DURABILITY OF BANDS ON DOMINICAN GULLS

By R. A. FORDHAM
Culterty Field Station, Newburgh, Aberdeenshire, Scotland

ABSTRACT

The rate of wear of size S lock-type aluminium-alloy bands on Dominican Gulls is discussed. Rate of weight loss is constant and mean annual loss of weight per band is about 0.06 gms. (4.9% of the initial weight). Bands may start to fall off in the sixth year and there may be marked loss of bands by about the tenth year. Recovery rates after about the sixth year will therefore be biassed.

Since organised bird banding began in New Zealand in 1951, three types of bands have been used for Dominican Gulls (*Larus dominicanus*): size L butt-end, size L lock-type, and recently in large numbers, size S lock-type. The last is the lightest of the three, and was the type used in a gull study in the Wellington area from 1961-65. Because gulls may lose their bands (whatever the type) after a number of years, a bias is introduced into the recovery rate, which increases with time. Birds that have lost their bands are no longer identifiable on recovery with the result that mortality in the first few

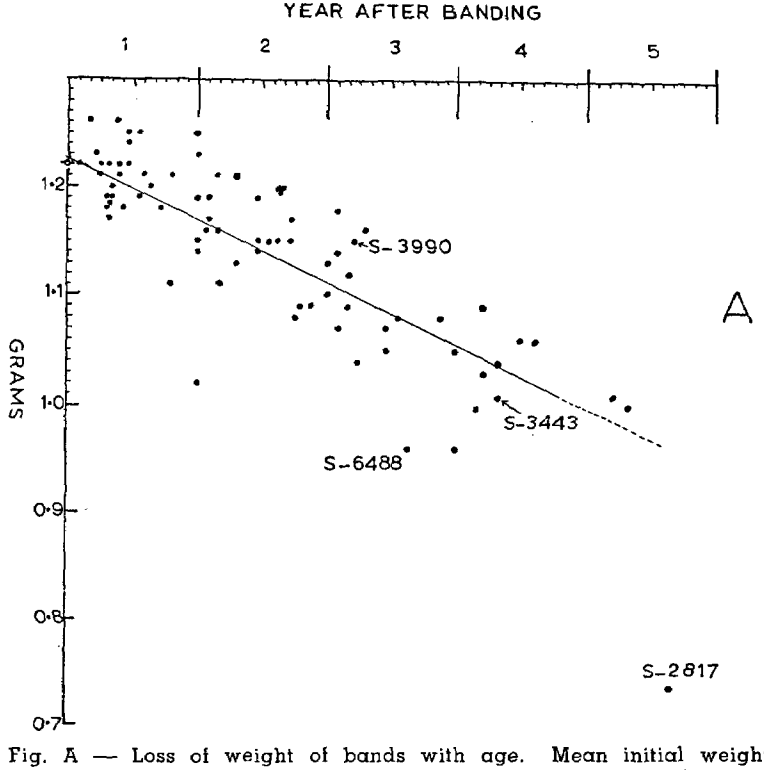

Fig. A — Loss of weight of bands with age. Mean initial weight = 1.22 gms. (1965 bands). The line shows mean weights for intervals of six months.

years after banding appears disproportionately high in comparison with later years. S bands have now been used widely in New Zealand and the question how soon after banding may a gull lose its band is important (c.f. Poulding, 1954; Olson, 1958; Coulson & White, 1959). The bands are stamped from Swedish aluminium-alloy, and since their introduction to this country, have not altered in composition (F. C. Kinsky, pers. comm.). However, weights of some recovered bands suggest fractional differences in thickness so that the mean initial weight, and consequently the average potential life of the bands may have varied fractionally. Individual bands also vary in weight.

