

**Remating Percentage of Some Migratory Birds.**—In Baltimore from 1942 through 1957 I color-banded both members of 66 pairs of 9 species of migratory birds. The table below gives the return and remating record of these birds through 1958, in this wise: the first line means that 23 pairs of Robins were color-banded; both members of 10 pairs returned; only the males of 7 pairs returned; only the females of 3 pairs returned; neither member of 3 pairs returned; there was one remating.

	Pairs	Both	Returns		Neither	Re-matings	Uncertain Rematings
			Male	Female			
Robin ( <i>Turdus migratorius</i> )	23	10	7	3	3	1	
Catbird ( <i>Dumetella carolinensis</i> )	15	1	4	3	7	1	
Song Sparrow ( <i>Melospiza melodia</i> )	11	1	3	0	7	0	1
Wood Thrush ( <i>Hylocichla mustelina</i> )	5	0	3	1	1	0	
Rufous-sided Towhee ( <i>Pipilo erythrophthalmus</i> )	4	2	0	0	2	1	
Brown-headed Cowbird ( <i>Molothrus ater</i> )	4	2	0	0	2	2	
House Wren ( <i>Troglodytes aëdon</i> )	2	0	0	0	2	0	
Mockingbird ( <i>Mimus polyglottos</i> )	1	1	0	0	0	1	
Great Crested Flycatcher ( <i>Myiarchus crinitus</i> )	1	0	1	0	0	0	
Totals	66	17	18	7	24	6	1

My 6 rematings out of 17 "pair returns" equals 35 percent of the possibilities; if the uncertain remating was a fact, 7 rematings out of 17 possibilities is 41 percent. Nice (Studies in the Life History of the Song Sparrow II, *Trans. Linn. Soc. N. Y.*, 1943, 6: 182-183) had 8 Song Sparrow rematings out of 30 cases in which mates were present 2 years in succession: 27 percent. Kendeigh (Territorial and Mating Behavior of the House Wren, *Ill. Biol. Mon.*, 1941, 18: 56) had 11 House Wren rematings out of 26 pair returns: 42 percent.

I have nothing to add to my 1952 note on the Robin (*Auk*, 69: 465-466) regarding the circumstances of rematings or failures to remate. My listing of the Mockingbird as a migratory species is explained by my note in *Bird-Banding*, 1956, 27: 128. —Hervey Brackbill, 2620 Poplar Drive, Baltimore 7, Maryland.

## RECENT LITERATURE

### BANDING

(See also numbers 16, 17)

**1. 8th Annual Report of the Ornithological Society of New Zealand Ringing Committee.** F. C. Kinsky, 1958. *Notornis*, 8(1): suppl. 1-30. According to this report for the year ending 31 March 1958, the 37 New Zealand cooperators banded 5,803 birds of 46 species, and obtained 852 recoveries and 1,395 repeats. The number of recoveries seems remarkably high until one notes that included in that category are returns to the place of banding. On just what basis the New Zealanders differentiate between such returns and repeats is not apparent. As their activities increase they will doubtless find it useful, as other programs have, to classify their accumulating data more accurately, to list repeats, returns, and recoveries of short time and distance as totals only, and to give complete raw data only for the more significant distance recoveries and long-time returns.

Mr. M. Fitzgerald reports success in attaching light-reflecting plastic tape in several colors to the bands he uses on Wekas, a largely nocturnal rail. He found bands so colored "were easily recognisable at night time by the

use of a pocket torch for a distance of over 30 yards." The report also complains of "noticeable" wear of larger bands (5, 6, 7, 8) used on sea birds and adds "A new approach will be made to the manufacturers in the U.S.A. in an effort to rectify this matter." We hope their efforts in this direction will be more successful than ours have been for the past 3 decades.—O. L. Austin, Jr.

**2. Activity at the Ottenby Bird Station 1957.** (Report No. 23.) (Verksamheten vid Ottenby fågelstation 1957. (Meddelande nr 23).) Bengt Danielsson. 1958. *Vår Fågelvärld*, 17: 177-201. (English summary.) This account marks Ottenby Bird Station's 11th year of banding activities and migration observations. Bill and wing measurements were added to this year's work. Only twice previously has the total of 12,679 birds banded in 1957 been surpassed. There were 139 recoveries. Extensive tables, maps of recoveries, photographs of rare species and the night migration of swans complete this report of the fine ornithological work being done at the Swedish bird stations.—Louise de K. Lawrence.

**3. Bird-Banding in Finland in 1956.** (Die Vogelberingungen in Finnland im Jahre 1956.) Göran Nordström. 1958. *Memoranda Societatis pro Fauna et Flora Fennica*, 33: 69-108. More than 200 volunteer cooperators raised their annual banding total some 6,000 over the previous year to 30,937 birds of 149 species. The 551 recoveries of 79 species contain some fine long-distance ones, mostly from South Africa, and one of a 24-year *Larus ridibundus*.—O. L. Austin, Jr.

**4. Bird-Banding in 1954 and 1955.** (Prstenovanje ptica god. 1954. i 1955.) Renata Kroneisl-Rucner. 1957. *Larus*, 9-10: 7-33. Yugoslavian banders under the auspices of the Ornithological Institute at Zagreb banded some 20,000 birds of 127 species in the 2-year period, almost half of them as nestlings. Though these have yielded a few good records, mostly from South Africa, more than half the 250 "recoveries" listed are actually repeats and returns of little significance. The 103 foreign-banded birds taken in Yugoslavia, for which full data are given, came mostly from various parts of the USSR and adjoining satellite countries, with a few from Finland and Sweden.—O. L. Austin, Jr.

**5. Results of Bird-Banding in Belgium in 1957.** (Résultats du Baguage des Oiseaux en Belgique (Exercice 1957).) R. Verheyen. 1958. *Cerfaut*, 48 (3): 215-253. The Belgian banding reports would be a great deal more informative if they gave the numbers of each species banded, and much more usable if in listing their recoveries they used the standard symbols advocated by Dr. W. Ryzewski in *The Ring*, endorsed by the International Committee for Bird Ringing, and now used in almost all other countries. Dr. Verheyen once pointed out (*Ring*, 1 (2): 17) that to satisfy Belgian banders they have "to publish practically every report on a ringed bird." This so clutters their lists with insignificant local recoveries and short-term repeats and returns that sorting the wheat from the chaff is difficult. Short summaries indicating the more interesting and significant results would add greatly to these unnecessarily detailed reports.—O. L. Austin, Jr.

#### MIGRATION

**6. The Invasion of Waxwings 1956-1957.** (Invasionen av sidensvansar (*Bombycilla garrulus*) 1956-1957.) Göran Hansson and Lars Wallin. 1958. *Vår Fågelvärld*, 17: 206-241. (English summary.) This is another significant contribution to the knowledge of the "invasion type of bird migration," a careful and comprehensive analysis of the recent irruption of Bohemian Waxwings into Fennoscandia and other surrounding countries. It is based on a wealth of data contributed by reliable ornithologists from Petchoro-Ilytschk and Archangel in the northeast of European Russia to the British Isles in the west, from northernmost Sweden and Finland to Hungary in the south. Svårdson in his paper "The 'invasion' type of bird migration" (*Brit. Birds*, 50: 314-343) had predicted an irruption of Waxwings in this year and he based his forecast on the probability

of an abundance of red berries in the fall of 1956 following the unusually warm summer of 1955. While the abundance of berries did occur in certain areas outside the Waxwings' usual breeding grounds and may, to some extent, have influenced the birds to move west (if they "knew" about it in some way), the study clearly shows that with this the whole story is far from told. From the analysis of the birds' movements, carefully mapped and discussed, a variety of factors seem to emerge, which either stopped the flights of the birds, or pushed them onwards, or influenced the direction in which they flew. Most significant among these were: 1) the *lack* of berries (winter food) in the east; 2) the migration drive within the birds aroused by this circumstance; 3) population density (indicated by the extended breeding areas in 1956); 4) leading lines of land and sea. Indeed, from reading this account, rather one gets the impression that the abundance of berries, such as happened this year in most of the regions west of Russia, played a comparatively small role in "enticing" the birds to fly west. Actually, the finding of the rowanberry bonanza here appears more or less fortuitous, assisted by the recurring awakening of the birds' migratory impulse coinciding with or even maybe conditioned by the fluctuations of the plant growth. Hence the authors are reluctant to accept too "strictly schematized" hypotheses about any single cause for irruptions of this kind and they urge that each immigration of species dependent on specialized winter foods be analysed separately, taking all the possibilities into account, if we are to know the full truth about them.—Louise de K. Lawrence.

