A BUSHMAN'S SEVENTEEN YEARS OF NOTING BIRDS

INTRODUCTION AND PART A (Bellbird and Tui)

By R. St. PAUL

(Edited by H. R. McKenzie)

ABSTRACT

This series attempts to condense observations made over seventeen years in areas being milled west of Taupo from 1944 to 1946 and in the south-west Urewera from 1946 to 1961. Daily counts were made of all birds seen and compiled into monthly charts. Estimates were made of birds heard only and notes kept of locality, weather and temperature, with sundry notes on song, calls, foods, breeding and behaviour. The files of charts are to be deposited in the library of the Ornithological Society of New Zealand Inc., Auckland Institute & Museum.

For each species there is given an account of general observations and, where significant, a breakdown of figures from the monthly charts.

Part A deals with Bellbird and Tui.

INTRODUCTION

It is hoped that this study will serve, to some extent, as a history and will be more or less applicable to the native forests of other parts of the country. It is now over fourteen years since I ceased my seventeen years of observations in 1961. If anyone begins a similar study now in the same or similar places there will be little to work on as the vital class of bush for the birds will be mostly gone. It so happens that the timber trees being milled form a major part of the seasonal food cycle, from February right through to August, so the fruit-eating birds will fade away. The insect-eating and fly-catching birds will do well in the high beech forest in spring and summer but will have no shelter to go to in the lower forest when the cold becomes severe and food scarce in the beech.

The first two years of the seventeen in which I made records of all birds seen in and about the bush were spent at Tihoi and Arataki, west and north-west of Taupo respectively, on the slopes of the northern end of the Hauhungaroa Range, where I was engaged in timber-getting and post-splitting. In each of these places I was camped in a hut at a mill and had to go about 200 m (10 chains) across tussock to the edge of the cut-over bush, then about 1.6 km (1 mile) to the bush workings. The bush and the birds were similar at each place so the name Tihoi will suffice for both henceforth. The further fifteen years were spent at Minginui where I again lived in a hut at a timber

mill and from there worked at post-splitting in and about the bush loggings. I made frequent hunting and camping trips throughout the back country as mentioned below.

THE MINGINUI STUDY AREA

The main area treated in this study is part of the Urewera ranges south-west of the road between Te Whaiti and Ruatahuna, which is a section of the Rotorua-Lake Waikaremoana road, Route 38 (Fig. 1). The north-eastern boundary runs along that road from near Te Whaiti, then south-west from the crossing of the Whakatane River about two miles past Heipipi, up the Whakatane River, over a saddle and down the Parahaki River until it meets the Waiau River and the Wairoa Stream (locally known as "The Little Wairoa"), then to the head-waters of the Whirinaki River and north to Minginui and Te Whaiti along down the Whirinaki Valley. All of the back country I am terming "Waiau."

