both her and the next inmate, whom I shall mention shortly, just about the time I last wrote to you eleven years ago. "Dawn" is unusually vivid in colouring, in fact she makes every other Leadbeater's I ever saw look rather washed out, her breast being nearly the colour of a boiled shrimp, not in the least "rose" pink, as the birds are absurdly described in nearly every bird book, unless you add *salmon* rose, which nobody does. "Dawn" does not talk, except in her own language, which consists of sundry murmurings and an occasional burst of screeching (chiefly when some other bird escapes

from its cage and flies round the room). She used to lay two eggs yearly, and brooded them closely, being then very uncertain in temper, but this ceased about five years ago. She distinctly prefers men to women, which rather bears out the common belief as to the parrot family's sex-consciousness in their dealings with humans.

I now mention the other oldest inmate, a gorgeous Purple-cap Lory, who lives up to his name of "Lucifer", having on one occasion murdered a lovely cock Plum-head, since when he has been strictly by himself, except at the Zoo, where he resided for five years and was provided with a mate in the shape of a Yellow-back Lory, the only bird he would tolerate. On one occasion in his former days with me he escaped and flew about the country for over a week, feasting on strawberries, etc., in some fruit gardens about four miles away, till he was lured down by a Blue-fronted Amazon belonging to the owner of the aforesaid gardens, entered an empty cage, and was claimed by me. So you see, his career has been somewhat adventurous. By the way, I should imagine this species is a far easier bird to keep than the Swainson's Lorikeet, if I may judge from my one and only specimen. He arrived in Sussex on a raw November day in 1923, having come from Yorkshire in a wooden box, no paper, and merely strips of wood over the top to keep him in! He has lived on bread and milk, not always sweet (when I was away from home), in an open cage in those *infernal* regions for most birds—a large greenhouse—sweltering by day, and correspondingly cold at night, with (as I didn't know better in those days) frequent bites at an orange. This I now believe to be fatal to any milk-feeding bird, the combination of milk in any form and the acid from oranges, etc., being, I believe in most cases, most dangerous, and probably accounting for many people's failure to keep lorries, etc., on a milk sop diet. I imagine if fed on melons and honey the above would not apply. He and all my birds which are not outdoors are now in roomy box cages in a large room, but will mostly go out either by day, on fine days, or altogether in the summer. "Lucifer" will then meet his old flame, my hen Rosy Cockatoo, with whom he was always most loving, sitting and combing her head, a charming picture.

The other members of the family here are a gorgeous pair—cock Red Collar and hen Swainson's—and perhaps the nicest bird I have after "Dawn", my little talking Swainson's cock. This bird came from Keston last May, being priced very low, as he had no tail! The weather being fine, I at once turned him out in an aviary and gave him a little millet, canary, and a cup of bread and milk. However, a few days later, I found him on the floor, looking rather puffed out. Next day he was worse, being apparently paralysed, except for his head. I took him in, placing him in a box cage in the greenhouse, feeling sure that it was hopeless, but that as he was paralysed he could not be in pain. I placed his bread and milk in a saucer, and he would *drag* himself to it at times and sip a little, but his feet were tightly curled, and the only live part of him seemed to be his head! However, in a few days, he became slightly better and, except for a slight relapse, completely recovered, except that one foot, although he can use it, still remains curled or crumpled up except when climbing. He has remained in that cage, and now says his name, "Hullo, Cupid," in a small husky voice, shakes hands, plays with a piece of wood, mimics the Cockatoos, the creaking of a yard door outside the bird-room, and I have even heard him trying to coo like a pair of white Doves in a cage near him. His colouring is splendid. Incidentally, I *must* have colour, a plain-hued bird, no matter how tame or sweet-voiced, doesn't attract me.

To pass on, a glorious cock Pennant, an equally lovely cock Blossom (Plum) Head (surely these two are the most, or among the most, beautiful of all the parrot family), sundry Budgies of all shades, and a pair of (I trust) breeding Cockateals complete my "Parrots". At the top of the other birds I must mention two jewel-like Royal Starling cocks, one of which will take mealworms from the hand. A lovely Amethyst cock died suddenly about a month ago, apparently perfect in the morning, I found him dead at night. And as if this was not a staggering blow in itself, next day my Superb Tanager cock also departed—verdict: "Enlarged heart and liver" (he had only been with me for a month). Now we come to an important point in feeding, this time regarding

Tanagers. I seemed to have heard that much banana is very bad for them, and yet when one receives one of these lovely birds it frequently arrives with the remains of what must have been a whole fruit of this kind, at least twice the length of the bird's body; while any one who knows these birds will agree that they will, many of them, demolish a whole banana in a few hours. So my Scarlet cock and Veillot's cock get Zoo food, mixed with "Secto", the latter dry, apple, orange, and an occasional banana, never more than a quarter or half a day. The two great orders of birds, apart from the parrot family, which have always attracted me most are the widely different, but equally fascinating, ones of "Finches" (in the very widest sense, to bring in the Waxbills and Tanagers) and "Pheasants". Of the former, in addition to nearly all the British ones (including some four or five species of Buntings), I have Orange-cheek, St. Helena, Common, Gold-crest, Avadavat, Cordon Bleu, and Violet-eared Waxbills, Black-and-white-headed, Tricoloured, and Bronze-winged Mannikins, Lavender and Fire-finches, Gouldians, Cut-throats, grey and white Javas, Saffron Finches, Nonpareil and Indigo Buntings, Red-crested, Pope, and Virginian Cardinals, Pekin Robins, and some dozen Roller Canaries. A large and varied assortment. While in pheasants I have (or had) Golds, Silvers, Amhersts, Reeves, Swinhoe's, Edward's, Chinese, Mongolian, Monaul, and Blue Peafowl. In my opinion, a cock Monaul, with his absolutely "staggering" colouring, is not only the most beautiful of all pheasants, but possibly of all birds, although I admit that the ordinary Peacock, the Pennant's Parrakeet, the cock Golden Pheasant (if this was not common, what a price it would fetch), and sundry of the African Starlings, run him fairly close. I use the word beauty to describe what is the chief beauty to me—that of sheer glorious colour. By the way, talking of Peafowl, I absolutely disagree with any one who describes the Green or Javan species as the most beautiful. It lacks, of course, what is, apart from its "train", the great beauty of the common species, its wonderful breast and neck colour. Green is a beautiful shade or series of shades, but surely, especially in a bird as big as a Javanese Peacock, it does need a little relief,

unlike red, blue, or purple, a complete coat of which often makes a very lovely bird. However, I know many people will disagree

I hope to be able to send you a few breeding results as the season advances. I forgot, I find in glancing hastily over my list of birds, to mention Grenadier and Orange Bishops. In my opinion, the "best lives" among all small foreigners (and how lovely are the cocks), are Paradise and Pintail Whydahs, Com-bassous, and Zebra Finches. The latter, I find, are stupid, restless, and irritating little beasts. If only they would settle down to breeding like Budgies, instead of playing at it, dying eggbound, etc.

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## PARTRIDGE AND BULBUL FIGHTING IN INDIA

By ALFRED EZRA, O.B.E.

In Calcutta the Indians are very keen on Fighting Partridges, This bird, which is the Grey Francolin (*Francolinus pondicerianus*), is very often hand reared and kept with great care. The birds are naturally very tame, and follow their owners about when let out for exercise in the fields, and never fly away, and will also call at the owner's orders. They are kept in double cages, the cock bird in one compartment and the hen in the other. The hen bird is kept to encourage the cock bird to fight, by calling all the time the fight is going on. A good deal of betting takes place, and the arena is surrounded by hundreds of Indians, squatting on their haunches, with their birds close to them. After a lot of haggling, terms are arranged, and the two birds matched to fight are let out into the arena by their owners, and they start fighting at once. The owners keep encouraging the birds to fight by talking to them incessantly, and the hens keep calling all the time. A good fight lasts about ten minutes, and the beaten bird runs away to its owner, or flies away from the arena. They generally fight viciously to a finish, but very little damage is done. Only a few feathers flying from the neck, and, perhaps, from the top of the head, is all the damage done. The

excitement of the Indians is great, and sometimes ends in a free fight. The winning bird is generally caught up and kissed by all its backers. The birds, after a few minutes' rest, are quite ready to fight again. The fight is quite pretty to watch, especially as the birds seem to enjoy it, and are none the worse after a fight.

Bulbul fighting is also a great sport with the Indians in Calcutta. The Common Red-vented Bulbul is generally caught in December, and a cotton brace is put round its waist, with a long string attached to it. This string is attached to a lightly made portable iron stand. The bird is never put in a cage, but spends most of his time on this iron stand. As the birds are handled all the time, and are always fed by hand, they get very tame in a very few days. Both cocks and hens fight. The birds are kept hungry when they are to fight and, after all the betting is done and terms settled, the two birds matched to fight are put in the arena, and some suttoo (ground lentils, largely used in India for feeding birds) is thrown in the middle. The birds attack one another at once, and fight on the ground till one is vanquished, when it flies back to his owner. These fights last only a couple of minutes, and the birds are given honey and water as a refreshment after the fight. There is not quite so much excitement over these fights as there is over the partridge fighting, and a good many boys take part in this sport. The birds are not damaged in any way, and after January, when the season for fighting is over, they are given their freedom. In the fighting they seem to tackle one another's feet most of the time.

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## BIRDS AND ANIMALS OBSERVED DURING A VISIT TO INDIA

By ALFRED EZRA, O.B.E.

India is so full of bird and animal life that each time one visits it one finds it more and more interesting. In case it should interest our readers, I shall give roughly the birds and animals that were seen by Mr. Delacour and me on our visit to India last winter. On our way from Bombay to Agra we saw: Episcopal Storks, Jabirus,



IMPERIAL SANDGROUSE, BIKANIR, RAJPUTANA.

Spoonbills, Sarus Cranes, White Ibis (black-headed), Red-wattled Plover. Doves: Palm, Tigrine, and large Ring-necked (*Streptopelia decaocto*), quite numerous, and very tame. Rollers, Bee-eaters, Bulbuls, Seven Sisters; different Egrets and Herons; Shrikes, many Peafowl. Vultures: Egyptian, White-backed, Griffons, Black-shouldered Kites, Kestrels, Eagles, Buzzards. Ring-necked and Alexandrine Parrakeets; lots of common and Bank Mynahs. At Fatepur Sikri: A good many Brown Rockchats (*Cercomela jusca*). At Agra and Delhi: Lots of Egyptian Vultures and Kites; Pagoda Mynahs and Purple Sunbirds in the gardens; also White-eared Bulbuls; any number of rhesus monkeys and langurs, all very tame. At Bikaner: In the gardens we saw Rollers, Crows, Owls, Mynahs, Red-throated Flycatchers, Red-wattled Plovers, Blue Rock Pigeons, Stilts, and Kites.

In the sanctuary at Bikaner we saw any number of wild boars, chinkaras, foxes, Grey Francolins (Partridges).

On the 27th November we saw about six hundred Demoiselle Cranes, one Grey Heron, some Stilts, Cormorants, Ducks, Dabchicks, Peafowl, and Spotted Sandgrouse. All these were seen at Bikaner.

At Gagner, about twenty miles from the Palace at Bikaner there were some duck including a few Marble Teal, one Heron, White-backed Vultures, nesting close to my room, one small Grey Hornbill, Silverbills, and Grey Babblers (*Argya malcolmi*), Imperial Sandgrouse, two Houbara Bustards (*Chlamydotis macquenni*).

On the 3rd December at Talwara Jheel, a night's journey by train, 650 duck were shot, including a hybrid ♂ Mallard × Pintail and two Marble Teal. We saw thousands and thousands of birds, and at times the sky was overcast with them—mostly Pintail, and Teal, also Mallard, Shovellers, few Red-crested Pochards, Common Pochards, Whiteyes, Garganey, Comb Duck, Spotbill, Tufted Duck, one Widgeon, one Grey Lag, many Common Cranes, Demoiselles, and Sarus; lots of Grey and Purple Herons, Spoonbills, Snake Birds, Cormorants, Coot, Openbills, one Jabiru, Black and Black-necked Ibis, Stilts, and different

small waders. Next day near Haumangark saw 2,000 Teal, shot fifty Common Snipe and some Jack Snipe, many Houbaras, Black Buck, and Nilghai. 7th December saw between 5,000 and 6,000 Black Buck, not more than 200 yards away from our motor cars. This was a most wonderful sight and one that we shall never forget. A lot of Sandgrouse—Spotted, Imperial, Common, and Pintailed—sixty-four Houbara Bustard, Imperial Eagles attacking Houbara Bustard. The following birds are conspicuous in Bikaner: Pied Chat (winter visitor), White-headed Chat (winter visitor), Indian Grey Shrike, Bay-backed Shrikes. Saw 4,000 Demoiselle Cranes.

9th December, on the way to Jaipore. A large salt lake with a lot of Flamingos and Pelicans. In the guest house garden, Sunbirds, Zosterops, Hoopoes, Brown-backed Robins, Coppersmith Barbets. There was a very good 300 at Jaipore.

11th December on the way to Kotah lots of Drawf Turtle Doves and Painted Storks (*Tantalus*), Bulbuls, Francolins, Barbets, Treepies, Blue-throat, Fantailed Flycatchers, and Ruddy Sheldrake on the river, also Black Storks. On a visit to Mr. Dodd's shooting camp, near Calcutta, we saw Cotton Teal, Owlets, Serpent Eagles, and other birds of prey, Kingfishers, Zosterops, Jacanas, Orange-headed Ground Thrushes, Coursers, and Snipe. India undoubtedly is the most wonderful country for birds and beasts, and the thing that strikes one most is the tameness of the birds.

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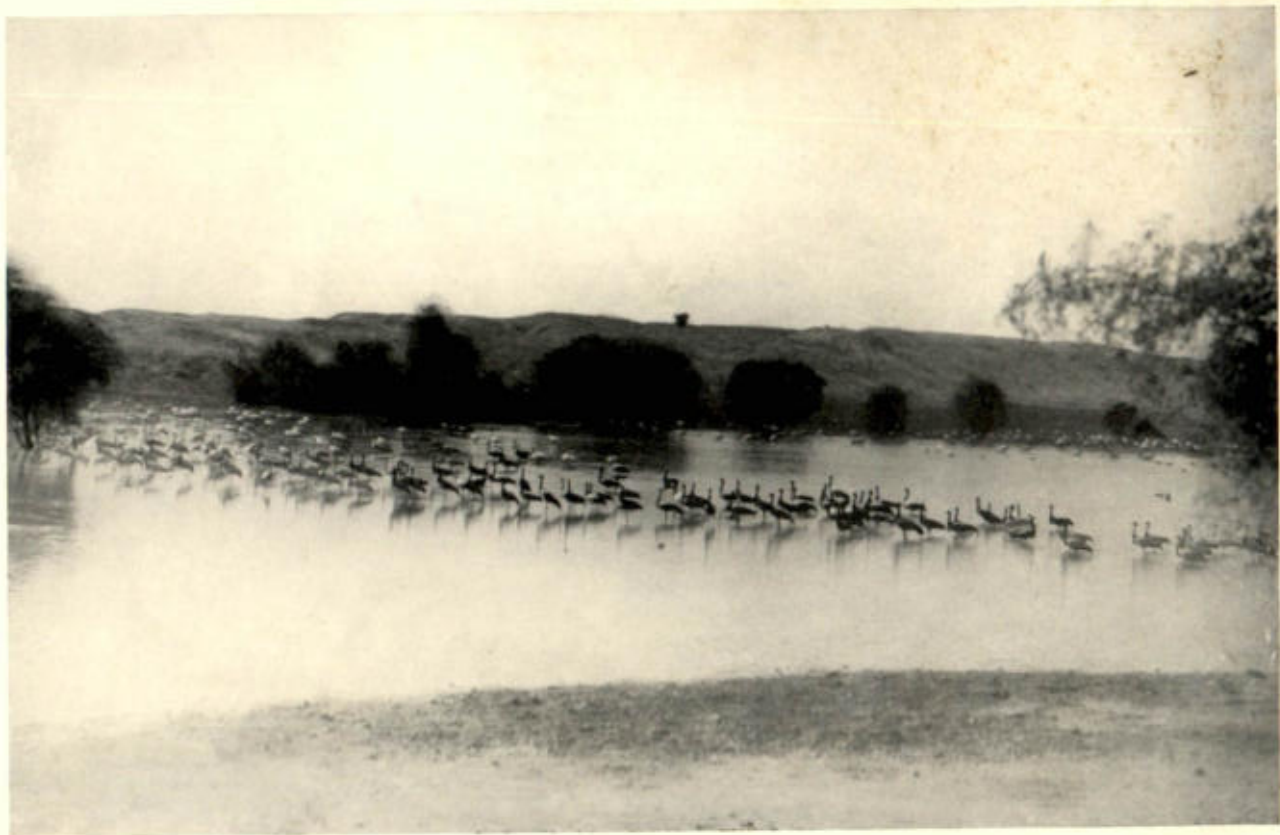
## NESTING NOTES FROM FOXWARREN PARK

1933

By ALFRED EZRA, O.B.E.

As some readers of our Magazine are interested in the nesting of birds, I herewith give a few notes on the nesting of my birds in 1933:—

ROTHSCHILD'S GRACKLE (*Leucopsar rothschildi*). These birds were most disappointing last year. They did nothing but build nests and destroy them; laid one egg which was promptly



DEMOISELLE CRANES, BIKANIR, RAJPUTANA.

eaten. It seems such a pity not to establish these birds, which are so rare and so interesting.

CHINESE BLACKBIRDS (*Turdus mandarinus*). Several eggs were laid and incubated. Young hatched but none reared. The longest a young one was fed and lived was fourteen days.

CROWNED STARLING (*Galeopsar salvadorii*). The old pair that have reared young each year had laid three eggs by the 9th May. Three young were hatched out by the 24th May. Two of these were found dead on the 29th, but the third one was fully reared, leaving the nest on the 23rd June. Three more eggs were laid by the 21st July. Two young were hatched out but only one reared. I have let the hen bird out as soon as she had laid her eggs, and the cock bird was kept in a cage in the aviary—the same method that I used the last two years.

SLENDERBILL STARLING (*Cinnamopterus tenuirostris*). I am again unable to report any success with these handsome birds. In all two eggs were laid by the 8th June and one young one was hatched out by the 23rd June. It died the same day, and the second egg was broken. On 20th July there were three more eggs in the nest. All fertile but none were hatched.

WONGA WONGA PIGEON (*Leucosarcia picata*). Laid two eggs by the 27th March. These were incubated for ten days only and then deserted. Two more eggs were laid by the 2nd May, and one young hatched out on the 19th May. The other egg was infertile. The young one lived for one month, but did not leave the nest and was found dead. It was fully feathered and quite as big as its parents.

AMERICAN BLUEBIRD (*Sialia sialis*). Two eggs were laid by the 2nd April, but owing to the very cold weather these did not hatch out. Four more eggs were laid by the 2nd May, and these were only incubated nine days when the birds started to build again. These birds are getting very old, so I do not expect them to rear young successfully.

WHITE-WINGED MYNAH (*Sturnia nemoricolor*). Four eggs were laid by the 5th May and two young were hatched out on the 19th. One young one was picked up dead two days later, and the other

one left the nest on the 4th June, but only lived for three days. By the 17th June three more eggs were laid, but these disappeared and no further attempts at nesting were made by these birds.

RUPPELL'S STARLING (*Lamprotornis purpureopterus*). Three eggs were laid by the 12th May and two young hatched out by the 26th May. One young one was found dead six days later, the other young one left the nest on the 20th June, and by the 26th it was feeding itself. Three more eggs were found on the 6th July and all hatched out on the 14th July, but these only lived for twelve days. Another three eggs were laid by the 23rd August and two young were hatched out on the 6th September, the third egg being infertile. One young one left the nest on the 28th September and the other one the next day. Both are now feeding themselves.

FYTCH'S PARTRIDGE (*Bambusicola fytchii*). One egg was found broken on the 19th June, another on the 26th June. A nest containing one egg was found on the 30th June, and this hatched out on the 19th July. A rather queer thing took place during the rearing of the young one. The hen bird was always accompanied by two males, and the three of them took a hand in rearing the young one, and all agreed quite well together. This is the second year that these partridges have reared young here.

ZEBRA DOVES (*Geopelia sinica*). A pair of these went to nest and two eggs were laid by the 14th April. Although the birds sat well nothing came of this first venture, and both eggs were found broken on the floor. One egg contained a partly-formed chick and the other one was infertile. No further signs of a nest was seen until the morning of the 4th June. A young bird was picked up dead having apparently been killed on leaving the nest. After a good search the nest was found in some ivy, containing another young one. This one left the nest on the following day. Two more eggs were seen in the same nest on the 16th June, and one young one was hatched on the 1st July. This one was reared, leaving the nest on the 21st July. Another two eggs were laid by the 24th July, but somehow or other the nest was upset and both eggs were broken. On the 25th August another young one was noticed, having just left the nest, but this nest was never found.

On the 16th September a nest with two young ones was found in the ivy. Two days later both were found dead.

ROUL ROUL PARTRIDGES (*Rollulus roulroul*). These very handsome Partridges have laid several eggs most of which have been eaten up. On three occasions eggs were saved, and on the 22nd June one egg was placed under a domestic hen, but unfortunately it was crushed by the hen the day that it was hatching out. A second egg was placed in an incubator on the 19th August, and this one was hatched out on the 7th September. The young one lived for six days and seemed perfectly healthy and strong, but for some unknown reason it died suddenly.

SHAMA (*Kittocincla malabarica*). Five eggs were laid by the 18th May and all hatched out by the 31st, but the male bird killed all the young ones by the 3rd June. Another five eggs were laid by the 14th June and four young were hatched out by the 27th. The male bird was caged up this time and the hen left to feed the young. All went well for three days, then the hen refused to have anything to do with the young. The only thing left to do was to let the hen have her liberty, and see if she would then feed her young. As soon as the door of the aviary was opened she flew out, and was seen to go into some bushes nearby, returning shortly with a beak full of insects. At last it looked as if this would do the trick, but our hopes were soon shattered, as the bird, after going in and out of the aviary several times, wandered farther afield and found new interest in chasing other birds, and at night she did not return to the aviary. The next day she was seen about and then she suddenly disappeared. I am afraid she was killed by some other birds. Another pair were just as disappointing, and one egg was laid on the 5th May, but the birds would not incubate it. Another egg was laid on the 22nd May, and this one was incubated and a young one was hatched out on the 5th June. This young one was found dead the next day. Another two eggs were laid by the 17th June and one young one hatched out on the 1st July. Both parents fed this one well for twelve days, but on the 14th July it was found dead on the floor of the aviary.

MADAGASCAR PARTRIDGES (*Margaroperdix madagascariensis*). Three pairs of these Partridges laid twenty-nine eggs in all, and some of these were placed under domestic hens, and some in an incubator. Sixteen young were successfully reared. The males attain their adult plumage at the first moult.

AFRICAN WATTLED PLOVER (*Lobivanellus lateralis*). After laying four eggs by the 8th May, these birds began incubating in a very poor fashion as they were very seldom seen near the eggs. On the morning of the 19th June two eggs were noticed to be hatching, and by noon they had disappeared from the nest. After a search two young ones were found on the path at the far side of the aviary. One was dead and the other one was kept alive for thirty-six hours, but it was impossible to get it to eat anything. I hope we shall yet be successful in breeding this very handsome Plover.

PIED GRALLINA (*Grallina picata*). One egg was laid on the 27th April, but this was infertile. Two more eggs were laid in the same nest by the 8th June. One young was hatched out by the 23rd June. The other egg was infertile. The young one was thrown out of the nest the next day. They again went to nest and one egg was laid by the 22nd July, which was broken six days later.

SUPERB STARLING (*Spero superbus*). Several young ones were hatched but as soon as they left the nest they were killed by the Jays and Magpies in the aviary. In some cases the young were even taken from the nest.

ROYAL STARLING (*Cosmopsarus regius*). Two pairs of these lovely birds built nests, but only one pair showed any interest in the nest after it was built. One egg was laid on the 31st May, and both birds took turn at incubating it. Unfortunately the egg was infertile.

AMETHYST STARLING (*Cinnyrinchus leucogasta*). A pair of these built a nest, consisting of leaves with a little mud added in a bamboo log. The hen was frequently in this nest for long intervals, but it was impossible to look into the nest as the bamboo was eighteen inches long and the entrance hole was near one end

and the nest itself was near the other end. On the 27th June one egg was found broken on the floor of the aviary flight, and the next day the hen bird was noticed to have another broken egg hanging from her feathers. As she did not take any further interest in the nest, it was taken down but there were no more eggs in it. As this is the first time these birds have laid here, we may be more fortunate the next time they nest.

PEKIN ROBINS (*Liothrix lutea*). Six of these birds in one aviary made several nests, but as soon as an egg was laid it was promptly eaten up by one or the other of the Robins. The few of these birds that I turned out last year have disappeared from the garden.

BRONZE-WINGED PIGEONS (*Phaps chalcoptera*). Although two pairs of these Pigeons were continually nesting, and several young were hatched, only three were fully reared. In most cases as soon as the young left the nest, the parents gave up feeding them and started nesting again.

SWINHOE'S PHEASANT-TAILED PIGEONS (*Macropygia swinhoei*). Owing to the roughness of the nest made by these Pigeons nearly every egg that was laid was not properly incubated, as they fell through the twigs to the bottom of the baskets that are hung up for nesting purposes. Only one young was successfully reared after the baskets had been half filled with straw.

CROWNED LAPWING (*Stephanibix coronatus*). These birds chose a very awkward place for their nest which was on the pathway against the door leading from the small flight to a large one. The first egg was laid on the 28th April. This disappeared the same day. Another one was laid on the 30th, and a Madagascar Partridge was seen eating this later in the day. Two more eggs were laid by the 1st July. These were incubated for five days, and on the 6th day both eggs were found broken. Two more eggs laid by the 12th August were taken away and placed in an incubator, and one young was hatched out on the 9th September. This one only lived for seven days.

PURPLE-HEADED GLOSSY STARLING (*Lamprocolius auratus*). A pair of these birds were continually building nests and then

destroying them. On the 6th July we were surprised to find a nest containing three eggs. Three young were hatched out on the 15th July. Two of these were found dead on the 27th, but the other one was successfully reared, leaving the nest on the 5th August. Five days after leaving the nest this one was fending for itself. This is the first time these birds have been bred here, and I hope now that they have started they will continue to breed.

CALIFORNIAN QUAIL (*Lophortyx californicus*). One pair of these pretty birds laid nine eggs and were then disturbed by a pair of Madagascar Partridges. Some time later another nest was found containing nineteen eggs. All these hatched out on the 29th June. Three were found drowned next day, four mysteriously disappeared, but the other twelve were successfully reared. Another pair laid in all sixty-eight eggs, but no nest was made, and the eggs were laid all over the place. These eggs were collected and placed under a Bantam, but a mole upset the nest just before the eggs were due to hatch. Another lot was placed in an incubator, but this also was a failure. Although a good many chicks were hatched none of them would feed.

WHITE-WINGED WYDAH (*Coliuspasser albonotata*). Several nests were built by these birds, and every one contained eggs, but only three lots were hatched out. All young disappeared after a few days. There are too many of these birds together to hope for any success.

ORANGE-HEADED GROUND THRUSH (*Geocichla citrina*). Although I have two pairs of these birds only one pair nested. Two eggs were laid by the 6th July and one young one was hatched out on the 19th. The other egg was infertile. The young bird was thrown out of the nest later in the day. No further attempt was made at nesting.

LONG-TAILED GRASSFINCH (*Poephila acuticauda*). There are five of these birds together in an aviary with all kinds of small Waxbills and Finches. Although several nests were constructed and numerous eggs laid, no attempt was made at incubating.

WHITE-CRESTED JAY THRUSH (*Garrulax diardi*). These birds have again been very disappointing. Although they hatched off

several young ones, on no occasion would they feed them. They were always thrown out of the nest, and the parents started building again.

TAMBOURINE DOVES (*Tympanistria tympanistria*). Three pairs of these doves nested here, and on five or six occasions hatched off young, but unfortunately none were successfully reared. In every case when the young were from ten to fourteen days old they tried to leave the nest, and were killed in dropping from the nest to the floor of the aviary shelter.

A hen GREEN SINGING FINCH, mated to a cock Alario Finch, nested three times, and laid in all ten eggs. All were infertile.

CAPE CANARY (*Scrinus canicollis*). A pair of these birds built a nest resembling a linnet's nest in a box bush. Two eggs were laid. One was broken, but the other one was hatched, and the young left the nest at the end of May. Further attempts at nesting were spoilt by other birds in the aviary destroying the nests.

CHINESE PAINTED QUAIL (*Excalfactoria chinensis*). Although no nests were made, several eggs were found in different places in the aviary. We made a rough nest for them, but we could not induce the birds to enter it and incubate the eggs we had placed in it.

QUEEN ALEXANDRA'S PARRAKEET (*Polytelis alexandra*). The old pair laid five eggs by the 12th April, and three young were hatched out by the 25th. One was found dead three days later, and another one died when twelve days old. The third one was reared, leaving the nest on the 5th June. The cock bird, which had been removed during the incubation and rearing of the young, was returned to the aviary. They nested again and four eggs were laid by the 30th June. One young hatched out on the 14th July, two eggs contained dead chicks, and the fourth egg was infertile. The young one left the nest on the 20th August. It is a fine healthy bird. Another pair in another aviary went to nest, laying six eggs by the 25th April, and two young were hatched out by the 7th May. Both young were found dead three days later, and the other four eggs were infertile. The above pair were bred here in 1931. These birds again laid six eggs by the 30th May, but all of these

were infertile. They went to nest a third time, again laying six eggs. Unfortunately all these eggs were broken by the cock bird. Another pair of these lovely Parrakeets, that were bred here in 1932, went to nest, and two eggs were laid by the 2nd June. Neither of these hatched out, although both contained chicks. Two more eggs were laid by the 9th July, both of which were infertile.

RING-NECKED PARRAKEET (*Psittacula krameri*). A lutino hen, mated to a green cock, laid four eggs by the 27th March. One young was hatched out by the 21st April, the other three eggs were infertile. The young was fully reared. Another lutino hen, mated to a green male, laid three eggs by the 2nd April, and two young ones were hatched out on the 30th April, the third egg being infertile. When these two young were fully reared and were about to leave the nest they came to an untimely end through a swarm of bees getting into the nest-box. An account of this appeared in an earlier Magazine last year. Both these young birds were the healthiest I have ever bred. A third pair of Ring-necks, both lutinos, laid four eggs. All contained dead chicks. Four more eggs were laid by the 5th May, and one young hatched out on the 2nd June. Expectations ran high, whether it would be as yellow as the parents, and would it be reared, and enable it to be recorded that a lutino had been bred here at last. Another disappointment was in store, as it turned out to be a green and, although it appeared quite healthy in the nest, it had only left the nest three days when it died of rickets. This pair, both lutinos, have never reared a young one yet that was strong and healthy. In fact, this was the only one reared, as all the other eggs had dead chicks in them. A hen Ring-necked Parrakeet mated to a cock Alexandrine × Ring-neck hybrid, laid five eggs by the 28th March, and three young were hatched out by 21st April. These left the nest on 16th June. They appear to be a trifle bigger than Ring-necked Parrakeets.

ALEXANDRINE PARRAKEET (*Psittacula nipalensis*). The old blue cock was paired to his own daughter, and the first egg was laid on the 2nd March. Three eggs were laid in all. Two of these were infertile, and the third one contained a partly-formed chick.

Another pair of these, both blue bred, laid two eggs by the 27th March, but would not incubate, so the eggs were removed and placed under a Ring-necked Parrakeet. Both eggs were infertile. I don't think these birds are old enough to breed, and hope they will be better next year. This pair again laid three eggs by the 13th April, and one young one was hatched out on the 13th May. This was unfortunately found dead the next day. The other eggs contained dead chicks. Another pair of these Parrakeets, both lutinos, went to nest, and three eggs were laid by the 23rd January. All were infertile. They again laid three eggs by the 20th March, and one young was hatched out on the 21st April. This was found dead the next day, buried underneath the peat moss in the nest-box, and the other two eggs were infertile. Another pair, both green, laid four eggs by the 5th February, and three young ones were hatched out by the 12th March. One young one was found dead on the 17th, and the other two were found to have been brutally murdered the next day, apparently the work of the parents, as nothing else can get into the aviary. They again went to nest, and four more eggs were laid, and three of these were hatched out by the 7th May. One young was found dead the next day, the other two were reared, leaving the nest on the 16th July.

BARRABAND'S PARRAKEET (*Polytelis swainsoni*). These birds have been most disappointing, as, although five young were hatched by the 24th April, two died two days later, the other three were looking splendid and being fed well for eight days, but for some reason the parents gave up feeding and two young were found dead on the 13th April. The remaining one was taken away and hand reared. They again went to nest, and three eggs were laid by the 31st May, but the birds would not incubate them.

MALABAR PARRAKEET (*P. peristeroides*). Three eggs were laid by the 16th April, and two young were hatched out on the 15th May. The third egg was broken. One young left the nest on the 1st July, and the other two days later, both being extremely fine healthy birds.

DERBYAN PARRAKEET (*P. derbyana*). One young was successfully

reared. This being the first Derbyan reared in Europe. A report concerning this appeared in the Magazine last year.

LAYARD'S PARRAKEET (*P. calthropæ*). The cock bird appears to be sterile as altogether nine eggs were laid. None of them was fertile.

TURQUOISINE PARRAKEET (*Neophema pulchella*). Four eggs were laid by 20th June. Two were found broken three days later, one was infertile, and the fourth contained a dead chick.

ELEGANT PARRAKEET (*N. elegans*). The old pair that bred here last year did not have any fertile eggs this year, although three separate clutches were laid. Another pair, the male which was bred here in 1932 was paired to a hen that has been here some years, laid four eggs by the 29th April. All the eggs were broken ten days later.

In the animal enclosure I was successful in rearing the following birds:—

WHITE PEAFOWL. Eight.

MANDARIN DUCK. Twenty were reared by full-winged birds in the nest-boxes put up for them in trees.

MANED GEESE. Four were reared.

MADAGASCAR WHITE-BACKED DUCK. This pair of birds had two nests. One young reared out of the first clutch, and four out of the second clutch.

A good many CAROLINAS, MELLER'S, BAHAMAS, and CHESTNUT-BREADED DUCK were reared. A pure white BAHAMA was also reared.

BLACK-NECKED SWANS did not nest.

CRANE. One SARUS CRANE was reared by the full-winged pair about half a mile from the enclosure. Young one was brought into the enclosure by the parents as soon as it could fly. I have eight of these lovely birds full-winged now.

Hundreds of CHUKOR PARTRIDGES and JUNGLE FOWL were reared at liberty, also a good many pheasants.

The amount of failures in the above list is most disheartening, but on the other hand success is all the more appreciated when something out of the way is reared.

## REVIEW

## ISLAND LIFE

Skokholm is one of three or four small islands situated just off the coast of Pembrokeshire, washed by the Atlantic and often unapproachable for days together when the sea is unkind. It is the home of Choughs and Ravens, Puffins, Shearwaters, Guillemots, Razorbills, and Stormy Petrels, not to mention seals and rabbits. In spring and autumn it is the resting-place of many migrants. Once thoroughly farmed, it had been left untilled for years, until in fact its present owner discovered and acquired it. Its house was restored, a garden formed, and now the owner, his wife, and baby daughter find it a fascinating home. It would not perhaps be everybody's choice, but the owner and his wife, being true naturalists, find the life there all they could wish.

In *Island Life* (H. F. & G. Witherby, 7s. 6d. net) Mr. Lockley describes this life with great charm, while his wife's sketches, the work of no mean artist, add greatly to its value, as do a fine series of photographs. This is a sequel to a former book by the same author entitled *Dream Days*, which those who read the sequel will wish to obtain also. We can only say that *Island Days* will give those who read it a few hours of very great enjoyment, especially if they possess a love of wild nature.