**7. Notes on the autumnal migration 1957 at the Bosporus.** (Fågelsträcket vid Bosporen några höstdagar 1957.) Torgny von Wachenfeldt. 1958. *Vår Fågelvärld*, 17: 201-206. (English summary.) So far Turkey is virgin land from the standpoint of ornithology. Work is greatly hampered by the suspicious attitude of the police, which entails the difficult and time-consuming job of securing various permits to protect the bird-watcher against undue interference.

Chiefly storks and raptors compose the migratory flocks that cross the Bosporus, flying in an easterly and southeasterly direction. The first storks appear by the middle of August. In concentrations of up to 10,000, the large black and white birds hover over Istanbul during the "stork days." The migration of the raptors begins during the first week of September. Most numerous are the Honey Buzzards (*Pernis apivorus*), the Sparrowhawks (*Accipiter nisus*), and the Spotted Eagles (*Aquila clanga* and *pomarina*). These migrants fly very high and on a broad front.—Louise de K. Lawrence.

**8. Weather Movements of Swifts 1955-1957.** David Lack. 1958. *Bird Study*, 5 (3): 128-142. This paper brings up to date the author's studies on a subject that has long intrigued him and on which he has published a number of papers and one book. His observations on the Suffolk coast show "that nearly all southward movement of Swifts occurred with a depression centered over northern England or Scotland. The birds usually passed on a broad front during the day and were concentrated on the coast in the evening and early morning." He also amasses the mounting evidence—Swifts seen flying out to sea at dusk and returning at dawn, climbing in flocks skyward in the evening to disappear in the darkness—that suggests this species often, perhaps regularly, spends the night on the wing. He ventures that he "would not be surprised if further observations showed [this behavior] to be widespread in the family Apodidae."—O. L. Austin, Jr.

**9. Experimental Influences on the 24-Hour Periodicity of Homing Pigeons and Their Effects with Special Reference to Homing Ability.** (Experimentelle Einflussnahme auf die 24-Stunde Periodik bei Brieftauben und deren Auswirkungen unter Besondere Berücksichtigung des Heimfindervermögens.) Klaus Schmidt-Koenig. 1958. *Zeitschrift für Tierpsychologie*, 15 (3): 301-331. A contribution from Gustav Kramer's laboratory. The incubation relief schedule depends on the light-dark change and is upset by constant illumination as well as by 10-hour nights and 10-hour days. Under overcast conditions pigeons "are able

to localize the sun even when the human eye fails to do so." Results on homing under the experimental conditions are discussed in relation to recent hypotheses of orientation.—M. M. Nice.

**10. Two Direction Experiments with Homing Pigeons: Long Distance Flights to North and South in West Germany.** (Zwei-Richtungs-Versuche mit Briefftauben: Langstrecken-flüge auf der Nord-Süd-Achse in Westdeutschland.) J. C. Pratt and H. G. Wallraff. 1958. *Zeitschrift für Tierpsychologie*, **15** (3): 332-339. Homing pigeons without directional training were released singly near Giessen; 49 came from 185 miles to the south and 63 from 130-220 miles to the north. The latter homed more successfully than did the former, results that are consistent with previous experiments in the United States and Germany. Approximately 50 percent of the birds returned to their own lofts.—M. M. Nice.

**11. On Spitsbergen and migrating Pink-footed Geese.** (Problemer omkring Kortnebbgåsas trekk til og fra Spitsbergen (*Anser arv. brachyrhynchus*)). Russell Webbe. 1958. *Sterna*, **3** (2): 41-52. (From the English summary.) Banding has proved that the Spitsbergen Pink-feet winter mostly on the south coast of the North Sea (cf. *Bird-Banding*, **29** (1): 48), but so far has failed to delineate satisfactorily the routes followed in either autumn or spring or the stopping places. The evidence for various possible routes is summarized.—O. L. Austin, Jr.

**12. On observations of Pink-footed Geese in the Spring of 1955, 1956 and 1957 at Tipperne, West Jutland, Denmark.** Hans Lind. 1958. *Sterna*, **3** (2): 53-57. Notes on the numbers, arrivals, departures, and behavior of the large flocks of Pink-feet that visit this Danish sanctuary every winter and spring. See also No. 11.—O. L. Austin, Jr.

**13. On the first arrival of the Swift.** (Zur Erstankunft des Mauerseglers.) Dr. Knoblauch. 1958. *Ornithologische Mitteilungen*, **10**: 110-111. A review of records for the first arrival of the Swift (*Apus apus*) from 1896 to the present shows that there has been no change in arrival date during this period for places at the same latitude and elevation.—R. O. Bender.

**14. Mass Mortality of migrant birds on the Island of Heligoland in April 1958.** (Massensterben von Zugvögeln im April 1958 auf der Insel Helgoland.) Gottfried Vauk. 1958. *Ornithologische Mitteilungen*, **10**: 181-3. Through a combination of circumstances, large numbers of migrant birds died of starvation in mid-April on Heligoland. Unusual numbers of finches and field larks wintering on the island had depleted the natural food supply, and unfavorable weather had delayed the normal emergence of insects. These two factors plus a very heavy influx of "weather migrants," principally starling and blackbirds from 17 to 21 April, combined to cause many of these migrants to starve. Weights of freshly dead starlings averaged 55.0 g. for males and 57.4 g. for females, compared with 76.0 g. and 76.9 g. for normal individuals. Body weights of 50-55 g. thus appear to be borderline for survival for this species.—R. O. Bender.

**15. North American Birds Staying on Board Ship During Atlantic Crossing.** R. MacArthur and P. Klopfer. 1958. *British Birds*, **51** (9): 358. Two White-throated Sparrows (*Zonotrichia albicollis*) crossed the Atlantic from New York City to Southampton from 27 September to 4 October 1957. They lived on crumbs. Three warblers were noted catching flies for 3 days, then disappeared.—M. M. Nice.

**16. The Migration of the Curlew as shown by Belgian Banding.** (Over de Trek van de Wulp, *Numenius arquata* (L.) volgens de Uitslagen van het Belgisch Ringwerk.) R. Verheyen. 1958. *Le Gerfaut*, **42** (2): 167-171. (From the French summary.) Fourteen recoveries of Curlews banded on their Belgian breeding grounds, whether as adults or young is not stated, show these birds move westward along the English Channel and winter southward along the Atlantic coast of France and Spain to southern Portugal. A reduction in the number of Curlews nesting in Belgium is attributed to the clearing, presumably for agriculture, of the Campine plains between Antwerp and the coast.—O. L. Austin, Jr.

