

they had started feeding for the day the adult did not remain to "supervise" the juvenile.

I am grateful to Ray Pierce for his comments on a draft of this note.

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Bird Counts on the Chatham Islands

While working on the Chatham Islands in November-December 1983, I undertook some bird counts on South East Island and in an area of forest on Chatham Island which was soon to be gazetted as a Nature Reserve and partly fenced. This tract of rolling bush-covered hills and gullies totalling 1028.7 ha was donated to the Crown as a Nature Reserve by the late Manuel Tuanui and Evelyn Tuanui of Awatotara, Chatham Islands, in early 1983. It is located in Blocks IX, X, XIII and XIV of Orepuke (Oropuke) Survey District on the southwest coast of the main island and known as the Tuku Nature Reserve. I also made general observations of species occurrences while working in other parts of the islands. These Tuku counts and those from the smaller South East Island, which has been a reserve for about 30 years, will provide information for future comparisons.

The forest types in both locations have been described by Dennison *et al.* (1984). The introduced mammals on Chatham Island are rats (*Rattus rattus* and *R. norvegicus*), mice, cats, possums, cattle, sheep and pigs. Eastern Buff Wekas were introduced from mainland New Zealand in about 1905 to the large islands, but South East Island has no introduced mammals or wekas.

Methods: For the counts, I used the method suggested by Dawson & Bull (1975) and on Chatham Island I set up seven stations in the proposed reserve about 200 m apart along a track between the Taiko study base camp and a high bush-covered knoll known as Taiko Hill. I counted at each station 14 or 15 times over 10 days in December 1983. On South East Island I set up five stations 200 m apart in the Woolshed Bush and counted at them 10 times each in November-December 1983.

All counts were done in dry weather with little or no wind, differing amounts of sunshine and temperatures of 10-20 °C. Counts were recorded between 0930 and 1600, except for seven Tuku counts between 1600 and 1745 on a clear, windless day of 20 °C when sunset was at 2145. Starting times were varied so that most times of the day were covered.

As the vegetation in both areas is fairly uniform, I assumed the sampling stations to be similar. Totals of 100 counts in the Tuku and 50 on South East Island were combined for each species and a mean calculated for each count.

Results: Two species (Chaffinch and weka) were present only in the Tuku counts; and five species were on South East Island that did not show up in the Tuku counts. Black Robin and snipe are confined to South East Island and Mangere Island, I have seen both Tuis and Starlings elsewhere on the main island, and the Chatham Island Tomtit occurs only on South East Island.

The Silvereye and the Chaffinch, in that order, were the most conspicuous species in the Tuku. Although few were seen (13% and 2% respectively), Chaffinches were singing loudly at that time of the season (81.9% of those counted). Silvereyes were identified by their calls as only 2.8% were in song.

TABLE 1 — Birds recorded during 5-minute counts at two locations on the Chatham Islands

SPECIES	Mean per count		% Seen	
	SE n=50	Tuku n=100	SE	Tuku
Harrier <u>Circus approximans</u>	0.04	0.01	100	100
Red-crowned Parakeet <u>Cyanoramphus chathamensis</u>	3.52	0.67	45	3
Shining Cuckoo <u>Chrysococcus lucidus</u>	0.08	0.03	0	0
Skylark <u>Alauda arvensis</u>	0.02	0.03	0	0
Hedgesparrow <u>Prunella modularis</u>	0.32	0.25	13	0
Chatham Island Warbler <u>Gerygone albofrontata</u>	1.50	0.11	45	27
Chatham Island Fantail <u>Rhipidura fuliginosa penitus</u>	0.68	0.22	65	27
Thrush <u>Turdus philomelos</u>	0.06	0.60	0	5
Blackbird <u>Turdus merula</u>	1.02	0.64	12	2
Silvereye <u>Zosterops lateralis</u>	1.20	2.16	8	13
Redpoll <u>Acanthis flammea</u>	1.08	0.53	33	0
Eastern Buff Weka <u>Gallirallus australis hectori</u>	AB	0.07	AB	0
Chaffinch <u>Fringilla coelebs</u>	NR	1.77	NR	2
Chatham Island Snipe <u>Coenocorypha aucklandica pusilla</u>	0.18	AB	22	AB
Chatham Island Tomtit <u>Petroica macrocephala chathamensis</u>	1.84	AB	32	AB
Black Robin <u>Petroica traversi</u>	0.02	AB	0	AB
Tui <u>Prothemadera novaezelandiae</u>	1.94	NR	32	NR
Starling <u>Sturnus vulgaris</u>	0.92	NR	35	NR

AB Absent
NR Not recorded

The Tui and the Chatham Island Pigeon were not recorded at all in the Tuku counts but were observed by me in that locality on other occasions. No Chaffinches were seen or heard by me on South East Island, although they seemed quite common on Pitt Island only a few kilometres away.

On South East Island, the four most conspicuous species were Red-crowned Parakeet, Tui, Chatham Island Tit and Chatham Island Warbler, in that order. Parakeets and warblers were seen on 45% of the times counted, and Tuks and Tits were seen 32% of the times.

Most birds in the Tuku were difficult to see and were seldom near the ground. On South East Island, the forest birds were not afraid of humans and were frequently observed on or near the ground. Results of the counts are detailed in Table 1.

Discussion: Although this study was quantitative and Fleming's (1939) study was qualitative, some comparisons can be made. His prediction that Chatham Island Pigeons were declining (1937-38) and would continue to do so has been correct. Pigeons are few in isolated pockets of forest in the south of the main island (pers. obs.); Morris (1979) saw 10 pigeons in 12 days in 1977. There are none on Pitt Island, where they were described as abundant in 1939. Recent attempts by the former Wildlife Service to establish a few pairs on South East Island have been unsuccessful (pers. obs.).

Fleming reported Tuks as plentiful in the Tuku area in 1937-38, but I recorded none during my counts; I have however observed solitary Tuks in the southern tableland and coastal area from time to time. In my counts Chatham Island Warblers were 13.6 times more frequent on South East Island than in the Tuku, a difference not as great as that shown by Dennison *et al*, who estimated the density to be 0.3 pairs per hectare in the Tuku and 10.4 or 8.2 pairs per hectare on South East Island.

In 1937-38 parakeets were described as "the most abundant land bird" on South East Island; these counts confirm this for 1983. Tits were still to be found in the southern tableland block before 1940 but no sightings have been made recently.

In the 45 years since Fleming's account, numbers of Tuks, pigeons and parakeets have been reduced on the main island, Long-tailed Cuckoos probably no longer visit the group, and the Chatham Island Tit has become extinct on Chatham Island.

I thank Mike Imber for commenting on the manuscript.

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