

RECENT LITERATURE

BANDING

(See also numbers 12, 17, 51)

1. **Bird-Banding by the Hungarian Natural History Museum in 1950-1956.** L. Horváth. 1957. *Annales Historico-Naturales Musei Nationalis Hungarici*, 8: 421-424. "The Zoological Department of the Museum suffered very heavy losses during the events of October, 1956, when, among others, also the Ornithological Collection was completely annihilated, together with its special library and the inventory books." Fortunately the records of banding and recoveries from 1950-56 "escaped the over-all destruction." During the 7 years 2,030 birds of 69 species were ringed, 1,100 of these by Koloman Warga, research associate of the Hungarian Ornithological Institute; 44 recoveries are listed. A Red-footed Falcon (*Falco vespertinus*) was taken in Corsica on its spring migration. Of the 448 Night Herons (*Nycticorax nycticorax*) banded, 16 were recovered; four had reached 5 years of age and one 6 years; a 4-year-old bird was found 28 August in the delta of the Volga.—M. M. Nice.

2. **Records of birds ringed abroad and found in Hungary, XIX report on ringing.** (Külföldi Gyűrűs Madarak Kézrekerülései, XIX Gyűrűzési Jelentés.) András Keve. 1957. *Aquila*, 63-64: 165-171. Raw data, not always complete, for 64 Hungarian recoveries of 27 species of birds banded abroad. *Larus ridibundus* heads the list with 18 recoveries, 4 of them from Finland, the rest from Russia and nearby satellites. The coordinates given for all localities are most welcome; they greatly facilitate finding small, little-known places that seldom appear on maps in our atlases.—O. L. Austin, Jr.

3. **Recoveries of birds banded abroad, 29.** (Terugvondsten van in het buitenland geringde vogels, 29.) C. G. B. Ten Kate and J. Taapken. 1958. *Limosa*, 31(1): 54-65. Lists the raw data for 300-odd foreign-banded birds of 48 species recovered in the Netherlands since the last report in 1957. Many of these have already been reported in print by the original banders, to whose reports reference is made.—O. L. Austin, Jr.

4. **Report on Bird-Trapping in the Zwarte Meer reserve for 1955-1957.** (Het Zwarte Meer (Rayon-West). J. A. F. Koridon. 1958. *Limosa*, 31(1): 1-17. (From the English summary.) The warden of a lowland preserve in the Netherlands describes his trapping in the marshes, mainly with eel-fykes adapted for the purpose, which took rails when set on the ground and a wide variety of passerines when set higher in the marsh grass. In the 3 years he banded almost 2,000 birds of 40 species.—O. L. Austin, Jr.

5. **Bird-banding in Finland in the years 1913-1957.** Göran Nordström. 1958. *Ornis Fennica*, 35(2/3): 113-121. In the 5 years since the last general report (1913-1952, see *Bird-Banding* 26: 120) the Finns exceeded their 128,000 total for the preceding 40 years of banding; their grand total is now 259,307 birds banded of 215 species. As might be expected, the large numbers banded in the last year or two has dropped the over-all recovery rate slightly to 2.4 percent, which is still far higher than comparable recovery ratios in this country. Most of this is apparently due to the high rates for passerines and waders, which of course reflect the heavy hunting pressures these species, protected in North America, are subject to in Europe. On the other hand, while their game bird, waterfowl, and raptor recovery rates are roughly comparable to ours, their dove recoveries at 9 percent, gulls at 7 percent, and terns at 0.8 percent (each 3 to 5 times ours) suggest the reporting of bands that come to human notice is far higher abroad than here. Also of interest is the change in the distribution of foreign recoveries. The change in USSR policies, which since about 1954 have allowed Russians to report foreign bands to their sources, has raised Finland's nearest and largest neighbor from 13th to 7th place in the 45-year totals.—O. L. Austin, Jr.

MIGRATION

(See also numbers 28, 47, 51)

6. Migration Routes of the Arctic Tern. G. M. Storr. 1958. *Emu*, 58(1): 59-62. To me this title is certainly nostalgic. I used it 30 years ago for my first published paper (*Bull. NEBBA*, 1928: 121-125), in which I postulated the eastern Atlantic flight route southward for both the North American and the European populations of Arctic Terns, a radical thought indeed in those days, for it contradicted the writings of Welles W. Cooke. Though he is the most recent, Storrs is not the first subsequent author to ignore my maiden effort, and my two later contributions to the same subject (*Bull. NEBBA*, 1929: 35-36 and *Birds of Newfoundland Labrador*, 1932: 126) as well. Nevertheless it is gratifying to see one's youthful brainchild accepted, even if not correctly credited, and I hope time will substantiate Storr's theories as it has those of my first venture into print.

Storr speculates here on the probable source of the Arctic Terns in the southern Indian and southwest Pacific Oceans, where recent records show the species is of fairly regular occurrence between October and December. He suggests these birds probably come from the populations migrating down the eastern Atlantic. He points out that these migrants, on leaving the Cape of Good Hope for their wintering grounds at the edge of the antarctic pack ice, must cross the strong westerlies of the "Roaring Forties." These winds could easily carry the birds far to the eastward before they win through them, particularly if they are molting their flight feathers. Such birds may have to fly back out of the westerly belt and remain north of it in southern Australia and New Zealand until they complete their molt.

While the lack of any evidence for it does not rule out completely the possibility of an as yet undiscovered flight route southward across continental Eurasia and the Indian Ocean, Storr's hypothesis is logical and in accord with the available facts. Four Arctics recently collected in Australia were molting, and one was banded in northern Russia (cf. *Bird-Banding*, 29: 41-42, January, 1958). It does seem strange, however, considering how many more Arctic Terns have been banded in North America than in Europe, that no American bird has as yet been recovered east of southeastern Africa. When more recoveries come in from, let us hope, increased bandings of Arctics on their circumpolar breeding grounds in the northern hemisphere, they may show that the eastern North American and western European populations of *Sterna paradisaea*, despite their sharing the same route southward part of the way, have quite discrete wintering grounds, just as under similar circumstances do the Great Lakes and coastal Atlantic breeding populations of American *Sterna hirundo* (cf. *Bird-Banding*, 24: 39-55, April, 1953).—O. L. Austin, Jr.

7. Destruction at the TV Tower. Charles A. Kemper. 1958. *Passenger Pigeon*, 20(1): 3-9. For 4 years Dr. Kemper has been watching for fatalities at the 500-foot television tower at the junction of the Eau Clair and Chippewa Rivers, but found none until last fall after a 1,000-foot tower had been erected. On Aug. 29 some 400-500 birds were killed, on Sept. 3 some 300-400, and on Sept. 20, perhaps 20,000. The author was able to salvage 1,525 individuals of 40 species. He decided that "the extra 500 feet is the big factor in causing these accidents," and suggests: "Perhaps if television towers could be illuminated by flood lights on the ground, severe disaster could be averted."—M. M. Nice.

8. The Migrations of British Hawks (Accipitridae) as Shown by Ringing Results. A. Landsborough Thomson. 1958. *British Birds*, 51(3): 85-93. The recovery percentages in 5 species of banded hawks range from 5.2 to 15.9. The 1,254 Sparrowhawk (*Accipiter nisus*), recoveries show that birds native to the British Isles are sedentary. "The oldest bird was nearly eight years of age. There is a heavy mortality in the summer months, which can be related to game-preserving." Birds ringed as full-grown and recovered at a distance are believed to be migrants from other countries; two of these came from S. Norway. Some winter in Great Britain, while others go on to Holland and France.—M. M. Nice.

9. The Migrations of British Falcons (Falconidae) as Shown by Ringing Results. A. Landsborough Thomson. 1958. *British Birds*, 51(5): 179-

188. From 12 to 15 percent of ringed birds of 3 species were recovered. Results from 155 Peregrines (*Falco peregrinus*) showed a marked tendency in this species to wander up to 150 miles; and from 532 Merlins (*F. columbarius*) ringed as nestlings individuals were recovered in the British Isles in all months of the year, while of 1,982 Kestrels (*F. tinnunculus*) many prove to be sedentary, some dispersed as far as 100 miles in their first autumn, and a few migrated south to Belgium, France, and North Spain, while one was found in its second year in Sweden. A Peregrine and a Merlin reached 8 years of age, a Kestrel 11 years.—M. M. Nice.

10. An invasion of Sandwich Terns on the Swedish west-coast 1956. (En invasion av Kentska tärnor (*Sterna sandwichensis*) på Västkusten 1956.) Ingvar Lennerstedt. 1958. *Vår Fågelvärld*, 17: 28-44. (English summary.) This is a review of the fall migration routes of the Sandwich Tern in relation to weather and wind-drift, undertaken after an influx of about 242 terns took place during July-August 1956. Invasion-like appearances of this tern on the Swedish west-coast have a definite connection with high W and SW winds and originate for the most part from the large breeding colonies on Hirsholmerne in northern Jutland. Banding data confirm this conclusion. Some terns were picked up dead from exhaustion, others were found far inland in a state of shock and starvation, and still others were seen flopping on the grass upon arrival to rest stretched out facing into the wind. Several maps and tables amplify the text.—Louise de K. Lawrence.

11. Ornithological observations in the "Zubring" area (Bulgarian-Romanian Black Sea coast) of the Bosphorus migration route. Ornithologische Beobachtungen im "Zubringerraum" (Bulgarisch-Rumänische Schwarzmeerküste) des Bosphoruszuges). H. Kumerloeve. 1958. *Bonn. Zool. Beitr.*, 8(3/4): 248-274. Thermal soarers, especially large raptors and White Storks, pass along this coast, some species in very large numbers. By this route they avoid crossing both the Black Sea and the Mediterranean. Other species such as ducks, shore-birds, and passerines are either terminal migrants in south-eastern Europe or go across the Mediterranean and do not use the Bosphorus route. Some range-finder observations on height of flight are given (up to 3100 m.). It is estimated that *Grus grus* may be visible as far as 4,000 m.—C. H. Blake.

