

BIRDS IN EXOTIC FORESTS IN NEW ZEALAND

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SYNOPSIS

New Zealand has some 1,346,000 acres of exotic production forests. Within the bounds of these forests are a wide range of habitats suitable for many birds. At least 54 indigenous and 26 exotic birds have been recorded in these areas. Many birds actually live permanently within the confines of these forests.

INTRODUCTION

As foresters, and I mean this in the widest sense, we are accused of destroying large tracts of native forest — the home of countless birds, many being not only rare but confined to New Zealand. As a substitute, they claim, we create vast blocks of alien trees abhorred by any self-respecting native bird. The first charge cannot be denied although much of the felling has been unavoidable in order to clear land for farms and provide timber for homes; some of these homes are occupied by our accusers and it is interesting to note the abundant use they have made of native timber for decorating these homes. Fortunately much of our remaining native forest has been secured by the creation of National Parks and scenic reserves. Of late, access by the public to exotic forests has been facilitated and this has enabled people to see for themselves that pine forests are not birdless wastes.

Steele (1970) said, "All woodlands in Britain should be considered as nature reserves to some degree. Woodlands managed primarily for other reasons, e.g., timber production or recreation, must be made as productive of wildlife as is compatible with other functions." He continues by pointing out the value of artificial ponds not only as a means of water supply during fires but also a place for breeding waterfowl. He also warns of the danger of polluting streams with sprays, thus killing fish and other aquatic life. These observations are undoubtedly applicable in New Zealand.

Since 1681, according to Fisher and Peterson (1964), 75 full species of birds have in all probability died out with 13 of these being the direct result of human hunting for food. In New Zealand, since the arrival of Europeans, Williams (1962) reveals that five species have become extinct in the North Island, four in the South Island and seven in the Chatham Islands. Under threat of extinction are seven full species plus nine or ten subspecies. The extinction of the huia (*Heteralocha acutirostris*) was unquestionably due to direct slaughter. Other causes leading to extinction mentioned by Turbott (1961) have been loss of habitat, the arrival of mammalian predators and probably of avian diseases. Fortunately many species have recovered from these setbacks and have adapted to changes. Others, notably the kokako (*Callaeas cinerea*),

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probably never will adapt to changes and for this reason the New Zealand Forest Service set aside 2,000 acres of bush in Rotoehu State Forest to ensure their survival. Birds like tuis (*Prothemadera novaeseelandiae*) and bellbirds (*Anthornis melanura*) frequently enter exotic forests, but probably do so only because there are adequate pockets of native forest or suitable nectar-bearing trees such as *Eucalyptus* spp. within or near at hand.

At present there are in New Zealand about 1,346,000 acres of exotic production forests; most of this forested area contains radiata pine, Douglas fir and other pines. When one considers that these areas comprise not only forested areas but also gullies, swamps, firebreaks, etc., then one can appreciate the vast range of bird habitats available. According to my own observations, coupled with many others, at least 79 different bird species have been seen in exotic forests; about two-thirds of these are native.

