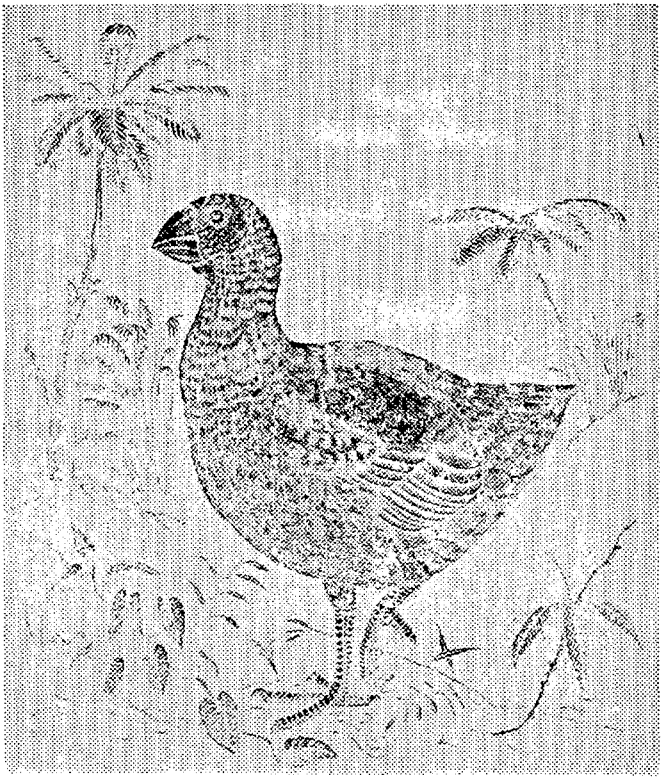
Vol. 4. No. 4. April, 1951

Notornis

In continuation of New Zealand Bird Notes.



Bulletin of the Ornithological Society of New Zealand.
Published Quarterly.

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Edited by R. H. D. STIDOLPH, 114 Cole Street, Masterton.

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CONTENTS.

ANNUAL GENERAL MEETING.—It is probable that the meeting for 1951 will be held in Auckland on May 25, 1951, and will be followed the next day by a field trip. A notice calling the meeting and giving the actual date will be sent to members early in May.

OFFICERS FOR 1951-52.—In accordance with the society's constitution, notice is hereby given that nominations for officers of the society for the ensuing financial year are to be in the hands of the secretary-treasurer not later than April 14. Such nominations must be in writing, signed by two members, and be accompanied by the written consent of the nominee. The retiring officers are as listed above, and where no nomination is received for any office, the retiring officer is deemed to be re-nominated.

NOTICE OF BUSINESS.—Notice of business to be discussed at the annual general meeting must also be in the hands of the secretary-treasurer not later than April 14.

BANDED DOTTEREL INQUIRY.

SECOND INTERIM REPORT.

By C. A. Fleming and R. H. D. Stidolph

Our investigations of the suspected movements of the banded dotterel show that no definite conclusions can be reached without banding. For that reason we are withholding any expression of opinion meantime in the hope that if it is possible to prosecute banding operations in the next few years evidence of a more definite nature as to the bird's movements within New Zealand and possibly, to and from Australia will be forthcoming.

The reports sent in by members of the Ornithological Society of New Zealand over the past ten years, apart from two or three relating to the Auckland province, and one to Victoria, throw little light on the problem, especially in the South Island, where there is a regrettable lack of information in respect to the autumn and winter months from such rich feeding areas as Farewell Spit, Golden Bay and Nelson. The most significant reports are those of congregations of 2,000 at Waitakaruru, Firth of Thames on March 26, 1950 (H. R. McKenzie and R. B. Sibson); 500 and 550 at Mangere, Manakau, on April 17 and 24, 1940, and 1000 there on April 23, 1940 (P. C. Bull); 500 at Mangere on May 3, 1940, and again on May 16 (P. C. Bull); 1000 plus at Waitakaruru on June 19, 1949 (R. B. Sibson and Fraser Murray), and 3000 for Ohiwa Harbour in June, 1949 (P. H. Basley). On March 22, 1942, P. C. Bull recorded between 500 and 1000 at a place 40 miles west of Melbourne, in Victoria. Mr. K. A. Hindwood, Sydney, has forwarded records by the late Mr. J. Sutton showing that at Outer Harbour, Adelaide, the average number of banded dotterel observed a month over a period of five years, is low from September until March, but rises to a single pronounced peak in mid-winter (June-July). The appearance of the banded dotterel in the very large numbers indicated above in the Firth of Thames, Manakau, and Ohiwa areas indicates the desirability of a more close watch being kept in other similar areas to ascertain any notable fluctuations of numbers, giving peaks of abundance. Wodzicki (Emu, 46: 25, 30, 1946) published graphs of banded dotterel observed at Waikanae during two years and at Muriwai during 1940. At both localities there were peaks of abundance in late winter and in autumn suggesting passage of migrant birds at those seasons.

At the localities mentioned above dotterels congregate in numbers far beyond the number of local breeding birds but as the banded dotterel (unlike the wrybill and South Island oystercatcher, which breed only in the South Island and are winter visitors to Auckland tidal inlets) breeds throughout both islands, it is impossible to say from which district migrating birds have come. Since few banded dotterel are either shot or found dead, the only practical answer to this problem appears to be colour ringing of breeding birds or young, a distinctive colour to be used for each district. Application has been made to the society's ringing committee for its approval of the scheme on these lines as an official project.

In addition, a breeding census for the whole or the greater part of New Zealand should not be impossible now that the membership of the Society covers almost every district. It will not be possible to make an absolutely accurate census but it is hoped that we can determine whether a particular district supports tens, hundreds or thousands of breeding birds. Such information for the whole country should help assessing the status of flocks in the non-breeding season.

FOOD OF FLEDGLING SILVEREYES.—Three young silvereyes, placed in an aviary just after leaving the nest in November, 1949, were fed through the wires by the parents. The chief item of food given was a brown moth (**Noctuia**) which was swallowed whole. Many were pushed through the wires but were dropped to the ground by the chicks if they were satisfied.—E. O. Welch, Masterton.

HABITS OF THE LESSER REDPOLL IN THE WELLINGTON PENINSULA.

By H. L. Secker, Wellington.

The lesser redpoll **(Carduelis cabaret)** according to available records has met with less success in colonising New Zealand than its relative the goldfinch **(Carduelis carduelis)**. Redpolls are common in the Auckland, Wellington and Christchurch districts where the original liberations were made. They are common also in Otago province and in parts of the North Auckland and Nelson provinces, but elsewhere birds are reported more rarely and generally density of population appears to vary. As a consequence of probable dispersal redpolls have been reported from Westland and from offshore and oceanic islands.

The lesser redpoll is a species adapted to a wide range of geographical and climatic conditions. It ranges from Britain, through the mountain systems of Central Europe, south in winter to the Mediterranean and Balkan regions. With other species of redpolls it is accustomed to summer temperatures broadly equivalent to those of New Zealand if to severer winters. Failure to completely colonise the New Zealand archipelago may result from the unfavourable ecological conditions met with.

In the Wellington Peninsula (the hill country approximately west of Wellington Harbour) observations conducted between December, 1947, and January, 1951, indicated that the species was in a gravely unstable condition locally, its favourite breeding haunts being the widely isolated scrubby remnants of the rain forest which clothed the hills of the district up to about 1880. This vegetation substitutes for the ash thickets verging on the tree lines of mountains in parts of Central Europe, and for the aspen and willow scrub verging on the tundra, the natural habitats of redpolls in the Nearctic and Palaearctic regions. This vegetation which is predominantly composed of kaikamako **(Pennantia corymbosa)**, mahoe **(Melicytus ramiflora)**, and fuchsia **(Fuchsia excorticata)** is now in a state of decay. At present no more than 400 redpolls inhabit the Wellington Peninsula, and as a result of impressions gained from field studies it appears that unless rapid growth of the noxious tutu **(Coriaria)** to replace this scrub takes place, the redpoll may become extinct about Wellington within the next 25 years. The Wellington Peninsula covers about 60 square miles, but there are only ten breeding colonies consisting of several pairs with nests 100 to 250 metres apart established throughout, mostly in the Karori and north Makara areas where patches of scrub suitable for breeding remain. Urbanization threatens destruction of several of these habitats. Pairs, however, breed in plantations of pines, or in single pine trees where gorse and broom, or cassinia thickets exist, and also in isolated indigenous trees, preferably fuchsia growing in gullies among cassinia thickets, or as in one case surrounded by both cassinia and dense tussocks of the grass **(Festuca novaeseelandiae)**. Where tiny copses of native trees survive adjacent in the midst of thickets two pairs of redpolls often breed. Throughout the extensive cassinia thickets of Wellington, where scrub is absent, it is common to walk for 15 miles in spring and summer without seeing redpolls.

As regards food, the birds in autumn spend much time feeding on seed heads of the composite cassinia and they are also attracted by the seed kernels of the tutsan wort **(Hypercium androsaemum)**. In winter and spring, flocks forage on pasture where the herbs **Vittadina australis** and **Oxalis corniculata** during summer are conspicuous. Study of the species has been largely confined to flocking and territorial habits.

In early January unemployed males in drab plumage, together with females, associate with the season's young. Breeding males tend to associate as the urge to mate and hold territory dies away. By late January the male redpoll has left the territory, and autumn flocking takes place. It is, however, noteworthy that many male and female

birds cohabit from January until mid-May, and perhaps later. From observations made in 1947 and 1950 movement from summer breeding grounds to winter haunts takes place at the end of March. On each date an excitable but silent flock of from 50 to 70 redpolls has been observed on passage in the north Makara Valley, a favourite breeding haunt. As only six colonies exist in the valley during summer, the origins of each sizeable flock cannot for certain be known, although possibly many of these birds originated from breeding haunts along the Kaiwarra Stream across a hill two kilometers distant. Several territories were recorded there in successive springs between 1937 and 1940. Redpolls thenceforth decrease in numbers in the north Makara Valley. By mid-April redpolls have been known to occupy cassinia thickets bordering the main Makara Valley where they were rare in summer, and similar movements to winter feeding grounds take place from other gullies five kilometers distant. Despite this egress in March and April, however, numbers still frequent the north Makara breeding habitat in May, and in June small flocks consisting entirely of male birds have been seen foraging for food in cassinia thickets. These flocks exhibit a hierarchical form of organisation, for though the birds which compose it are feeble in voice and exhibit no aggressive behaviour, vagrant birds seeking to join a flock will dance around the birds which compose it in swerving flight.

Plainly these observations imply the existence of local and irregular movement only from summer breeding haunts to nearby hillsides, but there is strong possibility that irruptions occur at times. In 1947 and 1949 the species was rare throughout July. A more precise understanding of the species' movements about the district from April to May and from July to August, is therefore needed.

