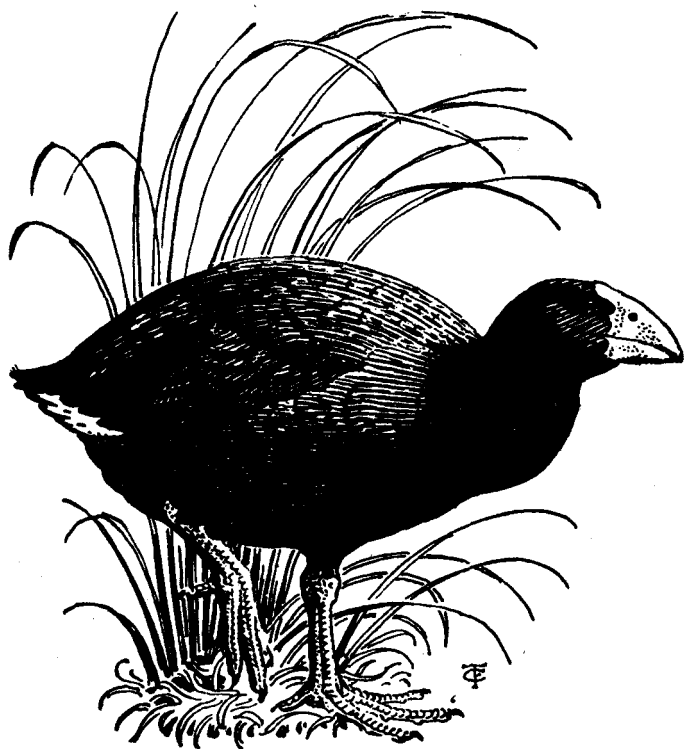


# NOTORNIS

Journal of the Ornithological Society  
of New Zealand



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## **20th INTERNATIONAL ORNITHOLOGICAL CONGRESS 1990**

### **Preliminary Notice**

The 20th International Ornithological Congress will take place in Christchurch from 2-9 December 1990. The President is Professor Charles G. Sibley (USA) and the Secretary-General is Dr Ben D. Bell (NZ). It is anticipated that the Congress programme will include plenary lectures, symposia, contributed papers ( spoken and posters ), workshops, discussion groups and films. There will be a mid-Congress excursion day. Longer excursions are planned to interesting ornithological sites in New Zealand and adjacent regions before and after the Congress. Requests for the First Circular and suggestions regarding Congress organisation should be addressed to:

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Victoria University of Wellington,  
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## THE FOODS OF NESTING AND ADULT STARLINGS (*Sturnus vulgaris*) POISONED BY LINDANE

By SZLIVKA LASZLO

### ABSTRACT

An accidental bird poisoning in May 1971 in the Obornjaca region, Yugoslavia, exterminated a Starling colony. The food in 186 chick and 56 adult stomachs was analysed: more than 95% of the insects eaten were Orthoptera and Coleoptera, including many species harmful to agriculture. Differences in diet between the chicks and their parents may be explained by time of day or by the location in which adult birds foraged.

### INTRODUCTION

Although they have studied Starlings for some time (Szlivka 1958, 1962, 1983), ornithologists in Yugoslavia have not yet studied their feeding biology. Only Kovacevic & Danon (1952) have examined 15 stomachs, giving a little information on food habits.

In some neighbouring countries monthly changes in the food of the Starling have been described. Szijj (1957), especially, studied Starling food extensively over the whole of Hungary, considering a huge amount of data and concluding that the Starling is of great importance for agriculture.

Differences between my data and foreign studies in feeding biology support the statement by Formozov *et al.* (1950) that changes in food and feeding habits are related to the distribution of insects. In Hungary, in chick food studies from many parts of the country, *Gryllus* species comprise the main food.

Depending on the season, this is followed by Acrididae, *Opatrum subulosum*, *Otiorrhynchus* sp., *Baris* sp., and *Harpalus* sp., etc. (Szijj 1957). According to Formozov *et al.* (1950) *Melolontha melolontha* and *Bothynoderes punctiventris* are the most frequent species. Spangenberg (1949), in his study

on birds of woodland shelterbelts, considered the Starling to be one of the most useful species to agriculture.

Schmidt (1952) watched a big flock of Starlings consume *Carabus nemoralis* around Kiel, Germany, and Lambert (1951) saw a flock of 80-100 collecting larvae of the Colorado beetle on a potato field of about 0.1 ha near Frankfurt. Kalmbach (1921), in a study based on 2157 stomach contents, declared the Starling to be a definitely useful bird in destroying agricultural pests.

In Australia, Starlings consume Curculionoidea (62%), Mollusca (27%), Tenebrionoidea (26%), Formicoidea (20%), Coleoptera (17%), Lepidoptera (14%), Dermaptera (13%), Acridoidea (12%) and Araneidae (10%); other items comprise less than 10% (Thomas 1957).

Sziji (1957) stated also that 78.3% of the Starling's animal food was noxious insects, 1.4% useful insects, and 20.3% of uncertain status. The vegetable food in the stomachs was rather different, comprising 28.7% noxious plants, 0.8% useful plants, and 70.5% plants of indifferent status.

The present paper describes a local case which is not necessarily typical. It is a forerunner of a large-scale qualitative and quantitative study of the food of the Starling in Yugoslavia.

## STUDY AREA

In 1963 the Obornjaca meadow east of Ćunaros, NE Yugoslavia (45°45'N, 19°50'E), was drained and the water led to the brook Cik, flowing through this area. Without any reason the *Populus alba* and *P. robusta* groves were felled, and later the *Salix* sp. as well. With my former students, we cut a slope to form a nesting wall in the loess for the Starlings (Fig. 1). Then we bored 200 holes, which housed 84 pairs in 1968. Since then nesting has been continuous and the population has grown steadily.

The Starlings find food on the neighbouring arable land and on the high-grass meadow of the drained area. On the alluvial land surrounding the loess wall the main crop was sugarbeet with, farther away, wheat, maize and sunflower.

*Poisoning:* When banding Starlings on 14 May 1971, I was surprised to find only 3-4 adults, moving nervously. There was no activity at the nests, although 10 days before the colony had been reported to be really busy.

Then I collected 101 just-feathered young and 88 younger ones. There were no dead adults in the nests. Among the chicks 144 were dead and 45 were moving slowly with foam at the mouth and wet smelly cloacas.

I learned only in 1986 that Dr Fekete had at that time collected dead adult Starlings on his parents' land and in the surrounding sugarbeet fields and had preserved their stomachs. Dr Fekete kindly offered me 56 stomachs and told me that on 13 May 1971 he had observed Starlings on the ground helpless as they tried in vain to lift off, running to and fro, sitting down from time to time and panting with open beak. Some lost balance and fell on their side with foaming mouth, legs stretched out in spasms. All showed typical diarrhoea and narrow-slit eyes.

On 20 May 1971 I forwarded 20 dead chicks for toxicological investigation. After a rather long time, i.e. almost two years, I was informed that they had died because of Lindane spraying, which had been used against *Bothynoderes punctiventris* and *Psallidium maxillosum*, pests of sugarbeet. Lindane in its present form is the gamma isomer of benzene hexachloride, a product very dangerous for warm-blooded animals, and its continued use in agriculture is being investigated. In addition, it is phytotoxic, Dr Fekete informing me that it caused burns on the young sugarbeet and maize leaves.

One cannot tell whether the birds died through single or multiple consumption of the poisoned insects. In my view, the young were poisoned at once, the adults by multiple doses. After the spraying was carried out on 13 May in sunny but windy weather, the birds may have collected the wriggling half-dead insects in the afternoon or evening. Adult Starlings visit larger young, with growing feathers, about 100-110 times daily. Food is brought in, on average, every 5 minutes in the morning, every 10-11 minutes around noon, and every 20-25 minutes during the evening. Thus the young may have received the poison at any time from morning to evening, depending on the origin of the various feeding batches, whereas the adults observed by Dr Fekete were continuously collecting poisoned insects.

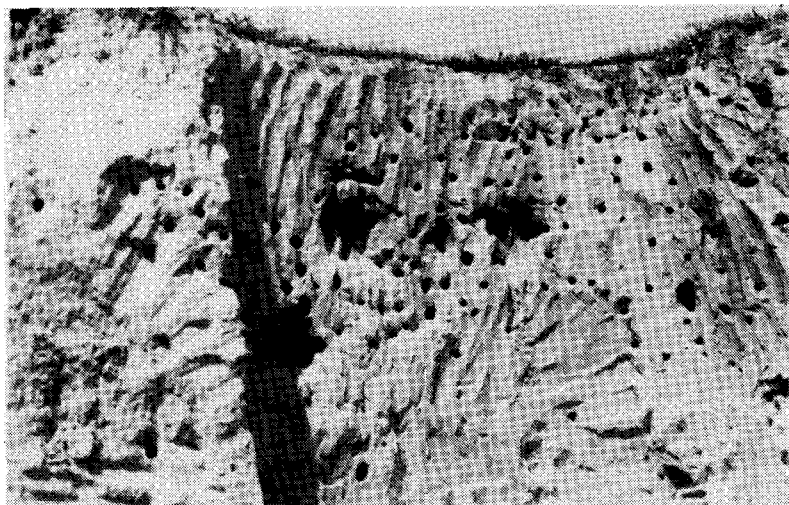


FIGURE 1 — Loess wall, the place of mass extinction of starlings

Photo: Szlivka L

## RESULTS

Insects were identified according to Dudich & Loksa (1969) from the insect identification books of Calver (1876) and Moczar (1975).

From 186 chick stomachs 358 insects were identified, and the 56 adults provided 100 items. The content of adult stomachs was low, probably as

a result of vomiting at an early stage of poisoning. Vomiting probably explains why 20 stomachs were empty.

Identifying insects is straightforward in food studies, and field investigations provide information on ethological aspects of food collection by Starlings. However, it is sometimes doubtful whether an identified insect really is important in the "normal" diet. For example, Szijj (1957) found *Harpalus* en masse in the stomachs, whereas I have yet to record it. I think the Starling will take almost any insect before it, except that in some other investigations I have found that it will not touch *Maloe* and *Heteroptera* spp. To this extent, food status is determined, and is a function of the area and feeding biology of the bird.

TABLE 1 — Stomach contents of 186 chicks and 56 adult Starlings

Insect species	Chicks		Adults	
	No.	%	No.	%
<b>Orthoptera</b>				
<u>Doclostaurus maroccanus</u>			6	6.0
<u>Calliptamus italicus</u>			17	17.0
<u>Gryllus desertus</u>	22	6.1	5	5.0
<u>Tridactylus variegatus</u>	10	2.8		
<u>Gryllotalpa gryllotalpa</u>	91	25.5	16	16.0
<b>Hemiptera</b>				
<u>Pyrrhocoris</u> sp. larvae	6	1.7		
<b>Coleoptera</b>				
<u>Melolontha melolontha</u>	27	7.5	9	9.0
<u>Opatrum subulosum</u>	11	3.1		
<u>Agriotes</u> sp.			10	10.0
<u>Cassida nebulosa</u>	9	2.5		
<u>Otiorrhynchus ligustici</u>	7	1.9		
<u>Bothynoderes punctiventris</u>	64	17.9	21	21.0
<u>Psilidium maxillosum</u>	30	8.4	15	15.0
<u>Polydrosus mollis</u>	1	0.4		
<u>Sitona</u> sp.	66	18.4	1	1.0
<u>Platyparea poeciloptera</u>	7	1.9		
<b>Hymenoptera</b>				
<u>Cimbex connata</u>	7	1.9		
Total	358	100	100	100

### Food of chicks

*Gryllotalpa gryllotalpa* dominated, forming 25.5% of the food (Table 1). This insect causes considerable damage for gardeners by digging out plants in light soils and tearing the roots. In my view these insects were not poisoned.

*Sitona* spp. formed 18.4% of the food. Its damage to lucerne is well known: the larva causes the main damage as it prevents the lucerne improving the soil by destroying the nitrogen-fixing root nodules. A 20 ha area was treated with insecticide at that time, but as far as I know Lindane was not used.

*Gryllus desertus* comprised 6.1%. It too is a well-known pest; in drought it may easily reach the underground parts of sugarbeet and cause considerable damage.

*Melolontha melolontha*, according to Dr Fekete, swarmed from an area of about 2 ha of wasteland and the Starlings caught them in the air. They always dewinged the insects, as could be seen from the remains.

*Bothynoderes punctiventris* represented 17.9% of the food, *Psilidium maxillosum* 3.1%, and *Tridactylus variegatus* 2.8%. These may have not been affected directly by poison. *Tridactylus* is not a typical agricultural insect. It prefers meadows, some of which were available adjacent to the sugarbeet plantations, and so possibly the meadow also got its share of spray.

In general *Bothynoderes punctiventris* may cause damage in dry springs, such as in 1971 and 1986, to sugarbeet plantations, sometimes destroying 40% of the seedlings. Because of this, resowing is often necessary. The insects cause damage to seedlings and young plants for some weeks after thinning out, and to sow again means about 3 weeks are lost and the harvest is reduced.

The parents more or less broke off the wings of the insects, showing perfect orientation at the time of catching the prey. *Psilidium maxillosum* and *Opatrum subulosum*, collected from maize fields and lucerne, were treated similarly. Other insect species such as *Pyrhocoris*, *Otiorrhynchus*, *Polydrosus*, *Platyparea*, *Cassida* and *Cimbex* made up only 13.4% of the food of the young. These insects, except *Opatrum subulosum* (3.1%) and *Cassida nebulosa* (2.5%), cannot be regarded as important food items, at least not in this area.

### Food of adults

All adult stomachs were preserved in alcohol; although it was diluted, some insects were so discoloured or disintegrated that it was impossible to identify them, and these had to be left out.

Twenty stomachs contained nothing and the remaining 36 contained 100 insects (Table 1).

In adult food *Bothynoderes punctiventris* dominated (21%), followed by *Calliptamus italicus* (17%), then *Gryllotalpa gryllotalpa* (16%), *Psilidium maxillosum* (15%), *Agriotes* sp. (10%), *Melolontha melolontha* (9%), *Dociostaurus maroccanus* (6%), *Gryllus desertus* (5%), and *Sitona* sp. (1%).

Some points should be mentioned: I did not find *Calliptamus italicus*, *Dociostaurus maroccanus* or *Agriotes* sp. in the young Starlings. These insects prefer meadows with dense grass, especially after swarming. I suggest that the adults, after having finished feeding the chicks in the evening, did not return to the arable land but rather to the meadows to collect their own food. On the other hand, I cannot explain the presence of only a single *Sitona* sp. (1% in the adult stomachs), when it was the second most important food of the young.

## CONCLUSIONS

Unrestrained use of insecticides causes serious damage to birds collecting food for the young, especially to useful insect-feeders such as the Starling. After drainage and spraying, the nesting population of birds in this region was reduced from 56 to 22. The Starling colony was abandoned, and now they nest in small numbers in the roofs of farm buildings.

Practically all the food the Starlings fed to the chicks were agricultural pests, and they are clearly useful birds for agriculture. I determined 17 insect species from the stomach contents. Other workers have identified more; but this was not a systematical collection, only a by-product of a biological disaster which provided the opportunity to obtain some information.

## ACKNOWLEDGEMENTS

I thank Dr Fekete, Yugoslavia, for his help by observations and collection and Dr J. E. C. Flux for editorial help.

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# THE IDENTITY OF THE HAKAWAI

By C. M. MISKELLY

## ABSTRACT

The hakawai was a 'mystery bird' formerly found on islands off Stewart Island; although never seen, its startling call was heard at night. The call of the hakawai, and its distribution and decline are described. The hakawai (under several spelling variations) is widely mentioned in myths and legends of the Maori throughout New Zealand; these records are summarised and the various theories for the hakawai's identity are discussed.

Evidence for non-vocal aerial displaying by New Zealand snipe (*Coenocorypha*) is presented. The hypothesis that the hakawai was an aerial display of Stewart Island Snipe (*C. aucklandica iredalei*) was investigated by comparing the distribution and decline of snipe with that of the hakawai, and by playing a tape recording of an aerial display of Chatham Island Snipe (*C. pusilla*) to people who had heard the hakawai. These data support the hakawai = snipe hypothesis. The historical distribution of Stewart Island Snipe included Big South Cape, Pukeweka, Solomon, Poutama, Jacky Lee, Herekopare, Ruapuke and Green Islands in the last 100 years. The extinction of snipe on these islands is attributed to introductions of ship rats (*Rattus rattus*, two islands), weka (*Gallinallus australis*, four islands) and a combination of weka and cats (*Felis catus*, two islands).

It is proposed that subfossil remains of *Coenocorypha* from the North Island and the South Island be referred to *C. a. barrierensis* Oliver 1955 and *C. a. iredalei* Rothschild 1921 respectively.

## INTRODUCTION

The early ornithological and anthropological literature of New Zealand contains many tantalising references to the birds encountered by the Maori before the arrival of Europeans. Many of the traditional oral accounts given describe species that are familiar to 20th century observers, but others can only refer to some of the 35 or so bird species known to have become extinct during about 1000 years of Polynesian colonisation up to AD 1800. While legends or descriptions of huge moa and the giant eagle *Harpagornis* have long captured the public's imagination, the recent interest in subfossil deposits of our smaller prehistoric inhabitants invites re-examination of accounts of less spectacular animals. Was kopa the extinct owl-nightjar (*Megaegotheles*)? What of the poua on the Chatham Islands, or the mysterious ruwuhenua? (See Beattie 1954: 40.)

Trying to match fragments of an oral tradition with bone fragments of extinct birds is an intriguing pastime, but it is difficult to progress beyond speculation. However, not all mythical birds belong to such distant times. The hakawai was last reported in 1961 (Bell, B. D. & Merton, D. V. A classified list, with notes on the species, of birds of Big South Cape Island, April 1961. Unpubl. report NZ Wildlife Service). It is still fresh in the memory of many people who hold muttonbirding rights to the islands off Stewart Island. The story of the hakawai has an added piquancy; although many people can recall the loud, startling cry of the hakawai, the animal responsible has not been seen.

Many early ornithologists in New Zealand speculated on the identity of the hakawai, and muttonbirders are still interested. My interest in the hakawai arose through my research on New Zealand snipe (*Coenocorypha*); the Stewart Island Snipe (*C. aucklandica iredalei*) was one of the many birds that had been suggested as the hakawai (Anon. 1931; Bell & Merton, unpubl.). After hearing aerial displays by Chatham Island Snipe (*C. pusilla*) on South East Island in December 1983, I collected data to test the hypothesis that the hakawai was the Stewart Island Snipe giving its aerial display. Much of the information in this paper was gleaned from conversations with muttonbirders in Southland and on Stewart Island in 1985, and from replies to questionnaires sent to muttonbirders from Kundy and Big Moggy Islands.

### THE CALL OF THE HAKAWAI

Even on the few islands where it was known, the hakawai was rarely heard. The call was heard on calm moonlit nights and came from a great height. A human-like rendition of its name, *hakwai*, *hakwai*, *hakwai*, was followed by a considerable roar, as of a bird travelling at great speed "and this increases in volume as the descent is made until the air vibrates with it" (Anon. 1931).

My informants all agreed on the qualities of the first part of the call, but I received differing descriptions of the second (non-vocal) component. The most popular description of the call of the hakawai was that it resembled "a sound as if a cable chain was lowered into a boat" (Native 1931). Indeed, many people still refer to the hakawai as the chainbird. Some people familiar with the hakawai did not like this description and likened the sound to a "jet-stream" or "a blind rolling itself up" (Billy McQuarrie, pers. comm.) or "a shell passing overhead" (Rongo Spencer, pers. comm.).

Not all these differences are just personal differences in the interpretation of the same noise. Alan Skerrett (pers. comm.) thought that the hakawai call resembled a jet-stream sound but heard the 'rattling chain' occasionally as well: "Sometimes its rapid descent is accompanied by a rustling noise and sometimes by a chain sound" (Beattie 1954: 37). Bell & Merton (unpubl. report) "... never heard the so-called 'chain rattle' but once heard something approaching this".

However the hakawai's call was described, its effect on observers was fairly consistent. Many written accounts refer to physical reactions to the sound: "The next thing he knew he and his load of birds were mixed up together on the ground. He had fallen over in his fright". "I realized that I had heard the mystery bird and was off down the hill as fast as my legs could carry me, forgetting all about my stay at Te Maru" (Wilson 1979: 92). Several of the people that I spoke to remarked that they were very frightened of the "whizzing" noise.

Memories of the hakawai are kept alive not only by the mystery of its identity but also by the eerie quality of its sound and the web of myth and legend that has been spun around it.

## MYTHS AND LEGENDS OF THE HAKAWAI

Although I have chosen to use the name *hakawai*, used by the southern muttonbirders, many variations in spelling and pronunciation are in the literature (Table 1). The usual variant is the northern Maori *hokioi*; the equivalence of the different names has been pointed out by Tregear (1897: 79), Best (1942: 152), Beattie (1954: 37), Reed (1963: 387) and Williams (1971: 33, 57 & 239). I will use *hokioi* or *hakawai* while discussing myths and legends to match the sources quoted; other variants will be given only in direct quotations.

TABLE 1 — Alternative spellings of 'hakawai'

<i>hākuwai</i>	White 1887; Best 1942 & 1982; Jenkin 1970; Williams 1971
<i>hakuai</i>	Tregear 1897; Pio 1901; Beattie 1954; Williams 1971
<i>hakowai</i>	Beattie 1954
<i>hark-oh-why</i>	Henderson 1981
<i>hokiwai</i>	Urumotu & Kerehoma 1872; Williams 1971
<i>hokioi</i>	Haast 1873; Tregear 1897; Best 1924 a & b, 1942; Reed 1961 & 1963
<i>hokio</i>	White 1885; Tregear 1897; Williams 1971
<i>ōkio</i>	Ngata 1970
<i>okioi</i>	Tregear 1897; Williams 1971

The *hakawai* was one of the 11 *tapu* (sacred) birds of *Rakamaomao* (the wind) and was said to have been a descendant of *Tangaroa* (god of the ocean) and *Rehua* (the star Antares, guardian of the uppermost heaven) (Best 1982: 265 & 563). In Maori legends and proverbs, the *hakawai* was a mythical bird dwelling afar in celestial space and only descending to earth at night. It was "the bird elusive and never seen, By the multitude in their thousands" (Ngata 1961: 261).

Several proverbs refer to the nocturnal habits of the *hakawai*, or its ability to conceal itself: "*Pekapeka rere ahiahi, hokioi rere po* (The bat flies at twilight, the *hokioi* at night)" (Reed 1963: 387); ". . . *ko taua manu he pena hoki me te Hokiwai, he manu whakangaro i tona tinana*" (that bird is like the *Hakawai*, it makes itself invisible) (Urumotu & Kerehoma 1872).

The *hakawai* lived in the heavens (White 1887: 130) and was considered the ancestor of ceremonial kites built by the Maori. A charm-song for an *aute* bird (kite built of paper mulberry) given by Pio (1901) finishes:

*Pikitia e koe ki to matua, ki a Hakuai*  
*Ki to tupuna, kia Rehua i te rangi-e.*  
 "Climb thou to thy ancestor, the *Hakawai*,  
 To thy ancestor, *Rehua* in the heavens."

The most widely quoted legend about *hokioi* refers to a competition between *hokioi* and *kahu* (the hawk) to see who could fly the highest. This story explains why *hokioi* descends only at night and why he calls out his name. Different versions are given by Grey (1872), Best (1924a: 215-216,

1942b: 57 & 1982: 563-564) and Reed (1961: 193-194 & 1963: 387), but the legend is as follows:

An argument arose between Kahu and Hokioi as to who could fly the highest. Kahu taunted Hokioi, saying that he could fly no better than Matata (the fernbird). This so angered Hokioi that he challenged Kahu to a trial, as to which could ascend the highest. Then both left the ground and flew to a great height. As he flew upward, Kahu kept continuous watch on the earth, as is his habit. Soon he saw some fern on fire and, forgetting the challenge, descended to prey on the creatures fleeing from the flames. Hokioi cried out to Kahu *He pakiwaha koe* ["You are a boaster"] then continued his flight until he lost sight of the earth. Hokioi never returned to earth again, but sometimes at night he is heard calling out his own name in derision of Kahu: *Hokioi! Hokioi! Hu!*

The last word *hu* represents the rushing sound of his flight, as heard by the Maori folk of this world.

There is nothing to be seen, but you hear a cry, a dreadful laughter floating down from the heights. "Hokioi-Hokioi" is the cry, and as it ceases you hear that eerie whistle as a bird swoops down and up again into the blackness and silence of the night sky (Reed 1961: 193).

The legend gave rise to a proverb which is applied to boasters: *E hoa! He hakuwai te manu e karanga tonu ana i tona ingoa*. (Oh friend! The hakawai is the bird that is ever calling out its own name.)

To hear the cry of the hakawai was a bad omen. White (1885: 166) stated that the hakawai was heard on the eve of war, and that the cry was "caused by the choking of the bird with the hair of the heads of those warriors who are doomed to fall in the battle". In more recent times, the call of the hakawai was thought to forecast a southerly gale (Native 1931, Beattie 1954: 37, Jenkin 1970: 157); although it could be argued that bad weather will always follow a clear moonlit night in the stormy latitudes of the muttonbird islands.

Many muttonbirders believed that the hakawai could be heard only towards the end of the muttonbird season (May). From this arose the idea that the hakawai was the father of the muttonbirds (*Puffinus griseus*), calling them away on their northern migration (Edwards 1954, Blackburn 1965). Some say that when the hakawai called all the muttonbirds came to the mouth of their burrows and listened (Beattie 1954: 38). The idea that the hakawai called only at the end of the muttonbird season is probably a result of observers being out at night mostly at the end of the season, when young muttonbirds come out of their burrows and can readily be caught. Earlier in the season, young muttonbirds are taken by day, from their burrows ('nanaoing'). Also, towards the end of the season most of the adult muttonbirds have departed on their northern migration, and so the nights are quieter and other sounds may be heard more easily. The muttonbirders are not on the islands from the end of May to mid-March.

Bell & Merton (unpubl.) heard hakawai in April, and Billy McQuarrie (pers. comm.) heard it in June. Several people that I spoke to thought the hakawai could be heard at any time of the year.

Kaiporohu told James Drummond that the hakawai lived in the clouds over Foveaux Strait, hovering invisibly (Beattie 1954: 36). Its call was first heard in the north, then in the south, east and west. The hakawai was thought

always to fly in the same direction when giving its call, given as east to west for Herekopare Island by Dempsey (1967:96).

### THE DISTRIBUTION OF THE HAKAWAI

The range of the hakawai had decreased steadily up to its disappearance in the early 1960s. Often information on the past distribution of the hakawai is vague, and it is difficult to assign dates to many records. The following summary starts with the most recent records and works back to pre-European days; this sequence roughly follows a south to north geographical sequence. Where possible, the decline of the hakawai on each island has been compared with the date of introduction of one or more of the following terrestrial predators: ship rat (*Rattus rattus*), cat (*Felis catus*) and weka (*Gallirallus australis*).

#### A. The islands off the south-west coast of Stewart Island

##### BIG SOUTH CAPE ISLAND

Big South Cape Island (Fig. 1D), the largest muttonbird island (930 ha), was long considered the stronghold of the hakawai. This was the only island where hakawai survived alongside the weka, which the muttonbirders introduced to many of the muttonbird islands for food and, on some, to control rodents.

Hakawai were usually heard over the low pakihi vegetation in the centre of the island, particularly between the two high points Mt Onion and Paopoko. I have one record of a hakawai being heard over the forested coastal slopes (Rongo Spencer, pers. comm.). On Big South Cape I. weka were mainly found under the forest (Guthrie-Smith 1936: 183, Richdale [no date a], Bell & Merton unpubl.) but have occupied the pakihi since the rat invasion (Bell, B. D. & O'Brien, J. F. O., 1964. Big South Cape Island, 16-28 April. Unpubl. report NZ Wildlife Service).

Hakawai were heard regularly on Big South Cape I. until the plague of ship rats which followed the 1963 muttonbird season. The last written report is that of Bell & Merton. No one has heard the hakawai since the rat invasion, although Noki Barrett (pers. comm.) claimed to have heard the first part of the call near the south end of the island in 1983.

##### POUTAMA ISLAND

Poutama Island, which lies 300 m south of Big South Cape I., held a hakawai population until at least 1931 (Anon. 1931). Native (1931) heard hakawai on Poutama on 10 May 1913, and Peter Beaton heard them during the 1920s (Jack McKay, pers. comm.). Jack McKay first went to Poutama in 1932 but did not hear hakawai there (although he heard them on Big South Cape I. in 1933). Weka had been introduced earlier to Poutama and were common in 1932. Ship rats reached Poutama in 1985.

##### SOLOMON ISLAND

Solomon Island (26 ha) lies about 200 m north of Big South Cape I. Hakawai were heard on Solomon I. in 1931 (Anon. 1931) and earlier (Eileen Willa, pers. comm.). I do not know whether hakawai were heard on Solomon I. after 1931. Weka have been there since at least 1913, when Guthrie-Smith

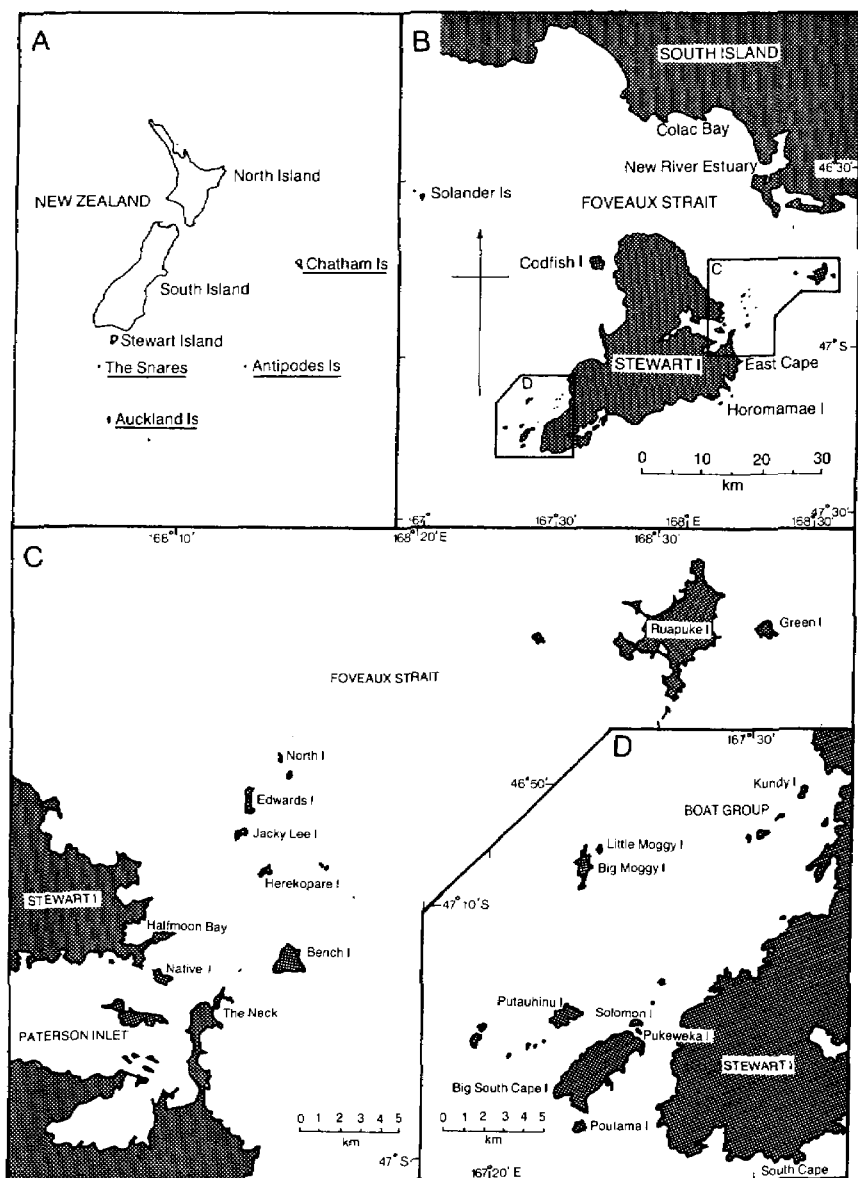


FIGURE 1 — Localities mentioned in the text. Those island groups underlined in 'A' still have snipe. There are reliable reports of hakawai from Ruapuke, Green, Jacky Lee, Herekopare, Solomon, Big South Cape and Poutama Islands in the last 100 years

(1925: 118) saw one or two pairs, but they are kept at a low density by the muttonbirders. Solomon I. was one of the three islands affected by the plague of rats in 1964.

### BIG MOGGY ISLAND (MOKINUI)

Big Moggy Island is about 8 km north of Big South Cape I. Edwards (1954) stated that the hakawai "has not put in an appearance at Mokinui Island for some years". O. B. Nilsen (pers. comm.) informed me that his mother had heard a hakawai on Big Moggy Island "one very bright moonlight night, 40 odd years ago". Neither J. A. Hart (pers. comm.), who first visited the island in 1918, nor Patu King (pers. comm.), whose family started birding on Big Moggy I. in about 1890, had heard of hakawai being there.

Kiore (*Rattus exulans*) were already on Big Moggy I. in 1890, cats have been there since about 1915 and weka since before 1918 (J. A. Hart & Patu King, pers. comm.).

### KUNDY ISLAND

Kundy Island (22 ha), one of four islands comprising the Boat Group, is about 15 km north-east of Big South Cape I. Russell Smith (pers. comm.) told me that hakawai had been heard there very occasionally in the past. Russel Trow (pers. comm.), who has been birding on Kundy I. since 1949 and whose grandparents birded there from 1905, was unaware of hakawai having been there.

Weka were introduced to Kundy I. in about 1947 (R. Trow, pers. comm.) and were removed by the NZ Wildlife Service in 1984. The island has no rodents.

### B. Solander Islands

The Solander Islands lie about 60 km west-northwest of Stewart Island (Fig. 1B). Blackburn (1965) quoted a muttonbirder as saying that he had heard the hakawai on Big South Cape and Little Solander Islands in "recent years". None of the muttonbirders that I spoke to had heard of hakawai on the Solander Is, or of anyone staying overnight on Little Solander I.

I spent two nights on Little Solander I. (8 ha) in July 1985, but heard no hakawai. Solander I. (100 ha) has had weka on it for over 150 years (Cooper *et al.* 1986) but neither island has rodents.

### C. The islands off the north-east coast of Stewart Island and in Foveaux Strait

#### HEREKOPARE ISLAND

Herekopare Island (28 ha) lies 8 km north-east of Halfmoon Bay (Fig. 1C). It is the only island away from the Big South Cape group that is generally recognised as a 'hakawai' island.

Three of the people that I spoke to had heard hakawai on Herekopare: Russell Smith and P. R. & E. Willa. Russell Smith, who first went to Herekopare as a young boy in the early 1920s, heard hakawai there only during the 1920s. The late P. R. (Buddy) Willa had heard the hakawai on Herekopare in the first decade of this century; Mrs Eileen Willa heard it during her only stay on the island, in 1924. Dempsey (1967: 95-97) also mentioned hakawai on Herekopare.

Guthrie-Smith is said to have heard the *hakawai* on Herekopare (R. Smith, pers. comm.; Dempsey 1967: 97). Although he stayed overnight on Herekopare in October and November 1911, he did not mention *hakawai* in his 1914 book.