## OBITUARY

## GERARD HUDSON GURNEY

It is with deep regret that we have to record the death of Mr. Gerard Gurney, of Keswick Hall, Norwich, which took place there on 18th May.

Mr. Gurney was an enthusiastic and successful aviculturist and a very good all-round ornithologist as his father and grandfather had been before him. His grandfather had a world-wide knowledge of the raptorial birds and founded the wonderful collection of Birds of Prey in the Norwich Museum, while his father, who died in 1922, was the greatest authority on the Birds of the Eastern Counties.

Mr. Gerard Gurney joined the Avicultural Society in 1918 and since then has published many valuable papers in our journal. He possessed magnificent aviaries at Keswick and a splendid collection of rare birds, and, although always delicate, his untimely death at the age of 54, has come as a great shock to all who knew him.

Our members will wish to tender their sincerest sympathy to his mother in the loss of her only son.

## CORRESPONDENCE, NOTES, ETC.

### MY AVIARIES

Standing high above Mylor Creek and on sloping ground, the aviaries are three in number. I enclose photographs of two; the third one above Block "B" is impossible to photograph owing to a good-sized fruit garden on one side, a hedge of yew-trees, and only a path and rockery dividing it from Block "B".

Block "A" has six separate divisions, which are at present occupied by (1) pair of Japanese Tits, (2) Shamas, (3) odd birds, (4) Yellow-winged Sugar-birds, (5) Peking Robins, (6) Superb Tanagers. The divisions vary from 10 to 12 feet in length and 7 to 10 feet high. All divisions are 6 feet wide, and all shelters fitted with either Vita glass or Windolite, and each block is surrounded with 18 in. and 36 in. galvanized iron sheets, leaving not even a  $\frac{1}{2}$ -in. strip of wood uncovered for mice to scale—mice having been a source of trouble to me last year; the wire-netting is doubled at the back of the galvanized iron sheets and buried a good 18 inches into the ground.

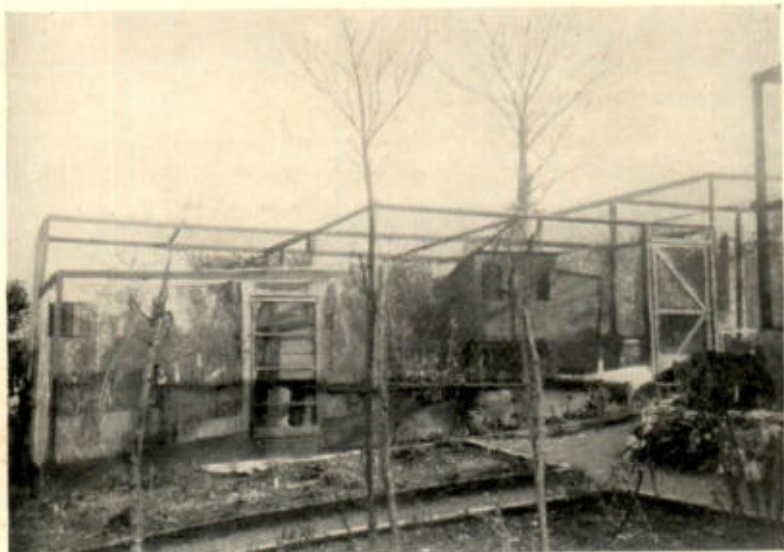
Block "B" is 18 feet square and divided into three divisions from 8 to 10 feet in height, the difference being due to the slope of the ground. In it are housed various Waxbills, Grassfinches, and Munias, also some great favourites of mine, viz. New Zealand *Zosterops* and Rainbow Buntings; the wire of this block is of  $\frac{3}{4}$  in. mesh and a strong gauge, newly wired during the winter, and there is also a safety door.

Block "C" (of which I cannot do a photograph) houses in two divisions a few pairs of Budgerigars, and in a large flight shaped like a letter L (20 and 18 feet and 8 to 10 feet high with shelters at each end) are more very great favourites of mine, and mostly old age pensioners, Whydahs and Weavers mostly ten years old, or, rather, "in my service," a beautiful Scarlet Tanager eight years, and a Persian Bulbul, and an odd hen Peking Robin. A pair of Paradise Whydahs has just had to be replaced.

K. DRAKE.

### SUCCESS WITH GOULDIAN FINCHES

Although not being entirely a novice to Gouldian breeding, perhaps it might be of interest to members to hear that we have had what I rather think to be exceptional results from one pair of Gouldians this season.



A.



B.

MRS. DRAKE'S AVIARIES AT MYLOR, CORNWALL.

The cock bird is an adult red-head, the hen a black-head, bred by us in February, 1933. At the early age of ten months she went to nest, which resulted five weeks later in six absolutely perfect youngsters appearing from the nest.

The young birds were left with the parents until we were quite satisfied that they were capable of fending for themselves when they were removed to separate quarters.

About a month after their removal the hen was sitting again and the second nest produced four youngsters of equal calibre to the first six.

Six weeks ago the birds were still in such perfect condition and free from any signs of moult that we gave them their nesting-box again, and they made a very good start by producing a nest of young, as we could tell by the noise from the nest at feeding time.

It was at this stage that our first troubles of the year began. The parents started fighting to such an extent that all thoughts of feeding the young became secondary to their desire to maim each other.

Something had to be done, so we took the cock away. The hen has fed and brought out yet four more of the finest young Gouldians I ever wish to see. Amongst the total of fourteen youngsters not one has ever looked back, and the first signs of rough feather has just started with the moult of the first two broods towards adult plumage, although their health is perfect.

A. C. FURNER.

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## PHEASANTS

Regarding the communication from Mr. P. W. Teague regarding the age of Silver Pheasants. I have a Golden Amherst Hybrid cock which I bred in 1920. When about three weeks old, one of its legs was accidentally broken in moving a coop. I was just about to screw its neck, when a friend who happened to be with me at the time suggested putting it in splints. This we did and the bird recovered and grew into a very fine Pheasant, but during the last few years it has walked with a slight limp, no doubt due to the effect of the early fracture. This Pheasant is quite a pet and practically tame. On several occasions, when I have been short of aviary room, I have put it in the poultry run. I have also had it loose in the garden but, on account of cats, I now keep it permanently in an aviary. This bird seems to get better plumage every year, and has now an enormous tail.

An extraordinary thing about Golden and Amherst Pheasants is their liking for snow. During the very heavy snow-storm last year, I went out one night, and found all the Golden and Amherst Pheasants sleeping out in the snow. I went to pick them up for dead, but found they were quite lively, and they seemed to be none the worse for it next day.

Regarding a cross between the Silver Pheasant and the Golden Pheasant. I think this is a very extraordinary cross, although I have heard of it once before. Mr. Irving, of Belfast, has a cross between a Reeves and a Swinhoe, which is the first I have ever heard of.

I bred last year a cross between a Golden Pheasant cock, and a Game Bantam hen. This cross is a beautifully shaped bird, and walks with great style. The most remarkable thing about it is that it is bigger than either parent. It also seems wilder, and I should like to turn it out among the

poultry but I am afraid it would stray. I wonder if any of the readers of the Magazine have had any experience on letting these Hybrids between Domestic Fowls and Pheasants run loose.

If your correspondent of Sydney, Australia, will write me, I will find him some literature on Pheasant keeping.

It may be interesting to readers to know that there are more people keeping fancy Pheasants now than ever before. No doubt all this is due to the persistent efforts of Mr. P. Lambert. Thousands of people interested in birds have never seen any of the rarer kinds of Pheasants, but if they saw them and could only be convinced that they required very little attention and were hardy, they would take them up at once.

G. BEEVER.

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### THE VALUE OF VITAMINS

Now that, owing to the difficulty of procuring fresh stock, the breeding of aviary birds is becoming more important than it used to be, it is worth while to follow up the latest scientific data about the foods at our command.

Investigation indicates that the vitamin contents of the various foods is of greater importance to breeding stock than it was generally given credit for, and that Vitamin E is especially necessary in this respect.

I am undertaking here a series of experiments with this ingredient in the hope of being able to increase the fertility of cage animals and birds, but results would be more conclusive if done on a wide scale, and I wish to suggest that some of the members of the Avicultural Society, who are interested in breeding birds, should also try out the effect of vitamins on their breeding stock. Generally speaking I have found them infinitely superior to chemical mixtures. The quickest and more effective way to stop a case of feather-picking is to give the bird "Radio Malt", manufactured by British Drug Houses, Ltd. This contains Vitamins A, B, and D.

Vitamin E, which is so essential to fertility, is found in several green substances such as bananas, pea-pods, carrots, lettuce, tea, but principally in the germ of wheat. This latter is a by-product in the manufacture of flour. It is probably, as far as health goes, the most important part of the grain, but owing to the fad for white bread it is discarded and given to the fowls, to the detriment of the Nation's manhood. I am trying the effect of this on animals and birds, and perhaps some of your members might do likewise.

A. S. LE SOUEF.

Sydney, N.S.W.

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Wm. Swanwick & Tinsley, Col. London.

Royal Parrot Finch ♂ ♀.  
*Erythrura cyanovirens regia*.  
From a drawing from life by the Hon<sup>ble</sup> Anthony Chaplin.

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THE ROYAL PARROT FINCH  
(*Erythrura regia*)

By WALTER GOODFELLOW

I think the introduction of this beautiful finch to this country is quite a landmark in aviculture. Why it has been so long delayed I don't know unless it is the difficulty and expense in getting to the far-off islands where it lives.

It was first described by Dr. Slater in 1881 from a skin collected by Captain Kenneth Howard, R.N., on the island of Epi in the New Hebrides, and this skin and a spirit specimen are still the only ones in the British Museum. American collectors, however, were out there a few years ago, and got a good series of skins from the type locality and other small islands near by, which together form what is known as the Shepherd Group. It was to these islands Mr. Shaw Mayer and I went.

For a long time I had had this bird in my mind hoping one day to be the first to get it alive, but the great drawback was, that these islands are very poor in bird life, and there was nothing else there to make it worth while in case of failure. Last year when Mr. Mayer returned from New Guinea I found he had been considering the same thing, so we joined forces and set out. I must say though that when we left England it was perhaps more with the intention of going to

New Guinea, but as we had first to go to Australia in either case, we decided to leave it open until we got to Sydney and saw how the boats fitted in. When we found there was one leaving for the New Hebrides in five days we made up our minds to risk it, as it was by no means certain if regias would be in sufficient numbers to pay expenses, and I am afraid they were not.

Vila, the only port in the islands, is some ten days from Sydney, and from there on it is difficult to get to some of the islands, and always with great delay, so if we made a wrong choice much time would be lost and great expense incurred. This is one of the drawbacks in going to the more out of the way small islands, some of which are so unhealthy, and the chance of getting any accommodation at all uncertain, as camping out during six months of the year is quite out of the question owing to the possibility of hurricanes which periodically devastate the islands. Two such occurred last year on the island where we collected, and one last January while we were there, of which more later.

Several species of Parrot Finches inhabit the New Hebrides. I doubt if there is one island without any. Close around the little settlement of Port Vila we saw small flocks of the Blue Faced *E. trichroa* every day feeding on the grass seeds in the coco-nut plantations; and on some of the islands farther north (Ambrym for one) the Blue Collared *E. serena* and the Blue Faced are both to be found. The former of these, also a beautiful bird, was first discovered as far back as 1860 when MacGillivray procured one on the island of Aneyteum right down south. This distribution is rather curious as typical regias also inhabit an island in the Banks Group in the extreme north, while the intervening islands have other subspecies. We thought it best to go to the type locality and get true regias, which after all is the most beautiful of all the Parrot Finches either from the New Hebrides or elsewhere. When in full plumage I think there is no doubt that it is the most beautiful finch known. Gouldians look pale and washed out in comparison with the striking contrast of the scarlet, blue, and green of the regias, and I may as well say here that it seems to be as hardy as any finch known. Out of all ours we only lost three. One of these we had to destroy because of a deformed leg, and the other two escaped in Tahiti on our way home when the cages were being cleaned out

under very difficult conditions. What our birds had to go through and survived only ourselves know. We changed to three boats before we got home, and sometimes this was late at night after the birds had gone to bed. Colon on the Panama Canal was one port where we changed from a French boat to an English one. The cages were lowered by ropes over the side into a launch at 10 o'clock at night, and none too gently either, and then left in the Custom's shed all night on shore. To hear the birds dashing about it seemed as if they would all be fatally injured.

After we arrived at Vila from Sydney our steamer was making a special trip to some of the principal islands, so we took advantage of this to become acquainted with them before deciding on a collecting ground. In this way we visited Malekula where the natives are still cannibals inland, Espiritu Santo, Pentecost, Tangoa, and many others, finally returning to Vila. A week later we embarked on a still smaller boat, indescribably dirty, for our final destination, which we reached after three days. I shall always see the picture in my mind of this beautiful island as we approached it in the early morning through a sea like glass. It rose before us mountainous, and clothed in tropical verdure to its summits, and how we scanned it through our glasses to see if we could detect any open grassy spaces where the finches would be likely to feed, but in vain. The boat only stopped long enough to put us and our baggage ashore and then was off again. Had she stayed longer I really believe after we had been on shore a day we should have re-embarked and chosen another island as this seemed so unpromising. We neither saw any of the finches nor any ground where they would be likely to feed (from our point of view), nor even any suitable grasses, neither did the natives seem to know the birds we were after. It was several days before we could make them understand, and longer before we definitely got its true native name, although we had the assistance of two white traders who spoke the language. We had mentioned the redhead, so they jumped to the conclusion that it was the Cardinal Honey-eater *Myzomelas cardinalis* we wanted and gave its name "susupaumiel". At length after interviewing scores of natives we made them understand, and found the right name, which is "Taputi"; the "u" is pronounced like a double

"o", and means a "grass-plucker". In some of the villages they called it "Taput" without the final "i". When asked where they were to be found, they pointed to the great banyan trees. My experience of other species of the family was that they went in flocks, fed on the ground, and were easy to catch, so we were inclined to think that we might still be on the wrong track, but when they told us the Americans on the yacht "La France" had been after the same bird a few years before, we thought they must be right, as we knew they had collected skins of regias on this island. We found one might live there for months or even years and never see a regia, because after all it is true they live in the tops of trees and feed on fruit. In a way it is practically a fruit-eating finch. Two traders who had lived there for years had never seen the bird or heard of it, neither had the only white woman, the daughter of the pioneer missionary, who was born and brought up on the island and spoke the language like a native. I mention this to show how concealed the birds must be in their tree-tops, and this on an island where the number of species is very small.

There are several kinds of Ficus or Banyan trees growing on the islands, so one or other is never without fruit, and it is on these the regias feed. Some of these trees are simply stupendous, but the one they liked best is called "nambulifer" with the accent on the second syllable, and after that "naïda". The others were not of much consequence so far as their fruits were concerned, and I imagine they only eat them when times were hard. The "nambulifer" was the size of a large cherry, dark maroon on the outside. The birds bite through the rather hard outer flesh to get at the tiny fig-like seeds embedded in a sweet pulp in the centre, which they crack and eat; so it is easy to understand why they have such strong bills for their size. When feeding they pluck a ripe fruit and carry it to a stout branch, where holding it under their strong claws, peck through the outer part until they reach the seeds, and each bird always returned to the same branch it had chosen. By watching this and placing lime there, was the way they were caught. This was tedious work as they were only obtained one by one and sometimes for days together none at all. Of course we had to have native help here, and like all such people, although they were well paid, quickly tired of the work as the

novelty wore off, and left us ; in fact, most of them seemed to think it derogatory to catch birds at all except for food, and laughed at those who did. We never found one man who carried on right through to the end. It was rather surprising how few full plumaged birds were caught. We must have had quite twenty before we got one with a red head, although at the last they were rather more numerous.

We arrived on the island in early December, and some of those caught then still showed the iridescent lumps at the gape, and had more or less yellow bills of the very young birds, so I think they commence to breed in October or even earlier. A nest containing three very young birds was brought in after the first week. This is placed in a fork, or between two branches 30 or more feet above the ground. It is a large domed structure more oblong than round, rather loosely constructed 18 inches deep, with the opening at one end. The materials used in every case were dried grass, dead leaves, fibre, and the curly tendrils of some vine. The whole thing had a very bleached appearance and many of the dead leaves were skeletonized. All over the island grow great thickets of a tall reed-like grass 12 or more feet high which are used by the natives to thatch their houses, and it is the long narrow leaves of these, torn up, which the birds use. The fine fibre had also been stripped out and very freely used. This seemed rather a dangerous material, as a young bird from the first nest had got some of it tightly twisted round a leg bringing the foot up to the thigh, and so completely crippled I had to destroy it. In another nest was one entangled by the wing, which was so badly swollen I thought it would have to go too, but it eventually got all right and now I can't pick the bird out, but it was bad for a long time. The nests have no lining but at the bottom is a loose litter of broken grass and leaves probably caused by the birds shuffling about. It was always difficult to get the young ones out without entirely breaking up the nest, for as I have mentioned before, their feet and claws are very strong, even more pronounced when young, and with these they hold on to anything they can grip, so much so that whenever one was picked up it always brought another with it, either by the head, wing, or leg, and tightly they held them too. The claws were also used freely for climbing about. The opening to the nest was usually fouled by droppings which consisted

old, and all have red heads, but not quite the bright cherry red of adult birds. Some, probably the older ones, are quite bright blue on the back and fore breast. It is not a fact as an American ornithologist states (he was judging only from skins) that they moult straight from the nest plumage to the adult, for the first change is nothing like so bright, nor is the body entirely blue. This can be seen by the pair in the Bird House at the Zoo. Individual birds seem to vary in some particulars as we caught birds still showing the blue nodules at the gape, while some of our hand-reared ones lost them even before they were able to feed alone, and others again still showed them much later. Also the bills turned black in some cases much sooner than in others from the same nest. The hen birds according to the same ornithologist are supposed to have the wings entirely green, while the cock has the wing coverts the same blue as the body, but we are still uncertain if this is quite correct.

On 24th January two young ones were brought to me in the nest which could not have been more than a few hours old. They were so feeble and tiny, barely an inch long, it seemed impossible to do anything with them. They were entirely flesh coloured, body, bill, and legs, and opened a minute oblong mouth with the tips of the bill so slightly developed as to be all but invisible, but the dark crescent marks on the palate and the blue spots at the gape were highly conspicuous. I did my best with them and failed, but they lived for four days.

The island we were on was entirely waterless so far as springs or wells were concerned. The natives depend upon rain water and the birds likewise. Fortunately the rainfall is heavy, but at times they suffer from a shortage.

We found the regias extremely difficult to get on to seed. At one time we thought we might have to bring them home as fruit-eating Finches. It was no good trying to starve them on to it, we did this for several hours first thing every morning, neither would they take soaked seed. For weeks we looked in vain for husks, then after a time a few grains of canary seed were eaten by a few, but not enough to keep them alive. At first we gave them their natural figs cut in half, and these they ate in quantities, but made a dreadful mess of the cages and themselves by throwing the outer red part about which stained everything

crimson. Then we started to take the seedy centres out on the point of a spoon, and mixed it with biscuit and the yolk of hard boiled egg. Hours and hours were spent every day over this until we loathed the very sight of the fruits; moreover the outer part of the "naïda" variety contained an acid which after a time burnt away the skin on the finger-tips until they bled and became extremely painful. We put a native on the job, and at first he rather laughed at the effect of the fruit on us, but after a few days he suffered just the same. We had thought that his fingers would be harder. The regias were very fond of egg, and I think this kept them from falling off in condition. We kept up this egg and biscuit even after they had taken well to seed, so we landed here without one weak or thin bird. After we had left the islands and could get apples, we gave them some every day, and greatly they enjoyed it, and lettuce also.

Unless one has great patience, and is prepared to stay on the islands until the birds are well on to seed, it would be useless to go there for them. We were quite afraid to move out of the reach of the figs, not knowing how the birds would fare when these were suddenly and entirely stopped.

*E. trichroa* and *E. psittacus* certainly feed on grass seeds in a wild state, but I imagine that the species with entirely red heads, such as *pealei*, *cyanovirens*, and *serena* must feed the same as *regia*. Perhaps this is why so few Peale's ever come over, because so few survive until they are eating seed. The other two have not yet been imported, but as neither of them is as beautiful as *regia*, it is hardly worth while bringing them when you can get the other. *Cyanovirens* comes from Samoa, and *pealei* from Fiji.

There is still one more beautiful species to come, that is, *tricolor* from Timor, discovered by Alfred Russell Wallace in 1868. It is a green bird with the face and the whole of the breast blue. It seems very desirable, and I have no doubt it is a grass feeder as Timor has much open grass country. I have landed on the island, but never collected there.

I mentioned how the New Hebrides are subjected to hurricanes and that in January it was our ill luck to experience one. For more than two weeks before we had constant high winds often reaching gale force and gloomy skies. Later, as the wind grew still stronger, came

torrential rains without ceasing day or night. It seemed impossible to imagine so much rain, just as if a sea was overhead, so solidly it came down, and one began to wonder if the sun would ever shine again. The wind still increased until it reached the peak which lasted more than a day. The palms bent nearly double, and many snapped in two, while large branches were falling from other trees all around. Nearly all leaves were stripped off, and the noise and chaos bewildering. I was alone at the time, living in a ramshackle iron shanty anything but watertight at the best of times, and two miles from the nearest village. Mr. Mayer was away weatherbound on a small island off the coast unable to return. During the two worst nights I got a native to come and stay with me as I was afraid if the place went I should be unable to cope with things single handed. The natives were anxious for me to remove to the village, but for many reasons it was impracticable, as in the first place I doubt if we could have got even the cages through the storm. Some of the men spent the daylight hours with me, and with tree trunks and heavy chains strengthened the place as much as possible, but most of them were occupied in looking after their own places. Everywhere inside was a foot deep in mud and water, with bed and everything else wet through. Cooking was mostly out of the question as fires were hard to keep alight. How I looked after the birds I don't know, for they were not yet eating seed, and fruits were impossible to get. Egg and biscuit was about all they had, and even this under very difficult conditions. I used to wonder how the birds were faring outside, for it seemed impossible that any could live through it. A young *Zosterop* was picked up near the house, blown from the nest, which I managed to save and rear. The regias must have suffered, as all the ripe figs were stripped from the trees and lay rotten on the ground. After the hurricane had died down I saw many boys pass by with bunches of dead birds they had picked up. Yet after all this, just a week later, I had the two youngest regias I have mentioned brought to me, so their nest had escaped, and the parent birds must have sat through it all and hatched out the eggs.

These hurricanes must do considerable damage to bird life throughout the islands. It was days later before we began to hear again the

beautiful notes of the Honey-eaters and the screeching of the Lories, but I thought not so freely as before.

At the same time I was hand-rearing the young regias I also brought up successfully sixteen *Zosterops* of two species *Z. flavifrons* and *Z. griseinota*. Some of these were very newly hatched when brought in, but all lived, and also four Massena's Lories, *Trichoglossus massena*. The *Zosterops* were reared on that invaluable fruit papaya (called in some parts pawpaw) and the yolk of hard-boiled egg, while the Lories, of course, were brought up on the sweet milk mixture.

Now we have introduced the Royal Parrot Finch over here, it remains to be seen who will be the first to breed it, and I hope it will be long before the present stock dies out.

## ON BREEDING BLACKBIRDS FOR COLOUR

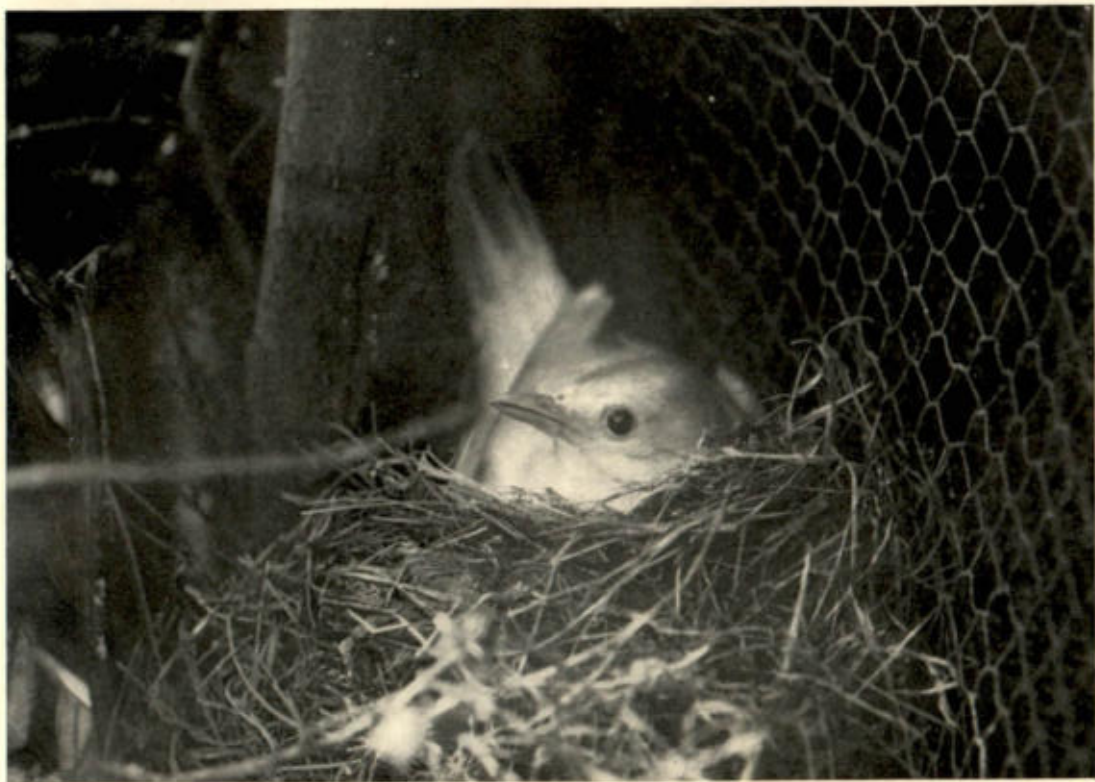
By Mrs. FLORENCE VEREY

Now that the Protection of Birds Act comes into force, many British bird fanciers will be breeding their own birds. As I have already been breeding and rearing for several seasons, my experiences may be useful or interesting.

I have bred Bullfinches for two or three years and have one aviary-bred cock put up with a wild hen now, and am also hoping to breed Linnets and Goldfinches; but as there has been lately a most interesting article on Bullfinches in the AVICULTURAL MAGAZINE, I shall confine myself to my experience of breeding Blackbirds.

Three years ago Mr. Watts, a well-known local bird-fancier and veterinary surgeon, found a Blackbird's nest in his hedge with two strange looking young nearly ready to fly. They were raided by a cat, but he was fortunately able to rescue one which he presented to me, and I finished it by hand, using Spratt's C.L.O., sieved flies, chopped earthworms, and a little egg-yolk now and again.

This bird, a hen. I named Mistletoe. She is a very pale creamy white cinnamon, or light biscuit colour, with greyish underfluff, pink eyes, yellow bill, and pink feet and legs.



[To face p. 182.

CINNAMON HEN BLACKBIRD, "MISTLETOE" ON FIVE EGGS. JUNE, 1934.  
A cinnamon, slightly darker than herself, left the nest 17th June.

In her first season, 1932, she was mated to a normal cock which, although already paired, left his own wife for the blonde beauty.

Three clutches were laid, all infertile. The hen was very fat, her wing having been injured by the cat, and having insufficient exercise. I built a large enclosure with natural grass, trees and bushes, where she wintered into perfect condition, nested early, and hatched four young, all normal, all reared. In three weeks another nest with six eggs was completed, all hatched, two died, one being a cinnamon. The other four had all greyish bars across the tails, one cock having grey barred flights, and the other a cream feather on the shoulder. Third nest, three eggs, one broken, two normal birds reared. So that in 1933 this hen reared ten young, six cocks and four hens, and lost two, one being a cinnamon.

I am now trying inbreeding to endeavour to fix the cinnamon strain. The old hen is mated to the young cock with the barred tail and shoulder mark. She hatched two young from three eggs on Easter day. One very pale and one dark. The former died at six days and the other left the nest in stormy weather and died of exposure. At this time I was most extraordinarily fortunate in being given a nestling of precisely the same shade as my old hen, and although quite four days younger than the chick in the nest, I put it under Mistletoe, who did not resent it, though very surprised, and took charge of the baby, both cock and hen feeding it most carefully. It was very pleasing to see how much care they took that the older nestling should have no undue advantage over the smaller and weaker chick. I left it with them for four days, and then took it in to finish by hand, when the other chick died. It is now a very fine well-grown youngster. It was given to me by a member of our local society, Mr. Drew, who, fortunately for me, knew how anxious I was for another bird of that colour.

Mistletoe nested again very quickly, building her nest and laying two eggs within 26 hours from the time I took the cinnamon away. She laid five in all. Three hatched, one died, one cinnamon and one normal doing well. At the time of writing they are seven days old. A very interesting incident occurred which shows the homing instinct of birds very strongly. I took a pair of ordinary Blackbirds that I had bred from for experience in 1933, the hen being hand-reared in 1932,

and released them in woodlands some 10 miles away, and a little later the old cock who had been caged nearly two years was also given his liberty about 14 miles away. These birds all returned, and I took both cocks back into the aviary during the bad weather, and then let them out again. The old cock became such a nuisance trying to find his way in that I was obliged to put him in a box cage. I then sent him from here, that is Bournemouth, to Haslemere and released him there. He came back the same night. The hen is very tame. She is rearing her second nest at liberty and will allow me to touch her.

To return to my line-breeding: the other 1933 cock from the second nest has been mated to a light-coloured hen from the same nest. She hatched two out of four eggs, one, a pale cinnamon, died at four days, one normal died at about a week. Another pair had a nest of three eggs set clear and have laid again. The eggs are now due to hatch.

These birds are, of course, kept in separate aviaries, as they fight desperately.

I make a staple food of Spiller's Saval No. 1 (2 lb.), 1 lb. dried flies,  $\frac{1}{2}$  lb. ants' eggs. This food seems to suit any softbill. It can be varied very greatly. Spratt's C.L.O. food is better than the Saval when hand-rearing, and for very young birds I usually sieve the flies. I sometimes use milk and sometimes "scrambled" egg. Grated cheese is much appreciated, but I use it with caution. Fruit, currants, etc., are good occasionally. Blackbirds' nests are made of rough grass, roots, and mud. The hen takes large lumps of mud in her beak, dips it in water and then pushes it vigorously into the sides and bottom of the nest, working it smooth with her breast and feet, lining it afterwards with finer grass.

When she leaves the nest for a few minutes the cock either sits on the nest himself or stands guard till she returns. They are most particular over sanitary arrangements, no trace of any offal being allowed in the neighbourhood of the nest. The parents eat the excreta for about 12 days and later carry it away.

These inbred birds are very delicate and so far none have been completely reared. At present the old hen has two, about one week old, one of them being practically white. If I rear one I shall be extremely fortunate.

## SOME PROBLEMS OF MORTALITY

By THE MARQUESS OF TAVISTOCK

This article, in spite of its title, is neither religious nor philosophical ; it merely attempts to delve further into the question of why birds die and why they don't !

It is the belief of some students of human disease and also of certain livestock breeders whose wide experience entitles their opinions to respect that a *perfectly* healthy creature cannot succumb to an attack by internal parasites or bacteria ; something must have happened to lower its vitality before these enemies can gain a foothold. That there is a considerable amount of truth in this theory may be conceded straight away. Anyone with experience in keeping the larger herbivora on pasture learns that many animals will become infested with parasitic worms and soon sicken and die if fed only on hay and grass, but will remain perfectly healthy and free from parasites if they receive an ample and well balanced corn ration in addition. Even an inexperienced beginner in aviculture, moreover, is well aware that certain foreign birds, when acclimatized, can stand our severest winters, but it would nevertheless be folly to turn a newly imported example of the same species into the open during inclement weather.

But the " perfect health " idea, attractive as it is in theory, has certain limitations in practice, for a bird may have all the recognizable symptoms of perfect health and yet be in a condition at any moment to be attacked by fatal illness.

I have already in previous articles called attention to the fact that, with identical feeding, housing, and general management, birds of a certain species—sometimes even the same individuals—will do well in one district and badly in another. It would, indeed, be helpful to aviculturalists if some kind of geographical chart could gradually be drawn up showing the districts suitable and unsuitable for different species, information being derived only from the experience of people who, if they met with failure in one district, had proved, by their success in another, that their aviary management was not the cause of their losses.

For the most reliable indications of good health in birds we look to

perfection in the colour and texture of plumage, liveliness, and a readiness to breed at the appropriate (or inappropriate!) season. If the "perfect health" theory were free from snags of any kind, the more perfect a bird's plumage and the livelier its demeanour, the less liable that bird should be to sudden attacks of illness. Unfortunately, however, I have not the slightest hesitation in saying that it does not always work out in this way: by good aviary management you can get a bird into the most perfect show condition in a bad district for its species and yet at any moment you may find it fatally ill; and not only that; your fellow-aviculturalist living in another district favourable to the species may be keeping the same kind of bird and, by reason of inferior aviary management, his stock may never be a patch on yours in looks and beauty of plumage, and yet his shabby specimens will be alive years after the last of yours have gone to a better world—which is the most unkindest cut of all, but is nevertheless a fact of common occurrence! Lest the reader should think that I may be unduly prejudiced in favour of my own birds and that a more impartial observer would not detect inferior condition in the longer-lived specimens in other collections, I may add that in different districts but in the same aviaries I have been successful in getting a species of bird into equally perfect show condition, but in the one place it was always short-lived and liable to sudden illness and in another gave no trouble at all.

Occasionally a bird, after years of perfect health in one place, will start getting ill every time you put it back in the aviary where it has flourished so long; yet if sent to another district it may regain its freedom from illness. Occasionally, too, though much more rarely, a bird, after a series of illnesses, will enter on a period of immunity in the very place where it was always going wrong. In all these cases I am speaking only of acclimatized birds in what appears to be perfect condition and plumage.

There is an unexplored and probably important field of research in the direction of finding out whether any system of dieting can reduce liability to disease. It is said that among domestic poultry fowls getting an adequate iodine ration are markedly less liable to disease than those whose diet is deficient in iodine.

It is interesting to hear the experiences—often profoundly different from our own—of aviculturalists living in Australia or California. Birds that we find hardy they often find extremely difficult. I cannot resist the conclusion that aviculture in such countries is working under an *immense* handicap owing to the lack of experienced post mortem examiners and post mortem work. If such work were undertaken in competent hands I believe many people would be surprised at the result—and also greatly helped.

What puzzles me most is the reputation for delicacy in confinement earned in Australia by such Parrakeets as Crimson-wings and Mealy Rosellas. There is, I think, a widespread belief that change of diet is at the root of the trouble. Now when it is a question of accustoming a bird whose natural diet is live insects, or even a particular kind of nectar, to a totally different artificial food, I can understand that there may be a probability of serious digestive disturbances, but frankly I cannot believe that a seed and fruit-eating Parrakeet which in this country need never suffer from digestive trouble can in Australia perish wholesale when put on a diet on which in this country it can rear its young successfully and (if given the right nest) invariably, from the tenderest age. Of course, one can imagine a wild bird being too terrified to feed at all in confinement and dying of sheer starvation, and for this reason I can understand the deaths from paralysis of newly-caught Barrabands, for the most acclimatized of Barrabands is liable to paralysis if it starts to feed voraciously after a period of starvation due to *any* cause other than illness. I have had cases of paralysis in Barrabands that strayed when at liberty and were returned half-starved, and paralysis has occurred a few days after arrival in young Barrabands bred by me and sent to American aviculturalists, it being the custom of American railway attendants to neglect to feed the birds entrusted to their care for long journeys. But the curious thing is that the mortality complained of does not usually occur among birds that are refusing food, and, although I write in great ignorance of local conditions, it will take a lot to convince me that these mysterious deaths are due to anything more than germ infection due to lack of proper care and cleanliness in the trappers' outfit. Transport is probably a matter of difficulty, and I can imagine the birds being

crammed into small and overcrowded boxes with no proper cleaning of floors or perches. Perhaps the same boxes may be used for trip after trip to avoid the bother of making new ones. In a hot climate a few hours in an insanitary and infected box is enough to seal the fate of any susceptible Parrakeet, and as the period of incubation of the disease varies, it is perfectly easy to buy birds that *look* perfectly healthy and yet find them drop off one by one a few days later. An inexperienced person, or one who cannot ascertain the exact cause of death, will attribute his losses to change of diet or to the bird's natural delicacy or cussedness, but if you have had experience—as I did in pre-war days—of a real good septic fever outbreak due to the primitive sanitation of dealers' shops and travelling cages, you will know in what direction to look for the true cause of your troubles!