Though the redpoll is a sociable species in the main, certain individual birds are only loosely attached to the flock, and visit the summer breeding haunts throughout the winter months. Visits become more regular from early August when males commence to call in prospective territories. In addition, individual redpolls vagrant from the flock frequently pass eastward in mid-winter across the suburb of Karori from their habitats in the nearby hills. Vagrants either single or in pairs return westward in the spring again to their breeding haunts. Males calling vociferously cross this built-up area to early October, and females are frequent visitors to gardens.

Flocking itself ceases rapidly from late September, when flocks comprise both male and female birds, and males move off to prospective breeding territories. In late October an occasional male will still cohabit with several females. Bickering takes place among the females, and surprisingly at this stage of their breeding cycle males have been seen attempting to copulate but without success.

An eminent authority on bird display, E. A. Armstrong, remarks that birds with feeble songs exhibit noisy and widely ranging habits of flight. The redpoll is a vengal species of this type and rarely sings. From early October until late January territorial flight takes place in suitable nesting habitats, the male redpoll flying, and at the same time calling vociferously along the boundary of its territory. Boundary flights decrease to a minimum in November, when display flight proper is mainly to be observed, and it is thought by the writer that this change results from the habit of many female redpolls of wandering promiscuously through males' established territories together with the tardiness with which they seek to mate. During late November and December males calling harshly also wander widely like the females, and the boundaries of territories become ill-defined. Throughout this period the sexual relations of the birds are obscure, and the behaviour observed difficult to interpret

It has been asserted that the purpose of the male's display flight in a species with weak song is to stimulate the female for successful

copulation, and in some cases to intimidate strange males which have intruded within a territory. Though the male redpoll has twice been seen to display in flight before a female within its territory, and in one case shortly after to exhibit threatening behaviour in flight to intruding males, both displays appearing to be identical, it is thought in view of other observation that this particular display has no relevance for the species. Instead, display behaviour appears to conform to a type evident in certain passerine species whereby the female excites the sexual instincts of the male and provokes it into pursuit flight and attempts at copulation. The habits of redpolls exhibit many instances of this behaviour. Thus females incompletely employed wandering about territories in the breeding season have been seen to provoke males nearby to vacate their territories and to congregate in display. On October 7 of a group of three birds seen flying vigorously together, one became detached, and two birds, obviously male and female, engaged in a twirling sexual chase. Indeed, in mid-November before the mating bond between the sexes is quite complete, and before actual nesting has commenced, a female present in a territory has a magnetic attraction for males holding territories nearby. Intruding males appear continually and threat flights and bickering squabbles in bushes between the male owning the territory and unwanted rivals take place for some days until nesting by the pair starts in earnest. These displays cease abruptly. The resident male perches in a prominent place near the centre of its territory, on cessation, where the carmine breast is clearly visible. As incubation reaches its height the male's noisy calling accompanied by display flight declines in intensity, and it is common to see the resident male perching at this time quietly in scrub where the bright breast is visible.

Two male birds have been seen chasing a female around cassinia bushes in late November. All three birds were located shortly after quietly feeding on the ground among the bushes. In December also groups of males have been seen consorting in shrubs with a vagrant female; brightly plumaged birds, and others in more drab attire participated. The best example, however, of a female stimulating a male into sexual excitement was observed on December 3, 1950. Birds were first seen fighting in a bush of cassinia, and one of the group, probably a male, departed, leaving a male and female perching together on the bush, obviously the centre of a territory. Clinging to a dead twig the female evoked high pitched cries reminiscent of juvenile redpolls recently fledged, at the same time quivering the wings, and gaping in the manner of **Zosterops lateralis** in threat display. No response by the male to the female's overtures could be detected, and the birds then flew away. Between 10.00 and 10.30 this behaviour occurred three times within the territory's precincts. The mating process appeared to be advanced, but as yet incomplete. The female persistently evicted strange, roving females from the territory but as is usual with female redpolls, disappeared itself for long intervals. The male bird in its mate's absence, occupied itself with displacement activities, namely false feeding on the inflorescence of rye-grass **(Lolium)**, common behaviour in passerine birds when on account of some inhibition a male has failed to copulate. While false-feeding, the male redpoll was seen to strip loose bark from cassinia twigs, evidence of a desire to initiate nesting, a habit apparently common to the epigamic display of many species.

When displays initiated by females occur in November, they are not seen in December, for they appear to cease when the female begins to nest in earnest. However, when the young have fledged, about December 15 for earliest broods, boundary flights by males around the territories start to recommence, as might be expected. Incubation, however, continues as late as January 2 and therefore in these territories males remain inactive. After January 20 both boundary flights and displays wane and cease, but the urge to copulate remains extant. Sexual chases are frequent in late autumn and early winter, and are especially evident among the adult birds present in autumn flocks of passage.

The life-history of the redpoll is complex and no authentic appreciation is attainable since elementary data relative to nesting activities remains incomplete. Puzzling features of the species behaviour in the breeding season is the tendency for non-breeding males of the previous year's hatch to skulk about with females in the territory when males are silent, or absent. Behaviour also requiring study is the congregation in mid-October of groups of males in patches of scrub with parties of females nearby. Though probably related to the mating activities described, this behaviour is interesting as superficially it shows resemblance to lek display.

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THE POSITION OF THE MYNA IN 1950.

by J. M. Cunningham, Masterton.

Since publication of details of the distribution of the myna **(Acridotheres tristis)** in New Zealand (N.Z. Bird Notes, Vol. 3, No. 2, Oct., 1948) certain additional information has appeared in various issues of that journal and its continuation "Notornis." Other material has been passed on to me and is here reproduced and a survey made of the position as it is known up to the end of 1950. Thanks are offered to those members and others whose reports have been drawn on: particular mention must be made of Mr. E. G. Turbott who has collected many of the Auckland records.

WAIRARAPA.

In the Wairarapa the myna retains a precarious foothold in Featherston, Greytown, Carterton and Martinborough. It has apparently now disappeared from Masterton and the last record I have is of two birds in March, 1950.

HAWKE'S BAY—EAST CAPE.

An additional early record is of a bird seen at Woodville (1933, R. H. D. Stidolph). I have no record of any change of status in Hawke's Bay, but at Matahua Station, 14 miles west of Ruatoria, C. K. Williams states they are fewer in numbers than in 1920.

MANAWATU-TARANAKI.

Records from all parts of the Manawatu remain sparse, particularly from northern Manawatu.

From west of the Hawera-New Plymouth Road comes information from B. D. Heather that mynas are present in small numbers in most of the townships (e.g. Puniho, Rahotu, Pihama, Manaia) on the Opunake coast road and also inland, but are rarely seen away from townships. They exist in fair numbers in Opunake. He has also seen a bird between Mt. Messenger and Mokau.

WAIKATO-AUCKLAND.

They are now present at Atiamuri (October, 1950, R.H.D.S.), and C. A. Fleming writes (August, 1950), "Mynas are now in Rotorua, where they are said to be numerous—in fact, they were not there in May, 1948. I also saw a pair at Mihi on the Rotorua-Taupo Road."

On the Coromandel Peninsula, R. McKenzie (November, 1948) has persistent reports of birds breeding at Whitianga on the east coast, where

12 to 16 years ago they were said to be quite common, and of odd birds at Coromandel. They are common at Thames.

D. N. Lilburne states they are now (January, 1949) in Hunua, and a pair was seen in Moumoukai Valley. They are reported numerous in Matamata.

From Auckland there are increasingly numerous records, and those additional to published ones are:— Westfield, Mangere Bridge, West Tamaki-Glen Innes, Mt. Wellington Highway, Panmure Highway, small numbers (1950, B.D.H.),; Mangere East, 6 appeared, 1946 (H. R. Priest); Mission Bay, 1947 (A. Waller), Dec., 1949 (F. M. Brookfield), July, 1950; St. Heliers, Oct., 1947 (W. H. Blake), July, 1950; Zoo, 1 pair nested 1949-50 (J. C. Davenport); Remuera, April, 1950; Epsom, 1948 (A. Waller). Unacknowledged records are from newspaper correspondence.

Two northern reports have also been received. One pair was seen early in 1950 by C. Bowles at Tiritiri Lighthouse, and G. Wightman recorded five at Helensville in November, 1947. Additional early records are: H. Morrison saw mynas at Pio Pio in 1912, Te Kuiti in 1914 and Pirongia in 1916. J. P. Church wrote in 1950 that he remembered their release in Auckland 50-55 years ago. They only lasted a couple of years and he considered that starlings drove them away.

SUMMARY.

From a perusal of the above reports and those published in New Zealand Bird Notes, Vol. 3, Nos. 4, 5, 8 and Notornis, Vol 4, No. 3, it is evident that the myna is slowly but surely establishing itself in Auckland after an absence from about 1906 to 1947. It has consolidated its position to the immediate south of Auckland, and the first birds are now finding their way into the North Auckland peninsula. They have increased at Tauranga and are now plentiful, and have extended to Mt. Maunganui. They have become plentiful at Clevedon and are increasingly reported in the Firth of Thames-Hauraki Plains areas. They have extended (apparently eastward) along the Bay of Plenty coast in some numbers to Whakatane.. They are now established at Rotorua and are reported from several places on the volcanic plateau, an interesting locality being Te Whaiti.

Additional information now received makes it clear that mynas are present in small numbers in all of west Taranaki. No change is noted from Manawatu or Hawke's Bay-East Cape, but a further decline has taken place in the Wairarapa.

DESIDERATA.

Records of all birds (or the absence of any birds) from the following localities will be welcomed in the future. Dannevirke-Woodville; Manawatu (Levin, Feilding, Marton, etc.); Wanganui-Waverley line and inland; Raetihi; Stratford-Taumarunui line; Kawhia-Raglan-Port Waikato-Awhitu; all areas north of Auckland city; Coromandel Peninsula, north of Thames, and particularly the east coast including Waihi; Bay of Plenty coastline and inland; central volcanic plateau, Rotorua-Taupo, etc. From all the above, information is either scanty or changes are taking place. Records from other areas are not asked for unless they imply an alteration in the recorded status of the bird.

EFFECT OF THE MYNA.

Writers continue to emphasise the bad habits of the myna and their universal dislike of it. They have been described as destructive to apple crops and garden vegetables. They are stated to be a particular menace to nesting starlings **(Sturnus vulgaris)** and to have caused a large reduction in the starling population with a consequent increase in the grass grub menace in the Waikato. In view of these suggestions, it would be of particular interest if a survey of starling population in the North Auckland peninsula could be made before the myna reaches the area, as it seems certain to do. Recalling the effect of the myna on native birds in other countries where it has been introduced, its further progress can only be viewed with dismay.

GODWITS AVOIDING HARRIER.—On April 1, 1949, on Ohiwa Harbour, Bay of Plenty, I saw a party of c 50 feeding godwits threatened by a harrier hawk. The godwits rose and flew low and straight to a party of c 25 black-backed gulls as if seeking protection. The move succeeded, the gulls driving the harrier away. It looked remarkably like a deliberate manoeuvre on the part of the godwits.—P. H. Basley, Ohiwa.

