Recent Literature

ANALYTICAL STUDIES

Geographical Distribution of Starlings Banded at State College, Pennsylvania. Dorothy L. Bordner, Merrill Wool, and David E. Davis. 1968. *Bird-Banding*, 39: 117-122.

The movements of Starlings, as indicated by recoveries of birds banded in Pennsylvania (46 out-of-State and 53 within Pennsylvania recoveries) are analysed. The recoveries confirm the NE-SW pattern for the species shown by other workers in eastern USA. All major topographical features in eastern USA are oriented in a NE-SW direction and it is concluded that the Starlings follow the line of least resistance along river valleys and coastal plains.

The Starling as a Passage Migrant in Holland. A. C. Perdeck. 1967. *Bird Study*, 14:129-152.

Some 2000 recoveries of Starlings banded during autumn migration near The Hague, Holland, are analysed. Only about 12% of the birds caught are adults; this implies that migrating adult Starlings follow leading lines to a less extent than juveniles, as there is little likelihood that the catching method is selective towards juveniles. The origin of Starlings migrating through the Netherlands changes throughout the season: Dutch birds pass in September and early October; German and Scandinavian birds in mid-October; and Polish, Finnish and Russian birds at the end of October and November. This can be expressed as a significant correlation between the date of banding and the distance from the banding place in the breeding season. The mean positions of recoveries from month to month are mapped for first year and later recoveries. Mean annual mortality rate is lower in early than in late banded Starlings (47.5% as against 59.1%) in the first year after banding and it is considered that this is due to the hard European winters. Birds wintering in Britain have a lower mortality than those staying on the Continent, and this is attributed to the milder climate in Britain.

Movements and Mortality of British Kestrels (*Falco tinnunculus*). D. W. Snow, 1968. *Bird Study*, 15:65-83.

Analysis of banding data shows close correlation between the numbers of Kestrels banded in northern England and southern Scotland and the abundance of Voles. Fluctuations in the numbers banded from year to year derive from the numbers of families banded and not from differences in family size. It is suggested that the periodic high banding totals are due to local concentrations of nesting Kestrels in northern areas rather than to variations in the country-wide population. British Kestrels are partial migrants, being more migratory in the north than in the south, and young birds are more migratory than adults. The migratory pattern, based upon recoveries from nestlings banded in three regions, is discussed and foreign recoveries are mapped. Annual mortality is estimated at about 60% in the first year of life, reducing to about 34% from the third year onwards.

Breeding, Migration and Survival of Turtle Doves. R. K. Murton, 1968. *British Birds*, 61:193-212.

Breeding of the migratory Turtle Dove (*Streptopelia turtur*) was investigated in southern England, in conjunction with examination of the BTO nest record cards. Movements and post-fledging survival data were obtained from analyses of recoveries of banded birds. Of the eggs laid, 47% hatch and 34% are taken by predators; 82% of the young hatched are fledged. Breeding success increased during the breeding season from 34% in May to 48% in July; this increase coincides with increased food supply, which allows more efficient incubation, thus reducing predation. It appears probable that the pattern of autumnal visible migration and banding recoveries is misleading and that it represents "off-course" individuals migrating in unfavourable conditions. Mortality rate of adults is about 50%.

The Numbers of Manx Shearwaters on Skokholm. Christopher Perrins. Skokholm Bird Observatory Report for 1967: 23-29.

Large colonies of nesting seabirds are 'notoriously difficult to census accurately'. In 1966 the number of breeding adults was calculated (Harris. *Ibis*, 108: 17-33) at about 35,000 pairs by combining a measure of the breeding success in a series of burrows with the proportion of banded/unbanded fledglings killed by gulls. This estimate was much higher than the previous one of 10,000 pairs, and the present census was devised to check these figures, using a different census method. During daylight, the relatively few chicks in shallow burrows were banded with a bright yellow plastic band. At night the young were banded when they came out of their burrows. By noting the proportion of colour-banded birds in the various areas, the total number of fledglings in each area was calculated. By combining these estimates with nesting success, and adding an estimate to cover birds in areas difficult to sample, a total estimate of 35,000-37,000 breeding pairs was calculated. However this estimate hinges on only 60 nests studied to derive the breeding success factor, and this appears to be an inadequate sample. Based on adult mortality rates, an estimate of 20,000 non-breeders was calculated for the island population.

The Origins of European Swallows "Wintering" in South Africa. M. K. Rowan, 1968. *The Ostrich*, 39: 76-84.

Recoveries of 164 European Swallows (*Hirundo rustica*) banded in South Africa during the northern winter are analysed. Birds "wintering" in South Africa are derived from the whole of the northern (European and Asian) breeding areas: these different populations mingle in southern Africa and do not occupy segregated "wintering" areas as was previously supposed. On the basis of reported recoveries, British and Russian birds predominate in South Africa, but the significance of the density of the breeding birds and the human population in the nesting areas is not known. Central European Swallows appear to "winter" in west-central Africa, but some at least move to southern Africa. Banding and recovery data are presented for two swallows which produced notable movements in short times: the most spectacular of these was banded near Johannesburg on 11 April, 1965, and was caught at its nest in USSR at 54° 39′ N. Lat., 86° 10′ E. Long. on 15 May, 1965.