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## THE BREEDING OF THE CAROLINA MOURNING DOVE

(*Zenaidura macroura carolinensis*)

By Captain H. S. STOKES

Mr. Rogers sent me this pair of Doves early in March from an importation just received. According to Mr. Newman in *Aviculture*, there appear to be more than one race of this Dove, and I have no means of knowing exactly where mine came from, but the description he gives seems to fit my birds. They are greyish-brown with purple reflections on the neck and a dash of mauve on the breast. And they have a black spot behind the eye and on the wing coverts, and a graduated tail, the centre feathers rather pointed at the end. My pair were rather rough in plumage on arrival but very quickly improved in a warm flight. There were no nest boxes indoors, but the very first day they were let outdoors they started to explore an open-sided box filled with bracken, and quickly built a small nest of twigs in it.

So far as we know only one egg was laid, certainly only one was incubated, but I am sure the normal clutch must be two. I cannot state the period of incubation, but a well-grown and feathered young

one left the nest on May 11th, and seemed surprisingly steady and sensible. This species is recorded by Dr. Hopkinson as having been bred in America, but this would appear to be the first occasion of its nesting in England. There is nothing to my mind particularly attractive about the Mourning Dove: it is sombre in colour and sad of voice.

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## CORRESPONDENCE, NOTES, ETC.

### MR. C. S. WEBB'S COLLECTION

Mr. Webb has recently returned from another collecting trip to North-East Tanganyika with examples of the following species of birds:—

- Kenya Crested Guineafowl (*Guttera pucherani*).
- White-eared Barbet (*Buccanodon leucotis kilimense*).
- Mombasu White-browed Robin-Chat (*Cossypha heuglini intermedia*).
- Red-capped Robin-Chat (*Cossypha natalensis*).
- Usambara White-starred Bush-Robin (*Gogonocichla stellata orientalis*).
- African Golden Oriole (*Oriolus auratus notatus*).
- Green-headed Oriole (*Oriolus chlorocephalus*).
- European Oriolus (*Oriolus oriolus*).
- Golden-winged Sunbird (*Drepanorhynchus reichenowi*).
- Lesser Bifasciated Sunbird (*Cinnyris bifasciatus microrhynchus*).
- Kenya Buff-breasted Sunbird (*Cinnyris venustus falkensteini*).
- East African Mariqua Sunbird (*Cinnyris mariquensis suahilicus*).
- Usambara Double-collared Sunbird (*Cinnyris mediocris usambaricus*).
- Scarlet-chested Sunbird (*Chalcomitra senegalensis equatorialis*).
- Mombasa Collared Sunbird (*Anthreptes collaris elachior*).
- Utuguru Violet-backed Sunbird (*Anthreptes longuemarei neglectus*).
- Usambara Grey-chin Sunbird (*Anthreptes tephrolaema rubitorques*).
- East African Forest Weaver (*Ploceus bicolor kirsteni*).
- Rufous backed Mannikin (*Spermestes nigriceps nigriceps*).
- Magpie Mannikin (*Amauresthes fringilloides*).
- Usambara Blue-billed Finch (*Spermophaga ruficapilla cana*).
- Red-eyed Crimson-wing (*Cryptospiza reichenowi sanguinolenta*).
- Petero Spotted Waxbill (*Hypargos niveoguttatus*).
- Hartlaubs Spotted Waxbill (*Mandingoa nitidula chubbi*).
- Kenya Firefinch (*Lagonisticta rubricata hildebrandti*).
- Kenya Yellow-bellied Waxbill (*Coccyzygia melanotis kilimensis*).
- Taveta Golden Weaver (*Ploceus aureoflavus castaneiceps*).
- Abyssinian Yellow Bishop (*Euplectes capensis xanthomelas*).
- Red-collared Whydah (*Coliuspasser ardens tietensis*).
- Blue-headed Waxbill (*Uraeginthus cyanocephalus*).
- Tanganyika Melba Finch (*Pytelia melba groti*).
- Purple Grenadier Waxbill (*Granatina ianthinogaster ianthinogaster*).

## THE BLACK MAMBA

I must congratulate Mr. Moore for producing two "Black Mambas". These are very nearly mouse grey. It should have been obvious to any one reading my notes in the January issue that I did not doubt the existence of a dark-coloured Mamba and that I was merely having a "dig" at the many people who circulate untrue or grossly exaggerated stories concerning Mambas. The habits described by Mr. Moore of the "Black" Mamba when attacked by dogs applies equally to large green Mambas. The Mambas in the Zoo became very subdued shortly after being liberated, in the same way that green ones do. As far as I know the venom of the dark variety has never been proved to be more potent than that of the green.

Concerning animal myths and legends in general, Mr. Moore in a previous letter suggests that there is usually something in them, and cites the case of the Okapi. The fact that this animal was discovered in 1900? in a practically unexplored region is no justification for supposing that there are monsters and other queer animals in existence to-day in comparatively settled areas.

A naturalist at heart likes to record things as he sees them, and not be guided by hearsay. To the general public, animal "stories" are greatly appreciated, and they provide the popular Press with excellent copy, and in some cases they are even good for trade as many people living near Loch Ness are aware, but that is no reason why I should believe in them.

C. S. WEBB.

[Interesting as these snakes undoubtedly are, they are hardly a suitable subject for the pages of this journal and, now that Mr. Webb has replied to the criticism on a statement of his in a former number of our Magazine, the discussion must close.—Ed.]

## SUCCESSFUL BREEDING OF THE HOODED PITTA

M. Delacour reports that a pair of Hooded Pittas (*Pitta cucullata*) have nested in his Tropical House and successfully reared one young bird. The parents are now sitting again—on eight eggs. M. Delacour will, we hope, write a full account of this most interesting event in due course.

## NOTES FROM THE ZOOLOGICAL GARDENS

A pair of Australian Black-breasted Plover (*Zonifer tricolor*) have hatched two chicks in the Western Aviary, which are doing well. These birds first nested early in the year, selecting a bare piece of ground in the outside run, scraping but a slight hollow into which was drawn a few pieces of grass. The first clutch of four pyriform olive-grey brown-spotted eggs was damaged by frost, but a second clutch was more successful. The chicks, which could run almost as soon as hatched, are beautiful little things, as all young plovers are, with fluffy black and brown spotted down, and a very conspicuous buff collar on the nape.

The experiment of liberating a number of Indian Cattle Egrets (*Bubulcus coromandus*) from the Zoological Gardens has provided the interesting sight of the flight of these small white herons. They are fond of flying in parties

of six or eight over the wide spaces of Regent's Park, and settling on the grass or on the trees near the lake, returning regularly to the neighbourhood of the Eastern Aviary or Three-island pond for food. In the evenings they visit the Sea Lions' pond for any scraps of fish, and the flies attracted thereby, and they have been accused of poaching lizards from the reptiliary.

Night Herons (*Nycticorax nycticorax*) have bred this year for the third year in succession in the Great Aviary. There are three nests and already three young birds have been successfully reared from one of these. The sites selected have been the large clumps of ivy growing on the central supports.

A specimen of the Pygmy Hermit Humming Bird (*Phaethornis pygmaeus*) was recently exhibited in a separate case in the Tropical House. It is one of the very smallest species, and apparently difficult to keep for any length of time. This one survived for five weeks only, and the body was carefully weighed, turning the scales at 1 gram 400 milligrams, or the exact weight of a threepenny piece.

D. S.-S.

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#### MAGELLAN GOOSE ALLOWS HER EGGS TO COOL

There are so many things relating to bird culture which I'm afraid you Europeans take as a matter of course and therefore do not mention, but which would be most instructive to us Americans, so much younger at bird-raising than you, that I venture to write regarding an experience of mine which seemed rather unusual, and to ask whether any readers of your MAGAZINE have noted a similar procedure.

A few days since on inspecting the eggs of a Magellan Goose, I noted that the shells were just pipped. This was early in the morning while the weather was still cool and damp. The day turned off very hot indeed, and a few hours later I saw the goose walking about with the gander, and she continued to stay with him, away from the nest. This seemed foreign to my usual experience with the variety, as the goose has usually sat most closely while the eggs were hatching. On investigation, I found that the goose had covered the eggs beautifully with her nest down, but had left several small openings, apparently by intent. I infer that, because of the great heat of the day, the goose decided (if geese *do* decide) that the eggs would be better off with a light covering allowing a little air. At any rate, all the eggs have hatched into strong robust goslings, so the treatment must have been effective. I forgot to say that the goose stayed off all day, but sat closely the same evening and through the night, bringing the goslings off about noon the following day.

I have not happened to observe this particular behaviour before, and wonder whether it is usual under like circumstances.

We find it necessary to yard our Magellans away from other geese, as they are extremely vicious, not being excelled in this respect by such varieties as the Spur-winged, Egyptian, Cereopsis, etc. I wonder if any of your readers have some method whereby Magellans and other uncertain tempered varieties can be safely kept in a mixed collection. One must be

philosophical about losses in bird breeding, for there are certain to be at least a few, even under the very best of conditions and care, but preventable losses should not be tolerated and killings by vicious varieties surely come under that head.

C. L. SIBLEY.

SUNNYFIELDS FARM,  
WALLINGFORD, CONN., U.S.A.

[It is not unusual for waterfowl to leave their eggs for hours, especially in warm weather, just before hatching. The safest time to send eggs of Ducks and Geese, intended for hatching, seems to be when they are nearly due to hatch. Then, if wrapped in several layers of cotton-wool, they can safely be sent on a journey of some hours, with the certainty of their hatching successfully. The length of time that they are allowed to cool should not exceed say ten or twelve hours, and the weather should not be too cold.

Magellan Geese are noted for their pugnacity, especially when breeding.—Ed.]

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#### BREEDING MACAWS

The following letter, which hails from Romford, Essex, was written to the Zoological Society:—

I am the owner of two Macaws, one from Granada, which is light blue in colour with golden breast, the other one from Venezuela. One of these birds has recently started to lay eggs, two lots of these eggs contained dead chicks. On the hen-bird's last lay a young Macaw was hatched and is progressing well, it is now over five weeks old. I understand that this is extremely rare, and would esteem it a great favour if you would be so kind as to enlighten me on this point. The two birds are in no way captive, having complete freedom of a large garden, also the house; they are fed on any old scraps. They have a nest of shavings and sawdust in an old coal-shed outside in the garden.

JAMES L. TUKE.

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#### THE REV. KINGSFORD VENNER'S "NOTES"—A CORRECTION

My bad writing was probably responsible for several mistakes in the article you were good enough to publish in the last number of the *MAGAZINE*, the only important one being at the end, where I am made to say that I consider Whydahs and Combassous "the best livers" of all small foreigners. I never said any such thing. I consider most of these birds, especially "paradisea" and even Combassous, anything but long lived. The bird I did refer to was the Orange Bishop, and this grand little species, for cheapness, longevity and general hardiness, stands alone, and when in colour is always a delight. I believe I had my present cock in 1928, and he is just assuming his wonderful flame-like suit of velvet for the umpteenth time.

P. KINGSFORD VENNER.



BRUSH-TURKEY AND MOUND, WHIPSNAD, 1934.

# THE AVICULTURAL MAGAZINE

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## BRUSH-TURKEYS

The Mound-builders of Australia and islands in the vicinity are some of the most interesting of birds, especially as regards their breeding habits, which have frequently been described. The species best known is the Brush-turkey (*Cathetus lathamii*) of Queensland and New South Wales, which not only thrives in this country, but breeds under suitable conditions. On several occasions, in the London Zoological Gardens, young have been successfully reared, but at Whipsnade the conditions are more natural and success should be more certain. A pair kept there in the Wood Lawn Bird Sanctuary have already produced young this year, so a short account of their behaviour may be of interest. As is well-known, the cock bird alone constructs the mound, which he forms by scratching leaves, grass, and sticks from a considerable area to his chosen site, which is always in the partial shade of some tree or bush. He commences early in the spring and continues working during the daylight hours all the spring and early summer. Commencing at some distance from his mound, he continues to throw the material backwards with his powerful feet, until by degrees a large pile is formed. It has been stated that several hens deposit their eggs in the one mound, but from our experience I should say that this is a mistake. However large the enclosure, it is useless to attempt

to keep more than one pair of Brush-turkeys. If there are two or three hens the cock will select one as his mate and kill the others. The mound being ready, the hen will climb to the top, scratch out a hole and deposit one large white egg, which she will quickly proceed to cover up, taking care that it rests in an upright position, the large end at the top. The cock will then drive her off and finish the covering process. A day or two later she will deposit another egg in the same way, and continue until perhaps fifteen or twenty have been safely placed in the mound. The cock bird continues to guard and add to the mound throughout the summer months, driving off all intruders in the form of large birds or mammals. If the day is likely to be hot he will open up the top to prevent the temperature becoming too high, but if the weather is cold he continues to pile on additional material. In five or six weeks, providing all is well, chicks will begin to emerge, and there is little doubt that the cock, by removing some of the material of the mound, helps them to escape from the natural incubator. When they emerge, the chicks are clothed with thick down over their bodies, but their wings are well developed, as they need to be, for they have to fend entirely for themselves. They are driven away from the mound to lead their own lives and find their own living.

The mound used last year by the Whipsnade birds was removed in the winter, and the material weighed. There were five tons of good leaf-mould.

D. S-S.

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## NESTING NOTES ON BRONZE-WING PIGEONS (*Phaps chalcoptera*)

By PROFESSOR CARL NAETHER, B.A., M.A.

The first pair of these beautiful birds I placed in a rather spacious aviary in May of last year. Since they were exceptionally tame, it was a delight to feed and otherwise care for them. Moreover, they lived peacefully with Greenwings, Diamond, and other kinds of doves.

It was not until this year, however, that the Bronze-wing

Pigeons showed any inclination to mate. On 10th January I observed the male in his typical love pose: lowering his head and spreading his wings to disclose to a rather unconcerned female his feathery iridescence. Three days later, the birds began to build a nest with small twigs in a large hanging basket. It was a simple but substantial affair, this first nest. About this time the male Bronze-wing became quite pugnacious, chasing the other occupants of the aviary, including his mate, from corner to corner. Occasionally the female would sit on the nest for short periods of time, but it was not until four days later that she laid her first and rather pointed egg, which she refused to incubate. Often after midnight I heard plainly the low and rather plaintive call of the male, followed at short intervals by his mate's "grunts".

Seemingly displeased with their initial effort at home-making, the Bronze-wings left the first nest exactly four days after the first and only egg was deposited—in order to build afresh. In a secluded, half-dark corner of the aviary they found a suitable box at an approximate height of three and a half feet. On 29th January the hen laid one egg and again refused to sit on it. On 4th February the birds proceeded to build their third nest, in which, again, but one egg was laid, but this time the birds brooded for three days, the cock during the day and the hen during the night. Being very tame and very friendly, the birds hardly took any notice of me when I entered their abode, except occasionally to ask for a bit of hempseed of which they seem extraordinarily fond. This time two eggs were laid, but Mrs. Bronze-wing showed no desire whatever to incubate them. During all these weeks the male was still sounding his low mating note. I placed the eggs in the nest of some other doves, but they were both not fertile. A dealer informed me that this infertility was undoubtedly caused by the birds being a nest-pair, of which assumption, however, I had no proof whatever. However, the breeder from whom the pair was purchased, assured me that infertile eggs were by no means rare among Bronze-wing and other foreign pigeons, especially among young pairs, and that I might confidently expect fertile eggs later on—a prediction which in this case came true.

Thinking that the birds would do better if placed by themselves, I transferred them to a small pen on 16th February. Here they started nesting the following day and soon the hen laid her fourth setting of eggs. Still she would not sit on them. Not until the fifth setting of eggs was deposited—on 18th March—did the birds incubate. On 2nd April, one young was hatched, the other egg containing a chick improperly developed. For twelve days the old birds sat tightly on the nest, taking excellent care of their only youngster. Then they began to seek another nesting site. I placed the half-starved youngster under a pair of pigeons which fed him pigeon milk so that he soon recovered, gaining strength and growing noticeably every day. On the fourth day, however, I found him dead in the nest, his well-feathered little body still warm and his crop well-filled. The man who had assured me that the infertility of the Bronze-wings' eggs was due to their being a nest pair, now informed me that the same trouble—in breeding—was responsible for the death of the young bird, no doubt, a weakling.

Late in May the birds built again—this time an elaborate nest—well-rounded and solid. Both eggs that were soon laid, hatched, though one young died soon afterwards. Faithfully, the old birds have been hovering over their young now for slightly more than two weeks. Yesterday (14th June) morning I found the young Bronze-wing, well-feathered and almost full-grown, on the ground begging his parents for food. They, however, instead of paying attention to their hungry offspring, were calling to each other devotedly. After placing the young bird whose crop was empty back into the nest, I separated the parents in the hope of seeing their youngster fed until he is able to feed himself. If need be, I shall hand-feed the young fellow rather than risk losing him at his age.

The behaviour of the Bronze-wing Pigeons described in the foregoing paragraphs is, I have observed, more or less typical of many other kinds of doves. Thus far, only the African Triangular-spotted Pigeons, the Rufous-wing, and the Diamond Doves have reared their young successfully to maturity. If any

reader of this sketch has evolved an especially successful method of handfeeding delicate young doves or of otherwise preventing the starvation of half-grown young, I should be glad to receive his suggestions as to methods, and kinds of feed employed. It is interesting to observe the enthusiasm with which dealers and breeders in this country assure prospective purchasers that doves will breed freely, never even alluding to their habitual tendency to let their young starve.

LOS ANGELES  
18th June, 1934.

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## NOTES ON NEW ZEALAND BIRDS

BY SYDNEY PORTER

*(Continued from p. 145)*

### THE CORMORANTS

Almost the whole of the entire surface from the water's edge to the tops of the highest mountains in the centre of the island is upholstered with a covering of the densest virgin forest in all its primeval glory. Giant ferns and mosses reach perfection under the shade of the forest giants and one's feet sink down in the soft damp humus of untold centuries. The whole island is indented with vast bays and inlets reaching many miles into the island and resembling great inland lakes. One threads one's way in a yacht or launch through a maze of forest-covered islands, each one a jewel of sub-tropical scenery, through narrow sounds and creeks over still translucent green waters to the heads of the amazingly beautiful fjords. All around are gradually sloping mountains clothed from the water's edge to the topmost summits with the luxuriant forest. Hardly a vestige of rock or earth is visible, for here Nature seems modest of showing her gaunt nakedness.

One is awed by the deep still peace which has reigned over these calm waters since the very beginning of time. Here Penguins, Cormorants, Gulls, and seals fish and desport themselves in the tranquil waters undisturbed and unafraid of man. The

dense almost tropical vegetation shelters many of New Zealand's rarest birds, the great Grey Kiwis, the Wattled Crows, Robins, Fernbirds, and many others which are now almost extinct on the mainland.

Many were the dark and sinister deeds perpetrated by the early sealers and the crews of the old whaling vessels in these quiet waters—but that is another story unfitted for the pages of this Magazine.

Although to the casual observer conditions appear to be the same as they were æons ago, sinister enemies have crept into this sylvan paradise. Rats, cats, etc., introduced many years ago by the crews from the whaling vessels, have fattened and thrived on the feathered prey which they found so plentiful. They have multiplied to an alarming extent and take a very heavy toll of the bird life. This in time will lead to the extermination of certain species such as the South Island Robin, the Wattled Crows, and the South Island Thrush. Introduced deer of several species have done a great deal of damage in destroying the undergrowth.

To get back to the Cormorants, these birds are very conspicuous with their black and white plumage, sitting on the nests with their mates resting beside them. The large nests of sticks, whitened by the droppings of the birds, are built between the forks of the rather sparse branches which the birds have cleared of all foliage. I often wondered how the birds managed to get the first sticks to lie in place. This feat must require a considerable amount of patience and ingenuity on the part of the birds. There is none of the dirt or smell usually associated with Cormorant rookeries when built on the rocks, for the nests being built over the waters, all the droppings and debris are washed away.

All species are exceptionally tame and one can approach within a few feet of the sitting birds. Unfortunately for the birds, nearly all the New Zealand Cormorants are very confiding, and this has been their undoing, for all species are ruthlessly slaughtered around the coasts of New Zealand by the colonists who state that they feed upon large quantities of fish and who want but the slightest excuse for slaying any bird. Before the

coming of the colonists, when the birds were extremely numerous, the seas were teeming with all manner of fish.

People go out in launches, catch fish by the hundred, a great many of them quite inedible, let them die on the bottom of the boat, then throw them back into the water, yet the same people will grudge the Cormorants taking a paltry few for their sustenance. I saw many species of Cormorants, but the most beautiful of all and possibly the most lovely of all the known Cormorants is the Spotted Shag (*Stictocarbo punctatus*), a species once common around the shores of New Zealand, but alas, now comparatively rare, being only found on a few secluded islands. Shortly after I landed in New Zealand I was taken with a small party in a launch to one of the few breeding places of the birds, a single islet in the Hauraki Gulf. There was a small breeding colony in a cave, the nests being made on the sloping sides of rock. The young were almost full grown. In all there must have been about twenty to thirty birds counting the young ones. Unfortunately many of the adults had been maimed by the thoughtless wretches who meander round the islands in the Gulf shooting at every sea bird. Some had broken wings and others hanging legs. The birds are very tame and had we have liked, we could have wiped out the entire colony. We got within a few feet of the birds, which escaped by diving through a hole at the end of the cave and coming out into the open sea. This species is very sedentary, seldom wandering very far from the spot where it first saw the light of day; in fact its powers of flight are feeble at the best. At the present rate it will not be long before this beautiful bird is exterminated, for once a bird comes in competition with man and his food supply, it stands no earthly chance, for then he has an excuse to persecute it with the utmost vigour.

A description of the plumage would be too complicated and would give no idea of the great beauty of the birds, as it differs entirely from the ordinary Cormorants. It is much smaller than the usual Cormorants, and has a slender beak; the head is adorned with two crests, one on the front of the head and the other on the nape, and in the breeding season white filamentous plumes grow from various parts of the plumage.

I was fortunate in seeing, in the waters around Stewart Island, the equally beautiful Blue Shag (*S. steadi*) a bird which was almost exterminated years ago but has since gained ground.

#### THE YELLOW-BREADED TIT (*Petroica macrocephala*)

This charming species is the Southern representative of the White-breasted Tit, and is much more beautiful than the Northern species, having the whole of the breast a delicate sulphur yellow. It seems to me even more friendly than the white-breasted species and can always be found where there are extensive patches of native forest.

I first made the acquaintance of this bird at Mount Cook, many thousands of feet above sea-level. It must be very hardy to withstand the rigours of the very severe winters for it can hardly migrate to lower levels as the only other forest patches which have been left unburnt are either on high snow-capped peaks or many hundreds of miles further south.

It is a strange thing that nearly all the New Zealand birds belong to families found mainly in the tropics and yet the New Zealand representatives are oftentimes found where weather conditions, especially in the winter, are extremely severe. But there is little doubt that the birds feed to a great extent on insects which are in a state of torpor and which lie hidden during the winter months in rolled-up leaves, behind the bark of trees, and in any small crevices in the trees.

The genus *Petroica* to which this bird and its congener belong is much more closely allied to the New Zealand Robins than to the true tits, in fact these so-called tits very closely resemble the Robins in demeanour except that they are more arboreal.

They are tame and friendly, and one has only to imitate their note and in a few minutes a couple are sure to come to within a few feet. The male is always more in evidence than his sombrely coloured mate. After he has paused to satisfy his curiosity he passes on, diligently searching every nook and cranny for small insects upon which this species entirely feed. This bird has never

to my knowledge been kept in captivity but it would doubtless make a delightful pet and be much easier to feed than the ordinary tits. However, there is not the slightest chance of this bird ever being kept in its native country or exported which is really not to be regretted when one thinks how very rare nearly all New Zealand birds are.

#### THE YELLOWHEAD (*Mohoua ochrocephala*)

This very beautiful and striking-looking bird is found only in the large forest patches in the South Island where it goes under the name of "Bush Canary". It is not common and one may consider oneself lucky to come across a party of these active and very inquisitive birds. Like their cousins from the North Island, the Whiteheads, a party will, upon seeing a stranger, at once come round and make an examination, but they do not stay for long, soon passing on through the undergrowth of the forest, searching in a very business-like way for small insects amongst the leaves and clusters of berries. Few birds are more genuinely gregarious than the Whiteheads and Yellowheads. They keep up a continual twitter as they pass along, and this is increased when they see a stranger. One can almost imagine their saying, "Oh, yes, pleased to see you and all that but sorry that we can't stop." No birds struck me as being so systematic as these two species as they hunt for their food through the forest. It is a beautiful sight to see a flock of these brilliant yellow birds passing through the forest, every now and then giving vent to their exceedingly sweet and musical song and adopting every possible attitude in their search for food. I have often noticed Zosterops in association with these birds working in closely united flocks.

There is something finch-like in the build of these birds, but like most of New Zealand's birds, they form a very distinct genus and have no near affinities. I can never understand why, in the olden days when they were plentiful, they were never exported to this country or even kept in their own country, but the chance is now lost for ever.

THE BLACK FANTAIL (*Rhipidura fuliginosa*)

It is a strange thing that most species of New Zealand birds have two forms, one inhabiting the North Island and the other the South Island. Often the South Island species is the brighter of the two as is the case of the two preceding species, but it is not so in this case for this strange gnome-like little bird appears to be a uniform black from a distance.

I wish that I could convey to the reader, the strange and rather eerie impression one gets of these dusky, fairy-like little creatures as they, I was going to say, fly, through the forest, but they do not appear to do that. They seem to float noiselessly about in the gloom of the forests like some strange wraith. They are not a bit bird-like and seem to be the goblins and fairies of one's childhood days, at last come to life. Their aerial evolutions are always most fascinating to watch; their movements are quite effortless. They seem like some huge piece of down blown here and there by every eddying breath of wind, twisting, turning, falling and rising with a grace and airiness unknown to any other bird, the large fan-like tail opening and shutting all the while. It seems as though the force of gravity had no effect on the Fantail.

Never for a second still, most of the Fantail's life is spent in the air in pursuit of minute insects, often invisible to the naked eye. One always knows when he has had a catch by the faint click of the tiny beak as it closes on its prey.

I did not find the Black Fantail nearly as numerous as the Pied. It consorts with its more strikingly coloured relation and is said to interbreed with it, the young being either pied or black, there being no intermediate type. It is also stated that a pair of Black Fantails will have pied offspring, which rather goes to prove that the black species is merely rather a common "sport" or mutant of the pied bird.

The Fantails appear to be all feathers. I never handled one, but I believe the body is very minute, much smaller than that of the Gold-crested Wren. Even the trim little *Zosterops* appear large when compared to these delicate little mites. Like many

other things in Nature the Fantails must be seen to be appreciated, for the written word can never convey to the mind the delicate charm of many a wonderful tropical flower, fish, or bird.

#### THE NEW ZEALAND HARRIER (*Circus approximans*)

This fine hawk is the butt of every so-called "sportsman".

Every man's hand is against the Harrier, not because of any depredations it commits in the poultry yard but just because it is a hawk, and one day, who knows? it might begin to eat the sheep like the Kea, so say the farmers, and it is always best to be on the safe side, and it is a hawk anyhow, and should be killed. But like the English Jay, the relentless persecution has sharpened its wits and it is holding its own. In fact in the plain and tussock country in the South Island it is common, and in a day's travel one sees a great many birds. They are tame and confiding if one has no guns and will hardly bother to move off the roadway when one passes in a car.

This bird feeds mainly, as far as I could see, on carrion, especially on dead rabbits which had been squashed by motors on the roads. Sometimes it feeds on dead sheep and lambs but it no doubt supplements this diet with insects and small weakly birds and mammals. It lacks the strength and swiftness of the other New Zealand hawk and would stand very little chance of catching any swift-winged bird.

The Harrier is doubtless a settler from the shores of Australia for it is quite unsuited to life in the forests with which New Zealand was once covered. Now with the destruction of the forests and the introduction of mammals it is far more at home and has no doubt greatly increased.

Lacking the swift dashing flight of the Falcon, it flies with slow and steady wing beats and is not lacking in grace when once it gets properly on the wing, though the usual "throw off" is very laboured.

These hawks periodically visit the outlying islands of New Zealand but they do little damage where the islands are covered

with forest as they cannot fly through the "bush" owing to the great wing span. But on the islands which are not forested the birds play havoc with the young Petrels and Gulls, and, in fact, any young shore birds. We often used to watch four young Red-billed Gulls on Little Barrier Island. They were delightful creatures; they seemed lonely and rather pathetic. They were quite tame and seemed to know us. Once after an absence of several days we missed them and later came across their remains. I rather think a Harrier was the perpetrator of the deed. But he had no doubt only killed them for food, for hawks do not use sentiment, but we humans who kill birds for the pleasure of the thing would rather think of the Harrier killing and feeding upon rats and the like.

The Harriers differ a great deal in plumage, some being almost black while others are a very pale grey. This I think is merely a question of age, the darker birds being the youngest.

In the last ten years the New Zealand Acclimatization Society have paid a subsidy on the heads of 149,000 hawks and many thousands of others must have been trapped and shot by farmers, of which there is no record. No species can possibly keep up with slaughter for any length of time. It is a strange thing in life how people will try to discover any bad trait in the character of any animal and at once make it an excuse for ceaseless persecution. How few people go out with the avowed object of finding the good characteristics or attributes in an animal's life with the object of saving it.

#### THE NEW ZEALAND FALCON (*Falco novaezeelandiae*)

I saw very little of this beautiful little hawk in a state of freedom for it is now exceedingly scarce and only found in the few large forest reserves. Utterly fearless, it preys upon all manner of birds, even ones which are twice its own bulk, especially poultry, pigeons, etc.; hence it is the anathema of all farmers and poultry keepers who have killed it at every opportunity and very greatly reduced its ranks. Owing to the smallness of the

wings and the swiftness of the flight this bird moves with ease through the dense forests.

I managed to secure a fine adult bird of this species and I was struck by the large and beautiful eyes. It proved quite an intelligent pet and stood the long journey home quite well. It is now in the Zoological Gardens where I hope it will live many years. While in my possession the bird fed mainly on sparrows; mice and minced meat it would eat upon occasion but never unless it was very hungry. This bird had a very loud cry, something like the scream of a parrot, which it usually gave vent to when hungry or excited.

#### THE KAKAPO OR OWL PARROT (*Strigops habroptilus*)

This is one of the few endemic birds which I did not see, though it was the one which I desired to see most of all. Had I not been laid up for some weeks with a poisoned leg I should have been able to have got into the "Sounds" district and doubtless to Resolution Island where the bird is still said to be found.

There is little doubt unfortunately that this bird, the largest and most unique of all parrots is on the highroad to total extinction. Ever since its discovery in 1843 the Kakapo has been the object of ceaseless persecution on the part of collectors, in fact so flooded has the market been with the skins of this bird that the price quoted in a recent catalogue of bird skins was only 7s. 6d. Nearly every museum in New Zealand possesses dozens of skins, a large percentage of the population in the South Island possess at least one stuffed specimen, I even heard of a person who, when the Kakapo was fairly plentiful, fed them to his dogs for meat! Prospectors, roadmen, and hunters were responsible for the slaughter of thousands for food. When at last the bird was protected, stoats, weasels, and cats helped to finish the work of destruction. Now this strange parrot has disappeared from all the districts where it was once plentiful. In the North Island, where it was numerous in the heavily forested mountain districts, it is practically gone, no single specimen being

heard of for many years. In the Sounds district, its last stronghold, it has been reduced to a mere remnant owing to the agency of the introduced carnivorous mammals. The only hope now lies in Resolution Island, where once this bird was common. This island is a sanctuary, but there is no caretaker, and it is not known whether there are weasels or rats on it. I was hoping to visit this island but was unable to afford the necessary time. It seems that no one has been there for many years so that nothing whatever is known about the bird population. Many years ago there was a caretaker there who was commissioned by the Government to capture a limited number of the parrots for the other island sanctuaries. Four birds were liberated on the Little Barrier Island but have not been heard of since. There is little doubt that instead of being liberated in the damp rain forest near the summit, they were set at liberty in the dry manuka forest near the coast where they would speedily die out.

Four more were transferred to Kapiti Island where they do not seem to have increased. Two of these have been seen within recent years, one a very old one and practically blind but which Mr. Wilkinson told me was very fat and in excellent condition. Otherwise there is no trace of them having increased.

In the South Island very few have been seen within recent years. I have questioned many people but they all tell the same tale, that where the Kakapo was once common it is hardly ever seen.

This strange bird is larger in bulk than most other parrots, equalling in size a large Macaw, though with having a comparatively short tail it does not equal them in length. It is of a beautiful light moss green, each feather being mottled with black and yellow. There are facial discs like those of an owl. The feet are large and heavy, eminently suitable for the terrestrial existence which it leads. The whole of its habits are the absolute antithesis of those of the ordinary run of parrots. It is nocturnal and feeds mainly upon mosses, buds, leaves, and berries of the forest shrubs. During the day, it hides in the hollow roots of some forest tree or in a cavity of a fallen log. After dusk has fallen it sets out in search of its food.

Quite wide tracks are made from the sleeping holes to the feeding grounds and old pioneers have told me how surprised they have been at the very large foot-prints made by the birds in the soft earth. With long disuse the muscles of the wings have atrophied and the bird is no longer able to fly. Flight of course was not necessary to this bird, for nearly all its food was obtained from the ground and it had no enemies to contend with. Few birds are stranger or more highly specialized than the Kakapo. Outwardly it bears a resemblance to the owls; it possesses well defined facial discs, it has the soft downy plumage of the owls, and it is one of the very few parrots which are strictly nocturnal. It is said that this bird is a connecting link between the owls and the parrots but this is impossible. The Kakapo has, owing to its nocturnal habits, doubtless taken on some of the superficial characteristics of the owls, otherwise it bears no resemblance to them anatomically.

These birds feed mainly on the mosses which are so plentiful in the New Zealand forests, and for this purpose it was supplied with an exceedingly large crop. Old writers have stated that when this was full the birds were almost unable to move.

In the days of the Maori Wars, between 1850 and 1860, when bands of British soldiers were meandering through most of the forested parts of the North Island killing Maoris and destroying their villages there is little doubt that the bird life must have suffered considerably, especially such large birds as the Kakapos, etc. When the country in the South Island was opened up, the slaughter was terrible, the birds forming the chief article of food for the prospectors and saw millers. Dogs also played great havoc with these birds as they were very easy to track down to their burrows during the day. Being unfit to combat any type of enemy and being very slow breeders (it is said that only one egg is laid every other year) it is easy to understand how the numbers of this bird so quickly diminished.

In the old days the Kakapo was frequently kept in captivity and was occasionally exported to various European Zoos. By all accounts it proved an exceedingly interesting and intelligent pet, especially for a nocturnal bird. It fed largely on various

fruits, roots, buds, and green vegetables. There is but the very remotest chance that the bird will ever be seen in this country again. No stone should be left unturned in using every possible endeavour to preserve this most unique of all the world's birds. If any reader wishes to read the life history of this strange bird I would refer him to Buller, *Birds of New Zealand*, in which is a very lengthy chapter dealing with the habits of this bird.