BIRDS AT PYRAMID VALLEY, NORTH CANTERBURY.—There follows a list of birds seen by Jim Eyles and myself at Pyramid Valley during February, March and early April, 1949, while we were excavating moa remains:—Black shag, one seen by J. R. Eyles. Paradise duck, (March), 6 in flight; 11/3/49, female at swamp. Black-backed gull, often flew over. Rock pigeon, feral, in the limestone rocky outcrops. Harrier, two seen at once and single birds at other times, which may or may not have been the same ones. Bush hawk, 3/4/49, one flew over, pursued by magpies which attacked it in relays; magpies also pursue the harriers. Pipit: Not uncommon on the swamp, which is dry in summer; up to six seen at once. Grey warbler: Several times heard singing but not seen. Yellow-breasted tit: One or two about; not plentiful. Fantail: Several pied and one black form (3/4/49 in plum tree) seen. Greenfinch: One nested in a pine outside our hut, but while we were away during the Science Congress week, some predator, apparently, got the eggs or young; nest was empty when we returned. Chaffinch: Several about. Goldfinch and silvereye: A few present. House sparrow: Plentiful. Yellowhammer: A few about. Blackbird, song thrush, starling: Some about, but not very plentiful. White-backed magpie: Plentiful, cheeky and raucous; valued by Mr. Hodgen, the owner of Pyramid Valley, as a useful bird. Pyramid Valley is in limestone country—on the left, looking up the valley, Amuri and Weka Pass limestone; on the right, Mt. Brown limestone, and in summer a glorious suntrap. The trees, nowadays, are mainly rows of exotic pines. As will be seen from the list, the birds there are mainly introduced ones. I was informed wekas (probably **Gallirallus australis)** and skylarks were not uncommon until the big snow of circa 1918, which wiped out nests. I think rodents may also have played a part. Hedgehogs, which are fairly plentiful there, would account for many larks' eggs.—R. J. Scarlett, Christchurch.

VISIT TO MILFORD SOUND AND LAKE MANAPOURI.—April 2, 1949: Near Mossburn huge flocks of paradise ducks were seen, and numbers of harriers and pukeko noted between Gore and Te Anau. April 5: Recorded at Glade House: Robin, 1; paradise ducks, 2; pied fantails, yellow-breasted tits, bellbirds, silvereyes. Recorded along the track by the Clinton River: Robins, 2; paradise ducks, 6; fantails, 12 mostly pied; yellow-breasted tits, 6; pigeon, 1; S.I. weka, 2; bellbirds, 2 seen, many heard; silvereyes; blackbirds, 2. Pompolona Hut, weka. 1. April 6: At foot of McKinnon Pass: Weka, 1; keas, heard, 1 seen on the Summit; paradise ducks, 12; yellow-breasted tits, 4. April 7: Quinton Huts to boatshed: Pigeons 2, fantails 8, yellow-breasted tits 4, riflemen 2, wekas 2, paradise ducks 2, bellbirds 2 and several finches. On the Arthur River beyond the boatshed were two blue ducks. Lake Ada: Kingfisher 1, pied shag 6, black shag 3, paradise ducks and 12 small ducks which were possibly teal, black swans 2 in flight; and on an islet in the lake about 12 small gulls too distant for identification. April 7 to 11: Milford Sound: Kingfisher 1, black shags 2, paradise ducks 4, pigeon 1, fantails, yellow-breasted tits, grey warblers, silvereyes, red-billed gulls and black-backed gulls. April 15 to 18, Lake Manapouri: Blue ducks 2 on a river at the head of the lake, paradise ducks, grey ducks, wekas 3, riflemen 2, fantails very numerous, yellow-breasted tits, silvereyes, grey warblers, bellbirds numerous, tuis and pigeons.—Miss M. Bayne, D.N.F. Club.

BIRDS IN MONOWAI DISTRICT, MAY 15-20, 1949.—At Borland Burn on May 15, four brown creepers were noted in young beech trees on the river bank. Parakeets (?sp.) were heard in numbers but only one a yellow-fronted, was seen close at hand. Two bush hawks were seen

near west branch forks. Yellow-breasted tits were common, as were pipits in manuka scrub near Monowai Settlement. Robins were common. Four pied fantails were seen investigating spider webs, etc., in exposed tree roots where a high river bank had been undermined by flood waters. On May 16, on the Lake Monowai-Mt. Cuthbert Track, parakeets (?sp.) were heard in numbers. Three wood pigeons were seen and yellow-breasted tits were common on bush margins. In the same locality on the following day, no pigeons were seen: In a patch of undergrowth about six feet high, the following were seen: Yellowheads 4, silvereyes 2, and yellow-breasted tits, male and female. Parakeets were common in the treetops but not close enough for identification. Bellbirds were common in the bush at all levels to the bush line.—B. W. Campbell, D.N.F. Club.

GANNET WITH EEL.—With Mr. Bernard Sladden, I was rowing on 5/9/49 on Ohiwa Harbour, Bay of Plenty. A gannet dived about 20 yards from our boat and came up with an eel about 18 to 24 inches long. The eel coiled tightly round the gannet's bill, preventing the gannet from getting at its head to kill it or to swallow it alive. After a struggle lasting for some minutes the gannet put its head under water and either lost or released its catch. It spent some time washing its bill before it flew away.—P. H. Basley, Ohiwa.

ROOKS IN FEILDING DISTRICT.—Periodically numbers of rooks appear in the Feilding district. Twenty-five years ago a colony was destroyed at Mt. Biggs, to the west of Feilding. Two years ago, Mr. Mason, nurseryman, of Sandon Road, Feilding, was compelled to destroy four which had been playing havoc in his nursery. The nearest known colony is in Hawke's Bay. This bird evidently crosses the Ruahine Ranges periodically, perhaps when Hawke's Bay is engulfed in a drought, to the greener pastures of Pohangina and northern Manawatu. It would be no surprise of a well-established colony was discovered at any time in this area.—E. Dear, Kopane.

GREY WARBLER AND EPEIRID SPIDER.—A grey warbler **(Pseudogerygone igata)** was recently (about mid-January) observed in the act of capturing a small epeirid spider **(sp. inconn)** from the centre of its vertical orb-web on the edge of a track through low scrub. To effect the capture, the warbler was hovering in front of the centre of the spider's snare with its wings vibrating so rapidly as to appear as quite undefined blurs: the poise and action of the bird were very strongly reminiscent of a humming bird taking nectar from a flower, and, although not actually timed, the pose was held for approximately half a minute (by counting). The spider's snare was more than 18 inches in diameter, so the method of catching the spider adopted by the warbler was about the only one practicable. The observation was made from a distance of about three yards and every movement was distinctly visible.—H. C. Abraham, Mangonui.

SONG THRUSH EATING GREEN BUG.—A young song thrush **(Turdus ericetorum)** was observed on January 30, 1951, from a range of about six feet, to capture a green bug **(Nezara viridula)** from a clump of verbena, take it on to the adjoining path and there devour it. In spite of the (to humans) extremely disagreeable odour emitted by these bugs when disturbed or squashed, the thrush displayed no sign of discomfort and hopped off gaily in search of more food, and has since been seen frequently apparently in the best of health. If it should be that the song thrushes are adopting **Nezara** as a new item of food it will be a blessing to all horticulturalists in North Auckland—and the thrushes should wax very fat!—H. C. Abraham, Mangonui.

MEMBERS HOLD PICNIC.—A pleasant picnic afternoon to which all local members of the society were invited, was spent at Kourarau Dam, Wairarapa, on February 11, 1951. Five car loads enabled many members to see an abundant selection of wild fowl, including a pair of dabchicks and young, which have not before been known from the district.

BREEDING OF KOKAKO.

By H. R. McKenzie, Clevedon.

The finding of an occupied nest of a pair of kokako, or blue-wattled crow (**Callaeas cinerea wilsoni**) on December 2, 1950, in the Moumoukai Ranges, east of Auckland, was the result of patient search over the last ten years. The effort has been led by Mr. J. W. St. Paul, a ranger employed by the Auckland City Council on its water reserve. He lives within sound of kokako song and has made a special study of this rare bird. The writer and others have worked with him and many interested persons have been shown their first kokako in this area.

The party of December 2, the Rev. R. J. Fenton, Messrs. F. J. Lownsborough, Fraser Murray and the writer, journeyed from Clevedon in the hope of seeing birds and perhaps finding a nest. Lunch was decided upon after a fruitless search had been made in second growth where it joined the main bush. Mr. Lownsborough, carrying the "tucker tin," was leading the way into the shade of the big trees when he saw two large dark birds (his first kokako) go into the bushy head of a medium-sized tawa tree. Interest quickened when only one came out again. A dark shape resembling a nest could be seen high up in the thick foliage. With the aid of a rope across his feet, Fraser Murray climbed the 17 feet of bare trunk, and then nine feet up through the branches to the nest. The sitting bird regarded him calmly at a distance of 18 inches. When he gently stroked its tail the bird moved up the tree two feet and waited while he looked at the three small, almost naked chicks. Mr. Fenton then climbed up. The bird left the nest but came back to only a foot or two in front of his face and covered the chicks. This kindly, gentle creature continued throughout the ensuing visits to show no fear and very little resentment at the presence of human beings at such short range.

The almost upright branches of the tree prevented close observation except from practically at the edge of the nest. This caused much difficulty to photographers. Mr. W. P. Mead, of Castlecliff, Wanganui, secured a good series of photographs by using flashlight. Others had varying success.

The hope of the local bird-watchers had been to find a nest being built and observe it until the departure of the chicks. This aim was not achieved but it was decided to make the most of the opportunity presented to study the later stages of breeding. Many members of the Ornithological Society of New Zealand took part in watching and in the provision of transport. The names of those who supplied notes of their observations have been abbreviated as follow: J. W. St. Paul (J.W.St.P.), E. G. Turbott (E.G.T.), R. St.Paul (R.St.P.), Capt. A. T. Edgar (A.T.E.), Rev. R. J. Fenton (R.J.F.), Tom Shout (T.S.), Fraser Murray (F.M.). Small differences will be detected in these notes. I have purposely not attempted to reconcile them because in the case of a number of impressions being recorded they cannot truthfully or profitably be standardised. The range of impressions as given will, I think, be more useful to future observers. For generous assistance I thank the abovenamed and all other helpers. Mr. Mead has kindly supplied the photographs of the kokako appearing in this issue.

THE NEST.

The nest corresponded in general with the descriptions of Buller, Reischek and McLean. The main platform, placed on a firm spreading side-branch, was made of rough dry twigs which protruded irregularly all round. The maximum length of sticks was 58.5 cm (23 inches), average, 38 cm; maximum thickness 9mm (⅜in), average 3.5 mm. These were not used to build up the walls. Tawa, mahoe, putaputaweta, pigeonwood, wineberry and supplejack were represented in order of quantity as listed. Others could not be recognised. On the top of this platform, but about the centre only, was placed a layer of rotten wood, three pieces being about 7cm by 2cm, some smaller ones and a quantity of

grainlike residue from a boring insect, loosely held together with cobwebs. The sides were a mixture of small rata vine (being more terminal branchlets than side-rooting vines), leaf fibre of kiekie, much moss, a little lycopod and filmy fern. The two latter had been torn from the trunk of the tree beside the nest. The cup above the decayed wood was composed of a thick layer of moss which was almost free of the base of sticks. This feature is remarkably like the form of construction used by the tui and bellbird. The final lining was a thick loose felting of punga scale. The measurements (E.G.T.) were: Outside width 22in., diameter of cup 6¼in. The whole structure was loosely built and untidy and by the time it was deserted by the chicks it was a flattened wreck. None of the nests so far found by the local observers has been sturdy enough to be used twice, or to remain in sufficiently good order to be used the following season.

