

PRESUMED ATTEMPTED BREEDING OF THE WHITE-WINGED BLACK TERN IN NEW ZEALAND

By R. J. PIERCE

ABSTRACT

A pair of White-winged Black Terns (*Chlidonias leucopterus*) nested at a South Canterbury lagoon during the New Zealand summer of 1973-74. One chick was hatched on the second attempt, but it apparently did not fledge. This is not only the first documented record of White-winged Black Terns nesting in New Zealand but also the first undoubted record for the entire Southern Hemisphere.

INTRODUCTION

As a breeding species the White-winged Black Tern occurs sporadically across Eurasia from Hungary to the Pacific Ocean. Cramp (1970) has given a useful summary of this species. He remarked of its breeding distribution:

"Its range begins in Hungary and extends eastwards, rarely extending above 55°N or below 40°N except in Iraq, right across to the shores of the Pacific, although there is a noticeable gap in central Siberia between the upper Ob and the east of Lake Baikal [see map on p. 1042]. Within this range its distribution is uneven. . . . Indeed its nesting may be so erratic, especially at the edges of its range, that there is some uncertainty as to precisely where it now breeds or has bred. This applies especially to some areas bordering the Mediterranean, but the most important question is whether it nests . . . in any part of tropical Africa."

[Cramp 1970: 1042]

Comments on its alleged breeding in Africa have also been given by Williams (1963: 115-116).

On their migration, Cramp (1970) stated:

"They leave their nesting areas early and by October have spread widely over Africa, reaching as far south as the Congo . . . Later they occur . . . south into South Africa . . . Less is known of movements from the eastern breeding range, but white-winged black terns pass through China to winter in Burma, Malaysia and even Australia and New Zealand."

[Cramp 1970: 1043]

The *Annotated Checklist* (OSNZ 1970) summarises the status of this species in New Zealand:

"Breeding Europe and Asia, migrating to southern hemisphere, including Australia and with some frequency New Zealand, where several have been known to over-winter, some in full breed-

ing plumage. Numerous sight records throughout New Zealand as far south as Southland."

[OSNZ 1970: 54]

On 16 December 1973 five White-winged Black Terns were found at the mouth of the Opihi River, South Canterbury (Fig. 1). Two of these birds were in full breeding plumage and subsequently nested on the lagoon front, making history as the first White-winged Black Terns to be found breeding in the entire Southern Hemisphere.



FIGURE 1 — White-winged Black Tern in full breeding plumage, 23 December 1973. Diagnostic features are: black extending along underwing from body; white forewing, and white tail.

Photo: R. J. Pierce

HABITAT AND OTHER SPECIES PRESENT

At the mouth of the Opihi River, a narrow, branching lagoon (Milford Lagoon) parallels the shingle beach for about 2 km. The mouth is often blocked and the lagoon floods much of the adjacent riverbed and swampland, as was the case during much of the 1973-74 summer. At other times the lagoon is tidal with mudflats being exposed at low water. Much swamp vegetation occurs along the muddy-bottomed streams which enter the lagoon away from the main river. The beach is formed of flattened stones merging into shingle and sand on the lagoon front. Some parts of the lagoon front support growths of *Plantago coronopus* (plantain), *Chrysanthemum leucanthemum*, and other plants.

During the 1973-74 summer there was a nesting colony of c. 1200 White-fronted Terns (*Sterna striata*) on the beach. The occasional Caspian Tern (*Hydroprogne caspia*) fished the lagoon, particularly later in the summer. On the lagoon front there were two or three pairs of nesting Black-fronted Terns (*C. hybrida*), an

unusual nesting site in itself for this species. It was with these latter terns that the pair of *C. leucopterus* first nested. Up to four *C. leucopterus* in non-breeding plumage were seen at each visit. Moderate numbers of Black-backed Gulls (*Larus dominicanus*) and Black-billed Gulls (*L. bulleri*) were usually present, but no nests were found of these two species.

NESTS

On 16 December 1973 two *C. leucopterus* in breeding dress were present at the *C. hybrida* nesting area among plantain and *Chrysanthemum*. One bird settled on a shallow depression which was empty and was never laid in.

On 23 December in the same vicinity a *C. leucopterus* tern was seen to come off a nest containing three eggs. The nest was situated five metres from the lagoon edge and about ten metres from the nearest *C. hybrida* nest. It was a very shallow depression in shingle beside a small *Chrysanthemum* plant. No nesting material was used (rather atypical of this species), and larger pebbles had been moved to the outside of the nest. The eggs were considerably smaller than those of *C. hybrida* and coloured glossy pale brown with dark brownish blotches concentrated at the larger ends. The clutch was still intact on 28 December when Mr D. Geddes of Methven visited the site. Disaster struck sometime after this date: on 13 January 1974 the nest, showing obvious signs of human interference, was found deserted and the adults, together with the Black-fronted Terns, had left the site.