### POPULATION DYNAMICS (See numbers 3, 23, 39)

### NIDIFICATION AND REPRODUCTION (See also numbers 31, 41)

**17. The Breeding Biology of the Chimney Swift *Chaetura pelagica* (Linnaeus).** Richard B. Fischer. 1958. *New York State Museum and Science Service Bulletin*, **368**: 1-141. Studies made from 1939 to 1953 in a village in New York state where the swifts were nesting in barns, 2 pairs in one case, single pairs in 6 others. Aluminum and colored bands were used. Of 40 adults marked at their nests, 25 (62.6 percent) returned, most of them to their former nest sites. Of the 92 birds banded as nestlings 10 (10.8 percent) were recaptured in following years; 8 of these bred in the area, 5 during the year after banding.

Chimney Swifts break twigs off with their feet, but carry them to the nest in their bills; here they stick them to the wall with saliva. Egg laying begins when the nest is about half built. Dr. Fischer describes for the first time copulation in this species; it occurred at the nest site during the egg laying period. Both parents incubate, the eggs hatching in 19 days. Post-embryonic development is also slow, the eyes of the nestling not opening until the 15th to 18th day. After that the nestlings crawl out on the surrounding wall but do not leave the close surroundings of home till 30 days of age; they return to roost with their parents for another week, but apparently are no longer fed.

"An adult fed the young at an average rate of once each half hour for the first week, about once every 45 minutes in the second week, and erratically after that." After the first week the parents brought pellets containing at times more than 200 insects. One pair had a helper, one of their offspring of the previous year; this bird fed the young more than did either of its parents.

This report contains descriptions of the techniques of the study, a 6½-page bibliography, a 1-page index and 23 excellent photographs. All in all, a real contribution to the life history of this interesting species.—M. M. Nice.

**18. Nesting and Food Habits of the Long-eared Owl in Michigan.** William H. Armstrong. 1958. *Publications of the Museum—Michigan State University; Biological Series*, **1** (2): 1-96. Two nesting pairs of *Asio otus* were watched. Incubation and brooding were performed by the females, both of which attacked the observer when their young were small. "The adults were observed to utter 23 different calls," the calls of the female being higher in pitch than those of the male. Young left the nest at about 25 to 26 days of age, but were not able to fly until 34 days of age. Mice constituted the major prey item in 2,079 pellets containing 3,263 items both in summer and winter. Incubation period is stated to have lasted "from 22 to 26 days." The first figure is certainly too short; 27 to 28 days were reported by Heinroth, Evans, and Sumner (see Nice, 1954, *Condor*, **56**: 183-4).—M. M. Nice.

**19. Nesting of the Red-eyed Vireo in the Douglas Lake Region, Michigan.** William E. Southern. 1958. *Jack-Pine Warbler*, **36** (3): 105-130; (4): 185-207. The author studied 26 nests of *Vireo olivaceus* during 3 seasons at the University of Michigan Biological Station; he spent 256 hours in blinds watching nests and 122 additional hours watching without blinds. Incubating females were marked by airplane dope on a color-soaked cord on the rim of the nest or sprayed with a squirt gun. Besides his own work he utilized the un-

published manuscripts on this species of 12 former students. Size of territories averaged 1.2 acres. The female alone built the nest, incubated the eggs, and brooded the young. Cowbird (*Molothrus ater*) parasitism was heavy, from 1 to 7 eggs being found in 69 vireo nests. Of 78 nests whose outcome was known 59 were parasitized. Nineteen nests were deserted and 11 destroyed by wind or predators, while 48 produced 76 vireos and 34 cowbirds. In 3 nests 2 vireos and 1 cowbird were raised; in 3, 1 vireo and 1 cowbird, and in 2, 1 vireo and 2 cowbirds. One pair of vireos raised 3 cowbirds—quite a feat.—M. M. Nice.

**20. Photographic Studies of Some Less Familiar Birds. XCII. Little Shearwater.** John Warham. 1958. *British Birds*, 51 (10): 393-397. *Puffinus assimilis* is a winter breeder on Eclipse Island about 35° S. 117° E. The bird "does not fly overland until nightfall, although there are no natural avian predators like the gulls which are supposed to be responsible for the nocturnal habits of Manx Shearwaters on the Welsh islands. . . . By the end of January a good many pairs are already remaining inside burrows by day, although egg-laying is at least 6 months ahead." The single egg is incubated by both parents who exchange places about every 2 days. Incubation lasts 52-58 days, fledging 70-75 days. Six excellent photographs illustrate the article.—M. M. Nice.

**21. Studies on increasing the population density of Hole- and Free-Nesting Birds and nutritional research on Songbird Nestlings in an area infested with the Oak Leaf-roller east of Frankfurt am Main.** (Versuche zur Steigerung der Siedlungsdichte höhlenund freibritender Vogelarten und ernährungsbiologische Untersuchungen an Nestlingen einiger Singvogelarten in einem Schadgebiet des Eichenwicklers im Osten von Frankfurt am Main.) Sebastian Pfeifer and Dr. Werner Keil. 1958. *Biologische Abhandlungen*, Heft 15/16. Verlag Biologische Abhandlungen, Hambrug, 52 pp. The report covers a study conducted during the years 1952-56 in a 25 hectare (75 acre) plot of damp forest in which the principal trees were *Quercus rubor* and *Carpinus betulus* which had suffered from a severe infestation of the oak leaf-rollers (*Tortrix viridana* L.) for years. Population density data were accumulated during 1949-51 for comparative purposes. A control plot of 18 ha., separated from the test area by a neutral zone between 155 and 450 m. in width, was also studied to provide additional comparative data. Measures taken to increase population density consisted of providing 1060 nest boxes (42.4/ha.) having various sized entrances (950 were sized for Tits), 125 artificial "nest pockets" of twigs for free-nesting species, 4 watering places and several winter feeding houses. These measures increased the number of fledged broods from 158 (6.4/ha.) in 1951 to 1026 (41/ha.) in 1956.

Concurrently, the food of 7976 nestlings of 10 species was sampled by the neck-band method. The 34,315 food samples identified showed larvae, pupae, or adults of *Tortrix* to be the principal source of food for all 10 species. Examination of each food specimen for parasitization did not disclose any preferential use of parasitized individuals. Results for individual bird species are presented in tables and discussed in detail.

Biological insect control research directed toward increasing bird populations has received a lot of attention in Europe. I have been awaiting with keen interest some indication of whether increasing avian populations does indeed provide some measure of control of insect infestation. Unfortunately this study, which is one of the best to come to my attention, does not answer the question, although it would seem that the data available are sufficient to provide at least some indication of its effectiveness. It is hoped that subsequent studies and reports will provide at least tentative answers.—R. O. Bender.

**22. Advances in our Knowledge of the Honey-guides.** Herbert Friedmann. 1958. *Proceedings of the United States National Museum*, 103 (3404): 309-320. Additional data are given on egg laying of 2 species, on new host species for 4 species, and on a new mammalian symbiont, a genet (a kind of civet cat), which dug at a bees' nest while a Greater Honey-guide sat watching and calling. The "rustling" sound heard in display flights seems to be produced

by the wings and not by the tail. Honey-guides get no wax in their food while they grow to full size in their hosts' nests, but once they begin fending for themselves they eat wax avidly, not as a substitute for some other food but as an addition to their diet.—M. M. Nice.

