The above would indicate an average speed of possibly 51 miles an hour if there had been a direct flight. The Chimney Swift appears to be a random flyer much of the time and this individual must have been hungry when released. The resultant direction of flight, eastward, would also seem to indicate random purpose. Normally, swifts are in the vicinity of a roost for a time before even forming a flock and a "late arrival" should have been at the Rossville chimney by 6:50 p.m. A review of the literature and my files reveals a number of records of random movement in the fall, of varying distances, in 3 to 7 days and more.

A Chimney Swift, released about 5:30 a.m., Sept. 22, 1938, at Glasgow, Ky., went to roost about 6:30 that evening with a flock at Nashville, Tenn. and was recorded the next morning by John B. Calhoun *(The Migrant,* 1938: 78-79). The distance is about 77 miles. Two chance recoveries on the day of banding are also on record. George H. Lowery, Jr. *(Proc. La. Acad. Sci.,* 1943: 62) reports a Baton Rouge bird at Clinton, La. (30 miles) on Sept. 27, 1938, and Wyman R. Green *(Bird-Banding,* 11: 46-47) reports a Chattanooga swift at Murfreesboro, Tenn. (82 miles) on Oct. 4, 1930. Since recovery reports are received some time afterwards, possibly no follow-up was made in either case to verify date, band number, etc. or to ascertain the hour the bird was found. Of many station interchanges, only two show over 100 miles a day average effective direct displacement: Lexington, Mo. to Baton Rouge, Sept. 23-27, 1938 (Lowery, *op cit:* 59) and Memphis to Macon, Ga., Sept. 26-29, 1942, for daily distances of 156 and 132 miles, respectively. The latter record (not reported to me) is based on an item in EBBA Nus, Feb. 1943, concerning band 41-44140.

A tabulation of all "same-season" movements of Chimney Swifts, shown in my file and in published articles to date, was made in connection with the above. We hope to publish it soon in *Inland Bird Banding News.*—Ben B. Coffey, Jr., 672 N. Belvedere, Memphis 7, Tenn.

Six Year Old Recovery with Plastic Band.—Evening Grosbeak *(Hesperiphona vespertina)* number 44-222100 was trapped and released on December 24, 1955, by Lester R. Marland, Ware, Massachusetts. This bird, a male, was banded at Arcadia Wildlife Sanctuary, Northampton, Massachusetts, on January 22, 1950. Besides the interest from the lapse of six years all but one month, and an indicated age for the individual of at least six and a half years, there is the fact that it was still wearing a red plastic band which had been applied at the time of banding. The edges of the plastic band were welded with acetone at that time. Mr. Marland reported that this band "was in very good condition. . . . I would say the plastic band had not faded, it was well sealed, because I tried to see if it would uncoil, and there was no evidence that the bird had tried to remove it."

This new evidence supports the belief that plastic celluloid bands are likely to be as long-lived, when properly applied, as the birds wearing them. It should be borne in mind that use of any color marking in the United States requires specific approval of the Fish and Wildlife Service, which hopes to prevent the sort of duplication of marks that renders both projects worthless. This applies even to species generally regarded as purely resident, since appreciable movements by a few individuals of most such species have been recorded through banding.—Edwin A. Mason, Arcadia Wildlife Sanctuary, Easthampton, Massachusetts.

RECENT LITERATURE

BANDING

(See also Numbers 9, 40, 47)

1. Results of Birdbanding in Belgium in 1954.—(Résultats du baguage des oiseaux en Belgique. Exercice 1954.) R. Verheyen. 1955. *Le Gerfaut,* **45**(3): 197-226. A list of recoveries and returns recorded during 1954 for 71 species.—D. S. Farner.

2. Results from the Banding of the Marsh Harrier.—(Ergebnisse der Beringung von Rohrweihen *(Circus a. aeruginosus).*) Gerhard Haas. 1954. *Die Vogelwarte,* **17**:(1): 18-29. This paper presents an evaluation of banding data, principally 250 recoveries reported by the Vogelwarte Helgoland and 292 from the Vogelwarte Radolfzell-Rossitten. The returns are analyzed separately for first-year birds. A study of migration routes concludes that these birds travel in a broad front toward the Southwest. Seven individuals lived longer than 10 years. Shooting was the principal cause of death. Percentage of recovery could not be calculated for the whole mass of data since the number of banded individuals was not known but in three cases where the data were available the percentages were 9.4, 12, and 24%. The paper contains five maps, four of which show recovery data. The fifth is a general map showing the distribution of the various races of *C. aeruginosus.*—R. O. Bender.

3. Concerning the Attachment to Mate and Nesting Place, and the Age, of the Oystercatcher on Mellum.—(Über Paartreu, Nistplatztreue, und Alter der Austernfischer *(Haematopus o. ostralegus)* auf Mellum.) Wolfgang Jungfer. 1954. *Die Vogelwarte,* **17**(1): 6-15. Some of the results of banding and retrapping the Oystercatchers on the island of Mellum since 1949 are presented in this paper. During this time the island's average annual population has been about 50 pairs. Data from 110 individuals captured on the nest show that 24 pairs were mated for two years, ten for three, three for four years, two for five years and one for six years. It was not possible to clearly determine whether these results show attachment to the mate, or to the nesting place. Changes in mates occurred in 14 cases. The birds nested in a very restricted area. In one case an individual which had nested on Mellum in 1949 moved to Minsener Oldeoog, 9 km. distant, the following year. Nine pairs showed a tendency to move from the regular nesting place to the edge of grassy areas (Grünland). Sixteen of the 188 birds banded during the years 1949-1953 were older than 10 years. The oldest individual reached 27 years. The average age of 22 birds with known birthdays was 13.5 years.—R. O. Bender.

4. Nestlings Do Return.—W. K. Kirsher. 1955. *News from the Bird-Banders,* **30**(4): 39-40. In 1952 the author, who lives in Sacramento, California, banded 124 juvenal Cliff Swallows, *Petrochelidon albifrons,* fully fledged birds still living in the colony. The next year 30—24 percent—returned, most of them to the same site, but a few to a colony half a mile distant. In 1954 66 percent of these returned. "Here we have a select group of young vigorous birds that survived the migratory flight in considerably larger numbers than is the case when an entire colony is banded including middle-aged and senescent birds as well as juvenals." I found a 66 percent return of breeding male Song Sparrows, *Melospiza melodia,* when conditions on the nesting grounds were favorable. During this same period I obtained from 12 to 20 per cent return of fledged young (Nice, 1937).—M. M. Nice.

5. A Trapping Technique for Band-Tailed Pigeons.—William A. Wooten. 1955. *Journal of Wildlife Management,* **19**(3): 411-412. To obtain additional information on Band-tailed Pigeon *(Columba fasciata fasciata)* migration, an intensive trapping and banding program was initiated in 1952. Because of the past difficulty in trapping the pigeons for banding purposes, a new trap was devised. The specifications for the trap and the trapping techniques are included in the article. Careful construction and use of the trap, in addition to careful handling of the trapped birds, gave excellent results with a minimum of mortality.—Keith M. Standing.

6. A Modified Shorebird Trap for Capturing Woodcock and Grouse.—Stephen A. Liscinsky and William J. Bailey, Jr. 1955. *Journal of Wildlife Management,* **19**(3): 405-408. This trap was developed to assist in banding Woodcock *(Philohela minor)* during the summer and fall to gain information concerning their local and migratory movements. The trap is a modification of Low's shore bird trap after the pattern of Lincoln's three-leaf-clover dove trap. Complete specifications are included in the article. Perhaps the most critical factor in successful trapping is the location of the trap and the lead fences.—Keith M. Standing.

7. A Pheasant Neck Tag.—Lee K. Nelson. 1955. *Journal of Wildlife Management,* **19**(3): 414-415. The need for a suitable marker to be used on a large number of pheasants *(Phasianus colchicus)* resulted in the development of this tag. It consists primarily of numbered, colored Koroseal tags pinned (safety pin) to the skin at the base of the back of the neck. The tags proved valuable in identifying dead birds for mortality studies, and in making field observations on dispersal and movements.—Keith M. Standing.

8. More Rigorous Selection of Material—Accuracy in Ornithology!—(Mehr Strenge gegenüber dem Stoff-Gerade in der Ornithologie!) E. Schüz and H. Lohrl. 1954. *Die Vogelwarte,* **17**:(1) 1-6. Drs. Schüz and Lohrl have performed a very useful service in calling our attention to serious errors which may arise from careless accumulation, selection, and use of data. Schüz discusses banding work and Lohrl, behavior studies. The principal errors which are pointed out are: (1) *Misreading of band numbers.* Several instances are cited, among them the probable mistaking of a 4 for a 7 which resulted in a published record of a Mourning Dove banded in Florida and recovered in San Domingo when the recovered bird was reported as a Laughing Gull. Schüz suggests that recovered bands which have been verified by the banding office be printed, when published, in italics. All others, printed in normal type, should be regarded with suspicion, particularly when they seem to prove unusual occurrences. (2) *Errors in abstracting,* usually due to careless translation or misunderstanding of the meaning of place names. (3) *Failure to check back to the original source* when using literature data. Schüz cites several cases, one of which led to a false but far-reaching evolutionary conclusion. (4) *Failure to properly evaluate or measure the disturbing effects of capture and release* when conducting population and behavior studies. Lohrl discusses these effects in some detail and urges that control groups which are undisturbed be included in such studies to evaluate this effect. (5) *Mis-identification of rarities.* Not a new problem, but a growing one with the increasing popularity of field study as a popular hobby for untrained people.—R. O. Bender.