12. New observations on the Fall migration in the passes of Cou and Bretolet. (Nouvelles observations sur la migration d'automne aux cols de Cou et de Bretolet.) Michel Godel. 1957. *Nos Oiseaux*, 24: 59-75. Another report covering the results of a *Nos Oiseaux* Youth Group study (See No. 17). This project consisted of banding migrants in Bretolet Pass in the Alps. In two seasons, 1,675 birds of 51 species were banded, with 9 recoveries up to March 1957. Nets were used in the banding work. An excellent report.—R. O. Bender.

13. Autumn Observations on the Bosphorus and Dardanelles. I. C. T. Nisbet and T. C. Smout. 1957. *Ibis*, 99(3): 483-499. Notes and comments on the migration across the Turkish "land bridge" as observed by the authors in September 1956, and a discussion of the apparent changes over the centuries in the abundance of certain migrant species, mostly birds of prey.—O. L. Austin, Jr.

14. Autumn Migration in Southwest Portugal. R. E. Moreau and J. F. Monk. 1957. *Ibis*, 99(3): 500-508. The author's observations in coastal Portugal in late September 1956 raise a number of interesting problems but answer none of them. Apparently the region is traversed regularly by large numbers of night-migrating passerines of species that winter only south of the Sahara, but very few accurate data are available on their movements. "Evidence was obtained that migrants are fewest with east winds," though one would expect easterlies to band the migrants up along the west coast just as westerlies do on the eastern coast of North America. "Most of the birds seen must have been travelling in a south-westerly direction for a long way and it is necessary for their survival that they should change course on reaching the shores of the Atlantic." This they apparently do, but the evidence to date is purely speculative and circumstantial.—O. L. Austin, Jr.

15. The Interstitial and Spermatogenic Tissue of Autumn Migrants in Southern England. B. Lofts and A. J. Marshall. 1957. *Ibis*, 99(4): 621-627. Histological study of southbound migrants killed at a Channel lighthouse showed the interstitium of adults "in the process of post-nuptial rehabilitation (involving cholesterol production) even though they were flying away from the traditional breeding ground," while only 6 of 11 juvenals of 7 species "possessed an interstitium in which cholesterol had already developed." The authors also discuss the physiological basis for the production of fat in migrants, both southbound and northbound, and suggest that some of this fat may provide metabolic water as well as energy during flight.—O. L. Austin, Jr.

POPULATION DYNAMICS

(See also numbers 20, 35, 67, 69)

16. The Survival of White-fronted Geese (*Anser albifrons flavirostris* Dalgely & Scott) Ringed in Greenland. Hugh Boyd. 1958. *Dansk Ornithologisk Forenings Tidsskrift*, 52(1): 1-8. Analysis of the 171 recoveries received by 1956 from the 649 *Anser albifrons* banded in the northwestern Greenland breeding grounds in 1946-1950 shows first year mortality to be about 46 percent, second year 43 percent, and in mature birds 34 percent. These are all slightly higher than corresponding estimates for the mortality in other British-wintering gray goose populations.—O. L. Austin, Jr.

NIDIFICATION AND REPRODUCTION

(See also numbers 26, 35, 69)

17. Complete new examination of the Purple Heron of Switzerland. (Nouvelle vue d'ensemble sur le Héron pourpré en Suisse.) Francois Manuel. 1957. *Nos Oiseaux* 24: 35-59. This paper reports the results of one of the projects of the *Nos Oiseaux* Youth Group which celebrated its tenth anniversary by contributing this and a paper on migration studies (See No. 12) to the journal. The Youth Group accepts members who are 12 to 24 years old. They are supported by special funds collected by and administered through *Nos Oiseaux* and used to further their studies. If this paper is typical of the results of their work, it is surprisingly comprehensive, mature, and perceptive of the fine points of ornithology. Although the paper itself does not contain much information of general biological interest, it is filled with excellent details regarding the life history of this species. Occasional notes by the editor contribute tactful suggestions that perhaps other explanations than those presented are available to explain some of the data. The average clutch size of 154 nests was 4.16 with a range of 2-6. Duration of incubation was from 25-30 days. During 15 years, 366 young were banded, mostly in 6 of the last 8 years; from these 37 recoveries have been reported, 32.44 percent of these during the first September after banding. Twenty of the birds were shot by hunters or fishermen, 10 were found dead, 3 flew into high tension wires, 2 fell from the nest, 1 was captured alive and 1 band was recovered without the bird. The bird found alive was picked up on 14 June 1954 about a kilometer from its nesting colony but was unable to fly. Another excellent paper.—R. O. Bender.

18. Habitat selection and breeding of the Black-headed Gull. (Biotop och häckning hos skrattnäsen (*Larus ridibundus*.) Gunnar Svärdson. 1958. *Vår Fågelvärld*, 17:1-23. (English summary.) This study was conducted on a small island in Lake Mälaren for 8 years. The gull colony was established there 4 years before the author began his investigations. A combination of several factors, an untimely cold spell, the predations of Tawny Owls (*Strix aluco*), and an influx of voles because of the miscarriage of an experimental arrangement of the habitat, caused them to move away 12 years later.

The selection of the colony site rests upon five requirements: 1) the proximity of water, 2) dry nest foundations, 3) unimpaird view in all directions, 4) protection by water against mammalian predators, 5) absence of trees. However, individual experience may modify these requirements to some extent in either a positive or negative way. For instance, the memory of danger may cause the gulls not to repeat nesting in a place that was once unsafe. Faithfulness to a previously occupied nest-site (Ortstreue) plays an important role in site selection. Older birds show far greater reluctance to relinquish a locality where

they have nested before than younger ones whose shorter experience has not yet had time to forge a strong bond between them and a certain site. Therefore the old birds act as the "anchor" of the colony. The younger generations may show unrest for various reasons and leave, but this does not affect the old-timers. They hold the colony fast to a certain place provided sufficient cause does not arise to drive them away. In that case, they draw all the others of the colony with them, regardless of whether these others have been exposed to the stimulus to quit or not.

The clutch consists of 1-4 eggs. The old gulls lay larger clutches than the younger ones. Their greater aggressiveness and earlier arrival, giving them the advantage of choosing the best nest-sites, have the effect of prolonging their courtship and egg-laying stages. Thus the start of incubation is delayed, permitting the laying of more eggs before broodiness sets in with its deteriorating influence upon the "reserve-egg" formation within the ovary. In the younger gulls, on the other hand, the preliminary phases of their courtship and egg-laying are held back by their enforced occupation of second-choice sites of lower quality. This causes a "hormonal pressure" to arise, which in turn constricts the egg-laying period so that the start of incubation follows quickly upon the laying of the first eggs with ensuing deterioration of the other ova. The average incubation period is 23 days.

These are only a few highlights picked from this fine paper, which is well summarized in an adequate English abstract for the interested student.—Louise de K. Lawrence.

19. Incubation Period in the Pheasant. Kaj Westerskov. 1958. *Emu*, **58** (2): 139-151. "Under wild conditions the hen Pheasant of the Ringneck [*Phasianus colchicus torquatus*] and Blackneck [*P.c.colchicus*] subspecies will hatch her clutch within 23½ days; frequent interruptions of the sitting hen may prolong the period up to 25 days or even longer. Eggs incubated in artificial incubators with no interruptions . . . may hatch in 22 days. If eggs are added a hen Pheasant may sit for 47 days or longer." Most interesting is the discovery that "Eggs of the Mongolian Pheasant (*P.c.mongolicus*) have a longer incubation period than eggs of the Ringneck and Blackneck Pheasants and crosses between them. Mongolian eggs hatch in 24-25 days, about 24 hours later than the two other subspecies." Westerskov reasons that this must be caused by differences in the rate of development of the embryo, but whether this in turn results from different rates of cell division or differences in cell sizes remains to be determined by future investigation.—O. L. Austin, Jr.

20. The Behavior, Breeding, and Food-Ecology of the Snowy Owl, *Nyctea scandiaca*. Adam Watson. 1957. *Ibis*, **99**(33): 419-462. This important study is based on the author's field work in east Baffin Island during the summer of 1953, supplemented by observations on a pair of Snowy Owls that bred in a London zoo in 1955. Amply detailed, it contains much valuable first-hand information on the summer behavior and ecology of this not easily studied species. Most interesting are the findings on survival of the young. The summer of 1953 was a population peak in the lemming cycle, and the owls fed on them almost exclusively. The abundance of food and the long arctic daylight that allows more time for feeding, the author feels, were primarily responsible for the phenomenal nesting success: of 32 eggs laid in the 8 nests under observation, 31 hatched and all hatched were fledged. Not only was the growth rate of the young markedly higher than in any other predator for which comparable figures are available, the well-fed young were able to resist the effects of cold wet weather during the critical stages of their growth, the main cause of mortalities reported elsewhere. There are also salient comments, backed by figures, on the negligible effects of the owls' predation on the lemming population, and on the relations between prey abundance and predator distribution.—O. L. Austin, Jr.

21. Breeding of the Snowy Owl in southeastern Baffin Island. George M. Sutton and David F. Parmelee. 1956. *Condor*, **58**(4): 273-282, 3 fig. This necessarily rather incomplete account of 11 nests does not permit very firm conclusions. The clutch may contain as many as 10 eggs. Laying begins in the first half of May. The eggs hatch at about 2-day intervals. With an apparent mean clutch size of 6½, about one egg per clutch fails to hatch and about four young are fledged. The food was wholly lemmings, *Dicrostonyx groenlandicus* and *Lemmus trimucronatus*.—C. H. Blake.