Guthrie-Smith (1914: 15) heard one *weka* on Herekopare in January 1911, but the *weka* died out or were removed during the next muttonbird season (P. R. Willa, pers. comm.). *Weka* were reintroduced in the early 1920s (R. Smith & P. R. Willa, pers. comm.) but were not reported by Wilson (1959) when he and Edgar Stead visited Herekopare in 1932. *Weka* were apparently present in 1944 (see Fitzgerald & Veitch 1985) and were common in 1952 (Dempsey 1967: 87), but they were removed by muttonbirders before 1968 (Fitzgerald & Veitch 1985).

Cats were introduced to Herekopare in 1924 (P. R. & E. Willa, pers. comm.) and were exterminated by the NZ Wildlife Service in 1970 (Fitzgerald & Veitch 1985).

#### JACKY LEE ISLAND

*Hakawai* were 'formerly' heard on Jacky Lee Island (Bell & Merton unpubl.), which is 1.5 km north-west of Herekopare I. *Weka*, introduced to Jacky Lee I. some time after 1901, were common in 1932 (Wilson 1959: 60).

#### RUAPUKE ISLAND

Ruapuke is a large island in the eastern approaches to Foveaux Strait, 30 km north-east of Stewart Island. *Hakawai* were reported from Ruapuke last century (Billy McQuarrie, pers. comm.). The island, being farmed, presumably has cats. *Weka* are on Ruapuke (Watters 1963), and house mice (*Mus musculus*) colonised when the *Elizabeth Henrietta* ran aground on 25 February 1824 (McNab 1907: 236). *Kiore* have been reported (Atkinson 1978) but whether other rat species are present is not known. The presence of a colony of White-faced Storm Petrels (*Pelagodroma marina*) in 1941 (Wilson 1959: 105) argues against *Rattus* being there then, if current theories on petrels being vulnerable to rodent predation (Imber 1975, Atkinson 1985) are correct.

#### GREEN ISLAND

Green Island lies about 2 km east of Ruapuke I. Alfie Ryan told me that his grandfather had heard *hakawai* on Green I., probably late last century. It is one of the locations given by Beattie (1954: 37). *Weka* were present, but scarce, in 1941 (Wilson 1959: 110) and are still there (Thomas 1982).

### D. The main islands of New Zealand

#### STEWART ISLAND

Native (1931) mentioned *hakawai* being heard at South and East Capes, and Dempsey (1967: 96) mentioned the East Cape of Stewart I.; they gave no dates. *Weka* are indigenous on Stewart I.; there are feral cats and all three species of rat (*R. exulans*, *R. rattus* & *R. norvegicus* - Taylor 1978).

#### SOUTH ISLAND

Billy McQuarrie and Mrs Eileen Willa both told me of very old reports of *hakawai* being heard at New River Estuary (Fig. 1B). Old Timer (1931)

recalled hearing a hakawai at Colac Bay, Southland, in 1895; the local Maori at the time agreed that "one had never been seen on the mainland".

Henderson (1981: 221) gave an undated reference to a hakawai being heard (and seen) at Tasman Bay, Nelson.

## NORTH ISLAND

A Maori song given by Ngata (1970: 102-107) refers to the hakawai flying from Hikitia, Bay of Plenty.

## THEORIES FOR THE IDENTITY OF THE HAKAWAI

Although many people tried to catch a glimpse of a hakawai in their torch beam, no-one succeeded. This was easily explained by those who held that the hakawai was a spirit bird (Edwards 1954, Dempsey 1967: 97); it could not be seen anyway. The rest of the muttonbirders disagree as to the size of the hakawai; some insist that it must have been a large bird to make such a loud noise (Billy McQuarrie, pers. comm., Native 1931, Old Timer 1931), whereas others are equally sure that it must have been a small bird to avoid being caught in the torch beam (Claude Skerrett & Rongo Spencer, pers. comm.).

There are several accounts of large birds with multiple wing joints being found around the Stewart Island region, and some people have suggested that these could be the hakawai. Native (1931) mentioned a part skeleton of a bird unearthed at New River Head; one wing was intact and reckoned to be seven feet in length, with nine joints. Beattie (1954: 38) referred to a strange bird washed ashore on Horomamae Island (Fig. 1B) that was mottled and the size of a gannet. The wing spread was disproportionately large, and there were seven joints in the wing. It had a straight, unhooked bill and the wing feathers were 12 to 14 inches in length with rounded tips. On page 36, Beattie claimed that the hakawai was "supposed to be a big, white, land bird with seven joints in its immense wings". Then he mentioned the hokioi of the Tuhoe people "which lived in the sky, flew only by night at a great height, and had four joints in each wing".

The most elaborate description of a hokioi was given to Sir George Grey (1872) by a Maori:

This bird, the Hokioi, was seen by our ancestors. We (of the present day) have not seen it – that bird has disappeared now-a-days. The statement of our ancestor was that it was a powerful bird, a very powerful bird. It was a very large hawk. Its resting place was on the top of the mountains; it did not rest on the plains. On the days in which it was on the wing our ancestors saw it; it was not seen every day as its abiding place was in the mountains. Its colour was red and black and white. It was a bird of (black) feathers, tinged with yellow and green; it had a bunch of red feathers on the top of its head. It was a large bird, as large as the Moa.

This is a plausible description of the plumage and behaviour of a large eagle, perhaps *Harpagornis*, an eagle known only from subfossil bones and estimated to have weighed up to 13 kg (R. N. Holdaway, pers. comm.). As far as is known, *Harpagornis* had the normal complement of wing joints.

It is inconceivable that a huge, potentially hominivorous diurnal raptor could remain undetected on a 20 ha island. I suggest that over many

generations the eerie call of the unseen hakawai has been linked with racial memories of the most powerful flying bird known to the Maori.

Naturalists from a more prosaic culture have advanced a number of theories to explain the hakawai phenomenon; all but one of the species suggested are seabirds that would come to land only to breed or if storm-driven. Sir Walter Buller and James Cowan favoured the frigatebird (*Fregata* sp.; see Haast 1873 and Beattie 1954: 36). Like the Sooty Tern (*Sterna fuscata*) suggested by Dempsey (1967: 96), the frigatebird can be discounted because it is an infrequent straggler to New Zealand; neither has been recorded in the Stewart Island region.

Neither the Black Petrel (*Procellaria parkinsoni*) suggested by James Drummond (Beattie 1954: 36) and Edgar Stead (Wilson 1959: 148) nor the Shoemaker (*P. aequinoctialis*) suggested in Jenkin (1970: 157) breeds near Stewart Island. Although both species may occur in the seas around Stewart Island, their known calls do not include anything like the hakawai, and they are unlikely to occur over any island on which they do not breed.

Lance Richdale was said to have favoured the Mottled Petrel (*Pterodroma inexpectata*) as the hakawai's alias (Beattie 1954: 36), and Beattie also mentioned the Diving Petrel (*Pelecanoides urinatrix*). Both these species still breed on many islands around Stewart Island and elsewhere, and their past distributions have always been more extensive than that of the hakawai.

Perrine Moncrieff (1931), in a long letter to the Southland Times, suggested that the call of the hakawai was "likely to be produced by one of the larger shearwaters who are celebrated for the weird noises they make". The only large shearwater known to breed on the islands off Stewart Island is the Sooty Shearwater (muttonbird), which is ruled out of contention by its vast numbers and wide distribution.

The idea that the Stewart Island Snipe might be the hakawai was first suggested in an article in the Southland Times (Anon. 1931). Points in favour of the snipe were that related species overseas had an acoustic aerial display, and that the Stewart Island Snipe had a similar restricted distribution to the hakawai (although the historical distribution of the Stewart Island Snipe has not been investigated in depth previously). However, the hakawai had not been reported from the other New Zealand island groups with snipe: The Snares, Auckland, Antipodes and Chatham Islands (Fig. 1A), and many people considered the flying ability of the Stewart Island Snipe to be inadequate for such a display. Indeed, Guthrie-Smith (1936: 186) considered the Stewart Island Snipe to be flightless.

Moncrieff (1931) argued against snipe being the hakawai from her experience with Common Snipe (*Gallinago gallinago*). "Surely if the 'Hakawai' were a snipe it would have been located ere now, as snipe make a drumming noise during the breeding season early in the morning, at midday and occasionally on moonlight nights. They are day-birds and would have been observed flying during the daytime". After describing the calls of three Northern Hemisphere snipe species, she concluded that "although peculiar, the noises of the snipe tribe are none of them in the least awe-inspiring or reach the volume of sound attributed to the 'Hakawai'".

## EVIDENCE FOR AERIAL DISPLAYING BY NEW ZEALAND SNIPE

Aerial displays are given by almost all the world's snipes and woodcocks (Tuck 1972, Sutton 1981, Kalchreuter 1982), yet the idea that New Zealand snipe do not have an aerial display is firmly entrenched. The first sentence describing New Zealand snipe in Tuck's monograph (p. 53) states that they "do not have nuptial flights", while *Coenocorypha* is not even mentioned in Sutton's review on aerial and ground displays of the world's snipes.

Evidence for aerial displaying by various forms of New Zealand snipe has accumulated since November 1982, when Don Merton (pers. comm.) heard essentially the same hakawai call on Mangere Island (Chatham Islands) as he had heard on Big South Cape Island in 1961. I studied Chatham Island Snipe on South East and Mangere Islands during November 1983 to January 1984 and in July 1986, and recorded three different kinds of aerial displays. All these displays were performed at night; the most spectacular display included both a vocal and a non-vocal component (Fig. 2A). This display was indeed hair-raising when I first heard it. The vocal component was a disyllabic call, repeated five times, identical to one of the ground displays given by territorial male Chatham Island Snipe (Fig. 2B). This was followed by a loud roar, similar to a jet passing overhead, as the bird swooped over the 6 m canopy at high speed. The non-vocal component of the call had three stacked bands (0.7 kHz, 0.9 kHz & 1.2 kHz) and lasted for about 1.5 seconds.

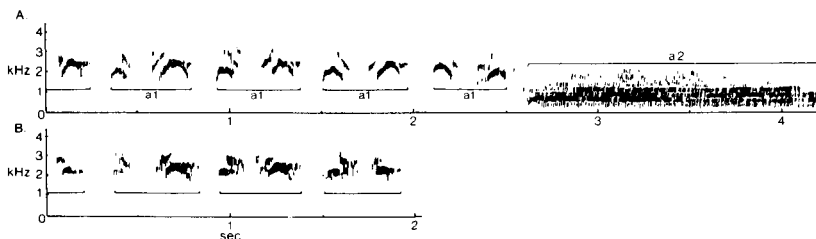


FIGURE 2 — Sonographs of displays by Chatham Island Snipe, recorded on South East Island, c.2330 h on 9 January 1984. The first syllable of both calls was not recorded. The two calls were given by different birds.

A. Aerial display, showing a series of five disyllabic vocal phrases (a1) followed by a non-vocal 'roar' (a2).

B. Ground display given by a male, showing the same song structure as in 'a1'.

As yet no-one has managed to see a Chatham Island Snipe perform the display, but high-flying snipe have been seen in spotlight beams on nights when birds have been displaying, and I have seen snipe performing a separate, purely vocal aerial display.

If this aerial display of Chatham Island Snipe is homologous with the 'drumming' or 'bleating' of *Gallinago* snipes, the non-vocal part of the call is likely to be created by air currents making the tail feathers vibrate as the bird dives at speed. I found indirect evidence of this on two of the 24 adult

male snipe that I handled on South East Island in November 1983-January 1984. Their tail feathers had unusual wear. The shafts of all 14 rectrices had snapped off about 5 mm from the tip, creating a V at the tip of each feather. I attribute this unusual feather wear to vibrational stress during the display. Other snipe species show tail wear caused by their aerial displays; male Wilson's Snipe (*G. gallinago delicata*) can be distinguished during the breeding season by their frayed tail feathers (Tuck 1972: 167, and see frontispiece in Sutton 1981).

The unusual wear of tail feathers described above can also be seen in museum specimens (Fig. 3). At least ten snipe skins in New Zealand museums show such wear: three or four from the Chatham Is, two from islands off Stewart I., four or five from the Auckland Is and one from Antipodes I. (Table 2). Table 3 gives how often I found tail wear among New Zealand snipe, separated by sex and by island group. As feather wear would be most pronounced before moult and specimens have been collected or handled throughout the year, I can draw little conclusion from tail-feather wear about the frequency of aerial displaying by the different snipe taxa. Note two points, however: this form of tail wear is found mainly in male snipe; and there is no evidence for such tail wear in Snares Island Snipe (*C. a. huegeli*).

The only evidence to date for aerial displaying by Auckland Island Snipe (*C. a. aucklandica*) is tail-feather wear in the four or five specimens given in Table 2, but I have since received corroborating evidence for aerial displaying by Antipodes Island Snipe (*C. a. meinerzhagenae*). D. S. Horning (pers. comm.), who was on Antipodes I. in December 1978, writes:

The bird was heard at dawn (before the sun came over the horizon) on Monday, 4 December 1978. I was sitting on some tussock at the cliff edge . . . [and witnessed] a snipe (from 20 m or so) diving. I took notice of it because I had not seen this behaviour at The Snares. It dived only three times that I saw – a very steep dive but not straight down. The bird did not make any calling sounds that I could hear and there was a wing rustle at the bottom of the dive. It then disappeared into the tussock and flew into the air again [about] 3-4 minutes later, repeating the dive. There was another bird involved, but I could not say [that] only one bird did the diving . . .

It is ironic that the most intensively studied population of New Zealand snipe – that on The Snares – is the only population for which there is no evidence for this form of aerial display. I have handled adult snipe 577 times on The Snares during 15 months of field work between December 1982 and February 1987 and have yet to hear the display or notice the characteristic tail-feather wear. I have, however, morphological and behavioural evidence that Snares Island Snipe have less flying ability than other New Zealand snipe.

#### WAS THE STEWART ISLAND SNIPE THE HAKAWAI?

Given the apparent extinction of both Stewart Island Snipe and hakawai, and the absence of tape-recordings of hakawai, it is not possible to test directly the hypothesis that the hakawai was the Stewart Island Snipe giving an aerial display. However, two avenues for investigation remain open: how do the geographical and historical distributions of hakawai and snipe compare, and how similar is the aerial display of the Chatham Island Snipe to human recollections of the hakawai?

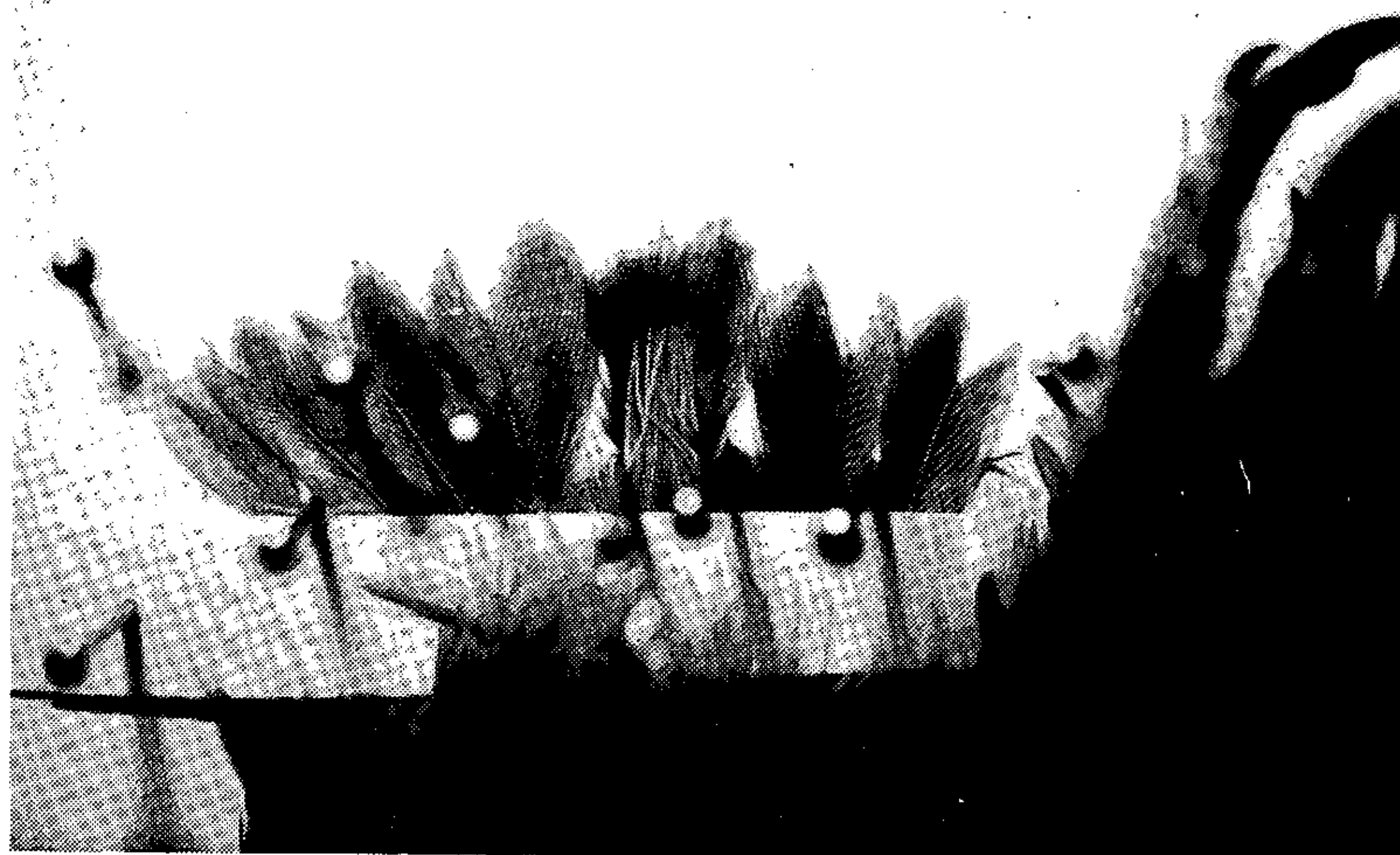


FIGURE 3 — Tail-feather wear in male Chatham Island Snipe (NMNZ DM 720) attributed to aerial displaying. The shafts of the rectrices have snapped near the tip.

TABLE 2 — New Zealand snipe specimens in New Zealand museums that show tail-feather wear attributed to aerial displaying. AIM = Auckland Institute & Museum; CM = Canterbury Museum; NMNZ = National Museum; OM = Otago Museum. AIM AV 77.4 and 78.9 may have suffered feather damage for reasons other than aerial displaying. OM A 07 101 seems to be incorrectly sexed.

Chatham Island Snipe ( <i>Coenocorypha pusilla</i> )	CM AV 1804	♂	South East I.	[Dannefaerd/O'Connor]
	CM AV 2757	♂	Chatham Is	[O'Connor collection]
	NMNZ DM 720	♂	South East I.	1939
	AIM AV 78.9	♂	Chatham Is	[Dannefaerd]
Stewart Island Snipe ( <i>C. aucklandica iredalei</i> )	CM AV 729	♂	"?Jackie Lees/Solomon"	[Stead collection]
	CM AV 732	♂	"?Jackie Lees/Solomon"	[Stead collection]
Auckland Island Snipe ( <i>C. a. aucklandica</i> )	NMNZ DM 17515	♂	Adams I.	3 Jan 1973
	NMNZ DM 17516	♂	Adams I.	30 Dec 1972
	NMNZ DM 17517	♂	Adams I.	30 Dec 1972
	OM A 07 101	"♀"	Auckland Is	March 1907
	AIM AV 77.4	-	[no data, poor condition]	
Antipodes Island Snipe ( <i>C. a. meinertzhagenae</i> )	NMNZ DM 14538	♂	Antipodes I.	4 Feb 1969

TABLE 3 — The frequency of tail-feather wear attributed to aerial displaying found in New Zealand snipe

		MALES		FEMALES	
		No. handled	No. with tail wear	No. handled	No. with tail wear
<i>C. pusilla</i>	live (South East I.)	36	2	39	1
	museum skins	36	3(?)	36	0
	TOTAL	72	5(?)	75	1
<i>C. a. iredalei</i>	museum skins	4	2	3	0
<i>C. a. huegeli</i>	live	320	0	257	0
	museum skins	7	0	6	0
	TOTAL	327	0	263	0
<i>C. a. aucklandica</i>	museum skins	7	3(?)	15	(?)
<i>C. a. meinertzhagenae</i>	museum skins	5	1	4	0

## I. HISTORICAL DISTRIBUTION OF SNIPE ON MAINLAND NEW ZEALAND AND ADJACENT ISLANDS

The only islands from which there are documented skins of Stewart Island Snipe are Jacky Lee I., where Travers collected the type specimens of *C. a. iredalei* in 1897, and Big South Cape I. (two skins in NMNZ collected September 1964). Six skins collected by E. F. Stead and held at Canterbury Museum are labelled “? Jacques Lees/Solomon”. These skins are probably from Big South Cape I., as there is no record of Stead finding snipe on Jacky Lee or Solomon Is (Stead 1932, Wilson 1959); Stead collected eight eggs of *C. a. iredalei*, now in Canterbury Museum, on Big South Cape I. in December 1931.

Guthrie-Smith was deliberately vague when describing where he had seen snipe. In 1936 he wrote (p. 175) “. . . I knew [snipe] to be resident on many of the small islands east of Half Moon Bay; I had seen specimens of them on former expeditions”, yet he does not mention snipe in his 1914 book describing his experiences on Herekopare, North and ‘neighbouring’ islands.

The distribution of Stewart Island Snipe, South Island Snipe (*C. a.* subsp.) and North Island Snipe (*C. a. ?barrierensis*) given below was composed from the scant information in the literature, conversations and correspondence with muttonbirders, and from subfossil remains held in New Zealand museums. Refer to Fig. 1 for the location of the various islands.

## A. The islands off the south-west coast of Stewart Island

### *Big South Cape Island*

The last official record of Stewart Island Snipe was of two birds captured by NZ Wildlife Service staff on Big South Cape I. on 30 August 1964 (Bell, B. D., Southern islands bird transfer expedition, August-September 1964. Unpubl. report NZ Wildlife Service) during a bid to save vulnerable bird species from a plague of ship rats. These two birds died before they could be moved to another island and are now in the National Museum. Two muttonbirders have reported sightings of snipe on Big South Cape I. in 1965, 1978 and 1984.

Guthrie-Smith (1936: 181) saw snipe on Big South Cape I. (which he called by the fictitious name Kaipara) during an hour ashore in late December 1913. The snipe were in "the woodlands" (i.e. near the coast) and Guthrie-Smith was not aware of weka being present. In November 1923 weka were plentiful, apparently having been liberated during the ensuing decade (Guthrie-Smith 1936: 182). Snipe were found only on the heights and burnt-out centre of the island, whereas weka were confined to "the fertile bush and luxurious undergrowth" of the coastal fringe.

Stead and Wilson saw snipe "above the bush line" on Big South Cape I. in December 1931 (Wilson 1959: 49) and found "a good number" of weka. Richdale (no date a) found few weka and few snipe in January 1945, but did see one weka well above the bushline. Bell & Merton (unpubl.) saw only one snipe during a month's stay in April 1961.

### *Solomon Island*

Wilson (1979: 81) and Bell (1978) recorded snipe as formerly occurring on Solomon I. Bell misquoted Guthrie-Smith (1925), who did not mention seeing snipe on Solomon I. (for which he invented the name Kotiwhenu). Guthrie-Smith in 1913 and Stead and Wilson in 1931 had to travel across to Big South Cape I. from Solomon I. to view snipe.

### *Pukeweka*

Pukeweka is a small islet (c. 1.5 ha) lying between Solomon and Big South Cape Is. Phillip Smith (pers. comm.) had seen snipe on Big South Cape I and Pukeweka before the rat plague. Pukeweka has been suggested as the site where ship rats got ashore in the South Cape group, before spreading to neighbouring Big South Cape and Solomon Is in 1963.

### *Little Moggy Island (Moki-iti)*

Patu King (pers. comm.) reports having seen snipe on Little Moggy Island, which lies 500 m north-east of Big Moggy I., and he suspects that they could still be there. Little Moggy I. is thought to be rodent free, but weka were "plentiful" in March 1965 (Blackburn 1965). Snipe were not seen in March 1965 (B. D. Bell, pers. comm.).

### *Kundy Island*

Oliver (1930) and Richdale (no date b) gave Kundy as one of the islands where snipe occurred, although Oliver (1955) excluded this locality without comment from the second edition of *New Zealand Birds*. Neither author indicated the source of the record. Stead and Wilson visited Kundy I. for

a month in November 1929 (some 18 years before weka were introduced – R. Trow, pers. comm.) but did not record snipe. Russel Trow, whose family have been muttonbirding on Kundy I. since 1905, was not aware of snipe having been there.

### **B. Solander Islands**

Falla (1948) heard a “snipe-like call” on unmodified Little Solander Island during a brief landing on 20 July 1948. I found no evidence of snipe during two days on the island in July 1985 (Cooper *et al.* 1986).

### **C. The islands off the north-east coast of Stewart Island and in Foveaux Strait**

#### *Herekopare Island*

Harold Ashwell and Alan Skerrett both told me of the former occurrence of snipe on Herekopare Island, although the three people who had heard *hakawai* on Herekopare could not recall seeing snipe there. Snipe are presumed to have died out in the mid-1920s after cats were introduced and weka reintroduced.

It is possible that Guthrie-Smith saw snipe on Herekopare and/or Jacky Lee Is in 1911, as he stated that he had seen snipe on islands off Half Moon Bay (1936: 175). The absence of references to snipe in *Mutton Birds and Other Birds* (1914) may be part of the deception intended by the use of the fictitious names Kaipara and Kotiwhenu for Big South Cape and Solomon Is. While Guthrie-Smith’s motive for deception – to protect the birds and islands from those who would exploit them – is beyond reproach, the net result 70 years later is an unnecessary knot in the tangle of intrigue surrounding snipe and *hakawai*.

#### *Jacky Lee Island*

I presume weka were absent from Jacky Lee Island when H. H. Travers collected snipe there in March and October 1897 and April 1901. Muttonbirding ceased in 1929, three years before the visit by Stead and Wilson (Wilson 1959: 59). Weka were “very plentiful” in December 1932. Wilson (p.60) wrote: “We found no trace of the snipe which had been reported from the Jacques Lees; but from the number of wekas we saw and their predatory habits it was evident that, if snipe had inhabited the island, they could not have survived long after the wekas had arrived”. Eight years later weka numbers had “increased tremendously” and had decimated Diving Petrel and prion populations (Wilson 1959: 101-102).

#### *Ruapuke Island*

Billy McQuarrie informed me of old reports of snipe on Ruapuke Island; this is confirmed by subfossil remains in the Canterbury Museum.

#### *Native Island*

This small island is in Paterson Inlet (Fig. 1C). A part clavicle of *Coenocorypha* from a ‘moa-hunter midden’ on Native Island is in the Canterbury Museum.

### **D. The main islands of New Zealand**

#### *Stewart Island*

Subfossil remains of snipe collected at The Neck (southern entrance of Paterson Inlet) are in Canterbury Museum.

### *South Island*

Bones of *Coenocorypha* have been found in dune deposits at Marfell's Beach, Marlborough (Scarlett 1979) and in caves near Karamea, Punakaiki, Waipara, Timaru and Te Anau. Given the distribution and degree of subspeciation of *C. aucklandica*, it is likely that the South Island held a distinct subspecies. However, the presumed range of *C. a. iredalei* reached within 12 km of the South Island coast (at Ruapuke I.). Unless consistent differences are found between bones of South Island and Stewart Island Snipe, I suggest that all should be referred to *C. a. iredalei*.

### *North Island*

On 30 August 1820 Major Richard Cruise shot a snipe on Motukorea Island (Browns I.) in Hauraki Gulf. He wrote (Cruise 1823: 225): "[the snipe was] the only one that any of us had seen in this country: in its plumage it resembled those found in England, but the bird itself was much smaller". The only existing snipe skin from the North Island region was taken on Little Barrier Island (Hauraki Gulf) in 1870 (Hutton 1871; see discussion in Turbott 1961). Although this unique specimen was named the Little Barrier Snipe (*C. a. barrierensis*) by Oliver (1955), Little Barrier I. was probably merely the final refuge of the North Island Snipe, which is known from subfossil deposits in the King Country, Hawke's Bay and Wairarapa (Medway 1971, Paulin 1973, Milliner 1981, Horn 1983). Thus, North Island records of *Coenocorypha* should be referred to *C. a. barrierensis* in the absence of evidence to the contrary.

Table 4 compares the historical distributions of snipe and hakawai around mainland New Zealand and offshore island groups. Given the uncertainties of the data set, both geographical distribution and the decline over time agree surprisingly well between snipe and hakawai. Snipe were known from five of the seven acceptable 'hakawai' islands off Stewart Island, and hakawai were known from five of the six 'snipe' islands. On most islands the decline of the hakawai is better known than that of snipe, probably because observers took more notice of hearing the hakawai. The isolated records of hakawai from Kundy and Big Moggy Is suggest that there was some movement between islands.

On Big South Cape I. even the habitat preference of snipe and hakawai agree (at least after the introduction of weka), both being found in the central pakihi areas of the island.

## II. RESPONSE TO TAPE OF AERIAL DISPLAY OF CHATHAM ISLAND SNIPE

On playing a tape recording of the aerial display of Chatham Island Snipe represented in Fig. 2A, I had a response from ten people who had heard the hakawai in the previous 20-60 years. Seven of the observers had heard the hakawai on Big South Cape I. as recently as the early 1960s, and three had last heard it on Herekopare I. in the 1920s.

Four people (including B. D. Bell and D. V. Merton of the NZ Wildlife Service) thought the tape to be a fair representation of the hakawai's call. The three others from Big South Cape I. did not think that the tape was the hakawai, but considered it the nearest likeness to the call of the hakawai

that they had heard. Differences stressed (independently) were that the vocal component *hakawai*, *hakwai* . . . was too high pitched and "not human enough" on the tape. All three said that the non-vocal 'roar' reminded them of the *hakawai*. Note that none of these first seven considered the *hakawai* to sound like a chain rattle.

The three observers from Herekopare did not recognise the tape recording, and again stressed the human-like sound of the bird calling out its name. Two emphasised the chain rattle description for the non-vocal component. It is a shame that none of these people had heard the *hakawai* on Big South Cape I. Did the call differ from island to island, or was I expecting too much from recollections of 60 years ago?

TABLE 4 — The distribution and decline of *hakawai* and snipe on the main islands of New Zealand and adjacent offshore islands. Islands given in bold type are considered to have held *hakawai* and/or snipe in the last 100 years. See text for authenticity of records.

Locality	Approximate date of disappearance	
	Hakawai	Snipe
<b>Big South Cape</b>	1960s (possibly surviving)	1960s (possibly surviving)
<b>Pukeweka</b>	—	1960s
<b>Solomon</b>	1930s	?1930s (irregular)
<b>Poutama</b>	1930s	—
? Kundy	?1920s	?1920s
? Little Moggy	—	possibly surviving
? Big Moggy	?1940s	—
? Little Solander	after 1950	after 1960
<b>Jacky Lee</b>	1920s	1920s
<b>Herekopare</b>	1920s	1920s
<b>Ruapuke</b>	late 1800s	late 1800s
<b>Green</b>	late 1800s	—
<b>Native</b>	—	subfossil
Stewart Island	?late 1800s	subfossil
South Island	late 1800s (southern coast)	subfossil
Little Barrier	—	1870s
Motukorea	—	1820s
North Island	pre-1800 (Bay of Plenty)	subfossil

## CONCLUSION

Many pieces of the *hakawai* puzzle are missing, probably forever, and other pieces have been shoe-horned into place, but all the available evidence indicates that the *hakawai* of the southern muttonbird islands was an aerial display of Stewart Island Snipe. Further north, away from the last refuge

of 'mainland' snipe, memories of the awe-inspiring nocturnal call of the unseen hakawai appear to have been blended with traditional recollections of a fearsome diurnal presence, perhaps the extinct eagle *Harpagornis*.

Some of the differences described between the call of the hakawai and the tape recording of an aerial display of the Chatham Island Snipe may be due to differences in body size. The Stewart Island Snipe is estimated to have weighed 30% more than the Chatham Island Snipe (mean male bodyweight 76 g; Fig. 4), and so its call may have had a lower pitch. Territory calls given from the ground by Chatham Island Snipe are markedly higher pitched than homologous calls given by Snares Island Snipe (mean male bodyweight 103.5 g).

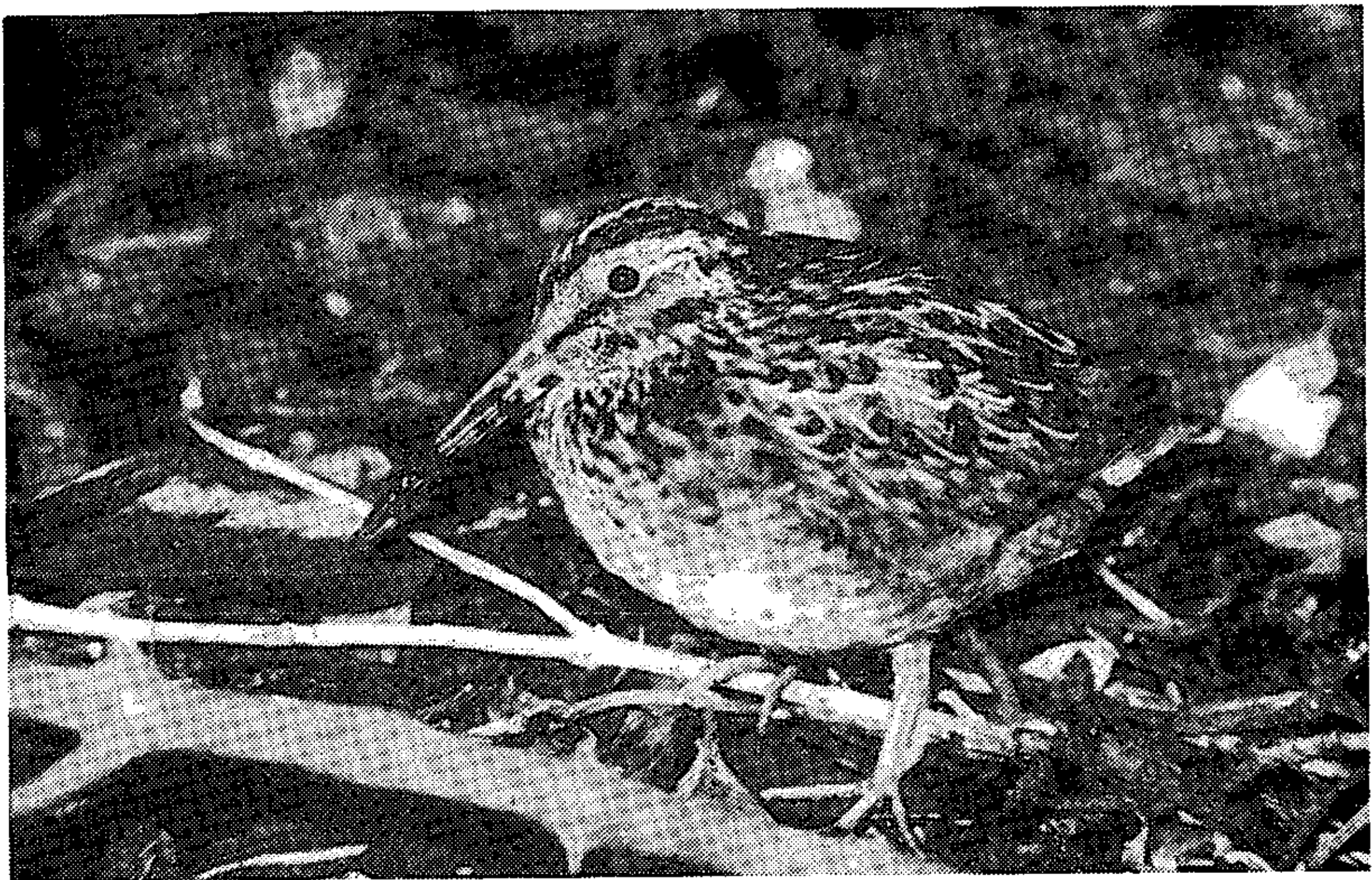


FIGURE 4 — Male Chatham Island Snipe — the unpretentious source of a legend?