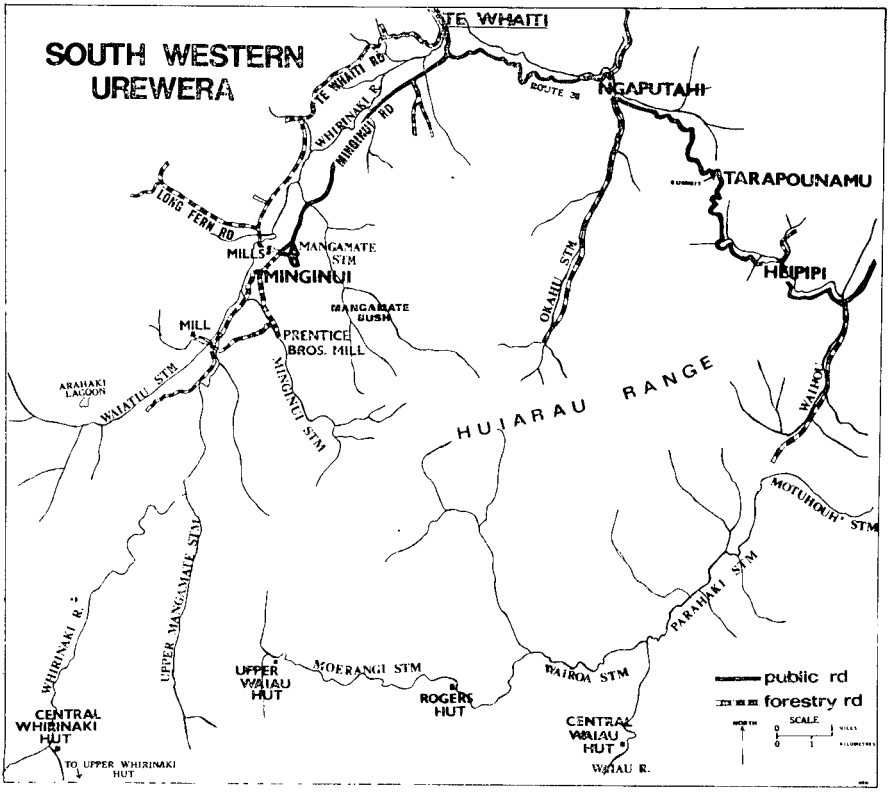

FIGURE 1 — Location of Minginui study area, south-west Urewera ranges. *del.:* Murray Douglas

The area about the timbermills of Minginui consists of cut-over bush, scrub, fern and, along the Whirinaki and Minginui Rivers, pumice flats and some shingle bed. The route to my work was usually 1 to 1.2 km (50 to 60 chains) along timber roads through cut-over bush, and, in places, scrub. Routes to the bush for hunting were more varied. Up the Whirinaki to the edge of the main bush was 2.4 km (1½ miles) mostly through tea-tree and scrub, with little bush on the way. For the first 400 m (20 chains) on the way to work or hunt there were mostly introduced birds, then with natives also occurring for the next 600 m (30 chains) of tea-tree and scrub. On both sides of the Whirinaki River valley and along the Te Whaiti-Ruatahuna road much had been milled but not burned off, enough growth being left to hold most of the native species in moderate numbers. The unexploited areas were mostly beech in the higher country and mixed bush in the valleys.

Method

To make sure that there was no duplication in the daily counts they were taken on the way either to or from work, with others made while working. The latter would be largely wandering flocks of Whitehead and Silvereye. When birds were numerous they were counted by tens and, if very many, by hundreds. I worked in the edge of the bush or along the timber tracks into it all the time so that I could get the posts carted out. When hunting I kept careful count, but at times, as when stalking a deer, I may have missed a few birds. Also there could be a discrepancy on days when I have made a nil record, not having seen a bird when I have heard quite a few.

It is to be noted that my charts show, except in a few cases, the birds seen but not those heard only. It was therefore decided that, to make for general interest, proportionate estimates of birds seen to birds heard only should be made. This was done in consultation with H. R. McKenzie, J. W. and E. St. Paul, all with lifelong experience in the birds of the bush. To the figures showing the birds seen will be added in brackets the estimate of those heard only. It will of course be realised that birds of some species, such as Australasian Harrier and North Island Kaka will at times be recorded on each of several consecutive days or more than once on the same day. The same will apply to the larger numbers of bush birds feeding on an especially heavy crop of berries for a time. However this will be roughly balanced out by birds often being present but not seen or heard. For such birds as Bellbird and Tui I have used counts made only in and about the bush and not about the mill or the rough growth of the open. For others such as North Island Fantail and Grey Warbler I have made notes for every count day as they were common to both bush and open. These notes are not claimed to be 100% accurate but were taken with consistent care.

In the analysis for each bird it will be noted that the term "count days" is used rather than "monthly." This is because of

broken months when I went on holiday in late December and early January, to Hawkes Bay for shooting in early May, or on some other occasion. For various reasons a few whole months were missed during the period. As Waiau was not covered by hunting trips after May and on to late spring there are no winter counts for it for comparison with the rest of the year.

REFERENCE

ST. PAUL, R. Classified Summarised Notes, 1946, N.Z. Bird Notes Vol. 1, 121, to 1961, Notornis Vol. 9, 236. Numerous notes throughout.