22. On the Breeding Biology of the Guillemot (*Uria aalge* (Pont.)). Arne Nørrevang. 1958. *Dansk Ornithologisk Forenings Tidsskrift*, **52**(1): 48-74. In English with a Danish summary and eight fine photographs, the author describes the nesting activities of Common Murres as he observed them over a 10-week period on a ledge in the Faroe Islands. Ethologists will doubtless find much of interest and significance in his detailed findings.—O. L. Austin, Jr.

BEHAVIOR

(See also numbers 20, 22, 40, 44, 69)

23. "Imprinting" in Animals. Eckhard H. Hess. 1958. *Scientific American*, **198**(3): 81-90. A fine summary, illustrated with graphs and sketches, for the nonspecialist of the author's carefully controlled, ingenious experiments on imprinting ducklings. Mallard ducklings of known ages were imprinted to mechanically-moved models of male Mallards that contained tape-recordings of a human rendition of *gock gock gock*. The critical period for imprinting proved to be 16-17 hours after hatching. (An attempt to imprint the ducklings to different sounds while still in the egg was unsuccessful.) Ducklings 12-17 hours of age were exposed to the model for 10 minutes with the model moving at different speeds, so the subjects followed for 12½, 25, 50, and 100 feet; "at distances up to 50 feet the strength of imprinting increased with the distance traveled." Ducklings that had to climb 4-inch hurdles while they followed the model were more strongly imprinted than were controls. "The strength of imprinting appeared to be dependent not on the duration of the imprinting period but on the effort exerted by the duckling."

It has been suggested that imprinting may be nullified by the fear of moving objects that normally appears in ducklings at about 20 hours of age. To test this Dr. Hess administered meprobamate to eliminate fear, but this procedure reduced imprintability. The author suggests that "in the imprinting process some degree of anxiety is necessary"; this "may merely be the fear of being left alone." (For the scientific report on this experiment see *Annals of the New York Academy of Science*, **67**: 724-732. 1957.)—M. M. Nice.

24. Avian mobbing behavior and predator recognition. Stuart A. Altmann. 1956. *Condor*, **58**(4): 241-253. Mobbing of a predator differs according to the species of mobber, the species of predator, and the presence or absence of other species of mobbers. The author tested reactions toward specimens of several western owls. Various precautions were taken, including avoidance of nesting territories of the "prey" species. Some birds (Brown Towhee) show almost no reaction even when a specimen is being mobbed. Others (Wren-tit) stay in cover giving a particular call. At the other extreme the adult male Redwinged Blackbird may claw feathers from the head of the specimen. Some differences are related to age and sex and others may be purely individual in the mobbing species. Some species seem to be only secondary mobbers. In California and Nevada the maximum mobbing occurs in spring and there is a long minimum in summer and fall.

The author sets up a series of relations between prey and predator depending on the spatial relation between the ranges of the two species and of the prey individual and indicates these relations for a number of species in a table of reactions. He finds sufficient data to conclude that mobbing behavior is probably innate in Audubon's Warbler.

Obviously various questions are unanswered. When mobbing both of museum specimens with glass eyes and study skins with cotton eyes occurs, what are the cues that mean "owl"? What would the reactions be to a specimen that is moved slightly at brief intervals? Are predator species recognized as such? No clear-cut data were obtained but there are affirmative hints in the table. There is much further work to be done on mobbing.—C. H. Blake.

25. Behavior and Ecology of Young Velvet Scoters and Their Mothers. (Verhalten und Ökologie der Jungen und der Jungenführenden Weibchen der Samtente.) Jukka Koskimies. 1957. *Annales Zoologici Societatis Zoologicae Botanicæ Fennicæ* "Vanamo," **18**(9): 1-69. A detailed study of the maladjustment of *Melanitta fusca* to a maritime environment. (For a brief statement in

English see *Acta Xi Congressus Internationalis Ornithologici*: 1954: 476-479.) The Velvet Scoter originally nested inland on small ponds, but in the past 25 years has colonized the outermost archipelago off the south coast of Finland. The comparatively weak mother-young bond, suitable in the original environment, results in very high mortality of the ducklings under the new conditions of lack of limits to wandering, to cold water, and to heavy predation by Lesser Blackbacked Gulls (*Larus fuscus*). A lost duckling cannot stop to dive for food or preen or rest; it constantly swims about uttering distress notes. It tries to join a brood but is often repulsed by the mother, but even if it can join another orphan its "social hunger" is largely satisfied and the two behave more normally.—M. M. Nice.

26. Great Blue Heron: Behavior at the Nest. W. P. Cottrille and Betty D. Cottrille. 1958. *Miscellaneous Publications, Museum of Zoology, University of Michigan*, No. 102: 1-15. \$0.35. Observations in a colony of *Ardea herodias* in southern Michigan, primarily to study courtship and to compare the behavior of our bird with that of the European Heron (*A. cinerea*). A "striking similarity" was found. The detailed descriptions are illustrated by 21 remarkably fine sketches by Richard P. Grossenheider.—M. M. Nice.

27. The Daily Activity of Titmice of the Genera *Parus* and *Aegithalos*. (Movements outside the Breeding Season.) (Zur Kenntnis der Tagesaktivität von Meisen der Gattungen *Parus* und *Aegithalos*. (Raumaktivität ausserhalb der Fortpflanzungszeit.) Jiří Felix. 1958. *Sylvia*, 15: 5-21. (In Czech with German summary.) Banded Great, Blue, and Crested Tits (*Parus major*, *caeruleus*, and *cristatus*) and Long-tailed Tit (*Aegithalos caudatus*) were watched for 2 seasons near Prague. Seven maps plot the courses of individuals and flocks. From 16 July 1952 to 23 Jan. 1953 a flock of 48 Long-tailed Tits was reduced to 13 survivors, mortality being largely due to hawks and owls. During 2 days a Blue Tit traveled 1,700-1,800 meters per day, over an area of 4 to 7 hectares, moving at the rate of 210 to 225 meters per hour. A mixed flock traveled 3,000 meters in a day, averaging 400 meters per hour. On an average the titmice spent 80 percent of their waking time in the search for food, 5 percent in preening, 5 percent in resting, and 10 percent in other activities, bathing, preparing for rest, etc.—M. M. Nice.

28. On The Life History of the Great Crested Grebe. (Zur Kenntnis der Lebensweise des Haubentauchers (*Podiceps cristatus*)). Emil M. Hachler. 1958. *Sylvia*, 15: 77-83. (In Czech with German summary.) Migration dates for 25 years for South Moravia. During the first few days the chicks stay on the female's back where they are fed by the male. From the first day the male makes them swallow feathers that have been soaked in water.—M. M. Nice.

29. The Postembryonic Development of the Water Rail. (Die Postembryonale Entwicklung der Wasserralle (*Rallus aquaticus*)). Leo Sigmond. 1958. *Sylvia*, 15: 85-118. (In Czech with German summary.) Detailed observations on growth and pterylosis of 9 hand-raised chicks, summarized and illustrated in 5 tables, 13 graphs, and 7 photographs. Interesting notes are given on behavior including description of 5 different vocalizations. Hostility between brood members was first recorded at the age of 34 days.—M. M. Nice.

30. Observations and Experiments Conducted on a Tame Blue Tit (*Parus caeruleus* L.). Mogens Højgaard. 1958. *Dansk Ornithologisk Forenings Tidsskrift*, 52(1): 1-8. A hand-reared young Blue Tit "appeared completely to lack instinctive fear of natural enemies. It did not react to dogs or cats, but continued, for example, with its meal while a cat sat immediately in front of its cage watching it. Neither did the bird manifest fear of dummy birds of prey, nor of a stuffed Buzzard and Sparrow-Hawk. . . . The bird's reflection in a mirror and a stuffed Blue Tit did not elicit any reaction of importance, although attempts at copulation on human hands were often observed. . . . Some experiments concerning the bird's ability to discriminate between form and number were carried out, and the results are presented graphically. The bird learned quickly compared to birds examined by other authors possibly because nothing in the experimental setup could arouse its "mistrust" or frighten it. Neither was it distracted, as it would have been, for example, if others of its species had been present."—O. L. Austin, Jr.

ECOLOGY

(See also numbers 18, 25, 37, 49)

31. The correlation between the fluctuations of partridge and European hare populations and the climatic conditions of winters in Southwest Finland during the last thirty years. Lauri Siivonen. 1956. *Papers on Game Research*, Finnish Game Foundation 17: 1-30. The Finns have developed a system of observers who can produce satisfactory relative figures for the abundance of game each year. On these figures as a base Siivonen considers the relation between relative abundance and the temperature and snow depths of the preceding winter. For *Perdix perdix* the most important factor is average snow depth for the months November to April. The population declines if it exceeds 15 cm. and increases with less snow. He makes the interesting point that the magnitude of the population change is part of a general short-term fluctuation which is governed by other factors while winter conditions determine the timing of the fluctuation. He also shows that partridges have actually moved north out of southwest Finland in some years when the snow conditions northward were much more favorable.

The population changes of *Lepus europaeus* have generally paralleled those of partridge, but the species is a little less sensitive to snow depth and did not migrate north in the early 1940's. Records of the weights of both partridge and hares found dead in the winter indicate starvation as the major cause of death.

The Institute of Game Research has, since 1949, caused consistent observations to be made on the population of Goldcrests (*Regulus regulus*). A minimum winter temperature of -30°C (-22°F) appears to mark the dividing line between increased and decreased populations the following summer. The Institute evidently does not regard game animals as being a law unto themselves.

In this series of papers "to hibernate" is used to mean "to winter," etymologically justified but not in accord with English usage.—C. H. Blake.

