REVIEWS.

Proceedings of the Xth International Ornithological Congress, Uppsala, June, 1950. (Uppsala, 1951). 662 pp., illustrated.

The Tenth International Ornithological Congress was notable not only because a dozen eventful years separated it from its predecessor, but also (to us in New Zealand) because it was the first occasion the O.S.N.Z. was represented by a delegate. The stout paper-covered volume of proceedings includes many papers reflecting trends of "post-war" ornithology. Accounts of the congress, the excursions, the birds observed, the programme, lists of delegates and of members occupy 50 pages. In Alexander Wetmore's presidential address on additions to knowledge of prehistoric birds, 1933-1949, we learn that the ostrich-like Eocene **Eleutherornis** indicates that modern ratites have come from flying ancestors, a conclusion of interest in the land of the moa. Professor Horstadius, secretary-general of the congress, is author of an introduction to Swedish ornithology. The congress papers are arranged in six groups, four of them representing "central domains in ornithology," each headed by a synoptic paper by an eminent specialist.

Ernst Mayr's "Speciation in Birds. Progress Report on the years 1938-1950" appropriately opens the first section, evolution and systematics, which includes an abstract of R. C. Murphy's review of populations of the wedge-tailed shearwater (Am. Mus. Novitates No. 1512) and a paper on South American cormorants by C. Jouanin.

The second section, migration and orientation, opens with a review of migration studies, 1938-1950, by Rudolf Drost, summarizing recent advances (with more than 250 references) but leaving a clear impression of the vast amount still unknown. The papers that follow include a new method of investigating flight orientation and results obtained so far (German, with English summary) by Gustav Kramer, who describes his important experimental work in which the directional tendencies of captive starlings were modified by mirrors. "An elaborate faculty of computing the 'desired' direction on the basis of actual sun position, day time, angle speed of the sun movement, must . . . be assumed." (See also Ibis, vol. 94, pp. 265-85, in English.) "Some Aspects of Bird Migration in New Zealand" (by R. B. Sibson, the O.S.N.Z. delegate) summarizes what is known of this subject in six pages, under five headings: Arctic breeders, N.Z. breeders migrating north, N.Z. breeders migrating to Australia, inter-island migrants, and sub-Antarctic seabirds wintering near New Zealand. Much of the data is well-known to workers here, but has not been compiled in this way before. (A correction: The short-tailed shearwater recorded from Ceylon was not a ringed bird.) A "Round Table Conference on Bird Ringing" adopted 16 resolutions on ring-marking, publication of results, and international organization. For instance, "each country should have a single ringing scheme," and "when a recovery is made abroad, the ringing centre to which it is reported should inform the centre in the country where the bird was recovered." Thirty-nine ringing schemes are listed in 26 countries (two in N.Z.).

N. Tinbergen's "Recent Advances in the Study of Bird Behaviour" opens the third section (behaviour). It is a review of possibilities rather than of results, but offers promise for the future, under the three headings: "causation," "biological significance" and (evolutionary) "history." The papers that follow concern imprinting phenomena in ducks (Fabricius), inheritance and learning of chaffinch song (Poulsen), use of films in behaviour studies, and the ability of birds to distinguish numbers (in German), the amazing results of O. Koehler's experiments.

David Lack introduces the ecology section with a review of census-studies, irruptions, cycles, range-changes, and the factors involved (reproduction, mortality, breeding seasons, clutch size, survival and population limitation by food). A study of mortality rates in petrels is indicated as an obvious need because of their low reproductive rate and probable long average life. James Fisher suggests that the fulmar is now "a symbiote

of man," increasing as the result of whaling and trawling activities, and (with Vevers) reports that gannets have increased 18% in the east Atlantic since 1939 and have not yet reached the upper limit of population set by food supply. Several papers report the spectacular range-changes of Northern Hemisphere birds correlated with ameliorating climate in the past few decades. For instance, 23 species have been added to the Swedish list or have improved status since 1930, seven southern species have colonized Iceland successfully in the last 50 or 60 years, and Arctic species have lost ground in the same area. An unprecedented and well-documented case of invasion is described by F. Salomonsen (The Immigration and Breeding of the Fieldfare in Greenland). This European taiga species, normally straggling west to Iceland on migration, has done so more often during the recent improvement of climate, and, in January, 1937, a large flock crossed the Atlantic, being recorded on Jan Mayen and in N-E Greenland before crossing the ice cap to S-W Greenland; at least one bird reached Arctic North America to become the first record for the continent (a mummified skin obtained from an old Eskimo). In S.W. Greenland, the fieldfare established itself and eleven years later was breeding freely in certain areas. A. O. Gross (The Herring Gull-Cormorant Control Project) reports decrease of breeding terns (in Maine) resulting from increase in herring gulls to the status of pests. Normally fish-eating gulls even attacked ripe blueberry fruit (compare **L. novaehollandiae** with **Meryta** and **Coprosma** berries). Control is by spraying the eggs with an oil emulsion. Double-crested cormorants have also increased and are controlled owing to complaints of the fishing community. Murphy's work in correlating zonal seabird distribution with zones of surface water is well-known in New Zealand, and it is noteworthy that D. E. Sargeant, discussing ecological relationships of two related northern guillemots, calls for greater co-operation with oceanographic and fisheries research to determine the factors controlling distribution.

In the fifth section of the proceedings, regional faunas, E. M. Nicholson's paper "Birds of the North Atlantic" includes a proposed scheme of regions, 10 degree quadrilaterals, with appropriate names, for use in plotting and discussing seabird distribution. "Birds of Tristan da Cunha" (Y. Hagen) summarizes work elsewhere published in full as a result of the Norwegian Expedition, 1937-38. None of 532 ringed **Eudyptes crestatus** were recovered elsewhere, but 12 of 570 ringed **Diomedea chlororhynchus** were recovered in their first winter from Portuguese Angola and Walvis Bay; no older birds were recovered though ringed birds were at the breeding ground 12 years later. Giant petrels ceased to breed at Tristan after the extermination of sea elephants. Ringed **Puffinus gravis** were recovered from the N. Atlantic and from South Africa. Hagen discusses the skua, naming the Falkland sub-species. A paper of less direct New Zealand interest is Holgersen's "On the Birds of Peter I. Island."

In the final (miscellaneous) section, R. C. Murphy's "Moa Deposits of Pyramid Valley Swamp, New Zealand," is a brief and competent account, marred by the statement (in a diagram) that the swamp deposits overlie a hard-pan floor of a glacial valley. Whatever the relation of moas to the glacial period, no one has seriously suggested that the "corrie-like depression" containing the swamp was carved by a glacier.—C.A.F.

The British Trust for Ornithology, Eighteenth Annual Report, 1951. Address of Trust, 2 King Edward Street, Oxford, England. Price, 1s. 6d.

This year is described as one of development rather than of new projects, though plans were being considered for extending research work in 1952. A substantial increase in membership is recorded and field investigations have been well supported. The O.S.N.Z. has nest records and ringing schemes in operation and it is of interest to note that the nest records scheme of the British Trust "is now producing data on a scale which should make it of great value to students of breeding biology, while the ringing scheme again established a record." The Trust's regional