PART A

BELLBIRD AND TUI

BELLBIRD *(Anthornis melanura)*

STATUS AND HABITS

Habitat

One of the most common and easily seen birds of the bush in these parts, the Bellbird lives in heavy and light forest, second growth and high and low scrub. In the Urewera Ranges it is present in the highest beech forest to over 1220 m (4000 feet) but is more plentiful in the lower heavy mixed bush, as at Tihoi and Minginui, from 333.5 m (1000 feet) to about 488 m (1600 feet).

Flight

In flight it does not as a rule go very high, not as high as the Tui, or the Starling, except when moving to a distant feeding ground. Playful flight is often indulged in, when there is much singing and apparently argumentative talk. Much time is spent in fighting or simulated fighting and when a number gets going like this the noise is terrific. One way of identifying it in flight is by the belly, which appears to hang down more than with most birds.

Nesting

Nesting is mostly in fairly high trees, 9 m (30 feet) or more, but in some places, as where there is a patch of scrub against tall forest it will nest quite low down. Sometimes a rough ledge on the side of a big tree will be used. The defence of the nest is vigorous, all other small birds being kept away.

Food

It hawks for insects more than does the Tui, but also searches for them in the bark of tree trunks. In January the cicada is taken in very great numbers by Bellbirds, Tuis and House Sparrows, the bush roads being practically covered with the discarded iridescent wings. In spring and summer some of the smaller trees and shrubs provide nectar and others fruit, such as the coprosmas, Puta-puta-weta, etc. Some, like the Fuchsia, supply nectar early, then fruit in summer. The large berry food trees, such as Kahikatea, Rimu, Matai and others form the main diet for autumn and winter. The Bellbird takes only whole fruits, though some it just squashes for the juice. I have not

seen it picking pieces out of large fruits. However it breaks up cicadas and Fuchsia fruit to feed its young.

Song

The song does not vary seasonally as much as with some of the other birds, fading, but not ceasing in winter. Sometimes singing parties provide a rich concert, at any time of day. At times you will think you have a ventriloquial singer, the same song appearing to come from different places, but when you get nearer you will find it to be two birds, one a little way off from the other, singing in perfect unison.

The dawn chorus of the Bellbird is something to be sought, enjoyed and remembered. In high summer it starts in some places at 0320 hours (G.M.T.). It is really good when camping out in the bush to hear the last calls of the nocturnal Morepork as it goes to bed for the day, a Kaka raking around, then a Tui or two, then a sudden outburst of the melodious Bellbird four-note song, soon accompanied by the other small bush birds. This lasts usually for twenty minutes, then fades away. The casual day song is quite different, a kind of bubble up and over. The dawn one, which no doubt was the one which impressed Captain James Cook in Queen Charlotte Sound, is again heard to some extent in the evening. Strangely the dawn song is almost absent in some bush areas where the Bellbird is numerous. It is not a strong feature here but I have heard it well in the eastern Urewera at Lake Waikareiti, only twenty-five miles away. A well bushed valley or wide gully seems to be preferred as an amphitheatre.

ANALYSIS OF MONTHLY CHARTS

(Brackets = total birds seen plus estimate of birds heard only).
Proportion seen to heard: 1 seen to 30 heard and not seen.

TIHOI

The total of birds seen from May 1944 to April 1946 was 4183 (129,673).

Count days per month averaged 21.6; days seen 21.3; days not seen .3.

Daily counts of birds ranged from 0 to 23.

Count days totalled 519 and the total birds seen 4183, providing an average of 8.1 (251) per count day.

Notes on analysis. The daily counts, 0 to 23 indicate a very steady population compared with 0 to 500 for Minginui. However the charts show a rise for Tihoi for the winter when there is a great fall at Minginui from April-May when the main berry crop of the big trees fades. It would almost seem that the Minginui birds at that time spread out westwards, some of them to Tihoi. Records are of course not available for both places in one year but the annual trend is shown by comparing the charted months concerned, for birds seen, Tihoi

going up from April to August and Minginui going down for those months.