MIGRATION

(See also Numbers 1, 4, 13, 18, 38, 40, 41, 42, 44, 47)

9. The Migration of the Greenfinch in and Through Belgium.—(Over de trek de groenvink, *Chloris chloris* (L.), in en door België.) R. Verheyen. 1955. *Le Gerfaut,* **45**(3): 173-184 (with French summary). The author has analyzed 484 recoveries, 104 of which were from birds banded as nestlings. The mean age at recovery for the latter group was about 10 months; this, however, should not be regarded as the mean period of survival from the nest since there is apparently no correction for the reduced probability of recovering birds of older age groups. The two oldest recoveries were about 10 years old. The Greenfinches, young and adult, appear to be facultative migrants with a northeast-southwest (and reverse) orientation. The width of migratory corridor is about 325 kilometers. Most winter recoveries of Belgian birds were in France and Spain. Most Belgian Greenfinches, however, are permanent residents showing only erratic movements up to 50 kilometers. Most of the foreign Greenfinches recovered in Belgium were in migration during October-November or April-May. These were mostly from the breeding populations of Denmark, Sweden, western Germany, and the Netherlands.—D. S. Farner.

10. Notes on the Migration in Spring Across the Swiss-Italian Alps.—(Notes sur la migration printanière dans les Alpes valaisannes.) G. de Grousaz. 1955. *Nos Oiseaux,* **23**: 240: 78-81. The observations were made during the third week of April in 1954 and 1955. Motacillidae and Fringillidae were most numerous among the trans-alpine migrants, and a few raptors were also seen. The birds did not fly along the valleys, but rather along their borders as well as across slopes which were exposed to the sun. Some migrants also passed directly over the high summits, even against a strong head wind. The topographical contour,

therefore, appears to have little influence over the direction of flight, which at this time is generally northeast. The migration of birds across the Alps appears to be regular although not particularly strong. Evidently, it occurs chiefly late in the season and during spells of stable good weather.—Louise de Kiriline Lawrence.

11. Passerines Alighting on the Sea.—R. K. Murton. 1955. *British Birds*, **48**(9): 419-420. Seven Starlings, *Sturnus vulgaris*, and a Skylark, *Alauda arvensis*, were seen floating on the water; they floated high, and four of them, "alighted on the ship, and were seen to be perfectly dry." "At no time were birds seen to alight purposely on the sea, and it is probable that in flying low over the surface, dodging the waves in the manner typical of migrating birds, they had accidentally hit the water."—M. M. Nice.

12. The Riddle of Fall Migration on Nantucket.—John V. Dennis and Lee Jay Whittles. 1955. *Bulletin of the Massachusetts Audubon Society*, **39**: 319-324, 385-394. Intensive field observation on the island of Nantucket, off the southeast shores of Massachusetts, has demonstrated extensive diurnal migration of passerines. While most species appear to arrive at Great Point (the northeast corner of the island) from the north (Monomoy and Cape Cod) and leave from the west end of the island, in a northwesterly direction across the islands of Tuckernuck, Muskeget and Martha's Vineyard, the routes within Nantucket vary by species. Flycatchers, thrushes, vireos and warblers appear to follow the east and south shores, appearing in large numbers in certain isolated thickets. While most of these species are normally considered nocturnal migrants, they migrate diurnally across Nantucket, and there are few signs of nocturnal migration there (observations of birds crossing the moon have given very low numbers). The second route, through the town and along the north side of the island, is frequented by birds of the brushland and pastures. Migration is stimulated by the passage of a cold front, with either northeasterly or northwesterly winds.

In contrast to some observations elsewhere, diurnal migration at Nantucket continues throughout the day rather than being concentrated in the morning. It may be that the lack of rich woodlands on Cape Cod keeps migrants on the move.

Dennis and Whittles feel that the migration on Nantucket is a coasting movement following leading lines, and that drift on a northwest wind is of little or no importance. Migration is often as pronounced on a northeasterly wind as a northwesterly; it is largely diurnal; the flow of birds on such winds is relatively stable; the birds seldom display distress or lack of orientation; and the numbers of certain species are markedly higher or lower than for migration on the nearby mainland.

The authors touch upon the problem of the origin of passerine migrants found on Cape Cod in the fall, but are unable to discuss in detail some of the more interesting questions which their Nantucket work and conclusions would suggest. If the birds appear on the Cape by following leading lines, rather than wind drift on a broad front, what are these lines? The only striking one would be an overwater trip of roughly 230 miles from southwest Nova Scotia, and it should be kept in mind that birds leaving Nova Scotia could reach the Maine coast in a small fraction of that distance. It is hard to visualize an overwater leading-line migration from such intermediate points as Cape Ann or Manomet (in Massachusetts) as the topography is not striking and the direction would be southeasterly. Any movement along the north shore of the Cape itself remains to be demonstrated, at least on an important scale, since the main direction of migration from the Boston region in fall appears to be southwesterly in the general direction of Providence, Rhode Island.

This is the sort of problem for which the growing number of fall observation points along the northeast coast are well suited. In particular it is hoped that the observations begun in 1955 at Brier Island, Nova Scotia, by Mr. Harrison F. Lewis and others can be continued and expanded.

Probably the captions for photographs in the article were not written by the authors, since one indicates that the Black and White Warbler has been shown to be a rather abundant migrant only since 1950. This is one of the warblers shown to be a common migrant as early as the fall of 1945, but overlooked in the compilation of data for *The Birds of Nantucket* by Griscom and Folger.

Dennis and Whittles summarize a substantial amount of original work, in addition to presenting a lengthy and most stimulating discussion.—E. Alexander Bergstrom.

POPULATION DYNAMICS

(See also Numbers 2, 3, 9, 22, 24, 40, 44, 45)

13. Recent Range Expansion of the Lapwing into Finland.—(Die neuzeitliche Ausbreitung des Kiebitzes, *Vanellus vanellus* (L.), in Finnland.) Olavi Kalela. 1955. *Annales Zoologici Societatis Zoologicae Botanicae Fennicae 'Vanamo,'* **16**(11): 1-80 (with English summary). Prior to 1880 the Lapwing bred rarely in Finland, and then only in the extreme southwestern part of the country. Since about 1890 the range has been expanded very rapidly and now extends to 66 N° in the west and 63° N in the east. The biotope occupied consists primarily of meadows and cultivated land, preferably those bordering the sea coast and eutrophic lakes. Birds first appear in a new area in spring. The best habitat is first occupied with subsequent expansion to less favorable habitats as the population density increases. Although the clearing of land was a prerequisite to the expansion of this species, it quite obviously does not constitute the major factor in this relatively rapid expansion. Rather, the author is of the opinion that this range expansion is another aspect of the complex of range expansions associated with the amelioration of the climate of Finland. Particularly important in the case of the Lapwing have been the warmer springs. The author suggests that this has exerted four effects: (1) decreased mortality during the terminal part of spring migration, (2) extension of migration thus carrying birds into new areas, (3) increased numbers of birds starting to breed, (4) improved success of first clutches and hence an increase in the number of successfully breeding females. Range expansion is regarded, in this case, as a secondary effect of increase in the population. This interesting paper contributes further to our understanding of the interesting changes in the fauna of Finland which have occurred during the last half century.—D. S. Farner.

14. The Storks in the Oldenburg Region in 1953.—(Die Störche im Oldenburger Lande 1953.) 1954. Richard Tanzen. *Die Vogelwelt,* **75**(6): 217-224. The year 1953 was one of the poorest years for Stork, *Ciconia ciconia,* reproduction in Oldenburg in the last 25 years. In 1939 (top year) 716 Storks were fledged; in 1949, the worst year in the last 25, known as the "disturbance year," only 67 were fledged, and in 1953 only 113. Taking only nests with young, the success per nest in 1953 was only 2.76 young fledged—even lower than 2.79 in 1949. In 1953, 50% arrived late in spring—after April 20—and of these latecomers only one pair raised young. Although the weather was favorable 46 percent failed to raise young. Excellent tables are given: one in particular gives: total nests; occupied nests; unoccupied nests; nests with only one adult; nests with pairs, but no young; nests with young; and number of fledged young since 1928. —Frances Hamerstrom.

