

WHITE-WINGED BLACK TERNS AT WAIKANAE.

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On one or other of the sandspits at the mouth of Waikanae River a flock of roosting terns, varying in size and in specific composition, is a fairly regular feature from midsummer to early spring (see Wodzicki, 1946, for observations between 1941 and 1943). In late December, the flock is formed mainly of adult white-fronted terns, probably those that failed to rear chicks at nearby nesting places. Some show the receding foreheads of incipient post-nuptial moult, but others are still in breeding condition, judged by their plumage, their courtship feeding, posturing, "circular parades," and occasional attempts at coition as late as January 1. Flying young are added to the flock in January, querulously begging food and periodically receiving it from foraging parents who come and go continually, fishing in the strait between Kapiti and the mainland, harried by the Arctic skua. White-fronted terns increase to a maximum of several hundred in February or March, then dwindle to a score or less during the winter, when some of them probably migrate to Australia. Black-fronted terns, migrants from the South Island, trickle in during March, and are generally present in irregular numbers (maximum more than 100) during the winter. Such a tern flock is worth scanning carefully for rare migrant species that have been decoyed down to enjoy the companionship of the commoner species.

In the autumn of 1954, three white-winged black terns (*Chlidonias leucopterus*), migrants from the Northern Hemisphere, joined the flock of white-fronted terns at Waikanae. I first saw them, with Dr. R. A. Falla, on March 27, and spent several hours observing and sketching them under perfect conditions on the following morning, when four black-fronted terns were present for comparison. No terns were seen on visits to the estuary on April 11 and 17. On April 18, however, Dr. Falla and I found a single bird (probably one of the three) with the black-fronteds, then 42 strong. I saw it for the last time on April 25, with 103 black-fronteds. Most of the observations recorded below were made on March 28.

The three birds were in a pale non-breeding plumage that ill accorded with their vernacular name. Among a mob of white-fronted terns, they appeared midgets, and black-fronted terns standing near them were stocky by comparison, although about the same length. In the air, however, their large wings made them seem bigger than black-fronteds. My field notes record their tarsi to be "as long as or longer than those of *striata*," which agrees roughly with published measurements: *striata* 20, *leucopterus* 20, *albostratus*, 15 mm. (from Oliver). On the ground they seemed more attenuated than *albostratus* and when they rested with head under wing, their long axis was tilted either backwards (one observation) or forward (several observations), whereas *albostratus* seems almost horizontal in the same position (see sketches). Several times a bird lay on its breast, either with beak under wing or with its neck and head stretched forward on the sand. Occasionally they preened their tails, displaying the rectrices well.

Their flight was swift and agile. On March 28 they spent most of the time in the air, gyrating round the flock of resting *striata* in circles about a chain in diameter, wheeling and swerving low and hawking, apparently for blowflies, in the air or on the sand surface. Most characteristic was their habit of hovering stationary, like a helicopter, with quickened wing beats, about 10 feet above the sand, before darting down for food.

The *leucopterus* often alighted and rested inside the margins of the white-fronted tern flock, unlike black-fronted terns, which prefer to roost just outside. All three *leucopterus* were present on March 27, but next day they were seldom all on shore at once. One of them would circle over the sand spit and make swiftly out to sea, returning in about five minutes, always hawking over the *striata* flock before alighting. One returned with a small fish and landed near one of its two fellows on the sand in the middle of the white-fronted flock. It strutted round its partner, who flew in a few seconds, closely followed by the fish-bearer. They chased

in a wide circle before landing again. The fish-bearer held its head high towards the other and postured, wings drooped to the ground. Another aerial chase followed and finally the fish-bearer ate its own fish. The third *leucopterus*, slightly darker than the others, stood a few yards away, completely unresponsive to these displays that so closely resembled courtship behaviour. The strangers were rather aggressive to the other terns, occasionally running up to them and jostling them, as if in play.

Although a river and several fresh-water ponds were available, the white-winged black terns were not seen fishing on them. Instead, they flew away from land, like a sea tern rather than a marsh tern.

The two somewhat paler birds were described more fully in my notes than the darker bird. In general appearance, they were similar to the bird photographed by N. Macdonald on February 22, 1953, at Miranda (Sibson, 1954). Bill black, slimmer and straighter than in *albostratus*. Head white, eye black with a small triangle of dark feathers increasing its apparent size; a most distinctive band of black across the head above the ears, joining a narrow club-shaped median black area on the nape. Breast and belly pure white. Back and rump pale grey (paler than in *albostratus*) with a dark band in front of the mantle. Wings (folded): often drooping in front to show a white re-entrant on the shoulder between wing and mantle; leading edge conspicuously margined with blackish for some distance on either side of the carpal flexure. Coverts pale grey (? slightly streaked), paler in front. Secondaries somewhat darker but pale-tipped. A dark patch below the rump. Wings spread in flight; leading edge white, broken at carpal flexure by a dark patch continuous with a dark band just behind humeral edge. Outer primaries and inner secondaries blackish, the former with pale shaft streaks (? and outer vanes), separated by a series of pale grey secondaries that broke the dark trailing edge conspicuously. My notes and sketches made on the spot show all the inner secondaries dark and I did not notice if the innermost ones were pale as in the winter adult described in the Handbook of British Birds (Witherby, 1944, p. 11), and as shown by N. Macdonald's photograph of the February Miranda bird (Sibson, 1954). Rest of upper wing pale grey. Underwing whitish, lower side of flight feathers greyer, dark secondaries showing through behind axillaries. Tail square, not forked (centre feathers even seemed longer than others during preening); pale grey except for white outermost feathers. Legs reddish brown, quite rosy in the sun, but very different from the orange of black-fronted terns' legs.