EXOTIC BIRDS

Dealing first with introduced birds, it is not difficult to see why they readily invaded plantations which, after all, are of kinds common in their native Europe. The thrush (*Turdus philomelos*) and blackbird (*Turdus merula*) are familiar to us all and are found throughout the forests of the country. Often they use the forest as a sort of dormitory and feed on neighbouring farmlands, returning to roost or nest in the trees. Equally widespread are the chaffinches (*Fringilla coelebs*), redpolls (*Acanthis flammea*), goldfinches (*Carduelis carduelis*), greenfinches (*C. chloris*) and yellowhammers (*Emberiza citrinella*). The chaffinch probably shares the distinction with the blackbird of being the most numerous exotic bird. Flocks of goldfinches and redpolls are frequently seen in winter when they feed on exotic weed seeds found along road sides or cut-over areas. The chaffinch consumes large amounts of pine seed and I suspect the redpoll does too, as I have seen them hanging from pinaster pine cones and pulling out the seeds. Goldfinches have been observed eating radiata pine seed at the seed extraction plant (G. Hedderwick, pers. comm.). Ryder (1948) records the greenfinch, which is relatively infrequent compared with chaffinches, as feeding on radiata pine seeds. During the summer months all the finches feed largely on insects, consuming large numbers of harmful caterpillars; redpolls appear to like nursery spiders (*Dolomedes minor*), at least in Kaingaroa Forest. Although the house sparrow (*Passer domesticus*) is found all over New Zealand, it tends to follow man, so is not found throughout the forest, but near settlements or felling gangs. A single sighting of a Java sparrow (*Pada oryzivara*) at Naseby was no doubt that of an escaped cage bird. Closely related to the yellowhammer, the curl bunting (*Emberiza cirrus*) is not widely spread but has been seen at Hokonui Forest.

The hedge sparrow (*Prunella modularis*) or dunnock (it is not a sparrow at all) is found in all parts of the forest. Bull (1968) says they never move as a flock, but singly or in pairs.

I have seen 15 birds together but think they happened to be all in the same place at once rather than flocking.

The open areas are the habitat of the yellowhammer, ciril bunting, skylark (*Alauda arvensis*) and native pipit (*Anthus novaeseelandiae*), while the pheasants (*Phasianus colchicus*), brown quail (*Synoicus ypsilophorus*) and California quail (*Lophortyx californica*) prefer slight cover. My own observations indicate that the brown quail favours sandy areas with lupins although these birds are seen elsewhere. Found only in the South Island, the chukor (*Alectoris chukar*) has been seen at Berwick and Herbert Forests.

The starling (*Sturnus vulgaris*) and myna (*Acridotheres tristis*) are not forest birds but tend to congregate round buildings or along roads. The myna, which is still colonizing, is found only in the northern half of the North Island. Also spreading are the Australian white-backed magpies (*Gymnorhina hypoleuca*) and the eastern rosellas (*Platycercus eximius*). The magpies appear to be in most North Island forests, having recently appeared in the volcanic plateau region. They are also in the Canterbury forests. In Ngaumu and Te Wera, M. A. Stoodley (Forest Biology Observer) records that they break pine leaders by perching on them.

The eastern rosellas are particularly common in Woodhill, Riverhead and various pine forests round Dunedin. In Dunedin they are reported as interbreeding with crimson rosellas (*Platycercus elegans*) (Falla *et al.*, 1966). Eastern rosellas are also in Northland at Waipoua and Glenbervie Forests. They have recently been seen in Whakarewarewa Forest (S. Bigwood, pers. comm.). The sulphur-crested cockatoo (*Cacatua galerita*), which could be self introduced (Falla *et al.*, 1966), is seen in Waiuku and Woodhill forests; one bird — an escape — frequents the gum trees in Whakarewarewa Forest.

A kookaburra (*Dacelo gigas*) was recently seen in Riverhead (M. Banks, pers. comm.).

The little owl or German owl (*Athene noctua*), which was liberated in Otago in 1906 and 1910, has been seen at Eyrewell (R. McKenzie, pers. comm.), Berwick and Thornbury.

Canada geese (*Branta canadensis*), which are found in Canterbury and Otago, have been recorded at Naseby and in the North Island at Kaingaroa. The mallard duck (*Anas platyrhynchos*) interbreeds with the native grey duck (*A. superciliosa*), and several domestic varieties, producing some odd-looking hybrids. These hybrid-mallards are familiar to us all and found wherever there is suitable water to dabble in.