15. Population Fluctuations and the Lunar Cycle.—Lauri Siivonen and Jukka Koskimies. 1955. *Riistatieteellisiä Julkaisuja (Papers on Game Research),* **14.** 22 pp. More than a decade ago Dr. Olavi Kalela *(Ornis Fennica,* **21**: 42-62) made the suggestion that cycles in a population could possibly be caused by a relatively high-frequency cosmic cycle (frequency greater than one cycle per year) having an event or phase which, when coincident with a critical period of the annual cycle of the species, would have depressing or stimulating effect on population size. Until now this has remained only as a hypothetical suggestion. The authors of this paper now offer the suggestion that the lunar cycle may function as such a high-frequency physical cycle. It is assumed that the basic annual pattern of the reproductive cycle is fixed by solar photoperiodicity and that at a critical period in early spring a certain lunar phase is essential for maximum reproductive success. The authors' correlations between long-term cycle of lunar phases for selected vernal periods and cycles in populations are strikingly good in the case of the 10-year fluctuation of the Canadian Varying Hare *(Lepus americanus),* as well as for the 3- to 5-year fluctuations of the North European

Lemming *(Lemmus lemmus)*, the Capercaillie *(Tetrao urogallus)*, and Blackgame *(Lyrurus tetrix)*. The hypothesis accounts for the differences in period of fluctuation simply in terms of the length of time in spring when the species is susceptible to lunar effect.

The suggestion is an ingenious one and may, in principle at least, strike close to the etiologic bases of cycloid population fluctuations. With respect to terminology, it is to be noted that the authors now speak of the ten-year fluctuation rather than the ten-year cycle. That this is the more proper designation is implicit in their hypothesis.

If we accept the thesis, contrary to the suggestions of Palmgren (Oikos, **1**: 114-121) and Cole (*Journal of Wildlife Management*, **15**: 233-252 and 18, 2-24), that these are truly cycloid fluctuations, there are several apparently awkward difficulties with the hypothesis presented here. In the first place there is the matter of the mechanism whereby the full moon is favorable to the tetraonid reproductive cycle. Preliminary data are presented which indicate that Capercaillie are more active at night preceding and during full moon. It is stated that "Until further data have been accumulated it seems reasonably safe to assume that the nightly activity, to a certain degree at least, reflects the general reproductive stimulation . . ." (p. 18). There is to the reviewer's knowledge no evidence as yet that either light of such low intensity (See Burger, *Wilson Bulletin*, **61**: 211-230, for review.) or increased activity (See Farner and Mewaldt, *Northwest Science*, **29**: 53-65, for review.) could be effective with respect to stimulation of gonadal development. However, this criticism does involve the drawing of conclusions from data obtained from different species. Another troublesome, although possibly not insurmountable, facet of the hypothesis is that there is at least the tacit assumption that the time of the critical vernal period must be approximately the same for species whose fluctuations are similar in pattern. One wonders also if perhaps too much is assumed with respect to precision of the solar photoperiodic control of the gonadal cycle. Certainly environmental temperature can affect gonadal development as we (Farner and Mewaldt, *Anatomical Record*, **113**: 612-613) have been able to demonstrate in our laboratory with *Zonotrichia leucophrys gambelii*. It is then difficult to preclude a role of temperature in the fluctuations in breeding times between early and late springs. Possibly, however, these differences could be shown to be compatible with the authors' hypothesis. This is a stimulating paper with a rather daring hypothesis. It remains for the authors to bring more direct experimental evidence in support of it.—D. S. Farner.

16. The Spread of the Cattle Egret.—Alexander Sprunt, Jr. 1955. Smithsonian Report For 1954, pp. 259-276, 3 plates. This is the only species known to have appeared on the North American continent and become established as a breeding bird *without* man's assistance. Its presenee was first proven by three alert Massachusetts observers, who collected a bird in April, 1952, in Wayland, Mass. Later it became known that there were sight reports from Florida back to about 1942, not generally reported or followed up. It is probable that the species reached British Guiana (in 1930) by flight from Africa, without being introduced, but its further spread in the Western Hemisphere is definitely on its own power. As of July, 1954, it is estimated that there were not less than 2000 individuals in Florida, and further increases are probable, as the breeding colonies appear highly successful.—E. Alexander Bergstrom.

17. Recovery of a Chickadee Population from the 1951 Ice Storm.—Katherine A. Goodpasture. 1955. *Migrant*, **26**(2): 21-23. On 16 trips along a 5-mile country road in middle Tennessee from Nov. 15, 1950 to Jan. 27, 1951, Carolina Chickadees, *Parus carolinensis*, were recorded on every trip, the highest counts being 13, 18 and 31, the average 9.37. From Jan. 28 to Feb. 1 temperatures fell to 13 to 20 degrees Fahrenheit below zero and thick ice encased every twig, limb and tree trunk. On 18 trips from Feb. 2 to Mar. 8 not a single chickadee was seen. On Mar. 11 there was one and on the 25th two. It was not until the fourth breeding season after the blizzard that a breeding population was reestablished, and then it was only about half the size of the pre-storm level.—M. M. Nice.

18. A Synoptic Study of the 1953 Crossbill Irruption.—Kenneth Williamson. 1954. *Scottish Naturalist*, **66**: 155-169. Studies of the 1953 irruption of

Loxia curvirostra, particularly in the Shetlands, suggest to Williamson that ". . . the irregularity of these large-scale movements is due to the rarity with which the responsible factors coincide—a strong polar high over a large part of the breeding-range in the period between the end of breeding and beginning of moult, following a season in which the spruce cone-crop has given a rich yield and breeding has been unusually successful."—E. Alexander Bergstrom.

LONGEVITY AND MORTALITY

(See also Numbers 2, 3, 4, 9, 17, 24, 40)

19. Effects of Hail Storms on Waterfowl Population in Alberta, Canada—1953.—Allen G. Smith and Harry R. Webster. 1955. *Journal of Wildlife Management*, **19** (3): 368-374. On July 14, 1953, a devastating hail storm swept 700 square miles of the parklands in Alberta, destroying an estimated 36,000 to 120,000 adult and juvenile waterfowl. On July 18, 1953, another destructive hail storm wiped out approximately 28,000 adult and juvenile waterfowl in 260 square miles of prairies in Alberta. Aerial and ground study of the areas of destruction made possible the correlation of air-ground data from breeding population, brood, and water count indices to evaluate the damage caused by these storms. Because of the great number of severe hail storms during the summer of 1953, whose effects were not studied, it is probable that over 148,000 waterfowl were lost to hail in this one province during a 2½-month period. Waterfowl populations are sufficiently depressed by severe hail storms that adjustments should be made in the harvest of species most seriously affected to prevent overshooting.—Keith M. Standing.

NIDIFICATION AND REPRODUCTION

(See also Numbers 12, 23, 24, 25, 26, 32, 41)

20. Oological Data on the Avifauna of Adelie Land.—(Donnees Oologiques sur L'Avifaune de Terre Adélie. Expéditions Polaires Françaises (Missions Paul-E Victor). Expéditions Antarctiques en Terre Adélie, 1949-1953. Note Ornithologique no. 12.) R. D. Etchécopar and J. Prévost. 1954. *L'Oiseau et Revue Française d'Ornithologie*, **24**(4): 227-247. A valuable paper giving measurements of fresh eggs, and also of the yolk, white, shell and shell membrane. Thirteen Emperor Penguin eggs ranged in weight from 421.6 to 538.5 grams, averaging 469.4; the yolk averaged 25.5 percent of the whole egg. Ten eggs of the Antarctic Fulmar, *Fulmarus glacioloides*, averaged 103.4 grams, the yolks averaging 30 percent. Six eggs of the Snow Petrel, *Pagodroma nivea*, averaged 56.9 grams, the yolks coming to 33 per cent. Ten eggs of the Cape Pigeon, *Daption capensis*, averaged 67.28 grams, the yolks averaging 32 percent. (In Table VIII the averages for white and yolk have been transposed.) Five eggs of the Giant Fulmar, *Macronectes giganteus*, averaged 233.8 grams, the yolks averaging 28 percent.

Temperatures of 34 eggs were taken by plunging a thermometer into an egg immediately after it was removed from the parent. On May 14 and 18 with outside temperatures of —15.5° to —14.8° C. 9 eggs averaged between 26.6° and 28.6°. Those examined between May 23 and July 18 with outside temperatures from —10° to —26.6° C. averaged between 30.1° and 33.4°. During early incubation the parent often uncovers the egg ". . . as if impelled by curiosity and for the purpose of comtemplating it." (p. 236). The temperatures in the incubation pouch ranged between 34.4° and 35.5°.—M. M. Nice.

21. The Role of Calcium in Reproduction of the Ring-necked Pheasant.—Fred H. Dale. 1955. *Journal of Wildlife Management*, **19**(3): 325-331. An investigation of the role of calcium on Ring-necked Pheasants *(Phasianus colchicus)* reproduction was planned to include two major phases of study: an observational or field aspect and an experimental phase involving controlled conditions. In the two field areas studied no environmental difference other than presence or absence of limestone was discovered that might explain the high population in the lime

stone valley and the scarcity of pheasants in the noncalcareous area. Pheasants, when given limestone grit, reproduced successfully on a diet roughly comparable to the natural diet, but failed to reproduce adequately on such a diet when granite grit was supplied instead of limestone. A supplement of powdered calcium carbonate in the diet was adequate to permit production of eggs by birds on the granite grit. Birds receiving granite grit had apparently normal eggs in the ovary but failed to ovulate more than a very few eggs. The precise role of calcium in permitting ovulation was not investigated. Calcium, which is low in the natural pheasant diet in some areas, must be supplemented in some way to permit pheasants to reproduce. Scarcity of this element in noncalcareous areas may well explain the failure of the pheasants in many parts of North America.—Keith M. Standing.