A peculiar nest was found on November 3, 1950, by Messrs. R. H. D. Stidolph, J. W. St.P. and the writer. It was in a tawa tree about 40 feet up and only a few chains from the site of the nest found on December 2. D. A. Urquhart made a hazardous climb and found it to be a flat platform of sticks with a flat mass of moss on it. There was no nest cup. Perhaps it was a pre-breeding "play" nest, made by the same pair. It was not used. It was found through the birds staying and feeding quietly about the one place.

THE CHICKS.

December 2, 1950.—All three chicks unable to lift heads. Eyes not open. Prominent white egg-tooth. Small round wattles pinkish lavender. Wing quills not yet beginning to open and not separated from each other. Small quills down centre of back. A little fluffy dark brown along back, above each thigh and on top of head. Remainder of body bare, the skin smoky blue.—(F.M. and R.J.F.)

December 7—Lifting heads readily. Eyes half opened as horizontal slits, iris brown. Bill black with white egg-tooth of only pin-point size. Feathered on head and mantle, blue-grey, and back, grey-brown. Wattles purple edged with bluish, forming the angle of the gape and spreading outwards where they could be most prominent and effective as a food-guiding mechanism in feeding. Primary and secondary wing quills and upper wing coverts had sprouted, all to a length of c 14mm. Quill sheaths bright blue, giving the wings the appearance of having blue double bands (quills and coverts). A varying amount of wispy down adhering to tips of feathers. Naked patches on sides of body. Black patches on either side of base of bill already distinct, one less developed than others.—(E.G.T)

December 9.—Eyes open. Egg-tooth still present. Wattles becoming more blue. Feathered on head, back, sides, thighs and partly underneath. Wing quills open. Bare on strip down from neck, at base of wing and on belly. Black patches each side of base of bill.—(F.M.)

December 10.—Chicks grown considerably and frequently exercising themselves, stretching legs to full length backwards like a cat. Inside of mouth purplish pink. This has a very striking effect. Wattles cobalty, more red at angle, still flexible, but bending round distinctly into the adult position. Eye brown; bill and feet black. Measurements: Culmen, 25mm. Length of middle tail feather from sheath, 43mm. Length of sixth primary from sheath, 54mm.—(E.G.T.) Chicks had grown noticeably from the previous day.—(J.W.St.P.)

December 14.—Watched from 8 a.m. to 2 p.m. Wattles pale pinky-blue, the pinkish tinge contrasting with the bright blue of the parent. Whereas the wattles of the adults are fairly closely appressed to the throat those of the chicks stand out somewhat. Plumage almost same as parent, bluish-grey generally, lighter on head, wings darker and brownish-grey. Lores velvety black, but this colouring not extending to eyes as in the adult. Chicks pecking at material on side of nest. One stretched one of its wings.—(R.J.F.) Twice a chicken stood up and

stretched. Appeared to be very strong in legs, but tail and wing feathers still had considerable growth to make. A little brownish down showing in feathers.—(T.S.)

December 19.—Wattles lie close to the neck of the adult, like scales, with a very narrow piece of feathered throat showing between, while wattles of young birds at this stage hang down and are a pale blue, rather purplish on the underside. Colour of chicks: Grey above, with a brown wash on the back, some down still showing.—(A.T.E.)

December 21.—Mouths of chicks still very brightly coloured on the inside. Tails about half-length, much of feathers still in sheath at butt end.—(F.M.) The determining of the colouring of the inside of the chick's mouths gave rise to much discussion. The writer boldly described it as fuchsia red. His elation was unbounded when Mrs. E. G. Turbott, not having heard his version, used the same term. F.M. studied this carefully, finding that from the principal fuchsia red area, tonings of blue and mauve showed toward the outer edges, particularly in the neighbourhood of the wattles, while deep down the throat the tone merged into a rich yellow.

December 24.—Young chicks hopping out of nest into branches and flying back two or three feet on to nest. One went straight up about four feet and had trouble getting down to nest again.—(H.R.McK.)

December 25.—Hopping about tree but parents persisted in feeding at nest only.—(H.R.McK.)

December 26.—Moving freely about tree, though sometimes all in nest. Only twice in two hours was a chick fed while on branches. All other feeding done at nest. The female led one chick away about 20 feet, she kept about a yard ahead, calling to it softly. She then flew downhill but the chick returned in stages to the nest.—(J.W.St.P.)

December 27.—Messrs. J. W., R. and R. B. St. Paul witnessed the young leaving the home tree. Mr. R. St. Paul writes: "Arrived at nest 12 o'clock. Two young birds on branches below nest, the third young one in tree 25 to 30 feet away on downhill side of nest. At 12.5 old bird returned to feed young one away from nest and commenced to coax the other two young away. At this stage the wind was getting gusty and rain was in sight by Cape Colville, so for the next half-hour she put in every effort to coax them down the hill. By 12.20 she had got one down two chains while the other two were half a chain behind, so she fed the one and called the others. At 12.25 one of those behind lost its balance in the toro tree it was in and came down to within two feet of the ground, where it managed to alight on an old punga stump three feet in front of where I was standing. It had a good look all round, then hopped up a kiekie stem and worked its way into the thick part of a tawa tree where it was fed by the old bird.

"The tawa tree was bushy and covered with kiekie and supplejack. By 12.30 the last young one had climbed to the top of the toro and put in a good flight of half a chain to join the other two young ones. At 12.35 all young birds were together and the old bird was away for more food. At no time did the male bird appear on the scene."

This successful conclusion was most gratifying to those who had come to regard these birds with affection. The storm came and it precluded the keeping of a watch to see whether the young returned to the nest for the night. It is assumed that they would be most unlikely to do so.

The age of the chicks when found cannot be calculated until more is learned about this bird. Young birds vary a great deal. These had their eyes unopened on December 2. A blackbird chick (H. R. McKenzie, "N.Z. Bird Notes," Vol. 1, No. 9, p. 110) opened its eyes at seven days, whereas Mr. P. A. S. Stein informs me from his notes that a gannet chick takes only one day, or a day and a half to do so. No comparison, therefore, can safely be made. I consider that the chicks, when found,

were two to three days old. This would give the period from hatching to leaving the nest as 27 or 28 days.

FEEDING OF CHICKS.

Notes on feeding were taken by F.M., R.J.F., J.W.St.P., A.T.E., E.G.T., T.S., and H.R.McK. The results were so similar that separate reports need not be given. On December 2, the day the nest was found, no feeding was observed. So great was our fear of causing disaster through disturbance that we quickly departed, leaving the hen still brooding the chicks.

The first feeding observed was by E.G.T. and party on December 7. From this date ripe berries of supplejack and pigeonwood and green fruit of raurekau **(Coprosma grandifolia)** were used. On December 14, chewed green leaf was seen to be fed with berries. (R.J.F.) This was apparently used more as the chicks grew older. Several observers saw a parent pulling pieces from the leaves of a pigeonwood and the chewed leaf usually fed seemed to be of the colour and texture of this species. Ripe raurekau was used a little later. (J.W.St.P.) The only other food identified was the white end of the rhizome of a lycopod (J.W.St.P.)

On December 14, the female, while at the nest, snapped a flying insect, but was not seen to feed it to the chicks. (R.J.F.) Apparently insects and larvae are not used. It is not likely that a change of food would have been made between hatching and December 7th, a period of perhaps seven days.

It is possible that little insect food is taken by the adults, in which case it would not so readily be used for the young. McLean ("Bush Birds of New Zealand," The Emu, Vol. 11, p. 229) states that insects are part of their diet and that they search the bark of trees and turn over the leaves on the ground with their bills as if taking insects.

A party disturbed on an open creek bank (N.Z. Bird Notes, Vol 2, No. 7, p. 174) could have been obtaining grubs and insects, but may have been eating clover as they will do.

Reischek (Transactions N.Z. Inst., Vol 19, p. 191, 1887) who shot and skinned many specimens, writes: "This bird feeds on berries and the young leaves of various plants." Evidently he found no insect material when dissecting.

J. W. St. Paul, who has watched their habits for over 40 years, and intensively in the last 10 years, doubts that they are seeking grubs when they probe in the moss on the branches of high trees. This may be a means of obtaining water. He has never seen them take insects or search the bark of trees for them. He has seen them snap at flies but has not known them to actually take and eat them. R. J. Fenton (see ante) is sure that the bird took a passing insect at the nest. He saw this at a distance of two feet. Two of our most prominent observers, McLean and St. Paul, do not agree on this matter. However, the difference may be explained by a geographical variation of diet. Further study is necessary.

Another possibility in regard to food for the chicks is nectar. On November 3, 1950, R. H. D. Stidolph saw a bird probing into the base of a fuchsia flower. It did not detach the flower.

Several observers timed the feeding. Mr. Tom Shout, National Park Warden, slept under the tree and obtained a record of early morning activity on December 15: 3.30 a.m., tui song began; 4.30 a.m., a parent left the nest and went away; 5 a.m., came and fed; 5.5 a.m., the other came and fed; 5.20, both came and fed; 6.10 a.m., one fed again. Maximum, 40 minutes; minimum, 15 minutes; average, 32 minutes (T.S.) A faster rate of feeding may have been expected at this time of day.

December 17.—No berries seen to be fed. Feedings: Maximum, 28 mins.; minimum, 5mins; average, 14mins. (J.W.St.P.) December 19: Berries and leaf; maximum, 28mins.; minimum, 5mins.; average, 14mins. (A.T.E.) December 24: A record kept by H. R. McKenzie reads: 12 noon,

male fed, 12.18 m., 12.26 m., 12.29 m., 12.45 m., 12.46 female, 12.55 f., 1.4 f., 1.8 m., 1.30 m. and f., 1.53 f., 2.3 m., 2.4 f., 2.8 f., 2.34 m. and f., maximum 26, minimum 1, average 11. This was the fastest feeding recorded to date The usual rate was 25 to 30 minutes average, slower in the heat of the afternoon and quickening a little in the evening, though even then by no means fast. Berries and leaves were used. On the last two days so much food was required that it was often collected only a few yards from the nest tree and feeding was at short intervals of 5 to 10 minutes, with odd periods up to 20 minutes. (J.W.St.P., R.St.P.)

At this time the droppings below the nest were examined and it was found that the food had consisted mainly of pigeonwood, supplejack and raurekau berries as well as leaves. (R.St.P.) The young birds, when hopping about in the vicinity of the nest were seen to pull at leaves but it was not certain whether they actually fed. The female, and perhaps the male also, ate droppings which fell in the nest but did not trouble about those which lodged on the outside.