MINGINUI

The total of birds seen from 1946 to 1961 was 102,115 (3,165,565).

Count days per month for 146 months averaged 23.9; days birds seen 23.6; days not seen .3.

Daily counts of birds seen ranged from 0 to 500.

Count days totalled 3487 and the total birds seen 102,115, the average being 29.5 (914.5) per count day.

Notes on Analysis. Minginui showed a remarkable increase during its whole period. From early 1946 to late 1954 the average count was 13.3, while from late 1954 to early 1961 it was 47.2. It is difficult to understand this increase. My counting methods did not change. Some of the large berry trees which provide the main diet from February to June vary greatly in their annual cropping but there could be no general increase of food while this and other nearby areas were being felled. I can only conclude that the increase was temporary and that if I had been able to stay longer I would have witnessed a sorry decrease of the birds in the next few years. When a large area of habitat is destroyed the remainder will hold only its original quota eventually.

WAIAU

The total of birds seen on hunting trips for parts of 47 months (from 1 to 24 days per month) was 22,293 (691,083).

Count days per month averaged 5; days birds seen 5.

Daily counts of birds seen ranged from 6 to 600.

Total count days were 234 and the total birds seen 22,293, the average being 95.3 (2954.3) per count day.

Notes on Analysis. In the case of the Bellbird, as of other species, the counts made on my hunting trips to the Waiau and other back country yielded higher numbers because I was on the move much more than when I was working in the bush. Also the deer hunting season, from February to early May at Minginui coincided with a part of the year when the birds were at their maximum after the breeding season. I did not hunt much from mid-May to December so did not cover the high back country so well then.

TUI *(Prosthemadera novaeseelandiae)*

STATUS AND HABITS

Habitat

The Tui lives throughout the heavy bush and will frequent second growth if food is to be found there. As with the Bellbird it prefers the heavier lower bush to the high beech country but if migrating in order to follow its food cycle it will be found anywhere.

Flight

It can be told from the other birds in flight by its heavy dipping and its having to give a flutter every half chain or so to maintain height. Even if not seen it can be identified by the loud whirring of its wings. When going a long distance it flies very high, sometimes as high as it can be seen. Its display flight is accompanied by much noise. Gambolling and chasing seems to be a sport indulged in at low altitudes only.

Nesting

During nesting the male, sometimes assisted by the female, viciously drives away most other birds but tolerates the very small species. It has been seen in full cry after a Falcon. Belligerence is a prominent feature of its behaviour. As a rule it nests higher than the Bellbird but at times can vary from as low as 2.44 m (8 feet) to as high as 24.4 m (80 feet).

Food

The Tui does much hunting for insects, hawking to a limited extent. In summer, when cicadas are numerous it will alight on the sunny side of a big tree and move upward, from side to side, taking one at each move.

Its foods are varied. As with the Bellbird it is equipped with a brush tongue for obtaining nectar but insects and berries provide the major portion of its needs. Nectar seems to be a delicacy, though at times in a big way. On a riverside half acre of blooming Kowhai (Sophora sp.) I have found 30 or 40 birds making a great din and when seen closely it was found that they were absolutely drunk on nectar, wobbling from side to side, chortling and jabbering. It seemed that their nerves were all on edge and all dignity lost. Small berries of many kinds are eaten. In a good fruiting year for the Kahikatea the Tui swarms on it in hundreds. When this occurs near Minginui in the mixed lower bush I have found few or none in the Waiau area where the bush is mostly beech, though with some mixed in the valleys. On occasion, in one stretch of half a mile at Minginui, I have reckoned there were about 500 each of Tui and Bellbird on the Kahikatea. This berry has its black seed on the outside of the pulpy fruit. The Tui pulls the pulp part away and squashes it for the juice, dropping the rest on the ground, which becomes completely covered and coloured with it. Larger birds swallow the whole of this small fruit. The Tui does swallow some small fruits whole but with Miro, Supplejack and Matai it crushes the flesh off the stone and it may do this also with White Maire and others. It does not peck at large fruits.