**23. The Breeding of the Greater Flamingo *Phoenicopterus ruber* at Lake Elmenteita, Kenya Colony.** L. H. Brown, 1958. *Ibis*, **100** (3): 388-420. This is a fine comprehensive study made in 1956-57 of a tremendous colony of these interesting birds, some 10,000 pairs strong, on one of the largest (7½ square miles) and least salty of the shallow alkaline lakes in Kenya, East Africa. In describing the breeding cycle, the author gives detailed notes on display, nests, eggs, nestlings, and behavior of both adults and young. He also comments at some length on feeding habits and the need and use of fresh water. He estimates the colony requires about 8½ tons of food daily, obviously a major factor limiting the size of the colony. His notes on predation and other causes of mortality show why breeding success varied from 21 to 74 percent in the several colonies he studied.—O. L. Austin, Jr.

**24. Reproductive Periods in Birds Near the Equator.** Alden H. Miller. 1958. *Caldasia*, **8** (37): 295-300. This is a mid-season progress report on the experimental work the author has been conducting on a marked population of *Zonotrichia capensis* in the Colombian Andes, which promises to add greatly to our knowledge of sexual periodicity in birds and the factors that control it. He describes the problems he is investigating and his methods of study, which involve repeated examination by modern surgical techniques of the gonad development in a color-banded and aged population. Of his results to date he writes: "We know that young males five months of age become fully developed sexually and that females actually nest at this age . . . that some males at least can go through the entire process of rest and regain full testis size with a period of only 2 months, the rest time itself being only about one month. . . . I now think that some *Zonotrichias* are in breeding state at all times of the year but a majority of our birds rested for a short time in March. This may happen again in August or September in this population. If we are fortunate and our marked birds survive and continue to live about our station, we hope to have this and many more questions answered by next January."—O. L. Austin, Jr.

## BEHAVIOR

(See also numbers 8, 17, 22, 23, 41, 51)

**25. Social Behavior in Hearing and Deaf Bullfinches.** (Soziale Verhaltensweisen bei hörenden und gehörlosen Dompfaffen (*Pyrrhula pyrrhula* L.)) R. Hüchtker and J. Schwartzkopf. 1958. *Experientia*, **14** (3): 106. A number of Bullfinches that had had their cochleas removed were kept in flight cages with normal Bullfinches. Sixteen deaf males and females sang for 1 to 2 years as much and as well as those that heard. With only one male and one female did the voices gradually change. Female Bullfinches dominate males. Deafness had no influence on peck-order. Two females colored with methylin blue were fought by the males but nevertheless came out as victors. Deafness did not disturb pair formation, nest building, egg fertilization, and incubating, but care of young did not succeed when one or both parents were deaf and could not hear the food calls of the nestlings. Five pairs of normal parents raised broods, but the other pairs fed the young so little they died at about 5 days.—M. M. Nice.

**26. Behavior Studies on the Mallard. II. Experiments on the Release and Imprinting of Following and Flocking Responses.** (Verhaltensstudien an der Stockente (*Anas platyrhynchos* L.) II. Versuche zur Anlösung und Prägung der Nachfolge- und Anschlussreaktion.) Uli Weidmann, 1958. *Zeitschrift für Tierpsychologie*, **15** (3): 277-300. Experiments on 50 Mallard

ducklings hatched in an incubator under cardboard boxes. Ducklings isolated for less than their first 50 hours would join other young but if isolation lasted longer the ducklings would flee or remain passive when approached. The author suggests that the same basic response is involved in following the parent and in joining other young birds.—M. M. Nice.

**27. The Meaning of the Parental Warning Cry for Curlews and Other Limicoline Chicks.** (Die Bedeutung des elterlichen Warnrufs für Brachvogel- und andere Limicolenküken.) Otto von Frisch. 1958. *Zeitschrift für Tierpsychologie*, **15** (3): 381-382. Day old *Numenius arquata* may crouch at the parental warning cry, or they may look up, or they may seem to pay no attention. Yet the parental cry serves to alert the chicks; as soon as they see the enemy they crouch. They also respond with crouching to other sounds that are loud and of similar rhythm to the warning cry. Lapwing (*Vanellus vanellus*) and Redshank (*Tringa totanus*) parents start to cry as soon as they see an enemy, but the chicks do not respond until they also see it.—M. M. Nice.

**28. The Behavioral, Ecological and Morphological Characteristics of Two Populations of the Alder Flycatcher, *Empidonax trailii* (Audubon).** Robert Carrington Stein. 1958. *New York State Museum and Science Service, Bulletin* **371**: 1-63. Some Alder Flycatchers sing fee-bee-o, others fitz-bew. The former range across Canada and into northeastern United States, while the latter are found in the United States, especially west of the Allegheny Mountains. Both occur together from central New York state west to Wisconsin. Playing recordings of each song brought a hostile response from males that sang this song, but indifference to the other song. Differences between the 2 types were found in the shrubs preferred, in height of nest sites, in nest structure, in color and size of egg, in length of wing, tarsus, and bill, and in color of the back. The author believes that two species, rather than subspecies, are involved, but states that further research is needed in other areas of sympatry besides that of Ithaca, N. Y.—M. M. Nice

**29. Ingenious technique of a Great Tit.** (Ingéniosité technique d'une Mésange charbonnière.) Jean Droit. 1958. *Nos Oiseaux*, **24**: 195-196. This brief note illustrated by two drawings describes the maneuvers of a Great Tit (*Parus major*) to make more accessible a net containing suet suspended from the branch of a rose bush. The bird grasped the string suspending the suet with its beak and pulled it up, holding it with its feet at points progressively closer to the net until the string caught over a thorn. The net then was close enough to the branch, which was at an approximate 45° angle with the ground, so the bird could feed on the suet while perched. Shortly thereafter the thorn broke off. The bird then repeated the procedure until it could hold strands of the net in its feet and so feed from the branch.—R. O. Bender.

#### ECOLOGY

(See numbers **21**, **30**, **36**, **37**)

#### WILDLIFE MANAGEMENT

(See also numbers **21**, **43**, **44**)

**30. Is biological pest control of the Oak Leaf-roller and its injurious company possible?** (Ist biologische Schädlingsbekämpfung des Eichenwicklers und seiner Schadgesellschaft möglich?) K. Ruppert and R. Langer. 1957. *Forsttechn. Inform.*, Nr. 5, 29-38 (1957). (From a review by W. Przygodna in *Ornithologische Mitteilungen*, **10**: 156-7.) After 4 years of study of the effect of increased avian populations in a mature oak forest near Frankfurt am Main, the authors could detect no effect on the oak leaf-roller population attributable to birds. They conclude that chemical control measures followed by biological control might be more successful and also suggest that increasing avian densities might be more effective in younger forests.—R. O. Bender.

**31. Goldeneye nesting boxes.** (Knipholkar.) T. Brander. 1958. *Vår Fågelvärld*, **17**: 241-247. Goldeneyes (*Bucephala clangula*) prefer boxes made similar to natural cavities over ordinary board boxes. The boxes should be excavated in stumps that are peeled or covered by light-colored bark so as to



show up the dark entrance hole. Dimensions: entrance diameter 4 to 4½ inches, inside diameter 7½ to 8¼ inches, distance from entrance to bottom 14½ to 18 inches. The height from the ground is not important but the hole must always face the water. Care should be taken to eliminate branches and other uneven objects below the box, against which the young might kill themselves when they leave the nest. At his lake in Finland, the author at first failed to attract the Goldeneyes to his nest-boxes until he came upon the idea of erecting two on a post driven through the ice into the bottom of the lake near the spot where the ducks usually alighted upon arrival in the spring. Instead of only resting and departing again as they had done before, the ducks now became interested in these boxes with their dark holes. In the course of excited investigations, the ducks began flying around the shores where they found and settled into the other boxes which they had hitherto not seen.—Louise de K. Lawrence.