The third white-winged black tern had bolder and more distinct head pattern, a broader dark band on the upper mantle, and a darker trailing edge to the wings, but was not closely described. It certainly had no black on breast, wing coverts, neck, etc. The single bird seen on April 25 was like the paler birds described, showing no evidence of plumage change in the intervening month.

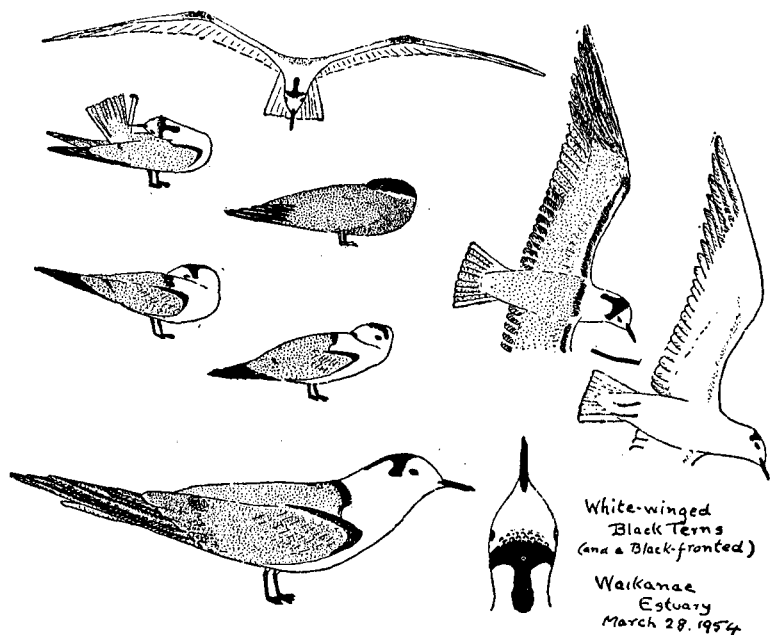
The Waikanae birds differed from Witherby's description of adults in winter chiefly in their better defined head patches, perhaps also in their square tails and the number of dark secondaries. Winter plumage is gained between June and December and normally gives way to the black and white breeding plumage by a moult that "commences sometimes December but usually later and (is) complete April-May or even June." An April adult showing no sign of black plumage would thus be anomalous. Young in their first winter are said to moult in January into a plumage "exactly like adult winter but occasionally considerable amount of plumage as adult summer is acquired." If so, the Waikanae birds could be first winter birds that had finished moulting out of their fledgling body plumage. But Alexander (1917) found that immature birds in Western Australia were still distinguished by brownish mottlings on head and wings, apparently in April-May. Van Rossem (1923) concluded that the black tern (*C. nigra*) has a variable first spring plumage, in which the palest birds resembled winter adults, have slightly enlarged gonads, and occasionally breed. Alexander (1917) suggested that *C. leucopterus* has a variable second-year immature plumage. It is apparently not certain when terns first breed.

The Waikanae leucopterus were post-juvenal, judged by their behaviour and clear head patterns, but probably not fully mature because they showed no black body plumage in March-April.

I have assumed that the white-winged black tern is a Northern Hemisphere breeder, migrating to the south in the northern winter. The ill-documented New Zealand records of birds in black plumage in the southern breeding season remain an unsolved mystery.

REFERENCES.

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The above are inked-in copies of field sketches. Since seeing a photograph of the Miranda February bird, I have slightly altered the wings of the flying birds, but have resisted the temptation to make further alterations (e.g., to secondaries) in the interest of objectivity.

Two members have copies of the "Emu" for sale: Mr. A. S. Wilkinson, 11 Princes St., Levin, Vols. XXV. to XXI. inclusive (1925-1932), and Mrs. C. W. McLatchie, 96 Shearman St., Waimate, from 1944 onwards. Mrs. McLatchie also has Stead's Life Histories. Mr. H. T. Wenham, 10 Durham St., Levin, has a number of bird books for disposal, including Stead's Life Histories, Guthrie Smith's, Mrs. Nice's and others. Inquiries should be made direct.