LIFE HISTORY

(See also Numbers 3, 19, 39, 40, 42)

22. Contributions on the Natural History of the Hazel Grouse, *Tetrastes bonasia* (L).—(Beiträge zur Kenntnis der Lebensweise des Haselhuhns, *Tetrastes bonasia* (L.) Alpi Pyonnönen. 1954. *Finnish Game Foundation. Game Research Institute. Papers on Game Research* **12**: 1-90. The vegetation of Finland was sparse about 5000 BC, but changed later. When spruce forest became dominant about 3000 BC, Hazel Grouse spread through Finland. The European range of Hazel Grouse is shrinking because of forestry practices. Suggested management calls for the following: in general the woods should be light enough to support berries and associated plants, with some birches and alders for winter budding. There should be thickets of a few dozen young spruces per hectare. Small clearings should be made for broods, to provide grasses, forbs, insects, as well as sunlight and warmth. Woods should contain some mixed age classes of scattered trees. Removal of escape cover by debrushing and trimming should be avoided. Timely cutting of marketable trees is desirable to keep a good understory.

Sexes can be distinguished in the field. Nine vocal calls are described which include both cock and hen display calls. Cock territories are 2-6 hectares in size and boundaries can be mapped by spotting the places where adjacent cocks "pipe" at each other. The cock proclaims territory and also attracts the hen by piping. Intimidation consists of piping, wing beating, and sometimes fighting. A territory is commonly held throughout the year by an adult male. Hens show no interest in defense of territory and hens with broods move about freely. The section on pairing is confusing. It is popularly believed that "pairing" occurs in the fall, but Pynnönen's evidence seems to show that the hen is most frequently *not* found in the territory with the cock during the winter months. In autumn hens actively display-call "to get a partner" with eager but often unsuccessful attempts. The cocks sometimes respond and sometimes do not. There is a spring and fall shuffle during which Hazel Grouse often appear in unfavorable range. They may winter in small flocks. In spring, display proceeds faster than in fall. The peak of the hen's spring display starts earlier than the cock's and is of shorter duration (terminated by egg-laying). Pynnönen divides display into superiority and inferiority behaviour; henny cocks have been observed.

Nests are usually on the ground near or partly under stumps, etc. Eggs are covered early during the laying period. Eggs are not laid daily; it may take 15 days for a hen to lay 9 eggs (the commonest clutch size). Incubation period is 25-27 days. Downy young alternate ± 10-minute feeding periods with rests under the hen, the first week staying within a few hundred meters of the nest. At 10 days they can fly into trees. Cocks almost never help with the brood. The Pynnönen technique of brood study was to wait (4″-2′10″) until a brood had reassembled after he had found it and then follow it at a distance of a few meters for hours—in one instance for 9 hours at a stretch!

Flushing distance of adult Hazel Grouse varies with cover, weather and conditioning. Inhibiting factors are: hen — preoccupation with brood; cock — with defense of territory. Much of this study was possible because one can "pipe" Hazel Grouse. Cocks often reply and may even follow; hens sometimes respond. Hazel Grouse may pipe at any time of year, but especially in fall and spring,

facilitating census. Average population density is 3 pairs per square kilometer—spring populations of 19 pairs per kilometer may occur in favorable range. The many similarities between the Hazel Grouse and the Ruffed Grouse, *Bonasa umbellus,* are pointed out, the chief difference being the monogamy of the former.

In evaluating this remarkable study one must bear in mind that Pynnönen was not able to band his birds. By sheer persistence and field work he has discovered a great deal about Hazel Grouse. In the reviewer's opinion, lack of banding severely handicapped several aspects of the study, movements, pairings, and census in particular.—Frances Hamerstrom.

23. Concerning the North German Eagle-Owl.—(Vom Norddeutschen Uhu.) 1954. Otto Schnurre. *Die Vogelwelt,* **75**(6): 229-233. The author predicts that in the foreseeable future the Eagle-Owl, *Bubo bubo,* will no longer occur in West Prussia. Notes on nests and food habits are presented. Cannabalism only occurs when the chief prey, coot, *Fulica atra,* becomes scarce. When there is a poor hatch of coot and mallard, *Anas platyrhynchus,* food scarcity sets in just when the owls need much food for rearing young and at that time Hares, Rabbits and Partridges, *Perdix perdix,* are protected by much cover. With the exception of open fields, North German Eagle-Owls avoid cultivated land, unlike the Eagle-Owls farther South. Attempts to re-establish Eagle-Owls in former territories have failed.—Frances Hamerstrom.

24. Breeding Behavior and Nesting of the Eastern Robin.—Howard Young. 1955. *American Midland Naturalist,* **53**(2): 329-352. Excellent paper based on 3 seasons' observations of *Turdus migratorius* at Madison, Wisconsin, many of them color-banded. No clear picture was obtained of the process of pair formation. Robins usually keep the same mates throughout one season. Several examples of aberrant sexual behavior are given, three of them involving immature birds. "Nest heights (202 examples) varied from 2 to 30 feet with an average of 7.4 feet. Individual birds did not show any preference for a given height." Clutches usually consisted of 3 or 4 eggs. Incubation usually lasted 12 to 13 days. Young stayed in the nest 13 to 15 days, averaging 13.4 ± .13 days; at this time they could not maintain level flight. They became independent at 27 to 30 days. Success of 176 nests varied from 32 to 62% with an average of 49%. Forty-five percent of 548 eggs resulted in fledged young. Calculations are presented on annual mortality of young and adults and on the number of young that must be successfully raised in order to keep up a stable population.—M. M. Nice.

25. The winter song and reproduction of the Cirl Bunting, *Emberiza cirlus,* L. in the Eure-et-Loire province.—(Le chant hivernal du Bruant de haies ou zizi, *Emberiza cirlus,* L., et sa reproduction dans le département d'Eure-et-Loire.) André Labitte. 1955. *Alauda,* **23**: 3: 2; 2-216. The author had Cirl Buntings resident close by his home for many years. His notes extend from 1940 to 1954, during which time he heard the bird sing in all the seasons of the year, and there can therefore be no question of either premature or exceptionally late singing. Since the bird sings outside as well as inside its territory during the non-breeding season, the impulse to sing cannot be interpreted as of territorial origin. The author believes that the bird sings at moments of personal well-being during this time, particularly under the influence of favourable external conditions involving the temperature of the air, the intensity of light and wind, as well as the wind direction, a wind blowing from the north being apparently not auspicious.

The Cirl Bunting nests in hedges surrounding pastures, houses, gardens, and other enclosures, at heights up to 5-7 feet, rarely directly on the ground. In general, its nests are higher and contain more moss than those of the Yellow-hammer, *Emberiza citrinella.* There are 3 to 5 eggs in the clutch, 4 being most common. The average date of the start of first clutches in this area was April 23. The bird normally raises 3 broods, occasionally 4. Each completed nesting requires about 30 days.—Louise de Kiriline Lawrence.

BEHAVIOR

(See also Numbers 11, 22, 23, 25, 39, 42)

26. Observations on a Captive Swallow.—(Beobachtungen an einer gefangenen Rauchschwalbe.) Ilse Kliefoth-Rehren. 1955. *Zeitschrift für Tierpsychologie,* **12**(1): 63-67. A young male European Swallow, *Hirundo rustica,* was found Sept. 22 with a broken wing and kept until the following May. During the three weeks of its recovery it remained very tame; after it could fly again, it became shyer. When it wanted to eat or drink it flew to a certain place upon its perching wire where it had first received food after regaining flight; if the observer did not respond at once, it flew low over her and again settled on this particular spot, repeating this behavior until mealworms were forthcoming. If it was thirsty, it kept its bill closed until it was given water. It never took food in any other spot, nor did it ever sing or preen in this place. Nest molding and manipulation of material were seen, but not after Feb. 19.—M. M. Nice.

27. Redstarts Reared in Tits' Nests.—J. M. D. Mackenzie. 1954. *Scottish Naturalist,* **66:** 146-154. Two instances are described where *Phoenicurus phoenicurus* nestlings were raised in Tits' nests. On June 12, 1954, a nest was visited with 5 Great Tits, *Parus major,* about 10 days old and one Redstart nearly ready to fly. In another box there were 8 Coal Tits, *P. ater,* and 6 Redstarts recently hatched. On the next visit—June 24—2 Redstarts flew and a third appeared to be on a nearby branch; the Coal Tit parents showed concern. Their own 6 nestlings were 14-15 days old. The Redstarts have yellow gapes, the Tits pink.