32. Avifaunistic and Ecological Conditions of the Peat Bog Region Between the Danube and the Tisza. L. Horváth. 1958. *Acta Zoologica Academiae Scientiarum Hungaricae*, 3(3-4): 233-244. From 1952-56 the author carried on surveys of the bird life in the rapidly changing region between the Danube and the Tisza. The 153 species recorded, 89 of which bred, are listed according to 6 habitats: reedy lakes, marshy meadows, alkaline lands, dry steppes (puszta), boggy woodland, territories under cultivation and settlements. Mr. Horváth recommends measures for increasing the populations of economically useful birds, as making fishpond nesting sites for Black-headed Gulls (*Larus ridibundus*) and planting acacia groves on the dry meadows for Red-footed Falcons (*Falco vespertinus*).—M. M. Nice.

33. The Bird Succession in the Conifer Plantations on Mat-grass Land in Slovakia (CSR). F. J. Turcek. 1957. *Ibis*, 99(4): 587-593. A statistical study of the change in the avifauna with time in bare pasture lands planted to conifers, based on observations of species composition, numbers of individuals, and biomass per hectare. "The change from pasture to forest occurs about six to ten years after planting. The last forest birds come in about 20 years after planting. . . . Throughout the entire successional series the bird population seems to have a kernel of species, while other species come or go and/or change in density with the stages."—O. L. Austin, Jr.

WILDLIFE MANAGEMENT

(See also numbers 19, 31, 32, 38, 46, 52, 53, 54, 59, 60, 67)

34. A Guide to Prairie Chicken Management. F. N. Hamerstrom, Jr., Oswald E. Mattson and Frances Hamerstrom. 1957. *Technical Wildlife Bulletin* Number 15. Game Management Division; Wisconsin Conservation Department. 128 pp. Based on years of intensive study of *Tympanuchus cupido pinnatus*, this clear-cut, intensely practical and convincing report is a masterly piece of work. Part I—Past and Present Distribution of the Prairie Chicken in Wisconsin—is dramatically portrayed in six maps. In Part II—Habitat Management—we read that "Grassland is of vital importance to prairie chickens, the keystone

to prairie chicken ecology." Requirements are discussed for nesting and rearing grounds, booming grounds, winter feed, and winter cover. As to Part III—Population Management—we learn:

"(1) Hunting must be restricted to the harvest of surplus birds, when available. (2) Competition with exotic species having similar habitat requirements should be held to a minimum on all areas managed for prairie chickens. (3) Control of predators is less important than the provision of strong habitat. (4) The spread of diseases and parasites can be discouraged by dispersing, rather than concentrating, winter food supplies. (5) Strong habitat is the best and only practicable defense against extremes of weather."

More technical aspects of management are discussed in three appendices. There are many photographs in this report, as well as maps, graphs, and six pages of references.

"In conclusion, the prairie chicken *can* be saved in Wisconsin—but *only if action is taken now*."—M. M. Nice.

35. Productivity of New Zealand Pheasant Populations. Kaj Westerkov. 1956. *New Zealand Department of Internal Affairs, Wildlife Publication No. 40B*; 1-144. In Europe and North America the average clutch size of *Phasianus colchicus* is 12; in New Zealand it is 9. The population is sparse and breeding extends over 9 months in the year. Westerkov considers the 42 percent hatching in 208 nests studied a "very low proportion"; nevertheless he quotes Buss et al (1951) as reporting the over-all average hatching success in 5,611 pheasant nests in 18 North American studies as 34 percent. In New Zealand of the 8 chicks that hatch only 3 or 4 are still alive at 12 weeks of age when dispersal ordinarily takes place. The greatest loss of eggs and hens comes through mowing, but burning of the scrub also destroys many nests. "Between 60 and 70 percent of the autumn population are young birds of the year. The population turnover period is five years, possibly highest in hens." This informative report is well organized and well documented; it contains a detailed table of contents, 45 tables, 18 graphs, a summary, a 5½-page bibliography and an index.—M. M. Nice.

36. Troubles from feral Rock Doves. (Plagen durch verwilderte Haus- tauben.) Edith Döhring. 1958. *Ornithologische Mitteilungen*, **10**: 41-46. This paper reviews the annoyances caused by feral Rock Doves (*Columba livia*) living in cities in close proximity to man and the control measures tried to date. Although the virus causing ornithosis in man has been found in Rock Doves in many countries, no case has been reported in which man has contracted the disease from Rock Doves.—R. O. Bender.

37. Experiments in raising the breeding density of birds in oak and part oak forests. (Versuche zur Steigerung der Siedlungsdichte der Vögel in Eichen- und Eichenmischwäldern). Herbert Bruns. 1956. *Waldhygiene I* (7): 220-226. This continues work already reported in *Ornith. Mitt.* **7**: 221-227 (1955—see *Bird-Banding*, **28**: 104-105). Great increases in the number of broods produced were obtained by providing nest sites although the limit seemed to be reached at about 44 sites per hectare. The results are complicated by the use of several types of nest boxes with quite different rates of utilization. The author points out that experimental areas of 1-2 hectare are too small, particularly if it is desired to demonstrate control of some pest such as oak tortrix in a large forest.—C. H. Blake.

CONSERVATION

(See also numbers 7, 48, 67, 68)

38. Birds and Aircraft on Midway Islands. 1956/57 Investigations. Karl W. Kenyon, Dale W. Rice, Chandler S. Robbins, and John W. Aldrich. 1958. Special Scientific Report—Wildlife No. 38, U. S. Fish and Wildlife Service. 51 pp. Aircraft striking birds at Midway have sustained minor damage, but the hazard is considered more serious for jet planes. Earlier attempts to control the hazard met with little success, and indicated the need for a more extensive study of the principal species involved, the Black-footed and Laysan Albatrosses and the Sooty Tern.

Results to date indicate that the problem is limited in general to the Laysan Albatrosses, that nonbreeding birds contribute to the runway hazards about five times as much as their numbers alone would indicate, and that the most effective control may be the flattening of dunes and tall vegetation near runways to reduce the updrafts the birds use for soaring.

The killing of some 6,200 albatrosses in a control experiment during these investigations and of roughly 7,000 others in the area by construction work and other acts of man between November and May has caused some concern to conservationists. However, this should be compared with populations of about 236,000 Laysan and 16,000 Black-footed Albatrosses on the two islands in the Midway group. Also, any concept of the airfield and other works of man purely as intruders upon an existing major albatross colony is unrealistic. On Sand Island, which has the principal airfield and settlement, the Laysan Albatross population has increased from almost nothing in 1891 to some 59,000 nesting pairs, aided in three ways by human use of the island: (1) trees and shrubs offer protection from wind and blowing sand; (2) open ground interspersed with these makes ideal nesting sites; and (3) roads afford unobstructed avenues for albatross landings and take-offs, and for walking or running between the sea and nests. Green Island (Kure Atoll, only 56 miles west of Midway) has very similar conditions except that it lacks Midway's human activities, and it supports only some 500 pairs of the two albatrosses.—E. Alexander Bergstrom.

39. Artificial ponds and small lakes. (Konstgjorda gölar och småsjöar.) C. A. Frändén. 1958. *Vår Fågelvärd*, 17: 24-27. Whatever is said or done about the preservation of natural life in our habitat-destructive age, I believe important enough to report. This is a discussion directed to all who think along the lines of preservation of habitable environment and how and where to create "oases" of nature in the landscape of "culture," telling in vivid language of how greedily multitudes of plants and creatures occupy every newly created pond and small lake and how enriching these are not only to the face of the landscape and to wildlife but also to man himself. The problem of indiscriminate drainage and deforestation is indeed as pressing on this continent as it is in Sweden.—Louise de K. Lawrence.

PHYSIOLOGY AND PSYCHOLOGY

(See also numbers 15, 30, 61)

40. The Chick's "Preference" for some Visual Properties of Water. Harriet L. Rheingold and Eckhard H. Hess. 1957. *Journal of Comparative and Physiological Physiology*, 50 (5): 417-421. White Rock chicks, 3 days old, having had no experience of food or water, were given a choice of 6 substances: the order of preference was mercury, plastic, blue water, water, metal, and red water. Four days later they were re-tested and again mercury was first choice and water fourth. Control chicks that had had access to food and water as soon as they left the incubator also preferred mercury when tested at 3 and 7 days of age. Mercury seemed to be a supernormal stimulus. (No chick ever succeeded in swallowing it for it fell from the beak.) The attractiveness to the chick of these different substances seemed to lie in a combination of a bright reflecting surface and movement. The authors suggest that "we are dealing with an innate reaction, a built-in 'preference' which is not modified by experience, at least during the first seven days of the chick's life."—M. M. Nice.

41. Natural Preferences of Chicks and Ducklings for Objects of Different Colors. Eckhard H. Hess. 1956. *Psychological Reports*, 2: 477-483. One hundred day-old White Pekin ducklings and 200 White Rock chicks were tested as to innate color preference by being placed in an octagonal apparatus on the sides of which were 24 Ostwald color chips. The ducklings marched around the periphery of the box, pecking at the stimuli as they passed, while the chicks clustered in groups about a particular color. Each peck was recorded automatically; the ducklings delivered 124,242 pecks, the chicks 127,504. The ducklings showed "a single sharp peak within the green and yellowish-green region," while the chicks showed a bimodal preference, with one peak in the orange region, the other in the blue. These tests were done in May; later experiments indicate a seasonal variation.—M. M. Nice.