The characteristic tail-feather wear described for New Zealand snipe is, in my opinion, caused by vibrational stress during aerial display. Non-vocal acoustic displays produced by flight feathers are known for two New Zealand honeyeaters (Craig 1984 & 1985, Onley 1986). Structural modifications to the outer primaries of Tui (*Prosthemadera novaeseelandiae*) and Bellbirds (*Anthornis melanura*) are thought to be the cause of whirring produced in flight; whereas modification to snipe rectrices is thought to result from their aerial display. If the amount of wear affects the quality of sound produced during the display, this may account for different descriptions of the non-vocal component of the hakawai's call.

If we can accept that the hakawai was a nocturnal display of Stewart Island Snipe, our knowledge of the recent distribution of the snipe is extended. Islands thought to have held Stewart Island Snipe in the last 100 years are Big South Cape, Pukeweka, Solomon, Poutama, Jacky Lee, Herekopare, Ruapuke and Green Is. Isolated records of hakawai from Kundy

and Big Moggy Is suggest that there was some movement between islands. The disappearance of snipe from these islands can be attributed to ship rats (Big South Cape and Pukeweka Is), weka (Solomon, Poutama, Jacky Lee and Green Is) and a combination of weka and cats (Herekopare and probably Ruapuke Is). What about those islands which, from their size, location and vegetation, should have held snipe, but from which there are no records: Putauhinu, Codfish, Edwards and Bench Is? Putauhinu has had kiore and cats, Codfish I. has kiore and weka, Edwards I. has weka, and Bench I. has Norway rats and weka. The inference is that Stewart Island Snipe cannot last in the presence of cats or any species of rat and may be wiped out by weka. The successful reintroduction of Chatham Island Snipe to Mangere Island by the NZ Wildlife Service in 1970 and 1972 adds support to these conclusions; snipe had disappeared after cats were introduced in the 1890s (the cats had died out by 1960). That snipe survived on Big South Cape I. in the presence of weka could be explained by the large size of the island, the diversity of habitats, and the very effective control of the weka by muttonbirders. These conclusions place severe constraints on what islands can be used for relocating snipe.

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## SHORT NOTE

### A Caspian Tern feeding on the ground

On 11 May 1985, while at Manawatu River estuary, Foxton Beach, I observed a Caspian Tern (*Hydroprogne caspia*) foraging on the ground. The weather had been stormy for the previous few days and heavy squalls were still frequent.

When I saw the solitary tern through my telescope, my attention was drawn to its unusual feeding behaviour. It was feeding much in the manner of Red-billed Gulls (*Larus novaehollandiae scopulinus*), walking across the mud pecking and probing. I watched it for about 15 minutes as it wandered around a small area, seeming to find plenty of food. It was too distant and the light too poor for me to tell what food was being taken, but whatever it was, it seemed to be plentiful.

Shallow pools were on the mud, and twice I saw the tern foot-paddle in the pools, presumably to stir up small invertebrates, but conceivably to wash mud from its feet. The tern was feeding alone.

R. G. Bijlsma (*British Birds* 78: 146-147) observed the foraging behaviour of Caspian Terns in Egypt in October 1981. He recorded that "sometimes they hunted the shore by walking short distances but this hunting method was comparatively rarely observed," but he gave no description of this hunting method. In an added comment, E. K. Dunn said that "ground foraging by this species is especially interesting and not recorded before in the literature."

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# CLASSIFIED SUMMARISED NOTES, NORTH ISLAND

1 July 1985 to 30 June 1986

Compiled by L. HOWELL

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**Abbreviations:** asl above sea level; BoP Bay of Plenty; B Beach; E Estuary; FoT Firth of Thames; F Forest; FP Forest Park; H Harbour; HQ Headquarters; imm/s immature/s; I Island; juv/s juvenile/s; Lag Lagoon; L Lake; NP National Park; Pen Peninsula; Res Reserve; R River; SF State Forest; SP Sewage Ponds.

NOTE: Manukau Harbour winter census date was 27 July 1986.

## BROWN KIWI *Apteryx australis*

Warawara F, heard on 28, 29, 30/3, 1 dead on 30/3 (IRD). Tapora, 5 heard on 11/5 (MJT). Ponui I, c.10 heard in several locations (BB, MJT). Raetihi, 1 sick found by a Wildlife Ranger on 27/7; was looked after for 3 weeks then released at the Paraparas (EJR).

## BLUE PENGUIN *Eudyptula minor*

Takatu to Sandspit Wharf, c.20 on 8/4 (TGL). Little Barrier I, 50 +

on passage on 27/3; ashore and calling at night on west side 15/5 to 21/5 (PFB). Little Barrier I to the Sandspit Wharf, 30+ basking in groups of 3 and 4 on 8/4 (BB). Raglan, present on 8/12 (RM, ASR, ARP). Mt Maunganui, 1 in a burrow, others coming ashore on rocks at base of Mount on 7/9 (BHS). Cape Kidnappers, Black Reef, 1 on 9/12 (BT).

#### NEW ZEALAND DABCHICK *Podiceps rufopectus*

Aupouri Pen survey, 32 on dune lakes in Jan (AVH). Kaipara South Head, 1 pair in breeding display on a farm dam on 11/8 (MG, SG). Muriwai Ls, 20 on 6 and 9/2(GAP). Manurewa, Wattle Downs Res, 1 on old SP on 10/4 (AVS). L Ngapouri, a pair and a single on 16/1 (RMW). L Aniwhenua, 10, including 2 involved in courtship, on 11/8 (PCML). 14 on the Rabbit Bridge area on 11/8; Turangi SP, 1 on 12/10 (JGI); Rotongata crater L, Ngahopua Track, Rotorua, 2 on 3/3 (J Bee, VJL); Waimangu Valley, 1 on first lake after entrance on 9/5 (BHS). Whakaki Lag, 1 on 25/4 (GAF). Hurimoana Swamp, 24 on 26/4; Horseshoe L, 2 on 18/5 (KVT). L Purimu, 3 on 9/3 (BDH, HAR). Westmere, Botanical Res, 2 on 6/7, 2 with 1 chick on 10/11; Kaitoke L, 2 on 6/7 and 20/7, 3 on 3/8 (PFB, OCT); Wanganui, L Grassmere, 2 on 1/5 (GJR); Wanganui R, 1 on 16/5 (OCT). Omanuka Lag, 14 on 5/4 (AC, WRJ, MO, MO). L Horowhenua, 122 on 11/5 (AC, WRJ, AStd). Foxton No.1 L, 10 on 31/3; Heatherlea Pond, 1 pair with 1 chick on 9/2 (JLM, MM). Paraparaumu, a pond by State Highway 1 just north of the town, 2 on 29/11 (JLM, MM).

#### AUSTRALIAN LITTLE GREBE *Tachybaptus novaehollandiae*

Sweetwater, Reservoir L, 1 in Jan (AVH); Jack's L, 7 on 8/6, 10 on 20/7; L Owhareiti, 3 on 20/4, 8/6 and 20/7; Kaikohe SP, 1 on 15/6 (G Wat, JW).

#### NEW ZEALAND BLACK-BROWED MOLLYMAWK

##### *Diomedea melanophrys impavida*

Little Barrier I, 1 passing Te Titoki Point on 31/3 (PFB, SD). Foxton B, 1 on 12/4 (JLM, MM).

##### GREY-HEADED MOLLYMAWK *D. chrysostoma*

Bowentown B, 1 dead on 12/8 (BC). Cape Kidnappers, 1 juv on 1/1 (PFB).

##### YELLOW-NOSED MOLLYMAWK *D. chlororhynchos*

Taiharuru Head, c.4, 6 km out to sea on 6/7 (TGL).

##### WHITE-CAPPED MOLLYMAWK *D. cauta*

Foxton B, 2 on 6/7, 20 on 7/7, 2 on 26/1 (JLM, MM).

##### ALBATROSS/MOLLYMAWK sp.

Ruapuke, 1 possibly *Phoebastria* flying south on 4/5 (BHS, ARP). Foxton B, 30 on 6/7, 20 on 7/7, 2 on 26/1, 6 on 12/4, 1 on 18/5, 2 on 7/6 (JLM, MM). Wellington H, off Ngauranga, 1 on 7/2 (JLM, MM).

##### GIANT PETREL *Macronectes* sp.

Bream Bay, 1 on 30/5 (TGL). Clifton, 1 on 30/12, 2 on 31/12; Cape Kidnappers, 1 on 1/1; Waverley B, 1 on 24/11; Kai-iwi B, 1 on 6/12; Castlecliff B, 1 on 9 and 11/2; Tangimoana B, 2 on 8/3 (PFB). Wanganui R mouth, 1 on 29/12 (GJR). Foxton B, 6 on 6/7, 2 on 7/7, 6 on 15/3, 1 on 16/3, 1 on 12/4, 1 on 4/5, 1 on 18/5; Wellington H, between Petone and Ngauranga, 1 on 6/11 (JLM, MM).

**CAPE PIGEON** *Daption capense*

Bowentown-Ohope, 2 found alive, 1 of which is believed to be the paler form of *capense*, between 24/8 and 16/11 (PCML).

**GREY-FACED PETREL** *Pterodroma macroptera*

Hen I, Dragon's Mouth Cove, vocal after dark late May early June (TGL). Little Barrier I, several offshore during strong south-west winds on 27/5 (PFB). Opoutere, 1 in perfect condition found on the road well up the H on 3/1; it flew after resting; burrows were found by G. Nicholson on a steep face of a high hill in 1974 (BB). Hamilton, 1 exhausted, was given food for two days and released on the west coast on 26/7, but later died (ASR). Mt Maunganui, arriving after dusk and found on ground at nesting grounds on 3/8 and 7/9 (PCML, BHS).

**WHITE-NECKED PETREL** *P. externa cervicalis*

Karikari Bay, Far North, 1 dead on 27/1 (GA, JED, J Macefield)

**WHITE-HEADED PETREL** *P. lessonii*

Mt Maunganui, 1 found alive and later released (PCML).

**COOK'S PETREL** *P. cookii*

Little Barrier I, a chick in a burrow near the foot of the Valley Track ridge on 2/4; the same burrow was used last season; many burrows at 430 m asl with 4 long-dead birds on 14/5 (TGL, PFB). Sandspit Wharf to Little Barrier I, numbers on 24/11, a few on return on 30/11 (BB). Mt Maunganui, 1 found alive on 8/4 but died next day (PCML). Foxton B, 1 on 24/12 (JLM, MM).

**BLACK-WINGED PETREL** *P. nigripennis*

Cape Maria Van Diemen, calling on 22/2 (ASR, JMR). Wairoa, 2 dead in paddocks on 14/12/83; Mahia, Opoutama B, 5 dead on 14/12/83 (GAF).

**FAIRY PRION** *Pachyptila turtur*

Sandspit Wharf to Little Barrier I, large and small flocks feeding, sometimes among Fluttering Shearwaters, on 24/11; on return several great feeding swirls containing thousands on 30/11 (BB). Ohope, 1 found alive on 25/1 (WMH). Wanganui South B, 1 being pursued by Black-backed Gulls on 5/8 (PFB). Foxton B, 1 on 26/1 (JLM, MM).

**FULMAR PRION** *P. crassirostris*

Opoutama B, 1 dead on 18/8 (GAF).

**PRION** sp.

Waverley B, 25 000 + passing south offshore in 2 hours peaking at 400 per minute on 24/11 (PFB).

**BLACK PETREL** *Procellaria parkinsoni*

Great Mercury I, 1 heading west 5 km to the north on 19/2; Takatu to Little Barrier I, several following astern on 1/4 (TGL). Little Barrier I, 1 passing Te Titoki Point on 31/3 (PFB). Sandspit Wharf to Little Barrier I, 1 definite, 2 probable on 30/11 (BB). Mt Maunganui and Papamoa, 3 dead between 10/1 and 3/2 (PCML). Cape Kidnappers, 1 on 30/12 (PFB).

**BLACK PETREL** sp.

Foxton B, 2 on 7/7, 1 on 27/10 (JLM, MM).

**FLESH-FOOTED SHEARWATER** *Puffinus carneipes*

Great Mercury I to Cuvier I, common 19/2; south of Cuvier I c.600 in a big feeding flock with c.300 Australasian Gannets on 26/2 (TGL). Little Barrier I, 250 + on 28/3, 50 on 15/5; Motutapu I, 6 on 23/1 (PFB). Sandspit Wharf to Little Barrier I, 20 + on 24/11; on return scattered thinly among great feeding flocks on 30/11 (BB). Raglan to Gannet I, Karewa, 11 on 8/12 (RM, ASR, ARP). Raglan, Jackson's Reef, 10 on 16/2 (ARP). Tolaga Bay, c.20 10 km offshore on 28/8/83 (GAF). Cape Kidnappers, 4 on 1/1 (PFB).

**BULLER'S SHEARWATER** *P. bulleri*

Cape Maria Van Diemen, hundreds flying north on 22/2 (ASR, JMR). Little Barrier I, 100 + on 31/3, 50 on 15/5, a few on 28/5; Browns I, 11 on 23/1 (PFB). Little Barrier I, 10 + on passage on 24/11 (BB). Raglan, Jackson's Reef, 3 on 16/2 (ARP). Cape Kidnappers, 5 + on 30/12; Waverley B, 10 on 24/11 (PFB). Foxton B, 4 flying north on 26/1 (JLM, MM).

**SOOTY SHEARWATER** *P. griseus*

Little Barrier I to Takatu, 2 on 8/4 (TGL). Clifton, 3 on 31/12; Cape Kidnappers, 1 on 1/1 (PFB). Correction to an entry for 1984/85, Wanganui South B, c.8 close inshore after 2 days of gales on 16/5 not 3/9; Waverley B, 20 000 passing south in 2 hours on 24/11; Tangimoana B, many passing on 8/5 (PFB). Foxton B, 3000 per hour passing south on 26/1, smaller numbers in Dec and May (JLM, MM).

**SHORT-TAILED SHEARWATER** *P. tenuirostris*

90 Mile B, hundreds on 31/5 (G Wat). Little Barrier I to Sandspit Wharf, 200 + among swirls of thousands feeding on 30/11 (BB).

**FLUTTERING SHEARWATER** *P. gavia*

Tokerau B, 300 + with c.400 White-fronted Terns on 9/2 (MMB, VJL). Tauranga Bay, 150 on 20/4 (G Wat). South Gable, c.100 on 6/7; Bream Head, several hundred on 6/7; Mercury Bay, near the Hole in the Wall, c.50 heading NW on 19/2; south of the Hole in the Wall, c.300 on 26/2; Takatu, c.400 on 8/4 (TGL). Little Barrier I, 4000 + on 31/3, 2000 + on 15/5, 500 on passage on 28/5; Motuihe I, 50 on 23/1 (PFB, SD). Little Barrier I, very common outward passage on 24/11; on return thousands shared feeding frenzies with other seabirds on 30/11 (BB). Raglan, present during the summer with a maximum of 290 on 16/2 (ARP). Arataki-Mt Maunganui, large numbers just offshore in July (AM). Tolaga Bay, c.40 10 km offshore on 28/8/83 (GAF). Clifton, c.80 on 30/12; Cape Kidnappers, 500 on 1/1; Tangimoana B, many passing north on 8/5 (PFB). Wanganui B, many passing offshore on 29/12 and 22/12 (GJR). Foxton B, 750 per hour passing south on 28/10, 4000 per hour on 24/12, smaller numbers in Jan, Mar and May; Wellington H, off Somes I, observed in Aug, Sep, Oct, Nov, Mar and Apr with a maximum of 100 7/4 (JLM, MM).

**LITTLE SHEARWATER** *P. assimilis*

Hen I, Dragon's Mouth Cove, 1 heard on 30/5 (TGL).

**WILSON'S STORM PETREL** *Oceanites oceanicus*

Great Barrier I to Little Barrier I, 1 halfway between on 28/5 (PFB).

**WHITE-FACED STORM PETREL** *Pelagodroma marina*

Tiritiri I, 3 south on 28/11, a few south on 15/12 (TGL). Little Barrier I to Sandspit Wharf, up to 50 with 10 seen at a single time on 30/11 (BB, KJF).

**DIVING PETREL** *Pelecanoides urinatrix*

Caavalli I, several on 28/3; Bream Head to Hen I, c.30 on 30/5, c.200 on 2/6 (TGL). Little Barrier I, 93 on passage on 14/5 (PFB); Little Barrier I, on outward passage, ones, twos, and up to 6 at a time on 24/11, heard at night from the shore, calling and possibly coming in at the same time as Cook's Petrels, not known to breed recently but PC Bull found a colony on Lot's Wife and islet off the north east coast (BB).

**AUSTRALASIAN GANNET** *Sula bassana serrator*

Oaia I, Muriwai, colony active Aug to Feb; Muriwai Stack, c.200 nests on 28/12; Muriwai mainland cliff, 6 nests on 22/8, 17 nests on 28/12, 3 chicks remaining on 19/4 (MJT, SD); 30, roosting on second mainland site in Dec (GCE). Cuvier I, c.300 above a big swirl of c.600 Flesh-footed Shearwaters a few kilometres south on 26/2 (TGL). Little Barrier I, c.100 in groups of c.5 on 15/5 (PFB); many seen on outward passage on 24/11, and return on 30/11 (BB). Waikato Heads, Maioro, 10 together on 20/4 (BB). Gannet I, Karewa, 4295 sites occupied on 8/12 (ARP, ASR, RM). Muriwai, Wherowhero Lag, 100 + , 5 km offshore on 24/10/83 (BGJ, SCJ); Awatoto, c.200 offshore on 31/12. Tukituki E, 5 diving among a group of Black Shags on 7/6 (KVT); Porangahau E, 6 on 21/6 (ACS, CFM). Waverley B, 3 on 24/11 (PFB, OCT). Foxton B, 10 on 24/12, c.25 on 26/1, 15 on 17/5; birds feed in the Manawatu E at high tide (JLM, MM). Wellington H, all months except Dec and May, a maximum of 2 on several dates, an imm on 11/6; Paekakariki, at sea from State Highway 1 to south of the town, 4 on 1/12 (JLM, MM).

**BROWN BOOBY** *S. leucogaster*

Manukau H, Little Huia, 2 in Oct, 1 on 18/5 (CS-K, GM).

**BLACK SHAG** *Phalacrocorax carbo*

Aupouri Pen survey, 19 on dune lakes in Jan (AVH). Helensville, Kaukapakapa R, colony of 15 nests with young on 21/9 (MG, SG). Manukau H census, summer 2, winter 13; FoT census, summer 23, winter 22; Miranda, 80 + on 18/4 (BB, ST, RBS). Coromandel Pen survey, 12 for 30/5 to 2/6 (BB). Wairoa, c.250 flying downriver at dawn on 24/8/84, 369 flying upriver at dusk on 26/6/85; Whakaki L, 47 on 9/3 (GAF). Gisborne, Browns B, 1 on 28/1/85 (BGJ, SCJ). Horseshoe L, 61 on 18/5 (KVT). L Hatuma, 10 on 9/3; L. Purimu, 15 on 9/3 (BDH, HAR). Wanganui E, 25 on 15/3 (PFB, OCT). Manawatu E, 20 fishing on 20/7; Whirokino, 30 on pylons on 17/5 (JLM, MM). L Horowhenua, 26 on 11/5 (AC, WRJ, AStd). Wellington H, Petone to Ngauranga, maximum of 4 on 5/11 (JLM, MM).

**PIED SHAG** *P. varius*

Tom Bowling Bay, 17 on 19/2 (ASR, JMR); 16 with 3 nests on 20/11; Te Werahi B, 3 on 21/11 (AVH). Okiato Point, 72 nesting in pohutakawas on 16/1 (G Wat); Waimamaku Creek, several roosting in mangroves on 23/2 (PA); Taporu, McLeans Dam, colony of c.25 nests on 12/5. Auckland, L Pupuke, Hobson Bay, Orakei Creek, Western Springs, Panmure Basin,

small nesting colonies (MJT). Upper Waitemata, Albany Inlet, 47 nests with eggs and young on 30/11 (MG, SG). Manukau H census, summer 122, winter 349; FoT census, summer 25, winter 54. Coromandel Pen survey, 148 for 30/5 to 2/6 (BB); Coromandel, New Chum's B, islet at north end, colony on 1/6 (DMW). Kawhia, 1 on 8/6 (FN). Kaituna Cut, c.50 at colony on 16/11; Tarawera R mouth, 18 on 11/5; Ohope Spit, 12 on 26/1, 35 on 29/6 (JLM, PCML). Motu R mouth, 24 on 26/10; Ruakokore R mouth, 20 on 28/10 (PCML); Wairoa R E, 1 on 24/9/83 (GAF).

#### LITTLE BLACK SHAG *P. sulcirostris*

Aupouri Pen survey, 32 on dune lakes in Jan (AVH). Okura, 14 on 22/3; Kaikohe SP, 2 on 12/3 (G Wat). Whangarei H, Awaroa Arm, 12 to 20 throughout the year, an irregular roost (PA). Urquhart's Bay, 6 on 30/5 (TGL). Auckland, Orakei Creek, flock of 105 roosting on 22/6 (MJT). Manukau H census, summer 7, winter 12; FoT census, summer 2, winter 11 (BB); Miranda, 20 + sitting on a fence near pools on 15/6 (TGL, RBS). Port Waikato, 60 + on 11/8. Coromandel Pen survey, 56 for 30/5 to 2/6 (BB, DGB). Rangitaiki R mouth, 30 on 11/5; Ohiwa H, 85 on 2/7 (PCML, WMH). L Rotorua, Sulphur Bay, only 1 attempted to nest on an island where in recent years hundreds have nested (JGI). Wairoa R E, 18 feeding on 25/12/84 (GAF). Ahuriri E census, 57 on 23/11; Horseshoe L, 50 + on 18/5 (KVT). L Hatuma, c.70 on 9/3; L Purimu, 16 on 9/3 (BDH, HAR). Wanganui, Kaitoke L, 40 on 20/7, 25 on 3/8; Wanganui E, 67 on 21/9, 100 on 19/5 (PFB, OCT). Manawatu E, 25 on 21/9, 23 on 4/5; Foxton Loop, 24 on 21/7. Wellington H, Petone to Ngauranga, present July to Nov, maximum c.30 on 13/8, also present in May, maximum 16 on 6/5; Pauatahanui E, 28 on 18/5 (JLM, MM).

#### LITTLE SHAG *P. melanoleucos brevirostris*

Aupouri Pen survey, 27 on dune lakes in Jan (AVH). L Omapere, c.400 on 31/5; Kaikohe SP, 300 on 18/5 (G Wat). Auckland, Hobson Bay, colony had 27 nests in Oct; Western Springs, Albany Inlet, Birkenhead, nesting colonies (MJT). Kawhia, 10 on 8/6; Aotea, 5 on 8/6 (FN). Okere Falls, colony was deserted after cessation of breeding; near Rotorua, Hemo Gorge, colony almost finished on 26/3 (JGI). Whakaki Lag, 42 on 9/3 (GAF). Ahuriri E census, 25 on 13/7; East Clive census, 26 on 23/11; Horseshoe L, 2 on 18/5 (KVT). L Hatuma, 5 on 9/3; L Purimu, 5 on 9/3 (BDH, HAR). Wellington H, Petone to Ngauranga, maximum 19 on 7/8 (JLM, MM).

#### SPOTTED SHAG *Stictocorbo punctatus*

Auckland West Coast, Erangi Point, birds gathering nest material, c.10 pairs on 22/9; Ponui I, 12 on 25/4 (MJT). Manukau H census, winter 3; FoT census, winter 220 (BB). Coromandel Pen, near Manaia, 135 on 13/10 (BS). Waikawa to Wilson's Bay 300 + on 2/8 (AVP/JVP). East Clive, 24 roosting on sewer outfall on 15/8 (KVT). Wellington H, Petone to Ngauranga, singles from Aug to Nov and in Jan (JLM, MM).

#### WHITE-FACED HERON *Ardea novaehollandiae*

Parengarenga H, 52 on 26/1; Kaitaia Town, 2 pairs breeding in pines for last 2 years (AVH). L Owhareiti, 3 on 20/4 (G Wat). Onerahi Airport, 1 on 8/6 and 9/7 (PA). Whangarei H survey, 15 in Nov (MK). Kaipara H, Jordans Farm, 24 on 1/1, 45 on 15/6 (SJD, MG, SG). Little Barrier I,

2 flying strongly towards mainland on 14/5 (PFB). Manukau H census, summer 338, winter 258, Karaka, 84 on 5/5, 65 on 21/1 (BB, DGB, PFB, AJG); FoT census, summer 153, winter 140. Coromandel Pen survey, 80 for 30/5 to 2/6 (BB). Awhitu Pen, Gordon's Rd, 1 all white except for c.5 primaries, primary coverts, and secondaries, normal bill and legs (BJB, JVD). Kawhia, 131 on 8/6 (FN). Tauranga H, Matahui Point, 35 on 7/7 (BC); Maketu, 120 feeding in fields on 15/6 (PCML); Ohiwa H, 116 on 29/6 (WS). Muriwai, Wherowhero Lag, 3 on 9/10/83, 20 + 21/4/84; Pakowhai, courting on 1/7/83 and again early July 1984 (BGJ, SCJ). Gisborne, Muriwai Lag, 38 on 14/12; Mahia, Oraka, 32 on 6/4, 31 on 25/4; Whakaki Lag, 25 on 9/3; Kihitu L, 8 on 29/9 (GAF). Gisborne, Browns B Lag, 7 on 14/10/84, 4 on 28/1/85, 5 on 13/4 (BGJ, SCJ). Ahuriri E census, 72 on 23/11 (KVT). Porangahau E, 24 on 22/6 (BDH, HAR). L Horowhenua, Sand Rd south end, 56 on 18/7 (WRJ). Foxton Beach Rd, 25 on 18/5 (JLM, MM).

#### WHITE HERON *Egretta alba*

Mangonui H, 1 on 13/5 (PA). Waipu, 1 on 25/5 (AG, AG). Kaipara H, Jordans Farm, 4 in July, 3 on 15/6 (DFB, MG, SG). Port Waikato, 1 on 25/11, 1 on 22/3, 2 in early May (DMW, TH); Hood's Landing, island in river, 4 in early May (FT). Matata, 2 on 14/7, 1 on 11/5 (PCML). Kukumoa-Opotiki, 1 on farm trough on 29/6 (WS). Whakaki Lag, 3 on 22/6/85 and 30/6/85, 2 on 8/6; Tolaga Bay, 1 from 8/4 to 11/4 (GAF). Waitangi, 1 on 4/9 (MT, PWT); East Clive, 1 with breeding plumes on 24/8; Tukutuki E, 1 on 15/5 (KVT); Haumoana, 1 on 3/7 (BT). Waikawa E, 1 on 18/6; L Horowhenua, 1 on 9/6 (WRJ). Manawatu E, 4 on 4/5, 1 on 3, 17, and 18/5 (RAC, SEC, JLM, MM). Foxton Loop, 10 on 21/7, 3/8 and 18/8 (JLM, MM).

#### PLUMED EGRET *E. intermedia*

Kaikohe SP, 1 from 25/5 to 7/6 (G Wat, JW). Ohinewai, 1 on 24 and 31/8 (BB, BHS).

#### LITTLE EGRET *E. garzetta*

Paua, 1 on 23/6/85 and 29/3 (AVH). Hokianga H, 1 on 19/7 (G Wat, JW).

#### REEF HERON *E. sacra*

Parengarenga H, 9 on 1/9; Cape Maria Van Diemen, 1 on 18/1; Motupia I, 1 on 18/1 (VH); Te Werahi B, 2 on 22/3; Houhora H, 2 on 31/3 (AVH); 90 Mile B, The Bluff, 1 on 31/5 (G Wat). Herekino H, 2 between 9/4 and 24/4 (JS, MS). Matauri Bay, 1 on 21/4 (PA); Okura, 1 always present; Paihia, 2 on 16/1 (G Wat). Waipu E, 1 on 20/7 (TGL). Whangarei H survey, 2 in Nov (MK). Auckland Region, 13 records usually of 1 or 2 birds, 6 from the East Coast, 2 from the West Coast, 2 from Manukau H (MG, SG). Gt Barrier I, 1 (AJG); Motuihe I, 4 on 28/2 (KB); Ponui I, 6 on 11/5 (MJT). Port Waikato, 1 on 11/8, 2 on 4/5 (TRH, TH). FoT, Kawakawa Bay, feeding belly deep on 11/8 (TRH). Coromandel Pen survey, 6 for 30/5 to 2/6, but singles at Colville, Te Kouma, Oamaru Bay, Stony Bay, Long Bay, a juv at Whangapoua (AVP, JVP, NS, VJL, EEP); Coromandel H, 2 on 28/7 (AVP, JVP); Opoutere, 2 resident, Waharau, 1 on 28/6 (BB, JAB); Coromandel, Rangipukea I, 1 on 31/12 (TRH, HH). Pollock Spit, 1 on 27/4 (MG, SG); Waimai, 1 on 21/3 (ASR, JMR); Carter's B, 1 on 17/9; Ruapuke, 1 on 24/11 (ASR, JMR). Raglan, 1 on 13/4; Karioi, 1 on 8/12 (ASR, JMR,

ARP); Aotea, 1 on 8/6; Kawhia, 1 on 8/6 (FN). Tauranga, Coronation Pier, 1 on 21/2; Mt Maunganui, 1 flying high over the main street from the ocean to the harbour, probably from Rabbit I where they breed to the harbour flats where they feed on 4/10; Kaituna Cut, 2 on 28/9 (PCML); Maketu, 1 on 15/6 (NS). Whakatane R mouth, 1 at various times; Ohiwa H, 1 on 16/11 and 29/6 (WMH); Port Ohope, 1 on 5/10 (RMW); Waiaua R E, 2 at various times which are probably the same ones as those at the mouth of the Tirohanga R and Opape; Waihou Bay, 1 at various times (WMH); Motu R mouth, 1 on 28/10 (BC). Gisborne, Turihau Reef, 2 feeding on 23/10/83 (GAF); Sponge Bay, 1 on 28/8/83 (BRK); Tolaga Bay, 1 on 11/5 (GAF). Ahuriri E, 1 regularly throughout the year; Waimarama, 1 on 14/12 (KVT). Wellington H, Petone to Ngauranga, singles in Sep to Nov, Jan, Apr, May and June; Pauatahunui H, south side, 1 on 18/8 (JLM, MM).

#### CATTLE EGRET *Bubulcus ibis*

Wapapakauri, 2, last sighting for the Far North on 5/12. Far North arrivals in 1986: Owkata, 2 exhausted on 27/3; Cape Maria Van Diemen, 2 on 29/3; Paua, 1 on 31/3; Houhora, 1 on 31/3; Ngataki, 4 on 4/4; Unahi, large flock on 13/4; Pukepoto, 57 on 14/4 (AVH, PM, G Wat); Kaeo, 2 on 10/6; Oakleigh, 18 on 23/7 (PA); L Owhareiti, 4 on 20/4, c.35 in May, 5 on 8/6 (G Wat). Ngunguru, 14 in May; Mata, 50 on 11/5; Turiwiri, 30 in May; Ruawai, 226 in 2 flocks on 18/5 (MK). Warkworth, Hoopers Farm, 5 on 6/5, 22 on 18/5, absent on 7/6 (RH). Kaipara H, Jordans Farm, 2 on 7/12, 4 on 15/5 (DFB, MJT, MG, SG). Parakai, 60 on 6/8 (CE); Orewa SP, 16 with 5 showing colour on 6/9, departed c.29/10, 7 on 18/4, 29 on 10/6 (JED, RGP). North Shore SP, 4 on 28/4 (JED). Mangere, 7 on 10/1, 6 on 27/4, 21 on 29/6 (SJD, JED). Little Barrier I, Te Marearoa, 1 on 16/4 (RGP). Brighams Creek, Kumeu, 7 on 9/5 (JED). Aka Aka-Te Kohanga, 50+ on 10/9, 110 on 4/5, 170 on 11/5, c.225 on 29/5, 210 on 22/6; this flock moved across and up and down the river (TH, BB, DGB, TGL, RBS, AJG, JVD). Waitara Valley, Pollok, 3 stayed a week in early April (A. Stewart). Pukekohe-Waiuku, 2 near Pukekohe Golf Course on 18/4, 21 at Glenbrook Rd on 22/4 (IJ). Manurewa, Syke's Rd, 7 present for a month up to 22/4. Clevedon, first for the year on 1/4, 4 on 28/4 (AJG, PC); Kawakawa Bay, 2 on 10/5 (PH). FoT, Miranda, 1 on 7/7; Piako-Pipiroa, 80+ on 4/10 and 21/5 (EEP, PH). Turua, 20+ on 30/5, 10 flying north east on 5/6 (BB, TG). Whitianga, 7 on 12/5 (PH); Whangamata, 5 on 13/5 (HS). Rangiriri, 66 on 25/4, 25 on 4/5, 160 on 30/5, 7 remained throughout the summer (BJZ, TR, G War). Rototuna, c.16 last on 3/11, 13 on 18/5 (BRK, RM, ARP). Raglan, 1 from 21 to 27/5 (CL, RL). Ngaroto, 35 on 20/5 (RD). Matahui Point, 2 on 7/7 (BC); Katikati, 6 on 18/5, 15 on 7/6 (PCML, BC). Kaituna Cut, 12 on 3/8, 7 on 16/11, 20 on 31/5, 32 on 15/6 (PCML, NS). Awaitei, 13 on 11/5, 75 on 31/5, 82 on 9/6 (PCML, RMW). Kukumoa-Opotiki, 10 on 10/6/85 and 29/9 (WMH). Kukumoa, 11 on 26/10, 9 on 3/11, 26 on 29/6 (PCML, LH, WS). Waerenga-a-hika, 9 on 3/10/83 (BRK); Nuhaka, 3 on 7/6 (GAF). Westshore, Southern Marsh, 4 on 16/3 (KVT); Fernhill, Swamp Rd, 4 with 15 White-faced Herons on 6/7, 4 on 7/9 (JGH). L Hatuma, 12 on 18/7 (CFM). L Poukawa, 1 on 4/9 (MT, PWT); Waipukurau, 27 from 5/6 to 23/6 (CFM). Herbertville, 2 on 22/6 (BDH, HAR). Levin SP, 63 on 5/7 (WRJ). Whirokino, 83 on 3/8, 62 on 4/5, 105 on

22/6; Manawatu E, 30 on 7/6, 26 on 22/6 (JLM, MM). Whangaeahu, 11 on 20/7, 10 on 24/8, 4 on 19/5, 32 on 28/6; Kai-iwi, 3 on 23/5 (PFB, OCT); Wanganui, Springvale, 3 on 16/5 (PFB, GJR). Levin SP, 143 on 9/6; Arawhata Rd, 144 on 9/6 (WRJ). Woodville, Manawatu R, 56 on 12/6 (WRJ).