#### THE NORTH ISLAND THRUSH (*Turnagra tanagra*)

Of New Zealand's two endemic thrushes, one of these, the North Island species, commenced to disappear very soon after the colonization of the country by the white races and a matter of only forty years after it had been made known to science it was reckoned as extinct, the last specimens being obtained in 1900. Since that date it has never been heard of. I have good reason to think that I saw an example of this supposedly extinct bird. It was also seen by another member of our party who verified my statement. I saw the bird twice, both times flying up a hillside. I recognized it at once by being totally different from the introduced thrush, a much bigger bird, a different coloured back, chestnut tail, and thick, heavy beak, but owing to only seeing the bird from above I was unable to see the chief distinguishing feature, the white throat, but I have no doubt in my own mind that it was the bird in question.

Like many of the other New Zealand birds which are called by familiar names, these birds are not thrushes in the true sense of the word, being very distinct and belong to a family confined entirely to New Zealand.

The total disappearance of this fine bird is rather a mystery, but I dare say forest fires, introduced carnivorous mammals, and the inevitable pot hunter did much to hasten its departure from this plane. Sir Walter Buller was perhaps the only person ever to keep this species in captivity and his account is so interesting that I have no hesitation in quoting it in full. He says of this bird: "It was when I obtained a caged Piopio that I first became acquainted with its superior vocal powers. In 1866 I purchased

one for a guinea from a settler in Wellington, in whose possession it had been for a whole year. Although an adult bird when taken, it appeared to have become perfectly reconciled to confinement; but on being placed in a new cage it made strenuous assaults on the wire bars, and persevered until the feathers surrounding its beak were rubbed off and a raw wound exposed. It then desisted for several days; but when the abraded part had fairly healed, it renewed the attempt, and with such determined effort that the fore part of the head was completely disfigured and the life of the bird endangered. On being removed, however, to a spacious compartment of the aviary, it immediately became reconciled to its condition, made no further effort to escape, and for a period of fifteen months (when it came to an untimely end) it continued to exhibit the contentment and sprightliness of a bird in the state of nature.

“ I observed that this bird was always most lively during or immediately preceding a shower of rain. He often astonished me with the power and variety of his notes. Commencing sometimes with the loud strains of the Thrush, he would suddenly change his song to a low flute-note of exquisite sweetness; and then abruptly stopping would give vent to a loud rasping cry, as if mimicking a pair of Australian Magpies confined in the same aviary. During the early morning he emitted at intervals a short flute-note and when alarmed or startled uttered a sharp repeated whistle.

“ This caged bird was generally fed on dry pulse or grain, but he also evinced a great liking for cooked potato and raw meat of all kinds, in fact he appeared to be omnivorous, readily devouring earthworms, insects of all kinds, fruit, berries, green herbs, etc. He was supplied daily with a dish of fresh water, and was accustomed to bathe in it with evident delight. At one time he occupied the same division of the aviary with a pair of Australian Ring-doves which had commenced to breed. The doves were allowed to bring up their first brood in peace, but when the hen bird began to build a second time, she was closely watched by the Piopio, and immediately the first egg was deposited he darted

upon the nest and devoured it. The innocent little Ring-dove continued to lay on in spite of the repeated robbery, and had at length to be placed beyond the reach of her persecutor. During the day the Piopio was unceasingly active and lively; at night he slept on a perch resting on one leg and with the plumage puffed out into the form of a perfectly round ball, the circular outline broken only by the projecting extremities of the wings and tail. Every sound seemed to attract his notice and he betrayed an inquisitiveness of disposition which in the end proved fatal; for having inserted his prying head through an open chink in the partition, it was seized and torn off by a vicious Sparrow-Hawk in the adjoining compartment of the aviary."

Little is known of the wild life of this bird as it had almost disappeared before there was much active interest in the New Zealand bird-life by naturalists. It frequented the undergrowth in the dense forests and was never seen beyond the confines of the thick vegetation. It was of feeble flight and obtained most of its food from the ground which consisted of insects and berries. It was chiefly noted as a fine songster, writers stating that it was the finest vocalist of New Zealand's feather forms.

The South Island species, which differs very considerably from the bird under discussion, is supposed to linger in one or two of the very remote patches of forest which the Government have grudgingly set aside as reserves in the southernmost part of the South Island. I spoke to several people who knew these forest reserves well and spent a considerable time every year in them, but none had ever seen the "Piopio" as it was called by the Maoris, though they did see upon rare occasions the South Island Robin (*Miro australis*).

(To be continued.)

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## SOME NOTES ON A COLLECTING TRIP TO N.E. TANGANYIKA

By C. S. WEBB

The object of this expedition was to collect alive some of the rare and local forms of bird-life which inhabit the forests of the Usambara Mountains in N.E. Tanganyika. The port for this region is Tanga, some six hours south by steamer from Mombasa. It is very pleasantly situated and is opposite the island of Pemba, famed for its cloves. Tanga is the outlet for all the produce of the Mount Kilimanjaro and Mount Meru districts where large quantities of sisal and coffee are grown. Much of the intervening flat country has been cleared of all bush to make way for the monotonous looking sisal plantations and in many places there are large rubber plantations which have been abandoned owing to the unremunerative price of rubber. In both cases this means the disappearance of nearly all bird-life in the areas concerned. The Eastern Usambaras are situated about 35 miles east of Tanga, the highest points being about 4,000 feet, and are covered almost entirely with magnificent evergreen forests. At Amani, 3,000 feet, there is an important government agricultural research station with a large scientific staff, and it was largely owing to their assistance in many ways that I was able to accomplish so much in an otherwise hopeless area to collect in.

The birds in general are more interesting to those concerned with their classification and the study of their habits rather than to the aviculturist, there being numbers of local forms of dull-coloured insectivorous birds which would be quite unattractive in captivity. On the whole birds are distinctly scarce and the limited number of interesting species coupled with the difficult nature of the country makes collecting very difficult indeed. It is almost impossible to go anywhere without a great deal of climbing as there are no flat stretches at all in these mountains and unless one sticks to native footpaths, the undergrowth is very troublesome.

One of the most conspicuous birds in this region is the Silvery-cheeked Hornbill (*Bycanistes cristatus*), a large species which is quite plentiful and can be seen at most times in a large flock. Much has been written about the extraordinary nesting habits of Hornbills, but many interesting details concerning the nesting period have only recently been discovered. With the Silvery-cheeked Hornbill (as with other species) the female is sealed in a cavity in a tree with a muddy substance which sets hard, a slit being left through which the male bird feeds his mate. Recent observations have shown that she remains penned up in this prison for over four months, during which period the eggs are hatched and the young birds become fully fledged, the male bird feeding the whole family. Even when this stage is reached, it is the male which re-opens the cavity and liberates the inmates. It is interesting to note that this is not done until the young are capable of flying strongly. Why this method should be adopted by such large birds with powerful bills, well able to deal with any natural enemies capable of reaching the nesting site, it is difficult to say, but it evidently works very well judging by the numbers of Hornbills in existence. It is not easy to suggest the origin of such a habit; perhaps one of the original Hornbills had a faithless wife or one who could not be bothered with the monotonous duty of hatching eggs and he settled the problem by shutting her up. Anyway nowadays the female is in such a state of subjection that she stays where she is put and in this respect it seems that *Bycanistes cristatus* has succeeded where *Homo sapiens* has failed. I feel sure that this instinct in the Hornbill is so strong that if anything happened to the male, the female would starve to death on the nest instead of liberating herself.

If these birds breed annually as is believed, the poor hen must spend a third of her existence in a sort of prison with hardly room to move. What would happen to the man who treated birds like this in captivity? And yet nature has given her approval of such methods.

These birds when not nesting, return nightly to the same communal roosting place and may be seen crossing the valleys at

a great height returning from distant feeding places late in the evening.

Sunbirds are not numerous in these evergreen forests, there being an insufficient supply of suitable flowers on which to feed. The commonest species is the Olive Sunbird (*Cyanomitra olivacea changamwensis*), a dull green species with yellow pectoral tufts which is highly insectivorous. An interesting species is the Violet-backed Sunbird (*Anthreptes longuemarei neglectus*) which is rather rare and lives in the canopy of the forest and subsists mainly on insects and berries. Another tree-top inhabitant is the Grey-chin Sunbird (*Anthreptes tephrolaema rubritorques*), which is very rare, in fact so far only two skins of this race have been obtained, so I was fortunate in capturing one alive. This species is also highly insectivorous and is one of the most charming Sunbirds I ever possessed, being delightfully tame and very intelligent. The nectar-loving species such as the Scarlet-chested Sunbird (*Chalcomitra senegalensis-aequatorialis*), Kirk's Amethyst Sunbird (*Chalcomitra amethystina kirkii*) and the Little Bifasciated Sunbird (*Cinnyris bifasciatus microrhynchus*) are to be found in the Bush country which surrounds the mountains. The Golden-winged Sunbirds frequent the highest parts of the Western Usambaras at an elevation of about 6,000 feet where there is no evergreen forest and where their favourite food-plant the leonotis, is plentiful. The Double-collared Sunbird (*Cinnyris mediocris usambaricus*), a pretty little species with a bright red breast-band, is also fairly common at this altitude in the scrub forest.

The smallest and one of the most beautiful Sunbirds in the mountains is the Little Collared Sunbird (*Anthreptes collaris elachior*) with its shiny green upper-parts and head, and bright yellow under-parts and blue breast-band. They become exceedingly tame in captivity and soon learn to take small mealworms from the hand. They are somewhat similar to *Zosterops* in habits and have a similar varied diet.

The natives in this region sometimes catch birds with the aid of bird-lime made locally from the sap of certain trees. Birds

caught in this way by people whose last consideration is for the condition of the birds' plumage, are usually in a very bad state and I strongly discouraged this method of capture. I constantly impressed upon the natives that anything brought to me must be uninjured and with undamaged plumage. Being accustomed to their crude methods I was rather surprised to see a native arrive one day with some Sunbirds which were perfect in every detail. It was a mystery to me as they were obviously not caught with lime or snares and I knew that they did not employ nets. The condition of the birds showed that they had all been caught quickly as they showed no signs of hunger which they soon do by puffing out their feathers. My cook boy informed me afterwards that they had been caught with fermented coco-nut water. This is a sweet, clear liquid, which is very intoxicating and had been put into the flowers where the birds fed. Having once tasted this delicious brew, the birds, following a good old Spanish custom, did not think of departing until they were full up. By this time, unfortunately for the birds, they were decidedly under the influence of drink and were easily caught by the natives. This trick is also played on monkeys and baboons, when they become too mischievous in the native plantations, the ordinary coco-nut "milk" being replaced by manufactured coco-nut beer, and when the animals have had "one over the eight" and have become stupid they are promptly attacked and killed with sticks or bows and arrows.

An interesting bird to be found near Amani is the Vulturine Fish Eagle (*Gypohierax angolensis*) which only appears in those parts of Africa where palm-oil fruits are found. This seems rather extraordinary for a Fish Eagle, but the evidence seems conclusive that these fruits are an essential part of the bird's diet, without which it would not survive for very long. Another bird of interest is the Palm Swift (*Tachynautes parvus myochrous*) on account of its peculiar nesting habits. The nest is always attached to a palm leaf and is so small and shallow that it might be called a ledge. The movement of the leaf in a breeze would normally dislodge the eggs but this is overcome by sticking the eggs to the nest with saliva. As these palm leaves are severely

one of the slowest and most laborious tasks I have ever undertaken. Another shy but interesting inhabitant of the undergrowth is the Red-eyed Crimson-wing (*Cryptospiza reichenowi sanguinolenta*), a few of which I was able to capture in nets. Perhaps the most elusive of all the Waxbills is Hartlaub's Spotted Waxbill (*Mandingoa nitidula chubbi*), which is green above and black below, spotted with white, and the male having a red face. These birds are smaller than Peter's Spotted Waxbills and are very shy and rare. They appear to be nomadic and have no partiality for any one spot, and seem to simply wander where the spirit moves them. Although widely distributed very few people have ever seen one, and this was the first occasion on which I had met with this species, and then only one pair, which I was fortunate enough to capture. One of the most charming of all the forest birds is the Forest Weaver (*Ploceus bicolor kirsteni*) which can be heard at most times uttering its sweetly pretty call notes. This striking looking species is entirely insectivorous and arboreal and spends most of its time hunting for insects in a clinging position like the English tits. It is not gregarious and it differs entirely in most of its habits from the ordinary weavers. When breeding they successfully avoid their natural enemies by attaching their nest to an isolated liana which cannot be reached from any side.

Red-capped Robin-Chats (*Cossypha natalensis*) are fairly numerous throughout the forest and Heuglin's Robin-Chats (*Cossypha heuglini*) are to be met with sparingly in more open situations. These latter have a beautiful song, and are altogether very charming birds. One pair which I eventually caught used to visit regularly a patch which I had baited with millet seed for Peter's Spotted Waxbills, thus confirming what I had noticed on previous expeditions that Robin-Chats like to supplement their usual insectivorous diet with a few seeds. The beautiful White starred Bush-Robin is found at higher altitudes and only occurs in the W. Usambaras, where the vegetation is more stunted in growth. The climate at this altitude (6,000 feet) is delightful and bracing, a great contrast to the hot and humid atmosphere of the E. Usambaras, where I did most of my collecting. In the

lower forest regions at the beginning of April there is quite a big influx of the brightly coloured European Orioles, on their migration northwards, and occasionally the South African Oriole (*Oriolus auratus notatus*) can be seen, which can be distinguished in the field by its yellower wings, these being for the most part black in the European species. A different bird entirely is the striking looking Green-headed Oriole (*Oriolus chlorocephalus*), which is confined to the evergreen forests of East Africa. On account of being so local this bird is far from being well known, although in its native forests it is one of the most conspicuous birds on account of its bright coloration and peculiar call-notes.

Of the insect pests to be found in these areas perhaps the most annoying are the jigger fleas, those homely little fellows which burrow under one's toe-nails and lay their eggs. Altogether I was favoured by the attentions of eight of these creatures—not a very pleasant experience when a lot of walking has to be done as they leave a nasty cavity under the toe-nail which is very sore and sometimes slow in healing. Another pest is the Safari ant. These are the marching variety and go along in millions and will kill and eat anything alive. They are very troublesome at night and an Amani resident told me he lost forty-two young turkeys in a night in this way. Fowls are frequently killed, especially if broody, and one has to be especially careful with puppies or anything that has not the sense to clear at the first sign of danger. I had fifteen large and rare chameleons in a wire netting enclosure which were all killed and eaten one night, and by the morning only the skeletons remained. For safety all my birds were kept on benches and tables, the legs of which were standing in vessels containing paraffin. It is not an uncommon thing for people at Amani to be driven out of their houses in the middle of the night because of a visitation of Safari ants, in which case one must stay with a neighbour until they have passed on. They usually defeat all efforts to drive them out, on account of their incredible numbers.

To revert to birds, I must mention that ornament of the forest, the Crested Guineafowl (*Guttera pucherani*), which is found in

flocks in certain parts of the lower Usambaras. Being terrestrial in habits they are caught fairly easily in snares by the natives. This species is adorned with bright blue skin on the upper neck, which has the appearance of being in folds, and its red face, pretty black crest, and delicate markings on the plumage go to make it a very handsome bird. They become quite tame within a few days of capture and make delightful pets. Being forest dwellers they are to a large extent insectivorous and probably eat little else in their wild state. The curious looking folds of blue skin on the neck baffled numbers of passengers on the way home and quite a lot asked me why I had tied blue ribbon round their necks. Whilst on this subject I might mention that the number of "brainy" questions asked by passengers on such a voyage is truly amazing. Some of these are very funny, such as when one man asked me if I knew the botanical names of all my birds, and an old lady, after surveying some Waxbills, came out with the priceless remark "Are these what they call dickey birds?" To quote one more, a missionary woman, after watching some Blue-headed Waxbills huddling up together in their customary manner, remarked "and do they remain true to one another?" A few examples such as these will suffice to explain why collectors sometimes take to drink.

A few of my birds were collected at a considerable distance from the Usambara Mountains, viz. Falkenstein's Sunbird (*Cinnyris venustus falkensteini*) and the East African Mariqua Sunbird (*C. mariquensis suahelicus*), which came from the base of Mount Kilimanjaro, and the Blue-headed Waxbills (*Uraginthus cyanocephalus*), Tanganyika Melba Finches (*Pytelia melba grotci*), and Grenadier Waxbills (*Granatina ianthinogaster*) from further south in the Central Province in the scrub bush country.

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## THE BREEDING OF THE YELLOW-WINGED SUGAR-BIRDS

(*Cæreba cyanea*)

By Mrs. K. DRAKE

The cock Sugar-bird came to me two or three years ago, the hen only last summer.

This season I thought I would try my hand at breeding them, so I gave them an aviary to themselves. They very quickly paired and made a hasty, but at the same time exceedingly neat, nest of the materials I provided, viz. fine hay, moss, wool, and hair, in a hollow open box inside their very small shelter, which measured about 2 ft. 6 in. by 2 ft. 6 in. by 14 in. deep, raised high above the ground. The flight is about 10 by 10 by 6 feet wide.

Two white, or rather bluish-white, eggs, with dark red splashes (rather resembling a Nonpareil Bunting's egg) were laid in May and the young birds reared for only four or five days. They quickly went to nest again, and two more eggs were laid by the 6th June, the first having been laid on the fourth evening; and they hatched respectively on the 16th and 18th June. The cock bird seemed to take no duties upon himself, and became excited after four or five days; so I made up my mind this time to remove him, and I soon discovered the hen was perfectly fit and able to take on the job of rearing herself.

The young left the nest on the 29th June and 1st July and flew well, and in a few days they appeared to be receiving instructions from their parents on the art of fly-catching.

They were fed chiefly on tiny flies caught in the flight. I also gave a few mealworms, insectivorous food, milk-sop—yes, and orange! Grapes they were very keen on, and also banana. The young soon helped themselves to grapes and orange, and later banana; flies, too, I am sure they caught at the end of a week.

The young birds are a dull greyish-green colour and pale underneath; the beaks are smaller than those of the adults, but quite in comparison with their size, also they are not curved. They are now a month old and fine little chaps, and the mother still gives them a few mealworms and seems very fond of them.

I found wasps a great trouble, not only in eating valuable fruits, but causing great annoyance to the parent bird, until I arranged a few bottles filled with light ale and sugar and hung them on the outside of the aviary. I caught them by hundreds, and fortunately not a single bee, so I think the latter must be members of the "Blue Ribbon League"!

## CORRESPONDENCE

### SUCCESSFUL BREEDING OF THE FESTIVE TANGER

(*Tangara cyanocephala*)

You will, I think, be interested to hear that my Festive Tanagers, that did so well when shown last season, have nested and reared one young bird. Two eggs laid 22nd and 23rd June hatched on the 6th July. These birds were in a cage 42 inches long by 20 inches wide by 20½ inches high, with a pair of Yellow-winged Sugar-birds. The young I found thrown out on the floor of the cage. Thinking the Sugar-birds were the culprits I removed them and replaced the young, only to find the young again on the cage floor, almost at once. I removed the cock, and for five days all went well, then one young one died, so I thought it best to risk returning the cock. He promptly helped feed, and the young bird is now out of the nest, the cock still feeding it. The young bird came out of the nest on 9th July.

Unfortunately it is blind in one eye owing, I think, to being thrown out of the nest twice. I am sending on the bits of shell I was able to save.

Colour when hatched, bright orange; no fluff until four days old, then a little black.

It is now a brightish green all over, flights exactly like the adult birds.

They have built a new nest. Both parents build, but the hen alone incubates. I think the hen will lay within the next day or so. First nest built of fine hay in a wooden soap-box type nest, the new one in a small wire travelling cage.

Food as usually supplied, i.e. nectar and sponge cake, insectivorous food and hard-boiled egg with cut up mealworms, pear, orange, apple, and grapes in separate dish.

BEMERIDGE,  
ISLE OF WIGHT.

(Mrs.) S. A. PEARSE.



John G. Cooper, N. York, 1877

Spotted-sided Finch or Diamond Sparrow  
*Steganopleura guttata*

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## THE DIAMOND SPARROW (*Steganopleura guttata*)

This beautiful Finch occurs on the coastal regions of Southern Queensland, New South Wales, Victoria, and the south-east of South Australia. It is a favourite with aviculturists, being extremely beautiful, easily kept, and occasionally a good breeder, though in this respect individuals differ greatly, some refusing to breed at all. These birds become extremely tame, and as a rule agree well with other occupants of an aviary, though here again individuals differ, some proving spiteful towards any weaker bird.

As the sexes of the Diamond Sparrow are, to all intents and purposes, alike, it is difficult to be sure when one has a true pair. The male is generally slightly larger than the female, has a broader band on the chest, and blacker lores; but given these supposed distinctions, it is none too easy to be sure of selecting a true pair.

It builds its nest of grass, lining the inside with finer grasses and feathers, in any convenient situation, such as a box, basket, or small travelling cage hung on the wall of the aviary. Of its wild life Neville Cayley gives the following interesting account: "Like many other species of Finches, the Diamond Sparrow is very sociable in habits, breeding freely about houses and gardens, and visiting the same nesting-trees season after season, if unmolested. Its large bottle-shaped nests are to be found in a great variety of situations,

obliged to separate the Pittas; but at the same time they were seen casually picking up and carrying about nesting materials. I left them alone, and by 20th April they began to build a nest on the top of a dry stone wall, all covered with plants, about 4 feet high. The male was the first and principal worker, but the female helped also. There were no more disputes now between them.

As the Pittas were pulling out plants and roots, I provided them with small sticks, hay, dead leaves, and moss. All were used, and by the 26th the main work was completed. The nest, as is well known, at liberty, is a covered-up affair, the size of a football, with a large opening in front, level with the ground. The Pittas then worked at the inside, lining it with fibres, moss, rootlets, and decayed leaves. On the 30th I saw the cock feeding the hen. The first egg was laid on 2nd May; it was short and rather rounded at both ends, white, spotted with pale reddish brown. Eggs were laid the next three days, and both sexes sat tightly on 6th May, frequently replacing one another, every hour or so. Being very tame, one could touch them in the nest, but sometimes they became annoyed, and flew savagely at one's face.

The first egg hatched on 18th May; on the 20th there were three young birds, the fourth egg containing a well-developed chick dead in the shell.

A curious circumstance is that the chicks almost immediately poke their head out from their parent's breast, and even come out on the edge of the nest, probably on account of the heat. The result was that, twice in a few hours, I found one of them fallen on the ground below the wall. I put it back, without injury, but to avoid further accidents I built in front of the nest a small platform of sticks and hay, where they could comfortably disport themselves, and no more trouble occurred.

The chicks are naked, of a reddish flesh colour, the fore part of the head being black; the bill is orange yellow, as is the gape.

Both parents fed the chicks mostly on cut up bullock's heart, with meal-worms, a few earth-worms, and insectile mixture. They are not difficult to feed, and I believe meat alone would be sufficient to rear them. Naturally they always had a liberal

supply of it. On 24th May one young one disappeared, and was never found.

Feather sheaths quickly appeared, and the growth of the youngsters was very quick. They came out more and more on the platform now, so much so that on the 31st one was out of the nest, flying well enough. The weaker one also came out, but was found half drowned in the pond, and just saved. A small screen was put up to avoid further accidents. But it was of no avail, and this same young Pitta was drowned on 5th June, after having been flying well for several days. Both parents fed the remaining young bird devotedly, and did not abandon and bully it as I had feared, as the mother had started laying again in the old nest on the 31st, while the cock began another nest, further away, in a similar situation. Probably on account of the stimulating food, the hen laid every day, as many as ten eggs, by 12th June. She insisted on laying in the old nest, and all but one egg dropped on the ground. The old nest had been kept very clean, the parents taking right away the droppings of the chicks, but the cock had by then completed the new nest and would not go to the old one again. The birds were not sitting. On 13th June I removed the old nest and put eight eggs into the new one (I thought ten were too many). Very docile, the hen went to the new nest and incubation started immediately. Two eggs, probably addled, were rejected after a few days. At the same time, both parents continued feeding their first young, now quite strong, and eating also by himself since 12th June. However, on the 21st, I took him by hand (he is very tame), and removed him into another compartment, where he now lives happily.

The first plumage of the young Hooded Pitta is as follows : top of the head streaked dark brown and dull chestnut; under parts earthy brown, rather pale; belly and vent pale pink; nape black; upper parts blackish green; quills, as in the adults, but duller; greater wing coverts dull black with whitish terminal and subterminal spots; lesser wing coverts blackish green; rump pale blue; bill brown, with tip and gape yellow; legs and feet greyish pink.

Green feathers appeared very soon, and by 20th June had almost completely replaced the brown ones on the under parts. A complete moult into adult plumage took place on the beginning of August.

On 23rd June the head of a chick was observed, and four the following day. At once a platform was built in front of the nest.

On 11th July, on my return from the Ornithological Congress at Oxford, the four young Pittas were out of the nest, and they all have been fully reared.

But we now come to the sad end of the story, and we shall see that, like the Thrushes, Pittas have the most wicked and puzzling temper.

As soon as the young ones had left the nest, the cock Pitta, whose plumage, and especially the quills, were in a very worn state, started at once building another nest, this time on the ground, but against the wall. I provided him with the necessary materials; the hen helped a little and, by 15th July, the nest was almost completed. I noticed that day there was a fight between the two parents, but I thought it was only, as usual, an introduction to their mating, and paid little attention to it. The next day the hen was chasing the cock, who kept hidden most of the time, and I decided to keep a special watch on the Pittas. I went into the greenhouse every hour or so, to see how matters were going on; it was very much the same. But at the end of the day the male was found dead in the pond! There is no doubt that the female, whose wings and other feathers were still perfect, pushed him into the water and prevented him from getting out. He was in perfect health otherwise, and had no visible wounds.

The hen has not laid up to now; it is very probable that the male wanted to breed again; but she refused to do so, hence the struggle with its tragic end. She carried on feeding the young ones and still is looking after them most devotedly to this day.

I only hope that, among the young birds, there will be a male to replace his father. I have also got now a pair of Macklot's Pittas in my greenhouses. But I have only three compartments large enough and suitable for the breeding of Pittas.

## NOTES ON NEW ZEALAND BIRDS

By SYDNEY PORTER

*(Continued from page 210.)*THE YELLOW-CROWNED PENGUIN (*Megadytes antipodes*)

This very handsome Penguin is found very sparingly on the Otago Peninsula near Dunedin, in the South Island, and through the kindness of Mr. Black, a member of the Avicultural Society who resides in the above-mentioned city, I was taken to a rookery in an isolated bay on the peninsula.

This small colony of birds inhabited a patch of scrub situated on a piece of sloping land running up to the base of high cliffs. The whole of the scrub was intersected by a network of pathways worn by the birds. These pathways were cleared of vegetation to the height of about 3 to 4 feet, being about the height of the birds, so that one had to crawl on one's hands and knees to penetrate into the tangle of vegetation.

There were evidences of long occupation by the birds, for certain stones which seemed favourable roosting places were surrounded by thick piles of excrement and feathers. The birds were not so tame as I expected and upon sight of us they hurried up the hill-side and disappeared into their holes in the ground. It is surprising how high these birds can climb, in fact right up the face of the cliff nearly to the summit. We saw quite a few birds disporting themselves on ledges high up on the face of the cliffs, which they could only reach with the utmost difficulty, but it is very surprising where these very determined birds will get when once they try. The strength and tenacity of a Penguin are amazing, even of the tiny little blue fellow found so commonly around the coasts of New Zealand.

We caught several of these birds in their rookery and brought them down to the beach to photograph. They bite savagely, and, when once they have got a hold, thrash one soundly with their flippers. They move with great agility in the woods but when chased on the open beach they throw themselves down on their breasts and lever themselves along with their flippers; at other

times they move along with a very dignified walk. Seeing Penguins in their natural state one is surprised at their great beauty. One gets no idea of what a Penguin is really like from the poor, dejected specimens which are usually exhibited in zoological gardens and menageries. Their feathers have the most wonderful silken sheen which is lost in the captive bird. It simply makes my heart bleed to see these wretched creatures confined in the miserable twopenny or threepenny shows one sees at fairs and such-like places.

Awkward as a Penguin is on the land it is amazing to see the lightning rapidity with which it can move when once in the water. A tired and exhausted bird will fight its way by inches to the water, until it at last sinks down as it reaches the very water's edge: as soon as a wave comes and the bird is borne into its natural element all is changed and no fish can equal it for grace and lightning speed. The Cormorants are sluggards when compared to the Penguins in the ease with which they move under water. The small and isolated colony which we visited was composed of about twenty or more birds, which according to Mrs. Black, who had known them for many years, never seemed to increase. Often these inoffensive creatures provide targets for despicable wretches with guns as they pass by the beach in launches, and fishermen will slaughter every bird which they think takes a single fish out of the sea. Very fortunately this small colony is in an isolated spot and far from the beaten track, so there is a fair chance of their survival.

The Yellow-crowned Penguin is a large bird almost equalling the well-known King Penguin (*Aptenodytes patagonica*) in size, but is thicker set and has a shorter beak. A striking feature is the very thick-set legs and feet which are a bright rose pink and also the bright yellow feathers of the head which are like spun glass. This is one of the rarest of Penguins and is only found in a few spots in the southernmost portion of the South Island and on a few of the off-lying islands to the south, such as the Campbell and Auckland Islands.

#### THE SOUTH ISLAND WEKA (*Gallirallus australis*)

It is a strange thing that while the Kiwi and Kakapo, those strange representatives of New Zealand flightless avifauna, are

known to the world at large, the Wekas or Woodhens are practically unknown to the general public outside New Zealand. Not only are the Wekas amongst the most peculiar and distinctive of New Zealand's flightless birds but they form one of the strangest groups of birds known, and have always puzzled naturalists in regard to their true position in the classification of birds. Their scientific name "*Gallirallus*" implies that they are a connecting link between the gallinaceous birds and the Rails. At first sight they resemble huge, thick-set Rails, the size of a domestic fowl, and though they possess fairly large wings they are quite incapable of flight, depending upon fleetness of foot to escape their enemies, which would be very few before the Europeans came to New Zealand. In fact, in the forest and manuka scrub they will out-distance the fastest dog owing to the rapidity with which they can move in the undergrowth. Of course, in the open they would soon be out-distanced.

Once exceedingly numerous over the whole of New Zealand, the Wekas are to-day almost extinct mainly owing to forest fires, dogs, and the bird proving itself a nuisance to the colonists. In the early days of settlement no bird was tamer or more familiar. It frequented the environs of camps and farm-houses always with an eye on the main chance. It was exceedingly bold and aggressive, seizing any food which was lying about, or even snatching it out of the hand. Its unbounded curiosity caused it to enter houses and camps and bear away any small movable articles, especially small bright objects such as cutlery, watches, etc. When encouraged no bird is more familiar than a Weka but, alas! the early colonists being mostly a set of hard and unfeeling people, bent only on the destruction of the native flora and fauna, the Weka found very little sympathy with them, especially when it was known to take fowls' eggs and chickens, so dogs and shooting soon diminished their numbers, until this bird is a *rara avis* in New Zealand to-day.

I have been in many districts where a few years ago these strange birds were very numerous, but now through persecution they have become very rare and the few remaining birds exceedingly wary. While it was possible to hear their weird calls at night it

was never possible to get a glimpse of the birds themselves, except perhaps an odd bird which was picked up dead on the road having been killed by a motor car. It was only upon going to Kapiti Island that I saw Wekas in the bold and aggressive condition in which they were in when the country was first colonized. Here they were exceedingly familiar, living around the caretaker's house on the look-out for any scraps of food, etc.; and although nocturnal in their habits, they could be seen at any time of the day feeding upon clotted milk which was left in pails in the open. So bold and aggressive did these birds become that at last a wire-netting fence had to be erected round the garden to keep them away. Even now odd ones manage to get through the fence and wander into the house picking up any small article and running away with it. I once saw one carrying away a watch with a waistcoat attached to it! I heard of a man who was very proud of an expensive set of false teeth, as they were very costly years ago in New Zealand. Once when in a forest he espied a nest high up in one of the trees: this he endeavoured to reach, but before ascending the tree he took the precious teeth out for safety, placing them on a log, but just as he reached the nest a Weka quietly slipped out of the undergrowth seized the teeth, and disappeared. Search as he could our friend never found the teeth and, needless to say, never forgave the whole tribe of Wekas.

These birds never seem to miss anything in the way of food, and woe betide any picnic party who leave their lunch unattended for a short space of time where the birds are found. Mr. Wilkinson, the caretaker of Kapiti Island, told me many interesting things about these birds as he had been very familiar with them for many years. He said that they were the greatest enemy of all ground-nesting birds as they invariably destroyed both eggs and young ones. Often when a nest was being photographed a Weka would come to investigate and destroy the nest and contents. He told me of a young Weka which he once caught out of a family party, and upon being restored again to the others, the female at once set upon it and would have killed it, had it not been rescued in time. He also mentioned that once he took the eggs from a Weka's nest but,

just as he was in the act, the cock bird rushed up, seized the eggs one by one out of his hand, and took them to a place of safety.

Young Wekas are peculiar looking creatures and rather resemble young Cranes covered with black down.

I shall never forget my first view of one of these birds, it was in the forest on Kapiti Island. The bird was at the foot of a wall of rock over which water trickled in just sufficient quantity to keep in a state of perpetual dampness the wonderful collection of ferns and mosses which covered the huge face. The bird seemed far more like a mammal in its demeanour than a bird. It was full of curiosity yet it seemed to half-control its feeling, pretending not to see us and yet getting closer and closer as we stood and watched it. It rather reminded me of the women in the working-class street who, when a motor car stops outside one of the houses, find that the front window or doorstep need cleaning, going about their business in a seemingly casual way yet all the time being consumed with curiosity. These birds are inhabitants of the thickest forest, usually where it is damp and marshy, and in their diet they are omnivorous, nothing seems to come amiss to them.

One would naturally think that such a bird as this would make a delightful pet. I did until I was disillusioned; a more cruel or dirtier bird it is impossible to imagine. It is impossible to keep any other kind of bird with them, short of Ostriches. They will kill anything: some I know burrowed into the next aviary and in a few minutes had killed and devoured a Pigeon and a Rail. Even amongst themselves they are extremely vicious. One minute the birds will be caressing and feeding each other; the next, one will be holding the other down trying to brain it by raining hard blows with its dagger-like beak on the victim's skull. During the time the birds referred to were kept together, before separate aviaries were built for them, they nearly tore each other to pieces, the cock losing an eye. After this the other bird always attacked its mate from the blind side.

In a few days they will ruin the largest of pens, tearing up plants and shrubs, digging up the turf, and altogether making the place into an absolute quagmire. Their water pot they will immediately

fill with mud, the food pots are turned over and the contents emptied. It is also necessary to have wire or boards 2 or 3 feet below the surface, or the birds burrow out. Mice and rats stand little chance in an aviary where the birds are, in fact in the wild state it preys largely on these obnoxious introduced mammals and in that way helps to counteract the harm it does in destroying native birds.

The call of the Weka is a shrill scream which can be heard from a great distance. Heard on a lonely road in the stillness of the night it is apt to be rather upsetting to one's nerves. The bird also makes a low noise exactly like that of a motor boat.

Very few wild Wekas which I saw looked in good plumage. I think this may possibly have been that the birds fight a great deal, though some birds which I saw in captivity were in remarkably good condition, the plumage having a wonderful gloss.