MORPHOLOGY AND ANATOMY

(See also number 15)

42. Sex and age characters and salivary glands of the Chimney Swift. David W. Johnston. 1958. *Condor*, 60(2): 73-84. Most of the 75 specimens of *Chaetura pelagica* studied were taken in southern Georgia. In agreement with previous authors, adult females average lighter in weight (23.4 g vs. 24.0 g) than males, but the difference is not statistically significant and all adults weigh less in midsummer than in either spring or fall. The postnuptial molt is a long process, possibly requiring 3½ months or more. It begins with the first primary early in June, and by mid-July the secondaries and body feathers have begun to molt. The process ends with the tail and the outer primary. The immatures do not show significant molt after leaving the nest. When does the postjuvinal molt occur? Hence, a molting bird, at least up to mid-September when some have completed the molt, is an adult. The skull does not ossify completely although only two or three small "windows" remain in the adult. Maximum gonadal activity is about 1 June. The testes are almost completely regressed by mid-July. Johnston points out that it is not possible to say that all swifts have enlarged salivary glands in the breeding season. The evidence is against the use of saliva in nest building by *Streptoprocne* and *Cypseloides*. There is no evidence for the use of saliva by swallows, and the author implies that they may not have salivary glands. Those of swifts are sublingual glands placed just under the ventral oral epithelium. It should not be too difficult to find them in other birds, if present. In the Chimney Swift the glands increase in weight during the second half of May from about 5 mg/gland to about 60 mg. Aside from more rapid enlargement, the pattern of change is nearly the same as in the gonads. The general histology of the glands in various states is described. The salivary glands may well be under the control of the same endocrines as are the gonads.—C. H. Blake.

43. Casts of the Pulmonary System of Birds. D. H. Tompsett. 1957. *Ibis*, 99(4): 614-620. Describes a "reliable" technique of making casts of the avian pulmonary system in transparent synthetic resin with "only simple and inexpensive apparatus." For good results the subject has to be "healthy and free from structural damage. A shot bird . . . is useless as the air sacs are certain to be punctured. . . . The bird must be killed the day before the resin is injected, to allow time for it to cool to room temperature, and for rigor mortis to terminate." The technique from this point on strikes me as anything but simple; The bird is placed in a vacuum chamber while the air is removed from its lungs, and must be kept under negative pressure until injected; the resin must be prepared at just the right viscosity; after injection the bird has to be immersed in water for 8 days while the resin hardens, and then put in an acid bath for 5 more days to remove the tissues around the cast. Nevertheless such casts should greatly facilitate anatomical study of the lungs, air sacs, and bronchial system, which have been described adequately only in such domesticated species as the fowl, duck, and pigeon.—O. L. Austin, Jr.

44. On the Morphology of the Bursa Fabricii of Birds. (Beitrag zur Morphologie der Bursa Fabricii der Vögel.) Milan Klima. 1958. *Sylvia*, 15: 151-170. (In Czech with German summary.) Researches on 409 individuals of 35 species, abundantly illustrated with sketches and photographs.—M. M. Nice.

PLUMAGES AND MOLTS

(See also numbers 31, 42, 57)

45. The Distribution of Structural Colours and Unusual Pigments in the Class Aves. L. Auber. 1957. *Ibis*, 99(3): 463-476. Feather colors are of two main types, (1) from pigments in the feathers and (2) from feather structures that refract or reflect light. This paper deals mainly with the latter type, which produces bright colors in feathers by two main optical principles: (1) interference of light in the thin laminae of the barbules, which cause the metallic or iridescent colors, and (2) the so-called "Tyndall effect" of scattering, largely by the barbs of the feathers, which produces most of the noniridescent blues, greens, and purples. A survey of the occurrence of these two structural types of colors in various avian families shows that with few exceptions they do not

occur together. Their mutual "incompatibility" . . . appears to be based on a certain evolutionary antagonism between barbs and barbules . . . which must be reflected in the histogenesis of different types of contour feathers." Auber suggests that as the barbules are formed from the feather germ tissue before the barbs are, "extreme differences between the relative rates of cell-division (and possibly of increase in cell-volume) may determine production of a feather with either (a) thin barbs and broad barbules (iridescent type), or (b) voluminous barbs, usually with relatively thin and short barbules (Tyndall-coloured type)." —O. L. Austin, Jr.

46. On the Growth and Molt of our Phasianidae. (Zur Kenntnis des Wachstums und Mäuserverlaufs unserer Phasianiden.) Jaroslav Figala. 1958. *Sylvia*, **15**: 119-149. (Czech with German summary.) Detailed observations on 34 hand-reared Pheasants (*Phasianus colchicus*), Partridges (*Perdix perdix*) and Quail (*Coturnix coturnix*), results being given in 14 graphs and 3 tables. Particular attention is given to the attainment of flight.—M. M. Nice.

ZOOGEOGRAPHY

(See also numbers 32, 33, 55)

47. Distribution and migration of races of the Mourning Dove. John W. Aldrich and Allen J. Duvall. 1958. *Condor*, **60**(2): 108-128, 3 fig. As a species *Zenaidura macroura* has an enormous range, is ecologically quite tolerant, and shows considerable variability within its local populations. There is also evidence that some individuals go far out of their normal range during migration. (See *Bird-Banding* **29**: 42.) The authors assembled 204 presumably breeding specimens from the entire range of the species, however tropical America was represented by only about 26 specimens.

The trends, which appear to be independent of age and sex, are: dark to pale from east to west; browner to grayer from south to north in the United States (considered a "color phase"); wing length decreasing with latitude; bill length increasing and middle toe length decreasing westward on the continent. Males have significantly longer wing, middle toe, and tarsus than have females.

Five races are recognized:

1. *carolinensis*—long-winged, dark; eastern U. S. and southern Ontario.
2. *marginella*—long-winged, pale; northwestern Canada to temperate Mexico.
3. *turturilla*—short-winged, pale, short-legged, long-billed; Panama and perhaps elsewhere in Central America.
4. *macroura*—short-winged, dark or medium in color, deep buff-bellied; West Indies and Florida Keys.
5. *clarionensis*—very dark brownish, large-footed, long-billed; Clarión Island.

The breeding distribution of these races is mapped, but Jamaica and Puerto Rico are omitted although there is little doubt that *Z. m. macroura* breeds on both islands. The map must be read with some care. A magnifying glass is needed to identify spots marking specimens of a race outside its normal distribution. On a check of some states I was not able to make the spots marking specimens agree with the number of localities affording presumed breeding birds as recorded in the list of specimens.

The most reliable sex characters are the duller, more brownish and less vinaceous underparts of females and the relatively bright blue-gray tint of the dark areas on occiput and hindneck of males.

Although intergrades between *carolinensis* and *marginella* are known, neither of these appears to intergrade with the tropical races. On its face this implies a complete ecological separation, but it may also be accounted for by the lack of breeding specimens from the critical areas. The present treatment seems reasonably conservative. It certainly suggests the need of banding many more adult doves on the breeding areas to clear the still confused picture of the migration of the two northern races.—C. H. Blake.

48. A Contribution to the Ornithology of the Tristan Da Cunha Group. H. F. I. Elliott. 1957. *Ibis*, **99**(4): 545-586. The author's residence at Tristan from January 1950 to October 1952 gave him the best opportunity for field work on these lonesome, faraway isles ever enjoyed by an ornithologist. Based on his experiences, study and comparison of the specimens he collected with the Tristan material in British and American museums, and a review of the

literature (bibliography of 32 titles), he presents here an up-to-date check-list together with his field and taxonomic notes. His list contains 60 species and subspecies, 32 of which breed there, 7 are "frequent visitors," 10 are "rare vagrants," 9 are hypothetical "unconfirmed vagrants," and only 2 are extinct. "On the whole there has been a tendency among authors to exaggerate the devastating effect of man's activities in the islands: the fact is that after a century and a half of settlement, only two forms, both subspecies of birds which survive elsewhere in the group, are known to be extinct. . . . In both cases their disappearance is . . . likely to have been due to rats and feral cats and so only indirectly to man. There have of course been marked decreases in several of the species of sea-birds exploited, but against this the Great Shearwater *Puffinus gravis*, of which more are taken annually than of any other species, has certainly increased its range and probably its numbers during the past fifty years."—O. L. Austin, Jr.

49. The Breeding Birds of the Huleh Swamp and Lake (Northern Israel). Amotz Zahavi. 1957. *Ibis*, 99(4): 600-607. Describes the original terrain, vegetation, and bird fauna of the large swamp-surrounded lake at the head of the Jordan Valley which since 1953 has been undergoing drainage and reclamation for agriculture. "Only a reserve of 400 hectares now retains its former features, the water-level there being maintained by dams around it. . . . In a few years the avifauna of the former lake and swamp area will be found only in the reserve and the many fishponds scattered in the valley." Thirty species now breed there (8 of these are recorded nesting for the first time), and only 4 that formerly nested there no longer do so. For the 30 breeding species the paper gives data on the distribution in Israel, laying season, nest site and clutch size. The author adds further proof of the specificity of the two Great Reed Warblers, *Acrocephalus arundinaceus* and *A. stentoreus*, long regarded as conspecific, and gives interesting notes on habitat selection by the local sylviids. Papers such as this on areas rapidly being developed by the exploding human population will be of great value in later years.—O. L. Austin, Jr.

50. Avifauna of the Sierra Nevada, southern Spain. (Zur Vogelwelt der Sierra Nevada.) Günther Niethammer. 1958. Bonn. Zool. Beitr. 8(3/4): 230-247. The high mountains of south Europe are interesting because: (1) they are largely undisturbed by man above 2,000 m., (2) they are refugia for central European birds that avoid the adjacent hot lowlands, and (3) they are often the southern limit of north and middle European birds which have here produced local races.

Of six alpine birds found in the Pyrenees but one (*Prunella collaris*) reaches the Sierra Nevada where it occurs only above 2,500 m. In all 44 species occur above 2,000 m., as shown on a graph. In south Europe the upper limit of altitude not only rises from N to S but also from E to W.

The taxonomy of a number of species is discussed. Two local light-colored races are found (*Alauda arvensis sierrae*, *Oenanthe oenanthe nivea*).—C. M. Blake.