In 1965, I examined 80 bands from my own gulls and from the "used-band" file of the Dominion Museum, which included gulls banded and found dead since 1959. The bands were weighed to 0.01 grams and the amount and areas of wear noted in relation to the time each had been worn. Also 150 unused (1965) bands in the S- 27,000 series were weighed; mean weight = 1.22 grams (Fig. A). Bands were received throughout the year, so calculation of mean annual loss of weight could not be made from a sample collected exactly one or more years after banding. However, recovered bands showed a mean annual loss of weight of about 0.06 gms. (4.9% of the initial weight). Rate of weight loss was constant. Extreme loss of weight was shown by some bands, e.g., S- 5542 lost 16.4% of its initial weight after only one year, and S- 2817 lost 39.3% of its initial weight after four years eight months. Band S- 2817 (Fig. B) was eroded to paper thickness and could not have remained intact much longer, indicating a possible loss of bands beginning in the sixth year. Even if only a small proportion of bands in the sixth year are similar to S- 2817, extrapolation of the line of mean weights indicates that on the average bands would have eroded to the weight of S- 2817 (O.74 gms) in less than nine years, which suggests marked loss of bands by about the tenth year.

The shape of lock-type bands appears to affect their rate of wear. If the band is clipped on correctly, there is little chance of the lock opening but (unlike butt-end bands) the bands do not balance

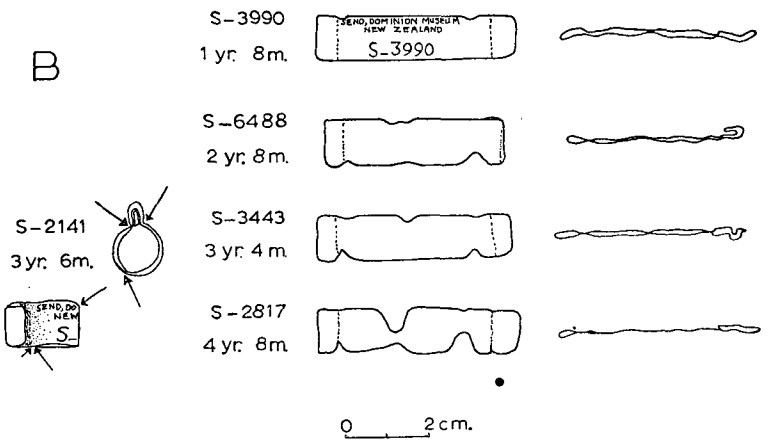

Fig. B — Examples of worn bands showing parts of the surface most subject to wear.

evenly on the bird's leg but tend to tilt frm front to back. Thus wear occurs especially at the base against the lock, and at the top in front (Fig. B). Fortunately, the serial number is often the last part of the inscription to become illegible.

Large *Larus* gulls are potentially long-lived (Gross, 1940; Paludan, 1951; Olsson, 1958; Vermeer, 1963) and it is clear that if the bands used for Dominican Gulls may fall off after about six years' wear, then the recovery data obtained are accurate for only part of the potential life of the bird, and recovery rates after about the sixth year will be biassed. In fact, when bands of low durability are used, whatever the species in question, it is important to first establish "mortality rates" for the bands themselves before trying to deduce mortality rates for the birds.

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SHORT NOTE

NORTH ISLAND KAKA IN HAWERA

The occurrence of a Kaka (*Nestor meridionalis septentrionalis*) in Hawera is of interest in view of the uncertain status of this bird in Taranaki. The Kaka was first seen on or about 10/8/61, following particularly cold weather with strong southerly winds and snow down to low levels on Mount Egmont. This may have caused it to leave the bush.

During late August I worked in a florist's gardens in Hawera and was informed that the Kaka had been seen frequently in these gardens. I saw the bird there daily from the 22nd to 25th of August. It was remarkably tame, on one occasion allowing an approach to within a few feet, and was observed feeding amongst humus on the ground and on flowering Camellia trees. Apparently the Camellia flowers were its main food source. It selected unopened or partly open flowers which it forced open with the lower mandible, petals often being torn out, before the lower mandible and tongue were inserted to obtain the nectar. I did not hear it utter any calls.

The Kaka was observed by many people in various gardens and parks in Hawera. It may have remained in the town for some months as there were reports of its being seen until October or early November, 1961.

— M. J. IMBER