

HEAD PLUMAGE VARIATION AND WINTER PLUMAGE OF THE SOUTHERN CRESTED GREBE

Descriptions of the Southern Crested Grebe (*Podiceps cristatus australis*) either do not mention any physical differences between the sexes (Oliver 1955, Slater 1979) or describe the sexes as "alike" (Falla *et al.* 1979).

While working on the ecology of this species, I noted that males and females differ in head plumage and in stature (Figure 1; also Plate 4 in Soper 1965). In the field, the major difference was the presence of white plumage above and in front of the eye in the female. This was distinct in 93% of females ($n = 28$) in my study area, the Ashburton Lakes. Of 29 males, 86% had black crown plumage extending down to the eye. Male grebes also had markedly thicker necks, a longer bill and larger tippets on the cheeks. Overall, males appeared slightly larger with brighter plumage. Differences were particularly obvious when a pair was together. Examination of museum skins did not completely support this observation. Some females are dark in front of and above the eye, and one male is light in the same area (J. A. Bartle, National Museum). Two out of the three sexed skins in the Canterbury Museum support my observations.

It has been stated that Crested Grebes in Europe (Cramp & Simmons 1977), Australia (Slater 1979) and New Zealand (Falla *et al.* 1979) lose their conspicuous breeding plumage during the winter. Of 35 grebes observed in March 1980, 21 in July 1980, 42 in July 1981 (Ashburton Lakes, pers. obs.), 13 in May 1981 (West Coast, pers. obs.) and 8 in July 1981 (Pearson Lakes, P. M. Sagar, pers. comm.),

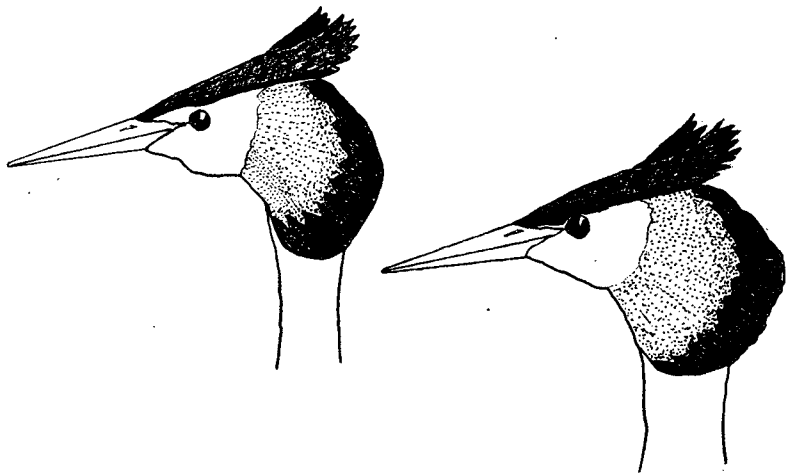


FIGURE 1 — Head plumage variation in the adult Southern Crested Grebe.
Left: female. Right: male.

all but one were in full breeding plumage. Tentative conclusions drawn from my breeding data suggest that in New Zealand classical "winter plumage" is really that of the first-year immature. The head crest is smaller and browner than in the adult, tippets are marked by an indistinct ruff and the bill is yellow-ivory. Immatures lose the remains of their striped head plumage by 4-5 months.

Finally, Cramp & Simmons (1977) state that the subspecies *australis* lacks a white line over the eye. While not as distinct as in the nominate form of *cristatus*, white plumage above the eye was present in many of the grebes I studied and in some museum specimens.

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ANOTHER ARCTIC TERN AT THE TARAWERA RIVER MOUTH

On 17 May 1981, I noticed an Arctic Tern (*Sterna paradisaea*) roosting at the edge of a mixed flock of White-fronted Terns (*S. striata*) and Black-fronted Terns (*S. albobriata*) at the Tarawera River mouth. This is the second that I have seen there; the first being on the 10 June 1978 (*Notornis* 26: 63-67).

When compared with the 1978 bird, this one showed a fainter carpal bar, a totally black bill and tail streamers slightly shorter than the tips of the folded wings; otherwise it appeared identical.

On this occasion I made a more critical comparison with the White-fronted Tern; the very short red legs, resulting in the bird's belly almost touching the ground, again being the most obvious distinguishing mark. The darker grey mantle and upper wing surface, the longer dark-grey-edged tail streamers and smaller body size were seen as before. However, some further differences were noted.

1. Steeper forehead.
2. Greater extent of white on the crown.
3. Bill more dagger shaped; having a straighter, less bow-shaped top edge to upper mandible; also noticeably shorter and proportionately deeper at the base; no horn-coloured tip.
4. The forward edges of the dark cap, where the white encroached on the black on the crown, and about the eyes, was sooty brown. This was in marked contrast to the shiny black of the remainder of the cap from hind-crown to lower nape. It was this that first drew my attention to the bird as at that stage all I could see was its head and neck.