The crucial period in such situations is that of post-nestling care. Redstarts fledge in 14 days, the Titmice in about 18 or more. Mr. Mackenzie wrote me that he was not able to follow the further history of these Redstarts reared by foster parents. In Ohio we once put a Yellow-throat's *(Geothlypis trichas)* egg into a House Wren's *(Troglodytes aedon)* nest; all four nestlings hatched the same day, but the warbler left at 8 days and was not cared for out of the nest by the wrens. The Cuckoo *(Cuculus canorus)* forestalls this dilemma by getting rid of all the host's nestlings; the Cowbird *(Molothrus ater)* fledges at about the same time as the majority of its hosts.—M. M. Nice.

28. Nestling Moorhen Taking Part in Nest Repair.—R. W. Hayman. 1955. *British Birds,* **48**(9): 414. A Moorhen's, *Gallinula chloropus,* nest had drifted into the open; in it were two half-grown young. One parent brought sticks and plant leaves to the nest, presenting them to one of the young, who took them and worked them into the rim of the nest. The adult moved out of sight and both young swam to cover. Next day the nest was completely deserted.—M. M. Nice.

29. Behaviour of Lapwing After Eggs Had Been Crushed.—Geoffrey L. Boyle. 1955. *British Birds,* **48**(9): 414-415. A parent *Vanellus vanellus* returned to its eggs that had been crushed by a tractor and removed all the egg shells and partly formed chicks.—M. M. Nice.

30. Pied Wagtail Swimming.—C. Suffern. 1955. *British Birds,* **48**(9): 424. A fully fledged, juvenile *Motacilla alba* was twice seen to fly to the middle of the River Meon in Hampshire, ". . . hover for a few moments, then alight on the water; it splashed about, swam a few inches, then took off again and flew back to its perch."—M. M. Nice.

31. Polygamy in the Black Weaver Finch.—(La polygamie chez le Tisserin noir, *Textor nigerrimus* (Vieillot).) R. Verheyen. 1955. *Le Gerfaut,* **45**(3): 185-196 (with Flemish summary). In this species polygamy is a normal state of sexual relation. It is associated with the slow development of sexual behavior among the young males. The author's observations were made in the Albert National Park in Belgian Congo.—D. S. Farner.

ECOLOGY

(See also Numbers 13, 14, 15, 17, 18, 21, 23, 24, 39, 40, 41, 42, 44)

32. Bird Populations of Three Types of Forest Communities in Slovakia.—Frant. J. Turček. 1955. *Biológia,* **10**(3): 293-308. In Czech with English summary. The number of individuals per hectare and the weight of their biomass for the different forest types proved to be: in oak-hornbeam at 200-250 meters, 19-20 birds totalling 1,000-1,650 grams; in oak-beech at 450-500 meters, 11-15 birds weighing 550-700 grams; and in fir-beech at 1,000-1,300 meters, "about 16 birds or 1,050 biomass." "The qualitative structure is given in the list of species, while the quantitative one is presented in table 5. The numerical and biomass dominance of the particular food-groups and species, respectively, is analysed in table 6 and 7, respectively. The stratigraphy of the bird population is tabulated in table 8, while the seasonal aspect of species distribution in particular types and food-groups is given in table 9." Very interesting work.—M. M. Nice.

WILDLIFE MANAGEMENT

(See also Numbers 5, 6, 7, 19, 22, 35, 47)

33. Fluoroscopic Measures of Shooting Pressure on Pink-footed and Grey Lag Geese.—William H. Elder. 1955. *The Wildfowl Trust Seventh Annual Report,* 1953-1954. Country Life, Ltd. London: 123-126. In the fall of 1953 Dr. Elder took his fluoroscopic apparatus to England; there he x-rayed 825 adult Pink-footed Geese, *Branta brachyrhynchus,* and 161 Grey Lag Geese, *Anser anser.* He found that 41% of the former and 37% of the latter were carrying lead shot. This compares closely with about 44% of 735 Canada Geese, *Branta canadensis,* in the Mississippi Valley. Each Pink-foot carried from 1 to 23 shots. "The similar gunning pressures in America and Great Britain, as indicated by the fluoroscopic evidence, are extremely interesting, for geese on their wintering ground in Great Britain are pursued for at least four months. This is approximately the same time span that the Canada Goose endures pursuit by gunners from its nesting ground in Canada to wintering areas in the southern United States. It appears that the fast transportation in America (where nearly all shooters proceed by private auto) and wide use of automatics and pump guns offsets the effects of the tremendous distances and multiplicity of restrictive regulations so that American geese are shot as heavily as British geese, despite the fact that British geese are confined to a comparatively small wintering area and are protected by few restrictive regulations." In America 95% of the population of Canada Geese has been found to "turn over" every five years; the same seems to be true for the British population of Pink-feet every six years.—M. M. Nice.

34. The Relation of Age and Sex to the Weights of Pink-footed and Grey Lag Geese.—William H. Elder. 1955. *The Wildfowl Trust Seventh Annual Report,* 1953-1954. Country Life, Ltd. London: 127-132. In connection with the fluoroscopic examinations Dr. Elder weighed each goose; the results are presented in graphs and tables. In both species adults averaged more than juveniles, and males of each age class more than females. These weights were not as high as some reported in the literature, perhaps indicating different races, perhaps different seasons of capture. "Continued ringing of birds accurately identified as to age and sex is badly needed."—M. M. Nice.

PLUMAGES AND MOLTS

35. Feather Molt as an Ageing Technique for Mourning Doves.—Wendell G. Swank. 1955. *Journal of Wildlife Management,* **19**(3): 412-414. Age data on the molting of juvenile primary feathers obtained from both wild and caged mourning doves *(Zenaidura macroura)* were combined into an age table. As any malfunction, disease, or injury will cause variance in the molt rate, the table is not always reliable. In the southern United States it is practically impossible to distinguish juveniles from adults after 142 days.—Keith M. Standing.

FOOD HABITS

(See Numbers 23, 32, 39, 40, 42)

PARASITES AND DISEASES

(See also Number 49)

36. A Microenvironment Concept of the Epizoology of Avian Botulism.—J. Frederick Bell, George W. Sciple, and A. A. Hubert. 1955. *Journal of Wildlife Management*, **19**(3): 352-357. There have been frequent references to the effect that large masses of decaying organic matter of either vegetable or animal origin comprise the culture medium in which growth of the bacteria *Clostridium botulinum* type C occurs. The development of the microenvironment concept, which presents an alternative explanation, has the following supporting points: *Clostridium botulinum* type C will germinate, reproduce, and synthesize its toxin in small, discrete particulate substances such as invertebrate carcasses; the particulate substances contain within them all of the essentials for metabolism of the bacteria, and in that respect are independent of the ambient medium; the toxin ingested by waterfowl is probably in the bacteria which reside in the particular substrates, rather than in the form of soluble, freely diffused toxin; the carcasses of immature instars of two orders of insects will support growth and toxin production when those carcasses are suspended in distilled water freely exposed to atmospheric and dissolved oxygen.—Keith M. Standing.

37. Outbreak of Aspergillosis in Mallards.—Johnson A. Neff. 1955. *Journal of Wildlife Management*, **19**(3): 415-416. In 1949, on two lakes near Boulder, Colorado, an unusual number of Mallards *(Anas platyrhynchos platyrhynchos)* were observed to be sick or dead. Diagnosis of carcasses selected at random showed that death in all cases was due to aspergillosis. An intensive search for the source of the infection revealed that the epizootic was caused by ducks feeding on moldy ensilage during a period of scarcity of food occasioned by heavy snow. Upon return to normal feeding grounds the epizootic ended.—Keith M. Standing.

EVOLUTION

(See also Numbers 39, 41)

38. The Evolutionary Significance of Bird-Migration.—Finn Salomonsen. 1955. *Det Kongelige Danske Videnskabernes Selskab, Biologiske Meddelelser*, **22**(6): 1-62 pp. The principal thesis of this thoughtful essay is that the ecological conditions in the winter quarters are a neglected evolutionary factor of no mean significance. Migratory birds may spend as much or more time in their tropical winter quarters as in their temperate zone or arctic breeding range. A study of the winter quarters sheds new light on many aspects of geographic variation which had been previously puzzling. Physical and biotic factors (including competition) affect the location of the winter quarters and of the migratory routes. Salomonsen ascribes the reduced amount of geographic variation in migratory species (as compared to sedentary ones) to the uniformity of their environment (warm in summer *and* winter!) rather than to a greater dispersal factor in the migratory birds. Competition in the winter quarters with closely related species or with different subspecies of the same species is next considered. The effect of this competition varies from case to case. In the Arctic Tern *(Sterna paradisaea)* it appears insignificant since banding recoveries show that members of most of the breeding populations of this species migrate and winter in the same areas. A similar situation pertains to most northern sea birds. Whatever adaptive intraspecific differentiation occurs is correlated with peculiarities of the breeding area. An extensive mingling of different breeding populations in the winter quarters is also known in some land birds, particularly species subject to irruptions, such as the Bohemian Waxwing *(Bombycilla garrula)* or the Crossbill *(Loxia curvirostra)*. Where a northern subspecies winters in the breeding range