### PARASITES AND DISEASES

(See also number 14)

**32. Disease in a Colony of Black-headed Gulls *Larus ridibundus*.** A. R. Jennings and E. J. L. Soulsby. 1958. *Ibis*, **100** (3): 305-312. Pathological and parasitological study of chicks found freshly dead in a large British gullery showed no pathogenic organisms, but widespread infection with various helminth endoparasites. Death was determined in a large percentage of these birds to be due to "chilling." Some were so heavily parasitized that the parasites were considered directly responsible for death; in the others the authors believe the parasites were certainly a contributing factor. One adult gull was found suffering from aspergillosis, which is believed at times to occur in epidemic proportions. Studies were also made of web lesions, which the authors call "vesicular dermatitis of gulls." They were able to isolate "a viral agent responsible for the lesions on the web and probably for the death of the immature birds."—O. L. Austin, Jr.

### PHYSIOLOGY AND PSYCHOLOGY

(See also numbers 14, 24)

**33. Nasal Salt Secretion in the Humboldt Penguin.** Knut Schmidt-Nielsen and W. J. L. Sladen. 1958. *Nature*, **181**: 1217-1219. A captive *Spheniscus humboldti* fed salt experimentally began within 10 minutes to secrete it in fluid from its nasal glands. "Approximately two-thirds of the experimental dose of salt fed to the birds had been eliminated through the nose in 4 hrs. . . . The quantitative role of the kidney in sodium and salt excretion in this particular experiment was perhaps one-tenth of that of the salt glands." The authors point out the obvious advantages to marine birds of "an extra-renal mechanism that can excrete highly concentrated salt solutions." This allows them to ingest sea water and invertebrate food of high salt content and still "achieve a net gain in water."—O. L. Austin, Jr.

### MORPHOLOGY AND ANATOMY

(See also number 14, 24)

### ZOOGEOGRAPHY

(See also numbers 6, 11, 15, 28, 41, 46, 47, 48, 49, 50)

**34. Revision and Origin of the Arctic Avifauna.** (Revision und Entstehung der Arktischen Vogelfauna.) Hans Johansen. 1956. *Acta Arctica*, fasc. 8:98 pp.; 1958. fasc. 9:131 pp. (English summaries.) The author divides the area he treats into "high-arctic" having July mean temperature below +5° C., and "low-arctic" having a "tundra climate" with July mean between +5° and +10°. The latter is divisible into a northern "typical lichen and moss tundra" and a southern milder "scrub tundra." He lists six categories of true arctic birds, then further subdivides according to longitudinal distribution plus ecological division into "true sea-birds" and "land- and shorebirds." Throughout, there is reasonable and logical discussion of the species, their distribution, and their "supposed origin" in relation to past and present geological and climatological events. The treatment is conservative, not highly speculative, and reflects

the author's years spent in Siberia and his familiarity with pertinent Eurasian and other literature. Just one example of the interesting material included is discussion of the probable effects of past events in determining the present migration routes of some of the geese.

Eighty species are considered to be "true arctic" birds, and another 35 (occurring as breeders elsewhere) breed more or less regularly in the arctic. The arctic bird fauna is young, and derived from both the Old and the New Worlds. There seem to be two main categories of adaptation: (1) to darkness and cold (*Gavia*, *Somateria*, *Rhodostethia*, *Pagophila*, *Xema*, *Uria*, *Cephus*, *Plotus*, *Nyctea*, *Plectrophenax*), and (2) to migrating great distances (*Branta*, *Calidris*, *Arenaria*, *Phalaropus*). Some migrants (example: *Sterna*) having arctic breeding populations show no endemicity. New species are being added during the present interglacial period (in *Phalacrocorax*, *Anas*, *Mergus*, *Falco*, *Haliaeetus*, *Corvus*, *Anthus*, etc.). Incidentally, the same classification of the arctic environment and some of the other material are available in more popularly-written form in *The Arctic Year* by Peter Freuchen and Finn Salomonsen. 1958. (See *Bird-Banding*, 29 (4): 265). The reader will soon discover that captions for certain maps in this book should be transposed.—R. S. Palmer.

**35. Races and Populations of the Capercaillie.** (Rassen und Populationen des Auerhuhns (*Tetrao urogallus*.) Hans Johansen. 1957. *Viltrevy* (Stockholm, Sweden), 1: 233-266. There are two species of *Tetrao*, the smaller (*parvirostris*) occurring east of about 95° E. in Eurasia, the larger (*urogallus*) occurring from within part of the range of *parvirostris* west to Britain and Spain. The two probably hybridize, though *urogallus* is scarce within that part of the range of *parvirostris* where it occurs. Johansen recognizes 7 races of *urogallus*. Size variation in the species is rather slight, but color varies geographically in considerable degree in both sexes. There is geographical variation in extent of feathering of the feet. Regional populations in four of the subspecies have sufficient distinctness to warrant discussion under separate headings. The author also discusses the evolution and distribution in relation to interglacial and glacial periods. This detailed study differs from and supersedes the brief contribution to Boback 1952 "*Das Auerhuhn*" (*Die Neue Brehm Bucherei*, no. 86). Especially in view of the numerous recent papers or biology on the Capercaillie, this discussion of its evolution and variation is most welcome.—R. S. Palmer.

**36. Birds of the Colville River, Northern Alaska.** Brina Kessel and Tom J. Cade. 1958. *Biological Papers of the University of Alaska*, No. 2: 1-83. \$1.00. This excellent report on 87 bird species of the "Arctic foothills province" north of the Brooks Range is based on three summer expeditions of Tom Cade and on published and unpublished records of other observers. It describes eleven habitat types; a table for each denotes the affinities of different species for it in relation to various biological activities and the amount of use—major, secondary, or minor. The annotated list gives data on the following subjects: distribution, abundance (including number of days seen by Dr. Cade in 1952), habitat, migration, breeding, behavior, food, and specimens.

In the habitat "Bluffs, Slides and Outcrops" a group of species were usually found nesting within 100-200 yards of one another; typically these consisted of 1 pair of Rough-legged Hawks (*Buteo lagopus*), 1 pair of Peregrine Falcons (*Falco peregrinus*) occasionally replaced by a pair of Gyrfalcons (*F. rusticolus*) and usually 3-6 pairs of Canada Geese (*Branta canadensis*). "The rough-legged hawk seems to be the key species for many of these groups." It apparently returns each year to the same bluff, but often builds a new nest. "These old nests are much used by peregrines, gyrfalcons, and geese." The geese seem to be left alone by the raptors and must gain protection from the attacks of the peregrines on gulls, jaegers, ravens, and foxes.

This is an admirable bulletin, based on careful, expert field work and excellently planned to give a clear picture of the birds and their arctic habitats.—M. M. Nice.

**37. An Ecological Sketch of the Camargue.** L. Hoffmann. 1958. *British Birds*, 51 (9): 321-350. A careful, detailed study of this remarkable area in the delta of the Rhone with descriptions of the physical nature of the different habitats and their plants and animals. The illustrations of habitats and

birds are excellent. "Today salt is the dominant influence in the Camargue." Agricultural reclamation is modifying the Camargue, largely by bringing in much fresh water in connection with irrigating rice fields. There is also danger from the extension of the salt pans, which will harm the wintering ducks as well as some of the nesting terns and waders. "The Camargue is thus a landscape undergoing profound transformation, and its protectors have a very heavy responsibility. Will they succeed in conserving its treasures or must we face the successive losses of some of its most interesting species?"—M. M. Nice.