NATIVE BIRDS

The spread of native birds into exotic forests has been of great interest to ornithologists, particularly as some birds appear to favour their new home more than their previous ones. Where exotic forests are adjacent to or include indigenous vegetation, the process has probably been accelerated. The insectivorous birds are mainly concerned in this colonization. As these invaders include the grey warbler (*Gerygone igata*), whitehead (*Mohoua albigilla*) and brown creeper (*Finschia*

novaeseelandiae), so they have been followed by their parasitic hosts, the shining cuckoo (*Chalcites lucidus*) for the warbler, and the long-tailed cuckoo (*Eudynamis taitensis*) for the other two.

I cannot determine when the invasion commenced, but in Kaingaroa most birds were recorded as early as 1940, and the process of invasion is still not complete. The rifleman (*Acanthisitta chloris*) is still actively colonizing although Caughley (1960) reported them in Matea Forest as early as 1960. I personally noticed a marked increase in numbers of robins (*Petroica australis*) about 1964, even though they were there in 1946 when Weeks (1949) recorded them. In 1948, Ryder made a similar observation.

North Auckland forests are sadly lacking in many of the bush birds, mainly because they were not already there in the native forests. It can claim the rare brown duck (*Anas aucklandica*) at Waitangi (A. T. Edgar, pers. comm.), and fernbirds (*Bowdleria punctata*) are to be found in the swampy areas. Pipits, fantails (*Rhipidura fulginosa*), silvereyes (*Zosterops lateralis*) and grey warblers are seen, but they are also found in every forest in New Zealand. The shining cuckoo is also encountered wherever its host the grey warbler breeds. Also encountered is the long-tailed cuckoo as it passes through north Auckland, in search of its hosts further south.

As one comes into the volcanic plateau region one finds whiteheads, tomtits (*Petroica macrocephala*) and robins. Gibb (1961) recorded more than one whitehead per acre in *Pinus radiata* stands of Kaingaroa. According to my own observations, the whitehead first enters radiata pine stands when the trees have reached a breast-height diameter of 4 to 5 inches. I also noticed that the songs of whiteheads found in PTY forests, near Putaruru, differ from those in the Rotorua area. Whiteheads, tomtits and robins are found in Kaingaroa and its adjacent forests, Forest Products forest, and Whakarewarewa. I have one unconfirmed sighting of a robin at Tairua. Whiteheads are found also in Rotoehu but in small numbers.

Tomtits and rifleman are also seen in Karioi. It appears from my observations that the tomtit in Kaingaroa may have been displaced slightly by increased numbers of robins. The latter appears more restricted in its choice of habitat, remaining in mature stands of radiata, contorta and Corsican pines; it also favours mature Douglas fir stands. The tomtit is also found in these stands, but also in other younger stands and open cutovers.

It is interesting to note that whiteheads, tomtits and robins do not appear to have invaded Tarawera Forest yet, while grey warblers, silvereyes and fantails have. This forest is only about ten years old, and the largest radiata pines are only some 40 ft high.

In the South Island robins are recorded at Golden Downs and Whare Flat, while tomtits are also in these forests and Mahinerangi, Herbert, Berwick and Hokonui. D. Kershaw (pers. comm.) tells how robins like to peck-out a lighted match left standing on the cleared forest floor.

Riflemen are seen at Golden Downs, Hanmer, Herbert and generally in the various exotic pine plantations around Dunedin. Brown creepers, found only in the South Island, are in Golden Downs, Dunedin plantations generally, Conical Hill and Hokonui. Fernbirds are common in Westland forests which are being converted to exotic (C. G. R. Chavasse, pers. comm.). One has been recorded at Berwick.

Tuis seem to be encountered in forests throughout New Zealand, but bellbirds are only south of Auckland. Pigeons (*Hemiphaga novaeseelandiae*) are as widespread as the tui but not nearly so common, although they appear to be fairly abundant in the Dunedin area; at Herbert they are said to be increasing. At Longwood they feed on broom (*Cytisus* sp.) (C. G. R. Chavasse, pers. comm.). None of these three birds could live entirely in pure conifers, but all nest in them.