of a sedentary southern subspecies the two forms are sometimes so different in size that competition may well be greatly reduced. Unfortunately no studies have so far been made that would demonstrate or disprove this point. In contrast are the cases where populations which have separate breeding areas have also separate wintering areas. Salomonsen calls these "allohiemic populations." If the relation of the breeding ranges is a north-south one (along the same meridian of longitude) the migration will either be a tandem one, if the relative position of the populations is maintained, or a "leap-frog," if the northern population crosses the winter range of the southern population. Two similar forms of migration are found when the breeding ranges have an east-west relation, that is when they are approximately along the same latitude. We have a parallel migration if the populations maintain approximately their relative positions or a crosswise migration if they cross each other's path. Among the cases of tandem migration those are of special interest where the northern population is sedentary as are for instance the Greenland Mallard *(Anas platyrhynchos conboschas)* and Red-breasted Merganser *(Mergus serrator schiøleri)* while the more southerly races are migratory. Salomonsen points out that all the cases in this subdivision obey Bergmann's rule. A study of species with a wide latitudinal range shows that many, if not most, follow the parallel type of migration. There may be some slight overlap but the winter populations are, on the whole, allopatric. Where the breeding ranges of two subspecies are at the same latitude but the winter range of one is in the tropics, of the other in a subtropical or warm temperate area, such populations almost invariably obey Bergmann's rule with the subspecies wintering in the tropics being smaller.

Leap-frog migration raises a number of interesting questions. Salomonsen ascribes this form of migration to competition in the winter quarters but it seems to me that this cannot be the whole answer. Such competition could also result in tandem migration. The suggestion that the increased migratory drive which carries these populations to their far northern breeding grounds works in the reverse in the fall migration and leads to a prolongation of the migration route, cannot be ruled out completely. Leap-frog migration leads to an interesting conflict of the forces which affect geographic variation of size. Breeding further north should lead to an increase, wintering further south should lead to a decrease. Since these two forces tend to cancel each other northern and southern breeding populations will not differ in size drastically, and the northern population may be either slightly larger or slightly smaller in size than the southern population.

Salomonsen shows that reversed size clines in the Redshank *(Tringa totanus)* and Ringed Plover *(Charadrius hiaticola)* are correlated with a reverse location of the winter quarters and demonstrates this variation with the help of instructive maps. In such cases it is difficult to get away from a subjective interpretation: when the size variation of the breeding populations obeys Bergmann's Rule one concludes that the selective factors affecting the breeding population are more important than that affecting the wintering population, if size variation of the wintering populations obeys Bergmann's Rule one concludes the opposite. However, in some cases the birds spend so much more time in their winter quarters than in the breeding area that the greater significance of the winter area can hardly be disputed.

Crosswise migration, as found for the Yellow Palm Warbler and the Palm Warbler, occurs only rarely. It has been cited as evidence for the southward prolongation of migratory routes as a result of the northward prolongation of the spring migration route in the wake of the retreating ice at the end of the Pleistocene.

The point stressed by Salomonsen throughout his paper is that many migration phenomena which at first sight appear to be haphazard are actually controlled by natural selection. The tendency toward spatial segregation of populations on the wintering grounds contributes toward a reduction in competition. Where the allopatry of winter ranges between different subspecies of a species is well defined, it reinforces the isolation during the breeding season and accelerates the evolutionary divergence of these populations. As far as total geographic variation is concerned selection in the winter quarters—so far rather neglected by ornithologists—is often of greater importance than selection in the breeding area. This explains some of the apparent exceptions to Bergmann's Rule. The stated phenomena apply not only to subspecies within species but sometimes also to

full species, as previously pointed out by Stresemann. The mean size of related species is often completely paralleled by the distance of their winter quarters from the equator. Salomonsen cites, for instance, the case of the North American tanagers of the genus Piranga. It is evident from Salomonsen's analysis, as well as from the earlier work of Stresemann, Moreau, and others that an analysis of the geographic variation of North American birds in relation to the situation of their winter quarters would be a most rewarding task.—E. Mayr.

BOOKS AND MONOGRAPHS

39. The Honey-Guides.—Herbert Friedmann. 1955. *U. S. National Museum Bulletin*, **208.** 292 pp. The honey-guides, Indicatoridae, constitute a small family of four genera and 11 species, nine of them occurring in Africa. They are related to barbets and woodpeckers. They are notable for three reasons: so far as known all are parasitic in their nesting habits; they eat wax; and two members of one genus have ". . . developed a most remarkable symbiotic relationship with certain mammals—ratels and humans—by 'guiding' them to wild bees' nests." (p. 1.) The parasitic habit must be very ancient, since the bills of the young of at least two species and probably three are known to possess sharp hooks at the tip. Young honey-guides are almost always found alone in the nest, but it is not clear how the host young have been eliminated. In one instance a very young Greater Honey-Guide, *Indicator indicator*, pushed three young barbets from the nest cavity (p. 157). A two-day old Lesser Honey-Guide, *Indicator minor*, bit ". . . the barbet chick savagely in great grasping bites, the jaws widely opened in its attacks." (p. 206.) The following day it was again seen attacking the weakened barbet, and by the fifth day the latter had died.

It is now evident that honey-guides seek the wax in bee hives in preference to the honey and larvae, and they are able to get wax without human aid. The primary helper for opening bees' nests is the ratel or honey-badger, *Mellivora capensis*. The Greater Honey-Guide is the usual "guide," but *Indicator variegatus* has occasionally been reported as trying to "guide." In civilized areas where natives can buy sugar, "guiding" of human beings has largely disappeared. Apparently honey-guides instinctively recognize flying and buzzing bees. It is suggested that when the birds have met ratels and human beings at bees' nests, an association is formed that induces them to give the particular guiding display when meeting these two mammals in the wild. The bird flies in a conspicuous manner and chatters until it chances upon bees, whereupon it becomes silent and waits. (p. 59). Six diagrams are given of routes taken by the birds in guiding; each is decidedly erratic and not by any means the most direct route from the place of starting to the hive (p. 55). (Dr. Friedmann writes me of an error here: the figure taken from Skead is in the upper left corner, not the lower.) An exceedingly interesting and valuable study that calls attention to many unsolved problems in the life history of these unique birds.—M. M. Nice.

40. Goshawk and Sparrow Hawk. — (Habicht und Sperber.) Volkhard Kramer. 1955. Die Neue Brehm-Bücherei A. Ziemsen Verlag. Wittenberg Lutherstadt. 100 pp. For 13 years the author has studied the birds of prey in East Saxony, banding young in the nest and collecting data on food habits. In this admirable monograph he incorporates his own observations with those of his father and of other investigators. The serious interest of German ornithologists in their hawks is shown by the half hundred references, the most important being the monumental works of Uttendorfer (1930, 1939, 1952) on the food of birds of prey.

One third of the book is devoted to the Goshawk, *Accipiter gentilis*, the rest to the more abundant Sparrow Hawk, *Accipiter nisus*. Life history, population problems, migration, food—these are some of the subjects treated. The incubation period of the Goshawk is 35-38 days; the fledging period 35 days with a further 3 to 4 weeks spent under parental care near the nest. After the cold spring of 1954 the average number of young in the 12 nests that were found was 2.3 in contrast to 3.3 in the other years. Incubation period of the Sparrow Hawk is 36 days. Their nesting success has been very low. From 36 nests in 1953 only

21 young were fledged, 0.6 per pair. In 1953 and 1954 6 whole sets failed to hatch, the females sitting in vain for 6 weeks to 2 months. Goshawks may destroy the whole brood including the mother. Broods fall victims to other birds of prey, to Crows and to pine-martens.

One hundred and sixty-one returns and recoveries are listed for Sparrow Hawks ringed in Saxony. Of 139 ringed as young, 100 were retaken in their first year, 29 in the second, 2, 3, 3, respectively in the next 3 years, one in the seventh and one in the twelfth year.

The food of both hawks is examined, item by item; for the Goshawk 35 per cent of it appears to be of creatures "harmful" to the interests of farmer and hunter, and 42 per cent "beneficial." The author decides that the Goshawk is the "protector of the song birds." As to the Sparrow Hawk, it greatly benefits the farmer through its preying upon House Sparrows; its killing of Jays counterbalances some of the damage done to song birds. Mr. Kramer urges that both species should enjoy more protection than they do now, namely from March 16 to June 15. The 36 photographs are mostly concerned with the home life of the two hawks.

This is an excellent book both for the general public and for the ornithologist. The latter will hope for further studies on various points, such as an investigation into the nesting efficiency of the two species.—M. M. Nice.