#### AUSTRALASIAN BITTERN *Botaurus poiciloptilus*

Te Werahi B Catchment, 1 on 5/4; Thoms Landing, 1 on 6/10; Houhora, 1 on 12/7; Swan L, 1 on 24/11; Kaimaumau, 1 on 18/8; Kauri Flat, 1 on 15/4; Waipapakauri, 1 on 20/10; Wainui, 1 on 18/4 and 8/6; Waimango Swamp, 1 on 6/10 and 12/11 (AVH); Matai Bay, 3 sightings on 5/2 (VJL); L Waiporohita, 1 on 2/6, L Omapere, 1 on 2/6 (G Wat). Whangarei H, corner Beach and Whangarei Heads Roads, 1 on 2/6 (PA). Karikari Pen, Whataru Bay, 3 on 18/3 (JED). Taporā, McLeans Farm, 8 on 12/5 (JED, NR). Muriwai Ls, 6 on 4 lakes on 9/2 (GAP, MJT); Te Henga Marsh, 1 heard on 22/9 (JES). Huapai, 1 on 8/6 (JED). Whatapu, several reports each of 1 or a pair; Pakiri Rd, 1 on 12/7 (MG, SG). Maramarua, Kopuku Swamp, 2 on road startled by cars, 1 flew and the other froze then flew when further alarmed on 6/11 (BB). Kariotahi, 1 feeding in a marshy seepage 10 m from the beach on 20/4 (AJG). L Whakamaru, 1 in June (BJZ). Kaituna Cut, 1 on 15/6 (KWL B); Tarawera R mouth, 1 on 31/5; L Aniwhenua, 1 on 11/8 (PCML); Thornton Lag, 11 flew out of swampy area on 13/5 (RMW). Ahuriri E, 1 on 20/7 (ACS, PWT); East Clive, 1 on 7/6 (CFM); Glenmore Station, The Pigsty, 1 on 21/8 (RP); L Oinga, 4 booming on 23/11 (JGH). L Poukawa, 2 on 16/11 (KVT, CFM). Wanstead Swamp, 1 on 24/3 (J Ber); Porangahau E, 1 on 22/6 (RMH). L Horowhenua, 1 on 9/6 (WRJ). Foxton Loop, booming on 9/11, 24/12, 2/1 and 1 on 17/5; Foxton No. 3 L, 1 on 30/12 (JLM, MM). Omanuka Lag, 2 with a juv on 3/5 (AC).

#### GLOSSY IBIS *Plegadis falcinellus*

Aka Aka, Parry's property, 6 then 8 stayed a few hours then flew towards Waikato River mouth on 14/7 (BB, AJG). Coromandel, 3 in tidal estuary on several occasions in the summer 1984-85 (EEP). Whakaki Lag, 2 from 22/6 to 30/6/85 (GAF).

#### ROYAL SPOONBILL *Platalea regia*

Rangaunu H, Walker I, 16 on 7/7; Unahi Wharf, 7 on 20/10 (AVH). Okura, 1 on 26/4 and 26/6; Hokianga H, 1 on 19/7 (G Wat). Pakiri B, 2 on 19/10; Mangere SP, 2 on 21/7 and 25/8, 4 on 5/10 (MG, SG, MJT). Coromandel H, 2 from 5/5 to 8/5/85 then 1 until 20/6/85; it roosted in a Norfolk pine in the town's main street, 2 on 17/8, 1 in Norfolk pine on 4/5 and 30/5 (AVP, JVP, AJG, EEP). Kaituna Cut, 3 in pine trees in which there is a Pied Shag colony, on 15/6 (PCML). Ahuriri E, 8 on 6/7, 6 on 20/10, 2 on 30/3, 5 on 2/6 (MT, PWT). Cape Kidnappers, Black Reef, 2 on 27/11, 1 on 1/1 (KVT, PFB). Manawatu E, 26 on 21/7, 15 on 3/5, 19 on 2/6, 34 on 22/6 (JLM, MM, LJD, WRJ). Waitotara E, 2 on 17 and 24/11, 1 on 11/12 (PFB, G Wal, M O'S). Wanganui E, 1 on 4/11, 20 on 25/11, 10 on 8/12, 4 on 3/5 (PFB, GJR, OCT).

#### MUTE SWAN *Cygnus olor*

L Poukawa, 12 on 27/6; Horseshoe L, 2, introduced by Wildlife Service, on 18/5 (KVT).

**BLACK SWAN** *C. atratus*

Aupouri Pen survey, 195 on dune lakes in Jan (AVH); Jack's L, c.50 including 2 with neck bands on 8/6; L Owhareiti, 100 + on 20/4 (G Wat). Awhitu Pen, Walton's Gap, 36 on shallow farm lake; Port Waikato, 100 + on 11/8 (BB, DGB). Manukau H, Karaka, 8 on 8/2 (SJD, ASRi). Kawhia, 1660 on 29/5; Aotea, 622 on 29/5 (TR). Tauranga H, c.600 on 28/6 (PCML, NS); Kaituna Cut, 14 on 17/8 (BHS); Matata Lag, c.50 and 4 juvs on 26/1, c.80 on 11/5 (JLM, PCML). Muriwai, Wherowhero Lag, 10 on 30/7/83, 6 on 24/10/83 (BGJ, SCJ). Whakaki Lag, c.1500 on 9/3, 1648 on 25/4 (GAF); Gisborne, Browns B Lag, 13 on 14/10/84 (BGJ, SCJ). Ahuriri E census, 228 on 13/7, 97 on 23/11; Hurimoana Swamp, 180 on 25/4; L Poukawa census, 200 on 13/7, 400 + on 27/6; Horseshoe L, 60 on 18/5 (KVT). L Hatuma, numerous on 9/3; L Purimu, numerous on 9/3 (BDH, HAR). Porangahau E, 90 on 21/6 (KVT). L Horowhenua, 2050 on 11/5 (AC, WRJ, AStd). Whirokino, 100 including 1 pair with 3 cygnets on 3/8; Foxton No.1 L, 160 on 22/9; Foxton No. 3 L, 80 with 40 cygnets on 9/11; Manawatu E, 60 on 3/5; Foxton Loop, 17 on 2/1 (JLM, MM).

**CANADA GOOSE** *Branta canadensis*

Tauranga H, Pahoia, 650 on 28/6; Kaituna Cut, usually some present but high counts of 17 on 30/11 and 18 on 14/12 (PCML); Little Waihi, 14 on 15/2 (RJ); Matata Lag, 1 on 26/1, 6 on 11/5 (JLM, MM, PCML). Hick's Bay, 2 flying north just offshore on 27/10 (PCML). Hinemaiaia R, Upper Hydro L, 3 on 12/10, 150 on 14/1 (JGI). Northern Hawke's Bay, 92 occupied nests, main sites being Ngamotu with 53 and Whakaki with 30 nests on 5/11/83; Whakaki Lag, 860 on 5/1/84; Ohuia Lag, 150 on 5/1/84, all penned for Wildlife Service banding; Wairoa R E, 52 on 29/1/84, 106 on 9/6/84 (GAF). Muriwai Lag, 8 on 5/12/83 (BRK); Pakawhai, 7 flying south on 28/12/83 (BGJ, SCJ). Whakaki Lag, 14 on 9/3, 608 on 25/4 (GAF). Ahuriri E, 10 on 6/10 (MT, PWT). L Horowhenua, 13 on 13/12, 2 on 8/2 (WRJ, JLM,MM). Foxton No. 1 L, 2 on 28/10, 3 on 2/1, 7 on 2/3, 3 on 31/3 (JLM, MM).

**[CAPE BARREN GOOSE** *Cereopsis novaehollandiae*

Mangere, Inlet Rd, a pair in late Dec, then 1 flew into a power wire and died, the other remained (PH). Whitford, 1 on 11/2 (AJG) – not known whether wild or escaped – ed.]

**PARADISE SHELDUCK** *Tadorna variegata*

Aupouri Pen survey, 807 on dune lakes in Jan (AVH); Okura, 89 on 26/1, 8 on 22/3; L Owhareiti, c.200 on 20/4 (G Wat). Orewa SP, moult flock of 330 with almost equal numbers of each sex on 12/2 (JED). Muriwai Ls, 276 on 8 lakes on 9/2 (GAP, SCn). Little Barrier I, pair on 25/5 (PFB). South Auckland, scattered throughout in suitable habitat and increasing. FoT, Miranda, maximum 26 on 16/3; Opoutere, 32 in upper H on 26/12 (BB). Great Mercury I, 28 on 14/6 (TH). Mangatawhiri, Ryburn's Lag, 21 on 3/5 (DAL). L Harihari, 58 on 6/1; L Mumiti, 150 on 7/1; L Rotorua, 80 on 7/1 (SCn). Kaituna Cut, 5 on 17/8, 16 on 12/10, 25 on 14/2 (BHS, PCML); Matata Lag, 30 on 11/5; L Aniwhenua, 40 on 11/8 (PCML). Ohiwa SP, 150 moulting on 2/1 (RMW). Muriwai, Wherowhero Lag, 4 on 24/10/83 (BGJ, SCJ). Whakaki Lag, 93 on 9/3, 565 on 25/4 (GAF). Ahuriri E census, 308 on 13/7, 154 on 23/11; L Poukawa census, 200 on 13/7; Takapau, 30 on

20/5 (KVT); Tukituki Wildlife Refuge, 30 including 20 juvs on 31/12 (PFB). L Hatuma, 200 on 9/3 (BDH, HAR). Whangaehu, 320 on 19/5; L Waikato, 90 on 6/2; Wanganui Botanical Res, 13 on 6/7 (PFB, OCT). L Horowhenua, 130 on 4/4 (WRJ). Whirokino, 3 on 3/8; Foxton B, 20 on 4/8; Foxton No. 1 L, 3 on 3/5; Pauatahanui Lag, 2 pairs on 1/9, 2 on 4 and 18/5 (JLM, MM).

#### MALLARD *Anas platyrhynchos*

Aupouri Pen survey, 438 on dune lakes in Jan (AVH). L Owhareiti, 50+ on 20/4; Kaikohe SP, 200 on 12/3 (G Wat). Matata Lag, c.2000 on 11/5 (PCML). Muriwai, Wherowhero Lag, 500+ at sea very restless on 21/4/84 (BGJ, SCJ). Whakaki Lag, c.4000 on 9/3, c.8000 on 25/4 (GAF). Pakawhai Station, 1 with 10 downies on 10/9 (BGJ, SCJ). Ahuriri E census, 378 on 23/11, 261 on 13/7; Waitangi, 400 on 25/3; Hurimoana Swamp, 100 on 25/4; Horseshoe L, 300 on 18/5; Puketapu, 10 on 17/11 (KVT). L Hatuma, numerous on 9/3; L Purimu, numerous on 9/3 (BDH, HAR). L Horowhenua, 2014 on 11/5 (AC, WRJ, AStd). Manawatu E, 200 on 4/5 (JLM, MM).

#### GREY DUCK *A. superciliosa*

Aupouri Pen Survey, 226 on dune lakes in Jan (AVH). Kaikohe SP, 15 on 12/3, 1 pair mated on 17/5 (G Wat). Port Waikato, 2 on 11/8, now scarce (BB). Matata Lag, c.50 on 11/5 (PCML). Pigsty Swamp, 8+ on 23/3 (JGH). Manawatu E, 6 on 21/7 (JLM, MM). Wanganui E, 6 on 12/5; Botanical Res, 15 on 6/7 (PFB).

#### GREY TEAL *A. gibberifrons*

Aupouri Pen survey, 10 on dune lakes in Jan (AVH). Waitotira, Manganui R, 3 on 3/5 (PA). Orewa SP, 5 on 18/4, 7 on 29/4; Mangere SP, 31 on 11/5, 172 on 7/6 (RBS, JED). Manukau H, Karaka, 7 on 21/7; FoT, Miranda, 20 just offshore on 16/3 (BB, DGB); Access Bay, a pair on 15/6 (TGL, RBS). Kaituna Cut, 41 on 30/3, 48 on 15/6 (DGB, KWLB); Matata Lag, 6 on 11/5; L Aniwhenua, 19 on 11/8 (PCML). L Rotomahana, c.100 in bay where the Waimongu Rd emerges on 9/5 (BHS). Wairoa R, 10 on 12/6/84; Whakaki Lag, 13 on 9/3 (GAF). Ahuriri E census, 104 on 13/7, 103 on 23/11; Hurimoana Swamp, numerous on 26/4; L Poukawa, 100 on 10/7; Horseshoe L, 200 on 18/5 (KVT). L Hatuma, numerous on 9/3; L Purima, numerous on 9/3 (BDH, HAR). L Horowhenua, 17 on 11/5 (AC, WRJ, AStd). Manawatu E, 7 on 3/5, 13 on 18/5 (JLM, MM). Kaitoke L, 1 on 3/8 (PFB, OCT).

#### BROWN TEAL *A. chlorotis*

Bay of Islands, Poroa Bay, 6 on 13/5 (PA). Little Barrier I, Awaroa Stream, 1 on 23/5; Great Barrier I, Port Fitzroy, 7 on 28/5 (PFB).

#### NEW ZEALAND SHOVELER *A. rhynchos*

Aupouri Pen survey, 43 on dune lakes in Jan (AVH). L Waporohtia, 10 on 2/6; L Owhareiti, 3 on 20/4; Kaikohe SP, c.6 present Mar to Jun, unusually white-breasted male on 17/5 (G Wat). Whau Valley Dam, 6+ on 7/5 (PA). Waiwera, Strakas Refuge, 4 on 12/10, 28 on 29/4 (MJT, JED); Orewa SP, 42 on 18/4, 105 on 17/6; Te Henga Swamp, 4 on 1/5 (JES). Mangere SP, 4 on 13/4, 2 on 16/5 (MG, SG, RBS, GA). FoT, Miranda,

4 on 7/7 (BB). Kaituna Cut, 6 display flying on 17/8 (BHS); Matata Lag, c.200 on 11/5 (PCML). L Rotomahana, c.450 in bay where Waimungu Rd emerges on 9/5 (BHS). Whakaki Lag, 50 on 9/3 (GAF). Ahuriri E census, 200 on 10/7, 82 on 23/11; L Poukawa census, 800 on 10/7; Horseshoe L, 160 + on 18/5 (KVT). L Hatuma, numerous on 9/3; L Purimu, numerous on 9/3 (BDH, HAR). Foxton No. 1 L, 40 + on 22/9 (JLM, MM). Wanganui area, 256 maximum (PFB, OCT, GJR).

**BLUE DUCK** *Hymenolaimus malacorhynchos*

Ngatuhua near Tauranga, 1 drake behaving as though his mate was on a nest on 5/10; Mangorewa R Gorge, 1 on 4/10 (PCML); Waimana R, 1 in June (WMH); Motu R, c.30 estimated during a raft trip on 18/9 (NS). Pureora SF Park, Ongarue Stream headwaters, 1 pair on 27/3 (BRB, DSW). Waioeka R, Matawai area, 3 pairs on 23/4/84 (SCJ).

**NEW ZEALAND SCAUP** *Aythya novaeseelandiae*

Aupouri Pen survey, 15 on dune lakes in Jan (AVH); Whau Valley Dam, 1 on 7/5 (PA). Waiwera, Strakas Refuge, 18 on 12/10, 5 on 29/4 (MJT, JED). Orewa SP, 3 on 6/8, 2 on 29/4 (JED). Western Springs, 1 on 22/3 (VJL). L Harihari, 6 plus 12 chicks on 6/1; L Mumiti, 4 on 7/1 (Scn). Matata Lag, 36 on 11/5, 70 on 31/5; L Aniwhenua, c.80 on 11/8 (PCML). Horseshoe L, 170 + on 18/5 (KVT). Mataroa, Hautapu R, 15 on 10/11 (RS). Wanganui, Kaitoke L, 8 on 20/7, 5 on 3/8 (PFB, OCT).

**AUSTRALASIAN HARRIER** *Circus approximans*

Papakura, Red Hill, 1 swooping, calling, did a sideways roll and attracted 5 more; all circle and later 4 slowly dispersed; 1 remained circling closely with the first on 8/9 (BB). Ahuriri E census, 7 on 23/11; L Poukawa, 5 on 27/6 (KVT). L Horowhenua, 10 on 11/5 (AC, WRJ, AStd).

**NEW ZEALAND FALCON** *Falco novaeseelandiae*

Mt Karioi, 1 on 19/3 (MO). Whakamarama, near Tauranga, 1 pair on 18/9 (NS). Rotorua, Forest Research Institute, 1 hit and killed a sparrow on 1/4 (JWH). Pakowhai, twice flying near windbreak trees on 16/8/83, 1 hunting near macrocarpas where c.30 Feral Pigeons were roosting on 3/7/84, 2 daily up to 26/7/84, 1 up to 4/8/84, 1 on 25 and 26/9/84, 1 found dead with gunshot wounds on 26/9/84, 1 in April and May 1985, 1 near house on 3/11, 1 killed a feral pigeon on 21/5, 1 often between 4/6 and 7 July 1986 (BGJ, SCJ). Kaimanawha SF Park, 8 on 2/8; Te Haroto, a pair raised 2 chicks Dec; Poraite, 1 on 11/6; Taradale, 1 on 23/6; Te Mata Peak, 1 on 7/5 (REW). Waipawa River Forks, 2 on 23/3 (BT, J Ber). Dannevirke, 1 on 27/6 (JFF). Wanganui R, Koriniti Marae, 1 on 27/5; St Johns Hill, 1 on 11/6 (GJR). Mangahao No. 3 Dam, 2 being chased by magpies on 5/4 (MKT).

**NANKEEN KESTREL** *F. cenchroides*

Kaimaumu Swamp, 1 on 29/1 (JH); north of Waiuku, between Karioitahi and Walton's Gap, 1 encountered by a hanglider, it buzzed him while it hunted near over the cliffs on 18/5 (JVD). Te Mata Peak, first seen when disturbed by hanggliders on 9/5, present on 29/6 (JRW, MT, PWT).

**RED-LEGGED PARTRIDGE** *Alectoris rufa*

L Waikare, east side, 1 sitting on a fence on 2/1; the species has been released in the area (DS). Pollock, several seen on 27/4 (MG, SG). Pakowhai

Station, 24 hatched by Wildlife in the spring of 1984, released but returned to the pen area to take food pellets on 5/6/85, still roost in pen area but range over farm 1/7/85, now scattered up to 20 km away (BGJ, SCJ).

**BROWN QUAIL** *Synoicus ypsilophorus*

Paua, 3 on 28/6; Te Tii, 4 on 27/1; Okaihau, 2 on 31/3; Kaikohe SP, 7 on 11/5 (G Wat). Motukawanui I, Cavallis, common on 29/3 (TGL). Mitimiti, 4 on 28/3, 13 on 30/3 (IRD). Kaipara H, Shelly B, 7 on 3/5 (MG, SG). Parakai, 7 on 7/6 (BS). Te Arai, 2 on 16/11; Ponui I, present on 25/4 (MJT). Ness Valley, 1 on 30/11 (AJG). Maketu Spit, 1 and others heard on 9/10; Rangioru, 1 on edge of main highway on 16/2 (PCML). Mahia Pen, 4 on 10/6/84 (GAF). Pakowhai Station, a pair in citrus orchard and windbreak on 24/10, 6/1, 12/5 (BGJ, SCJ). Whangaehu E, 1 on 16/11 (PFB, OCT).

**CALIFORNIAN QUAIL** *Lophortyx californica*

Clevedon, present in orchard from 7/9 (AJG). Tauranga, Omanawa Rd, 3 coveys each of c.20 on 15/10 (PCML). Ohiti, 3 males on 10/10 (KVT). Foxton B, 1 pair with 5 chicks on 2/3 (JLM, MM). Moawhango, 2 on 9/2 (RAC, SEC *et al.*)

**PEAFOWL** *Pavo cristatus*

Mahia Pen Scenic Res, 1 and others heard on 10/6/84 (GAF).

**BANDED RAIL** *Rallus philippensis*

Spirits Bay, 1 on 21/2; Kohukohu; 1 on 24/2 (ASR, JMR). Tauranga Bay turn-off, 1 on roadside on 20/4 (G Wat). Coromandel Pen, Whangapoua, 1 on mudflats on 23/7 (VJL, EEP). Clevedon, Wairoa R, 8 including young on 30/3 (TRH, HH); Mataitai, 1 on 31/1 (AJG). Hamilton, 1 juv injured by a cat on 13/3 (ARP). Aotea, 1 on 6/9 (ASR, JMR). Mt Maunganui SP area, Te Maunga, 2 pairs and 3 chicks on 29/11 (KS); Te Maunga, State Highway 29, 1 or 2 at various times of the year (PCML, AM, KS); Maketu, 2 on 15/2 (RJ). Ohiwa H, edge of Wainui Rd, 2 on 2/6 (WMH).

**WEKA** *Gallirallus australis*

Coromandel Pen, Opito Bay, 1 on road (BB). Pakowhai, heard on 19/11 and 24/11/83, had been absent for 5 years, 3 heard in June 1984, 2 in July 1984 (BGJ, SCJ). Tolaga Bay, 4 alongside main road on 11/5, many calling at night (GAF). Pakowhai, 1 on 5/9/84, 1 heard in June 1985; for several years the population was almost non-existent but now there is a slow return including 7 released in Jan by Wildlife; 2 heard on 21/8, 1 adult and 3 well-grown young on 7/6; Gisborne, Browns B, 2 on 2/2 (BGJ, SCJ).

**MARSH CRAKE** *Porzana pusilla*

Kaikohe, DSIR Farm, reliably reported in swamps (G Wat). L Aniwhenua, 2 on 11/8 (WMH, PCML).

**SPOTLESS CRAKE** *P. tabuensis*

Karikari Pen, Whataru Bay, responded to a tape in 3 places on 18/3; Taporā, McLeans Dam, 12 responded to a tape on 12/5 (JED). Ponui I, present in 5 catchments with raupo swamp on 26/4 (BB, JED, MJT). Tiritiri I, heard frequently in swampy gullies in Nov (TGL). L Waikare, east side of Humpback Bridge, pair in wet area under willows on 6/11 (BB). L Aniwhenua, 2 on 11/8 (WMH, PCML). Gisborne, Lytton/Awapuni Rds, 1 dead on 9/9 (BGJ, SCJ).

**BLACK-TAILED NATIVE HEN** *Gallinula ventralis*

Opuatia swamp, 1 on 16/5 (P. Walter).

**PUKEKO** *Porphyrio melanotus*

L Owhareiti, 50+ on 20/4, 150+ on 8/6 (G Wat). L Poukawa, 100 on 10/7, 130 on 27/6 (KVT). L Horowhenua, 15 on 11/5 (AC, WRJ, AStd). Virginia L, 5 on 21/3 (PFB, OCT).

**AUSTRALIAN COOT** *Fulica atra australis*

Jack's L, 1 imm on 8/6; L Owhareiti, 1 on 20/4 (G Wat, JW). Western Springs, nest with 4 eggs on 1/9, 14 birds and 1 chick in Feb (MG, SG, RF). L Aniwhenua, 4 on 11/8 (PCML). L Taupo, Motuoapa Marina, 34 on 3/4 (WRJ). Horseshoe L, 12 on 18/5 (KVT). L Purimu, 4 on 9/3, 4 on 31/8 (BDH, HAR, CFM). L Horowhenua, 3 on 5/11 (WRJ). Waitotara, 2 on 23/11, 4 on 11/12; Westmere L, 16 on 6/7; Botanical Res, 1 on 6/12 (PFB); Virginia L, 125 on 15/7 (PFB, OCT).

**SOUTH ISLAND PIED OYSTERCATCHER** *Haematopus ostralegus finschi*

Paua, 36 on 14/7, 10 on 23/11, 37 on 21/1 (AVH). Port Whangarei, 300 on 15/7 (G Wat). Poutu Pen, 3 on 23/2 (PA). Whangarei H survey, 165 in Nov (MK). Manukau H census, summer 3532, winter 23 196; FoT census, summer 2054, winter 15 244. Waikato R mouth, 32 on 8/12, 33 on 14/7; Coromandel Pen survey, 884 for 30/5 to 2/6 (BB). Aotea, 622 on 8/6; Kawhia, 1600 on 8/6 (FN). Whangapoua B, 46 in July (WMH). Bowentown shellbanks, 53 on 2/11, 435 on 28/6 (BC, KWLb). Omokoroa, 7 on 28/6 (NS). Tauranga, Sulphur Point, 85 on 7/7, 34 on 2/11, 92 on 31/3 (BC, AM, KS, DGB). Little Waihi, 6 on 3/8 and 15/6 (PCML, KS); Maketu Spit, 1 on 19/10 (PCML). Ohwiwa, 139 on 1/7, 17 in Sep, 102 on 29/6 (WMH, WS). Muriwai, Wherowhero Lag, 3 on 30/7/83 (BGJ, SCJ); Muriwai Lag, 6 on 14/12 (GAF). Ahuriri E census, 11 on 13/7, 9 on 6/2 (MT, PWT). Porangahau E, 20 on 8/3, 4 on 22/6 (BDH, HAR). Wanganui E, 28 on 3/6 (PFB). Manawatu E, 23 on 30/9, 43 on 9/3, 70 on 31/3 (WRJ, RAC *et al.*).

**VARIABLE OYSTERCATCHER** *H. unicolor*

Spirits Bay, 21 on 28/6; Parengarenga H, 43 on 28/6; Great Exhibition Bay, 48 on 22/9; Kowhai B, 31 on 1/4; 90 Mile B, 73 on 31/5; East B, 47 on 13/9; Herekino H, 35 on 1/4 (AVH, G Wat, JW); Tom Bowling Bay, 5 on 19/2; Spirits Bay, 17 on 19/2 (ASR, JMR); Matai Bay, 2 on 1/6; Waimango Swamp, 23 on 1/6; Matauri Bay, 14 on 9/2, 8 on 21/4; Te Tii, 15 on 27/1; Tapuaetahi B, 3 on 27/1; Okura, 4 from 26/1 to 1/3, 15 on 26/6; Waitangi, 3 on 16/1, 9 on 13/7; Te Haumai, 3 on 16/1; Islet off Te Haumai, 2 with 3 juvs on 16/1 (G Wat). Poutu Pen, 12 on 23/2 (PA). Whangarei H survey, 144 in Nov (MK). Auckland Region census, 191 in June 1985, 126 in Nov; Waiwera E, 21 with 42 SIPO on 12/5 (MJT). Whatipu, pair with 2 chicks on 14/1, 12 with 2 chicks on 15/2 (JED). Manukau H, maximum 2; Clevedon vicinity, Kawakawa Bay, 6 on 13/4; Mataitai, 2 on 13/11 (BB, AJG). Waikato R mouth, Maioro, 15 on 14/7, 16 on 20/4 (AJG, BB, DGB). Karioitahi, near Waiuku, 6 on 8/9; Opoutere, 20 on 26/12, 65 on 28/3; Coromandel Pen survey, 385 for 30/5 to 2/6 (BB, JAB). Mataitai, 2 on 10/7, a subsequent nest failed (JVD, AJG). Kawhia, nesting on 26/1 (BW, DW). Whangapoua B, 86 in July (WMH). Bowentown shellbanks, 35 on 2/11, 42 on 28/6 (BC, KWLb). Sulphur Point, 12 on 2/11, 45 on 31/3 (AM, KS,

BHS); Maketu Spit, 8 pairs nesting on 19/10 and 9/11 (PCML); Maketu entrance, 33 on 3/8, 32 on 15/6 (PCML, NS); Little Waihi, 22 on 3/8, 40 on 16/11, 47 on 15/6 (PCML, KS); Otamarakau-Herepuru, 4 pairs on 14/7 (KS); Herepuru-Matata, 1 pair on 14/7 (WMH); Tararewa R mouth, 1 pair, speckles and clubfoot, present all year; Rangitaiki R mouth, 2 pairs on 14/7, 9 on 31/5 (LH, PCML). Ohope Spit, 16 on 16/11, 12 in July, 11 adults 1 full-grown juv 1 downy 2 or 3 days old on 16/3 (LH, WMH, PCML); Ohope B and Spit, 68 on 29/6; Waioeka R mouth to Hukuiwai B, 15 in July, 12 on 24/9; Motu R mouth, 1 pair on 26/10; Oruaiti B, Waihou Bay, 1 pair on 26/10; Whangaparaoa B, 1 pair on 24/8 and 27/10; Te Araroa, East Cape, 6 on 27/10 and 8/2 (WMH, PCML) Muriwai Lag, 12 on 10/10/83 (BRK); Muriwai, Wherowhero Lag, 9 on 30/7/83, 2 on 21/4/84 (BGJ, SCJ). Tolaga Bay, Pourewa I, 2 on 16/2; Tolaga Bay, 1 with white plumage with bill and legs normal colour from 23/3 to 25/6; Muriwai Lag, 2 on 14/12 (GAF). Gisborne, Browns B, 6 on 14/10/84, 2 on 16/3/85, 36 on 13/4 (BGJ, SCJ). Ahuriri E, 3 black phase on 11/5 (MT, PWT); East Clive, 1 on 12/6 (KVT). Cape Kidnappers, 1 on 1/1 (PFB). Porangahau E, 13 on 8/3, 11 on 22/6; Herbertville, 1 on 22/6 (BDH, HAR). Wanganui E, 3 on 23/8; Turakina, 2 on 19/10, 7/1, and 19/5 (PFB, OCT); Waverley, 1 on 24/11; Waitotara, 1 on 24/11, 3 on 11/12 (PFB). Manawatu E, 16 on 1/9; Wellington H, Petone to Ngauranga, maximum 8 on 18/11 (JLM, MM)

**SPUR-WINGED PLOVER** *Vanellus miles novaehollandiae*

Aupouri Pen survey, 43 in Jan (AVH); Te Kao, 20 on 15/4 (IRD); Paua, 7 on 28/3; Karikari Pen, 18 on 31/3; L Omaperu, 2 on 13/7; L Owhareiti, 2 on 20/4 and 8/6 (G Wat). Tikinui, 9 on 22/2; Poutu Pen, Simpson's Pond, 8 on 30/11; Poutu F farm entrance, 6 on 23/2; Swan L, 2 on 23/2 (MK). Karikari Pen, Matai Bay, 5 including 1 imm on 7/2 (MMB, VJL). FoT, Miranda Limeworks, 10 on 17/12 (BRK); Taramaire, 6 on 20/10 (SJD, ASRi). Wharekawa, 4 on 15/6; Tuakau, Frost Rd, 25 on 11/5 (TGL, RBS). Mangatawhiri, Ryburn's Lag, 50+ on 3/5; Whangamarino Swamp, north end, 60+ on 3/5 (DAL). Whangamata, Wentworth Valley, c.15 on 13/5; Paeroa, Maratoto Valley, 20+ on 13/5 (HS). Bombay, Pinnacle Hill, 10 on 9/6 (IS); smaller numbers throughout the South Auckland Region (BB). Hamilton, several over suburbs at night (ASR, ARP). Matahui Point, 5 on 7/7 (BC); Kaituna Cut, 3 on 28/9, 8 on 30/3, 3 on 15/6 (PCML, DGB, KWLb); Tauranga, Omanawa Rd, 1 pair on 5/10 (PCML); Tararewa R mouth, 2 dive bombing an Australasian Harrier on 20/7; Kawerau SP, 1 pair on 27/8 (RMW); Matata, Awaiti Wetlands, 2 on 11/5; Rangitaiki R mouth, 1 on 31/5; L Aniwhenua, 12 on 11/8; Wainui Rd, Ohiwa, 1 on 26/10; Hick's Bay, 2 on 27/10 (PCML). Cape Runaway, Ngarue Rd, 1 in May; Te Araroa, Waikura Rd, 4 in April; Toatoa, Takuputahi R, 1 on 24/7 (WMH). Tokaanu, 2 in paddock near motor camp on 9/10 (TGL). Whakaki Lag, 2 pair 5 km inland on 17/7/83; Gisborne, Manutuke, 1 on 1/8/83; Tolaga Bay, 2, 20 km inland on 31/8/83 and had been present throughout winter; Waihua, 1 on 25/9/83; Wairoa, Wairau Lag, 2 on 5/11/83; Korito Lag, 23 on 5/11/83; Mahia B, Maungawhio Lag, 8 on 5/11/83 (GAF); Gisborne, Nicks Head Station, 1 nest on 30/7/83 (DGJ, SCJ); Mahia, Taylors Bay, 2 harassing Black-backed Gulls c.300 m offshore on 10/11/84; Dinas B, 13 flying along beach on 1/12/84; Wairoa, 8 over town on 27/2/84, smaller

numbers throughout year; Muriwai Lag, 6 on 14/12; Muriwai, 26 in paddock on 23/3; Mahia, Oraka, 2 on 28/7, 3 on 22/1; Whakaki Lag, 10 on 9/3 (GAF). Pakawhai Station, c.11 frequently in June 1985, 30 on cultivated paddock on 7/8 (BGJ, SCJ). Ahuriri E, 34 feeding in field on 28/1 (MT, PWT); Meeanee, c.100 on 19/6 (TAS); L Poukawa, 100+ on 27/6 (KVT). L Hatuma, 60 on 9/3; Porangahau E, 7 on 8/3, 9 on 22/6; Herbertville, 12 on 22/6 (BDH, HAR). Rautiti, 5 on 28/10; Waitotara, 24 on 6/1; Kai-iwi, 10 on 15/3; Taumarunui, 4 on 29/5; Wanganui R, 19 on 8/1; Parapara, 24 on 11/1 (PFB); Whangaeahu, 68 on 8/6; Turakina E, 23 on 16/11, 2 with 1 chick on 17/8 (PFB, GJR, OCT). Manawatu E, 22 on 4/8; Foxton No. 1 L, 2 with 4 chicks on 22/9; Foxton, Palmer Rd, 14 on 3/5; Moutoua, 23 on 8/6; Lower Hutt, Avalon, 3 on 13/4; Haywards Hill, west side, 2 on 22/6; Otaki, 1 on 22/6 (JLM, MM).

#### GREY PLOVER *Pluvialis squatarola*

FoT, Access Bay, 1 (KJF).

#### LEAST GOLDEN PLOVER *P. fulva*

Paua, 40 on 30/3; Karikari Pen, 194 on 31/3 (AVH); Okura, 15 on 9/2 (G Wat). Whangarei H survey, 2 in Nov (MK). Manukau H census, summer 35, but 50+ on 1/1 (BB, DS); FoT census, summer 26, but 47 on 18/1 (BB, PFB, GJE). Mataitai, 14 on 30/11 (AJG). Kaituna Cut, 36 on 6/11, 52 on 30/3 (PCML, DGB). Ohope Spit, 13 on 16/11, 23 on 1/2; Cape Runaway, Whangaparaoa, 4 on 27/10 (WMH, PCML). L Rotorua, Sulphur Bay, 1 on silica flats from 26/10 to 6/11; L Rerewhakaaitu, 22 in a flock on shallow marshland near lake on 30/11, at least 11 still present on 6/2 (RG, JGI). Wairoa R E, 5 on 5/11/83, 10 on 26/2/84; Nuhaka R mouth, 1 on 5/11/83; Mahia, Oraka, 10 on 5/11/83; Wairoa R E, 3 on 3/11/84; Muriwai L, 25 on 14/12; Oraka, 4 on 24/11, 18 on 25/4, 9 on 8/6; Wairoa E, 43 on 25/5 (GAF). Ahuriri E, southern marsh, 20 on 28/10, 40 on 7/1 (KVT). Porangahau E, 2 on 8/3 (BDH, HAR). Wanganui E, 1 on 9 and 10/11; Turakina E, 1 on 7/1 to 27/3 (PFB, OCT). Manawatu E, 34 on 29/10, 47 on 26/11, 44 on 22/12, 23 on 9/3 (MO, WRJ *et al.*).