Four species of Woodhens are recognized by naturalists, one from the North Island and three from the South. Although the Black Weka (*Gallirallus troglodytes*) is not supposed to be found in Stewart Island, I have seen a very dark form there which is certainly not the South Island species. I also saw a pair in captivity which had come from Stewart Island which were undoubtedly the Black species. These birds were very attractive, being very tame and in the most wonderful condition, the plumage having a remarkable gloss which I have never seen in any other bird. This pair of birds reared young ones every year. Unfortunately I was not in time to secure a pair. This species is certainly the most striking of the four and in life appears to be a glossy mottled black. After death the feathers fade to a dirty blackish brown.

On Stewart Island their calls can frequently be heard in the late evenings and the birds are often seen as the twilight falls, creeping about the damp coastal forests. These birds get most of their food from the seashore, feeding upon dead fish cast up by the tide and small crustacea which they find amongst the seaweed.

Like the other three species this bird is disappearing from both Stewart Island and the mainland, and there is little doubt that the next twenty years or so will see the end of these intensely interesting

and unique birds except for the birds on Kapiti Island, which by the way are not pure bred, being hybrids between the North and the South Island species. Wild cats and weasels no doubt play havoc with the young birds, though I dare say either of these pests would hesitate to attack an adult bird.

THE PARADISE SHELDRAKE (*Casarca variegata*)

It was an unexpected joy to find these beautiful ducks comparatively common in the alpine regions around Mount Cook. They were to be seen by the ice-cold rivers which flowed over the glacial moraines often just below the terminus of the glaciers themselves. What the birds fed on was a bit of a mystery, for there would be no aquatic life and very little vegetation. They were nearly always in pairs, the male and female conversing with each other all the while, each bird having an entirely different note. Where there is a small flock the sexes are always even. These birds, as if knowing what very conspicuous objects they are, are very wary and difficult to approach.

Seen in flight in these inhospitable regions with the sun shining on the lovely plumage, this bird well deserves its name, for it is then that the very striking colours which are hidden when the bird is at rest are displayed. It is an exceedingly strong flyer and seems as much at home in the air as on the water, in fact in captivity this bird is not nearly as aquatic as most of the true ducks and in its habits of grazing and nocturnal rambling it shows itself to be more nearly allied to the geese than the ducks. To my way of thinking it resembles a goose far more than a duck, being very similar in habits, form, and colouring to the well-known Egyptian Goose.

On the first night of my arrival on Kapiti Island I noticed some small white, ghostly objects moving about on the flats below the house. I was at a loss to know what they could be until I asked the caretaker, who told me that they were the ducks of this particular species whose white heads stood out so conspicuously against the dark vegetation. It seems as though some birds, especially New Zealand ones, can do without sleep: such birds as Wekas, Keas,

and the various duck one never sees asleep either in the day-time or at night. I have certainly never seen a Paradise Duck asleep and I have had occasion to see them at all times of the night and day. I think that this species does most of its feeding by night.

A few years ago this Sheldrake was thought (in Europe) to be exceedingly rare and almost extinct, but although not common, it certainly seems to be holding its own and at the present moment seems in no danger of extinction. Once it was found in great numbers in the Nelson District on the various "sounds", and large numbers were shot for the Wellington markets, but since those days the birds have been very much thinned out and are seldom seen in large flocks.

This bird seems equally at home on either fresh or sea water and many birds are found around the various sea-coasts, feeding to a large extent on the marine life. Though not originally found on Kapiti Island several pairs have been introduced, but not very successfully, I think, the birds in time flying over to the mainland and getting shot. At the time I was on the island, contrary to their usual habits, the sexes seemed to agree to part, the drakes going to one part of the island and the hens to another.

To my mind there is something very pleasing about the beautifully vermiculated plumage of these birds. The two sexes are very dissimilar, the female being a much brighter coloured bird though the male is considerably larger. The male has the head glossy black with greenish reflections. The body feathers are mainly black, finely vermiculated with white, grey, and rufous. The wing coverts are snow white, the secondaries glossy green except the inner ones, which are rather elongated and a bright chestnut. The hen has a pure white head and neck, the body feathers are bright chestnut, the feathers minutely vermiculated with grey, black, and white. The hen has an "eclipse" plumage, in which she somewhat resembles the male.

At the present moment there are quite a few breeding pairs in Europe and it is to be hoped that these increase considerably, for they are very intelligent and very ornamental, although extremely spiteful to all smaller waterfowl. Some Grey Duck kept in the

same enclosure with a pair of these Sheldrakes gradually got so used to the persecution by the latter pair of birds that they used to allow them to grab them by the tail and run round until the Sheldrakes grew tired and released their hold. On the bend of the wing is a hard bony knob. Buller, the New Zealand naturalist, wondered what its use was. Had he have kept any tame birds he would have known. A very tame and intelligent drake I possess will, upon my going into his enclosure, seize my trousers in his bill and thrash my legs with his wings, often making very severe and painful bruises, the female all the while keeping up a very loud shrill cry. In fact, the whole time a human being is in sight she keeps up this noise. The females of this species, both in a wild state and in captivity, are extremely loquacious. The hen always keeps the head in the air when calling, but the male holds his head near the ground.

When green food is thrown into the enclosure, the female Shel-drake, though not eating any herself, will stand upon it for many hours so that the other birds are unable to reach it. Though the drake vents his spite upon human beings, the hen confines hers to the other ducks, who seldom get much peace. I think that pugnacity is very much developed in nearly all New Zealand birds. Why this should be so I cannot understand, for they had practically no enemies and did not trespass on each other's feeding grounds, but it certainly seems to have reached its zenith in this species for it has the reputation with nearly all waterfowl keepers of being the most savage of all waterfowl.

#### THE NEW ZEALAND GREY DUCK (*Anas superciliosa*)

This duck differs from its congenitor in Australia (*A. s. rogersi*) in being much darker in colour, otherwise it is very similar. It is certainly the commonest duck in New Zealand, and even in these days when it seems the object of every duck shooter to get his picture in the illustrated weeklies as soon as the shooting season opens, with his body festooned with strings of slaughtered birds, a bunch in each hand and a large display on the ground in front of him, the bird seems almost as plentiful as ever. I suppose, however,

with the bird's natural enemies destroyed, such as Falcons and the huge native eels, which must have taken a large toll of young birds, the position must be about balanced.

Unfortunately the Mallard has been introduced into New Zealand, and the males, being a bigger and more aggressive bird than the native birds, have purloined most of the female Grey Duck in the districts where they are common in the South Island. The hybrids being fertile it will only be a matter of a few years before there are very few pure bred Grey Duck left.

I found this duck far more common in the South Island than in the North, possibly because of the larger amount of water in the South Island and the population being smaller.

On several small lakes which are privately owned and where the owners fortunately protect bird life, these duck can be seen in thousands when the shooting season opens, for few species of duck are slow to show their appreciation where they are welcome. In captivity these duck seem like most of the order, very intelligent. I often wonder why duck with all their attributes are not more widely kept, for few birds make more delightful pets and are more easily kept than the smaller ornamental varieties.

In its habits it seems to differ very little from the Mallard, a bird to which it is allied, except that it will at certain seasons frequent woods and forests and also that it frequently builds its nest high up in trees. It is stated that the young ones are carried down to the water in the beaks of the parents. This seems much more likely than the old-fashioned idea of the young being carried down on the back.

This species fortunately seems very well established on ornamental waters in this country, so that when there are no more pure bred birds left in the wild state we shall still have them here.

#### THE NEW ZEALAND SHOVELLER (*Spatula rhynchotis*)

I was unfamiliar with this species in a wild state, though in certain parts I believe that it is not uncommon, but it is not so generally distributed as many of the other species. It is certainly the most handsome of the smaller native duck, but the adult

plumage is not assumed until the second year. This species is more aquatic and insectivorous than most species. It feeds mainly on minute insects which are sifted through the remarkable bill. The bird moves rapidly along the surface sucking up the water, which passes out at the side of the bill, all the minute aquatic life being strained through the prominently developed lamellæ of the bill and the bristles on the tongue.

Shovellers are difficult birds to import. I once brought some birds home on a voyage and soon found that they became paralysed if denied access to water. This was remedied by borrowing large copper cooking pans from the chef and giving the birds a daily swim. I also strewed the water with a little fine insectivorous food which the birds greatly enjoyed.

Altogether eleven species of duck are found in New Zealand. Of these, two are practically extinct, three are stragglers from Australia, only five being very distinct and are not found outside New Zealand. Of these I only saw four species. Had I spent more time in the South Island no doubt I should have seen more.

*(To be continued)*

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## BENGALESE AS FOSTER-PARENTS

By J. T. OTAKI

These birds are bred in Japan as domestic birds, in the same way as Canaries are bred in Europe. As they have no great attraction in themselves, aviculturists are not as a rule very anxious to breed them in this country. The main features of these birds are that they make wonderful foster-parents, and can be used for rearing valuable foreign birds such as Gouldian, Parrot, Parson, Cherry, and other valuable Finches.

This practice of using Bengalese Finches as foster-parents is commonly adopted by breeders in Japan. I understand that it has been tried by various aviculturists in this country for this purpose, and in some cases has been successful and in others unsuccessful. In order to ensure success, I would mention a few details as to the

selecting of these birds for foster-parents. The breeder of foreign Finches should purchase about five or six pairs of Bengalese Finches, and allow them to mate. Before using them as foster-parents it is essential to mate the birds, each pair in a separate box-cage. When a hen starts laying you will find that she always stays in the nest, and the cock feeds her. In this case you are quite safe in placing any foreign Finches' eggs in the nest in place of the Bengalese eggs. If you find that the hen is often out of the nest during this period, this means that the cock bird is neglecting to feed her, then it is not advisable to use these birds for fostering purposes.

You will often find that a good cock Bengalese is feeding the hen on the eggs in the day-time, and will take her place during the night, and that a dark brown or black-and-white coloured bird is much more useful than a bird of a lighter colour, for this purpose. The cage should be kept as dark as possible during the time of breeding, except where the birds feed, which should be light. They should also be disturbed as little as possible.

In conclusion, I would like to mention to our members who take an interest in the breeding of foreign Finches, that they will find the Bengalese Finches are of most valuable assistance to them as foster-parents.

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## SUCCESSFUL REARING OF A *BLUE* ALEXANDRINE PARRAKEET

(*Psittacula nipalensis*)

By ALFRED EZRA, O.B.E.

When I was in India in 1923 I saw a lovely blue specimen of a cock Alexandrine Parrakeet at my brother's place. He also had a very fine hen lutino Alexandrine. These were both kept in cages, and had no chance of nesting. After a little persuasion, my brother very kindly gave me these two beautiful birds, and they arrived here safely and in perfect condition. A very fine coloured portrait of this unique blue Alexandrine was done by Mr. Gronvold, and

appeared in the November number of our Magazine in 1926. After the birds were acclimatized indoors, they were turned out into a large aviary. The blue cock took to his yellow wife at once, and although they mated and laid for two years, all the eggs were infertile. I then mated the blue cock bird to a normal coloured green hen, and in 1930, for the first time, they reared four beautifully strong young ones all of which were green. In 1931 the same pair again reared three fine young ones, and they again were green. In 1933 I paired the blue cock bird to one of his daughters. She laid three eggs, two of which were infertile, and the third one contained a partly formed dead chick. This year the same two birds were again mated, and by the 20th March three eggs were laid. One young one was hatched out on 14th April, and the other on 15th April, and the third egg was infertile. A few green feathers were noticed on one young one on the 4th May, and on the 5th May *one blue* feather was seen on the other young one. By the 7th May several blue feathers were seen, but we were not certain this young one was going to be a beautiful blue before the 12th May, when he was covered with blue feathers. Out of the two young in the nest one is a normal green, and the other a beautiful blue. Both birds left the nest on the 9th June, and they are as healthy and strong as any birds that I have bred. The parents were marvellous and looked after the two young most devotedly. As I have been trying for over ten years to establish the blue variety, I am more than pleased with the result, and hope next year to breed one or two more. Besides this pair, I have two more pairs of blue bred birds, and out of these I hope to get some more blues. One pair of these blue bred birds (brother and sister) produced two very fine young ones this year, but both of these are green.

The lutino hen Alexandrine mated to a normal coloured green cock keeps on producing green young ones. Next year I hope to mate it to one of her sons when I should get lutino young ones.

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## THE BIRDS AT LILFORD

By A. F. MOODY

A few notes in general about the birds at Lilford during the past two years may possibly be of interest. The collection, of course, has had its losses, but as these have not been considerable, by adding and breeding we still have some interesting birds.

Season 1932 passed much as usual; Eagle Owl, Laughing Kingfisher, Peacock Pheasant, Javan Jungle Fowl, and certain others reared their young. Duck of various kinds nested, our best results probably in this direction, as in 1933, being the rearing of a small brood of Black-billed Tree Duck (*D. arborea*). A pair of these, during the late summer of both seasons, nested in a hollow log about 2 feet from the ground. Incubation, taken part in by both male and female, lasted in each instance a remarkably long time—thirty-five days. The young, on hatching, took to the water at once and, assisted by both parents, were successfully reared after being walked into a pool aviary. In the down, these youngsters, being long in the leg and possessed of a young plover-like carriage, differed considerably of course from the young of the true ducks. Their colouring was black and white, a loud check of almost draught-board regularity. They feathered at an early age, and when full grown differed chiefly from their parents by the white centre stripes of the long flank feathers being narrower.

As regards additions, we have concentrated on quality rather than quantity; the most interesting birds acquired being a beautiful pair of Donaldson's Touracous, and some of the more uncommon Curassows, Lesser Razor-bill, Slater's, etc. One curiosity received some time ago is a Boat-bill (*Canechroma cochlearia*), a stork-like little Heron with an asinine expression and an ungainly bill.

The Raptors have been enriched by a beautiful Snowy Owl; the waterfowl by Eyton's Tree-duck (*D. eytoni*), Versicolor Teal (*A. versicolor*), and three red South American Shovelers (*S. platalea*). Thanks also to the generosity of an aviculturist, Mr. Ronald Stevens, recently returned from South Africa, our solitary male Red-billed Pintail has now the companionship of others of its kind.

The Geese added include Ashy-headed, Lesser, and Blue Snow, and a particularly smart little pair of the rarely imported Cackling Geese (*B. canadensis minima*). The latter, less than our Brent in size, are, of course, Canada Geese in miniature, but remarkable for their dainty feet, tiny bill, and different note. Roughly speaking, this charming little bird compares to the bulky Canadian much as a Bantam to a farmyard rooster.

In reviewing part of the above list, I may refer to the well-known Touracous as birds suitable to a well-bushd aviary, easy to cater for, and ever pleasing with their olive-green plumage, crimson trimmings, and quaint behaviour.

The Curassows also, like others of the group which we possess, are confidently tame, and from their rat-proof size and few requirements—grain, nuts, seeds, etc., are very easy to keep.

Referring to the South American Shovelers, 2♂, 1♀. The males are conspicuous amongst other ducks by their tawny black spotted plumage, pointed tails, and pearly grey heads. Our female is much like a small and pale edition of *S. clypeata*, but having the upper part of the tail white and, like the male, the bill shorter and darker. Both males occasionally utter a peculiar connected "Clutter-cluck-cluck".

In emphasizing the insectivorous requirements of the Shovelers in general, it is interesting to note that a pair of the examples under notice went entirely off grain, and from May to November (until the first frost) subsisted entirely upon such natural food as they could procure. The nature of this appeared to be water bugs, etc., sifted from the water by means of the delicate membranes of their peculiar bill. Well known as it is this habit of the Shoveler of extracting its food from the water in this manner, I cannot but think it remarkable that from a moderately sized pond crowded with about ninety duck, sufficient nourishment could be found to support this pair.

Our Parrots at liberty are still much in evidence. The Indian Ring-necks (*P. torquatus*) now number about eighteen. Some of them nest annually in natural cavities of trees within a mile from home. The first indication of nesting is usually noticed when the

males come alone to feed, later the females accompany them again, but often with soiled plumage. Usually from one to three young are reared. These can be distinguished when flying by their shorter tails.

In a recent number of this Magazine mention has already been made of the domestic affairs of our Macaws. These continue very fit, and are incubating again this year. A Sulphur-crested Cockatoo which had been at liberty for some years is now confined on suspicion of interfering with the nesting Macaws. At large, this bird was very noisy, flopped about like a great Snowy Owl, and was much respected by others of the group at liberty.

Another bird now perfectly contented in a large aviary is a pink-breasted Australian Galah. This example was well known in the district, being at liberty for about fifteen years. Occasionally it wandered as far as 4 miles away, but invariably returned each morning and evening to be fed. Once it went down a chimney, but was safely retrieved, and later, when disturbed from roost by a falling bough during a gale, almost came to grief in the lights of a passing car.

Referring to the wing power of Parrots at liberty, each species, of course, like our native birds, has its own mode of flight. The Macaws, when taking long flights, sail along with laboured wing beats, the blue and yellow probably making fewer beats to the minute than the red. On fine summer evenings I have observed the always active Ring-necks frequently indulge in high aerial exercise. At these times they fly in wide circles, pack like Sand Grouse, and turn and twist with amazing rapidity. The Galahs, which are fine movers, indulge in grand circling sweeps, uttering their fine call at the time. To those people, also, whose acquaintance with the African Red-tail is confined to the monkey-on-a-stick-like behaviour when caged, it is a revelation to view the activity of the bird as it whips along with a woodcock-like flight, cleverly missing timber at every twist.

A real tragedy during the period covered by these notes was the loss by escape of a beautiful pair of Hyacinthine Macaws. These, possessed of most formidable bills and the Macaw family predilection

for destructiveness, bit through the stoutest wire netting obtainable, and escaped one day at noon. Nothing more was seen of them that day, but early next morning a familiar carrion-crow-like croak was located from the sky, and both birds were identified several gunshots high making a bee-line for some high timber 3 or 4 miles distant. Following them there, it was found they had moved on. To cut short these unpleasant reminiscences, I need only add that a bitterly cold spell setting in at the time, both birds were eventually recovered 14 miles distant, injured and exhausted beyond recovery.

In making passing mention of 1934, our most promising youngsters to date, 15th July, are seven well-grown South American Shovelers, 3 Javan Jungle Fowl, 1 Japanese Crane, and various broods of duck. Our very recent additions, some of them owing to the lamented death of the late Mr. G. H. Gurney, include Pileated and Buff-backed Herons, Tiger Bitterns, Black Storks, White-backed Trumpeters, White and Patagonian Black-cheeked Ibis, White-crested Jay Thrushes, and one very interesting and rare Maleo (*Megacephalon maleo*)—a curious pink-breasted bird which is a native of Celebes.

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## NEGLECT OF DUTY

By The MARQUESS OF TAVISTOCK

It is a rather curious fact that cock birds with a strongly developed paternal instinct often display, both in freedom and captivity, the utmost annoyance and distress should they have reason to believe that their mates are neglecting their domestic duties.

Sometimes the trouble arises through the hen being, in her husband's opinion, unduly slow in starting to lay and sit, but the male may be quite as upset—in fact, in some cases much more so—should his partner imperil the safety of the eggs or young by remaining long off the nest when they need brooding. How a cock bird can know that the safety of his offspring is endangered by lack

of maternal warmth is more than I can say, but that he *does* know all his actions seem to declare in a way which renders any alternative explanation of his conduct very difficult. I think the strongest and most significant example I ever knew was that of a cock Many-coloured Parrakeet at Keston who, when his wife, for some unaccountable reason, struck work when the babies were still quite tiny, went in and brooded them himself all night. A cock Many-colour is no more naturally given to brooding young than is a domestic cock, and this particular bird, as far as I am aware, has never repeated the action, the necessity for it not having again arisen.

Doves, as aviculturists are well aware, are often sadly deficient in those virtues wherewith popular sentiment has endowed them, and a pair of Diamond Doves in a friend's aviary recently provided a most distressing example of parental conflict over a matter of child upbringing. These Doves were young birds without previous experience of the successful rearing of a family. They had two nests earlier in the year, one producing a chick dead in the shell, the other a young one that only lived a few days. Whether the death of the latter was due to the hen neglecting to brood it sufficiently I cannot say, but from his subsequent behaviour it rather looked as though the cock was of that opinion. The third venture was more successful, the nesting continuing to flourish for about ten days. The hen brooded it as usual during the night of the tenth day, and her mate relieved her when she came off for breakfast in the early morning, but when the time came for her to take another spell, to his horror and disgust she flatly refused, saying, no doubt, that it was a very hot day, and that anyhow the baby was quite old enough to do without brooding. The cock, on the contrary, was certain that it was still far too young to be left, and his rage and annoyance knew no bounds. He chased his neglectful spouse about the aviary, not merely pecking her as a male Dove will do when driving his hen to nest, but striking her with his wings and sitting on her, not merely metaphorically, but also literally! Not only was he angry with her, but he was out of humour with the whole world, and savagely hunted the Canaries sharing the same

aviary, although he usually ignored them unless they got in his way. After some hours of intermittent conflict, the hen gave way and brooded the young one for about two minutes. The cock then went on to the nest and also brooded for two minutes, after which he came off and renewed his attacks on his partner. Evidently she had said to him, "You can sit on the child yourself if you are so fussy," and he had replied, "I shall sit just as long as you do; if you imagine you are going to put all the work on me you are very much mistaken. Do you suppose that your husband is a Tinamou, I should like to know?" As the day went on the conflict increased in bitterness and, finally, about 7 o'clock, culminated in a prolonged battle *on the top* of the unhappy cause of the dispute! To save it from being trampled and battered to death, we finally decided to remove it. As soon as this was done peace was instantly restored; the erstwhile combatants sat lovingly side by side and, after the manner of doves, began thinking about their next effort in the nesting line! After giving them further time to cool down thoroughly, we returned the young bird, and the hen brooded it during the night.

Next day, though there were one or two squabbles in the morning, the domestic atmosphere was less tense, and by evening the cock had accepted the position, evidently concluding that his wife, though a bit of a fool in some ways, on this occasion might, after all, be right!

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## REVIEW

### BUDGERIGARS IN BUSH AND AVIARY<sup>1</sup>

So popular has the Budgerigar become in all civilized countries that several books have been devoted to its culture as an aviary bird, but the authors of these only knew it as such, and had not had an opportunity of meeting with it in its original home, Australia. The latest book on this most attractive Parrakeet, however, has been written by an Australian in Australia, who knows it in its wild life

<sup>1</sup> *Budgerigars in Bush and Aviary*, by Neville Cayley. The Australian Book Co., 37 Great Russell Street, W.C.1. Price 7s. 6d. net.

as well as in his aviaries. Mr. Cayley is a thoroughly good naturalist, aviculturist, and artist, and as such is well qualified to write books giving the best information and instruction that their readers can want. We are most of us familiar with his two previous books, *What Bird is That?* and *Australian Finches in Bush and Aviary*. Both are excellent as regards letterpress and coloured illustrations, and now his new book, *Budgerigars in Bush and Aviary*, makes a fitting companion to the other two.

The way in which the Budgerigar has lent itself to variety breeding, and in a few years has produced a large number of colour types is nothing short of amazing, though the danger is that soon it will be difficult to find the original type which, after all, is an extremely beautiful creature. I think we should do all in our power to keep this wild type as nature intended it to be, however attractive the various new colours may be, for, after all, these are no more than artificial productions.

Mr. Cayley's chapter on the Budgerigar in the Bush is extremely interesting. One naturally supposes that the Australian climate is the ideal one for Australian birds, but we read of seasons when the heat was so great that many thousands of Budgerigars and other birds died from the excessive temperature. When one reads of 120° Fahrenheit in the shade, one wonders whether we are not far better off here, for the seasons with us are rarely bad for breeding Budgerigars.

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## CORRESPONDENCE, NOTES, ETC.

### BREEDING NEW ZEALAND ZOSTEROPS

I bought the parent birds from the late Captain Rattigan and, although I have had them for two years, they never got farther than a half-hearted attempt to build a nest. About six weeks ago they set about nesting in a business-like manner, and there was no mistaking their purpose. They built a very deep, loose nest, composed of the finest grasses and horse hair. I ventured to build up the sides myself, otherwise nothing could have remained in it. I got it secure and the birds did not appear to object to my interference. Two little blue eggs were laid and duly hatched after a period of ten days. One chick died, as the stronger seemed to get all the food, and the old birds were apparently content to feed the first comer. This youngster has thrived immensely and left the nest after only ten days. It simply would not remain at home, and hopped about the flight in a disgracefully unclad condition, for

it had no feathers except on its wings. It has now been out six or seven days, and is quickly getting its feathers. The parents are very attentive, and are much more confiding since the baby arrived, coming to my hand for *white* mealworms—the newly-skinned ones—which is the only live food I have been able to provide.

I am wondering whether it is usual for these New Zealand Zops. to leave the nest so early. The old ones seemed to regard it as a natural event.

T. W. TAYLOR.

[*Zosterops lateralis* occurs also in the eastern parts of Australia, Tasmania, and Chatham Island.—ED.]

#### AN ALBINO HOUSE MYNAH

When I was in Bombay a few weeks ago I called on an aviculturist there, and amongst the birds he had was an Albino House Mynah. He very kindly gave me this bird, and I brought it home. I have it now in my aviary, and it seems to be doing well. I thought this might interest some of your readers, as I have never heard of an Albino House Mynah before. I would be pleased to hear if any of our readers have heard of one before.

J. D. BRUNTON.

#### BREEDING DUFRESNE'S WAXBILL

I have a nest of Dufresne's Waxbills; two have already flown, and there are either one or two others in the nest, but of course I dare not look.

I am writing to you at once, as I am anxious to know if they have been bred before in this country.

ELSIE ROBINSON.

#### THE AMERICAN MUSEUM'S WHITNEY EXPEDITION

Having heard complaints of the wholesale collecting of rare birds by the members of the above expedition, we gladly reproduce the following letter from *The Auk* of July, 1934, a copy of which has been sent us by Dr. Frank Chapman.—ED.

“Editor of *The Auk*.

“On behalf of the American Museum of Natural History, I beg to acknowledge your courtesy in permitting me to reply to the letter which, under date of 27th April, 1934, the Marquess of Tavistock writes to you for publication in your pages. In so doing, however, I must express my regret that consideration for his fellow-workers, if not protection for himself, did not induce the Marquess to attempt to confirm the charges he makes against this Museum's Whitney Expedition before giving them publicity. The facts are as follows:—

“Of ‘the small Lory’ which the Marquess states ‘is only found on a mountain in the interior of Viti Levu’ and which we are said to ‘have apparently exterminated’ by ‘killing no less than forty-seven’ specimens, we secured twelve examples all taken during a short one-week trip, proof to

those familiar with the difficulties of mountain forest collecting that the species is by no means rare; nor is it restricted to the island of Viti Levu, but is also found on other large islands of the Fiji group. There are, for example, specimens in the British Museum from Tavuni.

"Of the Masked Parrot (*Pyrrhuloxia personata*), we took not only 'eighteen' but twenty-six specimens. However, the work of Beck, our collector, showed that this species is neither rare nor threatened with extinction. Viti Levu, the island it inhabits, exceeds in size the whole of south-eastern England (counties of Kent, Sussex, Surrey, and Middlesex) and the greater part of it is still unexplored. That in a short visit Beck could have secured so large a series of this forest-inhabiting species is evidence of its abundance, while the restriction of his labours to a limited part of its range renders it obvious that he could not have seriously affected its numbers.

"As for the Norfolk Island Parrakeet (*Cyanoramphus cooki*), which Beck is said to have 'decimated or exterminated', he secured two specimens. The 'great mischief' 'it is feared' that Beck did on Antipodes Island appears to be restricted to collecting five specimens of the island Paroquet (*Cyanoramphus unicolor*) and two specimens of the Snipe (*Coenocorypha auklandica tristrami*). Incidentally, it may be remarked that the existence of thirty-three specimens of the former and twenty of the latter in the Rothschild Collection has not aroused criticism. Moreover, since Beck's visit to Antipodes Island in 1926, Oliver (*New Zealand Birds*, 1930) writes that both this Paroquet and Snipe are common there.

"On the whole, therefore, I believe we may assure the Marquess that his 'trust' that the reports to which he so unfortunately gives credence are 'exaggerated' is warranted. His concluding suggestion that we breed specimens for our collections has, at least, the merit of novelty. But studies of insular evolution, for which the Whitney Expedition was primarily inaugurated, and also of other phases of geographical variation, based on birds raised in aviaries would not, in our opinion, be acceptable contributions to the science of ornithology.

"I confess that I am at loss to understand why persons who make or repeat these charges against the American Museum do not write direct to us for information, rather than to a third person. We have nothing to conceal, and if excess of zeal should have led our collector to violate the ethics of his profession we should be among the first to admit and regret it. Our critics do not appear to be concerned with either the object or the results of an undertaking to which at great expense we have already devoted fourteen years, and which bids fair to occupy as many more. Nevertheless, we hope that they may be interested to learn that there have already been published, chiefly by the American Museum, forty-four papers based on Whitney Expedition collections, and that these merely mark the beginning of our studies of this unique representation of island bird-life. Also, we are now preparing to send a second expedition to the Pacific to make paintings and collect accessories for the production of large Habitat Bird groups for a hall in the new Whitney wing of the Museum which will be wholly devoted to a popular presentation of the work of the Whitney Expedition.

"8th June, 1934.

"FRANK M. CHAPMAN,

"Curator Dept. Birds,

"American Museum of Natural History, New York City."



Photo by F. Robinson.

DUFRESNE'S WAXBILLS, TEN DAYS AFTER LEAVING NEST.

Front (apiece.)

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THE SUCCESSFUL BREEDING OF  
DUFRESNE'S WAXBILL

By ELSIE ROBINSON

This season I have experienced the greatest thrill of my existence as a member of the Avicultural Society, in bringing off successfully the breeding of a full clutch of four Dufresne's Waxbills (*Coccygia dufresnii*).

In sending a photograph of the youngsters a few notes appended may be of general interest to members of the Society.

The cock bird was purchased December, 1932, the hen June, 1933, from one of our London importers. During the winter they were kept in a bird-room, temperature under 60°, and allowed the freedom of the flight from early May onwards, when they commenced to nest almost at once. I gave a plentiful supply of hay, string, and feathers from which they built their nests in various positions, such as under the growth of climbing plants. Although the birds, throughout, have been persistent sitters, their efforts were in vain as both the first two clutches of eggs proved unfertile.

The third nest was commenced the third week in June, incubation commencing with the first egg laid. The cock and hen took turns in sitting, their regularity being almost amazing, for not once did I catch them changing their turn, owing to their quick, shy habit of entering and leaving the nest. My suspicions were aroused about 23rd July,

by the cock bird creeping all over the bark of an old tree in the aviary, apparently looking for insects. I managed to curb my curiosity and check the impulse of looking into the nest, deciding that, at any cost, I would wait until such time as I might hear chirping before I would take the risk, or venture too near the nest.

I will try and give some interesting details of the parents feeding their young.

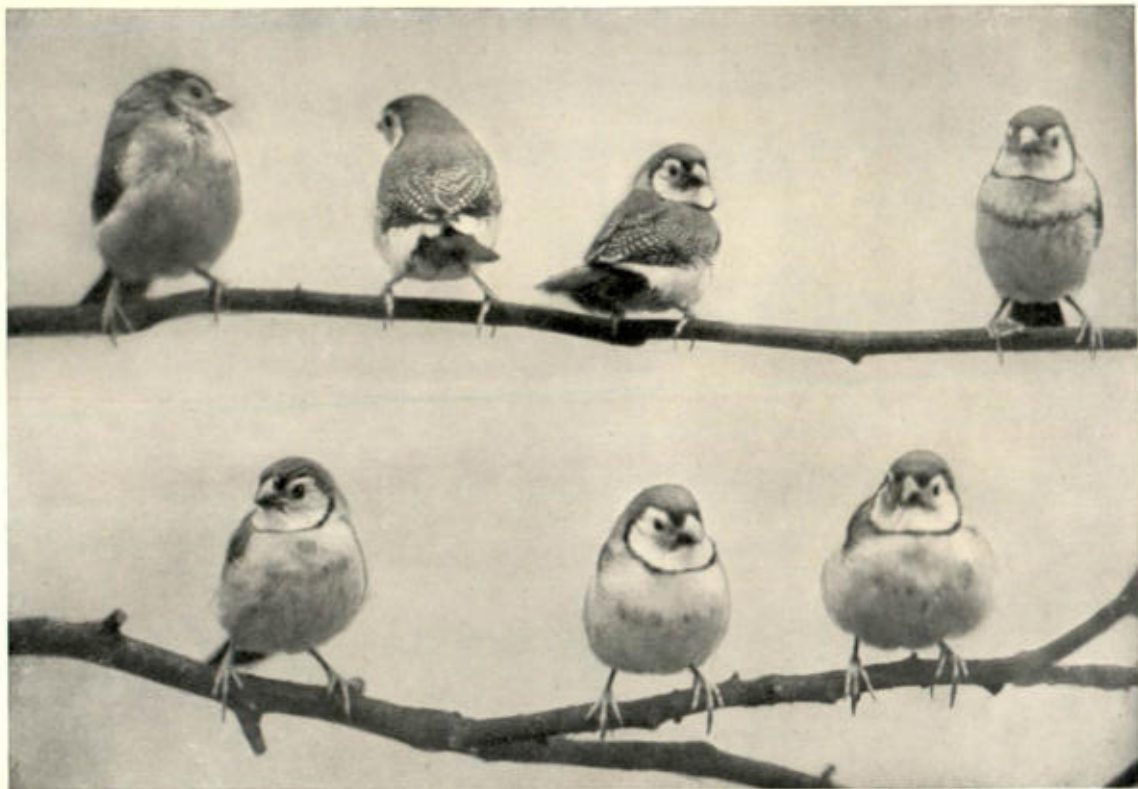
The first week the cock bird busied himself looking for insects, being incessantly on the move, searching the bark of the old dead tree, creeping over it as one notices our Tree-creeper doing, and I am at a loss to understand how he could find sufficient food to keep the four youngsters supplied until the second week, when he and the hen started eating spray millet. I noticed also, about this time, they went after larger flying insects and I gave what assistance I could by shaking any insects from large trees in the garden into an open umbrella, and so into the aviary. I might mention a sycamore tree was the best hunting ground.

I find they will not touch the cocoon of the pine ant, though the very small one of the meadow ant was eaten during the third week and onwards, but still the majority of the food was spray millet.

One youngster left the nest first, 6th August, the others following within four days. The parents were remarkably attentive, shepherding and feeding unceasingly, getting them back into the nest at night in a very clever manner. Ten days after leaving the nest the young were feeding themselves and have never looked back, being very strong and sturdy; in fact, at the moment, they so closely resemble the mother it is difficult for a novice to distinguish them.

They are the most attractive young birds I have yet bred, being almost finger tame. At the time of photographing they allowed the camera, on a tripod, to be brought up close and even the movement of the dark cloth did not disturb them unduly—so interested were they in the proceedings that only when the shutter went off with extra noise did they fly off, to return a little later for another group or position. The photograph was taken on 16th August, ten days after their leaving the nest.

I reared them in a flight with two pairs of Bichenos, both of which



*Photo by F. Robinson.*

THE SEVEN BICHENO FINCHES REARED AT THE SAME TIME AND IN THE SAME FLIGHT AS THE DUFRESNE'S WAXBILLS. This photograph was taken within a week of their leaving the nest.

had nests; making me very nervous as to what would happen when the young Dufresne's decided to fly, but all ended well and the Bichenos reared seven young between them.

The young birds, in plumage, closely resemble the hen, if anything the colouring is of a lighter and softer nature. Head and neck lavender grey, fading to white under chin and throat and shading off into saffron on breast. Back soft olive, upper tail-coverts orange. The rest of plumage is a soft lavender grey. Beak pearly black.

Today, 1st September, finds the pair with still another nest of four eggs, but I do not anticipate any result as the young birds have been using the nest at night, even going to the extent of driving the parent birds away. This did not, however, prevent the old birds from sitting on the eggs in the day-time. I am rather surprised at the young birds taking to the new nest as they had already settled into other sleeping quarters.