41. Energy Metabolism of Two Species of the Genus Emberiza as Correlated with Distribution and Migration.—Henrik Wallgren. 1954. *Acta Zoologica Fennica*, **84**: 1-110. The author has investigated very extensively certain aspects of energy metabolism in the Yellow Bunting *(Emberiza citrinella)* and the Ortolan Bunting *(Emberiza ortolan)*. Included in the results are quantitative data on standard metabolism, basal metabolism, critical temperature, zone of thermal neutrality, range of temperature of tolerance, adaptation to sudden changes in temperature, adaptation to high temperatures, plumage, temperature regulation, water evaporation and fat deposition. There are several striking differences between the Yellow and Ortolan buntings. The zone of thermoneutrality for the former is 25-33°C; for the latter, 32-38°C. Critical temperature for the Yellow Bunting is 33-34°C; for the Ortolan Bunting, 38-39°C. The lower lethal limit for room-adapted Ortolans is about —15°C, a temperature which can be endured 5-6 hours. By extrapolation the lower lethal limit appears to be between —36° and —40°C. The plumage of the Yellow Bunting is much thicker than that of the Ortolan. In air saturated with water vapor the critical temperature of the Ortolan Bunting was unaffected whereas that of the Yellow Bunting fell to 33°C. In the Ortolan Bunting there is a period of fattening prior to fall migration, also a less pronounced fattening before spring migration at least in some individuals. Obviously the Ortolan Bunting is a species which does not tolerate an extensive variation in environmental temperature. It attains such a condition by migration thereby encountering a maximum amplitude of 27°C. The southern boundary of the distribution is apparently fixed by high temperatures. The greater heat tolerance of this species is indicated by the fact that it breeds farther south than the Yellow Bunting. Migration is mandatory for Ortolan Buntings in most of the range of the species.

The Yellow Bunting is a species which has wide range of temperature tolerance and relatively high cold resistance. It may be subjected to a difference of 45°C between highest and lowest mean temperatures. Migration occurs only in the northernmost part of the range. Thus some aspects of the distribution and migratory habits of the two species are quite well explained by these characteristics of energy metabolism. It is suggested, although experimental evidence is lacking, that "The spring migration of the ortolan is presumably regulated by photoperiodicity, and a study of the origin of migration in this species indicates that this may pertain to the autumn migration as well." (p. 100.) In general the author appears to feel that the role of photoperiod as a regulator of reproductive and migratory cycles has been overemphasized, apparently preferring feel that "sexual latency" is not sufficiently considered. However these possibly controversial speculations in no way detract from the great value of the experimental parts of this very important monograph.—D. S. Farner.

42. The Wren. — Edward A. Armstrong. 1955. Collins (New Naturalist Series), St. James' Place, London. viii + 312 pp. 30 shillings. The subject of this very interesting book is the only old-world species of Wren, *Troglodytes trog-*

lodytes, the Winter Wren of North America and the "Wren" of the British Isles. Most of the author's observations are on *T. t. troglodytes* in England although he has made more limited studies of *T. t. islandicus*, *T. t. hebrideus*, and *T. t. zetlandicus*. There are extensive comparisons with the new-world race of *T. troglodytes* and other new-world wrens; in part these are the result of the author's experiences although they involve a careful use of the results of other investigations, of particular importance being those of Kendeigh and Baldwin on *T. aëdon*. With respect to *T. troglodytes* the author has made very good comparative use of the investigations of Kluijver and other Dutch investigators.

In the British Isles and on the Continent the Wren is a species of very wide ecologic distribution although it does not have adaptability to human habitations to the extent of the House Wren. Although *T. t. troglodytes* obviously has migratory movement both in the British Isles and on the Continent, the situation is very poorly understood because of a rather amazing paucity of banding data. This is also reflected in the almost complete lack of information on population dynamics. The chapters concerned with general behavior, feeding habits, territorialism, song and calls, recognition and pair formation, sexual display, nesting, and incubation contain the real meat of the book. Wren territories apparently may vary in size from slightly less than one acre to a few acres. They are vigorously defended, primarily by singing, by the males which may have fairly regular routes about the territory. Six songs are recognized; they vary in loudness from the *whisper song* used primarily in domestic situations to *territorial song*. Nine *general calls*, two sexual calls, one aggressive call, and two juvenile calls are described.

A period of 5-6 days elapses between copulation and the first egg. Mean clutch size is 5.6 in Britain and the Netherlands; 6.7 in Finland. In Britain, May clutches are larger than those of other months. Treating the incubation period as time between laying of the last egg and the hatching of the first, the period for the Wren has been found to vary from 12 to 20 days.

These are only the most fragmentary indications of the wealth of observations contained in this book. One cannot help feeling that the inclusion of summary paragraphs would have been most helpful as a means of integration of the great abundance of observational data. Beyond this the reviewer finds little to offer in criticism.—D. S. Farner.

43. The Birds of Massachusetts/An Annotated and Revised Check List. —Ludlow Griscom and Dorothy E. Snyder. 1955. Peabody Museum, Salem. 295 pp. $3.75 paper, $4.95 cloth. No part of North America is better known ornithologically than Massachusetts, and to weigh the voluminous Massachusetts records requires a high degree of judgment. The authors are well suited to the task.

The most critical part of the task is to determine what species to accept for the definite state list. For most, there is at least one specimen, but the authors wisely reject specimens which are not fully documented or which are no longer available for examination. In addition, the list includes species for which the evidence is a banding record by a competent ornithologist, or a recognizable photograph on file and readily available for examination. All other forms have been relegated to the hypothetical list, without regard to the observer, even if the bird is as readily recognizable as the White Ibis or Louisiana Heron. The list totals 430 (384 species and 46 subspecies), with 51 hypothetical forms in an appendix.

For a great many of the commoner species, there is a wealth of data on changes in abundance within historic times. The extent of such changes will be a surprise to many readers, who have been led to consider the common species as static. It is hard to demonstrate the changes except in an area like Massachusetts, where field work has been intensive for decades.

While the authors have reviewed published data on banded birds, there is a certain amount of material in the files of Massachusetts banding stations that would help to fill in details on some species. My only offhand example is the Blue-gray Gnatcatcher, where Griscom and Snyder could find no spring records for Cape Cod; the Austin station at North Eastham has at least two spring records of banded birds.

The book includes much information beyond the bare necessity of showing occurrence. The Hooded Merganser, for example, is parasitic on the Wood Duck in many instances, laying its eggs in a nesting box on top of a pile of Wood

Duck eggs. While the ultimate success of such nests is unknown, Wood Ducks have been found incubating in such a nest, and, in a few cases, Hooded Mergansers.

Over 60 years ago, William Brewster heard on several occasions a rail which he could not identify, and called his "Kicker." The prevailing opinion has been that the Yellow Rail was the bird that Brewster never saw, but the authors cite J. A. Hagar's unpublished paper which argues that the evidence for that species is weak, and that the Black Rail is more probable but not proven as yet. The description of the notes of the two species in various field guides goes back to a handful of original observations, and obviously more field observation is needed.

It is hard to see how any active birder in Massachusetts can do without this book, and it is likely to be of great value to anyone in the Northeast. It should stand for a long time as a model for such checklists (except in its proofreading), being highly readable without sacrificing scientific accuracy and conservatism.—E. Alexander Bergstrom.

44. Birds and Mammals of Shetland.—L. S. V. Venables and V. M. Venables. 1955. Oliver and Boyd, 39A Welbeck Street, London, W1. xii + 391 pp. 30 shillings. This interesting book presents an interesting analysis of the composition and recent history of the higher vertebrate fauna of the Shetland Islands. It is the fascinating story of an impoverished insular fauna with the modifications impressed by land-use, climate, and other factors. Initial attention is given to the naturalists of Shetland and thus also to an evaluation of the earlier sources of information. The authors find it most useful to recognize nine habitats: moor and hill country, cultivated arable land, marshy bottoms of sedge and rough grass, small scattered plantations and bush-filled gardens, sea cliffs, sand flats, sheltered voes and sea lochs, lochs in agricultural land, and lochs in surrounding moorland. The moors are heavily grazed by sheep. The total area under cultivation has decreased within living memory. For each of these habitats the authors have listed breeding, wintering, and regularly migratory species. During the last century changes have occurred in the status of many species. The Rook *(Corvus frugilegus)*, Jackdaw *(Corvus monedula)*, Reed Bunting *(Emberiza schoeniclus)*, Song Thrush *(Turdus ericetorum)*, Blackbird *(Turdus merula)*, Common Scoter *(Melanitta nigra)*, Gannet *(Sula bassana)*, Fulmar *(Fulmarus glacialis)*, Wood Pigeon *(Columba palumbus)*, Common Tern *(Sterna hirundo)*, Waterhen *(Gallinula chloropus)* have definitely become established as breeding species during this period. The following have disappeared as breeding species: Tree Sparrow *(Passer montanus)*, Kestrel *(Falco tinnunculus)*, Sparrow Hawk *(Accipiter nisus)*, and Sea Eagle *(Haliaeetus albicilla)*. It appears that the recent changes in climate which have affected the avifauna of Scandinavia profoundly have not occurred in Shetland. However, the changes in the avifauna in Scandinavia may well have indirectly affected the avifauna of Shetland. For example, the wintering populations of Lapwings *(Vanellus vanellus)* and Blackbirds have increased as these species have pushed their breeding range northward in Europe. Much of the book consists of a richly annotated list of the native and introduced species of mammals and birds. As an interesting inventory of the present fauna and as a careful analysis of earlier information, this book is indeed a valuable contribution. —D. S. Farner.

