

is interesting but is filled with unanswered and challenging questions. Much remains to be done.

The Whangarei branch is deeply indebted to the Whangarei Animal Health Laboratory for their interest and help in this problem. Samples have often become available at times when other pathological material is at a high peak. Time has been found to examine our samples and to research information on parasites and likely diseases.

LITERATURE CITED

OLIVER, W. R. B. 1955. New Zealand birds. 2nd ed. Wellington: A. H. & A. W. Reed.

D. E. CROCKETT

21 McMillan Avenue,
Whangarei

M. P. KEARNS

41 Kauika Road,
Whangarei



THE BILLS OF STARLINGS

In *Notornis* 20: 325 we read "Eye colour in adult Starlings was dimorphic" and a few lines later "Bill colour was also dimorphic but varied seasonally."

In ornithology the word 'dimorphic' has two normal meanings (a) 'having two shapes' derived from the primary meaning of the Greek 'morphe,' (b) 'having two colour phases' based on its secondary meaning, 'appearance.' In the first sense the heads of Huia *Heteralocha acutirostris* and Bar-tailed Godwit *Limosa lapponica* are said to be sexually dimorphic — note the addition of the adverb 'sexually.' In the second and more common sense, species which have two colour phases, irrespective of sex or age, are described as dimorphic. Typical examples in New Zealand are:— Southern Nelly *Macronectes giganteus*, Stewart Island Shag *Leucocarbo chalconotus*, Arctic Skua *Stercorarius parasiticus*, Fantail *Rhipidura fuliginosa*, Variable Oystercatcher *Haematopus unicolor* and Little Shag *Phalacrocorax melanoleucos* are better described as polymorphic. In Fiji, but not in New Zealand, the Reef Heron *Egretta sacra* is conspicuously dimorphic.

The term 'sexual dimorphism' is also, of course, applied to many species in which males and females differ both in shape (size) and colour (appearance). Obvious examples are not far to seek, especially among the pheasants and the ducks.

Since the matter of shape does not here arise, we are left with the thought that the eye colour and bill colour of adult Starlings have two colour phases. This is both tautologous and obscure. What the writer is simply saying is that adult male and female Starlings can usually be distinguished by the colours of their bills and eyes. One puzzled reader even suggested to me that 'dimorphic' is a misprint for diagnostic.

Incidentally among the 'Literature Cited' there is no mention of the *Handbook of British Birds* 1938, Witherby, Jourdain, Ticehurst and Tucker; where (Vol. 1. p. 44) under Soft Parts much the same information is supplied; viz. "Bill in summer lemon-yellow; male with french gray base, female with base flesh pink or clouded with grey . . . Iris, male dark-brown; female brown with narrow inner or outer ring of lighter colour, white, cream or pale yellow, but certainly sometimes uniform brown." The deep orange edging in the iris of some female Canterbury Starlings is worth noting. Is it a seasonal or a local character?

It is unfortunate that a laborious piece of research has been marred in places by an inept use of words.

R. B. SIBSON

26 Entrican Avenue,
Remuera,
Auckland, 5



BROWN TEAL ON KAWAU ISLAND

At Hokimai Bay, Kawau Island, on the property of Mr F. R. Cometti, a tidal inlet was dammed in 1964 to produce an artificial lake of about an acre in area. A high tide comes to within one foot of the top of the dam on the seaward side. The far end of the lake drifts into clumps of rushes which become very dense, and a small stream flows down the entire valley about a quarter of a mile long, through a bog area now thick with cabbage trees and arum lilies. The lake through which the stream finally flows, is heavily stocked with golden carp and water lilies which cover about one quarter of the surface area.

On 10 July 1973, a drake Brown Teal (*Anas chlorotis*), with two smaller ducks, arrived on the lake. The drake was easily distinguished because he was part albino. His entire head and neck were white. Otherwise he was as described by Oliver (*N.Z. Birds*, page 413).

By 24 July there was much activity from the drake and one duck. The other duck by this time had disappeared. This activity was obviously mating display. The drake appeared to hold the duck's head completely under the water, with great splashings and a flurry of wings. During this nuptial display the birds swam swiftly in tight circles, skimmed along the surface for short distances, and independently swam completely submerged for distances estimated at twenty feet.

On 29 August the duck was seen at night feeding on the large lawn bordering the house side of the lake. Both birds arrived early in the morning through the rushes at the head of the lake, and fed at the lawn's edge and amongst the water lilies. They did not seem to be bothered by the many carp which inhabited that area of the lake, nor were they interested in the many young fish which swam about.