[We heartily congratulate Miss Robinson on her success, and also her brother, Mr. F. Robinson, on securing the very excellent photographs which are herewith reproduced.—ED.]

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## 1934: THE THINGS THAT DIDN'T COME OFF

By THE MARQUESS OF TAVISTOCK

1934 has been a moderate season, partly spoiled by the abnormal cold of late spring and the abnormal drought of summer. In our delightful climate one can usually reckon that it will snow and freeze intermittently until the end of the second week in May. After that there is some prospect of warm nights. This year, however, it froze until the end of the first week in June with the result that whatever other records the close of the year may show, 1934 is an easy winner in my avicultural experience in the matter of producing egg-bound hens.

The Ring-necks were the chief sufferers and have been a complete failure. One pair of lutino-breds had three eggs, only one being fertile, but the hen died within a few days of hatching. My two young lutino hens paired, one to a lutino-bred and the other to an ordinary green: both got egg-bound after laying an egg or two and refused to sit when

returned to the aviary. I gave them a long rest and returned their nests when the warm weather at last arrived, but although their mates tried hard to induce them to make a second attempt they never settled down again and finally dropped into moult.

Their mother, who always gets egg-bound on the smallest provocation, I kept back from nesting until 15th May. She laid her usual two eggs but only hatched one youngster and it died when a week or two old, from what cause I cannot say.

A lutinistic Plumhead, paired to her two-year-old son, had clear eggs and later, unfortunately, the young cock died, so only one remains of the four I bred from lutinistic parents in 1932.

An imported cock Malabar was paired to a young hen I bred a few years ago. She had laid successfully at Keston. She took to her nest and then got ill and continued to get ill every time she was returned to the aviary until in desperation I put her in another aviary and gave her mother to her former mate. The old hen is a great hand at getting egg-bound unless kept very warm, but rather to my surprise, though she made rather heavy weather of it, she completed a small clutch late in May. The eggs were, however, infertile, as the cock was starting to moult and would not pair.

An imported hen, who had laid successfully two years ago, was mated to a cock I bred. She dropped two eggs from the perch and then got egg-bound. Her last egg, laid in the hospital, she sat on when returned to the aviary but it disappeared after about a fortnight. Though very beautiful, Malabars are tiresome birds to manage. They come into breeding condition very early and usually go off early; are very subject to egg-binding; can only rear healthy young in natural tree-trunks in the open flight; and get frost-bitten toes on the very slightest provocation.

I had great hopes of breeding Racket-tailed Parrots this year, but the hen behaved just as she did last season, going into the nest quite a lot but getting no further. I recently acquired a second pair of this very lovely but uncertain Parrot. Unfortunately the hen died of paratyphoid within a few days of her arrival and was probably infected when she reached me. The cock promises to become an even finer specimen than my present one—if he lives!

The lutino Amazon, as usual, took a fair amount of interest in her nest and came into breeding condition, but her mate, a fine-looking, but wing-stiff and stupidly nervous bird, would take no notice of her. Once more I am going to change the cock. The new bird I found in a cage outside a dealer's shop and bought owing to his obvious anxiety to breed. Already he is a most ferocious brute and when mated is likely to put even the late-lamented Koko in the shade for pugnacity.

Leadbeater's Cockatoos had two lots of eggs, the first damaged or addled; the second, clear. I have changed the cock as this is their second season of failure.

A hen Bluebonnet imported during the winter was mated to a cock that had been kept some time in England. She did not get further than occasionally looking at her nest and she declined her mate's efforts to feed her. She is an extremely timid bird.

A hen Norfolk Island I had kept in a flight-cage all winter dropped into moult as soon as I obtained the loan of a cock. She went into the nest occasionally and the cock was seen to feed her, but one or other wasted most of the summer moulting.

A pair of albino Roseate Cockatoos took no serious interest in their nest, but they are young and still rather wing-stiff from close caging.

A rather second-rate hen Barnard, bred in 1932 and paired to an imported cock, came into breeding condition but refused to take to the nests we offered her. I substituted a fine imported hen but the cock, with the fidelity common in his species, was unutterably bored with her and had to be reunited to his first love. A new cock, obtained for the second hen, was out of condition on arrival and did not breed.

Two pairs of Brown's failed to produce eggs. One hen spent a lot of time in the log but could not overcome the passion for moulting characteristic of this species in the summer months. They start to moult in May because their ancestors did it in Australia, and when the other birds begin to moult in July they feel it would be eccentric not to fall in with the prevailing custom of the country and so they moult a second time then! The hen of the other pair has bred in former years but last autumn, for some reason, she became a violent feather-plucker and this season seems to consider that the abandonment of the vice is an adequate substitute for domestic duties!

A young hen King Parrakeet bred in 1932 seemed on the point of nesting for some time but she never quite settled down to her tree-trunk and no eggs appeared.

Another imported hen, mated to an exceptionally fine cock, laid five eggs but to my surprise all proved clear.

The old Sula Island King, mated to a cock from Salwatty Island, never seemed satisfied with the nests we offered her and finally dropped one egg from the perch.

A pair of Mealy Rosellas, imported during the winter, looked like nesting when first turned out, but the hen is very nervous and never settled down, though her mate did his best to persuade her.

The Worcester's Hanging Parrot, paired to a Golden-backed, laid three eggs on the floor of the shelter and abandoned them after a half-hearted attempt at incubation. Usually she lays in a box, but the eggs are always clear.

The Banksian's first lot of eggs, as usual, proved clear and the Palm Cockatoos have again done nothing.

The Grey Parrots have also disappointed me. After years of fruitless search I actually obtained two genuine cocks. Unfortunately the one I put with my old breeding hen died suddenly. He was a foolish bird and even when he had found out where the food was would sit on a perch till he was starving sooner than climb down to it, and this, I fear, helped to terminate his career. The other cock I mated to a new hen that had been a cage pet for many years, and she never properly came into breeding condition although for several weeks the male was very busy preparing the nest for her. The old hen (naturally !) laid infertile eggs from the perch, but large Parrots take so long to mate and re-mate that I did not attempt to change them over. Genuine cock Greys are very big birds and very wide across the skull between the eyes. They have long necks and powerful beaks and the eyes are bold and round. The other supposed indications of sex recorded by various earlier writers (and myself !) are of no value at all. A hen Layard's Parrakeet, paired to a Plumhead, got egg-bound twice. She is very amusing when this misfortune overtakes her, as she is tame but cordially detests both her owner and the aviary attendants and likes them to understand that in her opinion they are the poorest of

poor fish! Consequently, when assailed by physical infirmity, she makes a gloomy but not too successful effort to appear as though nothing were wrong with her, much as strong-minded ladies of the human race are apt to do when compelled to submit, as invalids, to the unwelcome ministrations of despised relatives! Whether as a protest or not I do not know, but her second egg she never laid at all, gradually re-absorbing it in the astonishing manner of which birds are sometimes capable. Some weeks later she produced a clutch of two eggs during warmer weather, but the Plumhead had begun to moult and the eggs were infertile.

The greatest disappointment was with the White-capped Parrots. The hen laid four eggs in a grandfather-clock box early in May and as the cock murdered his offspring last year, we removed him to an adjoining aviary when the young birds were due to appear. Two eggs hatched and the young lived about a month, when they died within a few days of each other. As their crops were full, the hen probably failed to brood them sufficiently and they got a sudden chill.

The pair are usually fearless and spiteful but the sight of a horse and cart, even at a distance, terrifies them to an extraordinary degree.

Two other disappointing failures remain to be recorded. I had obtained a new cock Queen of Bavaria Conure as my former one was always infertile. This year the hen laid three eggs and hatched two young which were killed, I think by the cock, at a fortnight and a month old respectively.

A new pair of Layards, to my great surprise, went to nest two months after arrival, though the hen was pinioned. Three young were hatched but they died for no apparent reason when a few weeks old.

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## 1934: THE THINGS THAT DID COME OFF

By THE MARQUESS OF TAVISTOCK

Although the cold nights of late spring upset many of the early breeding birds and the excessive heat and drought of summer discouraged second nests, 1934 has been a fair average season for those species not rare enough to invite the special attentions of "X".

In the hope of increasing the supply of young birds for sale to meet aviary expenses I had acquired a second pair of Pennant's from a gentleman who had done a certain amount of exhibiting. Both birds, in consequence, were very steady. The cock, as sometimes happens with this rather variable species, has a certain amount of blue on the lower breast but the marking is more curious than ornamental. I provided a grandfather-clock nest in the open flight and the hen soon took to it, but was so slow in settling down to actual business that I feared she was going to prove a dud and perhaps an egg-eater. However, after hanging fire for several weeks, she really did start to sit at the very end of May, her husband, though not normally quite fearless, becoming bellicose and showing a disposition to attack me. All went well and at the end of July four young birds—two cocks and two hens—left the nest, being similarly coloured in the "green phase" of young Pennant plumage with red on the cap, throat, flanks, and under tail coverts. When one has had a few days to watch and compare them, immature Pennant's can be sexed with certainty, the heavier and more powerful heads and beaks of the cocks being noticeable even at that early age. The hen Pennant got little help from her mate in the care of the family once they were fledged, but she proved a devoted mother and, though moulting herself, laboured on dutifully feeding her four big children even when, had she been less unselfish, I am sure they could perfectly well have fed themselves. According to my experience the young of all the larger Broadtails, if they have the right food before them, i.e. green food, soaked seed, and spray millet, will always start to eat sooner than starve if deprived of parental aid at the time of leaving the nest.

When the Pennant's were feeding young they were plentifully supplied with sow thistle, groundsel, and knapweed. These valuable foods are at their best in the green seed stage, i.e. when flowering is just over. At this time groundsel and sow thistle begin to show white fluff on the heads and the thistle-like flower of the knapweed or "hardheads" turns from pinkish purple to brown. Aviculturalists whose supply of green food is not unlimited should learn to gather what they have at the stage when its feeding value is greatest. Weeds, grass, and green oats carelessly gathered too soon when still only in bud and in flower

may be chewed up by the birds with an appearance of relish but the amount they can actually find to swallow is negligible.

My second and original pair of Pennant's also did well this year. Their success was rather unexpected as for the past two seasons only two of their eggs have been fertile and the cock is certainly aged. I was, indeed, intending to replace him by another but the substitute proved a poor specimen and quite unsuitable, so I was obliged to try the old bird once more. During the winter he flies loose but never goes any distance from the aviaries. He had been kept as a cage bird for many years by the owner of a public house in Wigan before he came into my possession and his sojourn in that salubrious city has permanently affected his character. Despite the fact that they have reared many families together, I regret to say that the mutual regard existing between him and his wife is of the most lukewarm character. She would desert him instantly for a more eligible substitute if one presented himself and he would not care two pins if she did! He divides his time at liberty between admiration of the Queen of Bavaria Conures, whom I have even seen him try to feed; flirtations with unattached hen Broadtails; and the exchange (from a safe distance) of back-chat with rival couples of Platycerci in the aviaries. Being as big a coward as he is a braggart he never tries conclusions with cock Broadtails, even through wire netting, confining his attacks to their wives. The hen Pennant of the other pair he particularly dislikes and it is evident that she has said something about Wigan pubs that rankles deeply! When compelled to face domestic duties he is laziness personified, and I do not blame his wife for her indifferent opinion of him. When he is first put back in the aviary she is often master, and I believe she only gives way to him at the finish, not because she has to, but because, in Broadtail society, it is considered quite too impossibly incorrect for the husband not to be ruler of his household! It is, indeed, very amusing to watch the way in which a big, powerful hen Broadtail who has fallen in love with a much smaller and weaker male of another species will be *most* careful, both out of consideration for his feelings and respect for the conventions, to behave as though she were really rather in awe of him. I have even seen a hen do this to a cock she had savagely bullied during the time a more favoured lover was at hand but whom she decided she

would have to put up with as a *pis aller* when the favoured swain had been sent away.

When the hen Pennant inspects the nest the old cock is far too lazy to behave as a Broadtail gentleman should and skirmish about with an appearance of great interest, wagging his tail. He just sits comfortably on the perch and gives a few whistles for her encouragement. He is just as lazy when the children arrive and of late years I do not believe he has fed anyone but himself. If a newly emerged nestling flies clumsily from one end of the aviary to the other he flies up with it and, having done that, he appears to consider that his duty as a father has been adequately discharged! This year a fine family of five have been reared single-handed by the hen—two cocks and three hens. The first to leave the nest—a hen—is almost entirely red, except on the wings; all have red breasts and the youngest member of the family—a cock—is the most green.

My old pair of Crimson-wings laid four eggs and hatched and reared three good young ones in a roomy natural tree-trunk in the open flight. A new cock paired to a hen whose eggs with a hybrid cock have always been infertile also helped to rear a good brood of three.

*If you allow him the right kind of aviary and the right nest* the Crimson-wing is, in my opinion, the least trouble to manage and the healthiest and hardiest of all the larger Parrakeets. Both young and old keep far freer from chills and unforeseen ailments than any of the Broadtails and they need less shelter and less "extras" in the way of food when rearing young. A few boards in the flight, to provide shade and protection from rain and direct wind from any quarter, are quite sufficient and in a 24 × 8 × 8 ft. movable aviary with a turf bottom it is unnecessary to give extra green food, apple and some seed thrown down on a clean heap of peat to soften and sprout in the dew and rain being all that are required.

The Crimson-wing's one drawback is the similarity of the sexes until, it may be, the second complete moult, but young hens, well reared, will lay at a year old and young cocks at the same age will often show their sex by chuckling and calling, *sotto voce*, when at rest, in a way hens do not do, since these only call when excited or on the move.

My breeding pair of Kings, which have hitherto failed to hatch

a good percentage of any clutch of eggs, this year established a record by producing five young—two cocks and three hens. Young males, I find, always show some "butterfly markings" on the wing even in nestling plumage. It is a great pity that people will not do more with this splendid Parrakeet as a liberty bird. When properly mated to hens confined in aviaries adult males never stray and never get into trouble, and their graceful flight and gorgeous colouring makes them highly ornamental. They also possess the great advantage of agreeing when at liberty with their own kind so that you can have as many cocks loose as you choose to provide with hens and aviaries. At the moment I have three flying in the garden and two have been out for part of each season for years.

A pair of Mealy Rosellas which came last winter moulted some weeks after arrival and began to show signs of being in breeding condition soon after being turned into their aviary. The hen took possession of a grandfather-clock nest and although at first she was rather a nervous sitter she hatched and reared four fine youngsters. The two young cocks have bright yellow caps with a few red and grey feathers interspersed, while their sisters have grey caps much mottled with brick red. It is often somewhat difficult to drive young Parrakeets into the aviary shelter as the hole that leads to the shelter is a small one. One of the young hen Mealies has proved the most tiresome and obstinate pupil I have ever had to train. Young Barrabands, though apt to lose their heads the first night and crash about in the most alarming way, learn quickly and are rarely any trouble after the third lesson. Not so the Mealy. She was almost as obstinate at the end of the first week as on the first night, and it was the obstinacy of sheer cussedness and not of timidity. I have been holding my arms above my head for so long in my attempts to induce her to pass through into the shelter that I am thinking of qualifying as an honorary fakir!

The success of the Yellow-bellies is recorded in a separate article. The brood—again two pairs—are the finest and strongest young Broad-tails I have ever reared. Last autumn I obtained for the first time in my life a true pair of Yellow-mantled Rosellas, my previous Yellow-mantles all being cocks. The hen, I was interested to discover, is quite as decidedly yellow on the mantle as her mate, but in other

respects she differs as a hen Rosella of the common race would do, having the characteristic greenish feathers behind the eye which are the best guide to sex in mature birds. The pair were excessively wild, always dashing into the shelter when anyone walked along the front of the aviary. As often happens, however, their timidity did not prevent them from proving good breeders. The hen, after some delay, took possession of a hollow perpendicular tree-trunk and in due course reared six lovely youngsters, I think two cocks and four hens. They are decidedly yellower in first plumage than young common Rosellas of the same age.

Plumheads also nested in a natural tree-trunk and had four eggs, rearing one young bird. An undoubted young cock I bred three years ago is again moulting out with a grey head, showing that the plum colour may not appear with the second complete moult. Strange to say a Slaty-head  $\times$  Plumhead hybrid I sent to Mr. Whitley is showing signs of adult plumage with his *first* complete moult, like a Malabar.

Rock Peplars again nested in the rather unsuitable coco-nut husk box that is the only domicile the hen will consent to patronize. They hatched three young and reared two, or rather two were reared, for they proved lazy feeders and so neglected their younger child that we had to bring her in for some days and feed her on chewed seed, pea-nuts, and brown bread until she learned to eat seed for herself.

Barrabands did not have a good season. The eggs hatched well but the bitter nights in late spring accounted for many nestlings and two pairs reared only one daughter each and the third pair two sons. Next year I shall not allow them to start before 15th May. Roseate Cockatoos, a white cock and a pale grey hen, after wasting several seasons, reared two young in 1932 and two in 1933. This year they seemed disposed to return to their former evil habits, for the hen laid an egg from the perch and broke it when it was placed in the nest. Later the pair appeared to be sitting in earnest but after a while they gave up and the eggs, if any, proved to have vanished. I then abandoned all hope but, contrary to expectations, the hen made a third attempt and the young are now nearly ready to fly.

Unhappily the breeding of white Roseates promises to be as long

a road as the breeding of lutino Ring-necks, which took me twenty years to accomplish! One of my 1932 cocks, paired to a breeding hen at Keston, proved a persistent egg eater, and as cock Roseates have to sit, as well as their mates, an egg-eating cock is as hopeless as an egg-eating hen for breeding.

My 1933 birds proved a pair. After wintering them indoors I turned them into an aviary, but the prospect of white Roseates being bred in 1935 so incensed "X" that he made a dead set at the unfortunate young couple, sending illness after illness upon them until I abandoned all hope of getting them to live out of doors this year. Even so he was not satisfied, and finished off the cock in the bird-room with a dose of bacillus coli, the hen being only saved after weeks of illness and careful nursing.

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## THE BREEDING OF THE YELLOW-BELLIED PARRAKEET (*Platycercus flaviventris*)

By THE MARQUESS OF TAVISTOCK

This large Tasmanian Broadtail has been imported not infrequently during the last twenty years, but with the exception of Mr. Whitley, who has had two cocks for a considerable period and bred some hybrids, few people in England, I fancy, have been very successful in preserving it for any great length of time. The fact is that the Yellow-belly is not as well suited to the type of aviary most commonly used. Rather intolerant of heat and very intolerant of stale ground and subject to septicæmia, small fixed aviaries do not agree with it at all and it was only when I began using 24 × 8 × 8 ft. movable aviaries that my birds began to live a respectable time. Another reason for making use of movable aviaries is the Yellow-belly's great fondness for green food. No Broadtail needs or appreciates a larger amount or a greater variety, and fresh branches should also be supplied regularly throughout the year. Most individuals acquire a taste for meal-worms and the staple diet should consist of canary, millet, oats, sunflower, and pea-nuts, together with apple. Much hemp is liable to induce feather-plucking: I once had a cock who was rendered so bad a feather-plucker by an

excess of hemp that six months of complete liberty on wild food, only, failed to cure him! He recovered, however, during the next moult.

In size the Yellow-bellied Parrakeet is fully as large as the Pennant. The upper parts of the body are olive green with darker markings and there is some blue in the wings and tail. Part of the head and neck and the entire breast are lemon yellow, sometimes pure, sometimes tinged with olive green or streaked with orange. A cock Yellow-belly whose breast-colour is clear is a very handsome, though not gaudy bird. The most beautiful specimen I ever owned was bred by Monsieur Decoux, whose success in rearing this Parrakeet has never been approached by any other aviculturalist. The cheek patches are blue, as in Pennant's Parrakeet, and there is a red frontal band. Hens are very similar in colour to cocks but their heads and beaks are so much smaller that they are easy to sex. Young birds in first plumage differ from the adult in having the breast dark olive green with only a slight trace of yellow on the cheeks and throat. The dark markings on the wings are also greener and are less pronounced. The bill is the same fleshy horn colour seen in young Pennant's.

The commonest call-note of the Yellow-bellied Parrakeet resembles the word "Kossuk"! In addition each bird normally possesses one or two liquid whistling notes or phrases in the character of which there is much individual variation, as is usual with other members of the family. My hen has learned the whistle of a former husband but rarely uses it when in the company of a mate.

This lady has been in my possession nearly twelve years, but on only one previous occasion—i.e. in 1932—has she laid. For some reason, poor thing, she does *not* appear to captivate the heart of the opposite sex! Not being a cock Yellow-belly, I cannot say exactly *why* she fails to charm, but until recently it is a sad fact that more than one gentleman has either been mildly bored by her or actuated by a feeling of downright contempt. One cock I had with her at Warblington tolerated her and very occasionally fed her, but it was evident that she had no real place in his heart. When at liberty, instead of coming to see her at frequent intervals as a well-behaved Broadtail husband should do, he rarely went near her aviary and turned a deaf ear to her lonely whistles. Throughout the winter he led a wandering existence,

often straying miles from home and not putting in an appearance for weeks at a time, for he appeared well able to support himself even in weather when our native birds were starving. In spring, however, he never failed to return, not, sad to say, to revisit his deserted spouse, but with the object of killing a certain Yellow-rumped Parrakeet. Why he detested this particular bird more than any other cock Broadtail in the collection and why he only wanted to see him dead in May (for he ignored him at other times) was known only to himself, but by using the object of his dislike as a decoy his recapture was easy and he then spent a bored and idle summer with his unappreciated lady. Finally his wandering habits proved his downfall. He was shot by a farmer in mistake for a Hawk.

His successor was the young bird already referred to as having been bred by our French member. Lovely bird as he was when in adult plumage, his domestic virtues were nil. He never tried to be even passably civil to the hen. When the nest-box was put in he was interested enough, but if she ever came to look at it, too, instead of making way for her politely as every well-mannered cock Broadtail should do, he drove her away and went on looking at it himself. One day he attacked her savagely and pulled out a lot of her feathers, so that when they were reunited his wing had to be cut. That year the hen came into breeding condition late and laid four eggs in July, but the cock had started to moult and took not the slightest interest in the proceedings. After two years I got tired of him and decided to replace him by a bird whose manners left less to be desired. It was arranged that he should be sent abroad but *he* had other intentions, for he managed to make his escape while being boxed and, unless someone has shot him, he is probably wandering about England to this day!

Inquiries for another cock for a time proved unsuccessful, but when visiting the last Palace Show my eye fell on a nice Yellow-belly who was looking most profoundly bored with that trying ordeal, and I decided, if possible, that he should be mine. Negotiations with his owner proving successful, in due course he arrived and, unlike his predecessors, he seemed to think that a nice home was something to be thankful for and even if the wife *was* a bit on the plain side, probably the poor soul couldn't help her looks and was worth giving a trial to,

anyhow ! It is true that later in the spring he did one day start driving her a bit and had to have his wing tipped, but I do not think he really meant to hurt her, but only wished to impress upon her that it was time she settled down to business. She certainly was a very slow starter ; though provided with the tall, bark-topped grandfather-clock nest in the open flight she had patronized two years previously, she seemed unable to get as far as her first egg. She let the cock feed her in May and sometimes spent a lot of time in the nest, but when I left home on the last day of the month her visits to the box were less frequent than they had been and an ominous dropped tail-feather from the cock heralded the onset of the moult. However, at the end of June she did produce four eggs and her mate half-delayed his moult in order to be able to attend to family affairs. In due course the four eggs hatched and by the beginning of the second week in August gentle pipings and sounds of scrambling inside the nest announced the early exit of the family. On 12th August a fine strong youngster made its appearance, to be, if it should survive, the first pure-bred Yellow-belly to be reared in England.

While the young were being fed the old birds were plentifully supplied with groundsel, sow thistle, and "hardheads". The latter plant, rather like a spine-less thistle in appearance and exceedingly common in late summer, is a most valuable food for the larger Broad-tails. The seed-heads are most appreciated when the pinkish purple flower has died and turned brown. The two old birds seem very devoted to their offspring and very solicitous for their welfare. The hen does most of the feeding of the young while in the nest but the cock, though moulting, feeds her and also feeds the young one that has emerged. Twelve years is a long time to wait for a bird to start nesting, but now that she has succeeded once I hope the hen will continue and take her place in the honourable company of regular breeders. Certainly there is something about her now far more matronly and domestic than there used to be and the meagre, old-maid air of former seasons has departed ! The young birds did well and are now independent of the parents.

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*Photos by Carl Naether.*

1. COCK MOURNING DOVE.      2. HEN WHITE BARBARY DOVE.  
3 and 4. THEIR OFFSPRING.

*To face p. 265.]*

## WHEN A MOURNING DOVE FALLS IN LOVE

By CARL NAETHER

A pair of California Mourning Doves were contentedly rearing their young in a spacious outdoor aviary quite early this spring. Besides Galapagos, Bronze-wing, and other kinds of foreign Doves and Pigeons, its population included a single White Dove. A female it was—rather small, tidy, and gentle. She paid very little attention to any of the other occupants, all of which were mated. For several months she lived thus quietly and to herself.

The Mourning Doves were on their second setting of eggs. One morning early, while the female was still on the nest, I saw her mate, the heartless philanderer, fly over to where the demure White Dove was basking in the sunshine. At first she disregarded him entirely, remaining stock-still. Then the flirt flew to a near by branch, spreading his tail feathers in view of the silent and wholly undemonstrative White Dove, and each time folding his wings with particular and gentle grace. This wooing he repeated half a dozen times. Each time he alighted on the branch on which his newly found friend was perched, she would look up slightly startled. Finally, when Mr. Mourning Dove, whose shameless philanderings were watched with silent disgust by his wife on the nest, perched dangerously near the White Dove, she made off to another branch. Apparently that was just what he had wanted right along, for now he followed her from branch to branch in dexterous flight, and always with widespread tail. Just the same, when it came time to do his share of the incubating, about 10 o'clock, he relieved his mate with faithful regularity, remaining on the nest until after four o'clock—as any good male Dove should.

In due time the two eggs hatched, so that Mr. Mourning Dove had less time to indulge in his love affair. His mate in the meantime had become so jealous that she chased her hated white rival whenever the latter showed up in the vicinity of the nest. During the next three weeks, while the young Mourning Doves were rapidly growing, I saw their father frequently in the company of the White Dove, who by this time was responding whole-heartedly to his advances.

As soon as the young Mourning Doves knew how to get their own

food and water, I liberated their mother. She flew straightway to the near by mountains—glad no doubt to be rid of her fickle and faithless mate. Though this was more than three months ago, she has not, so far as I know, returned once to her old home and her offspring.

Shortly after her departure, the newly mated pair built a very trim little nest of twigs, lined with dry leaves and bits of dry moss. Twice the White Dove laid eggs. Though she and her mate brooded regularly, there were no young either time owing to infertility. When she laid a third time, however, one egg hatched. Carefully the youngster was nursed, the male being on the nest practically the entire day to keep him warm, thus doing more than his usual share. For some unknown reason he seems more attached to this particular youngster. Maybe it is because he is the offspring of a wife than which he never had a more beautiful one. Whereas she would fly off the nest almost the moment I approached it, he would remain always, scolding me and ready to strike me with beak and wing. The youngster has just flown out of the nest. It is a handsome, strong bird somewhat larger than either a young Mourning or a young White Dove, and somewhat lighter in colour than the former. The hybrid is as pugnacious as its father, shown by his fighting pose in one of the accompanying pictures, in which he looks more like a fluffy young Owl than a young Dove. In the meantime his parents are preparing to nest once more, and the adventure in breeding these rather unique crosses continues.

VAN NUYS,  
CALIFORNIA.

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## NOTES FROM A SOMERSET AVIARY

By J. E. SWEETNAM

These notes were commenced as a letter to our editor recording the rather unusual circumstances under which I had reared two Diamond Sparrows. It then occurred to me that, though they refer to no very rare or remarkable birds, some early breeding records might be of interest to members whose avicultural activities are likewise restricted by considerations of time, space, and expense. At present my small

aviaries contain only foreign hardbills, so these notes are only qualified to interest those whose activities lie in the same direction.

Here is the story of the two Diamond Sparrows, now about to fly from the third nest in which they have already passed part of their brief span of life. Having occasion to return home for a day in the middle of my holiday, I found a deserted nest of what I thought to be Diamond Sparrow eggs, the parents having, Zebra like, deserted them in favour of another site, where they were then incubating. As the three eggs seemed fairly fresh I looked about for a foster parent, but could only find a hen canary which had already reared a number of Goldfinch mules and was now supposed to be paired with a Hooded Siskin mule. Though the said hen seemed more likely to moult than complete the incubation period, it was a case of "Hobson's choice", so I left her to it and, on returning home during the first week of September, was surprised to find three day-old Sparrow chicks. I doubt if she could have reared them but, as it happened, the question never arose since, that particular aviary being seldom used and possessing no safety door, the hen slipped out and, strangely enough, never returned, leaving me to search for yet another foster for the orphans—now two or three days old. Apart from Zebras, of which I am always suspicious as foster parents, the only available repository was a Bengalese nest from which, on my mid-holiday visit, I had removed all but seven of the twenty or so eggs it then contained. It now held one partly fledged Bengalee and one naked youngster of, apparently, about a week old. Having, with the aid of the invaluable teaspoon, extracted the minute Diamond Sparrows from their first nest and presented them to the Bengalese, I visited the nest a few days later with the intention of removing their corpses, only to find all four birds well on the way to the independence one has already attained. Though, no doubt, many others could record similar experiences, I think this is worth mentioning as further proof of the value of Bengalese as foster parents, and of the wisdom of approaching all similar problems in the spirit of that friend of our childhood, Robert Bruce.

While writing of unusual breeding experiences, I wonder if any other member has found both cock and hen Diamond Dove each incubating

two eggs in separate nests? As there were no other adult birds in that aviary, I presume the cock must have taken over the responsibility for the nest deserted by the hen, but as I found her sitting on the more developed embryos, while those under the cock appeared quite clear, I am rather at a loss to understand how they managed it, and, although this enterprising effort at mass production seemed to have little prospect of success in the case of Doves, I am now rather sorry I didn't let them complete it, instead of removing the eggs from the cock, who then, dove like, did his best to prevent the hen from completing the incubation of her two eggs. Ultimately, however, they settled down to a normal division of labour.

To date (18th September) I have reared nineteen young Diamond Doves from two pair, the first young being hatched in February, and eleven young from one pair of Peaceful Doves. I have found the latter not only very prolific but much less trouble to breed than Diamonds, since they are less liable to try and destroy their young on commencing another nest. In fact, I have repeatedly had young Peaceful flying with the parents while the latter were rearing the next pair—a practice seldom or never possible in the case of Diamond Doves. This is the third season I have had these doves breeding at this rate and, so far, I have found no ill effects revealed in either parents or young. I am convinced that a liberal use of maw seed is one of the secrets of success in breeding these two species of Dove, and I am now trying it with Pigmys as well. In view of the considerable importations of Diamond Doves, it is both surprising and unfortunate that the more reliable and steadier Peaceful Doves should be so difficult to obtain. They are a beautiful species which, in my experience, are much more "peaceful" than other of the Dove family both in relation to their own and other species; one of the pairs referred to above having reared most of their young in the same aviary as a breeding pair of Diamonds. My own aviary-bred Peacefuls have just started breeding, paired to imported adults I was able to secure through the kindness of one of our members—Mon. Decoux, of Géry, Aix-sur-Vienne.

Bicheno Finches have done very well here this season, one pair having reared six young from three nests. Much the same applies to Olive Finches, now rearing their third brood. In connection with the

award of the Foreign Bird League breeder's medal the question has arisen whether these are Olive Finches (*Phonipara lepida*) or Little Finches (*P. pusilla*), and I should be grateful for information on this point from anyone who has had experience of both species and subspecies. Cuban Finches have also been very satisfactory.

Through a series of unfortunate accidents (two due to the inadvertent use of sheeps' wool as nesting material, as a result of which two sitting hens had their legs dislocated) I have had no success this season with either Hecks or ordinary Longtailed Grassfinches, but I have a pair of the now rare Parson Finches incubating steadily, and am hoping to build up a stock of these interesting and beautiful little birds, the importation of which seems, unaccountably, to have stopped. Last season I reared fifty-one young from two pair of Zebra Finches but, this year, the average from ten pair in an aviary to themselves has been much lower. I attribute this partly to the upsetting effect of a number of young birds on the breeding pairs, and partly to the fact that at least half the total number were 1933 birds. In my experience these agile and aggravating little finches need to be at least two years old before they can be relied upon as steady breeders. I find that, when a considerable number of pairs are housed in the same aviary, the young are not hatched and reared consecutively but in batches. This is due to the fact, already referred to, that a number of young birds in an aviary bring all nesting operations to a standstill by their indiscriminate use of nest-boxes as night nurseries, and this practical difficulty leads me to believe that, though the species is most prolific when their gregarious nature can be gratified, the best results will generally be obtained when the numbers of breeding pairs in any one aviary is kept within manageable dimensions, and the young from each nest removed immediately they are independent, that is when they have been ten or twelve days out of the nest.

Of my present collection of hardbills Red-headed Parrot Finches have been the most satisfactory, one pair having reared all the young from five eggs and, immediately they were independent, started to repeat the process in the same nest with three eggs. If only someone could discover a reliable method of sexing them, these most active, beautiful, prolific, and exceptionally hardy little birds would be ideal

for an aviary, and I hope a supply of aviary-bred Parrot Finches will soon be available to bring the species within the reach of those who hesitate to secure imported (and generally half-naked) specimens at the present price of from ten to twelve pounds a pair.

Desertion, due to the hen starting to moult, denied me the privilege of being, possibly the first, and certainly the second breeder in the British Isles of Black Seed Finches (*Melophyrtha nigra*), two young being almost feathered when the parents ceased to feed them. As this species is very hardy, and my pair were feeding their young largely on the invaluable milksop—the use of which generally means successful rearing—I have good hopes of rearing some of these rather rare and interesting birds next season. I would be interested to know on what authority this species is referred to as “Cuban Bullfinches”. The facts that they seem to belong to that genus, and do come from Cuba, is hardly sufficient reason for giving them a name which seems to have no scientific authority whatever.

As the other species now in my aviaries are either of no particular interest or have failed to breed, I will not usurp any more space in referring to them here.

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## REVIEW

### TERNs OR SEA SWALLOWS

Those of us who love to watch and study our less common British Birds in their natural haunts, have a very soft spot in their hearts for the Terns or Sea Swallows, those most elegant and charming of our sea birds, which, like the true Swallows, pass the spring and summer months only in our islands, journeying away in the autumn to far distant southern shores. There is no more delightful experience than that afforded by a visit in May or June to the summer home of the Terns, where one has to tread with the greatest care lest one should crush the eggs or fluffy newly-hatched young, while overhead the air is full of wheeling, scolding Terns. Over the near-by sea they are also gliding, ever watchful of the surface of the water, and every now and

then dropping with a plunge into the depths and quickly returning to the air with a prize of a tiny fish. In the spring and autumn, if we are lucky, we may see the pretty Black Tern as it pays a brief visit to our lakes and broads where once its ancestors reared their broods. Thanks to the protection afforded them nowadays we still have five species of Terns which condescend to make their summer homes and rear their families with us, and some of us have been fortunate enough to see some at least of these. And surely those of us who have obtained a partial knowledge of these lovely creatures wish to know more about them, and we have every opportunity to do so now if we carefully read *Sea Terns and Sea Swallows*.<sup>1</sup> Mr. and Mrs. George Marples have spent years in the study of our British Terns, and I suppose no one knows more about them than they do, and moreover they are skilled photographers and have accumulated a wonderful collection of studies of these birds, pictures which are unrivalled in excellence, though I suppose few birds have been more photographed than the Terns, whose elegant form invites the work of the artist. In this new book we have been given the rare treat of learning much of the life habits of these lovely creatures, for it is the best monograph on the group that has appeared, and records many facts connected with their lives that were not known before these two naturalists undertook their intensive studies.