**38. Population and Breeding Environment of the St. Kilda and Fair Isle Wrens.** Kenneth Williamson. 1958. *British Birds*, 51 (10): 369-393. A detailed study of ecological preferences of *Troglodytes t. hirtensis* and *T. t. fridariensis*, based on censuses of dawn-singing males in the spring of 1957. The former, on St. Kilda, apparently reached 230 pairs, some in the deserted Village, but most on the cliffs, associated "with colonies of the Puffin (*Fratercula arctica*), where there is abundant shelter and the main food is probably scatophagous and other terrestrial insects largely dependent on animal remains." "The Fair Isle population did not exceed 50 pairs in 1957, confined to the coast." Here they live in narrow inlets and subsist upon "small marine organisms and the larvae of seaweed flies." The author suggests that "in *fridariensis* adaptations to a more specialized food-spectrum may have carried this race beyond the point where re-colonization of the ancestral 'garden' habitat of the fertile crofting area is possible."—M. M. Nice.

**39. The movements of Alpine Choughs (*Pyrrhocorax graculus*) wintering at Bulle (Fribourg).** (Les déplacements des Chocards à bec jaune hôtes d'hiver de Bulle (Fribourg).) Jean Strahm. 1958. *Nos Oiseaux*, 24: 177-184. This alpine crow frequents villages in winter and is seldom seen outside one. Furthermore, the winter flock is usually confined to a single village in a valley. The author studied the daily movements of one flock and particularly its nocturnal roosting during the winters of 1951-1957 in the village of Bulle in the Fribourg Prealpes of Switzerland. He found that the Bulle flock always arrived in the morning, approximately 30 minutes after daybreak, coming from the same direction and flying very low. At approximately 1430, the flock assembled and departed for its nocturnal roost. The departure hour did not change appreciably from January to April and was surprisingly independent of weather. The birds roost at night in rock faults and fissures, where they also nest in summer, at high altitudes, ca. 2000 m. The Bulle flock numbers about 200 in December and increases to 300-350 later in the winter. It has remained quite constant from year to year. Adults outnumber juveniles.—R. O. Bender.

**40. Some Records of Australian Birds in New Zealand, 1957.** R. A. Falla. 1958. *Notornis*, 8 (2): 29-32. Occurrence "in considerable numbers" in New Zealand of four Australian species (Coot, Little Egret, White and Glossy Ibis) suggests the importance of such vagrants in expanding the species' ranges.—O. L. Austin, Jr.

#### SYSTEMATICS

(See also numbers 28, 35, 47, 49)

**41. Comparative Biosystematics and Life History of the Nuthatches *Sitta pygmaea* and *Sitta pusilla*.** Robert A. Norris. 1958. *University of California Publications in Zoology*, 56 (2): 119-300. The Pygmy Nuthatch lives in pine forests in western North America, the Brown-headed in pine forests in southeastern United States. It has been suggested that both belong to one species. In an effort to settle this question, Dr. Norris studied *S. pygmaea* in California during parts of 4 consecutive years, and *S. pusilla* in Georgia in the summer and spring during 2 years. The birds were trapped and banded with aluminum and colored rings. "The systematic study involved the examination of 2,075 skins and 64 skeletons." Fifty-eight pages are devoted to a meticulous analysis of systematics and skeletal features and 123 to life history.

Sex ratios appear to be strongly unbalanced in favor of the males. Specimens (outside of the breeding season) of Pygmies showed 175 males:100 females; of the Brown-heads 152 males:100 females. Of 36 Pygmy nests 8 (22%) were

attended by an extra bird, and this was true of 3 (18%) of the 17 Brown-headed nests. In every case the helper was a male. He was not mated to the female, but "invariably assisted in nest construction, in feeding the nestlings, and cleaning the nest." He also helped feed the fledglings and in case of the Pygmies, roosted in the nest cavity with the parents.

The life history of the two nuthatches is reported in much detail. Under each subject observations are given on Pygmies, then on Brown-heads. Many "Comparative Summaries" are presented itemizing first similarities, then dissimilarities; these clearly show the great amount of information gained from close observation. Valuable data are given on incubation patches in females and its occurrence according to dates and corresponding size of ovary and oviduct. Curiously enough, 3 mated female Brown-heads "neither bred nor seriously attempted to breed." One developed an incubation patch, one showed a very limited amount of defeathering, while in the third there was no trace of such a patch. With Pygmies incubation lasted 15½ to 16 days, fledging 20 to 22 days, post-fledging care for 3 or 4 more weeks. With Brown-heads incubation lasted about 14 days, fledging 18 to 20 days, post-fledging care some 3½ weeks. The females incubate and brood; the males feed the females, and both feed the young. Pairs are permanently mated and their young stay with them throughout their first year. A very interesting section is devoted to survival and longevity.

The last two pages of the text are devoted to "The Species Question: Summary and Conclusions." Here the author briefly covers the chief differences between the two species in plumage color, tail/wing ratios, skull measurements, call notes, height of nests, nest materials, size of sets, incubation rhythm, parasites, breeding seasons, roosting habits, territory sizes, etc. Thus from "morphologic, ecologic, and ethologic" findings Dr. Norris feels confident of the specific distinctness of these nuthatches. A notable contribution.—M. M. Nice.

**42. Classification and Systematic Position of the Eiders.** Philip S. Humphrey. 1958. *Condor*, 60 (2): 129-135. The tracheas and tracheal bullae of the eiders are similar to those of the dabbling ducks of the tribe Anatini of Delacour and Mayr (1945). The food habits of the eiders on the breeding grounds and the plumage patterns of the females and downy young lend support to their removal from the sea duck tribe, Mergini, and their placement in a separate tribe, Somateriini, near the Anatini. Delacour (1956) and Ripley (1957) have previously mentioned these affinities. Delacour and Mayr consider all four species of eiders congeneric. Humphrey agrees that *Lampronetta* is not generically distinct from the two species of Somateria, but feels the genus *Polysticta* should be retained because of differences in the tracheal bulla, adult plumage patterns, skeletal proportions and structure of the bill. The flight of *Polysticta* also differs from that of the other eiders.—Glen E. Woolfenden.

## EVOLUTION

(See numbers 34, 35)

### FOOD

(See also numbers 17, 18, 21, 22, 23, 30, 38)

**43. Food of Young Black-billed Gulls (*Larus bulleri*) in a Breeding Colony, North Canterbury.** Elliott W. Dawson. 1958. *Notornis*, 8 (2): 32-38. While banding young gulls the author collected 23 samples of food regurgitated by the chicks or dropped at the nests by the parent birds. These consisted of 43 percent insects, 23 percent earthworms, 20 percent fish, 7 percent crustaceans, and 3 percent of molluscs and plant materials. On this foundation he builds a fine, stirring essay condemning the unjust persecution gulls and other "predators" are subject to in New Zealand from "trigger-happy" sportsmen, and pointing out the need for public education in conservation as well as for more adequate protection for the birds.—O. L. Austin, Jr.

**44. Pellets of the Tawny Owl (*Strix aluco*) from the Westerwald and of the Barn Owl (*Tyto alba*) from Bonn.** (Gewölle von Waldkäuzen aus dem Westerwald und von Schleiereulen aus Bonn.) Rudolf Heim. 1958. *Ornithologische Mitteilungen*, 10: 141-7. The list of prey species obtained in pellets collected from 1954 to 1958 does not differ in any important respect from

previously reported lists from the same species and areas. It was found that the Barn Owl caught a high proportion of female microtinae and, hence, constitutes a more important control factor on these mice than the simple proportion of their occurrence to that of other prey species would indicate.—R. O. Bender.