Food was carried by the parents in the bill and the upper throat. The bill of the male was usually partly open, showing some of the food, while the female usually had hers closed, perhaps because she used more chewed leaf. The upper throat showed quite a bulge. A load of food consisted of two to four large berries, some large and some small berries, some berries and some chewed leaf, or all chewed leaf. The chewed leaf was imparted with much saliva. A food load was given all to one chick, or divided between two or three.

The male, distinguished by his greater size, darker colour, heavier bill and coarser head, was occasionally shy of coming in to the nest when watched by an observer. He would then wait for the female and come in with her quite readily. Once I saw him give the food to the female and she took it to the chicks. Another time he fed to the female two berries and some chewed leaf which she received and then went off into the bush, apparently keeping them for herself.

CALLS OF PARENTS AND CHICKS.

December 7.—The only sound heard was a croak while feeding; doubtful whether given by parent or chick. (E.G.T.)

December 9.—A small croaking noise from chicks noted when parents approaching with food. (F.M.) A small croak made by chicks when disturbed. (F.M., R.H.McK.)

December 15.—When the bird first left the nest at 4.30 a.m. she settled in a small tree and gave three clear musical calls before moving on. At 6.10 a.m. and again at 7.45 a.m. a bird, after leaving the nest, perched in clear view overhead and in the space of 20 to 30 seconds gave four calls resembling "kaack." This seemed a harsh call for such a fine songster. It probably denoted a protest. (T.S.) In the period December 2 to 27 no other observers heard either song or the "kaack" call of protest. Song during the feeding period has, however, been previously experienced. In the case of the nest found on 26/12/43 (N.Z. Bird Notes, Vol. 1, No. 7, p. 82) J. W. St. Paul states that he located the nest through finding the two birds singing together about 20 feet from it. Unfortunately this nest was inaccessible to one man alone and he had to leave the district the next day. On his return feeding was still proceeding, being noted on January 5 and 8, 1944, but when help was obtained and the nest reached by R. B. Sibson on January 9 the young had left.

December 16.—The parents, when chicks were handled, came close up, uttering a kind of "putt, putt," not very quickly repeated. (F.M., H.R.McK.) The chicks when handled protested with croaks and squawks almost small squeals on the part of the smallest and least prominently marked one, presumed to be a female. Later, when a parent was at the nest and the chicks were begging food with open mouths, they made a hissing noise like a miniature of the hissing of an angry goose. (F.M., H.R.McK.)

December 19.—The chicks set up a faint clicking at times. (A.T.E.)

Mr. R. Quinn, of Clevedon, knew the kokako well when he lived as a youth at Patumahoe. He describes the call of the young after their having left the nest, as a hoarse double croak, repeated at long intervals. I have heard this call, though without seeing the bird. It is quite unlike any note of the adult known to me. The low mewing made by adults, apparently to keep touch with each other in the bush, was used by these parents when both were present.

BREEDING HABITS.

Records of nesting of the kokako are few and for the most part scanty. Placed in seasonal order of date they give an indication of the breeding season, but provide by no means a definite or full account of it.

22/11/1887.—H. S. Munro (unpublished).—Nest of two eggs and one newly hatched chick found by bushmen half a mile north-west of the the village of Clevedon. The eggs were taken and the chicks extracted from them. One egg was given to the Auckland Museum and Mr. Munro has the other at his home at Papakura.

12/10/1906: McLean.—Complete nest, apparently unused.

28/11/1943: H. R. McKenzie (N.Z. Bird Notes, Vol. 1, No. 7, p. 82).—Deserted nest with broken eggshells as if eaten by rat. Fallen dry toro leaves filled nest, but not compacted. so certainly not a nest of the previous year.

26/12/1943: J. W. St. Paul (N.Z. Bird Notes, Vol. 1, No. 7, p. 82).—Pair feeding young in nest in inaccessible tree (see ante). Young left nest on January 8.

December, 1885: Reischek. (Transactions of N.Z. Inst., Vol. 19, 1887, p. 191).—Three young sitting outside a nest in "Waitakarei" Ranges. Buller gives this date as January 3.

13/1/47: J. W. St. Paul (N.Z. Bird Notes, Vol. 2, No. 7, p. 174).—One young being fed in tree by parent.

January 15: Buller.—Two young, which left nest when disturbed, near Whangarei.

24/1/1943: J. W. St. Paul (N.Z. Bird Notes, Vol. 1, No. 3, p. 29).—Young bird in tree full grown but not fully feathered.

21/2/1945: J. W. St. Paul (N.Z. Bird Notes, Vol. 1, No. 11, p. 136).—Two young birds being fed in trees by parents.

February, 1882: Reischek.—Two full-grown young birds shot in the Pirongia Range.

Early April, 1880: Reischek.—At Castlehill, Tokatea Ranges, three young in nest. One was caught but two escaped.

Reischek stated that it was his belief that the kokako nested twice a year and this has been mentioned by subsequent writers. The above list shows that only one case (early April, 1880) could well have been a second breeding. It was probably late through previous accidents, or was an isolated second breeding. The opinion is held locally that breeding twice in a season is not customary and that it may yet be proved that it does not breed every year.

The dates of records of nesting of the orange-wattled kokako in the South Island indicate breeding once only in a season. Buller (2nd edition), January, nest with chicks. W. D. Campbell (Transactions N.Z. Inst., Vol. 12, p. 249) two in February, one with one egg and one with nearly fledged birds. Potts ("Out in the Open," p. 195) five nests, all in January, one had two newly hatched chicks.

Reischek believed that they have two or three young at a time. This is borne out by the evidence given above. Also Mr. Quinn states that he saw several nests at Patumahoe, and they contained usually three, but sometimes only two eggs. It was not uncommon for one egg to fail to hatch.

According to Buller, an English authority, Dr. Gadow, stated that the kokako did not conform clearly with any order and he considered it to be between the **Corvidae** (crows) and **Laniidae** (shrikes). Thus it came to be called a "N.Z. crow."

Buller states: "In disposition the kokako inherits the true characteristics of the crow family, being inquisitive, shy and crafty."

In the experience of local observers the latter statement is incorrect. McLean practically denies the charge of inquisitiveness and I agree with him. It is even difficult to attract it with calls which will bring other more inquisitive birds. Those who have watched this bird at a few feet will hardly agree that it is shy. The term "crafty" is even further from the mark. Few birds are more innocent. The crows and other members of the genus **Corvus** have a name for killing, robbing and mischief, are unmusical and for the most part unlovely. The kokako is gentle and harmless, highly musical, beautiful, dignified and engaging. My recent happy experience with a breeding pair has made the name "crow" most distasteful and in this I have the agreement of others who shared in this fascinating study. Stonor has placed the kokako with the saddleback and the huia in the family **Callaeidae**, New Zealand wattle-birds.

The prospect for the kokako in this area is very good. A large tract of native bush has been taken over by the Auckland City Council for a water reserve. To this is being added some thousands of acres of rough hilly grazing country which is to go back into second growth. This will provide food and shelter of the best kind. The birds are carefully guarded by both official and unofficial rangers and the settlers of the district are kindly disposed toward them. Thus they should remain with us, an interest and a delight always.

[The Society is indebted to Mr. W. P. Mead, of Wanganui, for the opportunity to publish his excellent series of photographs of the kokako. As far as is known, this is the first time that this species has been photographed in its natural haunts and members will join in congratulating Mr. Mead on his outstanding success.—Ed.]

NOTICE TO MEMBERS.

RINGING SCHEME.—All ringing schedules should be made up to March 31 (do not include birds ringed after that date) and sent in to the convener immediately for summarising.

NEST RECORDS.—All completed cards should now be sent to the organiser for cataloguing. Further cards may be obtained for back records.

INQUIRIES.—The following are at present current, and reports should be sent to the organisers as soon as possible.

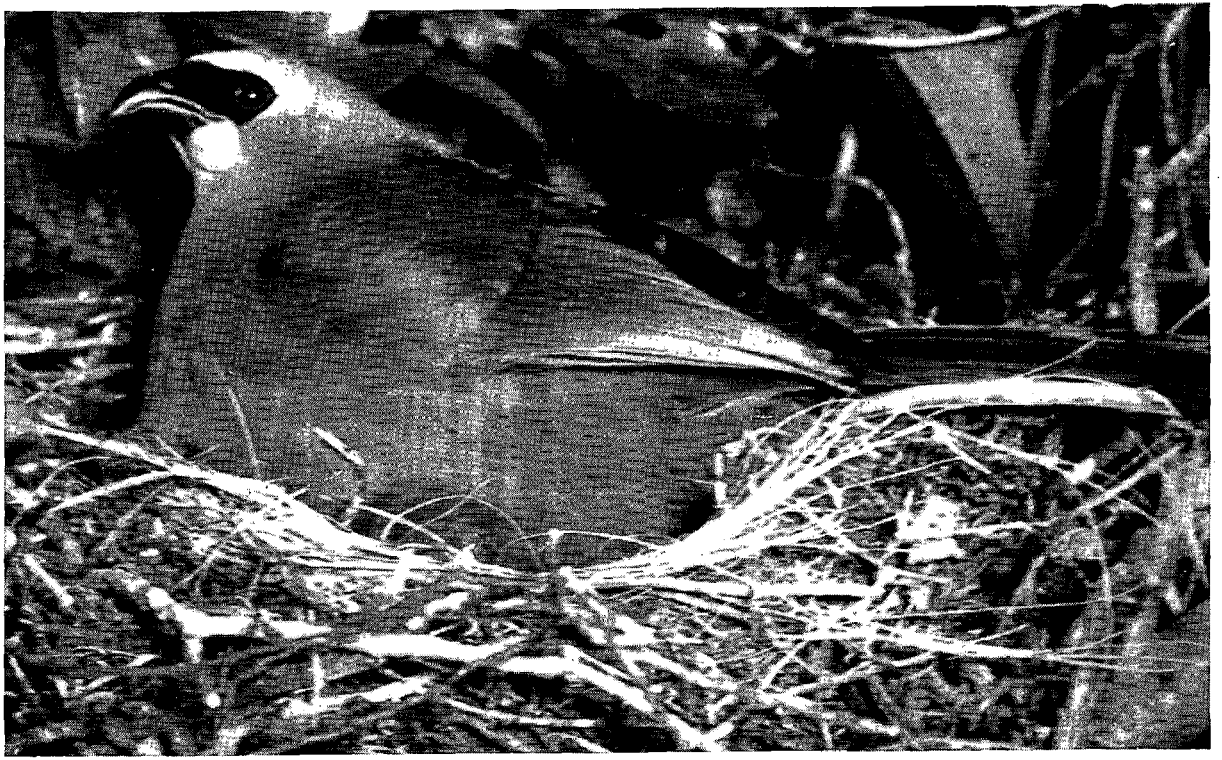
BANDED DOTTEREL.—Reports should be sent to the organisers, Messrs. C. A. Fleming and R H. D. Stidolph. The information required is shown in Notornis, Vol. 4, No. 1.