REVIEWS

A Possible Migration Route on Cape York Peninsula, by J. S. Robertson and F. M. Hamilton. *Queensland Bird Notes*, June 1968, pp. 1-10.

The authors have reviewed the evidence for a migration route on Cape York. Published and unpublished information including recent observations by Robin Elks and Roy Grieves, suggests a likely route on the southern part of the Peninsula at least. In early October 1966, Elks and party saw Drongos moving south through Alexandra Gap, just north of the Daintree River, at an estimated rate of 400 an hour; with them were Spine-tailed Swifts, Black-faced Cuckoo-Shrikes, and Rainbow-birds. This, coupled with observations farther north, "suggest that a 30-mile section of an important migration route follows the coast from near the Bloomfield River mouth, southwards along the outside of Cape Tribulation and Noah Head, to pass through Alexandra Gap."

The authors think a likely take-off point for north-bound migrants could be the Jardine Swamps, at the north-west tip of the Cape, thence via Prince of Wales Island, only 14 miles to the north. This island is divided by a narrow gap, practically at sea level, running right across the island in a north-south direction. It would be exciting to follow up this suggestion by visiting Thursday Island and Prince of Wales Island in April-May.

W. B. HITCHCOCK, Canberra, A.C.T.

Penguins, by John Sparks and Tony Soper. Angus and Robertson Ltd., Sydney, 1968. 263 pp. 33 photographs plus illustrations, $6.50.

This book brings together, in easily readable form, all that has been written about the 17 Penguin species (the White-flippered Penguin is given sub-specific rank). It is not based on original work but is the result of a search of published material. The student who wants greater detail may refer to the sources of reference tabulated at the end of the book.

Breeding biology is well covered. Interesting comparisons are made with the methods of propulsion of other flightless birds and marine animals. One chapter explains how ocean currents affect the distribution of Penguins, and describes the food chain. Evolution, discovery and exploitation are described, though the slaughter by early seafarers makes sickening reading.

The book is well illustrated with photographs and figures, and the marginal drawings and short description of each species are particularly useful; a map shows the distribution and main breeding areas.

The ornithologist who has made a study of Penguins may argue that the information is too generalised and that all the photographs (taken by recognised Penguin authorities) have been seen before, but how many specialists of this kind are there? Certainly, most readers, whether or not ornithologically inclined, will derive from this book a great deal of enjoyment and information about one of the most attractive groups in the animal kingdom.

P. N. REILLY, Hampton, Vic.

This movement represents a minimum distance of 7,500 miles in 34 days, or nearly 210 miles per day without allowing for any time required to start nesting.

TECHNIQUES

Notes on Statistics. Dr Charles H. Blake, 1968. *EBBA News*, 31:53-57.

A Comment on Statistics. Jack P. Hailman, 1968. *EBBA News*, 31:158-159.

A previous paper by Dr Blake (*EBBA News*, 28:265-268) defined the statistical terms Arithmetic Mean and Standard Deviation, and presented detailed calculations necessary to derive these factors from a set of statistical data. The present paper deals with the three well-known statistical distributions, and one example of the use of each type of distribution is noted . . . wing lengths for Gaussian distribution; numbers of parasitic Cowbird eggs in host nests for Poisson distribution; and genetics for Bernouilli distribution.

Hailman's comment emphasises that statistical data are valid for measurements of an interval type (weights, lengths, temperatures, etc.) but are invalid for ranks such as fat classes and colours of feathers and soft parts.

Ageing by Skull Ossification. Arthur J. Wiseman, 1968. *IBBA News*, 40:47-52.

The method of ageing passerines by skull examination has been published several times in recent years (for example, *Aust. Bird Bander*, 5:55-56). The present paper sets out the method and problems in fairly complete detail. The advantages of using a wetting agent are given, and the possible danger of soaps and detergents irritating the bird's eye is emphasised. A non-irritating Kodak product, 'Photo-Flo', is recommended as the wetting agent.

An Easy Method for Removing Bands. Alan M. Craig, 1968. *Western Bird Bander*, 43: 10.

Many banders will appreciate the difficulties in removing a band from the leg of a bird without injuring the bird. This note advocates the use of two fine pieces of wire and the banding pliers to accomplish this task. The wires are slipped inside the band, on opposite sides of the leg, and each wire is then twisted to form a loop. The jaws of the banding pliers are then inserted in the two loops, and the band is slowly forced open as the pliers are opened. The wire on which the smaller sized bird bands are supplied is suggested as suitable for the task.