#### NEW ZEALAND DOTTEREL *Charadrius obscurus*

North Cape area, 39 on 20/11; Cape Maria Van Diemen area, 28 on 21/11; Kokota Spit, 59 on 30/3; Kowhai B, 24 on 31/3 (AVH); Tom Bowling Bay, 6 including 2 at nest with 1 chick and 1 egg on 19/2; Pandora B, 13 including 1 pair with 3 juvs and 1 pair with 4 juvs on 19/2; Te Werahi B, 6 on 23/2 (ASR, JMR); Tauranga Bay, 3 on 20/4; Te Ngaere Bay, 1 on 9/2; Okura, 3 on 26/1, 12 on 2/2, 14 on 22/3, 24 on 26/6 (G Wat); Matauri Bay, 13 on 21/4; Onerahi Airport, 6 on 8/4, 22 on 24/5, 24 on 28/6; Poutu, 5 on 23/2 (PA). Whangarei H survey, 9 in Nov (MK). Auckland Region census, 166 in June 1985, 111 in Nov (MJT); Wade R, pair with 3 chicks and pair with 2 chicks on 31/12; Whatipu, 8 with 2 chicks on 15/2 (JED). Waiheke I, Te Matuku Bay, 23 with 3 chicks on 30/1 (BS). Manakau H census, summer 15, winter 21 (BB); Karaka, 17 on 4/9, 3 pairs nesting in Sep, Oct, 3 chicks on 20/10, a 3 egg nest and 1 running chick on 11/11, a nest and 3 eggs on 13/12 (RJHC, SJD, ASRi, KJF, JU, BW). FoT census, summer 16, winter 19; Miranda, 2 pairs each with 1 juv on 31/12; Taramaire, 5 on 15/6; Access Bay, 8 on 29/6 (BB, SJD, ASRi). Waikato R mouth, 4 and

2 chicks on 8/12 (AJG). Coromandel Pen survey, 92 for 30/5 to 2/6 (BB). Port Waikato, 9 on 15/3 (MG, SG); Kawhia, 5 on 8/6 (FN); Taharoa, nesting (ASR, JMR, ARP). Bowentown B, 1 pair with eggs about to hatch on 20/11, 6 on 28/6; Sulphur Point, 16 breeding on 2/11, 55 on 29/3 and 31/3, 38 on 28/6 (BC, AM, KS, DGB, BHS). Maketu Spit, 21 on 19/10, 8 pairs nesting on 9/11, 24 on 15/6 (PCML); Maketu entrance, 1 pair nesting on beach near marae; Little Waihi, 4 pairs on 16/11; Otamarakau to Herepuru Stream, 5 pairs on 14/7 (KS); Tarawera R mouth, 1 pair on 11/5 and most of the rest of the year (PCML); Rangitaiki R mouth to Whakatane Airport, 2 pairs on 14/7 (LH). Ohope Spit, 16 on 16/11, 30 on 1/2, 51 on 16/3, 44 on 29/6; Waioeka R mouth, 4 on 24/8; Waiaua R E, 12 on 8/7, 8 on 28/11; Whangaparaoa B, 4 on 24/8, 4 breeding on 27/10, 2 on 7/2; Hick's Bay, 2 on 26/10 looked as though they were going to nest; Motu R mouth, Stoney B, 1 pair with eggs (PCML, WMH).

#### RINGED PLOVER *C. hiaticula*

FoT, 1 overwintered; it frequented the coast from the Miranda Limeworks to Taramaire; it was well coloured and had a yellow base to its bill when last seen on 19/10 (BB, BHS).

#### BANDED DOTTEREL *C. bicaudatus*

Te Werahi B, 4 on 23/2 (ASR, JMR); Parengarenga H, 87 on 14/7; East B, 18 on 18/8; Waimango Swamp, 31 on 2/11; North Cape area, 14 on 20/11; Paua, 750 on 30/3; Houhora H, 271 on 31/3; Karikari Pen, 800+ on 31/3 (AVH, RJP). Okura, 5 on 1/3 (G Wat). Onerahi Airport, 482 on 8/4, 505 on 24/5, 335 on 28/6 (PA); Whangarei H survey, 85 in Nov (MK). Whatipu Lag, 25 on 25/5 (TGL); Manukau H census, summer 9, winter 21 (BB); Karaka, an unusually high tally of 292 on 30/3 (VJL); FoT census, summer 2, winter 68; Miranda Limeworks, 113 on 11/4; Kawakawa Bay, 8 on 11/4; Mataitai, 28 on 11/4 (RJP, BB). Coromandel Pen survey, 176 for 30/5 to 2/6 (BB). Great Mercury I, 15 on 14/6 (TH). Clevedon E, 101 on 10/7 (JVD, AJG). Aotea, 120 on 14/3 (PB); Kawhia, 105 on 18/8, 422 on 8/6 (ASR, FN). Bowentown B, 21 on 28/6 (BC, KWLB). Sulphur Point, at least 2 pairs nesting on 3/11, 43 on 28/6 (KS, AM); Tauranga Airport, c.250 on 15/6 (NS); Kaituna Cut, 2 on 17/8 (BHS); Otamarakau to Herepuru Stream, 11 on 14/7 (KS); Herepuru to Matata, 1 pair on 14/7; Ohope Spit, c.25, one nest found on 16/11, c.300 on 1/2, c.400 on 16/3, c.350 on 29/6; Rangitaiki R E, 30 on 11/5; Whakatane R, Ruatoki, 1 on 11/1; Wairoa R, 1 on 28/11, Motu R E, at least 4 pairs nesting on 26/10; Whangaparaoa B, 3 pairs nesting on 27/10, 10 on 7/2, 9 on 13/5; Hick's Bay, 3 pairs nesting on 27/10 (PCML, WMH). Mt Tarawera, 1 nesting pair near airstrip on 15/11 (JGI). L Rotorua, Sulphur Bay, 12 on silica flats including 4 breeding pairs (JGI, RG). Wairoa R E, 6 on 5/11/83, 27 on 26/2/84, 42 on 25/4/84 (GAF). Muriwai, Wherowhero Lag, 1 on 30/7/83; 1 on 24/10/83, 9+ on 21/4/84, (BGJ, SCJ); Muriwai Lag, 5 on 14/12; Oraka E, 4 on 24/11, 11 on 6/4, 9 on 8/6; Whakaki Lag, 18 on 25/4; Wairoa E, 43 on 25/5 and 1/6 (GAF); Gisborne, Browns B, 8 on 14/10/84, c.5 on 28/1/85, c.9 on 2/2, 2 on 13/4 (BGJ, SCJ). Tutakuri R, 10 on 30/1, 18 on 1/2 (MT, PWT); Havelock North, Waipatu, c. 65 in field with fine tilth on 16/3 (KVT, MTC, JLL, CFM); Tukituki R, 14 km from E inland, 143 on 29/10 (RJP); Mangatahi, 6 on 7/6 (MT, PWT), L Hatuma,

36 on 9/3; Porangahau E, 141 on 8/3, 68+ on 22/6 (BDH, HAR). Wanganui E, 16 on 19/5; Wanganui South B, 2 on 30/11, 30 on 1/6; Whangaehu E, 5 on 16/10, 10 on 8/6; Turakina E, 13 on 19/10, 60 on 8/3 (PFB, OCT). Manawatu E, 100+ on 1/3, 28 on 9/3, 55+ on 19/4 (JLM, MM *et al.*); Rangitikei E, 50+ on 29/3 (LJD).

#### MONGOLIAN DOTTEREL *C. mongolus*

Miranda Limeworks, 1 associating with 5 Spur-winged Plovers on 2/1; still there on 27/4 (DS, SJD, ASRi). Manukau H, Karaka, 1 on 10/1 (DAL). Porangahau E, 1 on 8/3, 1 on 22/6 (BDH, HAR).

#### LARGE SAND DOTTEREL *C. leschenaultii*

FoT, Taramaire, 1 on 7/9, also at Access Bay where it was last on 19/10 (SJD, ASRi, BB), Manukau H, Karaka, 1 on 13/12 (JU).

#### BLACK-FRONTED DOTTEREL *C. melanops*

Matata Lag, 1 on 3/8 and 22/8 (PCML, RMW). Ahuriri E census, 27 on 13/7, 13 on 28/1; Tukituki E, 6 on 24/5; Mangatahi, 10 on 7/6 (MT, PWT); Waitangi census, 23 on 13/7 (KVT); Tukituki R, 14 km from E inland, 27+ on 29/10 (RJP); Hurimoana Swamp, 64+ on 26/4 (JGH); Glenmore Station, The Pigsty, c.40 feeding around wetland edge on 21/8 (RP). Porangahau E, 14 on 8/3, 6 on 22/6 (BDH, HAR). Whangaehu E, 3 on 23/11, 1 on 7/1, 1 on 28/6; Turakina E, 8 on 24/8, 6 on 7/1, 16 on 8/3, 5 on 28/5 (PCB, OCT). Omanaku Lag, 7 on 5/4 (AC, WRJ, MO, MO).

#### WRYBILL *Anarhynchus frontalis*

Great Exhibition Bay, 8 on 17/8; Kokota Spit, 12 on 23/11; Waimango Swamp, 3 on 13/3; Paua, 52 on 29/3 (AVH, JED). Manukau H census, summer 2, winter 1184; FoT census, summer 15, winter 1400; Taramaire, 2000 on 3 separate counts (BB). Aotea, 1 on 8/6; Kawhia, 1 on 8/6 (FN); Taharoa, 1 on 8/1 (SCn). Bowentown shellbanks, 2 on 28/6 (BC); Sulphur Point, 4 on 2/11, 120 on 31/3, 49 on 28/6 (KS, BHS, AM); Ohope Spit, 1 on 1/2 and 16/3 (PCML). L Rotorua, Sulphur Bay, 1 on 1/3 (RG). Wairoa R E, 1 on 5/11/83, 1 on 25/4/84 (GAF). Muriwai Lag, 42 on 1/8/83 (BRK); Muriwai, Wherowhero Lag, 38 on 30/7/83 (BGJ, SCJ); Kihitu, 6 on 6/2 (GAF). Porangahau E, 33 on 8/3, 40 on 22/6 (BDH, HAR). Wanganui E, 1 on 10/11, 3 on 10/1, 1 on 15/3; Turakina E, 2 on 19/10 and 16/11, 4 on 7/1 (PFB, OCT, GJR). Manawatu, 9 on 8/2, 14 on 9/3, 19 on 21/7 (LJD *et al.*).

#### FAR-EASTERN CURLEW *Numenius madagascariensis*

Paua, 2 on 14/7, 3 on 20/10, 1 on 26/1, 4 on 30/3 (AVH, G Wat, JS, MS). Manukau H census, winter 2 (BB); Karaka, 4 on 20/10, 2 on 11/11, 5 on 1/1, 7 on 10/1 (KJF, GJE, RBS, PS, DS, DAL); FoT census, summer 6, winter 3, 9 on 2/2, 10 on 17/2, 2 on 27/6, one of which was seen to swallow a crab (SJD, ASRi, BRK, BHS). Ohope Spit, 1 on 2/10 (WMH). Manawatu E, 1 from 12 Oct to 8 Nov, 2 from 9 Nov to 9 Feb, 1 on 9/3 (CRS, PMS *et al.*).

#### ASIATIC WHIMBREL *N. phaeopus variegatus*

Paua, 32 on 26/1; Rangaunu H, Walker I, 27 on 7/7 (AVH). Karaka, c.30 on 1/1 (DS); Manukau H census, winter 4; FoT census, summer 47, winter 3; Access Bay Spit, newly arrived on 21, 22/9 and on the latter date

2 flocks of 24 and 6 were counted early in the day but later c.40 recorded (BB). Kawhia, 3 on 8/6 (FN). Kaituna Cut, 3 on 19/10, 5 on 14/12, 2 on 26/1 and 30/3 (PCML, JLM, MM, DGB); Ohope Spit, 2 on 16/11, 3 on 1/2 (WMH). Wairoa R E, 1 associating loosely with Bar-tailed Godwit on 16/12/84 (GAF). Wanganui E, 1 calling in flight with Spur-winged Plovers on 4/2 (PFB).

#### WHIMBREL sp.

Ahuriri E, 1 uttering a 4 note call in flight on 28/10 (KVT).

#### LITTLE WHIMBREL *N. minutus*

Paua, 1 on 30/3 (G Wat, JW, AVH).

#### ASIATIC BLACK-TAILED GODWIT *Limosa limosa*

FoT, Access Bay, 4 being chivvied by Bar-tailed Godwits on 2/1 (GA, DS); Miranda, 2 on 18/1 (PFB, GJE); Limeworks, 1 on 27/4 (ASRi). Manukau H, Karaka, 1 on 10/1, 3 on 21/1 (DAL, HM, PFB, AJG); Urquharts Farm, 2 in autumn (DU). Kaituna Cut, 2 on 19/10 (PCML); Sulphur Point, 1 in breeding dress on 29/3 (BC).

#### BAR-TAILED GODWIT *L. lapponica*

Parengaenga H, main arrival 4, 5/10 (BN); Okura, 2 on 26/1, 1 on 22/3 (G Wat). Poutu, 23 on 23/2 (PA). Whangarei H survey, 3206 in Nov (MK). Manukau H census, summer 10 693, winter 2116; FoT census, summer 7157, winter 373 (BB); Karaka, 4000 on 10/1 (DAL); Access Bay, 1200 in three overwintering flocks on 22/9, also 2 other flocks sleeping over the high water period, 1 having arrived on 21/9 and the other on 22/9; Pukorokoro Creek, 6000 the maximum for a FoT roost on 9/2. Coromandel Pen survey, 130 for 30/5 to 2/6 (BB). Aotea, 239 on 8/6; Kawhia, 362 on 8/6 (FN). Bowentown shellbanks, c.3000 on 2/11, 160 on 28/6 (NS); Matahui Point, 355 on 28/6 (PCML); Omokoroa, 25 on 28/6 (NS); Sulphur Point, 1500 on 3/11, 32 on 28/6, 180 on 31/3 (KS, AM, BHS); Kaituna Cut, 130 on 28/9, 489 on 19/10, 500 on 14/12, c.600 on 26/1 (PCML, JLM, MM); Maketu, 36 on 15/6; Tarawera R mouth, 1 on 29/6 (KWL B, NS); Rangataiki R mouth, 1 on 6/11; Ohope Spit, c.4000 on 16/11, c.3000 on 16/3, 320 on 29/6; Waiau R E, 5 on 28/11; Waihou Bay, Oruaiti B, 1 on 26/10; Whangaparaoa B, 4 on 27/10; Hick's Bay, 1 on 27/10 (PCML, WMH). Wairoa R E, 60 on 5/11/83, 140 on 29/12/83, 1 on 25/4/84; Whakaki Lag, 8 with unidentified whibrel on 5/1/84; Nuhaka R mouth, 1 on 5/11/83; Mahia, Oraka, 32 on 5/11/83 (GAF). Muriwai Lag, 200 on 5/12/83 (BRK); Muriwai, Wherowhero Lag, 23 on 30/7/83, 200 + on 9/10/83, 200 + feeding on mudflats on 24/10/83, c.20 on 21/4/84 (BGJ, SCJ). Wairoa R E, 170 on 3/11/84, 188 on 16/12/84, 7 on 8/4/85, 107 on 29/9, 11 on 25/5, 6 on 1/6; Muriwai L, 226 on 14/12; Oraka 14 on 2/11, 30 on 17/1, 27 on 8/6; Whakaki L, 208 on 9/3; Kihitu L, 51 on 6/2 (GAF). Gisborne, Browns B, 38 on 28/1/85, 82 on 16/3/85, c.35 on 2/2, 20 + 13/4 (BGJ, SCJ). Ahuriri E census, 75 on 13/7, 223 on 6/10, census 372 on 23/11, 400 + on 7/1 (MT, PWT, KVT). Porangahau E, 145 on 8/3, 38 on 22/6 (BDH, HAR). Manawatu E, 173 on 30/9, 515 on 26/11, 426 on 19/3 (WRJ, MO, RAC, SEC, LJD). Wanganui E, 3 on 17/8, 127 on 10/11, 25 on 28/6; Turakina E, 15 on 19/10, 17 on 16/11, 3 on 27/3; Whangaehu E, 1 on 19/10, 8 on 23/11, 1 on 1/2 (PFB, OCT).

**GREENSHANK** *Tringa nebularia*

Matahui Point, 1 on 28/6 (PCML).

**WANDERING TATTLER** *T. incana*

Karikari B, 1 on 2/11, 27/1 and 15/3 (AVH, JED).

**SIBERIAN TATTLER** *T. brevipes*

Paua, 1 on 29/3 (G Wat). FoT, Limeworks, 1 a pale bird on 16/2; when last reported, its flanks were becoming barred, on 19/5 (BB, DGB, BC).

**TATTLER** sp.

Ohope Spit, 1 on 29/6 (PCML); Te Araroa, 1 on 27/10 (KS)

**TEREK SANDPIPER** *Xenus cinereus*

Karaka, 1 on 21/1 (PFB, AJG); FoT, Access Bay, 1 on 22/9, 2 on 19/10, 3 on 7/11, 2 on 27/1 and 15/3 (BB *et al.*). Muriwai Lag, 1 with wrybills on 5/3/84 (BRK). Wairoa R E, 1 on 25/12/84 (GAF). Ahuriri E, southern marsh, 1 on 15/12 (KVT).

**TURNSTONE** *Arenaria interpres*

Henderson Bay, 10 on 28/9; Paua, 409 on 5/10; Waimango Swamp, 45 on 2/11; Aupouri Pen survey, 122 in Jan; Parengarenga, 743 on 30/3; Houhora H, 271 on 31/3; Parengarenga, 751 on 28/6 (AVH, RJP, G Wat); Karikari Pen, 500 2 km inland on 31/3; Okura, 1 on 9/2, and 22/3 (G Wat). Whangarei H survey, 36 in Nov (MK). Manukau H census, summer 252, winter 115; FoT census, summer 94, winter 28 (BB); Karaka, 400 on 10/1 (DAL); Miranda Limeworks, 29 on 18/1; Access Bay, c.500 on 18/1 (PFB, GJE). Coromandel Pen survey, 2 for 30/5 to 2/6 (BB). Bowentown shellbanks, 250 on 2/11, 85 on 28/6 (BC, KWLb); Kaituna Cut to Maketu, 8 on 28/9, 18 on 19/10, 40 on 16/11, 3 on 15/6 (PCML, NS). L Rotorua, Sulphur Bay, 1 on 5/12 (RG, JGI). Wairoa R E, 2 on 16/12/84 (GAF). Westshore, 1 on 15/5 (ALH); Waitangi, 1 on 1/11 (KVT). Manawatu E, 2 on 14/11, 2 on 2/2, 4 on 31/12 (WRJ, MO, PFB, JLM, MM). Turakina E, 1 on 7/1 (PFB, OCT).

**KNOT** *Calidris canutus*

Karikari Pen, Waimango Swamp, 228 on 27/1, 112 on 13/3 (JED). Whangarei H survey, 3849 in Nov (MK). Manukau H census, summer 16 746, winter 3040; FoT census, summer 4461, winter 700. Coromandel Pen survey, 32 for 30/5 to 2/6 (BB). Whangapoua, 60+ on 4/5 (EEP); Clevedon E, Mataitai, 93 on 30/11; South Duder's Point, c.100 on 30/11, 900 on 22/3 (AJG, MG, SG). Bowentown shellbanks, 10 on 2/11 (BC); Kaituna Cut to Maketu, 4 on 12/10, 6 on 19/10, 74 on 17/11, 6 on 15/6 (PCML, NS); Little Waihi, 14 on 16/11 (KS); Tauranga H, Matahui, 10 on 3/11; Ohope Spit, 6 on 16/11, 2 on 1/2; Hick's Bay, 1 on 27/10 (PCML, WMH). Muriwai Lag, 5 on 7/11/83 and 5/12/83 (BRK); Kihitu Lag, 4 on 6/2; Wairoa E, 1 on 29/9 (GAF). Ahuriri E census, 14 on 23/11, 15 on 28/12, 2 on 12/1 (KVT, PFB, MT, PWT); Waitangi, 2 on 29/12 (PFB); Tukituki E, 16 on 23/11 (KVT). Wanganui E, 24 on 21/11, 1 on 11/2 and 2/5 (PFB, OCT, GJR); Turakina E, 3 on 16/11, 1 on 7/1 (PFB, OCT). Manawatu E, 167 on 14/11, 220 on 9/2, 112 on 9/3 (MO, MO *et al.*).

**GREAT KNOT** *C. tenuirostris*

Wanganui E, 1 on 1/2 (PFB, OCT).

**SHARP-TAILED SANDPIPER** *C. acuminata*

Waimango Swamp, 15 on 2/11, 14 on 27/1, 14 on 13/3 (JED, AVH). Onerahi Airport, 2 on 7/5 (PA). Manukau H census, summer 18; FoT census, summer 40 (BB). Kaituna Cut, 1 on 7/9, 8 on 30/11, 6 on 16/2, 5 on 30/3 (BHS, PCML, RJ, DGB). L Rerewhakaaitu, 1 from 29/12 to 6/1 (RG, GPG, JGI). Muriwai Lag, 4 on 14/12 (GAF). Ahuriri E census, 5 on 23/11, 3 on 2/1 (KVT, MT, PWT). Porangahau E, 2 on 8/3 (BDH, HAR). Manawatu E, 1 or 2 from 30/11 to 2/3, 6 on 9/3 (CRS, PMS, *et al.*).

**PECTORAL SANDPIPER** *C. melanotos*

FoT, Access Bay, 1 on 20/10 (SJD, ASRi). Kaituna Cut, 1 on 16/11 (PCML). Ahuriri E, southern marsh, 2 on 3/11, 1 on 2/1 (MT, PWT). Porangahau E, 2 on 8/3 (BDH, HAR). Turakina E, 2 on 1/2, 1 on 23/3 (PFB, OCT). Manawatu E, 1 on 1 and 2/3 (JLM, MM).

**CURLEW SANDPIPER** *C. ferruginea*

Paua, 1 on 14/7 (AVH). Manukau H census, summer 3, winter 2; Karaka, maximum 3; FoT census, summer 3 (BB); Access Bay, 15 on 20/10 (SJD, ASRi); Taramaire, 18 on 16/3 (BB, DGB, SJD). Kaituna Cut, 1 on 19/10 (PCML). Wairoa R E, 1 on 16/12 and 25/12/84; Muriwai L, 3 on 14/12 (GAF). Manawatu E, 1 on 1, 11 and 18/1 (JLM, MM).

**RED-NECKED STINT** *C. ruficollis*

Paua, 25 on 29/3 (G Wat, AVH); Waimango Swamp, 3 on 2/11, 2 on 15/3 (AVH, JED). Manukau H census, summer 20, winter 1; Karaka, 10 on 18/8 (BB, KJF); FoT census, summer 3, winter 1, but 4 overwintered; 1 in full breeding plumage following another through a Wrybill flock with head lowered and tail fanned chattering excitedly on 23/8; max 9 on 19/10, 6 on 15/3, 1 with very rufous collar (BB, BC, BHS). Kaituna Cut, 2 on 28/9, 3 on 16/11, 6 on 30/11 (PCML). Ahuriri E, southern marsh, 2 on 17/11 (ALH, ACS, MT, PWT). Porangahau E, 11 on 8/3, 4 on 22/6 (BDH, HAR).

**SANDERLING** *C. alba*

Tukituki R, near Tennant Rd, 1 on 29/10 (RJP).

**RUFF** *Philomachus pugnax*

L Poukawa, 1 on 1/11 (RP, H Rook).

**PIED STILT** *Himantopus himantopus leucocephalus*

Paua, 200 on 29/3; Okura, 84 on 26/1, 220 on 7/2, 270 on 1/3, 100 on 26/6 (G Wat). Whangarei H survey, 87 in Nov (MK). Manukau H census, summer 1006, winter 2278; Karaka, 386 on 21/7, 20 on 8/2 (BB, SJD, ASRi); FoT census, summer 736, winter 5234; Miranda to Taramaire, 635 on 4/8; Limeworks, 335 on 9/2; Pukorokoro Creek, 300 on 9/2. Coromandel Pen survey, 323 for 30/5 to 2/6; Opoutere, 120 on 28/3 (BB). Aotea, 232 on 8/6; Kawhia, 278 on 8/6 (FN). Matahui Point, 248 on 28/6; Kaituna Cut, 17/11, 2 adults dive bombing an adult stoat which had a three-quarter grown kitten with it; the birds were attacking so intensely that the adult stoat sat up on its hind legs, considered the situation and then continued in a different direction; 310 on 30/3; Sulphur Point, 65 on 31/3 (PCML, DGB). Waiotahi E, 12 in June 1985; Waiaua R E, 37 in July; Whangaparaoa B, 16 in May (WMH). Wairoa R E, 6 on 5/11/83, 190 on 29/1/84, 41 on 25/4/84; Mahia, Maungawhio Lag, 15 on 18/12/83 (GAF). Muriwai, Wherowhero

Lag, c.116 on 30/7/83, c.9 on 21/4/84 (BGJ, SCJ); Tolaga Bay E, 18 on 11/5; Mahia, Oraka, 32 on 24/11, 45 on 6/4; 33 on 8/6; Whakaki Lag, 584 on 9/3, 26 on 25/4; Kihitu Lag, 26 on 29/9, 27 on 6/2; Wairoa E, 61 on 25/5, 68 on 1/6 (GAF). Gisborne, Browns B, 1 on 14/10/84, 2 on 16/3/85, 44 on 13/4 (BGJ, SCJ). Ahuriri E, 940 on 13/7, census 365 on 23/11, 550 on 30/3 (KVT, MT, PWT); Puketapu census, 220 on 13/7; Waimarama, 56 on 13/7; L Poukawa, 500 on 13/7 (KVT); Tukituki R, 14 km from E inland, 104 on 29/10 (RJP). Porangahau E, 151 on 8/3, 112 on 22/6 (BDH, HAR). Wanganui E, 106 on 10/11; Turakina E, 49 on 28/6 (PFB); Whangaehu E, 30 on 8/6 (PFB, OCT). Manawatu E, 210 on 6/7, 335 on 3/5; Whirokino, 100 on 3/8; Wellington H, Petone to Ngauranga, 1 on 18/7 (JLM, MM).

#### BLACK STILT *H. novaeseelandiae*

FoT, Miranda Limeworks, 3 hybrids with heavy black collars and 4th with a deep black gorget and heavy patches on flanks on 7/7 (BB). Miranda paddocks, 27/6, about one-third showed hybrid characteristics in a flock of 100 Pied Stilts, i.e. black on back of neck, continuous with black on back and complete or almost complete neckband. Miranda, 1 mainly black with a white face and a white belly black-speckled; another had a white face, crown and neck but the ear coverts were black through to eye and lower breast, belly white on 15/3 (BHS). Manurewa, Puhinui, 1 all black but for small white patch around bill and about 3 white feathers either side of tail; it was very agitated and did broken wing display; a pair of Pied Stilts nearby were being harassed on 23/10 (GD). Kawhia, 4 with 9 hybrids on 8/6 (FN). Matahui Point, 2, 1 pure black the other with white undertail coverts on 28/6 (PCML). Manawatu E, 1 hybrid on 1/3 (JLM, MM).

#### ORIENTAL PRATINCOLE *Glareola maldivarum*

Jordans Farm, 1 on 30/11 (DFB, SC, BS, CE).

#### SOUTHERN GREAT SKUA *Stercorarius skua*

Foxton B, 2 passing north on 24/12 (JLM, MM).

#### POMARINE SKUA *S. pomarinus*

Karikari B, 1 chasing White-fronted Terns on 15/3 (G Wat). Off Kihitu, 5 birds, 3 dark and 2 light phase among birds working a kahawai school on 6/2 (GAF). Foxton B, 1 on 24/12 (JLM, MM).

#### ARCTIC SKUA *S. parasiticus*

Rangunu H, 3 on 4/2 (MMB, VJL); Kaikai B, 5 chasing White-fronted Terns on 25/2 (ASR, JMR). Tauranga Bay, 3 on 20/4 (G Wat). Whatipu, 8 on 14/1 (JED). Hauraki Gulf, particularly common on 28/2 (KB). Kawau I, Maori Passage, a flock of 7 on water on 1/4 (TGL). Little Barrier I, 1 pursuing White-fronted Terns and Fluttering Shearwaters on 30/3; Kawau I, 1 on 14/5; Motuihe I, 4 on 23/1 (PFB). FoT, Access Bay Spit, c.25 chasing White-fronted Terns off the spit on 7/12 (RJHC, JED). Raglan, 1 light phase on 8/12 (ARP, ASR, RM). Whakaki, 1 harassing White-fronted Terns often flying low along the beach on 17/11/83; Wairoa, off Kihitu, 2 in dark phase among birds working a kahawai school on 6/2 (GAF). Clifton 7, 3 light, 2 dark, and 2 intermediate phase on 28/12; Wanganui, 1 on 9/2, 3 on 11/2; Tangimoana, 3 on 8/3 (PFB). Foxton B, 6 on 26/1 (JLM, MM).

**SKUA sp.**

Raglan, 2 besides an Arctic Skua on 8/12 (ARP, ASR, RM). Wellington H, Ngauranga to Somes I, 2 on 26/3, 1 on 27/3 and 8/4 chasing White-fronted Terns (JLM, MM).

**BLACK-BACKED GULL *Larus dominicanus***

Onerahi Airport, 32 on 24/5, 38 on 8/6 (PA). Manukau H census, summer 406, winter 558; FoT census, summer 18, winter 33 (BB). Wairoa, Ngamotu Lag, 119 nests on shingle bar on 5/11/83; Wairoa R E, c.550 on 26/2/84, c.800 on 25/4/84 (GAF). Muriwai, Wherowhero Lag, c.20 on 30/7/83, 250+ on 21/4/84; Gisborne, Browns B, c.300 on 14/10/84 and 28/1/85, 12 on 2/2 (BGJ, SCJ). Waitangi, c.600 on 25/5 (MT, PWT); East Clive, 1000 on 7/6; Tukituki E, 450 on 28/1 (KVT). Cape Kidnappers, 2 km west of Black Reef, 30+ nests on 30/12. Wanganui E, 1000 on 1/6 (PFB). Foxton B, colony near No. 3 L, 150 nests on 9/11. Wellington H, just south of Petone, 2 pairs breeding, observations 10/12 to 27/2 (JLM, MM).

**RED-BILLED GULL *L. novaehollandiae scopulinus***

Onerahi Airport, 3 on 8/4, 7 on 7/5 (PA). Auckland, Mission Bay, perching on a power line on 5/4 (MJT). Manukau H census, summer 204, winter 3004; FoT census, summer 18, winter 648. Coromandel Pen, Paku I colony, abandoned on 27/11; Opoutere, Hikanui I, 81 sitting on 26/12 (BB, DGB). Maketu Spit, c.30 and 20 nests on 19/10 but by 9/11 all had disappeared; Motu R mouth, c.50 pairs nesting on shingle bank on 26/10 (PCML); Ohope Spit, c.30 nests on 31/12, 20 adults with 2 live and 1 dead downy young on 1/2 (RMW, PCML). Napier, Marine Parade, c.1300 a mixed flock of Red-billed and Black-billed Gulls on 21/6 (MT, PWT); Waitangi census, 440 on 13/7, Tukituki E census, 237 on 13/7 (KVT).

**BLACK-BILLED GULL *L. bulleri***

FoT census, summer 183, winter 99 (BB). Matahui Point, 9 on 7/7, 12 on 28/6 (BC, PCML); Little Waihi, 2 on 3/8; Rangitaiki R mouth, c.30 on 31/5; Tararewa R mouth, 10 on 14/7, 6 on 11/5 (PCML). Whakaki Lag, c.300 on 9/3 (GAF). Gisborne, Browns B, 1 on 14/10/84 (BGJ, SCJ). L Poukawa, 200 on 10/7 (KVT). Wellington H, off Ngauranga, 1 on 2 and 27/5 (JLM, MM).

**WHITE-WINGED BLACK TERN *Chlidonias leucopterus***

Okura, 1 in near full breeding plumage on 26/6 (G Wat). Motu R mouth, 1 possibly of this species on 28/10 (BC). Manawatu E, 1 on 9/3 (LJD *et al.*).

**GULL-BILLED TERN *Gelochelidon nilotica***

Ahuriri E, 1 being harassed by a Caspian Tern on 6/7, 1 on 28/10, 1 in breeding plumage on 30/3 (MT, PWT, KVT). Wanganui E, 1 from 6/12 to 31/12 (GJR, PFB).

**CASPIAN TERN *Hydroprogne caspia***

Okura, 8 on 26/4; Te Haumai, 10 on 16/1, c.47 roosting on 13/7; L. Omopere, 3 on 13/7; Port Whangarei, 30 on 15/7 (G Wat). Poutu, 23 on 23/2 (PA). Whangarei H survey, 53 in Nov (MK). Mangawhai Spit, 120 nesting pairs on 19/10, the colony was fenced for protection, c.70 young fledged Nov to Jan; Shoal Bay, a solitary pair reared one chick; Tamaki E,

post-breeding flock of 31 on 12/2 (MJT); South Kaipara Head, 57 on 27/11 but no colony established (CJ); Mangere SP, 35 on 27/1, 40 on 27/4 (CS, JED). Manukau H census, summer 55, winter 35; FoT census, summer 28, winter 49; Coromandel Pen survey, 356 for 30/5 to 2/6 (BB). Karaka, 56 on 21/6 (PFB, AJG). Waikato R mouth, colony 178 adults, 42 + chicks, 11 + sitting on 8/12 (AJG). Bowentown shellbanks, c.50 nesting on 2/11, 39 on 28/6 (BC); Matahui Point, 18 on 3/11, 11 on 28/6 (PCML); Sulphur Point, 22 on 3/11, 114 on 31/3 (KS, BHS); L Aniwhenua, 14 on 11/8 (PCML); Matahina L, 3 on 15/9; Ohakuri, Waikite Valley, 4 on 15/9; Whakatane R E, 4 on 2/7 (WMH); Ohope Spit, 36 with some running chicks on 31/12, 40 on 16/11, 27 with 9 chicks on 7/1, 30 with young varying from fledged to downy on 1/2 (RMW, WMH, PCML); Waioeka R mouth spit, 1 nest with 1 egg on 3/11 (WMH). Turangi SP, 1 with full black cap and 2 with smudgy cap on 12/10 (JGI). Muriwai, Wherowhero Lag, 2 on 30/7/83; Gisborne, Browns B, 1 on 16/3/85, 2 on 13/4 (BGJ, SCJ). Ahuriri E, 28 on 30/3 (MT, PWT); Tukituki E, 17 on 7/6 (KVT); Maraetotara R mouth, 5 on 3/6 (BT). Wanganui E, 3 on 2/2; Whangaehu E, 1 on 8/6; Turakina E, 2 on 8/6 (PFB, OCT). Manawatu E, 8 on 9/3, 19 on 16/3 (JLM, MM *et al.*).