The only wekas (*Gallirallus australis*) I know of in North Island forests are at Tairua where they were introduced. In the South Island they are common in Tawhai (C. G. R. Chavasse and J. Balneaves, pers. comm.). R. McKenzie (pers. comm.) found them at Mt Grey, adjacent to Ashley Forest. There are few records for the brown kiwi (*Apteryx australis*), although the Field Guide reports it as being in many areas of the North Island; this obviously refers to native bush. It breeds in Tairua Forest, and according to G. W. Hedderwick (pers. comm.), was in Haparangi.

Native parrots do not appear to thrive in exotic forests. A red-crowned parakeet (*Cyanoramphus novaeseelandiae*) was seen, in 1962, at Mihi N.Z. Forest Products (Spens-Black and Blomfield, 1963). Mrs J. Hamel records occasional visits of yellow-crowned parakeets (*C. auriceps*) at Whare Flat. A kaka (*Nestor meridionalis*) spent more than a week in the garden of D. Bartram at Kaingaroa where it fed on apples on one of his trees. This Observer also saw one flying over a patula pine compartment adjacent to native bush.

An interesting observation was made in December, 1965, by D. S. Jackson in Baigent's forests near Nelson. While he was working in among radiata pines, he saw a flock of at least 12 Australian tree martins (*Hylochelidon nigricans*).

There are three main birds of prey, the harrier hawk (*Circus approximans*), the New Zealand falcon (*Falco novaeseelandiae*), and the morepork owl (*Ninox novaeseelandiae*). The harrier and the morepork are encountered in forests everywhere, but the falcon is rare north of Auckland and appears to be decreasing. It is a bold bird and will perch near to humans, thus making a ready target. It is occasionally seen in Kaingaroa, and until recently was seen in the grounds of the Forest Research Institute. R. McKenzie tells me he has seen it at Mt Grey next to Ashley.

The Nankeen kestrel (*F. cenchroides*), according to Edgar and Grant (1969) is a straggler to New Zealand from Australia. In June 1969, a bird was seen in Kaingaroa by D. Bartram and V. Jancarik.

The kingfisher (*Halycon sancta*) is widespread, especially in the North Island where it is encountered in the open areas of exotic forests. In the South Island it has been seen at Her-

bert and Berwick. White-faced herons (*Ardea novae-hollandiae*), comments Carroll (1970), are one of at least seven species of Australian birds to colonize New Zealand during the last century. Mainly they are seen near coastal forests, but they do extend their range inland to suitable swampy regions. They prefer to nest in pines (Falla *et al.*, 1966). The blue reef heron (*Egretta sacra*) is purely a coastal bird and will be seen only near forests such as Tairua, Matakana Island and possibly other coastal forests of north Auckland. The white heron (*E. alba*) will be only an occasional visitor to coastal forests. One was seen at Tairua in 1963 (B. Moberly, pers. comm.).

Swamps, to the casual visitor, often appear devoid of life when in fact they are one of the most vital habitats to bird-life. It is only by patient observation or some unusual event causing an upheaval that an observer can see its denizens. The spotless crane (*Porzana tabuensis*) is little known for this reason, and could well occupy more areas than it has been seen in. D. Bartram (pers. comm.) has found one near Murupara — the victim of a cat — and R. Weston (pers. comm.) had his dog raise one in Tarawera Valley. Banded rails (*Rallus philippensis*) like mangrove swamps and may be seen in the late afternoons coming out to feed. I have seen them by Tairua, but they should be present also in other similar areas. Bitterns (*Botaurus stellaris*) are often difficult to see standing in the reedbeds until they move. They appear to be widespread and should be seen in most suitable swamps. Fernbirds have been recorded at Waitangi, Kaingaroa and Berwick. They are almost certainly in parts of Whakarewarewa. At Kaingaroa they seem to be increasing. Swamp fires are certain death to these birds.