Song

Song varies from month to month and from place to place but continues throughout the year. It can be heard from 3.15 a.m. to 8 p.m. (G.M.T.) and moonlight singing is not uncommon. The songs and calls used at Minginui at a certain time can be quite different

from those at Rotorua or even nearer places. At times parties of Tui will gather, about a foot from bird to bird and sing in a kind of chorus. The young birds learning to sing make great efforts to get the notes right and it does seem that the parents teach them.

ANALYSIS OF MONTHLY CHARTS

(Brackets = total birds seen plus estimates of birds heard only). Proportion seen to heard: 1 seen to 20 heard and not seen. (This would be in ordinary circumstances. The ratio of those seen would be greater when numbers were gathered on Kowhai, Kahikatea and other foods plentiful for a period. Numbers are very low when the food crop is poor).

TIHOI

The total of birds seen for two years, May 1944 to April 1946 was 3275 (68,775).

Count days per month for 24 months averaged 21.6; days seen 20; days not seen 1.6.

Daily counts of birds seen ranged from 0 to 47.

Count days totalled 519 and the total birds seen 3275, giving an average of 6.3 (132.3) per count day.

Notes on Analysis. Here, as with the Bellbird, the Tui shows steady figures, 0 to 47 seen per count day as compared with Minginui's 0 to 600. The monthly charts indicate that it too has a population rise in winter, perhaps due to a movement from Minginui and other places where the main berry crop has finished. This however is less definite than in the case of the Bellbird.

MINGINUI

The total of birds seen from 1946 to 1961 was 80,253 (1,685,313).

Count days per month for 146 months averaged 23.8; days seen 22.6; days not seen 1.2.

Daily counts of birds seen ranged from 0 to 600.

Count days were 3487 and the total birds seen 80,253, giving an average of 23 (483) per count day.

Notes on Analysis. For the same two periods as shown for the Bellbird the Tui, though mainly following the trend of the Bellbird, provided a little less spectacular increase. From early 1946 to late 1954 the average seen per count day was 8.8, while from late 1954 to early 1961 it was 40.

The further remarks in the analysis for the Bellbird will apply also to the Tui.

WAIAU

The total of birds seen on hunting trips for parts of 47 months was 10,709 (224,889).

Count days per month averaged 5; days seen 4.9; days not seen .1.

Daily counts of birds seen ranged from 0 to 600.

Total count days were 234 and the total birds seen 10,709, giving an average of 49.7 (1043.7) per count day.

Notes on Analysis. The notes given for the Bellbird will apply also to the Tui.

ACKNOWLEDGEMENT

We would like to thank Mr Murray Douglas for his work in producing the map used to illustrate this account.

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SHORT NOTE

SPOTTED SHAG REGURGITATING SHELLS AND STONES

During the past few years at Taiaroa Head I have noticed small heaps of shells on the cliff top two yards from the cliff edge.

This area is frequented by Spotted Shags *(Stictocarbo p. punctatus)*, both adult and juveniles, during the non-breeding season at Taiaroa Head (January to June).

At 14.30 hours 5 June 1973, an adult Spotted Shag was observed in this area to regurgitate some material, preen itself, then fly off.

The material was inspected and found to contain a piece of Sea Lettuce (*Ulva* sp.), six shells of *Zethalia zelandica,* ranging from 12-15 mm, four pieces of broken shell and two stones, one round (10 mm) and one flat (15 mm).

Ten other heaps of shells, all dried, were inspected and found to contain between 4 and 12 shells, dried seaweed, fish bones and small stones.

van Tets (1968, *Emu* 67: 224) observed a White-breasted Cormorant *(Phalacrocorax fuscescens)* swallow pebbles on land at Wright's Island near Devonport, Tasmania, and pointed out that " As a morphological adaptation to lower buoyancy for locomotion underwater, cormorants have a body plumage which is impervious to water. The swallowing of stones could be a behavioural adaptation which reduces buoyancy even further."

The swallowing of shells and stones could be part of the Spotted Shag food and fishing behavviour.

A. WRIGHT

Wildlife Service,
P.O. Box 30,
Portobello