### SONG

(See also number 27)

**45. The Relation of Bird Song to Music.** Charles Hartshorne. 1958. *Ibis* 100 (3): 421-443. "Bird song is considered as a primitive form of music, and as an evolutionary anticipation of human music. Evidence is seen in the use of elementary musical devices: in the avoidance of mechanical regularity (principle of the "monotony threshold"): in the learning of songs and tunes: in the partial detachment from utility, and the playful cultivation of sound production; and, finally, in the tendency of species with more elaborate and, by our criteria, more "musical" songs to spend a larger fraction of the minute, day, and year singing (the "correlation of quantity with quality"). The best singers are those with more variety and complexity in the use of elementary musical devices." Good bibliography of some 60 titles for those who want to delve more deeply into the aesthetic, psychological, and behavioristic aspects of this highly argumentative subject.—O. L. Austin, Jr.

### BOOKS AND MONOGRAPHS

**46. Picture Book of Birds.** (Chorui no Zukan.) H. Takahashi and Nagahisa Kuroda. 1957. Picture Book Series for Children No. 4, Shogakkan Printers, Tokyo, Japan. 127 pages. Price 380 yen. I believe this excellent book may well have been written because the junior author could not find a suitable and adequate guide to the identification and study of birds to give his own young son. I remember most distinctly when this little boy, was born, before we left Japan 9 years ago, and he is just about the right age now to start reading the book his father has co-authored. What is more important, he can not only understand it today, he can continue to use it as a field and study guide almost indefinitely, and it will be a long while before he outgrows it. Though it presents the subject very simply, it is far more comprehensive, detailed, accurate, and interesting than many western bird books that are not labeled "for children."

From his father's book this very young Kuroda, who has a family history of men of science back to medieval times, can learn much of the accumulated knowledge of birds of both east and west. The 60 plates in full color (by the leading bird artists of Japan—Kobayashi, Okamura, Matsuura, Ando, Kojima, and Yamashita) show practically all the birds of Japan against their proper backgrounds, with the nests and eggs of those that breed there, and with marginal notes on field marks, songs, habits, and distribution. Also included are several pages of domestic fowl, the commoner cage birds, and the more striking of birds to be seen in zoos. Another 15 plates in two colors picture representative birds of the rest of the world, Europe, North and South America, the tropics, the oceans, the antarctic, even one page of extinct birds. Here also are a series of drawings illustrating some quite advanced avian biology, showing how birds are put together (skeletons, muscles, internal organs, types of feet and bills), how they reproduce (courtship and display, nest structure, development of the embryo), how they escape their enemies (protective coloring and mimicry), how different birds fly (diagrams of flapping, soaring, and gliding flight), and how diving birds dive and swimming birds swim. The 50 pages of text, interspersed with the simple line drawings, diagrams, and maps at which the Japanese excel, describe birds through the seasons in Japan, their migrations, and the life-zones they inhabit. There are chapters on food habits and ecology, on bird protection and game laws, on methods of studying birds, with notes on blinds, taxidermy, and the care and storage of museum specimens. Finally there is a simple natural classification with common (not scientific) names, which shows the young reader how birds fall into natural orders and families.

The scientific accuracy and comprehensive coverage are those usually found in a book for adults. Yet the material is presented with simple clarity. I just hope someone does the same sort of thing in English for the boys and girls and birds of the United States before my unborn grandchildren are ready to start learning about birds. As with this book, I would like it to be written by

our top ornithologists, illustrated by our best bird artists, well produced and bound, and published with the same altruism that makes it possible to sell this one for the equivalent of \$1.10, thus putting it within the reach of every child.—Elizabeth S. Austin.

**47. A Hand-List of the Japanese Birds.** Fourth and Revised Edition. Edited by a special committee of the Ornithological Society of Japan. 1958. Tokyo, Japan. 264 pp. No one is more acutely aware than am I of the difficulties faced and overcome by Japanese ornithologists during and subsequent to World War II. This volume, slated originally for publication on the Society's 40th anniversary in 1952, has been delayed continually by a series of mishaps, both economic and political, and it has suffered accordingly. It is not, I am sorry to say, a worthy successor to its three predecessors. It shows signs of disagreement among the committee that edited it (no less than 38 conferences since it was first drafted in 1950) in both taxonomic questions and the validity of the evidence at its disposal. Finally printed under government subsidy, the need of meeting official deadlines despite printing delays allowed an inexcusable number of typographical errors to remain uncorrected, so many in fact that by itself the volume is almost unusable. Most of all it misses the fine editorial hand and expert knowledge of English idiom of the late Masauji Hachisuka. I hope that a fifth and thoroughly revised and corrected edition is now in progress for appearance on schedule on the Society's 50th anniversary in 1962. It will be most welcome, and most useful.—O. L. Austin, Jr.

**48. A History of New Hampshire Game and Furbearers.** Helenette Silver. 1957. New Hampshire Fish and Game Department, Concord, New Hampshire, Survey Report No. 6, xiv + 466 pp., 34 tables, 21 figs. Price \$2.80. New Hampshire is minute in its area, which is less than that of a 100-mile square, but huge in its history. This volume covers a span of some 350 years, and the 12-page bibliography confirms the author's statement that the research involved in preparing it was enormous. Presented largely in narrative style, but bolstered with many tables of game statistics and detailed records (mostly of recent origin), the approach is that of the historian rather than the scientist.

Ornithologists must censure severely such lapses as the recognition of *Anas rubripes tristis*, which the A.O.U. Check-List Committee dropped in 1945, and the utter lack of systematic order in the listing of species. Thus in the Waterfowl section ducks precede geese, the Mallard is the 18th species to follow the Black Duck, the Lesser Scaup comes 17th after the Greater Scaup, Barrow's Golden-eye is fourth after the Common (American) Golden-eye. How the King Eider happens correctly to follow the Common (American) Eider is a mystery. The sequences in other bird groups and in the mammals is similarly confused and follows no apparent plan, alphabetical or otherwise, unless possibly that of an assumed order of relative abundance or of local interest. However, few of the readers for whom the book is primarily intended either know or care about phylogenetic sequences, and the procedure detracts but little, other than to force all readers to consult the List of Contents to find a given species easily.

Part 1, General History, describes the early use of the land and forests by the Indians and their methods of game control. It shows how the improved methods of hunting, lumbering, and agriculture brought by the immigrants affected game populations, and traces the development of man's efforts to maintain them to the present day. Long after the state came into existence the Fish and Game Department was organized, and introduced hunting licenses and revenues, law enforcement, payment of damages for crop destruction by game, and bounties (in 1955 bounties were paid for 449 bears!). Other sections discuss Refuges, Sanctuaries and Management Areas, and Research. Part 2, Mammals, traces the known histories of Big Game, Furbearers, Predators, and Small Game. Part 3, Birds, treats of Upland Game, Shore Birds, Waterfowl, and Doves and Pigeons. The Appendix covers a variety of subjects from forest fires and unusual weather to the Pittman-Robertson Projects of which this is the final report under W9-R. The volume merits commendation for the wealth of useful information it has collected and presents so informatively. It establishes a precedent which, it is hoped, other larger states will follow.—Wendell Taber.