51. On the Cormorants of Kalmarsund. (Om skarvarna (*Phalacrocorax carbo sinensis*) i Kalmarsund.) Torsten Berglund. 1958. *Vår Fågelvärld*, 17: 44-49. (English summary.) These observations were made at the only existing colony in Sweden. It became established in the 1940s after the species had been absent for more than a hundred years due to the destruction of their earlier colonies. About 50 nestlings were banded, and the 9 recoveries obtained so far indicate a southwestern as well as a southeastern migration route.—Louise de K. Lawrence.

52. The Bird-Life of the Sasér-Bird-Sanctuary of Hódmezővásárhely, according to Observations from 1948 till 1954. I. Sterbetz. 1956-57. *Aquila*, 63-64: 177-193. (In Hungarian with English summary.) Up to a century ago the Great Hungarian Lowland was one of the "finest bird biotopes of Central Europe" largely due to flooding by the Danube and other rivers. Drainage has now almost "put an end to the world of the fens," but a 68-hectare island, made by an oxbow of the river Tisza, has been preserved as a sanctuary and in its marshes and woods many egrets, herons, some hawks and other birds breed. New rice fields were started in the vicinity in 1944 and these afford good feeding grounds for many marsh and wading birds.—M. M. Nice.

53. Report on the waterfowl census in the Winters of 1954-55 to 1956-57 and on the international waterfowl census from 1952-53 to 1956-57. (Bericht über die Wasservogelzählungen in den Wintern 1954/55 bis 1956/57 und über die internationalen Wasservogelzählungen von 1952/53 bis 1956/57.) Dieter Burckhardt. 1958. *Der Ornithologische Beobachter*, **55**: 1-30. This comprehensive report contains a mass of information obtained from 182 to 230 observers on the Swiss census and 22 to 88 on the international census. The former count is made during a 16-day period over the Christmas holidays and the latter on selected dates during the late fall, winter, and early spring. The Swiss census totaled 152,000, 160,000 and 162,000 for the 3 years reported with 69,000, 85,000 and 84,000 being reported from German Switzerland, the balance from West (French) Switzerland. Overall, three species, Mallard, Black-headed Gull, and Coot, comprise from 65-76 percent of the total. The Western census data differ principally in the larger number of Grebes reported, for reasons still requiring study.

The data from the international census provide information on seasonal status of each species. Some information on the variation in sex ratio is also available and is presented. The author also provides a short history of each census, reviews the objectives, and discusses possible errors and omissions. A good, thorough report.—R. O. Bender.

59. A few observations and determinations of the Ptarmigan. (Einige Beobachtungen und Feststellungen beim Alpenschneehuhn (*Lagopus mutus helveticus Thienemann*).) D. Müller-Using. 1958. *Ornithologische Mitteilungen*, **10**: 46-50. In a brief review of the sparse literature on this species, the author points out several discrepancies and one error. The error is a weight of 400-480 g. reported by Von Burg and widely quoted by others. The actual weight is shown to average around 500 g. with sexual and seasonal variations, the male being heavier. Responding to a milder climate, the species has withdrawn northward several hundred kilometers in Scandinavia and to higher altitudes in the Alps.—R. O. Bender.

SYSTEMATICS

(See also numbers 47, 49, 50)

55. Hybridization in the Red-eyed Towhees of Mexico: the eastern plateau population. Charles G. Sibley and David A. West. 1958. *Condor*, **60**(2): 85-104. This is a continuation of Sibley's studies on the towhees. The hybridization between *Pipilo erythrophthalmus* and *P. ocai* is considered in the area between the states of Hidalgo and Oaxaca and eastward to the edge of the highlands. A "hybrid index" or summed score of six plumage areas in which two species differ is used. "From northeast of Mexico City to the mountains of southwestern Jalisco, is a clinal series of populations which gradually bridges the geographical and morphological gaps between nearly pure *erythrophthalmus* in Hidalgo (Pachuca) to nearly pure *ocai* in Jalisco." In the mountains the two species are often sympatric, but little hybridization occurs between Cofre de Perote and Zoquitlán (southern Puebla) and none to the east of Oaxaca City. It is evident that selection is operating on the hybrids in different degree in different areas. The author considers any selection against the hybrids to occur after the populations come in contact. It is possible that there are areas where the nonhybridizing populations were preadapted against hybridization. One further small point, the presence of rufous in the crown of *erythrophthalmus* might occasionally be the persistence of a juvenile character rather than evidence of crossing. I have handled one such yearling male in Massachusetts. The article gives a complete account of the dimensions and weights of the specimens studied.—C. H. Blake.

56. Classification and systematic position of the eiders. Philip S. Humphrey. 1958. *Condor*, **60**(2): 129-135. Do the eiders belong with most diving ducks in the tribe Mergini or in a separate tribe, Somateriini, next the Anatini? The tracheal bullae are enlarged to the left and without fenestrae. Except in *Polysticta* the bronchi are enlarged, the left one more than the right. Adults and young use predominantly plant foods during the breeding season. The half-opened wings play a part in underwater propulsion. Two genera, *Polysticta* and *Somateria*, are recognized and the eiders are placed in a separate tribe next the Anatini.—C. H. Blake.

57. **A white-throated Golden-crowned Sparrow.** Charles G. Sibley. 1956. *Condor*, 58(4): 294-295. A *Zonotrichia atricapilla* with a white throat but otherwise giving no evidence of hybridization with *albicollis* is described. Sibley concludes there is a general genetic basis for white throat in the genus.—C. H. Blake.

58. **Specific relationships in the genus *Elanus*.** Kenneth C. Parkes. 1958. *Condor*, 60(2): 139-140. On plumage characters *E. caeruleus*, nearly world wide with nine races, and *E. scriptus*, Australian, are admitted. The two species are sympatric only in Australia.—C. H. Blake.

FOOD

(See also numbers 20, 21, 28)

59. **The Feeding Habits of Cormorants in Victoria.** J. McNally. 1957. *Fauna Contribution No. 6*, Fisheries and Game Department, Melbourne, Victoria. pp. 1-36. The results of a 5-year study from 1949 to 1955 on the relation of cormorants, particularly *Phalacrocorax carbo*, to the inland, estuarine, and marine fisheries of Australia. The author collected and examined the contents of 2,043 stomachs of the 6 species of phalacrocoracine birds occurring in Australia from various habitats, which showed these birds feed on fish and crustacea almost exclusively. He concludes that none of these birds "is a predator of any significance on the marine fisheries," and "in large internal waters cormorants exert a beneficial influence by controlling the numbers of introduced English Perch and Carp and native Yobbies" (a crustacean, *Cherax*, that destroys dams, levee walls, and irrigation banks). While he acknowledges that *P. carbo* "is detrimental to the trout fisheries on inland waters under certain conditions and local control of numbers is then necessary," he decries the bounty system forcefully, states that "no data so far produced would justify the expenditure of large sums of public money on the destruction of cormorants," and warns that "no attempt should be made at State-wide control until a complete investigation . . . has been made and all the facts become available."—O. L. Austin, Jr.

60. **Destruction of seed infestations by titmice.** (Über die Vernichtung einiger Samenschädlings durch Meisen). F. J. Turček. 1957. *Waldhygiene*, 2(1): 1-3. In Czechoslovakia 15-20 percent (or more) of the seed crop of certain maples and ashes is destroyed by insects (especially tortricids). In October in the Polana Mts. 40-50 percent of seeds of sycamore maple (*Acer pseudoplatanus*) were infested. About 20 percent of seeds on the ground had been opened by titmice and the caterpillars were gone. The birds were: Coal Tit (*Parus ater*), Marsh Tit (*P. palustris*), and rarely Blue Tit (*P. caeruleus*). However, Willow Tit (*P. atricapillus*) and Marsh Tit use the fatty seeds of goose-grass (*Galeopsis tetrahit*) almost exclusively from late August to early October as well as the similar seeds of *Salvia* spp. In December the seeds of seven species of ash (*Fraxinus*) showed an average infestation of 28 percent. The infested seeds were systematically opened by Blue Tits. About 44 percent of the fallen seeds had been opened. In 2 percent there were still caterpillars and only 16 percent of the seeds still had caterpillars when the titmice worked on them. The effective destruction is, then, about 7 percent. The Blue Tit also systematically destroys a scale insect (*Lecanium corni*) on plum trees, while the Long-tailed Tit (*Aegithalos caudatus*) attacks the scale only casually.—C. H. Blake.

61. **Observations on the Feeding of the Oystercatcher in Captivity.** R. E. Drinnan. 1958. *British Birds*, 51(4): 139-149. Wild *Haematopus ostralegus* were estimated to eat some 17.5 percent of their body weight per day; 2 birds in captivity, weighing about 445 grams each, kept up their weight on less food.—M. M. Nice.

62. **Repeated attacks by a Sharp-shinned Hawk on a Pileated Woodpecker.** Lawrence Kilham. 1958. *Condor*, 60(2): 141-142. The hawk made seven attacks in 10 minutes without success. The woodpecker seemed to take proper evasive action at the right moments and remained in the vicinity showing no evident fear of the hawk.—C. H. Blake.

SONG

63. Songs of Warblers of Eastern North America. Recorded by Donald J. Borror and William W. H. Gunn. 1958. Federation of Ontario Naturalists, 187 Highbourne Road, Toronto, Ontario. 33 1/3 rpm., 12". \$5.95 (U. S.) This record is comparable to the Cornell and Stillwell series in accuracy of reproduction and low surface noise. Devoted entirely to the wood warblers, it contains more than 400 songs from 170 individuals of 38 species in eastern North America and omits only the excessively rare Bachman's and problematical Sutton's. This compares with some 23 species previously available, taking all the Cornell and Stillwell releases together, and with the songs well scattered through the various disks (in addition to these 38, two western species—Audubon's and Lucy's—are included in the Stillwell record reviewed in *Bird-Banding*, 28: 183; three Mexican species are included in a recent Cornell release—see review No. 64 in this issue).