A few hundred metres north along the lagoon front the *C. leucopterus* pair had renested. The nest, containing one egg on 13 January, was situated in a sandy area near marram grass, (*Ammophila arenaria*) and about fifteen metres from the lagoon. This nest consisted of marram grass, some of it growing in place, and other vegetation, all loosely shaped in a fashion more typical of the species. The clutch size of this nest remains uncertain; it may have been only a single egg as no sign of any more were found shortly after the chick had hatched. Late nests in the northern hemisphere tend to have two eggs (Cramp 1970: 1043).

On 6th February a chick (Fig. 2) aged about two or three days was present amongst marram grass beside the nest. The chick, still retaining its egg tooth, was richly coloured and gave an overall impression of being quite dark: upperparts streaked and blotched buff, black and grey; mainly black on the crown and paler on the 'wing.' A broad white circle surrounded the eye and extended to the forehead and base of the bill.

A visit on 21 February (about which time the chick should have been ready to fledge) found the nest site deserted. One of the adults was found roosting with other *C. leucopterus* and *C. hybrida*



FIGURE 2 — White-winged Black Tern chick at nest, 6 February 1974.
Note the broad white circle around the eye.

Photo: R. J. Pierce

at the river's edge. No dark-saddled *C. leucopterus* (indicative of a juvenile) was found on later visits and it seems likely that the chick was lost.

BREEDING BEHAVIOUR

Considerable friction was observed between the pair of *C. leucopterus* and adult *C. hybrida* during the initial stages of nest establishment (16 December). The latter species was usually the principal aggressor with incubating birds even leaving the nest to join in aerial combat. Less agitation was noted on 23 December, but both *C. leucopterus* pursued any gulls and terns that ventured overhead. The incubating bird was quick to return to the nest, hovering for a short time less than a half metre above the ground, in a manner similar to *C. hybrida*, before alighting. The two species were in apparent harmony on Mr Geddes' visit of 28 December.

On 6 February when the chick had hatched, an adult was in almost constant attendance at the nest. The other hawked insects over lagoon, beach, flooded paddocks and particularly over a permanent channel away from the main body of lagoon water. Insects were taken on and above the water surface and on one occasion the tern was seen to plunge headlong into the lagoon at a shallow angle, but the prey was not seen. During 140 minutes of observation the chick

was fed twelve times at irregular intervals, each feeding lasting 10-30 seconds. A change of parental roles occurred after 45 minutes; at the changeover the previously foraging bird landed beside the nest and executed a 360° turn of its body and the other bird flew off a few seconds later.

During the 140 minutes the foraging bird pursued intruders (gulls and White-fronted Terns) on fifteen occasions and on five of these was joined by the bird at the nest. In addition, an Arctic Skua (*Stercorarius parasiticus*), which had flown over the nest area, was harassed by both parents, just as I arrived at the area on 6 February. Non-breeding *C. leucopterus* were generally not welcome over the nest site and were 'escorted' from the area by the foraging bird which sometimes directed a gentle dive toward them. These non-breeders did occasionally, however, join in the fray when the parent birds were defending the nest site from another species, and probably helped end such encounters sooner.

In defence of their nest site the terns were very noisy, uttering a rasping "graack" or "graack-grak" with loudness seemingly proportional to the urgency of the situation. More pleasant but still fairly strident notes were commonly given during flight. Only once was one of the non-breeding birds heard to call.

PLUMAGE CHANGES

The adult terns (Fig. 1) had full breeding dress, a smart pattern of black, grey and white, in December and on 13 January (cf. Witherby *et al.*, 1941: 9-11, pl. 126). By 6 February the forehead and much of the crown (more so in one bird) was an off-white. The underparts were irregularly mottled with an area of white approximately equal to that in black. Smaller patches of white occurred on the mantle. On 21 February the head was white except for some grey on the crown and black about and especially behind the eye. The mantle was pale grey and the underparts all white except for a trace of black on the breast. On 18 March neither adult could be distinguished with any certainty from the non-breeding birds (see also figures in Cramp 1970: 1040-1041).

DISCUSSION

Although White-winged Black Terns in breeding plumage probably appear annually in New Zealand (Falla *et al.*, 1970: 160, pl. 14, OSNZ 1970: 54), nesting has (till this summer) never been satisfactorily determined. Earlier this century Edgar Stead said that they had nested in Canterbury (Oliver 1955: 330). Lack of documented evidence resulted in this report being discounted in much of the literature. Between 1969-73 one White-winged Black Tern in breeding plumage was seen each summer at a Black-fronted Tern colony on the Cass River, Lake Tekapo. It was not seen at the Cass during the 1973-74 summer when the pair was found nesting at the Opihi River-mouth. Messrs B. R. Keeley and P. M. Sagar found a pair in

breeding plumage at Lake Wainono (50 km south of Opihi Mouth) in August 1967 (Cowie *et al.* 1968). Birds in non-breeding dress have frequently been seen by the author and other observers in recent years at Opihi Mouth and Lake Wainono (cf. Pierce 1972*a*, 1972*b*, 1973; Child 1973).

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[The manuscript of this paper was referred to the Rare Birds Committee who comment: "As this species has not been recorded breeding in the Southern Hemisphere the record can only be accepted as a possible record. It is hoped that further study will be able to confirm successful breeding." — Ed.]