#### ARCTIC TERN *Sterna paradisaea*

Mt Maunganui B, 1 freshly dead on 20/11 (KF, PCML).

#### BLACK-FRONTED TERN *S. albobristata*

Matahui Point, 3 on 7/6 (BC); Tarawera R mouth, 3 on 11/5 (PCML); Rangataiki R mouth, 25 on 14/7, 6 on 11/5, 11 on 31/5, 6 on 29/6; Awaitei, 25 feeding in field of cattle and roosting on fence posts, on 29/6 (PCML, AM). Opoutama B, 1 resting during a southeast gale on 28/7 (GAF). Napier, Marine Parade, 33, one first-year on 6/7, 2 on 20/4, 40 on 14/6, including Waitangi and Tukituki E a total of 48 with 6 first-years on 24/5 (MT, PWT); Waitangi, 1 on several occasions over summer (KVT). Manawatu E, singles on 21/7 and 2/3 (JLM, MM).

#### FAIRY TERN *S. nereis*

Mangawhai Spit, 2 pairs on 19/10, 2 nests each with 2 eggs on sand island; one chick fledged from each by 3/2 (MJT, SD). South Kaipara Head, nest with 2 eggs on 19/11 but not successful (CJ). FoT, north of Access Bay, 1 on 10/7; it showed more black on the head and bill had become yellowish on 23/8 (BC).

#### LITTLE TERN *S. albigrons*

Rangaunu H, Walker I, 66 on 5/12 (AVH). Whangarei H survey, 3 in Nov (MK). Manukau H census, summer 4, the maximum for the year (BB); FoT census, summer 6, 12 + on 20/11, 2 with one pale and the other in full breeding dress on 29/5 (BB, BC). Kaituna Cut to Maketu, 2 on 9/11 and 14/2 (PCML); Kaituna Cut, 1 imm on 26/1 (JLM, MM). Waipaoa R mouth, 1 with c.50 White-fronted Terns on 7/11/83 (BRK). Napier, Marine Parade, 1 on 25/5, 1 roosting with mixed flock of gulls and terns on 8/6 (MT, PWT); Waitangi, 2 on 29/12 (PFB). Wanganui E, 2 on 14/11, 4 on 26/11, 5 from 6/12 to 19/5 (PFB, GJR); Whangaehu E, 1 on 6/11 (PFB, OCT). Manawatu E, 1 from 9/11 to 11/1 (JLM, MM).

**WHITE-FRONTED TERN** *S. striata*

Matauri Bay, 200 on the beach and 500 offshore on 20/4; Waitangi, c.200 on 13/7; Paihia, 60 on 16/1 (G Wat). South Kaipara Head, 300 on 1/12, colony of c.90 pairs in Dec (CJ); Muriwai, c.80 nests on cliff ledges and c.30 nests on the stack on 28/12; Okahu Bay, Waitemata H, nesting colony of c.200 pairs on wave screen in Nov, chicks on 26/12; Whatipu, c.120 courtship display on 29/11 but colony disturbed, flock of 170 on 15/3, 850 on 23/6 (MJT, KM, CS, JED). Manukau H census, summer 412; FoT census, summer 2166, winter 17. Coromandel Pen survey, 802 for 30/5 to 2/6 (BB). Access Bay colony, c.300 calling loudly and offering fish on 19/10, not counted but c.50% sitting on eggs and at southern end most had chicks which were up to 3 weeks old (BHS, SJD, ASRi). Taharoa, regular flock with maximum of 230 on 10/11, 215 on 13/4 (ASR, JMR, ARP). Maketu Spit, 3 pairs nesting on 9/11 (PCML); Ohope Spit, c.300 nesting on 31/12; 15 adults c.45 juvs ranging from fledged to young downies, probably another 50 downies dead among the jetsam after a recent northeast storm on 1/2; c.300 on 29/6; Motu R mouth, c.200 pairs breeding on shingle bank on 26/10 (RMW, PCML). Whakaki, 219 working east along shoreline at dusk on 17/11/83 (GAF). Gisborne, Browns B, a reported c.100 nests in lagoon mouth area, numerous with adults feeding young on 28/1/85, 7 on 16/3/85, 26 on 13/4 (BGJ, SCJ). Napier, Marine Parade, 80 on 16/5 (MT, PWT); East Clive, c.30 nesting on 30/9, deserted on 7/10; Waitangi, 3 scrapes each with 1 egg on 1/11, deserted on 15/11 (KVT); Cape Kidnappers, Black Reef, 73 nesting on cliff on 14/11 (BT). Wanganui E, 300 on 5/2; Rangitikei E, 800 on 8/3 (PFB, GJR). Manawatu E, 250 on 2/1; Wellington H, maximum c.50 on 2/4 (JLM, MM).

**NEW ZEALAND PIGEON** *Hemiphaga novaeseelandiae*

Waiotira, 1 feeding on japonica on 17/7, 2 feeding on plum foliage on 26/12; Birkenhead, feeding on fruiting Ackmena in garden on 28/7; Tiritiri I, 3 in taraire forest on 8/11 (TGL). Boundary Stream Res, 7 on 7/3 (KVT). Wanganui, 4 resident; Rautiti, 3 on 25/10 (PFB); Te Rei Bush, 3 on 9/2 (RAC, SEC *et al.*).

**ROCK PIGEON** *Columba livia*

Ngauranga, c.50 on 6 and 7/1, not seen in such numbers at other times (JLM, MM).

**MALAY SPOTTED DOVE** *Streptopelia chinensis*

South Auckland to Albany, numerous records of pairs; Mangere, Puketutu I, colony of c.200 (MG, SG); Albany, calling in an area of mixed pines and native bush on 3/12 (TGL); Papakura, Red Hill, a pair resident (BB).

**BARBARY DOVE** *S. risoria*

Mangere, Puketutu I, pair on 23/2 (CS); East Tamaki, 8 on 13/5 (MG, SG); Clevedon, 1 on power line on 2/6 (EEP).

**WHITE COCKATOO** *Cacatua galerita*

Waitakere Ranges, Cascades Park, pair on 24/8 (MG, SG); Wairere Rd, 5 on 17/8 (JES); Arataki Trail, 1 on 24/4 (CS); Helensville, 8 flying towards Woodhill F on 5/1 (MB). Onewhero, Wairamarama, 140+ on ground

turning over inkweed or in ti tree (DMW). Port Waikato, 16 flying south (ASR, JMR). Clark's B, Camp Morley, 8 in mid-Nov (AVS). Wanganui, Mangamahu, 10 on 24/5, up to 50 in the area (PFB). Pahiatua, 1 being harassed by magpies on 15/10 (WRJ).

**KAKA** *Nestor meridionalis*

Onerahi, 1 on 30/8 (PA). Middlemore Hospital grounds, 3 on 29/7, small groups for a few days around 2/9 (JVD, MH). Glenfield, 1 on 17/8 (JED); Birkdale, 1 for several weeks around 12/9 (DC). Leigh Cove, c.9 resident (JT). Port Waikato, Cole-Baker Res, 1 calling on 19/5 (ASR, JMR). Waimongu Valley, 1 heard on 9/5 (BHS). Ohakune, 2 near track to L Rotokuru on 9/10 (TGL). Wairoa, 1 visiting gardens in town from 5/7 to 31/8/83 (GAF). Kaweka Range, Makahu Hut, 1 on 10/11 (BT).

**EASTERN ROSELLA** *Platycercus eximius*

Kaitaia, common on the reservoir hill throughout year (AVH). Orere, Tapapakanga Stream, 2 on 23/2 (AJG). Papakura, Red Hill, several calling throughout May (BB). Mt Karioi, 6 on 19/3 (MO). Levin, Kimberly Res, 10 on 15/10 (WRJ).

**RED-CROWNED PARAKEET** *Cyanoramphus novaezeelandiae*

Tiritiri I, 1 on 18/8. Wellsford, Logues Bush, 2 on 18/5 (MJT). Little Barrier I, flocks of up to c.20 on flats on 27/3 to 1/4 (PFB).

**YELLOW-CROWNED PARAKEET** *C. auriceps*

Hen I, several early Jun (TGL). Little Barrier I, 3 above Te Hue, 2 at 580 m, others heard at 610 m, 1 at 185 m asl on west side feeding on ground on 19, 20/5 (PFB).

**SHINING CUCKOO** *Chrysococcyx lucidus*

Waipoua SF, 1 on 3/10 (PA). Birkenhead, some still calling on 12/1 (TGL). Meremere, 2+ singing strongly on 13/9; Clevedon, first song on 19/9, last short song on 12/2 (AJG). Ohakune Domain, Lakes Rd, numerous on 21/11 (TGL). Gisborne, Muriwai, 1 on 23/9/83; Gisborne, Hinenui Bush, heard on 6/9/84; Pakowhai, first of season heard on 5/10 about 2½ weeks late (BGJ, SCJ); Shines Falls, 4 flying around and perching close to a tramping party on 2/11 (ALH). Te Awanga, 1 calling on 30/9 (BT); Clifton, 1 on 29/12; Wanganui, Rautiti, 5 on 28/10; Westmere, 2 on 9/11; Wanganui, 2 on 3/2 (PFB).

**LONG-TAILED CUCKOO** *Eudynamis taitensis*

Awhitu Pen, 1 heard on 7/3 (VR). Papakura, Ponga Hill, 1 stunned when it hit window but it revived rapidly when investigated by a dog on 2/1 (CW). Coromandel Pen, Coroglen-Tapu Rd, 1 in Nov (AB). Waioeka Gorge, Manganuku R, numerous on 12/10 (WMH). Boundary Stream, 1 calling on 2/11 (ALH). Kaweka Range, Makahu Hut, 1 heard on 10/11 (BT).

**MOREPORK** *Ninox novaezeelandiae*

Kaitaia, Reservoir Hill on edge of urban area, heard most nights (AVH). Whirinaki, 8/7, 1 swooped at a Grey Warbler singing in a bush but missed (BHS). Foxton B, Round Bush, 1 on 21/9 (JLM, MM). Wanganui, heard regularly (PFB); Te Rei Bush, 2 on 9/2 (LJD).

**NEW ZEALAND KINGFISHER** *Halcyon sancta vagans*

Onerahi, 1 on 19/8 the first call of the season (PA). Clevedon, 2 burrows

being cleaned out on 31/8 (AJG). Ahuriri E census, 14 on 13/7; Waimarama, 10 on 13/7 (KVT). Manawatu E, 19 on 7/6 (JLM, MM). Moawhango, Te Rei Bush, 1 on 9/2 (CRS, PMS *et al.*).

**KOOKABURRA** *Dacelo novaeguineae*

Leigh, Omaha, Matakana, Warkworth, Mahurangi West, Puhui, Wainui, Hatfields B, Kaukapakapa, Patukuri, Helensville, a total of 12 records of 1 or a pair in this area (MG, SG).

**NORTH ISLAND RIFLEMAN** *Acanthisitta chloris granti*

Little Barrier I, Awaroa Stream, territorial male on 30/3 (PFB, GAP). Ohakune, Karioi SF, present in mature *P. contorta* on 9/10 (TGL). Mohi Bush, 6 on 3/10 (ARG, KVT). Ruahines, Triplex Hut, common on 22/3 (J Ber); Moawhango, Te Rei Bush, 4 on 9/2; Hihitahi SF, 2 on 9/2 (LJD, SED *et al.*).

**SKYLARK** *Alauda arvensis*

FoT, Miranda, 1 nest 3 eggs on 31/12 (BHS). Gisborne, Browns B, 6 on 28/1/85, 5 on 16/3/85, 6 on 13/4 (BGJ, SCJ). Waitotara, 1 albino on 11/12 (PFB).

**WELCOME SWALLOW** *Hirundo tahitica neoxena*

Cuvier I, 3 flying north 5 km south on 26/2 (TGL). Maiora, during a beach patrol dozens fed over the edge of receding waves over tidewrack on 20/4 (BB, DGB). Otanewainuku, 1 hawking over summit on 18/8 (BHS). Wairoa, Whakamahi Lag, c.550 swarming above or perched on fence wires on 3/6/85, absent on 8/6/85, c.250 on 22/6/85 (GAF). L Oinga, c.2000 going to roost in raupo on 6/2 (JGH, RMH). Glenmore Station, 50+ on 23/3 (KVT). Wanganui, L Wiritoa, 200 on 6/7 (PFB). L Horowhenua, 2000+ on 20/1 (WRJ).

**NEW ZEALAND PIPIT** *Anthus novaseelandiae*

Onerahi Airport, 1 from 8/4 to 8/6 (PA). Auckland Region, records from Mangawhai Spit, Taporā, Jordans Farm, Oyster Point, Muriwai, Te Henga, Whatipu, and Ponui I (MJT); Bombay, Pinnacle Hill, 3 pairs in April (IS). Ruapehu, Turoa, a few around the car park at 1585 m on 16/10 (TGL). Gisborne, Sponge Bay, 1 on 31/10/83 and 12/12/83 (BRK); Oraka E, 4 on 24/11 (GAF). Clifton, 14 in flock feeding on goosefoot sorrel seed on 18/3 (KVT). Ruahines, Armstrong Saddle, common on open tops on 23/3 (J Ber).

**HEDGESPARROW** *Prunella modularis*

Waiotira, 1 calling on 24/4 (TGL). Huia, 6 singing on 24/8 (JES, MJT); Piha, 1 singing in garden of Forest and Bird Lodge on 30/11 and 17/5 (MJT); Whatipu, widespread in the scrub (JED, MG, SG, MJT). Tiritiri I, quite common in scrub on 8/11 (TGL). Papakura, Red Hill, a pair resident in garden and singing well on 5/9 (BB); Pollock, common on 27/4 (MG, SG). Ohope Spit, 2 cocks singing from high points in dune vegetation on 1/2 (PCML). Wairoa, 3 in garden on 28/8/83 (GAF). Moawhango, Te Rei Bush, 1 on 9/2 (CRS, PMS *et al.*).

**FERNBIRD** *Bowdleria punctata*

Paua, present; Kerikeri Inlet, south side, present; L Omapere, west side, present; Kaikohe, DSIR farm, present (G Wat). Auckland Region, records from Te Henga swam. Pollen I. Whatipu, Whangateau H, Kaukapakapa R

(DGB, MJT, MG, SG, JES). Meremere, edge of Whangamarino Swamp, 1 responded to whistle, others heard on 6/11 (BB). Te Maunga, near Mt Maunganui, seen on many visits made between 29/11 and 1/3 in remnant manuka scrub at the edge of the harbour inlet (KS). Ohakune, Karioi SF, a few in areas of mature *P. contorta* on 9/10; Ohakune Mountain Rd, not uncommon in the mixed bush on the lower slopes of Ruapehu on 16/10 (TGL). Mahia, Mahanga, 1 in small swamp on 5/11/83; Wairoa, Whakaki Lag, 2 in blackberry bushes on 25/6, 3 earlier in the month (GAF). Turakina E, 1 on 8/3 (PFB).

#### WHITEHEAD *Mohoua albicilla*

Rangitoto area, noisy parties on 11/4 (RD). Otanewainuku, 1 group and others heard on 18/8 (BHS). Ohakune, Karioi SF, flocks feeding in the canopy of mature *P. contorta* on 9/10; Tangiwai quite common in plantings of 8 to 10 years old *P. radiata* on 12/10 (TGL); Boundary Stream, several heard on 2/11 (ALH). Ruahines, Armstrong Saddle, c.30 on 23/3 (BT); Triplex Hut, c.20 on 22/3 (J Ber); Te Rei Bush, 5 on 7/2 (RAC, SEC, LJD, SED); Hihitahi, 4 on 9/2 (CRS, PMS).

#### GREY WARBLER *Gerygone igata*

Gisborne, Pakowhai, 1 nest at the top of a 4 m pine tree (BGJ, SCJ). Boundary Stream Res, throughout on 8/12; Kuripaponga, common in exotic plantations on 13/4 (KVT). Ruahines, Triplex Hut area, common on 22/3 (J Ber); Te Rei Bush, 4 on 7/2; Hihitahi, 2 on 9/2 (RAC, SEC *et al.*).

#### FANTAIL *Rhipidura fuliginosa*

Rotoehu SF, 1 black phase in tawa-kamahi-kohekohe forest on 14/3 (BDC). Willowflat, 17 on 10/5 (KVT); Havelock North, 1 pied and 1 black on 2 and 3/7; Ruahines, Triplex Hut area, common on 22/3 (J Ber); Hihitahi SF, 4 on 9/2 (RAC, SEC, LJD); Te Rei Bush, 6 on 9/2 (CRS, PMS).

#### PIED TIT *Petroica macrocephala toitoi*

Warawara F, 6 on 29, 30/3; Ahipara gumfields, 2 on 9/4 (IRD).; Manginangina Res, 1 on 15/1 (G Wat). Tangihau Range, widespread in modified bush on 26/4 (TGL). Waitakere Ranges, records increasing, 14 on 24/8 (JES). Mt Auckland, 3 pairs on 30/8 (MG, SG); Matakana, resident pair (SCn); Dome Valley, Conical Peak, and Moirs Hill, present on 2/6 (MJT). Mangatawhiri, Lyon's Rd, 2 heard on 8/12 (NP). Coromandel Pen, Mt Maumaupaki, heard on 2/6 (BB, DGB). Ohakune, Karioi SF, a few in areas of mature *P. contorta* on 9/10; Ohakune Mountain Rd, not uncommon in the mixed bush on the lower slopes of Ruapehu on 16/10 (TGL). Boundary Stream Res, heard frequently in forest but not in open scrub on 8/12 (KVT). Ruahines, Matthews Stream, 1 pair on 2/3 (MT, PWT); Triplex Hut area, several on 22/3 (J Ber); Moawhango, Te Rei Bush, 10 on 7/2; Hihitahi SF, 6 on 9/2 (CRS, PMS *et al.*).

#### NORTH ISLAND ROBIN *P. australis longipes*

Rangitoto area, present on 11/4 (RD). Otanewainuku, c.5 and others heard with 1 singing loudly for prolonged periods on 18/8 (BHS). Waioeka Gorge, Manganuku R, numerous on 29/9 (WMH). Tongariro NP, Ketetahi carpark, 1 on 16/3 (VJL, EEP); Ohakune, Karioi SF, widespread in mature pines, also in *Lawsoniana* shelterbelt near forestry HQ on 22/11 (TGL). Kuripaponga, 3 on 10/4 (KVT).

**SONG THRUSH** *Turdus philomelos*

Onerahi, first full song of season on 10/5 (PA). Glenfield, 12 on 27/3; Auckland Town Hall, singing at 11 p.m. on 19/7 (MG, SG); Birkenhead, first tentative song on 9/5 (TGL). Kaituna Cut, 1 imitating a whimbrel call on 17/11 (PCML). Pakowhai Station, nest with 4 eggs in a casuarina on 2/8, 2 chicks on 30/8, nest predated on 10/9 (BGJ, SCJ); East Clive, 16 in small field on 20/7; Hastings, whispering song on 22/4 (KVT).

**BLACKBIRD** *T. merula*

Onerahi, first full song of season on 23/7 (PA). Auckland University Campus, first song on 1/7 and 29/5 (MJT); Birkenhead, quiet song on 28/7 (TGL); Auckland Museum, male feeding on lawn gave 'whispered' alarm call but continued to feed on 10/5 (AJG). Hamilton, a nest contained 5 eggs plus 2 Indian Myna's eggs on 11/11; it contained 2 Blackbird chicks on 17/11 (DW). East Clive, 11 males 1 female in a small field on 20/7 (KVT).

**SILVEREYE** *Zosterops lateralis*

Wairoa, numbers increasing rapidly early July, 17 on 4/7, 30 on 5/7 (GAF). Hastings, 1 pair feeding young on caterpillars from 6/3 to 13/3 (KVT). Ruahines, Triplex Hut, common on 22/3 (J Ber). Whangaehu E, 30 on 8/6 (PFB). Te Rei Bush, 10 on 7/2; Hihitahi SF, 4 on 9/2 (RAC, SEC *et al.*).

**STITCHBIRD** *Notiomystis cincta*

Hen I, population estimated at c.20 early June; Cuvier I, in Apr 1985 a second transfer (27) was made from Little Barrier I to boost the ailing population; at least 12 of these were sighted in Feb; in addition at least 8 locally bred were seen, some of which had only recently fledged (TGL, CRV).

**BELLBIRD** *Anthornis melanura*

Ohakune, Karioi SF, rather rare in the pine forests on 9/10; Ohakune Mountain Rd, a few in the mixed forest on 16/10 (TGL). Wairoa, in flowering gums in the town on 3/7 (GAF). Willowflat, 2 on 10/5 (KVT); Boundary Stream Res, numerous in full song on 2/11 (ALH); Napier, Hospital Hill. 1 in gum trees on 3/1 (RP). Te Rei Bush, 6 on 7/2; Hihitahi SF, 2 on 9/2 (LJD, SED *et al.*).

**TUI** *Prothemadera novaeseelandiae*

Whangarei, Kamo, 1 taking accumulated moisture from pecked and damaged fruit late May (AG, AG). Tiritiri I, dependent fledglings heard on 8/11; Birkenhead, dependent youngster being fed kahikatea fruit on 24/3 (TGL). Kaharoa, abundant feeding on flowering rewarewa on 6/10 (PCML). Bowentown to Mt Maunganui, 3 found dead on beaches between 25 and 27/2 (PCML). Boundary Stream, numerous in full song on 2/11 (ALH); Balls Clearing, 12 on 26/1 (J Ber); Mohi Bush, 8 on 3/10 (ARG, KVT); Te Rei Bush, 3 on 7/2; Hihitahi SF, 4 on 9/2 (LJD, SED *et al.*). Wanganui, Virginia L, 6 on 15/7 (PFB).

**YELLOWHAMMER** *Emberiza citrinella*

Tiritiri I, 1 singing 'cheese' song on 8/11 (TGL). Gisborne, Browns B, 3 on 14/10/84 (BGJ, SCJ). L Oinga, large numbers coming in to roost in dead raupo on 9/9 (KVT). Wanganui, Kaitoke, 100 on 6/7 (PFB). Foxton, Moutoua, 200 on 18/6 (JLM, MM).

**CHAFFINCH** *Fringilla coelebs*

Birkenhead, some weak song on 7/8 (TGL). Pakowhai Station, nest with 5 eggs on 19/11/84 (BGJ, SCJ). Te Rei Bus, 5 on 7/2 (LJD, SED *et al.*).

**GREENFINCH** *Carduelis chloris*

Karikari Pen, Matai Bay, 100 on 1/6 (G Wat). Auckland, first harsh calls on 2/10 (TGL). Meeanee, c.1000 feeding in 2 fields with bare black soil on 20/7; remained for several weeks (KVT). Te Rei Bush, 6 on 7/2 (CRS, PMS *et al.*).

**GOLDFINCH** *C. carduelis*

Pakowhai Station, female nest building on 26/11/84, 1 egg on 29/11/84, female incubating 5 eggs on 7/12/84, both feeding 5 chicks on 17/12/84, nest vacated on 29/12/84 (BGJ, SCJ). Ahuriri E, c.50 feeding on seedheads on 2/6 (MT, PWT). Meeanee, c.200 feeding on *Urtica* seedheads on 20/7; L Oinga, c.100 feeding on *Urtica* seedheads on 9/9; Te Hauke, c.200 feeding on *Urtica* seedheads on 22/7 (KVT). Te Rei Bush, 7 on 7/2 (RAC, SEC *et al.*). Wanganui, 400 on 25/5 (GLR).

**REDPOLL** *C. flammea*

Whatipu, resident population spreading north to Muriwai and Woodhill F (MG, SG). Waikato R, Hood's Landing, 2 on 23/9; Bombay, Pinnacle Hill, small numbers in Aug, 70 in April (IS). Ohakune, Karioi SF, numerous in scrub and young pines on 9/10 (TGL). Te Rei Bush, 4 on 7/2 (CRS, PMS *et al.*). Wanganui, Kaitoke L, 3 on 20/7 (PFB).

**HOUSE SPARROW** *Passer domesticus*

Waikokopu, a nest in the hollow top of an old jetty pile 20 m from the breakwater and 2 m above high water on 28/9/84 (GAF).

**STARLING** *Sturnus vulgaris*

Tauranga Bay, c.200 on 20/4 (G Wat). Auckland City, winter roost of c.250 in pohutukawas and phoenix palms (MJT). Tolaga Bay, Pourewa I, c.300 flew from the mainland at dusk to roost in cliffs on 16/2 (GAF). East Clive, 1 part albino, with primaries and tail white, on 9/10 (KVT).

**INDIAN MYNA** *Acridotheres tristis*

Birkenhead, first fledgling calling on 12/1; Albany, 1 young giving begging calls on 30/4 (TGL).

**NORTH ISLAND SADDLEBACK** *Philesturnus carunculatus rufusater*

Cavalli I, Motukawanui I, 2, the survivors from transfers. Hen I, estimate of total population 500. Tiritiri I, 9 pairs bred during the 1985-86 season and 20 young reared; first clutches were incubated from about 21/9, the total population probably c.40; in Feb, 2 years after the transfer from Cuvier I, 44% were still alive, considerable use being made of roost and nest boxes; 1 nest box was preyed on by a kiore during incubation; 1 female attempted to incubate 2 nests simultaneously, both later abandoned; odd birds in isolated patches of forest mimicking Bellbird and Tui alarm calls and local Bellbird song dialect. Little Barrier I, the new population seems to be thriving; 3 pairs had dependent young in early Apr (TGL).

**NORTH ISLAND KOKAKO** *Callaeas cinerea wilsoni*

Little Barrier I, Thumb Track, banded pair seen in usual place, both showing moult in tails, no sign of any dependent young (TGL). Mangatawhiri

Dam Headwaters, 2 calling territorially on 13/12 (FT); Hunua Range, Kohukohunui Track, 2 flew to a third when it called on 2/5, 3 heard singing on 3/6 (AJG, BM). Kaharoa, 26 in this block; a considerable time was spent following and studying them from 12/10 to 5/12, but no sign of nesting (KS).

**WHITE-BACKED MAGPIE** *Gymnorhina tibicen hypoleuca*

Matauri Bay Rd, 2 on 9/2; Puketona, 3 on 9/2; Haruru Falls, 1 on 16/1 (G Wat). Wharerata Hills, 2 separate lots of almost full grown young being fed on 14/8/83 (BGJ, SCJ).

**ROOK** *Corvus frugilegus*

L Rotoiti, 1 juv being mobbed by magpies in pasture north of the lake on 28/4 (BDC). Wairoa, 2 on 13/8/83, 15 on 14/1/84, 35 on 31/3/84 all flying across town; Nuhaka, 2 on 21/10/83 (GAF). Pakowhai, 2 on 16/10/83, 5 on 28/12/83 (BGJ, SCJ). Wairoa, 39 flying across town on 25/12/84, 29 returning to roost on 1/2 (GAF). Pakowhai, up to 5 throughout June 1985, 8 on 9/7, 10 on 2/12, 12 on 24/6 (BGJ, SCJ). Te Hauke, 50+ on 27/6 (KVT). Pahiatua, 200 in one flock (WRJ).

# CLASSIFIED SUMMARISED NOTES

## SOUTH ISLAND

1 July 1985 to 30 June 1986

Compiled by P. D. GAZE

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**Abbreviations:** ad adult; Ck creek; Est Estuary; H Harbour; Hd Head; I Island; imm immature; juv juvenile; L Lake; asl above sea level; NP National Park; Pen Peninsula; Pk Park; pr pair; Pt Point; R River; Ra Range; Sd Sound; SP Sewage Pond; SF State Forest; Stm Stream.

### GREAT SPOTTED KIWI *Apteryx haastii*

Boulder Lake, heard on 31/3 (BEE). Between headwaters of Cobb R and Burgoo Stm, 1 on 3/2 (PDG). Many records from the Paparoas and the coastal forests nearby. Maximum of 6 calling at once above Rough R in March (TJ, KD). Outside this area, Mt Phillistine (Arthur's Pass NP), 1 male on 19/1 (PG, RS).

### YELLOW-EYED PENGUIN *Megadyptes antipodes*

Kaikoura, 1 present during Dec-Jan (BEE). Waipara, 1 injured bird on 7/9 (JFME, JSF). Papanui Beach, 34 ashore after 1700 h on 25/4 (KM, JVM). Bluff Hill, nest with 2 clean eggs on 13/10, soiled on 17/10, 2 large downy chicks on 8/12 (MLB).

### GENTOO PENGUIN *Pygoscelis papua*

Snares I, 1 on 27/12 (CM).

### BLUE PENGUIN *Eudyptula minor*

Charleston, c.105 in groups 10-25 at sea on 1/7, breeding; tracks on beaches at Barrytown on 19/9 (DJO). Greymouth on 10/10 (CSL). New R on 7/12 (PG, RS). Ross beach and Shearer Swamp on 2/6 (CSL).

### ROYAL PENGUIN *Eudyptes chrysolophus schlegeli*

Snares I, 1 on 19-25/2 (CM, AT). Katikati Pt, Moeraki, 1 on 17 & 18/3 (R. Jones).

### FIORDLAND CRESTED PENGUIN *E. pachyrhynchus*

Taylor's Mistake, 1 moulting on 8/2 (PC).

**ERECT-CRESTED PENGUIN** *E. sclateri*

Coopers Lagoon, 1 dead on 28/7 (JFMF, JSF).

**CRESTED GREBE** *Podiceps cristatus*

L Mapourika, pr on 4/10 (AW), 1 on 4/2 (PG, RS). L Ianthe, 1 on 22/6; L Pearson 2 ad + 4 juv on 23/2 (CSL). L Rotorua, Kaikoura, possibly 14 or 15 on 29/8 and 1/1; 2 ad with fully-grown young on 1/1 (BEE). L Sarah, 2 ad between 24/11 and 18/12; nest containing a submerged egg on 8/2; 2 ad on 16/2 and 3 ad plus a bird of the year on 23/3; L Grassmere, 2 ad on 1/9, 1 on 6/10, 4 ad and 2 nests on 17/12, 4 ad and 2 chicks on 23/3, 2 ad and 3 juv on 18/5; L Pearson, 5 ad on 24/11, 4 ad and a nest containing eggs on 16/12, 2 ad and 3 chicks on 15/2, 6 ad and two groups of 2-3 chicks on 23/3; L Lyndon, 5 ad on 14/7, 3 ad on 3/11, 2 ad on 4/1 with unsuccessful nesting attempt and birds disappeared from lake after 4/1; L Evelyn, 1 ad on 22/9, no grebes 3/11, 2 ad on 1/12, 26/12 and 25/1; L Ida, 3 ad on 3/11 but none on 4/1, 3 again on 25/1; L Catherine, 2 ad and nest with eggs on 4/1, 2 ad and 2 chicks on 1/2; L Georgina, 2 ad on 1/12 and 26/12; L Selfe, 4 ad on 22/9 and 6 ad on 3/11; L McGregor, 5 ad on 23/1 and 27/4; L Alexandrina, 36 ad and 12 chicks in section between island and Glenmore Station on 22/1 (PL).

**AUSTRALIAN LITTLE GREBE** *Tachybaptus novaehollandiae*

Druggans Dam, Aorere, 1 on 16/10 (DB). L Rotorua, Kaikoura, 1 on 29/8; L Rotoiti, 1 on 1/1 (BEE). St Anne's Lagoon, 3 on 21/9 (EG), 2 on 10/5 (PG). Iveagh Bay, L Brunner, 2 on 21/7 in non-breeding plumage (CSL).

**WANDERING ALBATROSS** *Diomedea exulans*

Tasman Bay, 1 in Dec (JRJ), 2 during rough weather in Dec (RJHC).

**ANTARCTIC PETREL** *Thalassoica antarctica*

Sandy Pt Lagoon, 1 recently dead on 10/11 (WJC).

**CAPE PIGEON** *Daption capense*

Goose Bay, 10 on 6/5 (JFMF).

**JUAN FERNANDEZ PETREL** *Pterodroma externa externa*

South East I, 1 on 24/3 (MI).

**BULLER'S SHEARWATER** *Puffinus bulleri*

Charleston, 1 on 1/1 (DJO).

**SOOTY SHEARWATER** *P. griseus*

Dunedin, sea covered from St Clair to White I on 15/10 (KCG).

**FLUTTERING SHEARWATER** *P. gavia*

Nelson Boulder Bank, thousands following dolphins offshore on 14/8 (GDQ), and in Dec (RJHC). Charleston, c.15 on 1/1, 100s on 1/7 (DJO).

**GREY-BACKED STORM PETREL** *Garrodia nereis*

Knobs Flat, Eglinton Valley, 1 attracted to house lights on 13/3 (KM, AW). Te Anau, 1 young bird with down on head found on ground on main street 17/4. Released on lake 18/4 (KM, AW).

**AUSTRALASIAN GANNET** *Sula serratator bassana*

Farewell Spit, c.600 present during breeding season, 280 nests on 12/11, c.250 chicks on 29/1 (JMH). West Coast, up to 15 offshore throughout the

year. No roost at the Steeples this year (DJO). Port Robinson, 3 on beach on 22/4 (BAN). Kaitorete Spit, 2 flying just offshore on 10/8 (EG).

**BLACK SHAG** *Phalacrocorax carbo*

Motueka Sandspit, c.12 on 1/1 (JMH), 240 on 25/5 (AC). Small numbers throughout coastal area of West Coast all year with a maximum of 20+, mostly juv, at the Orowaiti on 2/2 (PG, RS, CSL, DJO). Inland, recorded from Slate Ck, Silver Ck and Mountain Tarn (N Paparoas) on 27/2-3/3 (TS). Denis Ck (Paparoas) 6 in March (TJ, KD). L Brunner, 2 on 21/7 (CSL). Fewer than 5 observed in each of the following locations – L Lyndon, L Pearson, L Sheppard, Bealy River at Arthur's Pass, St Anne's Lagoon, and L Forsyth; Selwyn Oxbow, 16 on 11/2 (PL). Glentui R, 1 feeding on young eels 19/1; Avon-Heathcote Est, 25 on 16/2 (AC), 40 on 21/5, and 19 on 23/6 (PL). Bromley SP, 48 on 24/8, 64 on 12/12, 79 on 24/1, 95 on 9/3 and 127 on 28/3 (AC). L Ohau, 3 on 6/10 (AJDT). Lower Mararora R colony, 11 ad, 4 downy nestlings on 2/11 (KM). Waituna Wetland Reserve colony, 15+ nests on carex on 11/12 (MLB).

**PIED SHAG** *P. varius*

Rocks Rd, Nelson, 120 roosting in Norfolk pines and 21 nests on 14/6 (JMH). Kohaihai, 3 on 20/6; Oparara, 1 on 20/6 (CSL). Mokihinui, 1 on 27/4 (DJO). Port Levy, 4 on 18/5; Bromley SP, 3 on 24/8 and 7/12, 4 on 30/1, 10 on 2/2, 14 on 9/2, 11 on 16/2, 6 on 9/3, 8 on 28/3, 18 on 24/4, 8 on 10/5 and 1 on 14/6 (AC).

**LITTLE BLACK SHAG** *P. sulcirostris*

Nelson Haven, 30 in May (GR).