DABCHICK.—Information (as detailed in Bulletin No. 1, 1941-42, O.S.N.Z.) should be sent to the organiser, Mr. R. B. Sibson. The type of information required is very wide in scope.

GODWIT.—Notes on distribution, numbers and plumage is asked for (vide Notornis, Vol. 4, No. 2) by the organiser, Mr. R. H. D. Stidolph.

WEKA.—Distribution data in the Gisborne-East Cape district is being collected by Mr. J. C. Davenport (vide Notornis Vol. 4, No. 2).

COOK'S PETREL.—Information of the distribution of Cook's petrel in North Auckland is being collected by Mr. J. C. Davenport, who should be communicated with for details.



KOKAKO BROODING CHICKS, MOUMOUKAI, DECEMBER 9, 1950.

Photo. Copyright, W. P. Mead.

KOKAKO CHICKS IN NEST, MOUMOUKAI, DECEMBER 9, 1950.

KOKAKO BROODING CHICKS.—Showing how wattles are appressed to throat; Moumoukai, December 9, 1950.

Photo. Copyright, W. P. Mead.

KOKAKO FEEDING CHICKS, MOUMOUKAI, DECEMBER 10, 1950.

KOKAKO PREENING CHICKS.—Moumoukai, December 10, 1950.

Photo. Copyright, W. P. Mead.

KOKAKO FEEDING CHICKS—Moumoukoi, December 10, 1950.

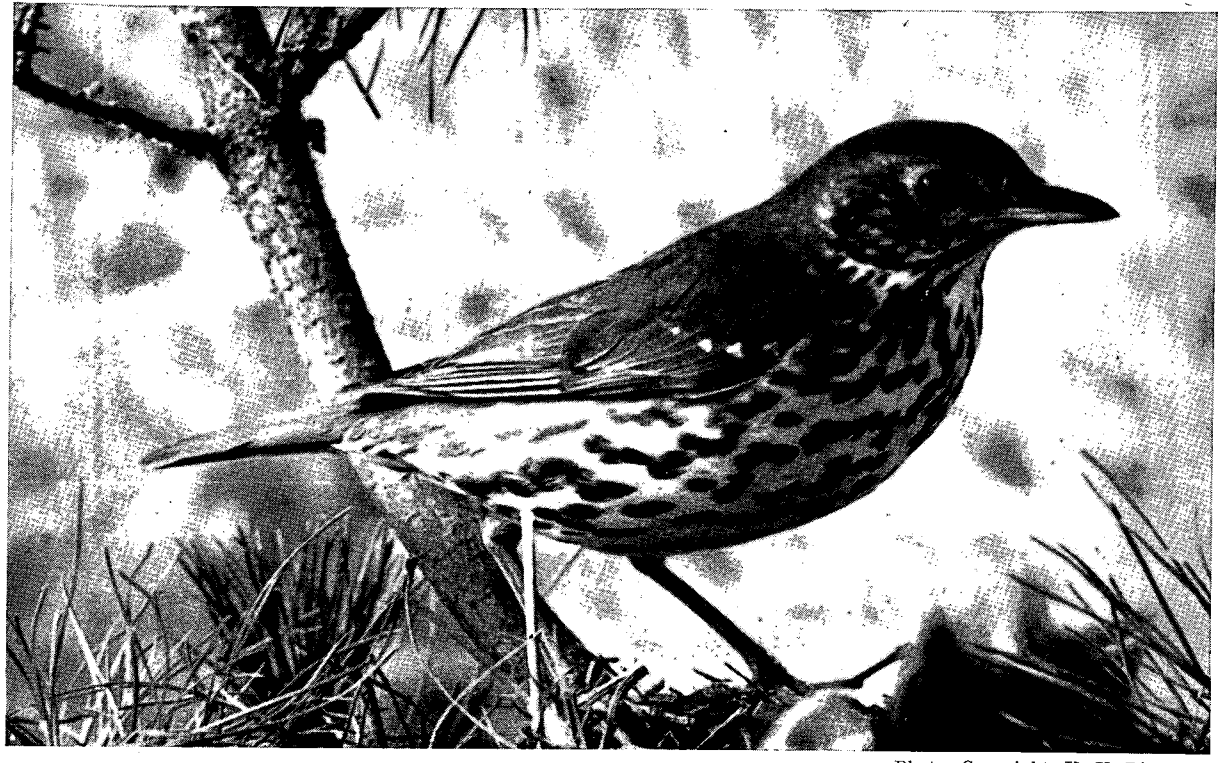
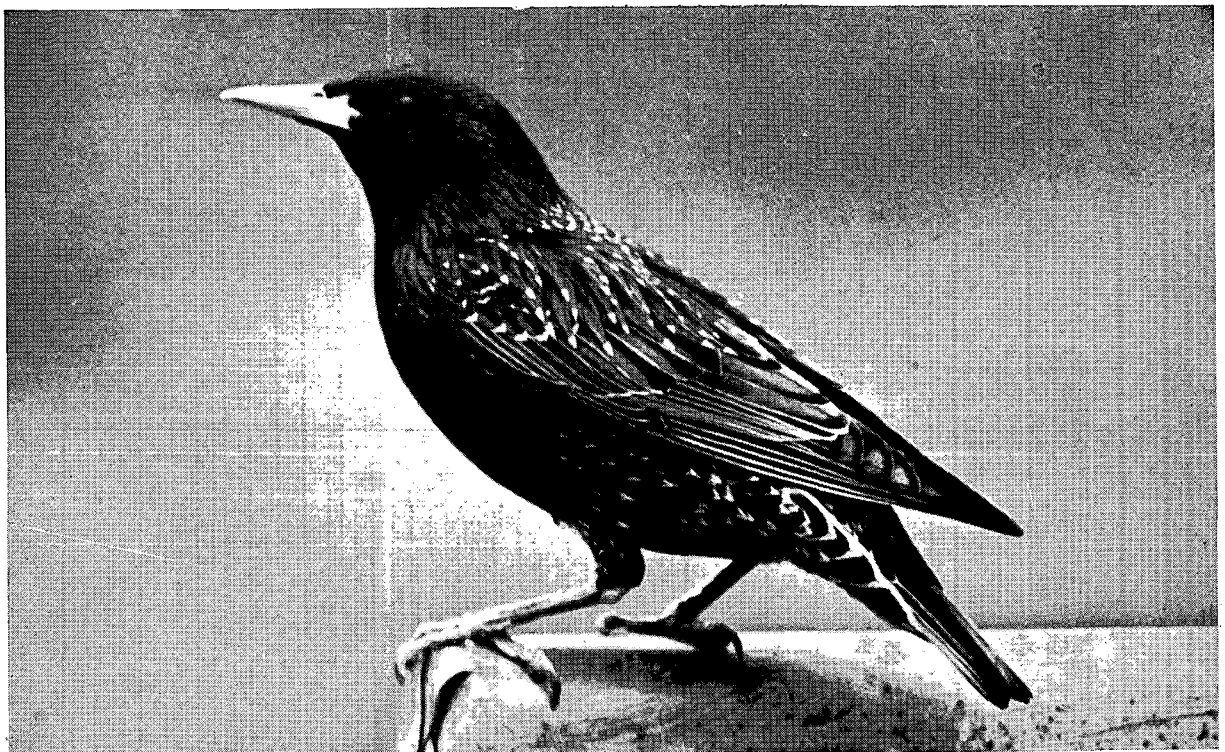


Photo. Copyright, K. V. Bigwood.

SONG THRUSH.—Introduced to New Zealand.



STARLING—Introduced to New Zealand.

PHOTOGRAPHIC STUDIES OF BIRDS IN N.Z.—VII.

SONG THRUSH.

The introduced song thrush (plate XIX.) the subject of one of Mr. K. V. Bigwood's photographic studies, is one of the most numerous birds in New Zealand, being distributed throughout, even in remote forested areas. First liberated in New Zealand in the sixties of last century, the thrush found conditions to its liking and now is one of the best-known birds in the country.

STARLING.

Another abundant introduced bird in New Zealand is the starling (plate XX.). This species, brought here about the same time as the song thrush, likewise increased rapidly and has spread to all parts of the country suitable to its habits. In the non-breeding season large flocks may be seen towards dusk making their way to a communal roost, which may contain many thousands of birds. A roost observed near Masterton in 1944 was estimated to contain about 75,000 birds (July 22).—R.H.D.S.

RINGING IN NEW ZEALAND.

J. M. Cunningham, Masterton.

As is shown by the writer (Emu 50, 3) many birds have been ringed in New Zealand by operators acting in the main independently. Now that the ringing scheme of the Ornithological Society of New Zealand is in operation, it has been thought desirable to place on record as much data as possible, of ringing prior to the inception of the scheme. With the dual object of preventing possibly valuable records being lost, and of making them readily accessible to future workers, many operators' records have been duplicated. They have been entered (some in summary form only) on schedules, species record, operators' record, and recovery cards in standard form, in a manner similar to which future records will be kept by the society in its ringing scheme. The writer gives his sincere thanks to those who have so kindly placed their records at his disposal, and again urges other members to put their records on schedules at the earliest possible date.

No records of rings used, however insignificant, should be overlooked as the most unlikely cases may be of value. Who would have expected, for example, that a magpie, released with a roughly fashioned ring of tinplate in 1942, would have been again recorded in 1950? Or that a fantail, ringed as a nestling, would have flown the following year into a room a mile away to catch flies, and be noticed to be wearing a ring?

BIRDS RINGED.

The following records are shown alphabetically. They include only those of which full details are on file: other ringing known to the writer is mentioned in the section "Other Ringing."

RINGS.

Rings used were home made except where coloured aviculturalists' rings were used. Sorensen's were stamped "Return Southland Museum"; Gurr's, "Return Otago Univ."; Fleming's "Return Dominion Museum N.Z."; and some of Cunningham's and Welch's "Tell Times-Age" or "Tell N.Z. Outdoor." Others were of thin aluminium, or in some cases tin, with the number scratched on. It was found that these, including many painted with enamel in various colours, lasted for some years in good condition, but, of course, no address was shown on the rings and recoveries were most often made by the operators or through Press requests. Numbers were in many cases preceded by a letter, and those which have been used are C, D, F, H, L, M, N, P, R, S, W, WS, X, Y, Z.

BIRDS RINGED.