Pukekos (*Porphyrio porphyrio*) favour open swampy areas, and so tend to be found where forests have such habitats. These habitats are also the breeding ground for pied stilts (*Himantopus himantopus*). In Northland, where swampy fields cut with drainage ditches adjoin the forest, one encounters the welcome swallow (*Hirundo tahitica*). A bird which also likes fields with wet areas is the spur-winged plover (*Lobibyx novaehollandiae*); one was reported next to Hokonui; these are confined, in the main, to Southland.

Wet areas are the home of ducks, with greys being the most common duck after the mallard, but the grey ducks tend to inhabit more remote areas. They are widely reported. Grey teal (*Anas gibberifrons*) are not common, but nest in Kaingaroa, particularly the Waiotapu subdivision. Scaup (*Aythya novaeseelandiae*), according to Bartram, also nest in Kaingaroa; they occur on the Green Lake of Whakarewarewa and at Berwick. Grey teal are also at Berwick. Blue ducks (*Hymenolaimus malacorhynchos*) are extending into Kaingaroa and Bartram reports them as nesting there. He has also seen the shoveller duck (*Anas rhynchotis*) there. The shoveller is seen at Herbert and Berwick also. Paradise ducks (*Tadorna variegata*) occasionally appear on the paddocks adjoining Kaingaroa and they have been recorded at Berwick. N. A.

Davenhill (pers. comm.) reports them as common in the new Poverty Bay forests.

Seagulls are not infrequent visitors over forested areas and the black-backed gull (*Larus dominicanus*) has actually nested at Kaingaroa (M. Wilcox, pers. comm.). Like the black-backed gull, the red-billed gull (*L. novaehollandiae*) extends over both islands while the black-billed (*L. bulleri*), apart from breeding in the Rotorua area, is a South Island bird.

Several shags are seen in exotic forests, and some, like the black shag (*Phalacrocorax carbo*), actually nest in them. The black shag is encountered both on the coast and up inland streams throughout the country. The little shag (*P. melanoleucos brevirostris*) occupies similar habitats to the black, but is more common from Rotorua north. It is often seen on the lakes in Whakarewarewa Forest. The little black shag (*P. sulcirostris*) is also seen in the Rotorua area and from there northwards. The pied shag (*P. varius*), is purely marine, seen from the Bay of Plenty northwards and is only seen in forests bordering the sea.

The little grebe or dabchick (*Podiceps rufopectus*) is found on both the Blue and Green Lakes of Whakarewarewa Forest.

The wading birds are mostly confined to coastal areas; however, some venture inland to breed. The banded dotterel (*Charadrius bicinctus*) breeds on the airstrip at Kaingaroa and has been seen by the author on newly cleared ground at Waimihia subdivision. The South Island oystercatcher (*Haematopus ostralegus finschi*) is recorded as having visited Thornbury, Hokonui and Naseby. The North Island variable oystercatcher (*H. unicolor*) is seen at Matakana and Tairua.

CONCLUSION

It is difficult to cover such a large subject as this in such a short paper, and obtain an adequate coverage. I have placed considerable reliance on the notes of the Forest Biology Observers, notes supplied from Southland Conservancy, and Mrs J. Hamel, the regional representative of the New Zealand Ornithological Society for Dunedin. All these sources of information have been of tremendous help but can never replace the value of an actual visit to the area, and so I may have unwittingly drawn some wrong conclusion. Readers will note that I have not mentioned all forests, but it is impossible to do so in a paper of this length. I have tried to compromise by giving an overall picture of what birds can be found in our exotic forests, and I have listed 80 species of birds which have been seen; this list does not leave many other New Zealand species to add.

From what I have written it is obvious that our forests are virtual wildlife reserves, a fact which is already appreciated by numerous ornithologists from overseas. We have created an additional asset to the country for all to enjoy.

I have often been asked what is a suitable guide book for bird watching, and as some readers might wish to pursue a more active interest in their local avifauna I cannot do better than recommend *A. Field Guide to the Birds of New Zealand and Outlying Islands* by Falla et al. (1966).

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