**LITTLE SHAG** *P. melanoleucos*

Puponga Farm Park lake, 471 in June (HAR). Rocks Rd, Nelson 50+ roosting in Norfolk pines with Pied Shags on 14/6 (JMH). West Coast, small numbers on the coast and larger lakes throughout the year (CSL, DJO). L Lyndon, present on all visits between 14/7 and 8/2 with max. of 8 on 14/7; L Catherine, 3 on 4/1; Avon-Heathcote Est, 32 on 20/5 and 1 on 23/6 (PL). Bromley SP, 22 on 15/11, 62 on 24/1, 58 on 30/1 and 23 on 29/6; Port Levy, 6 on 18/5 (AC). Selwyn Oxbow, 110 on 19/2; Harts Ck, 30 on 28/3 and 27 on 30/5; L II mouth, 93 on 1/12 (PL). Aronui Dam, 1 on 2/7 (MC). Waituna Wetland Reserve, 13+ nests on carex on 11/12 (MLB).

**SPOTTED SHAG** *Stictocarbo punctatus*

Perpendicular Pt (Punakaiki), 358 nests mostly with young and 200+ other birds on 31/10, 2 occupied nests and 15 birds on 26/2 (CSL). 12 Mile Beach, "many nestlings" on 24/11 (PG, RS). Roosts of up to 50 non-breeding birds at Punakaiki and Charleston in Jan and Feb (CSL, DJO). Avon-Heathcote Est, 6 on 31/8, 11 on 8/12, 4 on 26/1, 2 on 1/3, 4 on 28/3, 6 on 22/5, 4 on 24/6 (AC). L Ellesmere, 1 juv at Greenpark on 8/6 and 2 ad on 14/6 (PL). Riverton East Beach, 146 in tight flock on open beach, preening on 21/1 (MLB).

**WHITE-FACED HERON** *Ardea novaehollandiae*

West Coast, many records from coastal and agricultural areas, max. 28 at Karamea on 20/6 (CSL). Fewer than 5 seen at each of the following during Dec – L Pearson, L Grassmere, and L Marymere (PL). Avon-Heathcote

Est, western shore, 27 on 15/11, 60 on 9/3, 80 on 11/5 and 97 on 14/6; Heathcote R, 17 on 12/10, 30 on 26/11 and 18 on 11/12; Bromley SP, 40 at outlets on 12/4; Port Levy, 2 on 18/5; L Ellesmere, 110+ on 23/3 at L II river mouth, feeding on small frogs (AC).

#### WHITE HERON *Egretta alba*

Nelson district, 9 during June census. Wairau Bay, 1 on 22/6 (BAN). Orowaiti, 1 or 2 until 8/8, 1 on 31/12 and 1 from 2/2 onwards (PG, RS, DJO). Westport to Cape Foulwind, 2 on 19/6; Okari, 1 on 19/6; Cobden, 1 killed a zebra finch through aviary wires, 8/4, 1 on 14/6; Greymouth, 1 on 31/5 (CSL). Blaketown Lagoon, 1 on 2/6 and 1/9 (PG, RS); Range Ck Lagoon, 1 on 16/4 (PG, RS); L Moana, 1 on 2/3 (PG, RS). Rotomanu, 1 on 21/7; Whataroa, 1 on 22/6 (CSL). Okarito, 1 on 2/10 (AW). Ashley R mouth, 1 on 27/7 (PL). Avon R, 1 on 4/8; Linwood Avenue canal, Christchurch, 1 first seen on 6/5 and last seen 18/9; first seen again on 26/5; Avon-Heathcote Est, 1 present throughout the winter, first seen on 9/3 (AC, PL). Kaituna Lagoon, 6 on 15/6; L Wainono, 1 on 26/1 (PL). Oamaru, 3 south of city on 13/4 (AGH). All Day Bay, 1 on 31/5, 1 on 4/8; Waiwakarua R mouth, 1 in April; Lindsay Ck, Dunedin, 1 on 7/5 (MD). North East Valley, Dunedin, 1 on 4/6 (AJDT). Clutha R, 1 flying near Fraser R confluence on 20/10 (MC). Milford Sound, 2 on 30/7 (KM, AW). Riverton Est, 1 on 13/12 (MLB). L George, 1 on 7/7 (KM).

#### LITTLE EGRET *E. garzetta*

Parapara Inlet, 1 on 29/9 (AC). Waimea Est, 4 on 22/9 (AB), 1 on 17/5 (BEE). Oparara, 1 on 23/11; Karamea 1 on 20/6 (CSL). Orowaiti, 1 from July to 3/11 and 1 from 14/4 onwards with 2 on 19/6 (CSL, DJO). Avon-Heathcote Est. 1 present from 6/12 until 7/6 (AC, PL). L Forsyth, 1 on 3/9; L Ellesmere, 1 on 3/9 at L II R mouth (AC). Halswell Flats, 1 on 1/4 (PL).

#### INTERMEDIATE EGRET *E. intermedia*

1 photographed Avon-Heathcote Est, 5 & 7/5 (PR).

#### REEF HERON *E. sacra*

Golden Bay district, 4 in June census. Motueka R mouth, 1 on 24/12 (AC). Waimea Est, 1 on 24/3 (BEE). Nelson Wharf, Sealords Fisheries, 1 in July (NTQ). Mokihinui Est, 1 on 20/7 (DJO). Avon-Heathcote Est, 1 on 17/8 and 31/8 (AC, PL). Port Levy, 1 on 18/5 (AC).

#### CATTLE EGRET *Bubulcus ibis*

Golden Bay district, 43 in June; Nelson district, 48 in June (JHM). Kaikoura, Kowhai R, 27 on 14/8; Mt Fyffe Rd, 22 on 7/11, 10 on 11/11, 6 on 31/5 (BEE). Grovetown, 14 on 14/4, 22 on 20/4, 61 on 30/5, 120 on 6/6; Fairhall, 31 on 6/6; Linkwater, 3 on 14/5 (BAN). Winter-spring 1985, Westport, up to 23 to the end of Nov, some in breeding plumage by 3/11 (DJO, KS); N Buller R, 5 on 7/11, 2 white + 3 in breeding plumage (DJO). First autumn record Coal Ck, 2 on 1/4; then many April records: Karamea, c.24 on 12/4 (TS). Westport, 3 on 17/4 (PG, RS, CSL), c.20 on 18/4 (TS), 3 on 28/4 (DJO). Charleston, c.20 on 11/4 (DJO). Barrytown, 2 on 15/4 (DJO). Totara Flat, 6 on 22/4 (CSL). Arahura, 14 on 15/4; Kaiti, 1 on 22/4; Chesterfield, 8 on 24/4; Awatuna, 1 on 24/4 (CSL). By June there were:

Karamea, c.50 on 20/6 (CSL). Westport, 9 on 14/6 (PG, RS). Totara Flat, 17 on 14/6 (PG, RS, CSL). Hurunui R, between SH 1 and sea, 1 on 22/4 (BAN). Waikuku, 4 on 27/7 and 22/6 (PL). Bromley SP, 2 on 22/5 and 1 on 3/6 (AC, PL). Avon-Heathcote Est, 2 on 28/1, both in breeding plumage (AC). McLeans I, 6 among dairy cattle on 14/5 (PL). Ellesmere area, Davidson's Rd, 5 on 13/3 with 4 in breeding plumage, 3 on 20/4, 28 on 13/5, 35 on 8/9 (PL, PMS). Springston South, 10 on 23/3; Drain Rd, Ellesmere, 55 on 15/6 and 51 on 22/6 (AC). Haast, 14 early Aug, reduced to 5 by 6/9; S Turnbull R road, 5 on 30/9 (AW). Martin's Bay, 6 on 7/4 (AW). Milford Sd, 7 on 6/4 (KM). George Sd, 1 on 6-7/4 (KM). Te Anau Downs, 2 on 19/4, 22 on 3/5, 8 on 17/5 (KM). Te Anau, 1 on 28-31/3 (KM), 4 on 9/4 (AW), 5 on 10/4, 4 on 17/4, 2 on 5/5, 3 on 12/5, 5 on 23/5 (KM). Whitestone, 7 on 25/4 (AW). Te Anau-Manapouri, groups of 2 and 3 on 27/4 (KM, JVM). Manapouri, 4 on 25/4 (AW). Deep Cove, Doubtful Sd, 1 on 20-23/3. Probably the same bird rescued from a NZ falcon by a bus driver on 7/4 (KM). Tisbury, 26 on 28/7 (WJC). Otatarā, groups of 4-12 seen 2 or 3 times each week from March to June (CEB). Waianiwa 4 on 24/4 (Y. McMurdo). Otaitai Bush 35 on 20/4 (MLB). Riverton Est, 8 roosting with Little Shags and Black Shags on maimai and dead tree stump out in estuary on 5/3 (MLB). Longwood near Riverton, 22 on 22/7 (AW). Stewart I, Oban camping ground, 4 on 15/5, 1 on 23/5 (R. D. Kerr).

#### AUSTRALASIAN BITTERN *Botaurus stellaris*

Wharariki, 1 in July (BR). Druggans Dam, Aorere, 1 on 16/10 (DB). Cotterell Rd, Motueka, 1 on 17/5 (BEE). L Ryan, 1 on 16/7 (CSL), 1 on 26/8 (PG, RS). L Taylor, 1 on 11/2 feeding on frogs; Ashley Est, 1 feeding in drainage ditch on 22/6; L Ellesmere, 10 on 24/8, of which most were booming (PL). Reported from several locations around Ellesmere throughout the year (AC, PL, PMS). Deep Stream, Mesopotamia Station, 1 on 19/6 (BS). Kapuka, 1 on 12/8 (WJC). Tiwai, 1 on 18/9. Invercargill Est, 1 on 9/11 (MLB).

#### GLOSSY IBIS *Plegadis falcinellus*

L Ellesmere, 1 at Harts Ck on 28/9, not there next day (PL). Embankment Rd, Ellesmere, 1 on 13/1 (BEE).

#### AUSTRALIAN WHITE IBIS *Threskiornis molucca*

Orowaiti, 1 on 28/1 (KS).

#### ROYAL SPOONBILL *Platalea regia*

Waimea Est, 7 on 9/3 (BEE). During June census: Farewell Spit 20, Collingwood 1, Motueka 15, Waimea 8 (JMH). Oparara Lagoon, 2 on 20/6 (CSL). Westport Airport, 2 on 19/3, 1 on 6/5; Orowaiti, 1 on 5/5 (DJO). Bromley SP, 12 during winter 1985; 11 from 10/8 to 7/9, 6 on 6/10, 5 on 20/10 and 15/11 and 11/12 then up to 3 present throughout summer; 2 on 28/3, 5 on 12/4, 23 from 24/4 to 10/5, 29 on 11/5, 30 on 12/5 and then at least 24 throughout June (AC, PL). L Ellesmere, 1 at Harts Ck on 31/10 and 7 on 3/12 (PL); 18 at Kaituna on 1/3 (PMS). L Wainono, 1 on 26/1 (PL). Maukiekie I, Moeraki, 29 birds and 11 nests reported in Nov; All Day Bay, 6 on 25/1 (ARB). Waikouaiti, 7 on 13/4 (AGH).

**MUTE SWAN** *Cygnus olor*

St Anne's Lagoon, 1 on 21/9 (EG), 2 on 19/4 (AC). Woodend Lagoon, 2 ad and 2 cygnets on 29/12; Omihi R, 1 on 15/3; Groynes, Christchurch, 2 on 29/3; L Ellesmere, largest number in vicinity of Harts Ck between 24/8 and 25/12 was 17 on 29/9; Coopers Lagoon, 10 on 29/9 and 7 on 6/7 (PL).

**BLACK SWAN** *C. atratus*

Recorded from Oparara, Karamea, Barrytown, L Ryan, Blacktown, New R, Kapitea Reservoir, L Poerua, Hokitika Sewage Farm, Okarito. Max. at Barrytown, c.70 on 8/2 (DJO). Kapitea Res, 50 on 20/8 (PG, RS). Okarito, c.60 on 12/10 (PG, RS). St Anne's Lagoon, 10 on 21/9 (EG), 2 ad and 5 cygnets on 6/2; Rangiora SP, 5 ad and 1 cygnet on 1/1; Woodend Lagoon, 14 ad and 8 cygnets on 29/12; L Grassmere, 101 on 18/5; Avon-Heathcote Est, 163 on 23/6 (PL). Bromley SP, 195 on 24/8, 208 on 6/10 (including a pr with cygnets), 318 on 19/10, and several parties of cygnets on 12/12 (AC). L Alexandrina, 280 on 21/1 (PL).

**CANADA GOOSE** *Branta canadensis*

Granite Ck, Kongahu, present (CSL). Mokihinui Est, 2 on 1/3; Barrytown, 10 on 19/9, c.15 on 5/1 (DJO). St Anne's Lagoon, 23 on 21/9 (EG), 1 on 19/4, Waipara Reservoir, 13 (including 3 goslings) on 6/2; Rangiora SP, 30 on 1/1, L Sarah, 30 on 16/2; L Sheppard and adjacent paddocks, 300+ on 30/3; Avon-Heathcote Est, 1690 on 20/5 and 1970 on 23/6 (PL). Bromley SP, 1242 on 24/8, 1072 (including goslings) on 12/12, 1355 on 1/3, 2401 on 13/3, 2765 on 25/4; Christchurch, 68 flying over on 28/11 and heard every night overhead during Nov (AC). Hoopers Inlet, 4 on 23/2; Outram, 6 on 28/2, 2 with red collar bands (PS). Alexandra, c.34 flew over in V-formation, landing near Earnsclough (MC).

**CHESTNUT-BREASTED SHELDUCK** *Tadorna tadornoides*

L Rotorua, Kaikoura, 2 on 1/1 (BEE).

**PARADISE SHELDUCK** *T. variegata*

Motueka Sandspit, 20 on 25/5 (AC). Common in agricultural areas of West Coast. Only 1 record from native bush; Stern Ck to Mountain Ck, 1 pr on 27/2 to 3/3 (TS). L Rotorua, Kaikoura, 750 on 1/1 (BE). St Anne's Lagoon, 45 on 21/9 (EG), flock of 1000+ birds moulting on 6/2; Waipara Reservoir, 2 on 21/9 and 27 on 6/2; Rangiora SP, 145+ moulting on 1/1; L Grassmere, 110+ on 18/5; Castle Hill, 70+ on 16/5 (PL). Nina Valley, Lewis Pass, 7 on 27/10; Heathcote R loop, 1 pr with 8 ducklings on 28/11, 2 pr with 6 and 7 ducklings on 15/1; Bromley SP, 40 on 6/7, 16 on 4/9, pr with 3 ducklings on 15/11, 43 on 3/12, 53 on 8/12, 51 on 17/12, 242 on 13/1, 351 on 24/1, 433 moulting on 30/1, 41 on 10/5 (AC). L Ellesmere, 35 at Greenpark on 18/8; Coopers Lagoon, 32 on 6/7; L Forsyth, 28 on 28/12 (PL). Southland, count of moulting birds in mid-Jan, 16 512 (Southland Acc. Soc.).

**MALLARD** *Anas platyrhynchos*

Common and breeding throughout the West Coast, maximum count Barrytown, 84 on 5/1 (DJO). Mitchells, c.50 on 21/7 (CSL).

**GREY DUCK** *A. superciliosa*

Common and breeding throughout the West Coast (CSL). Aparima R, 8 during river survey 20-30/10 (WJC).

**GREY TEAL** *A. gibberifrons*

Freemans L, 2 on 4/9 (BR), 1 on 13/11 (DB). Corder Park, Nelson, 2 on 30/8 (GDQ). Orowaiti Est, 2 on 10/12 (1st record); Barrytown, 2 on 5/1 (DJO). St Anne's Lagoon, 19 on 21/9 (EG), 20+ on 19/4 (PL). Waipara Reservoir, 30 on 6/2 (16 ad and 14 ducklings); Woodend Lagoon, all 28 nest boxes appeared to be in use as a single bird was sitting outside the entrance of each on 29/12 (PL). Avon-Heathcote Est, 146 on 10/5 (AC), 60 on 20/5; 20 on 23/6 (PL). Horseshoe L, North Canterbury, 4 on 20/12 and 25 on 10/1; Bromley SP, 18 on 24/8, 47 on 3/12, 43 on 8/12, 147 on 9/2 (AC). L Forsyth, 7 on 4/8; Halswell Shingle Pit, 3 on 27/4; L Ellesmere, 300 at Embankment Rd on 15/5 (PL). L Hayes, 2 on 6/10 (AJDT).

**NZ SHOVELER** *A. rhynchotis*

Freemans L, 5 in July (BR). Nelson SP, 3 pr on 6/5 (GDQ). Barrytown, 3 on 5/1 (males mostly in eclipse), one male on 8/2; Blaketown, 69 on 15/4 (DJO). Range Ck Lagoon, 6 on 25/11 (PG, RS). L Brunner, 12 on 21/7; L Karoro, 5 on 21/7 (CSL). St Anne's Lagoon, 24 on 21/9 (EG), 160 on 16/4 (PL); Waipara Reservoir, 5 on 21/9; Rangiora SP, 13 on 1/1; L Evelyn, 4 on 22/9; Groynes, Christchurch, 3 on 29/3 (PL). Bromley SP, 134 on 24/8, 83 on 20/10, 289 on 30/11, 1086 on 3/12, 636 on 12/12; parties of 5, 8 and 2 ducklings on 9/2; 1482 on 28/3, 5268 on 10/5; Avon R, 8 on 4/8; Linwood Av. canal, Christchurch, 4 pr with young from Nov to Feb (AC).

**BLUE DUCK** *Hymenolaimus malacorhynchos*

Whangapeka, 5 in early Nov (BAN). Boulder L, Kiwi Ck, 1 on 31/3 (BEE). Pearce Stm, 1 pr on 5/6 (GRP). Karama R tributaries: Cuckoo Ck, 3 on 1/9; Huia Ck, 2 on 1/9; Bellbird Ck, 2 on 1/9 (PL); St Georges Stm, 2 on 13/3; St Andrews Stm, pr on 2/1; Slate Ck to Granite Ck, 2 ads and 2 ads and 3 well-grown young; Silver Ck to Mountain Ck, 1; Stern Ck, 1, from 27/2 to 3/3 (TS). Dilemma Ck, 4 on 19/2 (PMcM, JL), Moonlight R, 1 on 5/10 (PG, RS). Blackball Ck, pr on 17/7; Roaring Meg Stm, pr on 16/7 (TS). Upper Blue Grey, 1 on 29/3; Arahura R, pr on 26/4; Stix R., 1 on 27/4; County Stm (Smythe Range), 4-6 on 10/11 (PG, RS). Otira-Arthur's Pass area: Kelly's Ck, 2 singles and 1 pr on 27/2; Hunters Ck, 4 or 5 singles and 2 groups of 3 or 4 on 27/2; Taipo, 2 groups of 6 or 7, 1 group of 4 and several singles on 28/2 (K van L). Edwards R hut, heard on 1/3 (BJS). Harrods Ck headwater, 2 reported by local deer hunter on 7/4; Lyle Ck, Milford Rd, 6 working river below place where bulldozer was putting in new groins, on 6/4. Appeared to be feeding on disturbed insects (AW).

**NZ SCAUP** *Aythya novaeseelandiae*

Wharariki Lakes, 8 on 22/8 and 28/9 (BR). Druggans Dam, Aorere, 36 on 16/10 (DB). Boulder L, 4 on 29/3; L Cobb, 4 on 25/3, 26/3 (BEE). L Moana, 30 on 1/9; L Pearson, 21 ad and 10 juv on 23/2; Little Lake Lyndon, 38 on 23/2; Mahinapua, c.20 on 16/11 (PG, RS). L Rotorua, Kaikoura, 80+ on 29/8 (BEE). St Anne's Lagoon, 64 on 21/9 (EG), 72 on 19/4; L Sarah, 44 on 24/11, 61 ad and 10 ducklings on 12/12, 49 ad and

16 young on 8/2, 25 on 16/5; L Grassmere, 86 on 1/9, 66 on 6/10, 50 + ad and ducklings on 17/12, 110 on 23/2, 170 on 18/5; L Lyndon, 2 on 4/1, 5 on 12/1, 2 ad and 4 ducklings on 23/2; L Pearson, 20 ad and 5 ducklings on 16/2, 50 on 23/3, 75 on 18/5; L Henrietta, 19 on 26/12; L Evelyn, 9 on 26/12; L Sheppard, 60 + on 30/3; L Coleridge, 60 on 2/6; Waipara Reservoir, 2 on 21/9, 2 pr plus 5 ducklings on 6/2; Kaiapoi Shingle Pits, 6 on 6/2; Groynes, Christchurch, 4 on 6/2 (PL). Avon R, 2 on 17/8 and 24/8; Bromley SP, 8 during August, 4 on 31/8 and then 1 throughout September to February, 10 on 10/5, 24 on 22/5 and 25 on 31/5 and 2/6 (AC). L Alexandrina, 500 + in Glenmore half of lake; L McGregor, 180 + ad on 25/1, 65 on 27/4 (PL). L Wanaka, 26 on 5/10; L Hayes, 72 on 6/10 (AJDT).

#### WOOD DUCK *Chenonetta jubatta*

Snares I, 1 from 14/11 to 6/3 (CM, PMS).

#### AUSTRALASIAN HARRIER *Circus approximans*

Many records throughout the West Coast agricultural and open areas (CSL). L Taylor, 1 on 11/2 feeding on frogs; St Anne's Lagoon, 2 on 21/9, 3 juv on 6/2; Waipara Reservoir, 1 on 21/9 and 6/2; L Sheppard, 3 on 30/3; roadside counts indicate densities of 0.5 birds/km between Christchurch and Little R, and 0.08 birds/km between Christchurch and L Pearson (PL). Avon-Heathcote Est, 7 over western shore on 24/8, 5 on 14/12, 7 on 24/12, 7 including 3 feeding on freshly killed Canada Goose on 24/4, 1 on 25/4 caught a Pukeko in crown of a tree and brought it down to the ground to eat, 8 on 11/5 including 1 which killed a Canada Goose; Bromley SP, 7 on 11/12 (AC). Heathcote R loop, 3 including a pr with nest on 11/12 (AC). Pukaki-Tekapo hydro canal, 43 along margins including 26 in one group – what are they feeding on (MC)?

#### NZ FALCON *Falco novaeseelandiae*

Wakefield, 1 over township on 9/3 (BEE). Charleston, 1 on 26-27/3 chasing Redpolls; Tiropahi, 1 on 1/3 (KS). Iramahuwhero Pt (Punakaiki), 1 on 31/10 (CSL). Mt Ryan (Paparoas), 1 chasing a pipit on 2/6 (PG, RS). Ross, 1 on 18/4; Hooker Hut (Hooker Glacier), female on 27/4 (TS). L Taylor, 1 heard on 30/3 (PL). Tarahuna Pass, Edwards R, pr seen on 1/3 (BJS). Nina Valley, Lewis Pass, 1 on 27/10; Riordans Ck, Lewis Pass, 1 on 26/5 (AC). Whitecliffs, near Darfield, 1 on 12/7 (GMcA). Tekapo, 1 on 22/8 (JFMF). Clarendon, 1 seen on several occasions in Aug (ALN). Symes Rd, Old Man Ra, 1 juv catching day-flying moths (MC).

#### NANKEEN KESTREL *F. cenchroides*

Tiwai aluminium smelter, 1 female using trig station and power pylon for roost, seen to take a Redpoll on 28/7 (WJC).

#### CALIFORNIA QUAIL *Lophortyx californica*

Tauranga Bay, 1 in mid-Nov, only West Coast record this year (KS). Hautai Hill, Otago Pen, 3 on 29/9 (KCG). Clarendon, 1 pr on 30/12 (ALN). Te Anau Wildlife Reserve, 1 alongside Takahe pen on 14-16/11 (AW).

#### PHEASANT *Phasianus colchicus*

Motukarara, female on roadside on 1/12; Port Levy, 2 on roadside on 18/5 (AC). Leeston area, scattered distribution (PL). Greendale, 3 on 24/7 (MJF, LJF). Darfield, 1 on 10/4 (JFMF, JSF).

**WESTERN WEKA** *Gallirallus australis australis*

Many records from Buller to N Westland just south of Taramakau R. Only 3 records in a N-S traverse of Paparoa tops in March (TJ, KD).

**MARSH CRAKE** *Porzana pusilla*

Harris Ridge, SH 73, suspected call on 21/7 (CSL). L Sarah, 1 on 12/12 and 14/12, 3 heard on 17/12, 7 seen and heard on 8/2, 4 responded to taped calls on 15/2; L Evelyn, 1 on 25/2; L Catherine, 1 on 1/2; Avon-Heathcote Est, 1 flushed from raupo on 24/8; Harts Ck Wildlife Refuge, Ellesmere, 1 in willows on 28/8; L Alexandrina, seen using *Carex* at lake margin on 21/2 (PL). Fraser Stm, Twizel, 1 flushed from swamp on 27/3; Ruataniwha Stm, Ohau R, 1 in vicinity of willow on 1/5 (PC). Hoopers Inlet, 6 heard in May (RCS). Clarendon, 1 ad and 2 chicks on 19/11 (ALN). Milford Sd, 1 on 19/4 (KM). Little Waituna, 1 on 2/6 (GL).

**PUKEKO** *Porphyrio porphyrio*

Common on West Coast, breeding throughout agricultural and open areas (CSL). St Anne's Lagoon, 1 on 8/9, 5 on 21/9, 17 on 19/1; L Georgina, 2 on 3/6; Lyndon Tarn, 1 on 12/1; Kaiapoi shingle pits, 1 on 29/12 and 3 on 6/2 (PL). Heathcote R loop, 31 on 25/8; Bromley SP paddocks, 334 on 24/8 (AC).

**AUSTRALIAN COOT** *Fulica atra*

Fernleigh, 2 on 23/11; L Rotoiti, Kaikoura, 4 on 1/1 (BEE). St Anne's Lagoon, 5 on 21/9 (EG), 17 on 19/1 (PL), 20 on 19/4 (AC). Lyndon Tarn, 1 on 12/1; Kaiapoi shingle pits, 1 ad on 29/12 and 3 on 6/2; Woodend Lagoon, 1 on 12/1; Harts Ck Wildlife Refuge, Ellesmere, 3 on 29/1; L McGregor, 17 on 23/1; L Alexandrina, 1 on 21/1 (PL). L Hayes, 38 on 6/10 (AJDT). L Te Anau, south end, 2 on 19-20/6 (JVM, KM, AW).

**SOUTH ISLAND PIED OYSTERCATCHER** *Haematopus ostralegus finschi*

Oparara, 2 on 21/7, 76 on 20/6; Karamea, 8 on 21/7, 300 on 20/6; Kongahu, 16 on 21/7, 117 on 20/6 (CSL). Orowaiti, max. July 3, Nov 6, Dec 21, Feb c.400, Mar c.250, June c.25 (CSL, DJO). Okari, 26 on 26/11, 30 on 8/12, 150 on 1/4, 56 on 19/6 (DJO, DG, RS, CSL). Small numbers at many other coastal locations. Inland: L Poerua, 5 on 21/7; Inchbonnie, 2 on 21/7 (CSL). Charleston, flock flying S at night on 10/8 (DJO). Avon-Heathcote Est, 512 on 27/7, 1200+ on 27/8; Bromley SP paddocks, 40 on 24/8 (AC), 3000+ on 21/5 (PL). Port Levy, 94 on 18/5 (AC). Lyttleton H, 500 on 18/5 (AC). Ellesmere, 18 on 18/8, 65 on 20/10, 50 on 1/12, 44 on 15/4, 20 on 14/6 (PL). Alexandra, first bird for the season on school grounds on 19/7 (MC). Southland summer census, 3760+ on 8/2 (WJC). Jennings paddocks, Invercargill Est, 2730+ on 21/4 (MLB).

**VARIABLE OYSTERCATCHER** *H. unicolor*

East Head, Kaikoura Pen, Family A, 2 chicks just hatched 1/12. Parents and 2 fully grown chicks on 22/1 and 15/2. Family B, 2 chicks a few days old on 1/12. Parent and 2 fully grown chicks on 22/1 and 15/2 (BEE). Records from many West Coast beaches. Max. Little Wanganui Est, 10 on 20/6 (CSL). Nape Nape, 2 on 19/4; Ashley Est, 3 on 15/12 (AC), 1 on 22/6 (PL). Avon-Heathcote Est, 1 on 27/8 and 4/9, 2 on 21/9 and 25/10, 1 throughout Nov and Dec; Port Levy, 4 on 18/5 (AC). Riverton Beach, 8 on 13/12 (MLB). Southland summer census, 16 on 8/2 (WJC).

**SPUR-WINGED PLOVER** *Vanellus miles*

Riwaka R mouth, 46 on 21/12 (AC). Common and breeding throughout West Coast agricultural areas. Max. Orowaiti, 69 on 31/12 (DJO); L Poerua, c.145 on 21/7 (CSL). Upper Selwyn R, 150 + on 29/4 (RRS). L Grassmere, 105 in adjacent paddocks on 14/2; Rangiora SP, 26 on 1/1 (PL). Heathcote R loop, 16 on 16/11; Bromley SP paddocks, 74 on 4/8, 25 on 24/1, 37 on 12/5; Port Levy, 6 on 18/5 (AC). Berwick, nest with three eggs on 11/6 (PS). Otatara, colour-banded male known to be at least 15 years old, copulating on 11/7. Same bird at Sandy Pt on 18/6 (MLB).

**LEAST GOLDEN PLOVER** *Pluvialis fulva*

Riwaka R mouth, 7 in Dec (AC). Greymouth Airfield, 3-4 from 1/2 to 8/3 (PG, RS, CSL). Avon-Heathcote Est, 3 on 23/10 (AC). L Ellesmere, up to 38 in Jan, 64 in Feb, 55 in Mar, and finally 3 on 3/4 (KH). Inchclutha, 3 on 9/11 (PS). Awarua Bay, 42 on 6/12 (MLB). Jock's Roost, 39 on 20/1 (MLB), and simultaneous count at Invercargill Est shellbanks of 75 on 20/1 (RRS), 68 on 18/2 colouring up (MLB).

**NEW ZEALAND DOTTEREL** *Charadrius obscurus*

Barrytown, 3 flew in from the S and off high to N on 19/9 (DJO). Cow I, Awarua Bay, 21 (2 red-breasted) on 8/7, 29 (20 red ++, 7 red +, 2 pale) on 13/8, 13 including 1 colour-banded bird on 19/1, 22 on 3/2, 29 including 1 colour-banded bird on 6/3 and 21/4; Jock's Roost, 3 on 20/1. Oreti Beach, S end, 4 on 28/8, 1 on 9/1 (MLB). The colour-banded bird was one of 3 banded on 1/4/85 among a flock of 30 at Awarua Bay (MLB).

**BANDED DOTTEREL** *C. binctus*

Breeding recorded on the Taramakau R and many estuaries and nearby beaches. Autumn dispersal illustrated well by numbers at: Orowaiti Est, 0 on 26/11, 13 on 31/12, 15 on 2/2, 35 on 26/2, 55 on 9/3, 77 on 14/4, 3 on 28/4, 32 on 5/5; Greymouth Airfield, 3 on 3/8, 5 on 1/9, 5 on 20/10, 39 on 1/2, 34 on 5/2, 8 on 6/2, 8 on 18/2, c.20 on 13/3, 2 on 29/3, 30 on 30/4, 18 on 9/5, 8 on 14/6 (PG, RS, CSL, DJO). Avon-Heathcote Est and Bromley SP paddocks, 32 on 6/7, 20 + on 14/7, 2 on 17/8, then absent until 15 on 10/1, 42 on 23/1, 68 on 24/1, 74 on 28/1, and then about 72 present Feb to Jun (AC). Papanui Inlet, 51 on 19/5 (LE). Pisa Ra, biggest high-altitude flock ever seen - 104 + (78 adults, 26 first-years) at c.5700 ft asl on 19/1 (MC). Catlins, 2 on 21/3 (KM, JVM). Edendale Forest Service tree nursery, breeding in gravelled beds of seedling trees, Dec, and reported by nursery staff to have done so annually since at least 1977 (MLB). Oreti R at Mossburn, 200 + on 12/3 (RRS). Waimatuku R mouth, 159 on 12/1 (JVM, KM).

**BLACK-FRONTED DOTTEREL** *C. melanops*

Patearoa, 1 on 23/4, a first for the Maniototo (RCS). Taieri R, 3 pr breeding in Sept (GG, DG). Oreti R at Bransholme, 3 on 25/8, 2 on 2/9, 11/9, 14/9, seen copulating on 15/9 by RRS, and 16/10, but no nest or chicks found (MLB). Waimatuku R mouth, 2 on 20/4 and 9/5 (MLB). Aparima R, 22 counted, some with nests or chicks, on river survey 20-30/10 (WJC).

**WRYBILL** *Anarhynchus frontalis*

Motueka Sandspit, 1 on 26/2 (BEE). Avon-Heathcote Est, 2 on 17/8 (AC). L Ellesmere, 50 + on 9/2, 4 on 20/2, 13 on 3/4 (KH), 10 on 15/5

(PL). Matukituki homestead, 1 with chicks on 9/11; Makarora-Wilkin R junction, trapped female on 2 eggs, (MC). Upukerora Est, 1 on 10/11 (JVM, KM). Invercargill Est, 5 on 25/1 and 18/2. Oreti Beach, S end, 5 on 22/7, 6 on 30/7, 1 on 4/8, 5 on 26/6; Waimatuku R mouth, 1 on 17/11 (MLB).

**FAR-EASTERN CURLEW** *Numenius madagascariensis*

Mapua, 3 in paddock on 10/10, 18/10; Waimea Est, 7 on 22/12; Ashley Est, 2 on 15/12 (AC). Papanui Inlet, 2 on 22/9, 1 on 9/11, 3 on 22/11 (AGH). Fortrose Est, 11 on 9/11, 10 on 8/2 (SLL). Waituna Wetlands Reserve, 1 on 19/11 (RRS). Jock's Roost, Invercargill Est, 2 on 9/11 and 8/2 (WJC).

**ASIATIC WHIMBREL** *N. phaeopus variegatus*

Karitane, 1 on 5/1 (PS).

**LITTLE WHIMBREL** *N. minutus*

L Ellesmere, 1 from Jan to March and 2 in April (KH, PL, PMS).

**WHIMBREL** sp.

Grossi Pt, Waimea Est, 7 on 22/9 (AB). Fortrose Est, 2 on 9/11 and 5 on 8/2 (SLL).

**ASIATIC BLACK-TAILED GODWIT** *Limosa limosa*

Avon-Heathcote Est, up to 7 present during July, 6 during Aug, 5 during Sep and Oct, 2 during Nov and Dec, 3 during Jan, 7 during Feb, 4 during April and May with 3 in breeding plumage, absent during June (AC).

**HUDSONIAN GODWIT** *L. haemastica*

L Ellesmere, 1 from Feb to June (AC, KH, PMS). Inchclutha, 2 on 9/11 (PS).