Species.	All Operators. Ringed.	Recovered.	Operators and Where Ringed.	Individual Operators Ringed.	Recovered
Albatross—Light-mantled Sooty	23	9	J. H. Sorensen, Campbell Island	23	9
Royal	374	12	Ditto Ditto	374	12
Wandering	20	1	Ditto Ditto	7	1
			R. A. Falla, Crozet Island, Etc.	5	
			C. A. Fleming, Auckland Islands	8	
Blackbird	69	6	P. C. Bull, Mangere	2	1
			J. M. Cunningham, Masterton	11	
			L. Gurr, Dunedin	11	
			H. L. Secker, Wellington	42	5
			R. H. D. Stidolph, Masterton	3	
Chaffinch	4		J. M. Cunningham, Masterton	1	
			L. Gurr, Dunedin	1	
			R. H. D. Stidolph, Masterton	2	
Dotterel—Banded	4		R. H. D. Stidolph, Masterton	4	
Duck—Grey	1		J. M. Cunningham, Masterton	1	
Mallard	(c40)		J. M. Cunningham, Masterton	(c20)	
			E. O. Welch, Masterton	(c20)	
Paradise	2		J. M. Cunningham, Masterton	2	
Fantail—Pied	19	3	P. C. Bull, Mangere	6	2
			J. M. Cunningham, Masterton	13	1
Godwit—Bar-tailed	1		J. H. Sorensen, Kermadec Islands	1	
Greenfinch	10		J. M. Cunningham, Masterton	1	
			L. Gurr, Dunedin	9	
Gull—Black-backed	11		J. M. Cunningham, Wairarapa	6	
			L. Gurr, Nelson	5	
Black-billed	32		J. M. Cunningham, Wellington	1	
			L. Gurr, Lauder	31	
Red-billed	78	6	J. M. Cunningham, Wairarapa	5	
			L. Gurr, Nelson	73	6
Hedge Sparrow	14		J. M. Cunnnigham, Masterton	7	
			L. Gurr, Dunedin	4	
			R. H. D. Stidolph, Masterton	3	

Magpie—White-backed	1	1	E. O. Welch, Masterton	1	1
Petrel—Giant	1		C. A. Fleming, Auckland Islands	1	
Grey-faced	1		P. C. Bull, Great Mercury Island	1	
Pheasant	710	197	L. Gurr, Otago	710	197
Prion—Fairy	20		P. C. Bull, Poor Knights Islands	20	
Silvereye	4301	156	P. C. Bull, Mangere	300	47
			W. R. Cooper, Clevedon	43	2
			J. M. Cunningham, Masterton	1077	42
			B. F. Duder, Clevedon	105	5
			R. A. Falla, Christchurch	30	
			B. Fischer, Punakaiki	48	
			G. Milne, Masterton	191	2
			F. Murray, Clevedon	25	2
			H. R. McKenzie, Clevedon	13	
			E. Parr, Masterton	41	
			R. H. D. Stidolph, Masterton	1694	51
			O. R. Sutherland, Masterton	95	1
			E. O. Welch, Masterton	300	3
			West Spreydon School, Ch'church	49	
			S. B. Yelverton, Masterton	290	1
Skua—Southern	6		J. H. Sorensen, Campbell Islands	6	
Sparrow—House	7		R. H. D. Stidolph, Masterton	7	
Starling	30		J. M. Cunningham, Masterton	15	
			L. Gurr, Dunedin	4	
			H. L. Secker, Wellington	4	
			R. H. D. Stidolph, Masterton	7	
Tern—Caspian	6		J. M. Cunningham, Wairarapa	6	
White-fronted	151	1	L. Gurr, Nelson	151	1
Thrush—Song	38	4	P. C. Bull, Mangere	15	3
			J. M. Cunningham, Masterton	6	
			H. L. Secker, Wellington	9	1
			R. H. D. Stidolph, Masterton	8	
Warbler—Grey	16	1	P. C. Bull, Mangere	12	
			R. H. D. Stidolph, Masterton	4	1
	5950	397		5950	397

Records are thus available of 5,950 birds of 29 species, ringed by 19 operators (but see also section "Other Ringing"). The number of recoveries of all species is 397.

RECOVERIES.

Date & Where Ringed, Operator, Age, Sex, Ring No.	Where, How and Date Recovered.	
ALBATROSS—Wandering.		
23.4.45 Campbell Island, J. H. Sorensen; adult; A220	Where ringed.	1947
ALBATROSSES—Light-Mantled Sooty and Royal.		
These recoveries represent birds ringed by J. H. Sorensen and recorded where ringed in following years. See "The Royal Albatross," Cape Expedition Series, Bulletin No. 2, 1950, by J. H. Sorensen for some case histories; also "The Light-mantled Sooty Albatross at Campbell Island," same series, Bulletin No. 8, 1951.		
BLACKBIRD.		
24.1.46 Mangere, P. C. Bull; adult; F; 118	Where ringed; killed in rat trap.	6.3.47
27.12.43 Wellington, H. L. Secker; juv; F; 1	Where ringed; re-trapped	5.2.46
5.1.44 Wellington, H. L. Secker; juv.; F; 4	Where ringed; re-trapped	19.8.44 & 22.12.46
22.1.44 Wellington, H. L. Secker; adult; M; 53	Where ringed; re-trapped	5.2.47
19.11.44 Wellington, H. L. Secker; juv.; F; 8	Where ringed; re-trapped	8.12.46
11.1.45 Wellington, H. L. Secker; juv.; F; 10	Where ringed; re-trapped	1.12.46
FANTAIL—Pied.		
19.5.40 Mangere, P. C. Bull; adult; 1	Where ringed. Seen monthly until August, 1940	
12.5.41 Mangere, P. C. Bull; adult; —	Where ringed. Seen February, March, April, 1942	
10.11.47 Masterton, J. M. Cunningham; nestling; 17c	Masterton; 1 mile away; released again	16.6.48
GULL—Red-Billed.		
22.1.44 Nelson, L. Gurr; fledgling; B777	Nelson; found dead	27.7.45
24.12.44 Nelson, L. Gurr; fledgling; B1180	Picton; found dead	13.6.45
24.12.44 Nelson, L. Gurr; fledgling; B1213	Mapua; found dying	20.4.45
9.1.45 Nelson, L. Gurr; fledgling; B817.	Nelson; found dying	7.8.48
9.1.45 Nelson, L. Gurr; fledgling; B807	Nelson; nesting; where ringed	22.12.50
9.1.45 Nelson, L. Gurr; fledgling; B818	Nelson; nesting; where ringed.	20.12.50

In addition, two ringed birds have been reported seen, but the numbers not recorded. One was seen by F. G. Fish at Port Fitzroy, Great Barrier, December 26, 1944, (New Zealand Bird Notes, 2, 7; p. 167). The age was not stated, but the date shows it unlikely to be one of Gurr's birds, and it seems likely that some other person has ringed these gulls. A bird of the year seen near Oamaru Railway Station by L. E. Richdale, on May 27, 1945, may have been from Nelson.

Where, How and Date Recovered.	Date & Where Ringed, Operator, Age, Sex, Ring No.	
MAGPIE—White-backed.		
Aug. 1942 Mt. Bruce, E. O. Welch; adult; —	Where ringed.	Seen for two years and 19.7.50 and 1.8.50
PHEASANT.		
Complete records of numbers ringed are not yet available. Cocks only were ringed by L. Gurr for the Otago Acclimatisation Society, which has since continued ringing.		
SILVEREYE.		
Most of these recoveries were in the following year or two, where ringed. They will be the subject of a separate paper. (See also Marples, New Zealand Bird Notes, Vol. 1; No. 5.)		
TERN—White-fronted.		
9.1.45 Nelson, L. Gurr; fledgling; B1059	Plimmerton; dead	5.4.48
THRUSH—Song.		
1942 Mangere, P. C. Bull.	Where ringed. Seen.	20.6.43 and 1.6.44
Dec., 1943 Mangere, P. C. Bull; young; —	Where ringed. Seen.	1.6.44
Dec. 1943 Mangere, P. C. Bull; —	Where ringed. Seen.	1.6.44
1.1.44 Wellington, H. L. Secker; —; 12	Where ringed; re-trapped	1.1.45
WARBLER—Grey.		
9.6.49 Masterton, R. H. D. Stidolph; adult; —	Where ringed. Seen.	9.7.50

OTHER RINGING.

For the sake of bringing together as much ringing data as possible, the following records have been collected from various sources. The list of species ringed, and particularly the number of individuals ringed, are not necessarily complete, being taken from the references given, which often do not show numbers ringed and recovered:—

Albatross, Royal.—Otago Peninsula; L. E. Richdale; November, 1936, to May, 1949; 37 ringed. (The Pre-Egg Stage in the Albatross Family. Biol. Monograph No. 3.)

Diving Petrel.—Whero; L. E. Richdale; December 1, 1942, to February 12, 1944; 490 ringed. (Trans. Roy. Soc. N.Z., Vol. 75, No. 1.)

Duck, Grey and Mallard.—Manawatu; R. L. Balham; 1947-49; 1654 ringed. (in ms.) Many ducks have also been ringed and released by various acclimatisation societies. The earliest record available is 100 mallard released by the Southland society in 1911. (G. M. Thompson, "The Naturalisation of Plants and Animals in New Zealand.")

Mollymawk, Buller's.—Snares Islands; L. E. Richdale, January 9, 1948, to February 26, 1948; 161 ringed. (The Pre-Egg Stage in Buller's Mollymawk, Biol. Monograph No. 2.)

Penguin, Erect-crested.—Otago Peninsula; L. E. Richdale, 1938; two ringed. (Emu, Vol. 49, No. 3.)

Penguin, Little Blue.—Otago Peninsula; L. E. Richdale, 1938-39; 50 ringed. (Emu, Vol. 40, No. 3.)

Penguin, Yellow-eyed.—Otago Peninsula; L. E. Richdale; August, 1936 to January, 1948; 644 ringed; rings marked "Tell Otago Museum." (Bird Banding, Vol. XVIII., No. 3.)

Prion, Broad-Billed.—Whero; L. E. Richdale; 1941-43; 93 ringed. (Emu, Vol. XLIII, No. 3.)

Prion, Fairy.—Whero; L. E. Richdale; 1950-42; 328 ringed. (Trans. Roy. Soc. N.Z., Vol. 74, Nos. 1, 2.)

Silvereye.—Many others have been ringed, and some results are at present being collated and will be published later. For others, see Marples (N.Z. Bird Notes, Vol. 1, No. 5) which includes some of those records given above.

Sooty Shearwater.—Whero; L. E. Richdale; 1940-43; at least 186 ringed. (Condor, Vol. 46, No. 3.)

White-faced Storm Petrel.—Whero; L. E. Richdale; 1940-42; 1041 ringed. (Trans. Roy. Soc. N.Z., Vol. 73, Nos. 2, 3, 4.)

REVIEWS.

Oiseaux. Tome XV. Traite de Zoologie, Publie sons la direction de M. *Pierre P. Grasse*, *Masson & Cie., Ed Veurs, Paris*, 1950. 1164 p.p; illustrated.

This volume, a recent addition to the series "Traite de Zoologie," is the most comprehensive single treatment on birds since Bronn's Klassen und ordnunger or Demantieff's Traite de Zoologie (Acad. Sci. U.R.S.S.), etc. It presents the material in more accessible form than former works and the abundance of illustrations makes the work usable even by those not familiar with the language. The price is the only prohibitive factor (6,000 fr., or £6 15s. in N.Z.). The binding and general lay-out reflect credit on the publisher's art. Such authorities as Benoit, Berlioz, Mayaud, Pasteels, and Portmann have contributed to this volume and have concisely summarised the details of much-scattered literature together with their own personal knowledge.

