

(iv) Pairs of takahe show year-round territorial behaviour and extended attachment to the area they occupy — frequently lasting over a number of years. The size of this occupied area lies between 15 and 45 acres. Diurnal, seasonal and other movements are discussed.

(v) Usually takahe appear to pair for life and this bond persists throughout the year. The histories of some marked pairs and some territories are described.

(vi) Both birds of a pair take part in incubation; the breeding age is one year in at least some birds; double brooding and reneesting are known.

(vii) There is no obvious external difference between the sexes but a provisional method of separation based on marked birds of known pairs depends upon the use of a combination of culmen and weight measurements.

(viii) Population estimates for the number of adults in the main colony indicate a figure of about 50. However, the species does occur elsewhere in the Murchison Range but nowhere in such concentration as in the Takahe Valley-Point Burn area.

BAR-TAILED GODWITS CHASING SKUA

On 7/4/57, as the tide rose, we were watching shore-birds gathering on a shellbank near Miranda in the Firth of Thames. More than 400 S.I. Pied Oystercatchers, together with some Stilts, Caspian and White-fronted Terns, were already at the roost and some hundreds of Godwits and Knots were just arriving. Suddenly all the resting birds rose at the approach of a Skua (*Stercorarius ? parasiticus*), rather a dark specimen without any conspicuous white in the wing and very like one seen on the same coast a year before (*Notornis* 7, p. 89).

One close flock of about fifty Bar-tailed Godwits (*L. lapponica baveri*) refused to be intimidated, but with a few Knots drove the raider far out over the Firth, pressing home the attack for more than a mile and up to a height of about a thousand feet.

As less than 2% of the Godwits seen on this date were in red plumage, it is likely that the attackers were for the most part immature non-breeders, moved by an inherited antipathy to a traditional enemy. On the Arctic tundra where they breed, Godwits may well have to be on their guard against predatory Skuas. In the Handbook of British Birds, Vol. V, p. 134, the young of Whimbrel, Lapwing and Redshank, as well as several of the smaller waders, are listed among the prey taken by Arctic Skuas.

Another point of some interest is that the roosting birds rose when the Skua was still some way off. Though it was flying low, they were able to recognise it as a threat to their security and to distinguish it from a young, Black-backed Gull (*Larus dominicanus*), a species which they generally ignore, though when it flies close to the water, its silhouette and colouring are not unlike those of a Skua.

B. D. HEATHER

R. B. SIBSON