REVIEW

Dispersal of Introduced Birds from New Zealand (*Ibis* 95, 676 - 692), by G. R. Williams, 1953.

This well-organised paper goes some way towards filling a long-standing gap in the literature of the introduced birds, which have now become generally an inescapable part, and in some instances a dominant part, of the avifauna not only of the mainland but also of the outlying islands.

The task of the reviewer has been simplified by the author, whose summary of his paper is quoted in full:

'1. Of the numerous European passerines (of British origin) liberated in New Zealand and Australia, mainly between the years 1860 and 1870, 13 are now established in New Zealand proper (North, South, and Stewart Islands) and 8 in Australia (including Tasmania).

2. Within 30 to 40 years of their liberation many of these established species began to appear on the small islands in Australasian seas that (with one exception) lie between 200 and 550 miles from the main land masses.

3. Although it is known that in a few cases introductions were made by man, it seems likely that in most cases the birds were self-introduced.

4. The number of European species breeding on any one island varies from one in the case of Macquarie Island, which has the severest climate and the smallest variety of habitat types, to 10 – or perhaps 11 – on Chatham Island.

5. Dispersal seems to have been brought about by the birds being carried by the strong winds of these latitudes, and New Zealand appears to have been the main centre for this dispersal.

6. It is suggested that the chances of establishment on any one island have been governed by the potential frequency of arrival and the number of empty ecological niches in the new habitat. With such a poor native passerine avifauna as exists in the New Zealand region, empty ecological niches are apparently many.

7. There is no evidence that competition between indigenous and foreign passerines has occurred within New Zealand itself or on the offshore islands.

8. The Starling has the most widespread distribution – having appeared on all 9 islands and being known to breed on at least 7. The least "successful" species appear to be the Dunnock, Skylark and Yellowhammer.'

Inevitably there are some minor points of criticism. Is it true for instance to say (p. 677) that the Dunnock is 'not abundant anywhere'; when at some seasons in large tracts of country, e.g. scrub and lupin-covered sandhills, it can be the dominant singer? The reviewer's opinion is that its general density is now rather higher in New Zealand than in Britain or Europe. The Cirl Bunting, described as 'nowhere common' (p. 677), was plentiful enough in the early 1940's in the limestone country inland from Oamaru. Do Skylark and Pipit really have (p. 682) 'rather similar habitat requirements'? At any rate on the smaller islands of the Hauraki Gulf, Pipits frequent cliffs and steep faces where no one would expect to find a Skylark; and in the lush well-farmed pastures e.g. of the Waikato, where it is hard to find a single Pipit, Skylarks abound.

It is a little surprising to see the Dunnock placed among the least successful species; for Dunnocks have reached Campbell Island and are presumably capable therefore of reaching any of the other outlying islands. They are a species which is easily missed. Their ecological requirements are modest and seem to be satisfactorily met, for example, either by the alpine scrub at 4000 feet on Egmont and Ruapehu or by a patch of straggling taupata on a rocky island otherwise given over to Gannets, White-fronted Terns and an odd pair of cliff-nesting Starlings. Climatic conditions and 'the nature of the beast'

probably explain why the Yellowhammer has not colonised the southern outliers, but has appeared on Lord Howe and the Kermadecs. In winter Yellowhammers wander about the islands of northern New Zealand. Turbott and Buddle (Rec. Auck. Inst. Mus., Vol. 3, pp. 319 - 336: 1948), in a valuable paper which the author should have consulted, reported them at the Three Kings; they are well established on the Cavallis (Sibson, *Notornis* 5, p. 114), and in August 1955 a small flock was present on Mokohinau.

The author is careful to emphasise that colonizing is still in progress. Ornithologists who visit either offshore or outlying islands should carefully note the presence of non-native species. All serious students of New Zealand ornithology should read this very informative paper.

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