D. S.S.

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## CORRESPONDENCE, NOTES, ETC.

### A SUGGESTION

Unfortunately aviculturists cannot avoid death of their birds; death from disease can, to a certain extent, and should, be prevented, but not death from old age. What becomes of the corpse? Is it decently (or otherwise) interred in a quiet corner of the garden, or are the rites and ceremonies of cremation duly and faithfully carried out? Is there not another and better way to dispose of the body? Perhaps there is.

Have our members considered the preparation and mounting of the skins, and the presentation of same to their local schools. It would not take long for a decent little museum to be built up in many schools. What a wonderful natural history and geography lesson this could become for the children, but above all, think how this would inculcate in each tender mind a love of the beautiful, and how this love could create a desire to own

<sup>1</sup> Country Life Limited, 20 Tavistock Street, W.C. 2. 15s. net.

and care for feathered pets. This early training should be of incalculable benefit to the future of our hobby by enlarging the number of its adherents and creating, *through knowledge*, a spirit of tolerance and inquiry.

For a start, will our members give this suggestion a trial, and in order that the effectiveness of the scheme may be studied by the Council of the Society, may I make a further suggestion that for the present this scheme be tried in a few schools only, and if proved successful then each aviculturist supports the schools in his own district.

Our members have the valuable material to form the nucleus of the collection, and it is up to us to make the best use of same.

C. B. SCOTT.

[An excellent suggestion, but there are few who can mount the skins really well, and a badly mounted specimen is almost worse than none at all.—ED.]

#### STOCK DOVE × DOMESTIC PIGEON HYBRIDS

I bred Stock Dove × Domestic Pigeon hybrids this year, using a cock Scottish Blue Pigeon (nearest to Blue Rock with almost  $\frac{1}{2}$  in. black bars). The first pair were starved as the perch fell down from the hole where the hen nested. Of the second pair, one disappeared, the old Pigeon went ill, and the hen reared the youngster, but it was faulty on its legs, so I killed it. The Stock Dove wing pattern is absolutely dominant, and the two broad bars, so characteristic of the male parent, are non-existent, quite contrary to expectations.

I hope to try it with a "checker" next year. The hen is quite a good bird (Stock Doves and Wood Pigeons, i.e. true wild Quests, hand-reared, go absolutely mad unless kept tame and in fairly closed places for about six to eight months). A friend tells me he has put a number of Stock Dove and Quests' eggs under his racers, and the young rarely survive ten days. Probably these young Pigeons require the food of the "wild" for ready development.

A. SILVER.

#### THE AMERICAN WHITNEY EXPEDITION

I am relieved to hear that the collecting methods of the Whitney Expedition were less destructive than I had been led to believe. Possibly our member who gave me the information may have something to say in reply, particularly in regard to alleged collecting on islands for which permits had been refused.

I must say I still think that the number of Masked Parrakeets taken was unnecessary and excessive.

In regard to obtaining material for museums from birds bred in captivity, it is a common error of ornithologists who are not aviculturists to suppose that birds reared in confinement at once show such aberrations and abnormalities as to render them useless for purposes of scientific study. As a matter of fact, it takes several generations of captivity breeding before the slightest variation from the wild type begins, and an immensely long period before the original type is swamped and lost by the domestic variations.

TAVISTOCK.



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NOTES ON THE CYANORHAMPHUS  
PARRAKEETS

By SYDNEY PORTER

The Cyanorhamphus Parrakeets form a very distinct genus and are confined to the New Zealand region; though some members are found on far distant islands which are no doubt the last remaining outposts of some vast continent which was submerged beneath the Southern Pacific Ocean many eons ago.

These Parrakeets vary in size from slightly larger than a Budgerigar, in the case of the New Zealand Alpine Parrakeet (*Cyanorhamphus malherbei*), to as large as a Pennant in *Cyanorhamphus cooki* from Norfolk Island, which is the largest of the genus.

In colour they are not particularly striking, being more or less of a uniform grass green marked with either red or yellow, and blue. These Parrakeets are remarkable for the fact that they inhabit regions far from the tropics and several species are confined to desolate, bleak, and often treeless islands, where the species have become, owing to the absence of trees, practically terrestrial.

Unfortunately civilized man has dealt very hardly with these birds and several species are now extinct; others are on the verge of extermination, while none are in a flourishing condition. The two commonest species, which were confined to the mainland and which were found in great abundance before the advent of the white man to the

shores of New Zealand, are now greatly reduced in numbers and are found only in the most remote forested districts as well as on several of the islands off the coast.

The two species mentioned, the Red-fronted Parrakeets and the Yellow-fronted Parrakeets, were very well known to British aviculturists forty or more years ago, and were bred with comparative ease in the aviaries of several bird-keepers. But it was the same with these as with any other bird which was comparatively easy to obtain, people did not bother to breed them and they just died out. Now these interesting species will never grace our aviaries again.

#### THE ANTIPODES ISLAND PARRAKEET (*Cyanorhamphus unicolor*)

This unique Parrakeet is confined to a tiny island far distant from New Zealand, and well on the way to the chill Antarctic Ocean. Very few specimens have been brought away alive. Buller, the great New Zealand naturalist, had several; the Zoological Society had one or two many years ago; in fact, the type was described from a bird in the possession of the Society, the habitat of which was then unknown, and recently the Marquess of Tavistock possessed a single example. This bird, which is doubtless the last which will ever reach these shores, was procured by a sailor from a small ship which stopped at the island. The bird was knocked over with a stick by the man on the shore, which shows how fearless this species is in a wild state.

I had great hopes of visiting the lonely island which forms the home of this strange Parrakeet, for I thought that I might be able to get as a passenger on the small Government steamer which once a year visits the islands in the far south in search of castaways and also to replenish the food store on the islands which is kept in case any unfortunate individuals get shipwrecked there. But, alas! I found out from the High Commissioner in London that, owing to means of economy, the steamer no longer visited the islands in the borders of the Antarctic, and the would-be castaways are now left to their fate!

Every inquiry possible was made, and I found that the only means of getting there was to charter a special ship, which would have to be of a large tonnage owing to the tempestuous seas. The price asked was

£500, which, needless to say, was quite beyond my means, so I reluctantly had to give up the project.

I very much regret to say that I fear the numbers of this bird have been greatly reduced by the members of a certain American expedition which has been ravaging the islands of the Pacific for several years and almost wiping out whole species of birds. This expedition collected many skins of this species, and from what I heard of the brutal slaughter by the members of the expedition of this isolated type its fate is certainly in the balance.

The death knell of various rare island species is certainly sounded when such expeditions as these pursue their depredations unchecked. Instead of assisting ornithological research they appear to be hampering it, at least for future generations. They have left such a name behind them that they will never be allowed to collect again in many of the British Islands, especially New Zealand.

During my visit to Stewart Island and the outlying islands I saw something of the terrible seas of those parts, and it is little wonder that few ships ever call at the bleak islands in the far south. The great marvel is that a Parrot has been able to adapt itself to such severe conditions as prevail on the island on which it is found. As mentioned before, it is very unlikely that the bird will ever be seen alive again by aviculturists in Europe, for with the stopping of the Government steamer and the total closing of the seal-killing season there is no reason for any ship to brave the terrible gales which rage in those seas.

The Antipodes Island Parrakeet is completely terrestrial and lives on the ground amongst the tussock grass, feeding upon the seeds of the grass. The very boisterous winds have made flight almost impossible for this bird, and it is very feeble on the wing, though it can run and climb about the rocks with the greatest agility.

W. R. B. Oliver, who has seen the bird in its native haunts, tells us in his book *New Zealand Birds* that this Parrakeet "is a ground bird which walks and climbs but seldom takes wing. It is found among the tussocks and scrub and also on the rocks along the shore, including the breeding places of the Penguins. It is quite fearless and makes a low chattering sound as it walks about. It breeds in holes in the thick matted bases of the grass tussocks".

A short description of the home of this unique bird may be of interest, and the following is an extract from a letter from the High Commissioner of New Zealand in London: "The Antipodes Islands lie some 490 miles east-south-east from the southernmost point of Stewart Island. . . . The largest island is known as Antipodes Island, and measures 4 miles from east to west and 2 miles from north to south. At its highest point it reaches an elevation of 1,300 feet. The coast is rocky and precipitous, with steep slopes covered with tussock rising from the tops of the cliffs to the high land in the centre of the island. . . . The tussock grows from 4 to 6 feet in height in many parts and so close together that it is a matter of difficulty to force one's way through it. There are no trees on the island, but some patches of shrubs, particularly in the shallow gullies, where rank growth of fern are also found. In addition to the various seabirds which nest there, the island is noted for a small Green Parrakeet, which is found fairly plentifully amongst the tussock grass."

The weather on this isolated island is far from ideal, terrible gales and storms sweep over it in the winter time from the Antarctic and make it anything but a desirable place for a Parrakeet to live on. But in spite of this it seems to have been able to fight the elements and hold its own until the coming of the arch-enemy of all feather life, Man, who seems to have made short work with this highly specialized and interesting species. The Antipodes Island Parrakeet is about 14 inches in length and of a uniform yellowish grass-green, with the primary coverts and the outer edges of the primaries bright blue. The legs are particularly long and eminently suited for the terrestrial life which the bird leads.

Some of these birds were transferred to Kapiti Island in 1907, but there were none there when I visited it. Highly specialized animals hardly ever thrive when transferred from their own habitat to another. There is certainly no tussock on Kapiti on which the birds could feed.

Buller says: "My captive birds seemed perfectly happy although caged when adult. They partook freely of maize and oats, also of apples, grapes, figs, and, indeed, ripe fruit of any kind. They could bite severely, as I soon learned to my cost. . . . Although captured as adult birds they readily take to confinement and do not fret, as most other

birds do, at being caged. I have noticed that this species has a habit of resting at night in an upright position, holding on to the wires of its cage by both bill and feet."

THE MACQUARIE ISLAND PARRAKEET (*Cyanorhamphus n. erythrotis*)

Macquarie Island will no doubt be better known to readers as the original "Penguin Island". It is one of those tiny islands which lie far off the coast of New Zealand and well on the way to the Antarctic. It was until recently the scene of the most terrible and disgusting slaughter of the Penguins, when every year tens of thousands of these hapless birds were driven into great vats or digesters to be boiled down alive for the sake of a cheap commercial oil used mainly for the greasing of ropes, as it was a trifle less in cost than mineral oil. On this island lived a small Parrakeet of the *Cyanorhamphus* group, a bird like the Antipodes Island Parrakeet, which was particularly terrestrial in its habits, more from force of circumstances than anything else, as there are no trees on the island, it being too bleak and wind-swept.

This Parrakeet, like the last, derived its sustenance from the seeds of the tussock grass and also nested under the clumps of the same grass. A scientific expedition which called at this island within recent years failed to find the bird at all. One of the party who had explored the island told me that though they examined every part of it they failed to find the bird, so had reluctantly to come to the conclusion that it was extinct.

Some time afterwards I met one of the professional Penguin killers from Macquarie Island, and he told me that the Parrakeet had disappeared prior to his advent there some years before the War. There is little doubt that this bird was exterminated through the agency of cats, which were brought by the Penguin killers in the very early days and which were left to fend for themselves when the men left in the winter. These animals have greatly increased and still take a great toll of the bird life. The Macquarie Island Parrakeet is similar to the Red-fronted Parrakeet, but is of a more yellowish green, especially on the under parts, and there is very little blue on the wings.

THE RED-FRONTED PARRAKEET (*Cyanoramphus novaezelandiae*)

There is no doubt that in the course of time both this bird and its ally, the Yellow-fronted Parrakeet, will vanish from the mainland of New Zealand. Fortunately it will not vanish from the face of the earth so long as the New Zealand Government still retain the Little Barrier Island, Kapiti Island, and the islands off Stewart Island as sanctuaries for New Zealand's much persecuted bird life. On these islands the birds are numerous, especially the Red-fronted. The latter birds are also extremely common on some more very small islands, the names of which had perhaps better not be mentioned.

Once exceedingly common, the Red-fronted Parrakeets were to be seen in flocks of thousands; now on the mainland they are restricted to a few very remote localities. On my arrival in New Zealand I spent a considerable time in searching for these birds, and at last tracked down a small colony in the forest reserve of Lake Waikaremoana. In every other locality I was told that the Parrakeets were very plentiful forty years or more ago, but had now quite disappeared and were now never seen.

Like most of New Zealand's birds, it is dependent on the forests for its food, and it is intolerant of any interference on the part of man. For wherever timber-felling operations are started prior to the burning of the forest, the birds quickly disappear. Many years ago Parrot shooting was a favourite "sport" with the colonists, and this no doubt helped to reduce the numerical strength of the birds to a great degree.

This Parrakeet is very rarely kept in captivity in New Zealand now. When I was first in New Zealand I did hear of one, but when I tracked it down it proved to be a White Cockatoo! We shall never see this interesting species in our aviaries again, except perhaps an odd one or two now and again which happens to be smuggled out of the country, for the New Zealand Government would rather see fifty perish in a forest fire than a single pair leave the country for breeding purposes.

To show the great rarity of this bird on the mainland, many people who were interested in birds had never seen it and most ordinary people had never even heard of it. The birds which I did manage to see on the mainland were exceedingly timid and it was impossible to get within a good many hundred yards of them, except once in the forest

at Takahue, when one alighted near to us, but as soon as it became aware of our presence it was off like a shot from a gun.

On the Little Barrier Island this Parrakeet finds sanctuary and it is extremely common; in fact, I should think that the Parrot population of the Little Barrier is greater than that of the entire mainland. On first setting foot on that fascinating island the Parrakeets were the first birds which attracted our attention. What a joy it was to see these brightly coloured birds only a few feet away instead of a quarter of a mile away as I had done on the mainland! Here they were utterly fearless, and my first "birdy" thrill after landing was to see one of these birds only a few feet away feeding on the seeds of the native flax which grew on the beach.

The favourite diet of the Parrakeets is the seeds of this plant (*Phormium*), known locally as "flax", but bears no resemblance to the plant known as flax in Europe. The seed pods are like small hard bananas and are borne in clusters in a candelabra-like fashion on stems which grow from 10 to 15 feet high. Each pod is packed with peculiar flattened black seeds, the kernel of which in the centre is white and nut-like to the taste. By the time the pods are ripe one finds that nearly all have been torn to pieces by the Parrakeets. On the Little Barrier I endeavoured to procure a quantity of these seeds for my Norfolk Island Parrakeets, which would also doubtless feed on them, since the plant is found on Norfolk Island. As all the seeds were eaten as soon as they ripened by the Parrakeets, I plucked a huge stock of the partly ripe seed pods and placed them under bushes covered with branches of trees, hoping that they would ripen in that way. But on arriving at my treasure store some days later to collect the seed I found that I had been outwitted by the Parrakeets, who had discovered my hoard and systematically opened every pod.

Around the caretaker's house on the island the birds were comparatively tame, coming down to feed on the various seeds in the garden and also on the apples which they seemed to relish in a half-ripe state. It was when in the apple trees that we were able to approach nearest to the birds, usually within two or three yards.

On a small group of islands which we visited we found the Parrakeets very plentiful; on one of the very smallest islands they were especially

numerous. These islands are very small, and although they were covered with the densest vegetation it was amazing that they supported such a large Parrot population. Most of the islands were almost inaccessible except the one where the Parrakeets were so plentiful, and access to this was only gained through climbing up a precipitous and partly dried-up waterfall. During the rainy season it would be quite impossible to gain access to this island at all. It is doubtless the inaccessibility of these islands which has saved the Parrakeets.

The season had been very dry and there were only one or two small pools on rocky ledges, and these formed the sole drinking places for the birds on the island. All manner of native birds were perfectly tame; the Parrakeets came round and settled within a foot or two of one; in fact, they seemed to ignore the presence of human beings, treating us as though we were non-existent. I have seen few birds as tame in a wild state as the Parrakeets on this island. A professional bird-catcher could have caught hundreds in a morning. I spent two days and one night there, sleeping under the shelter of a huge "flax" plant on the beach so that I could observe the habits of the birds at their drinking places early in the morning. In this I was disappointed, for I found that the best time for seeing the Parrakeets was in the heat of the day, when there was a constant stream of them coming to drink and bathe. It was on this island that I heard for the first time the very distinctive goat-like bleat of these birds which caused the Germans to call this species "Ziegensittich". At first I thought there must be numerous kids in the "bush" as there are on many of the small islands off the coast, but I soon found out the noise was made by the Parrakeets.

On the first three of the chain of islands which we visited the "flax" plants were entirely stripped of their seeds, and on these islands the Parrakeets were not nearly as plentiful as on the last island, where there was still a large quantity of seed, so it is obvious that the birds pass from one island to another as the supply of seed runs short. There must be a considerable shortage of seed in the winter time, for I cannot think what the birds would eat except the hard seeds of a pampas-like grass called in the vernacular "toi-toi".

I spent a good many hours watching the Parrakeets at their drinking

place and noticed that some of the birds seemed to prefer to settle on the perpendicular rocks and suck up the moisture which oozed through the cracks. I noted, too, that the birds were extremely agile in their movements on the rocks, running up perpendicular faces with the utmost ease.

On another fairly large island some miles away from the small group mentioned above we found the Parrakeets fairly numerous, but not nearly as tame as on the former islands. We were fortunate in finding a nest of almost fully fledged young ones within 2 feet of the ground. This nest was in a hollow puriri tree and the three youngsters could easily be reached by the hand. During the time my hand was inserted in the nest it got covered with tiny lice-like insects; when I withdrew it it was covered with a brown crawling mass of these creatures. Whether they came off the birds themselves or from the rotten wood I do not know, but it must certainly have been very uncomfortable for the birds. The youngsters were exact replicas of their parents except that the cere was very large, occupying quite half of the beak.

I understood from other naturalists that the Parrakeets were also very common on another small group of treeless islands to the north of New Zealand. These islands we intended to visit but did not do so. This was a matter of great regret to me, as I understood that owing to the absence of trees the birds were ground-nesting.

It is almost impossible to get hold of any of the *Cyanoramphus* Parrakeets now in New Zealand. On the mainland the birds are so scarce and wary that no one is able to catch them. Then there are no bird trappers, for all birds are protected and it is against the law to own any native birds except Keas and Zosterops. Even were it possible to get hold of any it would be impossible to get Government permission to export them out of the country.

All the islands I have mentioned are bird sanctuaries, where all bird-life is rigidly preserved and Government permission is needed to visit them. This is, of course, as it should be, for no one wants to think of the unique avifauna of New Zealand becoming extinct. But so long as the islands are protected the birds will be safe from extinction. The only fear now is from the increase of cats and rats upon the islands and from forest fires. It has been known for cruising parties to land

on the islands and deliberately set fire to the forest during dry weather.

If the New Zealand Government paid as much attention to the wicked and wanton burning of forests, with its terrible toll of bird life, which goes on everywhere unchecked, as it does to the slight moral lapses of some of its citizens it would earn the thanks of posterity.

Buller says, in writing of this species in the second edition of his work, published in 1888: "It is quite the cottagers' friend in New Zealand. Riding or driving through the suburbs of the provincial towns—Porirua and Karori districts, for example, near Wellington—you will notice in many of the farmers' houses and roadside cottages small wooden cages of primitive construction (often merely a candle-box or whisky-case, faced with wire-netting or thin bars) fixed up to the front of the building or under the simple verandah. On closer inspection each of these cages will be found to contain a tame Parrakeet—the pet of the rustic home and 'Pretty Poll' of the family. I have often been quite impressed at finding how attached these simple people become to their little captive." Now all is changed, for, search as I would from one end of the country to the other in my endeavour to obtain examples of this Parrakeet, I found only four examples in captivity, and these belonged to two naturalists who kept them and did not wish to part with them. Most New Zealanders do not know that a Parrakeet ever existed in their country, so rare is this bird to-day on the mainland.

#### THE YELLOW-FRONTED PARRAKEET (*Cyanorhamphus auriceps*)

Rare as the Red-fronted Parrakeet is, this bird is far rarer. It is almost unknown on the mainland of New Zealand, though in the middle of the last century it was even commoner than the other bird, appearing in flocks of countless numbers and devouring the corn and fruit of the settlers.

The first time we met with this rare bird in a state of freedom was on the Little Barrier Island. It will always stand out as one of the "red-letter" days of my life, for it was on that day we climbed Mount Archeria, the highest peak in the centre of the island. The island looked so sinister and foreboding as we approached it that I little

dreamed of being able to stand on the top of its inaccessible-looking peak. But it proved easier than it looked. The climb was one of the most interesting I have ever done ; up to 500 feet the way lay through dense manuka-bush, which is a secondary growth, replacing the burnt forest, after that the way lay through virgin forest of mixed growth until, at about 1,000 feet, this changed to kauri forest, there being many magnificent specimens of this giant forest tree. At about 2,000 feet this changed into semi-alpine rain-forest. Here it was a veritable fantastic fairyland, stranger than was ever pictured in the imagination of man. Everywhere seemed a fantastic mixture of trees, rocks, ferns, and mosses. In some places, strange as it may sound, it was like a fairy cavern where it was impossible to tell which was the ground, the rocks, or the trees. From the top it was possible to see the whole island, running in precipitous forest-covered ridges from the sea to the culminating point in the centre.

On the summit one stood in the clear rarified atmosphere in the brilliant sunshine, far above the rolling white mist clouds which the currents of air wove into strange wraith-like shapes. It was here that one realized the true significance of the beautiful Maori name " Hauturu ", meaning " the resting place of the winds of Heaven ".

It was at a height of about 2,000 feet that we first heard the chattering of Parrakeets, but it was a different note from that made by the Red-fronted, a softer and more melodious sound. I realized almost at once that it was the call of the Yellow-fronted Parrakeet from the sound I had heard of a captive bird. But try as we would it was impossible to see the birds ; the green of the plumage harmonized so well with that of the trees that in the dim light of the forest, it was impossible to distinguish the birds. Fortunately on the way down, not far from the summit, a pair of Parrakeets flew down into a low sapling only a few feet away. One, to my surprise, proved to be a Yellow-fronted and the other a Red-fronted. It almost looked as though these were a pair, though this would be impossible. I watched the bird which I took to be the hen for about a quarter of an hour ; she was quite tame and appeared to take quite as much interest in me as I took in her.

This delightful Parrakeet was at one time, fifty odd years ago,

quite common in English aviaries, but has, alas! grown scarcer and scarcer until at last it is practically extinct in the North Island, the Little Barrier Island being one of the few places where it is found to-day, and even there it is far from common. This is strange, for it is supposed to be a very prolific breeder; Gutherie Smith records having found nine young ones in a nest.

The Yellow-fronted Parrakeet is now almost unknown in captivity in its native land, for apart from its rarity it is an offence against the law to keep it. I only came across two birds in my travels, both males, and I am quite sure these were the only ones in captivity. There is no more charming bird in existence from an aviculturist's point of view than this dainty and intelligent little Parrakeet. It is very beautiful, friendly, easy to feed, has no harsh notes, does not destroy woodwork, and is altogether the most delightful bird one could wish for. In the old days it was quite easily bred. It is a thousand pities that a small breeding stock could not be obtained so that the race could be perpetuated in captivity, but I am afraid that this will never be, and we must be thankful to think that this species still exists at all—it certainly would not have done had not certain islands been reserved as sanctuaries.

To show how misleading statements regarding birds may be, I heard whilst in the North Island that there was a large breeding colony of these birds in the forest country between Lake Waikaremoana and the Ruahine Mountains. I diligently traced down, from one to another, the original person who knew the whereabouts of the birds, only to find on reaching Lake Waikaremoana that the birds were plentiful—fifty years ago!

Buller says in his monumental work, *The Birds of New Zealand*: "The Yellow-fronted Parrakeet is easily netted and when caged soon adapts itself to captivity. Twenty years ago a Mr. Bills of Dunedin brought a hundred or more of them in cages to England, and they found ready purchasers at a guinea each." What would such a consignment be worth to-day?

I made a special trip down to Stewart Island, intending to visit some of the small outlying islands off the South Cape, mainly Moggy Island, Evening Island, and Hidden Island, where this Parrakeet is

reported to be still found in considerable numbers. The Fates were against us. We set out in a 50 ft. yacht, but the tempestuous seas proved too much for our small craft. For nearly a week we battled with the gales, having to seek, often enough, shelter in the wonderful inlets off the coast of Stewart Island. What a relief it used to be to find refuge in these quiet and beautiful waters which gave no indication of the fury outside! They were real havens of refuge, where we could light a fire and thaw our frozen limbs and get something to eat. Eventually, so bad did the seas become that we stood no earthly chance of ever arriving at our destination, so reluctantly we had to turn stern about and let the gale blow us back to safe anchorage in Half Moon Bay.

How these delicate-looking little Parrakeets manage to survive on these small islands, which for four or five months of the year are swept by bitter winds from the Antarctic, I do not know. The climate, by all account, resembles that of the West Coast of Scotland. But this bird, like so many others in New Zealand, seems to have been successful in adapting itself to its environment, for it is very evident that no member of the Parrot family could originally evolve under such adverse conditions.

I visited Ulva's Island in quest of this bird, but failed to find it, though I have no doubt that it was there, but our stays on the island were of very short duration and we had little time to make a thorough search of the dense forest.

Unlike the Red-fronted Parrakeet, this bird does not seem to find any of its food in the open, and I have never seen it on the flax plants. It seems, more or less, to feed upon the fruits of the forest trees.

Buller says: "At irregular periods after intervals of from seven to ten years this Parrakeet (in company with the preceding species) visits the settled and cultivated districts in astonishing numbers, swarming into the gardens and fields, devouring every kind of soft fruit, nibbling off the tender shoots on the orchard trees and eating up the pulse and grain in all directions. The last of these visitations occurred in the early part of 1886 and the one before that was at the close of 1877." Now all is changed, the Parrakeets have gone, never to return, and few are New Zealanders who have been fortunate enough to catch even a glimpse of this bird within recent years.

*(To be continued)*

## PARRAKEET BREEDING RESULTS AT FOXWARREN PARK IN 1934

By ALFRED EZRA

This year has been a very successful one with me, and my Parrakeets have done remarkably well. I had only one young Queen Alexandra egg-bound, and she very soon recovered. My greatest success has been the breeding of my first Blue Alexandrine and two lutino Ring-necks. All the young this year have been particularly healthy and strong birds. In all thirty-two Parrakeets were reared successfully. I shall now give a list of the birds reared.

### RING-NECKS (*P. krameri*)

First pair: A green male and yellow female. Three eggs and three young fully reared.

Second pair: Both yellow birds. Three eggs; all young dead in shell.

Third pair: Green male and yellow female. Two eggs; one young reared but the other egg was infertile.

Fourth pair: Green male and yellow female. Four eggs; two young reared but the other two young died when eighteen days old.

Fifth pair: Green male and yellow female. Four eggs, which were all infertile.

The hybrid Alexandrine and Ring-necked cock and green female Ring-neck. Five eggs; two young reared but the other three eggs infertile.

In an aviary where I had turned out seven birds, two wild-caught lutinos and five yellow-bred green birds, I found two lovely lutino young birds fully reared.

### ALEXANDRINE PARRAKEET (*P. nipalensis*)

First pair: Blue male and green blue-bred female. Three eggs; two young were reared and the third egg was infertile. One of the young is a beautiful *blue* bird and the other a green.

Second pair: A pair of blue-bred green birds. Three eggs; two young reared, both green; one egg infertile.

Third pair: A pair of blue-bred Greens. Two eggs, which were both infertile.

Fourth pair: Green male, yellow female. Three eggs and reared two young ones. Third young one died when sixteen days old.

Fifth pair: Both green birds. Two eggs, both broken during incubation. Laid four more; one young reared, two eggs addled and one broken.

MALABAR PARRAKEET (*P. peristeroides*)

This pair, which breeds regularly every year, produced four eggs. Reared three very fine young ones, and the fourth egg was infertile.

QUEEN ALEXANDRA'S PARRAKEETS (*Polytelis alexandrae*)

My old pair laid six eggs and reared three young. Two eggs were infertile and one contained a dead chick. They went to nest a second time laying four eggs. Reared three young and the fourth egg contained a dead chick.

Second pair: 1931 birds. Four eggs, but all broken. Four more eggs were laid and one young one was hatched which was killed the next day by the hen bird. Two eggs were infertile and one egg contained a dead chick.

Third pair: 1932 birds. One egg; then the hen became egg-bound. She soon recovered and was not allowed to nest again.

TURQUOISINE PARRAKEET (*Neophema pulchella*)

A pair of these birds produced four eggs, but the male bird broke them all.

ELEGANT PARRAKEET (*Neonanodes elegans*)

First pair: Five eggs. Three young reared; two eggs infertile.

Second pair: Two eggs. Hen died of enteritis after incubating for nine days.

MEALY ROSELLA (*Platycercus palliceps*)

First pair: Three eggs and reared all three young birds.

Second pair: Three eggs and broke them all.

LAYARDS PARRAKEET (*P. calthorpe*)

Three eggs all of which were infertile.

Hooded, Barraband's, and Derbyans did not nest.

## PARROT KEEPING IN GERMANY

In Part III (July, 1934), of *Vögel ferner Länder*, the journal of the chief German Society for Bird-keepers and breeders, is a most important article by W. Schinke, President of the German Budgerigar Society, headed "Wohin (Whither), deutscher Papageien- und Sittichzuchter". Its subject is the recent German legislation against *Psittacosis*, and its effect on such societies as his and on fanciers generally. He gives in full the text of the new Ordinance of 3rd July, 1934 (an Ordinance for the Control of Parrot-disease (*Psittacosis*) and other contagious diseases), and also the Regulations of 14th August under this Ordinance. The provisions are wide-reaching and detailed, and under them keepers and breeders of any species of Parrot and Parrakeet must be registered, must keep quite elaborate books, showing the number of their birds, whence obtained, where sent (if disposed of), and much besides. These are to be kept up-to-date and open to inspection by the appointed officers, while the birds themselves and their abode are also to be ready at any time for medical inspection. Deaths and sickness have of course to be reported immediately. The penalties for infringement of the Ordinance are heavy—fines up to 150 RM. and/or imprisonment up to three years.

Dr. Schinke goes fully in the whole matter, taking a very serious view of the situation, and shows that not only are the big breeding establishments likely to be effected, or even put out of action altogether, but that the legislation is so all-inclusive and so worded as to embrace even the keeper of a few birds, if they are Parrots, as Budgerigars indisputably are. He concludes by calling on all Budgerigar breeders and other bird-keepers to do all they can to assist him and the Fancy Societies in their efforts to mitigate, if possible, the hardships this legislation is likely to cause. The whole reads as if Budgerigar-breeding in Germany would be crushed out of existence by this weight of paperwork and control, and that seems to be the opinion of the writer, though he has hopes that union may do something to help. The prospect at the best is gloomy and if the article were to be translated into English (it is well worth it) I should suggest that the title (instead of "Wohin? (Whither?), etc."), should be "Woe! ye German Parrot- and Parrakeet-breeders!"

E. H.

## THE BREEDING OF THE SPLENDID GRASS PARRAKEET FOR THE FIRST TIME IN EUROPE

By E. J. BOOSEY

Two breeding results of outstanding interest have been obtained here at the Keston Foreign Bird Farm during 1934, namely the successful rearing of broods of the Splendid Grass Parrakeet (*Neophema splendida*) and the Yellow-fronted New Zealand Parrakeet (*Cyanoramphus auriceps*). The former have, I believe, never before been reared in Europe, whilst the latter were bred some thirty odd years ago by Mr. Bouskill, though never, I think, either before or since.

The pair of Splendids arrived here in late summer of last year and were placed in an outdoor aviary possessing a heated shelter. One cold autumn night the cock contracted a slight chill, due possibly to the heater not being turned up high enough; but, in any case, we considered it safest to transfer the pair to a large flight cage, where they successfully passed the winter.

This spring, as soon as they were put out into their original aviary, they at once showed signs of wanting to go to nest; the hen continually searching for nesting sites, and treating the most impossible crevices as a suitable nursery for her children, while the cock flew from end to end of the aviary, starting high up and dropping almost to the ground half-way—rather like a courting cock Barraband but with a less laboured flight—and ending high up on the wire at the farther end of the run, with shoulders forward and wings depressed, reminding one of a cock Bourke's when his wife is house-hunting. At the same time he frequently uttered the plaintive piping notes which are so reminiscent of a Bullfinch and so utterly unlike the call of any of his near relatives.

When the nest-box—a natural hollow log—was put in, their excitement knew no bounds, his wife—like most hen Parrakeets—pretending to be terrified yet fascinated by the strange object; while her husband, after hovering round it for a few moments, eventually settled and timidly poked his head into the entrance hole. Apparently, in spite of the pitch darkness within, he found it to his liking, for by way of

encouragement to his wife he proceeded to go through all the motions of having a bath in imaginary water, keeping up a curious hoarse grumbling noise the while. This apparently proved irresistible to the hen, who was shortly afterwards seen to enter the log, though she discouraged further imaginary bathing on the part of her husband by rushing out to drive him away each time he appeared at the entrance hole. About this period he was frequently seen feeding her but it was some considerable time before the first egg was laid. The full clutch consisted of seven and the hen apparently started to sit after laying the fourth.

Things went swimmingly for a week, and then one began to have that dreadful feeling that it was all too good to be true, and so it turned out to be. For when the hen had been sitting for ten days, the cock suddenly became completely paralysed as to the wings and feet. He was at once transferred to the hospital where he made a very slow, though complete, recovery; but meanwhile there seemed nothing for it but to take away the eggs and distribute them under foster parents—a hen Bourke's and a hen Turquoise fortunately having just started to sit at the same time.

This was duly accomplished and all seven eggs proved to be fertile. Then "X" (the evil genius of aviculture, discovered and named by Lord Tavistock) decided to intervene. This time he and Dr. Buchan between them managed to produce several bitterly cold nights, just at the psychological moment when the hen Turquoise ceased to brood her growing family of Splendids. As a result of this, all but two died, these eventually being fully reared, and very fine youngsters.

At the same time, "X" achieved his real *tour de force* with the brood under the Bourke's. Assisted by the extremely hot, dry weather, he caused their log to split from end to end, hurling the young Splendids into the long grass below. Needless to say, being very young, they perished before the calamity was discovered.

By way of convincing those who do not believe in the actual existence of "X", one might mention that numerous similar logs were also in use here at Keston (cut in some cases from the same tree) housing at the time lesser rarities such as Bourke's, etc. All these, however, remained intact, for "X", who will usually turn a blind eye to the

the specimen. Later the Institute handsomely acknowledged the gift, as before-mentioned. One never knows what is needed there for scientific research and study. I know for instance that they are anxiously awaiting the death of one of the Black Mamba's which I procured for "The Zoo". Aviculturists therefore may possess what is to them a worthless dead bird, but which is of interest to science.

H. MOORE.

#### BREEDING OF CHINESE JAY THRUSHES

In the pages of *Cage Birds*, vol. lxii, No. 1595, 6th August, 1932, p. 69, appeared a photo of a pair of Chinese Jay Thrushes (*Dryonastes chinensis*) (Scopoli) (old name *Garrulax*), dealers' name, Canton Mocking Bird. This photo was accompanied by a letter to the Editor under the *nom de plume* "Cardinal", stating that the pair had laid two eggs, and that there was every hope that the young would be reared. Among my queries during July of this year was one from a correspondent asking me whether this species had been bred in Great Britain. I replied to the effect that I thought not, and after consulting Dr. Hopkinson's valuable compilation, I concluded that the writer's success in rearing the young Jay Thrushes was the first recorded instance. Thinking that it would be a pity if the particulars were lost in obscurity, I corresponded with the "querist", a Mr. H. Kenway, of Llandudno, who kindly supplied me with photos of the old birds feeding the young after leaving the nest, and the particulars regarding the occurrence are as under: 1932, first egg laid 21st June, and another the following day. They hatched on 5th and 6th July. They left the nest on the fifteenth day, and at three weeks were fighting each other so dangerously that Mr. Kenway had to separate them and cage one up. At four weeks to the day one young bird was heard trying its best to imitate the song of the male, and eventually became very tame and a fine singer, but at eighteen months lost the sight of one eye. The other young bird was discovered dead at five weeks old. Mr. Kenway states that when the young were in the nest the old birds were very fierce, the hen attacking from above by striking the owner on the top of the head, and the cock always going for the left eye, very nearly succeeding in wounding Mr. Kenway on one occasion. In addition to soft food the old birds were supplied with plenty of "gentles", cleaned in meal and given alive.