The species are arranged in four groups: those with phrases sung slowly (less than 6 per second); those with songs trilled (6-30 notes per second); those with songs buzzy (more than 30 notes per second); and those with songs with varied phrases. This arrangement is probably the most durable one, when a large number of species are compared. It brings together many of the species for which the field observer desires a direct comparison, such as the Nashville and Tennessee Warblers, or Blue-winged and Golden-winged, or Magnolia and Hooded. It is less felicitous for some other pairs for which a direct comparison is helpful, such as Cape May and Bay-breasted Warblers, or the two waterthrushes. However, it would clearly be impossible to arrange all 38 species primarily for such comparisons.

For any serious student of the songs of these warblers, the new record is incomparable, even if he has all of the Cornell and Stillwell records. In addition to showing many more species, it includes a variety of songs of each species, along lines first stressed by the Stillwells but with more examples (up to 10 different individuals, or 10 songs of one individual). The state in which each individual was recorded is listed and also the month. Familiarity with these songs would be of major assistance to anyone going into territory new to him, particularly for species which are uncommon, or skulking in habit.—E. Alexander Bergstrom.

64. Mexican Bird Songs. Recording by L. Irby Davis, cover drawings by W. C. Dilger. 1958. Cornell University Records. 33 1/3 rpm., 12". \$7.75. This vinylite record has the same high quality of sound and low surface noise as other recent Cornell releases. Of the 74 birds listed, only a handful occur in the United States, and most of these only near the Mexican border. The songs of the individual species follow an introduction, consisting of dawn choruses from four typical habitats. These bring to the armchair traveler the memorable experience of hearing for the first time a musical and distinctive chorus of entirely new birds. Most of us cannot accomplish this in the flesh very often, and our long familiarity with the dawn chorus at our homes may lead us to take it too much for granted.

No one going to Mexico for the first time to see birds should neglect to buy this record and listen to it closely. Few of those who have already visited Mexico at least once will have had an opportunity to become familiar with all these songs. While records of birds found in the U. S. have proved valuable to experienced observers going into a new area, the value of this Mexican record is enhanced by lack of any good field-guide descriptions for most of the songs. The only real field guide available for Mexico at present (*Birds of Mexico, A Guide for Field Identification*, E. R. Blake, 1953, The University of Chicago Press) does not refer to songs of many species at all, and descriptions of others are often in very general terms. As so many Mexican genera or families have no representatives in the U. S., observers going to Mexico for the first time have trouble in fitting songs into any familiar frame of reference.

Anyone using the record will be impressed by the perennial difficulties in agreeing on English names for the birds, typical of an area in which many visitors prefer to avoid relying on the scientific name entirely, and yet where English names are not indigenous. While it is impossible for a record to use English names that all students of Mexican birds would agree on, it is a pity that the names used don't follow any one of the three most widely used brief lists of names ((a) Blake, *op. cit.*; (b) *Distributional Checklist of the Birds of Mexico*, Part 1, 1950, Part 2,

1957, Cooper Ornithological Society; (c) *The Species of Middle American Birds*, Eugene Eisenmann, 1955, *Transactions of the Linnaean Society of N. Y.*, VII.)
—E. Alexander Bergstrom.

65. An Evening in Sapsucker Woods. Produced by P. P. Kellogg and A. A. Allen, Laboratory of Ornithology and the Department of Conservation at Cornell University, from recordings made for the Cornell Library of Natural Sounds. 1958. Cornell University Records. 33 1/3 rpm., 10". \$4.95. This record affords an excellent introduction to recorded voices, including 27 species of birds and 5 of amphibians typical of Sapsucker Woods, near Ithaca, N. Y., headquarters for the Laboratory of Ornithology. All 32 voices are introduced on one side of the record, and repeated on the other in different order without identification, as an identification test. Also, the album lists a number of species heard faintly in the background and not identified in the record, as a challenge to the advanced bird watcher. Sound reproduction is excellent and surface noise low.—E. Alexander Bergstrom.

66. Morning and evening song of robins in different latitudes. Robert C. Miller. 1958. *Condor*, 60(2): 105-107. Uninterrupted singing begins earlier (as early as 0058) with increase of latitude and lasts longer (42 min. at lat. 38° to 89 min. at lat. 60°). Evening song ends earlier with increase of latitude and appears to vanish at some latitude north of 58°.—C. H. Blake.

BOOKS

67. Extinct and Vanishing Birds of the World. James C. Greenway, Jr. 1958. Special Publication No. 13. American Committee for International Wild Life Protection. New York, N. Y. \$5.00. 518 pp. An exceedingly interesting book, packed with information. The author treats largely of "discrete populations" that "have disappeared during the 270 years since the last dodo is thought to have died." Lists are given not only of those species and subspecies known to be extinct, but of those probably extinct, and—a very important feature—of small populations many of which are in grave danger of extinction.

The "Geography of Extinction" (pp. 29-137) is a notable contribution. "As far as it known neither Africa nor South America has suffered losses in recent times"; Europe has lost the Great Auk and ostriches, and Asia one and perhaps 3 other species. Island fauna and North America have borne "the brunt of sudden and devastating incursion of modern Europeans." The shocking story of destruction is discussed under the West Indies, North America, the Hawaiian Islands, Pacific Islands, and Islands of the Indian Oceans. Overspecialization of the birds and ruthless use by human beings are two of the underlying factors making for extinction. Man's satellites, deliberately or accidentally released on islands, have wreaked havoc; goats, rabbits, pigs, cattle, deer have destroyed the habitats; black and brown rats, cats, dogs, pigs, foxes, mongooses, stoats, have devoured birds and eggs.

In North America the increase and westward spread of the human population and the decrease of the forests are traced step by step and a close correlation found with the extirpation of the Passenger Pigeon, Carolina Paroquet, and Ivory-billed Woodpecker. As to the Eskimo Curlew, when the "eager gunners" of 1870-1900 saw a field of 50 acres covered with these birds, it is probable "they had a considerable portion of the whole species before their eyes."

One cheering note: for many years the ferocity of some of the South Pacific natives protected their coasts from white men and their pests, hence the fauna and flora of these islands are less impoverished than those of most islands. Rennell Island, 90 miles west of San Cristobal, is "an extraordinary, an even unique island. . . . Of the 33 land and fresh-water forms known to nest on the island, 19 (57 percent) are to be found nowhere else. . . . The Australian Government has made great efforts to keep the island and its fauna inviolate." Here "the birds are as nearly in their natural state as any in the world."

The future for the birds on the South Atlantic Islands is gloomy. "The birds have disappeared from Tristan within 50 years. Men have moved in on them and literally devoured them" (cf. No. 48). This history is almost sure to be repeated on the other islands with the "growing population of human beings, without adequate food."

Three hundred pages are devoted to "Accounts of Extinct or Vanishing Forms"; these give synonymy, status, range, description, remarks and location of specimens; the numerous sketches by D. M. Reid-Henry are a helpful feature. Two histories differing from the usual pattern of persecution are of interest. The Guadalupe Caracara was purposely extirpated by goat-herders who believed these birds killed kids. Would that the Caracaras had killed them all! At present the island is infested with 40,000 to 50,000 hungry goats that have destroyed most of the forests on the island and thus have been one of the chief factors in extirpating 39 percent of the breeding bird fauna. In California Burrowing Owls and their broods have been "inadvertently" slaughtered by the poisoning and sealing of burrows of ground-nesting mammals by employees of the United States Government.

In the Foreword, Jean Delacour mentions a dozen threatened species that could be saved through protective measures; he urges research on the habits and nesting localities of a dozen more, and calls for adequate refuges for others. Some species can be saved by "propagation in captivity or at controlled liberty; such is the case of many species of game birds, waterfowl, cranes, pigeons and doves and parrots." With exploding human populations, increasing and indiscriminate use of deadly poisons, and penetration into more and more remote areas, the situation is ominous. "It is sad to realize that so many beautiful creatures have vanished forever or may very soon die out. It should be a lesson for mankind and remind us of our duty toward Nature. We play on earth a leading role, which should not be that of a villain.—M. M. Nice.

68. The Travels of William Bartram. Naturalist's Edition. Edited by Francis Harper. 1958. New Haven, Yale University Press. 723 pp. \$8.50. For 40 years Francis Harper has consulted and utilized William Bartram's justly famous "Travels" (1791) in his own studies on the natural history of Georgia and neighboring states. In this volume he gives us a faithful rendition of the "Travels" with a Commentary that elucidates Bartram's route; a very full Annotated Index which translates Bartram's names of plants and animals into current nomenclature, as well as discussing a multitude of other items in the text; reproductions of 14 of Bartram's drawings; photographs of scenes visited by Bartram; a number of maps and other aids. Thanks to Dr. Harper's conscientious and zealous labors in the field and study we have here a true "Naturalist's Edition" which will be of great value and inspiration to present-day naturalists.

Although primarily a botanist, Bartram had a keen and sympathetic interest in all forms of animal life, as is constantly shown throughout his "Travels," and particularly in Chapter X of Part Two. Here he describes snakes, frogs, and "beasts"; discusses the subject of bird migration, and gives an annotated list of land birds from Pennsylvania south to Florida. Coues (1884) considered the "Travels" "the starting-point of a distinctly American school of ornithology."

What a picture Bartram gives of the wealth of wild life nearly 200 years ago—the "sublime forests," the "enamelled meadows," the "pellucid streams," the incredible abundance of animal life, particularly of alligators, fish, and birds. "The alligator when full grown is a very large and terrible creature, and of prodigious strength, activity and swiftness in the water." On one solitary canoe trip in Florida Bartram was in great danger from these animals, and owed his life to being awakened by "terrifying screams" of Barred Owls just in time to ward off an attack. Dr. Harper comments that "There is every reason to believe that Alligators, before they had become cowed by firearms, were given to just such attacks on human beings as our author describes."

