JUVENILE CHATHAM ISLAND SHAG OBSERVED OFFERING NEST MATERIAL TO A BREEDING ADULT

On 22 November 1973 I observed a small breeding colony of Chatham Island Shags (*Leucocarbo carunculatus onslowi*) from 12.15 to 3.15 p.m. on the main Chatham Island at Cape Fournier near Owenga.

The clifftop colony comprised a tight knit group of 60+ nests with another group of 20 nests some 50m distant. There was a distinct difference in the stage of development between both groups in the colony. The larger group contained many nests with 1-4 large, downy chicks, some with flight feathers. There were also some nests with smaller young and the odd nest still contained eggs. In the smaller sub-colony further along the clifftop most of the nests still contained eggs, although in one nest there were chicks with the egg tooth still visible. One or two juveniles from the previous year were also present around the colony.

The plumage of the juveniles was brownish on the head, back and wings with grey-white on the underside in comparison to the black and white of adults. The caruncles of juveniles were also less developed.

While observing birds in the smaller group, one of the juveniles appeared from the larger group, proceeded past the smaller group and disappeared further around the cliff. This juvenile re-appeared later with a beakfull of dried plant material and walked back to the larger nesting group. As it approached the perimeter of the group some of the adults on nests near the edge of the group threatened with necks stretched forward, bills open and uttering a quiet gutteral noise. The juvenile shag walked up to one of these displaying adults sitting tight on a nest at the edge of the colony and placed the material in the adult's opened bill. The material was then incorporated into the nest while the juvenile stood nearby.

Nesting adults threatened in a similar manner to that already described when a human intruder passed close to the colony, and cn a similar, though more localised scale, when an intruding bird passed close to an occupied nest.

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FLUCTUATIONS IN WHITEHEAD POPULATION

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The numbers of the Whitehead (Mohoua albicilla) recorded in the Mount Holdsworth area of the Tararua Range have shown considerable variation during the past fifty years, suggesting a cycle of decline or a periodic abandonment of habitat. The Whitehead is not confined to forest areas as it occurs also in some places in scrub lands far from extensive bush.

During the twenty years up to 1939 the Whitehead was recorded on every visit to the Mount Holdsworth area. In that period 25 excursions were made to this region, especially to Donnelly's Flat but also occasionally to the Mountain House and to the summit. Invariably the Whitehead was present.

In the 1940-1949 decade, on 6 of the 18 visits no Whiteheads were recorded, the first nil return occurring in 1940. In the 1950-1959 period 11 out of 14 visits failed to find the bird; all those that were recorded were in 1950. In 1960-1972 on 9 out of 14 visits the bird was missing, the first records of its reappearance being in 1969, with three records since then up to 1972. Thus, in the period 1951 to 1968 inclusive no records of the Whitehead were forthcoming in an area which prior to 1940 never failed to disclose the presence of this species on every visit. The area traversed was the same throughout.

One visit of some significance was that of 5 March 1950 when a tramp was made to Totara Flats via Holdsworth and back. Not a single Whitehead was recorded during the whole trip when a record was kept of all birds seen or heard. All the usual bush species including the Kaka (Nestor meridionalis) were recorded except the Whitehead and Parakeet (Cyanoramphus spp.).

It should be noted that in the period of no records in the Mount Holdsworth area the Whitehead was present in the Kiriwhakapapa Valley to the north in 1955, 1966 and 1967 and also in the more isolated Mount Bruce Bush, where the Bird Reserve is now located, in 1951, 1967-1969. Elsewhere, in the eastern portion of the Wairarapa-East Coast district I have recorded the presence of this species in several localities (Stidolph 1971, *The Birds around us*, Masterton: 104-105) during the same period.

It would appear that the Whitehead is subject either to cyclic fluctuations in population or that it forsakes certain areas for a period. In the latter part of last century Sir Walter Buller lamented the rarity of the once common Whitehead, which, however, some years later, 1920-1940, from my own observations was well distributed and numerous in bush districts in the Wellington province, even including small isolated bush areas well away from the main forests. It could well be that Buller's (1905, Supplement to the Birds of N.Z., II: 129) comments were made in a period of decline, since when the population had expanded again up to 1940, when another recession began, as in subsequent years, apart from the Holdsworth area, I have failed to find this bird in some Wellington district areas where it was recorded earlier.

It may be pertinent to mention that surprisingly large numbers were found on a visit to cut-over bush at Erua in the Waimarino district on 17 October 1947. In a walk along an old logging track from National Park to Erua and back no less than 31 Whiteheads

were recorded, as compared with 40 Bellbirds (Anthornis melanura), 31 Grey Warblers (Gerygone igata), 14 Riflemen (Acanthisitta chloris), 12 Tomtits (Petroica m. toitoi) and three Robins (P. a. longipes). In the bush all the millable trees had been removed and the bush had been well opened up. It is noteworthy that this date is within the breeding season.

That the Whitehead is not confined to forests is indicated by its presence also in second growth and remnant beech in the Wairarapa-East Coast district, miles away from any extensive bush area. Moreover, on 1 March 1953, Ray Wilkinson (who for years resided on Kapiti Island Bird Sanctuary) at Hatepe, Lake Taupo, saw 50 Whiteheads in manuka and kowhai near the lake shore and he estimated that there would be 200 in the area, as the birds were distributed all through it.

On Kapiti Island, in my experience, a favourite breeding area of the Whitehead was, at that time, in the shrubby fringe of the bush at and around Rangatira, interspersed, as it was up to the end of 1942, when my intimate knowledge of the island ceased, with grassy areas where shrubs such as manuka, tauhinu, kaikomako, kohuhu and small-leaved Coprosma were chosen as nest sites.

Areas of scrub and second growth tend to be neglected ornithologically and it may be that the Whitehead is to be found in these areas more than is generally recognised.

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