

starting to assume breeding dress, whereas most male Bartails were reddening and, indeed, some already appeared to be fully red. This was the last occasion on which these two Black-tailed Godwits were seen, and they evidently left the Miranda coast. As it happened, the number of godwits which wintered in the Firth was abnormally small; and it is felt that in view of the special watch which was kept for the Blacktails by several observers, they would not have escaped notice. If, as seems likely, they were first-year birds, they may well have wintered somewhere in northern New Zealand.

## SHORT NOTES

### STARLINGS (*STURNUS VULGARIS*) IN THE ROLE OF POLLINATORS

Birds, in their search for food, frequently assume the role of pollinators and dispersal agents for the plant world. Starlings, although almost omnivorous, periodically fill the role of pollinating agents in their search for nectar. In some countries, migration of the vast hordes of starlings, it has been noted, coincides with the flowering season of certain families of plants, such as the *Malvaceae*, *Bombacaceae* and some of the large-flowering *Leguminosae*. Although many of these flowers are adapted to the needs of other visitors, the starlings frequent them for the copious nectar produced and in doing so may cross-pollinate the flowers by-passed by the normal pollinators. Likewise, the completion of the flowering season marks the disappearance of the starlings.

In New Zealand, as is well known, starlings were introduced to cope with some agricultural pests, but unfortunately their keen appreciation for fruit has relegated them to the 'black list' of pests, in spite of their appetite for noxious insects. However, it is not in this role that I wish to discuss them, but as pollinators. Of recent weeks (December-January) I have frequently noticed the forehead, crown and throat of starlings besmeared with pollen. At first I was under the impression that the birds had been fighting and that the discoloration on the head was due to wounds. But in view of the sociable nature of the species, fighting had to be ruled out as a cause. Closer examination revealed masses of pollen. The source of the masses of pollen had now to be located and the plant or plants identified. Observation soon revealed that numbers of starlings visited the flax bushes in swamps and elsewhere. The discoloration was due to flax pollen (*Phormium*).

The question which arises from this small observation is: 'What effect will this mass feeding of starlings on the flax nectar have on the distribution of the Tui (*Prothemadera novae-seelandiae*) in course of time?' Flax is one of the many sources of food of the Tui. Both species are pugnacious, but since one is 'solitary' and the other gregarious, will the starling exclude the Tui from such areas? Again, the habitats of the two birds are 'normally' different; the Tui is more of a forest bird only coming into the open to feed, whereas the starling is a bird of the open country, seldom if ever invading the bush. These are questions which only the future can answer.

C. McCANN

[In the vicinity of Auckland, starlings have frequently been seen feeding on the flowers of flax (*P. tenax*) and pohutukawa (*M. excelsa*). The Tui here is increasing as a bird of gardens and parkland.—Ed.]

### BIRDS ON OAIA 1953-4

Oaia Island lies nearly a mile offshore at the south end of Muriwai beach. The following notes were made during visits which I made with members of the Muriwai Surf Club.

Gannet (*Sula serrator*). 29/11/53. Eggs 151. Black chicks 26. White chicks 163. Fluffy chicks 7. 21/9/54. Nesting mounds 295. Eggs new-laid 2. 30/10/54. Most nests occupied. First eggs chipping. Three eggs had been cast out. 31/10/54. First chick hatched.

Spotted Shag (*Stictocarbo punctatus*). 29/11/53. 41 adults flying. Two nests intact, one with two almost fully grown chicks. 21/2/54. c. 130 adults flying around the island. 21/9/54. 6 adults. 30/10/54. c. 45 adults. Three nests.

White-fronted Tern (*Sterna striata*). 29/11/53. Nests 112. Chicks 12. One nest contained three eggs, 12 nests two eggs each. During the winter very few terns were about. They were again plentiful by early October.

Starling (*Sturnus vulgaris*). A pair bred in a short rocky burrow.

There is very little soil except a few pockets of rotted down guano and I could not find any petrel burrows. On 21/9/54 at least eight seals were seen and two geckos were found among the rocks.

A. T. WIGHTMAN

### WAX-EYES TAKEN AS FOOD BY WHITE HERON

It is no uncommon thing to find small birds so gorged with food that they are temporarily unable to fly properly. I have more than once handled Goldfinches (*Carduelis carduelis*) in this condition. Wax-eyes (*Zosterops lateralis*) will glut themselves with mutton fat which in Westland is commonly kept in large tins in timber yards. Some years ago a White Heron (*E. alba*) used to frequent one such timber yard near Whataroa. It would stand quietly by the tin, seizing and swallowing those Wax-eyes whom gluttony had rendered incapable of escaping. This continued for some months, the Wax-eyes never seeming to learn that the White Heron was their enemy.

J. G. PENNIKET

### HARRIER ATTACKING BITTERN

The degree to which the Harrier (*C. approximans*) preys on other birds has been the subject of much controversy, so the following note is pertinent. On 8/11/55 I observed a Bittern (*B. poiciloptilus*) in flight under attack by a Harrier at Lake Hayes. The Harrier dived at the Bittern continually and gradually forced it to lose height. At each swoop it struck with its talons, but the Bittern parried with its bill every time. The fight lasted for ten minutes until the Bittern made the shore-line and escaped.

M. M. SMALL

### 'CRESTED' BELLBIRDS

While investigating the alleged appearance of a Bulbul (*Pycnonotus cafer*) in this (Rotorua) area, several reports of the occurrence of a strange bird have come to my notice.

Three boys who visited the Auckland Museum during the Christmas holidays, after viewing the specimens of Bulbul on exhibition there, declared to the attendant that they had seen the same bird near Lake Rotoiti. Unfortunately Mr Turbott was away at the time of their visit, otherwise the matter would doubtless have been cleared up then and there. One of the boys left a Rotorua address with the attendant, which proved to be incorrect, and all subsequent efforts to trace the lad at Mr Turbott's request have proved futile. I have little doubt, however, that the supposed Bulbul was none other than a Bellbird (*Anthornis melanura*) wearing a temporary head adornment.

During last November and early December when the flax (*Phormium*) is in bloom, the nectar-loving Bellbird pays much attention to this plant, a fact that is generally well known. In the process of extracting the nectar from the flax flowers, the bird's head comes into contact with the dark-red — almost purple — pollen, and on withdrawing the bill a certain amount of nectar adheres to the inside walls of the 'petals'. The next bird visiting the same flower contacts both pollen and nectar, and on withdrawing the head, the feathers of forehead and crown are thus raised, giving the impression of a crest or tuft on the bird's head. I have noticed the same effect on the heads of Starlings (*Sturnus vulgaris*) and Silvereye (*Zosterops lateralis*). The act of withdrawing the bill bends the head feathers forward, and these being dusted with pollen and smeared with nectar — a combination