This is not the place to extend a detailed discussion of the relative merits of the contents, but suffice it to say that here, in a readily accessible form, are presented all the facts that any ornithologist, professional or amateur, will want regarding such topics as detailed anatomy, flight, locomotion, reproduction and embryology, social behaviour and ecology,

origin and evolution of birds, migrations, etc., concluding with a systematic account of the various families and their geographical distribution, written by J. Berlioz.

While the book has its faults and loop-holes for criticism, as is only natural, it remains a unique reference book, which although somewhat out of the question for the average ornithologist, should certainly be made available in our main libraries.—E. W. Dawson.

New Zealand Flycatchers of the Genus Petroica Swainson, by C. A. Fleming. Transactions of the Royal Society of New Zealand, Vol. 78, 1950, pp. 14-47 (Part I.) and pp. 127-160 (Part II.).

Many readers will be interested primarily in whether the author of this important revision of the classification of a group of New Zealand birds—the tits and robins—has proposed an entirely new, if not revolutionary, classification of familiar species and forms. In brief outline the main taxonomic proposals are to give equal rank as subspecies of **Petroica macrocephala** to each of the tits of the North (''pied''), the South (''yellow-breasted''), and of the various outlying islands. The author finds the robins related closely enough to the tits to place them in the same genus **Petroica.** They likewise become subspecies of the one species, **australis,** except for the Chatham Island black robin which is so distinct structurally that it receives status as a separate species **(traversi).** The robins, viz., the composite **australis** and **traversi,** form together a distinct group (''superspecies'') within **Petroica,** and to express this relationship use is made of the subgenus as a taxonomic category, the robins being classified accordingly as the subgenus **Miro** of **Petroica.**

The author's arrangement follows the principle now accepted by most students of bird taxonomy that members of evidently closely related groups geographically separated from one another (''allopatric'') constitute subspecies, i.e. they have come to differ from the generalised stock in isolation but are still close enough to remain as part of the species: the concept of the polytypic species. In reaching the conclusions summarised above the author has carried out a thorough review of study skins in New Zealand and several overseas collections, and correlated this with field results. The latter include much distributional and ecological information published for the first time or summarised from various sources.

The work is especially outstanding for the presentation of evidence for the taxonomic recognition of the various subspecies, species and higher groups, and for its ideal of expressing relationship in the simplest possible system. It might be stressed that the nomenclatural changes required to express the fine degree of relationship demanded by this modern approach to taxonomy are comparatively slight.

Two new subspecies are described: **P. macrocephala chathamensis** (Chatham Island tit) and **P. (Miro) australis rakiura** (Stewart Island robin). There is a minor discrepancy in the description of the latter, ''**steadi**'' being given in the useful tabulation of contents, while **rakiura** is used in the text.

As indicated in his introductory remarks, the author was led to carry out a general revision by two specific problems arising out of recent field work. The first was that the author found sexual dimorphism to be suppressed in the Auckland Island tit **(P. macrocephala marrineri)** in which the adult female proves to be similar in appearance to the male and thus strikingly different from the females of other races. The second leading to an important taxonomic innovation was the observation during field work on the Chathams and Snares that while the Chatham Island black robin was typically a robin, the Snares black ''robin'' was more closely allied in appearance, behaviour and song to the tits. This conclusion is confirmed in specimens, and has been expressed in the present taxonomic arrangement by the allocation of the Snares bird amongst the tits **(P. macrocephala dannefaerdi).** The separation subgenerically of the tits and robins thus enables emphasis to be laid upon the diverse affinities of the two melanistic forms.

This contribution comes at a time when a renewed interest is being taken in the evolutionary and zoogeographical relationships of New Zealand birds. It will stimulate this interest and will in itself become a classical study.—E.G.T.

How to Choose and Use Field Glasses, by E. M. Nicholson, British Trust for Ornithology Field Guide, Number Two, 1950. Price, 9d.

A good pair of binoculars is an indispensable accessory to the bird-watcher, as it facilitates identification of more distant subjects and brings out details of habits that otherwise are missed except to those fortunate individuals who possess the eyes of a hawk. To the average person, however, bird-watching without the aid of a good pair of field-glasses is like looking at birds in semi-darkness, so much is not seen that a new world is opened up when binoculars are used.

The title of this field guide indicates its scope and anyone contemplating the purchase of field glasses should first of all read this little pamphlet, which sets out the essential qualities of a satisfactory pair. The information contained therein may save a purchaser from obtaining glasses that may be of little use for the purpose in view. Copies can be obtained from the British Trust for Ornithology, 91 Banbury Road, Oxford.

Incidentally, further field guides to be published this year by the trust includes one on nest boxes and one on recording observations.—R.H.D.S.

Some Thoughts on The Growth of Starling (Sturnus vulgaris) Populations. (David E. Davis, Auk 67: 4.)

This paper deals briefly with the theoretical rate of growth of populations in what might be termed "ecological vacuums," i.e., where there is no reduction factor. Such growths portrayed graphically, typically show the well-known "logistic curve" characterised by slow initial growth, increasing to rapid growth at a nearly uniform rate which then lessens as the population becomes stable. The paper endeavours to show that growth of starling populations in the U.S.A., where the bird is rapidly increasing its range, fits in with this typical curve.

There is a very large literature on rate of growth of populations of many types, notably protozoa and bacteria, and for birds for which however, it is usually difficult to obtain sufficient information. However, there is in New Zealand a species which would lend itself readily to an investigation of this kind. The myna is rapidly expanding its northern range and is beginning to penetrate Northland, which may well prove an "ecological vacuum" to it. Study of population growths is often complicated by the presence of predators, which increase with the prey and eventually reduce it, to its own detriment, and by the influx into the study area of populations from other areas. For the myna in Northland (when it reaches there), the former is probably negligible, and the latter is more or less controlled, i.e., an influx can come from one direction only. It is suggested that an annual population study of a small area, including a township would be of extreme value, and of course the rate of progress northward of the bird is another matter that could well be documented by northern members. Expansion in the Waikato suggests that progress of established colonies may be of the order of some 10 miles annually.—J.M.C.

PIGEON EATING WILLOW LEAVES.—On September 24, 1950, at Reikorangi, on the bank of the Waikanae River, I saw four native pigeons make their afternoon meal off the new leaves of the willow. Knowing that there were no berries in the locality, my curiosity was well rewarded on seeing one of the birds settle and get busy on the leaves of the willow. Each bird had a tree to itself.—W. Knight, Paraparaumu Beach.

FILM EVENING AT THE DOMINION MUSEUM, WELLINGTON. In the course of a brief visit to New Zealand, Dr. Telford H. Work, formerly of Stanford University, California, gave an interesting screening, with commentary, of a colour film entitled "Bits of Land Along the Coast." Wellington district members of the society were notified of the screening, which was held in the Dominion Museum on the evening of December 13. This proved to be a fascinating introduction to the bird life of off-shore Californian islands such as the Farallones and others less known. The films were in colour and there were excellent studies of brown pelicans, western gulls, oystercatchers, several species of cormorant, as well as the numerous puffins and auks less familiar to ornithologists in the Southern Hemisphere. It was unfortunate that short notice and the proximity of the holiday season resulted in a small attendance, but Dr. Work, whose bird photography is well-known in the United States and abroad, has promised to bring his films on a later visit which he hopes to make to this country.—R.A.F.

LIBRARY OF THE NEW ZEALAND ORNITHOLOGICAL SOCIETY, JANUARY, 1951.

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Previous lists of the Society's library have appeared in "New Zealand Bird Notes," vol. 2, p. 133 (October, 1947), and vol. 3, pp. 32-35 (July, 1948).

SCIENTIFIC NAMES.

The scientific names of birds mentioned in this issue, where not given in the text, are:—

Albatross, Wandering (**Diomedia exulans**)
Albatross, Royal (**Diomedia epomophora**)
Albatross, Light-mantled Sooty (**Phoebetria palpebrata**).
Bellbird (**Anthornis melanura**).
Blackbird (**Turdus merula**).
Chaffinch (**Fringilla coelebs**)
Dotterel, Banded (**Charadrius bicinctus**)
Duck, Blue (**Hymenolaimus malacorhynchus**).
Duck, Grey (**Anas poicilorhyncha**)
Duck, Mallard (**Anas platyrhynchos**)
Duck, Paradise (**Tadorna variegata**).
Dabchick (**Poliocephalus rufopectus**).
Fantail (**Rhipidura fuliginosa**)
Gannet (**Moris serrator**)
Godwit (**Limosa lapponica**)
Goldfinch (**Carduelis carduelis**)
Greenfinch (**Chloris chloris**)
Gull, Black-backed (**Larus dominicanus**)
Gull, Black-billed (**Larus bulleri**)
Gull, Red-billed (**L. hollandiae**).
Harrier (**Circus approximans**)
Hawk, Bush (**Falco novaeseelandiae**)
Hedge Sparrow (**Prunella modularis**)
Kingfisher (**Halcyon sanctus**).
Creeper, Brown (**Finschia novaeseelandiae**).
Kea (**Nestor notabilis**).
Magpie, White-backed (**Gymnorhina hypoleuca**).
Mollymawk, Buller's (**Thalassarche bulleri**).
Myna (**Acrodotheres tristis**)
Parakeet, Red-fronted (**Cyanoramphus novaeseelandiae**).
Penguin, Erect-crested (**Eudyptes sclateri**)
Penguin, Little Blue (**Eudyptula minor**)
Penguin, Yellow-eyed (**Megadyptes antipodes**).
Petrel, Diving (**Pelecanoides urinatrix**).
Petrel, Giant (**Macronectes giganteus**).
Petrel, Grey-faced (**Pterodroma macroptera**)
Pheasant (**Phasianus colchicus**).
Pigeon (Native or Wood) (**Hemiphaga novaeseelandiae**).
Pipit (**Anthus novaeseelandiae**).
Prion, Fairy (**Pachyptila turtur**)
Prion, Broad-billed (**Pachytila vittata**).
Pukeko (**Porphyrio poliocephalus**).
Rifleman (**Acanthisitta chloris**).
Robin (**Miro australis**).
Shag, Black (**Phalacrocorax carbo**).
Shag, Pied (**Phalacrocorax varius**)
Shearwater, Sooty (**Puffinus griseus**).
Skua, Southern (**Catharacta lonnbergi**)
Skylark (**Alauda arvensis**)
Silver-eye (**Zosterops lateralis**).
Sparrow, House (**Passer domesticus**).
Starling (**Sturnus vulgaris**)
Storm Petrel, White-faced (**Pelagodroma marina**)
Swan, Black (**Cygnus atratus**).
Tern, Caspian (**Hydroprogne caspia**)
Tern, White-fronted (**Sterna striata**).
Thrush, Song (**Turdus ericetorum**).
Tit, Yellow-breasted (**Petroica macrocephala**).
Tui (**Prosthemadera novaeseelandiae**).
Warbler, Grey (**Pseudogerygone igata**).
Weka, S.I. (**Gallirallus australis**).
Yellowhammer (**Emberiza citrinella**).
Yellowhead (**Mohoua ochrocephala**).

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