Of his first camp on the St. John's Bartram writes of the beauty of the trees and shrubs. "Our repose however was incomplete, from the stings of mosquitoes, the roaring of crocodiles [alligators], and the continual noise and restlessness of sea fowl, thousands of them having their roosting-places very near us, particularly loons of various species, herons, pelicans, Spanish curlews [immature White Ibises], etc., all promiscuously lodging together, and in such incredible numbers, that the trees were entirely covered."

He describes the magnificent great cypress trees with "the extensive flat horizontal top . . . where eagles have their secure nests, and cranes and storks their temporary resting places. . . . Paroquets are commonly seen hovering and fluttering on their tops: they delight to shell the balls, its seed being their

favorite food." Near the present settlement of Picoleta in St. John's County, Florida, he wrote:

"I was awakened in the morning early, by the cheering converse of the wild turkey-cock (*Meleagris occidentalis*) saluting each other, from the sun-brightened tops of the lofty *Cupressus disticha* and *Magnolia grandiflora*. They begin at early dawn, and continue till sunrise, from March to the last of April. The high forests ring with the noise, like the crowing of the domestic cock, of these social centinels, the watchword being caught and repeated, from one to another, for hundreds of miles around; insomuch that the whole country is, for an hour or more, in an universal shout. A little after sunrise, their crowing gradually ceases, they quit their high lodging places, and alight on the earth, where, expanding their silver bordered train, they strut and dance round about the coy female, while the deep forests seem to tremble with their shrill noise."

Once a hunter brought in a Sandhill Crane. "We had this fowl dressed for supper and it made excellent soup, nevertheless as long as I can get any other necessary food I shall prefer his seraphic music in the ethereal skies, and my eyes and understanding gratified in observing their economy and social communities, in the expansive savannas of Florida."

Bartram was so moved by the scenes he saw that he prayed to the Creator that man "with his power and pre-eminence, here on earth" might "be endowed with a due sense of charity" so that we might "perform our duty towards those submitted to our service, and protection, and be merciful to them even as we hope for mercy." How miserably we have failed to exercise our vaunted intelligence and our terrifying power to cherish the life of this wonderful world! May this book inspire us to redoubled efforts to save a remnant of wild life before it is too late. M. M. Nice.

69. A Population Study of Penguins. L. E. Richdale. 1957. Oxford. University Press. New York. 2 photos. 195 pp. \$6.75. A notable study on a sedentary, long-lived bird, the Yellow-eyed Penguin (*Megadyptes antipodes*), on the Otago Peninsula, New Zealand, carried on for 18 seasons and involving 1,318 visits. As described in the appendix all birds were foot-marked, while adults and juveniles were also banded. The chief observations in this book concern 819 separate nestings of 203 males and 202 females that bred for at least 1 year. The author has also studied to a lesser extent 6 other species of penguins.

The Yellow-eyed Penguin pair tends to remain together, but divorce is more than a chance occurrence. One pair stayed together for 13 years. One male was unmated during his first 8 adult years, but bred during the next 3. Another male was unmated for 5 seasons, but in the next 10 had 4 mates and was unmated during 5 seasons; further he mated with the same female on 2 separate occasions 7 years apart. There is an excess of males among the breeding birds, hence no female was unmated once she acquired a mate. Both members of the pair share equally the labors of raising the young, but since males often get involuntary vacations from breeding while the females do not, the higher mortality of the latter may be partly due to the greater physiological wear and tear they suffer.

Measurements and weights of eggs are tabulated, as well as dates of laying. Females tended to lay consistently early, late, or about average, and daughters tended to resemble their mothers in this respect. This was true in one case in 3 generations, all birds laying from 0.1 to 1.0 day later than average, but a great-granddaughter was 5 days later than average in 2 layings. All penguins lay 2 eggs, except the Emperor (*Aptenodytes forsteri*) and the King (*A. patagonica*) which lay one. The Yellow-eyed's incubation period is some 43.5 days; first and second breeders averaged 44.2 days, and breeders over 5 years of age 42.9 days. Table 12 gives data on incubation periods in 15 species of penguins; these range from 33 days in the Adeline Penguin (*Pygosceles adeliae*) to 63 in the Emperor.

The chicks at hatching are helpless, covered with down, and with their eyes closed; at 4 weeks they are no longer brooded, but are still guarded. At about 45 days both parents start bringing food; if one is lost, the survivor cannot feed 2 chicks and one dies. The notion of the crèche system is examined and found wanting; in all studies with marked penguins of different species each parent normally feeds its own chicks and no others. Yellow-eyed chicks leave the shore at about 106 days of age. Table 24 gives the length of chick period in 10 species

of penguins; it varies from 17½ weeks in the Little Blue (*Eudyptila minor*) to 18 months in the King.

Of 411 fledgling Yellow-eyes that entered the sea, 170 were recovered—41 percent. There were 3 cases of brothers and sisters mating, and one of half-brother and half-sister, as well as 3 cases of second cousins. Much valuable information is given on the influence of age of breeding biology. In the chapter on "Survival and Mortality" we find that of 1,073 eggs 838 (78%) hatched and 638 (59%) were reared. Of 910 eggs laid from 1936-1950, 140 chicks survived to breed (15.4%). As to longevity "two males and three females at least 19 years old were still alive" at the end of the study. In a Yellow-eyed community of a reasonable size "the average age for breeding males will be between 7 and 8 years and for females one year younger." The final chapter deals exhaustively with the moulting season both in the Yellow-eyed and other penguins. The book contains 87 tables and its index covers subjects, authors, and species.

In this review I have given only a few samples of the abundance of material in this volume. Besides the remarkable study on the Yellow-eyed Penguin, all reliable data on other species of penguins are included, as well as much pertinent matter on other birds. The book would have been easier to read and its wealth of information more accessible had each chapter been provided with a good summary, and also if there had been a final "summary and conclusions." In this population study Dr. Richdale has again made a major contribution to ornithology.—M. M. Nice.

70. The Bird Watcher's Anthology. Roger Tory Peterson. 1957. Harcourt, Brace and Company, New York. 401 pp., ill. Price \$7.50. This lively collection of 85 excerpts from the works of almost as many authors, each introduced by an explanatory foreword by the compiler, samples the field of popular writing on birds remarkably well. The selections run the gamut from the great classics—White, Audubon, Wilson, Darwin, Wallace, Bates, Burroughs—to modern works that have yet to be evaluated by the test of time. In choosing them the compiler used as his paramount criterion their interest to the ornithophile, and gave little if any consideration to their scientific importance or their literary merits. When reading them side-by-side, it is interesting to note how the writings of such acknowledged stylists as Hudson and Thoreau stand out above those of lesser merit. Nevertheless the result is a fine book for the bird-lover's bedside table or the bookcase nearest his favorite chair for evening browsing.

No two critics could possibly agree on the choices Peterson has made from the wealth of material now available in English. My own choices would have been different in a number of cases, and doubtless less appealing to the average ornithophile: I much prefer Beebe's earlier work, the essays in *Jungle Peace*, for instance, to his more recent writings; I would have taken excerpts from *The Fulmar* rather than Fisher's Tortugas sketch; and I'm sure Ernest Thompson Seton's description of his own "spark" from *Two Little Savages* was omitted only because the compiler couldn't edit it down to fit the available space.

My main regret (it is not a criticism) is that space limitations and his efforts to cover so wide a field forced Peterson to use far too short pieces from some of my favorite authors—Edward Wilson, Apsley Cherry-Garrard, and Henry Beston, for instance. But I am delighted to find these and many other old friends here, together with several writers I had never read—Deck, Boyd, Jeffries—and whose acquaintance I am indeed glad to have made. In proof thereof I have already searched out more of their work, and if his anthology encourages other ornithophiles to do likewise, I am sure nothing could please the compiler more. O. L. Austin, Jr.

71. The Arctic Year. Peter Freuchen and Finn Salomonsen. 1958. G. P. Putnam's Sons, New York. 438 pp., many line drawings. \$5.95. This month-by-month account of life in the Arctic zone ranges over a wide variety of subjects, drawing upon the combined experience of two men who have devoted most of their lives to the Arctic. The late Peter Freuchen was one of the most active explorers in our times, and lived with the Eskimos through several winters. Dr. Finn Salomonsen of the Universitets Zoologiske Museum in Copenhagen is best known as author of the classic *Birds of Greenland*.

The result is the best single book on the Arctic I have seen. It can be read with pleasure by the general public, yet is specific enough to be useful to the specialist in any of the fields of natural history it discusses—birds, animals, plants, insects, marine life. Banding in Greenland has added materially to our knowledge of the migrations and other movements of Arctic birds. In addition to what Eskimos catch or shoot for food at different seasons, the reader learns a great deal about how they adapt their lives to a rigorous climate—for example, making sledge-runners of frozen mud sheathed in a thin layer of ice.—E. Alexander Bergstrom.

NOTES AND NEWS

The British Trust for Ornithology has reprinted, for the use of its members, "Banding With Mist Nets," by Seth H. Low (*Bird-Banding*, 28: 115-128, July, 1957). Demand for copies of that issue has exhausted the extra supply which we printed for free distribution. However, any reader who would like a copy of the B.T.O. separate may have it without charge by writing to the editor of *Bird-Banding*.

In addition to the three standard sizes of mist nets stocked by the Northeastern Bird-Banding Association, we have a few experimental nets, like the shorebird nets (type C) but undyed silk, off-white in color. It is possible that this color may be effective on a white beach, or that it would be worthwhile to dye the net to match the color of other beaches. Details of any of these nets may be obtained from E. Alexander Bergstrom, 37 Old Brook Road, West Hartford 7, Conn.