**BAR-TAILED GODWIT** *L. lapponica*

Kaikoura, always scarce, 1 on 5/10, 2 on 10/11, 1 on 3/1 (BEE). Oparara, 32 on 23/11; Karamaea, 35 on 23/11, 5 on 20/6; Kongahu, 51 on 23/11, 12 on 20/6 (CSL). Orowaiti, max. Nov 62 (highest ever recorded), Dec 37, Feb 20, Mar c.15, Apr 1, Jun 2 (DJO, CSL). Westport Airport, 15 on 26/11, 15 on 4/12 (DJO); Okari, 45 on 26/11, 20 + on 8/12, 12 + on 1/4, 2 on 19/6; Blaketown Lagoon, 21 on 16/11, 8 on 23/11 (PG, RS, CSL, DJO). Also recorded in smaller numbers at Barrytown, Taramakau R, Hokitika R and Okarito. Nov numbers unusually high for the West Coast. Avon-Heathcote Est, minimum count during winter was 175 on 3/6, then 623 on 28/9, 1137 on 19/10, 240 on western shore on 4/5, 300 on 11/5 and 223 on 21/6; L Ellesmere, 18 on 10/11 (AC) and then up to 13 present throughout summer until April (KH, PL, PMS). Coopers Lagoon, 1 on 29/9 (PL). Papanui Inlet, 400 on 22/12 (AGH). Inchclutha, 31 on 9/11 (PS). Catlins Est, 17 on 31/3 (KM, JVM). Jennings paddocks, Invercargill Est, staggered arrival of new migrants. Winter count was 367. Mr Jennings reported a high-flying tight-knit flock of about 50 which came in from the southeast and circled the paddocks and estuary several times before landing on 15/9, 580 + on 23/9, 480 + on 25/9, 825 + on 27/9 and 1800 + on 2/10 (MLB). Southland summer census figures were 3150 + on 9/11 and 4390 + on 8/2 (WJC).

**GREENSHANK** *Tringa nebularia*

L Ellesmere, 1 on 18/8 (PL, AC), 1 in Jan and Feb (KH, PMS). Awarua Bay, 1 on 6/12 and 11/1 (JVM, KM), and 8/2 (WJC), probably the same bird.

**WANDERING TATTLER** *T. incana*

Kaikoura Pen, 1 on 27/8, 22/1, 31/1 (BEE).

**SIBERIAN TATTLER** *T. brevipes*

Kaikoura Pen, 1 on 22/1, 31/1. Although they were at the same locality at the same time, they did not appear to be closely associating with each other. One was mostly grey. The other had white underparts (BEE). Papanui Inlet, 1 overwintering (AGH).

**TATTLER** sp.

L Ellesmere, 1 during March, April (KH, PR). Catlins Est, 2 on 28/12 (KCG). Awarua Bay, 4 on 9/11 (WJC), 3 on 6/12 (MLB), 1 on 8/2 (WJC), 3 on 8/3; Jock's Roost, 1 on 2/12 (MLB).

**ASIATIC DOWITCHER** *Limnodromus semipalmatus*

Avon-Heathcote Est, 1 on 6/9 (AC, PL, JFMF, JSF).

**TURNSTONE** *Arenaria interpres*

Motueka Sandspit, c.300 on 1/1 (JMH, BDH, PCML). Barrytown, 2 on 19/9 (DJO). Kaikoura Pen, present throughout, max. of 141 on 1/12 (BEE), 22 on 24/1 (JFMF, JSF). Ashley Est, 9 on 15/12 (AC). L Ellesmere, first noted on 20/10, max. of 10 in Dec, 20 in Jan, 83 on 16/2, 1 on 20/2 and 14/3 (AC, KH, PL, PMS). Aramoana, 1 on 2/11 (AJR). Inchclutha, 2 on 9/11 (PS). Upukerora R, 1 with Banded Dotterel on 6/11, 9/11, 11/11 (AN). Southland summer census, 1247+ on 9/11, 588+ on 8/2 (WJC).

**SNIBE** sp. *Gallinago* sp.

L George, 1 on 25/12 and 12/1 (JVM, KM). Snares I, 1 on 12-14/11 (CM, PMS).

**KNOT** *Calidrus canutus*

Motueka Sandspit, c.160 on 26/2 (BEE). Nelson Haven, 7 on 3/11 (GDQ), 13 on 24/2 (JMH). Karamea, 31 on 23/11; Okari, 26 on 26/11; Barrytown, 1 on 18/9 (DJO). Ashley Est, 30 on 15/12 (AC). L Ellesmere, up to 13 in Jan, 8 in Feb, and then 3 in March, April and May (KH, PMS). Papanui Inlet, 4 on 22/9 (AGH). Fortrose Est, 296 on 11-12/2 (MLB). Southland census: 220+ on 9/11, 588 on 8/2 (WJC).

**SHARP-TAILED SANDPIPER** *C. acuminata*

Motueka Sandspit, 1 on 1/1 (JMH), 1 on 27/2 (BEE). L Ellesmere, 15 on 10/11, 24 on 19/12, up to 15 in April, last seen 22/4 (AC, KH, PMS). Inchclutha, 2 on 14/11 (AGH). Waituna Lagoon, 2 on 28/2 (MLB). Waituna Wetlands, 5 on 19/11 (RRS). Invercargill Est, 2 on 9/11, 11 on 20/1, 14 on 18/2 (MLB).

**PECTORAL SANDPIPER** *C. melanotos*

Avon-Heathcote Est, first seen 23/1 and then frequently throughout Feb, last seen 1/3 (AC). L Ellesmere, up to 3 seen throughout summer until 17/4, 2 on 22/4, 1 on 27/4 (KH, PMS). Inchclutha, 1 on 14/11 (AGH). Waituna Lagoon, 2 on 28/2; Invercargill Est, 2 on 20/1 (MLB). Sandy Pt Lagoon, 3 on 19/12, 30/12, 1 on 13/1, 2 on 16/2, 9/3 (WJC, RRS).

**CURLEW SANDPIPER** *C. ferruginea*

L Ellesmere, 21 on 10/11 and up to 26 throughout summer, 20 on 22/4, 1 on 13/5 (AC, KH, PMS). Waituna Lagoon, 1 on 24/10 (WJC). Awarua Bay, 8 on 9/11, 12 on 6/12, 9 on 8/2, 1 on 8/3 (MLB).

**RED-NECKED STINT** *C. ruficollis*

L Ellesmere, 72 on 10/11 and up to 78 throughout summer, 13 on 27/4, 5 on 13/5 (AC, KH, PL, PMS). Awarua Bay, 2 on 9/11 (WJC), 35 on 6/12, 26 on 8/2 (MLB).

**SANDERLING** *C. alba*

Awarua Bay, 1 on 9/11 (RRS), 2 on 11/12 (JVM, KM), 2 on 8/2, 3 on 8/3 (MLB).

**PIED STILT** *Himantopus himantopus leucocephalus*

Harnetts Ck, 12 on 5/8, unusually large number for Kaikoura (BEE). Many records from coastal and inland areas of West Coast; max. at Orowaiti, 64 on 26/11 (PD, RS, CSL, DJO). L Pearson, 3 pr and 4 chicks on 15/12 (PL). Heathcote R loop, 52 on 31/7, 43 on 12/10. 18 nests Nov-Dec (AC). Avon-Heathcote Est, 76 on western shore 17/8, 94 on 25/8, 83 on 12/4, 164 on 24/4, 211 on 11/5, 202 on 21/6 (AC). L Forsyth, 42 on 28/12 (PL). Coopers Lagoon, 34 on 6/7, 9 on 29/9 (PL). Southland summer census, 756 + on 8/2 (WJC).

**BLACK STILT** *H. novaeseelandiae*

Orowaiti, 1 hybrid on 17-19/11 (DJO). L Ellesmere, 1 on 16/2, 22/4, 13/5, 23/5, 14/6 (KH, PL). Opihi R mouth, 1 phase F/G on 23/1 (BH).

**SOUTHERN GREAT SKUA** *Stercorarius skua lonnbergi*

Awarua Bay, 1 dead under Tiwai power lines on 2/10 (KM, JVM).

**ARCTIC SKUA** *S. parasiticus*

Charleston, 1 on 25/10, 2 on 16/11, 1 on 17/11, 2 on 1/1 (DJO). Fortrose, 1 on 8/2 (SLL).

**SKUA** sp.

Rabbit I, Nelson, 2 dark-phase birds chasing White-fronted Terns on 8/1 (AC). Nelson Boulder Bank, 1 on 7/3, 4/4 and 3 on 21/3, 11/4 (BEE). Greymouth, 1 'small and dark' on 18/1 (CSL).

**BLACK-BILLED GULL** *Larus dominicanus*

Farewell Spit, c.150 nests on 14/11; Rabbit I, c.200 nests on 9/11; Bells I, 234 nests on 11/11; Nelson Boulder Bank, 1156 nests on 6/11 (JMH). Bred above the treeline at Millerton and Rapahoe. Large numbers around the Steeples; Grey R mouth, max. c.350 roosting on 6/7 (CSL). Rahui Beach, 300 + on 11-12/8, feeding on washed-up shellfish (DJO). Bromley SP paddocks, 1920 ad and 210 juv on 13/3; Heathcote R loop, 470 on 24/6 (AC).

**RED-BILLED GULL** *L. novaehollandiae scopulinus*

Nelson Boulder Bank, 1200 nests on 12/11 (GAT). West Coast, many coastal records (DJO).

**BLACK-BILLED GULL** *L. bulleri*

Most West Coast records from Greymouth area with a max. at Kokiri Meat Works of c.200 on 14/2 (CSL). Bromley SP paddocks, 1400 on 13/3; Avon-Heathcote Est, 568 on 24/1 (AC). L Forsyth, 30 feeding over lake on 25/5 (PL). Aparima R, 50 800 during river survey on 20-30/10; 4 main colonies of 2900, 8000, 24 500 and 1500 (MLB).

**WHITE-WINGED BLACK TERN** *Chlidonias leucopterus*

Waituna, 3 off coast on 1/2 (RRS, WJC). Waituna Lagoon, 1 on 16/2, 2 on 28/2; Jock's Roost, 1 on 8/2 (MLB).

**GULL-BILLED TERN** *Gelochelidon nilotica*

Waituna Wetland Reserve, 1 on 19/11 (RRS).

**CASPIAN TERN** *Hydroprogne caspia*

Kaikoura, always scarce, 1 on 6/7, 27/8, 21/9, 28/5 (BEE). Farewell Spit, 150 nests on 15/11 (JHM). Tapu Bay to Riwaka Wharf, c.76 on 24/5; Motueka R mouth, 16 on 26/12 (AC). Motueka Sandspit, 50 on 1/1 (JMH, BDH, PCML). Nelson Haven, 22 on 28/2 (GDQ). Taramakau R, 1 pr bred (CSL). Small numbers on the coast throughout the year with highest numbers in June, July and Aug, e.g. Karamea, 6 on 20/6; Mokihinui Est, 20+ on 20/7; Charleston, c.10 on 11/8 (CSL, DJO). Avon-Heathcote Est, 5 on 24/8, 8 on 27/8, 6 on 31/8, 8 on 28/9, 21 on 6/10, 14 on 12/12, 29 on 13/1, 44 on 22/2, 33 on 12/4, 16 on 15/5, 8 on 24/6, 6 on 29/6 (AC). L Forsyth, 3 on 22/2 (PL). L Ellesmere, 11 roosting at Harts Ck on 31/10 (PL). Waikouaiti Beach, 3 on 24/5 (KCG). Aramoana, 4 on 20/4 (BMcK). Kaikoura Est, 1 on 24/5 (KCG). Matukituki R, between Raspberry and Downs Ck, 2 flying up and down riverbed on 23 and 26/11 (MC). Catlins Est, 2 ad 2 juv on 28/12 (KCG). Catlins L, 1 on 31/3 (KM, JVM). Invercargill Est, 47 nests on 7/11; 65 chicks banded on 7 and 17/11 (MLB).

**BLACK-FRONTED TERN** *Sterna albostrata*

Tapu Bay to Riwaka Wharf, c.68 on 24/5 (AC). Motueka R mouth, 19 on 8/2 (GDQ). Chamberlain Rd, Motueka, 50 including 7 juv in June (JMH). Waimea West, 5 in paddock in May (AB). Kawatiri Junction, 48 on 8/8 (AC). Karamea Est, 2 on 20/6 (CSL). Mokihinui Est, 1 ad on 20/7, 17 ad on 18/8, 1 on 27/4 (DJO, KS). Orowaiti, 4 on 2/2 (DJO). Avon-Heathcote Est, 3 on 30/1, 1 on 20/2 and 22/2, 4 on 1/6 (AC). L Ellesmere, 1 on 2/1, 6 on 16/2, 11 on 4/4, 25 on 5/4, 6 on 8/4, 3 on 22/4, and 1 during May (KH, PL, PMS). Aramoana, max. of 233 on 20/4 (BMcK). Pisa Ra, 4 hawking for moths at 6100 ft asl on 12/1 (MC). Clutha Est, 14 on 31/3 (KM, JVM). Waituna Lagoon, 29 on 16/2 (MLB). Oreti R, colonies of 26+ birds with eggs at Benmore, and 40+ birds nest-building, no eggs, on 16/11 (MLB). Aparima R, 151 counted on river survey 20-30/10 (WJC). Thornbury, 380-400 feeding and roosting on farmland in early March. Remained several days; Riverton Est, 69 on 21/1 (OJL).

**LITTLE TERN** *S. albifrons*

Motueka R mouth, 1 on 22, 24, 26/12 (AC), 1 on 8/2 (GDQ). Motueka Sandspit, 1 on 1/1 (JMH, BDH, PCML). L Ellesmere, 1 throughout April and May (AC, PL, KH). Andersons Bay Inlet, 1 on 8/11 (KCG). Awarua Bay, 1 on 8/3 (WJC).

**WHITE-FRONTED TERN** *S. striata*

The Avenue, Golden Bay, 72 nests in Dec (JMH). Tapu Bay to Riwaka Wharf, 595 on 24/5 (AC). Motueka Sandspit, c.200 nests on 1/1; Nelson Boulder Bank, c.200 nests on 19/11 (JMH). West Coast, small numbers at sea throughout the year (CSL, DJO). Small roosts of up to 40 throughout the year at Karamea, Okari, Rahui, Charleston, Porarari R, Punakaiki R,

Taramakau R, Totara R (Ross) and Okarito. Larger roosts at Mokihinui R, c.70 on 20/7, c.6 on 22/9, c.50 on 23/11, c.200 on 14/12, c.90 on 1/3, c.70 on 27/4; Buller R, 93 on 26/11. Probable breeding at Oparara, Mokihinui R (CSL, PG, RS, DJO). Avon-Heathcote Est, 6 on 4/9, 5 on 19/10, 4 on 8/12 and 27/1, 5 on 30/1 and 14/6 (AC). McCormack's Bay, Christchurch, 35 on 21/2 (PL). Barrys Bay, Banks Pen, 11 on 28/6 (PL). Invercargill Est, colony of c.120 birds with eggs on 17/11 (MLB).

**NEW ZEALAND PIGEON** *Hemiphaga novaeseelandiae*

Greymouth, 3-4 in town on 16/7 and Feb (CSL). Upper Lyell, only 2 on 28/2; Stern Ck to Mountain Ck, only 3 on 2/3 (TS).

**ROCK PIGEON** *Columba livia*

Rock and Pillar Ra, to Keyburn, a few on 15/9 (AJDT).

**WHITE COCKATOO** *Cacatua galerita*

Greendale, 6 on 19/8 (JSF). Pounaweia, 3 on 28/12 (KCG).

**SOUTH ISLAND KAKA** *Nestor meridionalis meridionalis*

Boulder L track, 6 on 28/3 (BEE). Karamea R, 3 on 1/9 (PL). Ngakawau Basin, 2 on 2/1; McPherson Hut (Lyell R), 1 on 27-28/2, McPherson Hut to Stern Ck, 4 on 28/2 (TS). Ohikanui R to Mt Uriah (Paparoas), 4 in March (TJ, KD); Upper Blue Grey, present 29/3; Towai SF, 1 or 2 on 21/4; Booboo Hut (Kokatahi R), present 30/11, L Haupiri, 1 on 20/10; Arthur's Pass NP: Carol Track, 1 on 26/1; L Karapataka, 1 on 8/2 (PG, RS).

**KEA** *Nestor notabilis*

Kaikoura Pen, 1 from 19/12 to mid-Jan, much time on local house roofs; Kowhai Saddle, 9 on 9/2 (BEE). McPherson Hut, Lyell R, 1 on 28/2; Westport, 1 over the main street on 19/2 (PL). Bullock Ck, Mt Anderson, Moonlight Ck, Paparoas, present in March (TJ, KD). Mt Bovis, 2 on 17/2 (PMcM, JL). Doubtful R, 2 on 31/3. Arahura R, 1 on 26/4 (PG, RS). Arthur's Pass NP, 26 around tops on 28/2 (K van L). Mt Avalanche, 11 on 11/1. Amethyst Ck, Smythe Ra, 1 on 9/11, nest with chicks on 10/11 (PG, RS). Matukituki, 2 at Shovel Flat and 5 at French Ridge Hut on 21/11; Upper Wye Valley, 2 at 4800 ft asl on 11/2 (MC).

**EASTERN ROSELLA** *Platycercus eximius*

Berwick Forest, 3 on 18/3 (KCG).

**RED-CROWNED PARAKEET** *Cyanoramphus novaezelandiae*

Upper Wairau, 1 seen with 2 Yellow-crowned on 19/9 (DB).

**YELLOW-CROWNED PARAKEET** *C. auriceps*

Upper Wairau, 2 seen with 1 Red-crowned on 19/9 (DB). Hawdon Valley, 2 on 5/2 (KH), 3 on 23/3 (PL). Te Anau, 1 in garden on 29/6 (JVM, KM), 1 in Ivon Wilson Park on 14/7 (AW).

**PARAKEET** sp. *Cyanoramphus* sp.

Maungatapu, heard on 1/3; Saddle Hill, heard on 2/3; Ben Nevis, heard on 16/3 (BEE). Lyell Valley, present on 28/2; Ngakawau Basin, 3 groups on 2/1 (TS). Ohikanui R to Rough R, present in March (TJ, KD). L Haupiri, 3 on 14/10; Mt Haast, 2 on 14/6 (PG, RS).

**SHINING CUCKOO** *Chrysococcyx lucidus*

Mead Stm, Inland Kaikoura Ra, 1 on 1/11 (BEE). Greymouth town,

1 calling on 16/7, 31/8, 2 on 1/9, regularly 11/10-27/10 with a "considerable number" on 27/10, 1 on 4/1, 30/1 and 5/2 (CSL). Millerton, 1st on 25/9; Charleston, 1st on 25/9 (DJO). L Haupiri, 1 on 14/10 (PG, RS). Nina Valley, Lewis Pass, present in moderate numbers on 27/10 (AC). Hanmer Springs forest, several heard on 17/10 (PW). Christchurch, in kowhai tree on 16/3 (PC). Heathcote R loop, present in fir trees during Nov (AC). Boundary Ck, Clarendon, 2 on 11/11 (ALN). Sandy Pt, 1st on 14/9 (WJC).

**LONG-TAILED CUCKOO** *Eudynamys taitensis*

Punakaiki R, 1 on 1/1; Barrytown, many reports of calls; Cobden, 1 in garden on 29/12; Boddytown, 1 mobbed by small birds on 17/1 (CSL). Booboo Hut, Kokatahi R, present on 30/11; Okarito, 1 heard at night on 13/10 (PG, RS).

**MOREPORK** *Ninox novaeseelandiae*

Millerton, present; Westport, present; Paparoa Ra, present up to 3000 ft asl; Greymouth, present (PG, RS). Porarari R, ad with 2 juv on 24/2 (CSL).

**LITTLE OWL** *Athene noctua*

Kaikoura, 2 on 29/12 (BEE). Glentui, 2 on 19/1 (AC). Christchurch, heard on 23/4; Fairlie, 1 on 26/4 (PL). Catlins L, 3 on 30/3 (KM, JVM). Alexandra, 1st spring call on 27/9; Omakau, 1 on 3/10 (MC).

**NEW ZEALAND KINGFISHER** *Halcyon sancta*

Tapu Bay to Riwaka Wharf, 40+ on 20/5 (AC). West Coast, small numbers from coastal areas, especially March-Aug, max., Kongahu-Karamea, 10 along 5 km of road on 20/6; Okari, 10 on 19/6 (CSL). Orowaiti Est, 35+ on 14/4 (DJO). Avon-Heathcote Est, 6 on 5/5 including 4 juv, 17 on 2/6, 25+ on 24/6; Heathcote R loop, 2 with a nest in bank on 8/12; 5 on 24/6; Avon R, 8 on 14/6 (AC). Barrys Bay, 25 on 28/6 (PL). Alexandra, 3 together in willows on 20/2 (MC). Etal Ck, 1 on 6/7 (WJC). Southland coast, last sighting for year on 11/9, first sighting for 1986 on 5/3 (MLB).

**SOUTH ISLAND RIFLEMAN** *Acanthisitta chloris chloris*

Upper Lyell Valley and headwaters of Mountain Ck, present 28/2 (TS). Millerton road, female on 23/11 was unusual (CSL). Craigieburn SF, c.10 on 23/2; Upper Blue Grey, common on 29/3, Booboo Hut (Kokatahi R), present 30/11; L Haupiri, 4 on 24/10; Smythe Ra, present 9/11 (PG, RS).

**ROCK WREN** *Xenicus gilviventris*

Mt Cobb, 10-15 birds on western slopes in Feb (PDG). Arthur's Pass NP, Mt Avalanche, 2 on 11/1. Otira Valley, 1 pr on 19/1. Mt Phipper Ra, 3 on 9/2. Amethyst Ck, Smythe Ra, 1 at 4300 ft asl on 9/11 (PG, RS). Fox Glacier (S side of ice fall), 1 pr on 20/4; Chancellor Shelf, Fox Glacier, 1 pr on 21/4 (TS). Tarn Col, Otehahe R, 2 on 1/3 (BJS). Otira Valley, 2 on 8/1 (BEE), 4 ad, 1 juv on 22/3 (PL).

**AUSTRALIAN TREE MARTIN** *Hylochelidon nigricans*

L Holm farm, Clarendon, 1 in March (ALN).

**WELCOME SWALLOW** *Hirundo tahitica neoxena*

West Coast, common in open areas. Silver Ck, 25 on 29/2 (TS). Kokiri Meat Works, max c.100 on 14/2 (CSL). Taieri Beach, 6 on 26/4; Clutha Est, 3 on 31/3 (KM, JVM). Milford Sd, 6 on 30/7; Te Anau Wilderness

Rd, 1 pr breeding in Nov; Manapouri, 4 on 25/7 (AW). Sandy Pt Lagoon, 1 pr nesting on 13/1; Otahuti Stm, 1 pr nesting on 20/1 (RRS).

**NEW ZEALAND PIPIT** *Anthus novaeseelandiae novaeseelandiae*

West Coast, many records from coastal and pakihi areas. Moonlight Ck, present at 3000 ft asl on 5/10 (PG, RS). Otira Vaalley, common at high altitudes on 23/3 (PL). Avon-Heathcote Est, 1 on 29/1, 2 on 31/5 (AC).

**HEDGESPARROW** *Prunella modularis*

West Coast, common throughout except for tall native forest (CSL).

**SOUTH ISLAND FERNBIRD** *Bowdleria punctata punctata*

Harrys Track, Buller, heard in July (JB). Otuwhero Inlet, 3 on 9/8 and present on 27/12 (AC). Druggans Dam, Aorere Goldfields, present on 16/10 (DB). Boulder L track, present on 28/3 (BEE). Awaroa, 1 on 15/12 (LL). Fairdown, present 17/12 (DJO). West Ck, Buller R, 1 on 17/4 (PG, RS). Charleston, present (DJO). Gunsight Pass and S Paparoa tops, present in March (TJ, KD). Coal Ck, 2 on 17/4; Old Christchurch Rd, 3 on 31/3; Marsden Rd Swamp, Greymouth, several on 8/3; L Hochstetter and dam, several on 23/3; Ballarat Ck, 3 on 18/4; Kawata Rd Farm, 3 on 18/4; Spring Ck Rd, 2 on 24/8; Okarito pakihi, 2 on 12/10 (PG, RS). Glendu Forest Station, 1 on 25/6 (MRF).

**BROWN CREEPER** *Finschia novaeseelandiae*

Boulder L track, Beethams Clearing, c.7 on 31/3; track to L Adelaide, present on 29/3; Ben Nevis, 3 on 16/3; Saddle Hill, c.8 on 2/3; Mt Duppa, present in small flocks on 22/2; Kaikoura residential area, 2 on 22/2 (BEE). Charleston, an apparent decline in local birds with no records after a June cold spell (DJO). Moonlight Ck, present at 3000 ft asl on 5/10; Old Christchurch Rd, 8+ on 31/3 (PG, RS). Nina Valley, Lewis Pass, 11 on 27/10 (AC). Hawdon Valley, present on 23/3 (PL). Okuti Valley, Banks Pen, 20+ on 3/9 (AC).

**YELLOWHEAD** *Mohoua ochrocephala*

Hawdon Valley, 5 on 5/2 including 3 attending nest hole in beech tree (KH); 1 seen with a flock of Brown Creepers plus a flock of 20+ which included 2 imm still being fed by ad on 23/3 (PL).

**GREY WARBLER** *Gerygone igata*

West Coast, many records throughout, including from suburban gardens in Greymouth from 6/2 to 19/5 (CSL). Moonlight Ck, present at 3000 ft asl; Smythe Ra, present at 2800 ft asl (PG, RS).

**SOUTH ISLAND FANTAIL** *Rhipidura fuliginosa fuliginosa*

Pearse Stm, 300+ hawking insects on 5/6 (GRP). Greymouth garden, from 13/2 to 29/3; max. numbers in open areas in winter, e.g. Shearer Swamp, c.15 on 2/6. Breeding: Charleston, full song 27/8 onwards, nest building 2/9, 1st fledgling c.5/11, ad moulting by 8/1; Porarari, pr with 2 juv on 24/2 were quite late; L Hanlan, 1 black bird with an all-white tail on 20/6 (CSL).

**YELLOW-BREASTED TIT** *Petroica macrocephala macrocephala*

Maungatapu, 13 on 1/3; Saddle Hill, 7 on 2/3 (BEE). West Coast, recorded from many bush areas throughout. Moonlight Ck, present to

3000 ft asl on 5/10 (PG, RS). Turiwhate, 3-4 in young regeneration on 26/10 (CSL). Nina Valley, Lewis Pass, 32 including some with nests on 27/10 (AC). Hampden, 1 in Jan (ARB). Worsley R, numerous on 25/1 (RRS).

**SOUTH ISLAND ROBIN** *P. australis*

Jenkins Hill, Nelson, 3+ on 5/4; Kaikoura Ra, Glencoe to Dee Stm, encountered frequently, more so than elsewhere in Seaward Kaikouras (BEE). Continuous from Lyell through the Mokihinui to Stern Ck and Mountain Ck Tarn. Also in unlogged forest beside Tate Ck. Absent Mt Glasgow to Seddonville, 27/2-3/3; Ngakawau Basin, present on 2/1 (TS). Ohikanui R, present March (TJ, KD). Charleston, 1 singing in "winter" territory from June to 30/7, when it disappeared (DJO). Upper Blue Grey R, common on 29/3; Doubtful R, common 31/3 (PG, RS). Nina Valley, Lewis Pass, 1 on 27/10 (AC). Hawdon Valley, 1 ad male on 23/3 (PL). Woolshed Hill, Hawdon R, 2 on 4/5 (EBS).

**SONG THRUSH** *Turdus philomelos*

Murchison, hundreds feeding with Blackbirds on paddocks during winter (GRP). West Coast, common throughout. Charleston, song ended on 2/2; Granity, c.400 on a playing field during a cold spell in June (DJO). Logan Park, Dunedin, 1 calling like Shining Cuckoo but without descending note on 7-9/6 (AJDT).

**BLACKBIRD** *T. merula*

Waimea West, nest on ground under kiwifruit vines in Oct (GDQ). Moonlight Ck, present at 3000 ft asl on 5/10 (PG, RS). Granity, c.300 on a playing field during a cold spell in June; Millerton, 1st song on 17/8; Charleston, 1st song on 26/8 (DJO).

**SILVEREYE** *Zosterops lateralis*

West Coast, recorded from most areas; Charleston, main fledging on 10-20/2; a cold spell with 2 ins of hail reduced the flock at a feeder from 50+ to less than 10 in June. After the hail flocks were heard moving N high overhead (DJO). Chancellor Hut, Fox Glacier, present at 3500 ft asl on 20/4 (TS).

**BELLBIRD** *Anthornis melanura*

Charleston, poor breeding season, 1st fledging on 20/11, last fledging on 1/2 (DJO). Greymouth, feeding on kowhai from 4/5 to 29/5 (CSL).

**TUI** *Prosthemadera novaeseelandiae*

Lyell-Mokihinui-Seddonville, present 27/2 to 3/3 (TS). Moonlight Ck, present at 3000 ft asl on 5/10 (PG, RS). Greymouth, feeding on kowhai 4/7, 2/8, and on flax and rata on 29/12 (CSL). Hammer Springs forest, 2 on 17/5 (PW). Nina Valley, Lewis Pass, 8 on 27/10; Port Levy-Little R road, 3 at summit on 18/5 (AL). Hampden, 1 in flowering blue gum on 3/1 (ARB).

**YELLOWHAMMER** *Emberiza citrinella*

West Coast, common in drier open areas (CSL).

**CIRL BUNTING** *E. cirrus*

Motueka, Cotterell Rd, pr on fence on 17/5 (BEE). Stoke, pr on soccer field on 24/9, 1 on 26/9 (AB). Richmond, nest in dwarf juniper bush in Feb (SH). Nelson Haven, present July, Aug, Sep, May, June (GDQ). Bromley

SP paddocks, 1 on 6/7, 4 on 4/8, 2 on 8/5, 1 on 24/6 (AC). Westmoreland, Christchurch, 2 on 18/4 (PL). Kaituna, 4 on 13/5; Greenpark, Ellesmere, 2 on 19/12 (AC). Carrick Ra, present on 15/2 (KM).

**CHAFFINCH** *Fringilla coelebs*

West Coast, common throughout, (DJO).

**GREENFINCH** *Carduelis chloris*

West Coast, small numbers throughout. Totara Valley, max. of c.30 on 2/6 (CSL).

**GOLDFINCH** *C. carduelis*

West Coast, small numbers in open areas throughout. Greymouth Airfield, max. of c.30 on 29/3 (CSL).

**REDPOLL** *C. flammea*

Mountain Ck Tarn, 10 on 29/2 (TS). Max. Okarito, c.60 on 22/6; Charleston, 30 on 21/2, 90 on 21/2, 250+ on 8/3 (DJO).

**HOUSE SPARROW** *Passer domesticus*

Greymouth, a male chased starling to nest hole and caught it by tail feathers on 23/11 (CSL).

**STARLING** *Sturnus vulgaris*

Charleston, nest building from 22/8, 1st hatching on 1/11. All birds had left nest sites by 2nd week of Dec, 1st return to nest site on 1/2 (DJO).

**INDIAN MYNA** *Acridotheres tristis*

Rabbit I, 1 bedraggled bird on 1/8 (HH). Linwood Park, Christchurch, 1 on 10/5; Woolston, 1 on 6/11 (AC).

**WHITE-BACKED MAGPIE** *Gymnorhina tibicen hypoleuca*

Tapawera, 3 on 23/5; Hope Saddle, 1 dead on 23/5; Murchison, 4 on 15/8 (AC). Te Kinga, 1 on 27/7; Rotomanu, 3 on 21/7; Ngahere, 3 on 18/2; Totara Flat, 6 on 18/2; Shearer Swamp, 1 on 2/6 (CSL). Cheviot school grounds, 60 on 11/5 (PG).

**MAGPIE** sp. *G. tibicen*

Milford Rd, 2 on 4/12 (AW).

**ROOK** *Corvus frugilegus*

Puponga Farm Park, 1 on 7/9 (BR). Kaikoura township, 1 nesting from 27/8-30/9, not seen again (BEE). Motukarara, 35 on 10/11; Prices Valley, Banks Pen, 2 on 10/11 (AC). Little R, Banks Pen, 2 flocks of 20 and 30 birds on 28/6; Duvauchelles Bay, 60 on 28/6 (PL). Port Levy, 4 on 18/5; Greenpark, Ellesmere, 100 on 23/3 (AC). Greendale, 150 on 3/7 (JFMF, JSF). Middlesmarch, 3 colonies with 85 nests in Nov, according to Ag. Pest Destruction Council (PS).

## SHORT NOTE

### Kokako presence on Stewart Island

A Kokako feather was found this summer during a search for South Island Kokako (*Callaeas cinerea cinerea*) on Stewart Island. The small bluish-grey body feather was found by Dave Crouchley (NZ Wildlife Service) and subsequently identified by John Darby of Otago Museum.

The search area was a remote branch of the Rakeahua River, where other signs of the rare bird had been found recently. In addition to a feather being found, two brief sightings of Kokako were made and calls were heard and tape-recorded.

These results mark an important stage in the search for South Island Kokako, which began in 1980. Accumulated evidence of South Island Kokako indicates that the birds are present in low numbers, in habitat similar to that preferred by North Island Kokako (*C. c. wilsoni*), in isolated areas on Stewart Island and the South Island. They are rarely seen because they are more secretive and have lower vocal output than North Island Kokako.

RHYS BUCKINGHAM



## LETTER

### More on the name *Rallus hodgenorum*

One must admire the determination with which Prof Mayr (*Notornis* 33: 268) exercises his penchant for misrepresenting issues relating to nomenclature. Because Scarlett named his rail simply "after Messrs J. and R. Hodgen, owners of Pyramid Valley swamp," all that can be inferred in any consideration of grammar is that two (J. and R.) masculine (Messrs) individuals with the surname Hodgen were to be honoured. There is no indication here that these gentlemen were brothers, were married, or that their presumed wives shared title to the swamp, none of which circumstances would alter the ending of the specific name of the bird in any event. The gratuitous interjection of such irrelevancies only lends an unbecoming air of frivolity to the discussion. Furthermore, because neither simplicity nor brevity is a criterion for determining nomenclatural usage, and no matter of priority is involved, these factors are likewise irrelevant. All that remains of Prof Mayr's argument then is his view that Article 31c of the Code of Nomenclature is "anachronistic." Nevertheless, *Rallus hodgenorum* is the correct form of the name *if* one intends to abide by the existing Code. Because compliance with the Code is strictly voluntary, those who wish to depart indefinitely from it need follow no rules and may use such names as please them.

As for *Brachygalba lugubris naumburgi*, a knowledgeable person encountering this name in the absence of the original description would

probably assume it to commemorate some male relative of Elsie's, or perhaps some other Naumburg family altogether. The correct spelling *naumburgae* not only helps to avoid this misapprehension, sets the historical record straight, and more properly honours the person to whom the bird was dedicated, but also is consistent in conforming with Latin grammar and thus with the Code as well. Considering these substantial benefits and the fact that there could be no possible confusion as to the taxon in question, I can see no harm whatever in making the correction. I wonder if Prof Mayr would be as indifferent towards grammatical carelessness if he were to be honoured with a new subspecies spelled *mayrae*.

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[The matter of gender is irrelevant to the original issue of whether the fossil rail is *Rallus hodgeni* or *R. hodgenorum*. Thus, we have two opposing views:

1. Whether stability in nomenclature prevails over the original author's stated intention.
2. Whether the original author's stated intention prevails over stability in nomenclature.

Either view is possible under the Code. We therefore leave the matter open for checklist committees and others to decide for themselves. Ed.]



## CORRECTION

HARPER, P. C. & FOWLER, J. A. 1987. "Plastic pellets in New Zealand storm-killed prions (*Pachyptila* spp.) 1958-1977". *Notornis* 34: 65.

The second-last word in the first paragraph reads "specimens".  
It should read "species".