**49. Birds of the Ungava Peninsula.** Francis Harper. 1958. *Miscellaneous Publications* No. 17, Univ. of Kansas Mus. of Nat. Hist., pp. 1-171, 6 pls,

26 figs. This is essentially a report of the author's field experiences in central Ungava and along the north shore of the Gulf of St. Lawrence in 1953. To this he has added a great deal of hitherto unpublished information, much of it from nonornithological sources, and he has culled worthwhile bird data from several early and little known publications overlooked by previous compilers, including myself. As we have learned to expect from its author, the book is well written, minutely proofed and double-checked, and contains much excellent ornithology, especially Harper's personal observations and comments on behavior, nesting, and song.

Despite the work's over-all competence and professional polish, several flaws merit comment. The first is the title, which the author admits is inaccurate. It belongs more appropriately to the far more comprehensive study that W. E. Clyde Todd has been working on for the past 57 years and which, we expect, is at last soon to see print. A title, as well as being brief, should reflect as accurately as possible the contents of a scientific book, and this one's broad scope is not warranted by the volume's coverage. Though Harper cites distributional references from the literature for parts of the peninsula he has not visited, he makes no effort to list all species recorded from the region, but includes only those on which he "made personal observations or . . . secured information from sources other than the published literature." This leaves many gaps, even for the part of the peninsula he did visit. As well as being more fitting, the title "Birds of Central and Southern Ungava" would not have imposed unduly on bibliographers.

Also confusing in a general work of this sort is Harper's refusal to accept the judgment of his peers in such matters, among others, as Bartramian names (*Phalacrocorax floridanus*, *Strix acclamator*, *Lucar carolinensis*), the line-priority squabble over *linaria* versus *flammea* in *Acanthis*, and the *leucophrys-gambelii-nigrilora* problem in *Zonotrichia*. His published views on these questions have been reviewed and rejected by majority opinions of as competent authority as exists. While I grant him every right to dissent and to use any nomenclature he deems prudent, his reiteration of these discarded names without further evidence to support them in no way helps to validate them. On the contrary, such mumpsimusness only delays nomenclatural stability and detracts from the book's usefulness by confusing the general reader.

Lastly I question the reliability with which Harper invests sight records, not only his own, but those of less capable and trustworthy observers. An outstanding example is his carefully detailed report of seeing a Lark Bunting (p. 139) at Seven Islands. I cannot understand why he apparently made no attempt to collect this possible first record for Quebec which, without specimen verification, must by all conservative standards remain on the hypothetical list. Other species he admits on the basis of sight identification, often by non-ornithologists, include Great Blue Heron, Coot, Sparrow Hawk, Pileated Woodpecker, Mourning Dove, Bluebird, Catbird, and Evening Grosbeak. Even less sound is his recognition of subspecies without collecting and comparing specimen material. He may be able to identify subspecies at sight in the field, as he claims for the nominate race of the Robin (p. 105), but I for one would not so commit myself in print. Despite the lack of specimen evidence in a number of still moot cases, the only polytypic species he does not list trinomially is the Flicker. This he records binomially ostensibly to emphasize his objection to the ranges of *C.a.luteus* and *C.a.borealis* as given in the 5th Edition A.O.U. Check-list, which he condemns as being (p. 29) "an acceptable guide in most but not all cases." He further shows his disapproval of it by retaining the common names of the 4th edition, including those for subspecies. It is always healthy for a democracy such as ours to have an articulate unreconstructed minority.—O. L. Austin, Jr.

**50. Georgia Birds.** Thomas D. Burleigh. 1958. University of Oklahoma Press, Norman, Oklahoma. XXIX—746 pp. and 35 paintings by G. M. Sutton. Price \$9.95. The long awaited definitive volume on the birds of Georgia is worth the wait. Burleigh's efforts have produced a book that stands close scrutiny and remains in company with Howell's "Birds of Florida," Todd's "Birds of Western Pennsylvania," Roberts' "Birds of Minnesota," and Eaton's "Birds of New York." It presents each bird in a standard format with an outline

of "General Distribution," a discussion of "Status in Georgia," and information on "Habits and Recognition." The order and names used are those of the 1931 Check-List and its supplements through 1956. Burleigh did find it to his liking to introduce a few new vernacular names for newly recognized subspecies. Such resulting mouthfuls as "Red-eyed Rufous-sided Towhee" bid fair to take their place alongside the "One-eyed One-horned Flying Purple People-eater." Perhaps both will move into limbo together.

Welcome additions to the volume are George Sutton's short history of his studies and planning for the color plates, W. W. Griffin's interesting chapter on the history of ornithology in Georgia, and Robert A. Norris' very worthwhile discussion of the physiographic regions of Georgia, prepared with special reference to the distribution of the breeding birds. While Norris' figure showing *two* systems of regional classification superimposed is so complex as to be almost undecipherable, his treatment is otherwise masterful and contains a wealth of information.

The 35 color plates do not appear to have been reproduced with uniform attention to quality in the copy I have at hand, but the great majority are very pleasing to the eye. I am personally pleased by the attention Sutton gave to furnishing identification of the plants in his paintings. Where this was done it adds considerably to an understanding of the natural history of the bird portrayed.

The author and his collaborators are to be congratulated on having made a new model available for prospective authors of state bird books.—J. C. Dickinson, Jr.

**51. Curious Naturalists.** Niko Tinbergen. 1958. Country Life Limited, London. 280 pp. 35s. In this delightful book Dr. Tinbergen describes without technical language some of the projects of himself and his students in watching living things in their natural surroundings and in carrying out well planned experiments. In engaging, simple narrative he tells of his first enterprise—the study of the digger wasp or bee-wolf, of the year spent with his wife in Greenland, and of many problems worked out on birds and insects. He vividly expresses the effect on the observer of color-marking his subjects: "It was remarkable how this simple trick of marking my wasps changed my whole attitude to them. From members of the species *Philanthus triangulum* they were transformed into personal acquaintances, whose lives from that very moment became affairs of the most personal interest and concern to me."

The six chapters devoted primarily to birds describe Snow Buntings, Phalaropes, Hobbies, Kittiwakes, Black-headed Gulls, and Eiders. The eight that deal largely with insects discuss "locality studies" of sand and digger wasps on their nests, camouflage and its effectiveness against birds, the frightening effect on birds of eye-spots on wings of butterflies and moths, and many other subjects. These problems studied with "care and love" give us clear pictures of the interdependence of different forms of life. The author tells us: "I feel the principal gain I have had from my studies is the growing awareness of the huge variety of animal life, the endless diversity of life patterns, of ways of coping with an adverse world; all helping to come out of the battle victorious."

The strenuous and happy field work "has always been fun." It is fun to read about it, an enlightening experience and an inspiration.—M. M. Nice.

## NOTES AND NEWS

In keeping with our custom of the past three years, the July, 1959 issue will emphasize studies on migration, and the use of mist nets. It will include a paper on visible migration at Narragansett Bay, R. I., by Baird and Nisbet. We also hope to publish some of the results of the coastwise netting project (Operation Recovery) from the fall of 1958.

Those interested in participating in Operation Recovery for the first time can get details from James Baird, Norman Bird Sanctuary, Third Beach Road, Middletown, R. I. We expect another very active season, including some netting on Cape Cod at the Wellfleet Bay Wildlife Sanctuary of the Mass. Audubon Society (the former Austin Ornithological Research Station property).

Our stock of back issues of *Bird-Banding* has been replenished by a number of gifts, particularly from Oliver L. Austin, Jr. A new list showing issues available may be obtained from Mr. Harlow. If any reader is discarding issues prior to 1949, and cares to give them to the Association, Mr. Harlow would welcome them.