A pair of these birds some years ago, kept by someone in the South of England known to a Mr. Frank Smith, Liverpool, and quoted by Butler in *Foreign Birds for Cage and Aviary*, pt. i, p. 45, are said to have started to breed, but broke up their eggs. The older aviculturists will remember that this attractive species was at one time much more readily obtainable than it is to-day.

In Calcutta, according to Finn, it was known under its Chinese name of "Peko", where it was prized as a songster and mimic. I think the first living examples I ever saw belonged to Arthur Gill, M.R.C.V.S., of Bexley Heath, some thirty-four years ago. Like many of their allied brethren they are not hard to keep, and are attractive birds for a shrubbed aviary, moving with extreme rapidity among boughs.

A. SILVER.

[Other letters unavoidably held over. Ed.]

## OFFICERS FOR THE YEAR 1935

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## CORRESPONDENCE, NOTES, ETC.

## THE DISPOSAL OF DEAD BIRDS

Mr. C. B. Scott's suggestion that upon death our rare and beautiful birds should be mounted and presented to schools is a commendable one. Personally I always ask the Natural History Museum if they desire the body of any bird that I may lose. In most instances they do, and one receives a handsome acknowledgment upon vellum. Not always are the birds or other subjects needed for exhibition, but for scientific study. A few years ago I was fishing off Nasau, Bahamas. I pulled up a bright scarlet fish. Attached to the neck, if a fish has a neck, was a long parasite. It was ten minutes before this parasite died and released its hold, leaving two holes plainly visible where its prongs had been buried. I got a large, empty, glass olive jar from the steward and I wasted £1 upon two bottles of whisky. I put the fish and parasite in the bottle, filled it up with Scotch, and screwed down the lid. As soon as I arrived back I wrote the Museum asking if they would care for this specimen. Several scientists from that Institution wrote per return saying "Yes please". One was a lady—a lady doctor. She of course received

small and nimble mammal, particularly when, as is often the case, they run rapidly and jerkily *down* the wire netting from top to bottom of an aviary.

Their prevailing colour is green, paler on the breast; a band just above the beak and a patch on the flanks bright red; fore part of the crown golden-yellow; some blue on the lower edge of the wings. Bill a pretty silver, shading into black at the tip. Length: 9.6 inches.

A striking feature of the bird,\* usually omitted in book descriptions, is the very brilliant red iris of the eye.

The hen is usually not only considerably smaller than her mate, but has a much smaller, rounder, and more feminine-looking head. So marked are these differences that it is quite easy to sex young birds by their size immediately they leave the nest.

The Yellow-front seems always to have been a rare species; in fact, our Editor informed us on his last visit to the Keston Foreign Bird Farm that he could not remember having seen a living specimen before; and Mr. Sydney Porter describes them as nowadays excessively rare in their native land.

It appears to have been bred by only one aviculturist, Mr. Bouskill, who first had a brood of young ones in 1898; though there is little doubt Yellow-fronts would, if given the chance, prove themselves no less prolific than their cousin the Red-fronted, which at one time seems to have been very extensively kept and bred in this country.

The first bird of this species, a solitary hen, arrived here in the late spring of 1933 and, as there seemed little prospect of ever obtaining a proper husband for her, she was mated to a cock Blue-wing since these two Parrakeets are almost identical in size.

She and the Blue-wing quickly became attached to each other, and the cock was continually seen feeding the hen, but the four eggs, on which she sat her full time, proved to be unfertile.

Soon after this a mate of her own kind was unexpectedly obtained, and was at once put in the aviary in place of the Blue-wing. Curiously enough, the hen did not seem at all overjoyed at being presented with a husband of her own race, and refused to go to nest again, shortly afterwards falling into a heavy moult. This did not augur very hopefully for successful breeding results the next year, and to make matters

blue, mixed with green at the back of the head. Upper<sup>s</sup> breast green at the sides with much red and orange-red in the centre; abdomen and under-tail coverts, yellow. A considerable amount of very pale turquoise on the wing. Under wing coverts rich dark blue. Flights blue with a green tinge to the edge of the outer webs and dusky inner webs; outer ones largely yellow. Bill black. Length 8 inches."

To this description one might add that in our breeding cock quite two-thirds of the breast is the most brilliant scarlet; whilst another cock, presumably adult, has only the more or less round red patch portrayed in some of the old books.

Written descriptions unfortunately seldom convey the full beauty of a bird. To those therefore who find it difficult to form a mental picture from such descriptions, one can only say that our breeding cock, when seen sitting in the sun, facing one, on a hummock of grass, is a picture of quite incomparable brilliance.

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## THE BREEDING OF THE YELLOW-FRONTED<sup>s</sup> NEW ZEALAND PARRAKEET (*Cyanoramphus auriceps*)

By E. J. BOOSEY

The *Cyanoramphus* Parrakeets, of which this is one of the smallest members, are curious and interesting birds, differing in many respects from all other Parrakeets. Their voices, for example, are unique, resembling nothing so much as the far-off bleating of a sheep. This, on paper, does not sound a particularly attractive cry, but as uttered by the bird it is nevertheless quite a pleasant and not unmelodious sound.

A further and striking peculiarity is the way in which all the Parrakeets of this genus have the purely gallinaceous habit of scratching in the ground, like poultry, their long legs seeming particularly adapted for this purpose, also enabling them to run and jump with extraordinary rapidity. To watch them, there is something extraordinarily unbird-like about their movements, and they always remind me more of some

propagation\* of Zebra Finches and Budgerigars (being probably much too busy elsewhere!) was concerned only with the destruction of the Splendids and he did his job fairly thoroughly, for from seven fertile eggs only three young ones were finally reared; the third being an oversight on "X's" part as well as our own, as an egg thought to be one of those moved from the Bourke's was put under a Nyasa Love-bird, who hatched and reared—a Splendid! And a very nice one, too.

Meanwhile, the old hen had laid again, starting to sit about the 21st July, and this time nothing went wrong with the cock, and a nice nestful of young ones was hatched about the 9th August. All appeared to go well for several days, when that ominous charnel-house smell began to be discernible in the vicinity of the log. On investigation, all but two of the young ones were found to have died at various ages. But the last two survivors were fully reared, leaving the nest on 27th August and 2nd September, respectively, and they are now flying about with their parents.

The death of the others seems to have been due to two causes, namely the rather cold nights when the young ones were first hatched, and the fact that the cock is a lazy feeder when he has nestlings to provide for.

We found that the hen had laid four more eggs before the young ones left the nest, and these were removed and put under foster parents and the first of them has just hatched to-day, 17th September.

So far, therefore, the net result has been five young Splendids, three under foster parents and two reared by the parents themselves, and now a further brood just hatching under foster parents.

Incidentally, young cock Splendids are almost exactly like their mother, with no sign of the brilliant dark blue mask or red patch on the *upper* breast, which they will later possess, but showing, curiously enough, her distinctive yellowish orange patch—only rather duller—on the *lower* breast. Young hens are similar, but the yellowish orange area is replaced by greenish yellow.

For the benefit of the vast number of people who can never have seen a living Splendid, the following short description of the cock is taken from Lord Tavistock's *Parrots and Parrot-like Birds*.

"Green. Face dark, brilliant blue; remainder of head torquoise

the specimen. Later the Institute handsomely acknowledged the gift, as before-mentioned. One never knows what is needed there for scientific research and study. I know for instance that they are anxiously awaiting the death of one of the Black Mamba's which I procured for "The Zoo". Aviculturists therefore may possess what is to them a worthless dead bird, but which is of interest to science.

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NESTLING WATER THICK-KNEE.

*Photo by Frances Pitt.*

[To face p. 302.]

to run rather than fly, especially if there is cover close at hand, and it was this fact that enabled Mr. Webb to catch them—the only pair he had ever seen. A tunnel-shaped net fixed in the evening on the track where they ran when disturbed, enabled Mr. Webb to drive them both underneath next morning. Some writers say that Water Thick-knees, for some unknown reason, are attracted by crocodiles, specially on Lake Victoria, where they may be seen frequently where these reptiles are basking on the shore. They are lacking in parts of the shore where there are no reptiles. Where these birds were caught, crocodiles were quite numerous, so much so that Mr. Webb was not too happy when wading across to the island, but luckily the water was clear enough for him to see their whereabouts. Very little is known of these shy and retiring birds in their wild state, as they are very seldom seen, but it's near relative the Bush Thick-knee (*Burhinus capensis*) is not uncommon in certain districts where there is often thorn bush scrub.

About six years ago I got the above pair of birds from Mr. Webb and they have been in a large aviary with a good many other birds, among them a pair of South African Crowned Plovers. They have never attempted to nest till this year, when they started carrying leaves and grass about the 8th July. They finished a sort of a nest, consisting of small stones, leaves, and grass under a Cupressus. First egg was laid on the 15th July and the second on the 17th. Only two eggs laid. One egg was broken on the 24th, but the other one was hatched on the 9th August. For the first few days the young one would lie flat on the ground as soon as anyone approached it, pretending to be dead. When about ten days old it began hiding in clumps of grass and was very hard to find. The parents were ideal and looked after their offspring beautifully. No birds or any of us were allowed to approach it. If we tried to get near the young bird both the parents attacked us with outstretched wings and violent hissing. The young bird was reared on ants eggs, gentles, mealworms, and insectivorous mixture to start with. When about a fortnight old it ate the stock food, always devouring the meat first. These birds are very hardy and good livers and perfectly harmless with other birds. I believe this is the first time they have been reared in captivity.

trough which is placed, about 30 feet from the front verandah of Mr. North's delightful home, on the ground.

Here I have seen over sixty-eight kinds of birds from time to time enjoying perfect peace under natural conditions affording great pleasure.

The establishing of the sanctuary is a fine example and should lead others to follow, and thus further the benefits to be derived by this protection of our beautiful and useful birds.

## THE BREEDING OF THE ROSE-COLOURED PASTOR AT KESWICK HALL IN 1933

By A. MARTIN

As the full account of the breeding of the Rosy Pastor has never appeared in the Magazine, owing to the continued illness of the late Mr. G. H. Gurney, I thought perhaps a few notes by me would be of some interest to our members. On my arrival at Keswick to take up my duties as curator, I found among the collection a fine pair of the above species. On making inquiries I found that they had been there for several seasons, but had never been induced to breed, although given every opportunity. Every year they got no farther than carrying about small pieces of nesting material, and it was thought they would never nest. During the latter part of the summer, as we wished to use their aviary, they were transferred into a large enclosure and shelter, which also contained, among other birds, a pair of Crimson-wing Parrakeets, Cockateels, and two pairs of Crowned Lapwings. In less than a couple of days the Pastors had turned the Crimson-wings out from their nesting log and had started nest building in earnest. A few days later I missed the hen, but was sure she was alive by the frequent visits of the cock to the nest, and at last I felt certain that they meant business. Incubation, as near as I could tell, lasted seventeen days, when I heard faint noises which told me young were hatched; and the cock, who had always been rather wild, now came to the wire and asked to be fed with mealworms, which he took into the nesting log. All went on well until about fourteen days later when,

a supporting twig usually 5 feet from the ground, the nest somewhat resembling the usual thin nest of a Dove, through which the eggs may be seen. Thus it has a very flimsy appearance.

The nest is always built in a conspicuous position in the dense bush, and probably is often robbed of eggs and young by either snakes or Shrikes.

This Bulbul is certainly to be classed as uncommon, and I think the cause of this is to be found in its nesting methods. The temperament of this species seems to be of a nervous nature; it seems to be always fearing the approach of a Sparrowhawk. About the month of September, 1932, while visiting friends in the countryside some twelve miles from Durban, I had a most unusual and interesting experience which may be of interest to bird-lovers. My friends are great lovers of nature and the family has caused to be registered in perpetuity as a "Sanctuary for Birds and Animals" some 60 acres with the boundary quite half a mile long, with the River Umhlatuzan flowing by, and plenty of indigenous bush and forest and grass-land. There may be seen birds of many kinds and of beautiful colours, enjoying to the full the quietness of the sanctuary. Three species of South African antelope are there, and may be seen at any and all times of the day. So tame have they become that from a motor car they may be watched within 20 feet distance, and quite unconcerned. While walking along the motor drive at the sanctuary with my friend, Mr. Fred North, we observed a fine doe antelope standing some 20 or so feet off the road in the open bush. She had seen us first, and remained motionless. While so standing she had the attention of a Yellow-breasted Bulbul removing ticks from the edges or rims of her ears. The bird using the crown of the doe's head as a perch from which it hopped to the ear, and then flew to and alighted on the haunch of the buck and back to the head, and repeated the performance of hopping and removing the ticks some five times, when we were quietly watching. The buck and bird were in company while we walked away. Mr. North has built a water trough for the wild birds to drink from near his home, and great success has been accomplished.

During last July I there saw nine beautiful Purple-crested Louries (*Gallirex porphyreolophus*) drinking at one and the same time from the

Of the twelve species or races of geese native to America, all have been bred in confinement except our two Brent, and I have not been able to learn after much inquiry of either races having nested in confinement.

We Americans have been so busy adding foreign geese to our collections that we have overlooked the beauty and interest of our own native species. Mr. Moody's mention of the Cackling has again brought forcibly to my mind the fact that our native geese have had their deepest appreciation from fanciers outside our own borders. I sincerely hope that our various American species will prove interesting and charming ambassadors of goodwill for American collectors.

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## SOME NOTES ON THE YELLOW-BREASTED BULBUL

(*Criniger flaviventris*)

By HAROLD M. MILLAR, C.M.Z.S.

This Bulbul is found in the dense bush along the coast of Natal and Zululand. It is one of eighteen recorded species in Africa south of the Equator.

Its length is 9 inches from tip of bill to tip of tail.

As to the colour of this bird, the following may be found clear enough to obtain a correct impression. The entire upper parts of dark olive brown except the eyebrow which is pale yellow; the chin and throat of pale yellow; the breast and flanks of pale greenish yellow. The centre of belly and under tail coverts brighter yellow. The legs are leaden grey, and the iris dark hazel.

This bird appears to prefer its own company, and is seldom seen with more than one of its kind, and should be classed as of the few inoffensive or unaggressive. I have never seen them attack smaller birds while feeding. Small fruits and insects are sought for. To nest they gather very light roots which are intertwined, saucer like, on to

There are records of the Canada and Hutchins Goose (*B. hutchinsi*) hybridizing and producing fertile young. Yet in mixed collections containing Canadas, Hutchins, and Cackling Geese, the Cackling do not fraternize with either the Hutchins or Canada, whereas the Hutchins and Canadas will stay together as a flock outside the breeding season. I can find no record where either the Canada or Hutchins has made any attempt to pair with the White-cheeked Goose or the Cackling. One would, of course, hardly expect pairing of Cackling and Canada because of too great disparity in size, but the Hutchins and Cackling are not too unlike in size to pair if there were any inclination to do so.

The Hutchins is a trim little goose, a smaller and Western edition of the Canada in every detail, but not so uninterestingly domesticated as the Canada has become and presenting more difficulty in inducing it to breed. The Cackling is still smaller, less in size than the European Brent. It is a more ornamental and interesting little goose, and its size and amiable disposition make it a real addition to a mixed collection of small geese and ducks. Our Cackling is much less plentiful than formerly, due to continued shooting in its migrations through the United States and also the practice of the Eskimos on its Arctic breeding fields of netting great numbers of birds during the time when the flight feathers have been moulted and the birds are for a time incapable of flight. The rare and lovely little Emperor Goose is also netted in the same way and at the same time as both varieties have the same nesting grounds. Because of the quite restricted area in which both species nest, one or two unfavourable seasons could easily bring Cackling and Emperor (*Philacte canagica*) to the verge of extinction.

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By C. L. SIBLEY

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In particular I was interested in Mr. Moody's mention of a newly-acquired pair of our American Cackling Geese (*Branta minima*). We sent two pairs to Mr. Ronald Stevens in the spring and at that time I thought them the only ones in England, although I have learned differently since.

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The range of the White-cheeked Goose (which is now almost extinct) coincides very closely with that of the smaller Cackling, both being birds of our Pacific coast only. Both have the short, stubby bill, dark grey breasts, and more or less well defined white ring at the base of the black neck, which are very distinct from the head, form and colouring of the Canada and its close relative, the smaller Hutchins Goose, identical with the Canada except in size.

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They certainly do not, therefore, appear to be essential to the welfare of the brood as I had feared, for in our case not only did all six eggs hatch but the whole family was successfully reared, and are now fully independent of their parents.

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To begin with they were rather silent little birds, but are now, 25th September, starting to practise in rather small, tentative voices their curious sheep-like bleating. They are also starting to evince the tireless energy which characterizes the race, running, jumping, hopping, and flying so quickly that their separate movements are difficult to follow.

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Accordingly, since the unpleasant habit of wife-murder is reputed to be by no means an uncommon vice among the *Cyanoramphus* Parrakeets, it was necessary to place the two birds in separate flight cages. Once definitely parted, their behaviour was amazingly human, for they instantly conceived a passionate attachment for each other, carrying on long conversations in their curious bleating voices.

Early this spring we were able by a great stroke of luck to obtain two further cock Yellow-fronts, both either belonging to a slightly larger race, or else being much finer specimens than the original cock. As, however, the latter and his wife seemed by dint of separation to have at last developed a genuine affection for each other, we decided to give them one more trial together, and they were returned to their aviary about the end of May.

The hen at once took to the nest-box she had laid in the previous year, namely a wooden box about 18 inches deep, by 7 inches square, filled up to within about 5 inches of the hole with sifted earth; the whole of the front of the box being covered with natural bark. In this, after much scratching about and preparing of the nest, she deposited a clutch of eggs, all of which, however, again proved to be unfertile.

After the hen had sat on them long enough to prove that this was the case, her eggs and her husband were both removed, the latter's place being taken by the largest and finest of the two new cocks. The hen's attitude towards her new husband was very different from the indifference with which she had always treated her last mate. As soon as the two were put together the new cock was very anxious to feed her, but she was, or at any rate pretended to be, rather frightened of him and always took care to get out of his way. At last, however, he managed to persuade her that his offers of food had no murderous intent behind them, and once more the hen began to disappear into the nest-box.

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Their prevailing colour is green, paler on the breast; a band just above the beak and a patch on the flanks bright red; fore part of the crown golden-yellow; some blue on the lower edge of the wings. Bill a pretty silver, shading into black at the tip. Length: 9.6 inches.

A striking feature of the bird, usually omitted in book descriptions, is the very brilliant red iris of the eye.

The hen is usually not only considerably smaller than her mate, but has a much smaller, rounder, and more feminine-looking head. So marked are these differences that it is quite easy to sex young birds by their size immediately they leave the nest.

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It appears to have been bred by only one aviculturist, Mr. Bouskill, who first had a brood of young ones in 1898; though there is little doubt Yellow-fronts would, if given the chance, prove themselves no less prolific than their cousin the Red-fronted, which at one time seems to have been very extensively kept and bred in this country.

The first bird of this species, a solitary hen, arrived here in the late spring of 1933 and, as there seemed little prospect of ever obtaining a proper husband for her, she was mated to a cock Blue-wing since these two Parrakeets are almost identical in size.

She and the Blue-wing quickly became attached to each other, and the cock was continually seen feeding the hen, but the four eggs, on which she sat her full time, proved to be unfertile.

Soon after this a mate of her own kind was unexpectedly obtained, and was at once put in the aviary in place of the Blue-wing. Curiously enough, the hen did not seem at all overjoyed at being presented with a husband of her own race, and refused to go to nest again, shortly afterwards falling into a heavy moult. This did not augur very hopefully for successful breeding results the next year, and to make matters

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To this description one might add that in our breeding cock quite two-thirds of the breast is the most brilliant scarlet; whilst another cock, presumably adult, has only the more or less round red patch portrayed in some of the old books.

Written descriptions unfortunately seldom convey the full beauty of a bird. To those therefore who find it difficult to form a mental picture from such descriptions, one can only say that our breeding cock, when seen sitting in the sun, facing one, on a hummock of grass, is a picture of quite incomparable brilliance.

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## THE BREEDING OF THE YELLOW-FRONTED NEW ZEALAND PARRAKEET (*Cyanorhamphus auriceps*)

By E. J. BOOSEY

The *Cyanorhamphus* Parrakeets, of which this is one of the smallest members, are curious and interesting birds, differing in many respects from all other Parrakeets. Their voices, for example, are unique, resembling nothing so much as the far-off bleating of a sheep. This, on paper, does not sound a particularly attractive cry, but as uttered by the bird it is nevertheless quite a pleasant and not unmelodious sound.

A further and striking peculiarity is the way in which all the Parrakeets of this genus have the purely gallinaceous habit of scratching in the ground, like poultry, their long legs seeming particularly adapted for this purpose, also enabling them to run and jump with extraordinary rapidity. To watch them, there is something extraordinarily unbird-like about their movements, and they always remind me more of some

propagation\* of Zebra Finches and Budgerigars (being probably much too busy elsewhere!) was concerned only with the destruction of the Splendids and he did his job fairly thoroughly, for from seven fertile eggs only three young ones were finally reared; the third being an oversight on "X's" part as well as our own, as an egg thought to be one of those moved from the Bourke's was put under a Nyasa Love-bird, who hatched and reared—a Splendid! And a very nice one, too.

Meanwhile, the old hen had laid again, starting to sit about the 21st July, and this time nothing went wrong with the cock, and a nice nestful of young ones was hatched about the 9th August. All appeared to go well for several days, when that ominous charnel-house smell began to be discernible in the vicinity of the log. On investigation, all but two of the young ones were found to have died at various ages. But the last two survivors were fully reared, leaving the nest on 27th August and 2nd September, respectively, and they are now flying about with their parents.

The death of the others seems to have been due to two causes, namely the rather cold nights when the young ones were first hatched, and the fact that the cock is a lazy feeder when he has nestlings to provide for.

We found that the hen had laid four more eggs before the young ones left the nest, and these were removed and put under foster parents and the first of them has just hatched to-day, 17th September.

So far, therefore, the net result has been five young Splendids, three under foster parents and two reared by the parents themselves, and now a further brood just hatching under foster parents.

Incidentally, young cock Splendids are almost exactly like their mother, with no sign of the brilliant dark blue mask or red patch on the *upper* breast, which they will later possess, but showing, curiously enough, her distinctive yellowish orange patch—only rather duller—on the *lower* breast. Young hens are similar, but the yellowish orange area is replaced by greenish yellow.

For the benefit of the vast number of people who can never have seen a living Splendid, the following short description of the cock is taken from Lord Tavistock's *Parrots and Parrot-like Birds*.

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(*Criniger flaviventris*)

By HAROLD M. MILLAR, C.M.Z.S.

This Bulbul is found in the dense bush along the coast of Natal and Zululand. It is one of eighteen recorded species in Africa south of the Equator.

Its length is 9 inches from tip of bill to tip of tail.

As to the colour of this bird, the following may be found clear enough to obtain a correct impression. The entire upper parts of dark olive brown except the eyebrow which is pale yellow; the chin and throat of pale yellow; the breast and flanks of pale greenish yellow. The centre of belly and under tail coverts brighter yellow. The legs are leaden grey, and the iris dark hazel.

This bird appears to prefer its own company, and is seldom seen with more than one of its kind, and should be classed as of the few inoffensive or unaggressive. I have never seen them attack smaller birds while feeding. Small fruits and insects are sought for. To nest they gather very light roots which are intertwined, saucer like, on to

a supporting twig usually 5 feet from the ground, the nest somewhat resembling the usual thin nest of a Dove, through which the eggs may be seen. Thus it has a very flimsy appearance.

The nest is always built in a conspicuous position in the dense bush, and probably is often robbed of eggs and young by either snakes or Shrikes.

This Bulbul is certainly to be classed as uncommon, and I think the cause of this is to be found in its nesting methods. The temperament of this species seems to be of a nervous nature; it seems to be always fearing the approach of a Sparrowhawk. About the month of September, 1932, while visiting friends in the countryside some twelve miles from Durban, I had a most unusual and interesting experience which may be of interest to bird-lovers. My friends are great lovers of nature and the family has caused to be registered in perpetuity as a "Sanctuary for Birds and Animals" some 60 acres with the boundary quite half a mile long, with the River Umhlatuzan flowing by, and plenty of indigenous bush and forest and grass-land. There may be seen birds of many kinds and of beautiful colours, enjoying to the full the quietness of the sanctuary. Three species of South African antelope are there, and may be seen at any and all times of the day. So tame have they become that from a motor car they may be watched within 20 feet distance, and quite unconcerned. While walking along the motor drive at the sanctuary with my friend, Mr. Fred North, we observed a fine doe antelope standing some 20 or so feet off the road in the open bush. She had seen us first, and remained motionless. While so standing she had the attention of a Yellow-breasted Bulbul removing ticks from the edges or rims of her ears. The bird using the crown of the doe's head as a perch from which it hopped to the ear, and then flew to and alighted on the haunch of the buck and back to the head, and repeated the performance of hopping and removing the ticks some five times, when we were quietly watching. The buck and bird were in company while we walked away. Mr. North has built a water trough for the wild birds to drink from near his home, and great success has been accomplished.

During last July I there saw nine beautiful Purple-crested Louries (*Gallirex porphyreolophus*) drinking at one and the same time from the

trough which is placed, about 30 feet from the front verandah of Mr. North's delightful home, on the ground.

Here I have seen over sixty-eight kinds of birds from time to time enjoying perfect peace under natural conditions affording great pleasure.

The establishing of the sanctuary is a fine example and should lead others to follow, and thus further the benefits to be derived by this protection of our beautiful and useful birds.

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## THE BREEDING OF THE ROSE-COLOURED PASTOR AT KESWICK HALL IN 1933

By A. MARTIN

As the full account of the breeding of the Rosy Pastor has never appeared in the Magazine, owing to the continued illness of the late Mr. G. H. Gurney, I thought perhaps a few notes by me would be of some interest to our members. On my arrival at Keswick to take up my duties as curator, I found among the collection a fine pair of the above species. On making inquiries I found that they had been there for several seasons, but had never been induced to breed, although given every opportunity. Every year they got no farther than carrying about small pieces of nesting material, and it was thought they would never nest. During the latter part of the summer, as we wished to use their aviary, they were transferred into a large enclosure and shelter, which also contained, among other birds, a pair of Crimson-wing Parrakeets, Cockateels, and two pairs of Crowned Lapwings. In less than a couple of days the Pastors had turned the Crimson-wings out from their nesting log and had started nest building in earnest. A few days later I missed the hen, but was sure she was alive by the frequent visits of the cock to the nest, and at last I felt certain that they meant business. Incubation, as near as I could tell, lasted seventeen days, when I heard faint noises which told me young were hatched; and the cock, who had always been rather wild, now came to the wire and asked to be fed with mealworms, which he took into the nesting log. All went on well until about fourteen days later when,



Photo by Frances Pitt.

THE WATER THICK-KNEE (*Burhinus vermiculatus*)

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going my rounds on a Sunday afternoon, I found the door to the enclosure wide open and the Lapwings running on the gravel path outside. These were full-winged, and I feared they would fly away but, by carefully walking behind them, three of them were easily driven back into their home. The fourth one, however, flew over the garden gate into the wood which was close by. On going into the aviary to inspect, I found that neither the Pastors nor any of the other inmates had ventured forth. How the door came to be open was a mystery. Nothing more was seen of the Lapwing until three days later when it appeared close to the duck pond, and seemed to be quite at home feeding with the waterfowl. After a long and trying time I was able to catch it, none the worse for its adventures.

About sixteen days later a young Pastor left the nest, quite strong and a good flyer, but this was the only one reared, the other eggs failing to hatch. They were of a pale blue in colour. The young one closely resembled a young common Starling, and caused much comment when people visited the aviaries and were told what it was. In fact, one well-known aviculturist asked why we were keeping a common Starling, and seemed rather surprised when told what it was. The young bird was a long time coming into full colour, and never attained the beautiful rose-tinted breast of its male parent although I am sure it was a cock. These birds are rather interesting, and I think ought to be more freely kept, as they are quite easy to cater for, and are long-lived and hardy. The display and song of the male is quite interesting.

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## REARING THE WATER THICK-KNEE (*Burhinus vermiculatus*)

By ALFRED EZRA

This interesting bird is widely distributed in the Ethiopian region, but is somewhat rare, and in many localities never seen. It is always found close to water, and the present pair was found by Mr. Webb, on a small island in the Revue River in Portuguese East Africa. They are partly nocturnal, and this pair of birds were sheltering in the reeds during the intense heat of the day. When disturbed they prefer

to run rather than fly, especially if there is cover close at hand, and it was this fact that enabled Mr. Webb to catch them—the only pair he had ever seen. A tunnel-shaped net fixed in the evening on the track where they ran when disturbed, enabled Mr. Webb to drive them both underneath next morning. Some writers say that Water Thick-knees, for some unknown reason, are attracted by crocodiles, specially on Lake Victoria, where they may be seen frequently where these reptiles are basking on the shore. They are lacking in parts of the shore where there are no reptiles. Where these birds were caught, crocodiles were quite numerous, so much so that Mr. Webb was not too happy when wading across to the island, but luckily the water was clear enough for him to see their whereabouts. Very little is known of these shy and retiring birds in their wild state, as they are very seldom seen, but it's near relative the Bush Thick-knee (*Burhinus capensis*) is not uncommon in certain districts where there is often thorn bush scrub.

About six years ago I got the above pair of birds from Mr. Webb and they have been in a large aviary with a good many other birds, among them a pair of South African Crowned Plovers. They have never attempted to nest till this year, when they started carrying leaves and grass about the 8th July. They finished a sort of a nest, consisting of small stones, leaves, and grass under a Cupressus. First egg was laid on the 15th July and the second on the 17th. Only two eggs laid. One egg was broken on the 24th, but the other one was hatched on the 9th August. For the first few days the young one would lie flat on the ground as soon as anyone approached it, pretending to be dead. When about ten days old it began hiding in clumps of grass and was very hard to find. The parents were ideal and looked after their offspring beautifully. No birds or any of us were allowed to approach it. If we tried to get near the young bird both the parents attacked us with outstretched wings and violent hissing. The young bird was reared on ants eggs, gentles, mealworms, and insectivorous mixture to start with. When about a fortnight old it ate the stock food, always devouring the meat first. These birds are very hardy and good livers and perfectly harmless with other birds. I believe this is the first time they have been reared in captivity.



NESTLING WATER THICK-KNEE.

*Photo by Frances Pitt.*

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## OFFICERS FOR THE YEAR 1935

The Council propose the following:—

As members of Council: Mrs. Wharton-Tigar and Mr. R. S. de Quincey, in place of Mr. G. H. Gurney and E. G. B. Meade-Waldo, deceased; Mr. D. Seth-Smith in place of Mrs. Goddard, retired.

As Editor: The Honourable Anthony Chaplin.

As Auditor: Colonel A. E. Hamerton, C.M.G., D.S.O.

As Scrutineer: Mr. James B. Housden.

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The Council regret to have to announce the resignation of Mr. Seth-Smith as Editor of the AVICULTURAL MAGAZINE. He has held this post for twenty-one years, not consecutive years, but nearly so. As we all know, it is chiefly due to him that the high standard of the Magazine has been maintained, and we cannot be too grateful to him for all the work it must have entailed, and we beg him to accept our very sincere thanks.

The Council propose the Honourable Anthony Chaplin be elected as Editor for the year 1935.

E. M. K.

## CORRESPONDENCE, NOTES, ETC.

## THE DISPOSAL OF DEAD BIRDS

Mr. C. B. Scott's suggestion that upon death our rare and beautiful birds should be mounted and presented to schools is a commendable one. Personally I always ask the Natural History Museum if they desire the body of any bird that I may lose. In most instances they do, and one receives a handsome acknowledgment upon vellum. Not always are the birds or other subjects needed for exhibition, but for scientific study. A few years ago I was fishing off Nasau, Bahamas. I pulled up a bright scarlet fish. Attached to the neck, if a fish has a neck, was a long parasite. It was ten minutes before this parasite died and released its hold, leaving two holes plainly visible where its prongs had been buried. I got a large, empty, glass olive jar from the steward and I wasted £1 upon two bottles of whisky. I put the fish and parasite in the bottle, filled it up with Scotch, and screwed down the lid. As soon as I arrived back I wrote the Museum asking if they would care for this specimen. Several scientists from that Institution wrote per return saying "Yes please". One was a lady—a lady doctor. She of course received

the specimen. Later the Institute handsomely acknowledged the gift, as before-mentioned. One never knows what is needed there for scientific research and study. I know for instance that they are anxiously awaiting the death of one of the Black Mamba's which I procured for "The Zoo". Aviculturists therefore may possess what is to them a worthless dead bird, but which is of interest to science.

H. MOORE.

#### BREEDING OF CHINESE JAY THRUSHES

In the pages of *Cage Birds*, vol. lxii, No. 1595, 6th August, 1932, p. 69, appeared a photo of a pair of Chinese Jay Thrushes (*Dryonastes chinensis*) (Scopoli) (old name *Garrulax*), dealers' name, Canton Mocking Bird. This photo was accompanied by a letter to the Editor under the *nom de plume* "Cardinal", stating that the pair had laid two eggs, and that there was every hope that the young would be reared. Among my queries during July of this year was one from a correspondent asking me whether this species had been bred in Great Britain. I replied to the effect that I thought not, and after consulting Dr. Hopkinson's valuable compilation, I concluded that the writer's success in rearing the young Jay Thrushes was the first recorded instance. Thinking that it would be a pity if the particulars were lost in obscurity, I corresponded with the "querist", a Mr. H. Kenway, of Llandudno, who kindly supplied me with photos of the old birds feeding the young after leaving the nest, and the particulars regarding the occurrence are as under: 1932, first egg laid 21st June, and another the following day. They hatched on 5th and 6th July. They left the nest on the fifteenth day, and at three weeks were fighting each other so dangerously that Mr. Kenway had to separate them and cage one up. At four weeks to the day one young bird was heard trying its best to imitate the song of the male, and eventually became very tame and a fine singer, but at eighteen months lost the sight of one eye. The other young bird was discovered dead at five weeks old. Mr. Kenway states that when the young were in the nest the old birds were very fierce, the hen attacking from above by striking the owner on the top of the head, and the cock always going for the left eye, very nearly succeeding in wounding Mr. Kenway on one occasion. In addition to soft food the old birds were supplied with plenty of "gentles", cleaned in meal and given alive.

A pair of these birds some years ago, kept by someone in the South of England known to a Mr. Frank Smith, Liverpool, and quoted by Butler in *Foreign Birds for Cage and Aviary*, pt. i, p. 45, are said to have started to breed, but broke up their eggs. The older aviculturists will remember that this attractive species was at one time much more readily obtainable than it is to-day.

In Calcutta, according to Finn, it was known under its Chinese name of "Peko", where it was prized as a songster and mimic. I think the first living examples I ever saw belonged to Arthur Gill, M.R.C.V.S., of Bexley Heath, some thirty-four years ago. Like many of their allied brethren they are not hard to keep, and are attractive birds for a shrubbed aviary, moving with extreme rapidity among boughs.

A. SILVER.

[Other letters unavoidably held over. ED.]