45. A Half Century of Change in Bird Populations of the Lower Chippewa River, Wisconsin.—Irven O. Buss and Helmer M. Mattison. 1955. *Milwaukee Public Museum Publications in Ornithology*, **1.** 319 pp. The lower Chippewa River Valley is an area of substantial interest since it is one of overlap between the Canadian and Transition zones with a dominance of forms of the latter. It is an area in which the retreat of Canadian forms and the northward expansions of some southern forms have been most noticeable. Possibly some of these changes are to be traced to changes in climate although the elimination of the white pine from the Red Cedar River Valley has eliminated much Canadian-zone habitat. Certainly other land-use factors have exerted their influences. The analyses of a half-century of changes have been possible by use of the very extensive notes and observations of J. N. Clark at Meridean, Dunn County, primarily during period 1886-1901 and the more recent observations of the authors mostly at Menomonie in Central Dunn County, Mrs. Leon Snyder at Colfax in eastern Dunn County, and others from elsewhere in the County and adjacent area. The

bulk of the book (pp. 21-272) is an annotated list of the birds of the area. It is in this extensively annotated list of 243 species that the principal avifaunal changes are described; it is unusually rich in nesting data. There is also a supplemental list of 19 species. Appendices include compilations of hunting records, nesting data for Elk Lake, and weights and measurements of specimens. This attractive volume will long be useful as a record of avifaunal inventories separated by a half century together with analyses of the causes of the differences between them.—D. S. Farner.

46. Distribution of American Gallinaceous Game Birds.—John W. Aldrich and Allen J. Duvall. 1955. Circular 34, Fish and Wildlife Service, U. S. Department of the Interior. 23 pp. This attractive and profusely illustrated bulletin presents generalized range maps and brief descriptions of range and habitat for eighteen game birds and their subspecies. One of the purposes is to aid State game managers in "planning introductions or restocking with pre-adapted stock." It is both curious and unfortunate that this bulletin, intended for game managers, hunters and bird watchers, gives no word of warning of the possible disastrous effects of introductions upon endemic species. — Frances Hamerstrom.

47. The Wildfowl Trust Seventh Annual Report.—1953-1954. Edited by Peter Scott and Hugh Boyd. 1955. Country Life, Ltd. London. 235 pp. 10 shillings. The majority of the papers in this valuable report are concerned with the Pink-footed Goose, *Anser brachyrhynchus*, of which 14,800 have been ringed in Britain and Iceland, and 1,900 have been recaptured or recovered. "Being able to regard some of these birds as 'old friends' is one of the most attractive aspects of ringing so large a number of geese. Another pleasant feature is the frequency with which birds evidently paired when ringed, turn up again still paired. Further we have established that at least some young birds may be found associating with their parents over longer periods than the normal first year." (p. 8.)

The authors ". . . believe that between 1950 and 1953 the death-rate of adult Pinkfeet was about 26% and of yearlings about 42% in each year, measured from the time they arrive in Britain in October until the following October. This produced an estimated total mortality of 14,000 in 1953 of which there are indications that 12,000 were killed by shooting. These figures have been reached by three different methods of calculation (see pp. 104-105) but are regarded by many shooting men as unbelievably high, and by protectionists as distressingly so. We suggest however that this is not a particularly high figure when compared with bags measured by more direct means in other countries. The Danish Game Statistics, which are contributed by sportsmen, show that the numbers of geese shot annually in that small country in ten years 1941-51 averaged 9,200 (6,800 being the smallest total and 12,800 the largest). The same records show that in 1951-52 over 403,000 surface-feeding ducks and 55,000 eiders were shot in Denmark. In America bag checks have indicated an annual kill of 221,000 geese in the Pacific flyway and of 16,000 at one specific resort on the Mississippi. By comparison with such figures we do not think that 12,000 Pinkfeet in a season is an unexpectedly high total for the whole of Britain." (p. 9.)

There are 11 papers on Pinkfeet (pp. 63-176); for two by W. H. Elder, see reviews 33 and 34 in this issue. On "The Wildfowl Trust's Second Expedition to Central Iceland, 1953" 9,000 Pinkfeet were ringed (for the First Expedition, see *Bird-Banding*, **25**: 171, October, 1954). Some of the articles discuss population problems of these Geese in Britain, others treat of different studies in Iceland, including their Mycoflora and flocking, along with a vivid account by S. W. P. Freme of the first discovery of these birds' nesting grounds in 1929.

"There are 243 living forms of *Anatidae* at present known to science"; 134 forms are now present at the New Grounds. "By far the rarest and most valuable birds in the collection are the Ne-nes or Hawaiian Geese." (p. 47.) There are only some 70 *Branta sandvicensis* believed to be alive in the world today; 58 of these are in captivity. Unfortunately their breeding success at Slimbridge is low. In 1954, 24 eggs were laid, 13 were infertile; only 5 hatched, and 4 were reared. There are many fine photographs and fascinating sketches in the report, as well as a beautiful painting by Peter Scott of a pair of Pinkfeet in Iceland with 5 downy goslings.—M. M. Nice.

48. The Species of Middle American Birds.—Eugene Eisenmann. 1955. *Transactions of the Linnaean Society of New York*, Vol. VII. vi + 128 pp. $2.00.

A list of the 1,424 bird species recorded from Mexico to Panama, grouped according to order and family. The technical name, preferred vernacular name, and a brief statement of range are given for each species; subspecies are not treated. A twelve-page classified and annotated bibliography of the important English language literature of Middle American ornithology is included.

The taxonomic and distributional information presented in this work has previously been widely scattered in the literature, accessible only to the specialist. There is no other complete list of Middle American species under their current technical names, and no other list of English species names for these birds. In his introduction. Eisenmann stresses the need for establishing uniformity in the vernacular names of birds in this region. Heretofore there have been no recognized English names for many species, a large number of forms have been given completely different names by different authors, and in some instances the same name has been used for different species. Collaborating with Blake and Chalif, Eisenmann has endeavored to select the most suitable existing vernacular names, or to devise new ones where none existed. Adoption of these names by other authors (e.g., Blake, *Birds of Mexico*, 1953) will bring order out of the existing chaos.

All students of Middle American birds will welcome this valuable reference work.—Hustace H. Poor.

49. A Bibliography of References to Diseases of Wild Mammals and Birds.—Patricia O'Connor Halloran. 1955. *American Journal of Veterinary Research*, **16,** No. 61, Part 2, xii + 463 pp. $10. American Veterinary Medical Association, 600 S. Michigan Ave, Chicago 5, Illinois. This monumental bibliographic contribution has drawn references from more than 900 different publications throughout the world for the period 1830-1950. The references are arranged by orders of the affected species. The arrangement of references for a given order is according to the following categories: infectious diseases and parasites; skin, mucous membrane, mammae; musculoskeletal system; cardio-vascular system; hemic and lymphatic system; digestive system; urinary system; genital system; endocrine system; nervous system; special senses; tumors; anatomy and anatomical anomalies, general and miscellaneous (longevity, care and management, nutrition, albinism, anesthetics, anthelminthics, physiology). Longevity appears to be interpreted primarily in terms of maximum survival periods in captivity. Possibly it would have been better to omit the few references to papers on normal physiology. The references on birds occupy 157 pages and are arranged according to 18 orders. References are repeated when they concern species of more than one order. There are occasional errors in spelling and in placement of references by orders. However, the incidence of such errors among the more than 15,000 references is by no means sufficient to detract from the general usefulness of the compilation. Many ornithologists will find this to be a most useful reference.—D. S. Farner.

50. Bird Houses/Baths and Feeding Shelters/How to Make and/Where to Place Them. Edmund J. Sawyer. 1955. Cranbrook Institute of Science, Bloomfield Hills, Mich. 36 pp., 50c. This is the fifth edition of a bulletin first printed in 1931; some 15,500 copies of the first four editions were printed. Apart from two pages on bird baths and three on winter feeders, the bulletin is devoted to bird house designs and construction. While it contains a considerable amount of useful material, it falls considerably short of what such a bulletin might be.

The author is a member of the Von Berlepsch, or "woodpecker knows best," school of design, urging the excavation of a hollow in a section of log, on the pattern customary for woodpeckers. In construction, the method is slow and laborious, and the resulting house is harder to treat with wood preservatives (the author fails to show how proper use of such preservatives can double or triple the useful life of a house). Particularly for species like the Tree Swallow or Bluebird, the limited space afforded by this design cramps the nestlings and has some tendency to increase nestling mortality. The extreme version of designs giving more room for the young is that of Henry Kinney (see *Bulletin of the*

Massachusetts Audubon Society, **35**:57-59, February, 1951); this calls for *four* holes, and inside dimensions of 6¾" by 11". The Kinney design has not yet proved itself, but is certainly a more promising approach.

Among common misconceptions the author lists the use of rectangular holes, or hanging a House Wren house from a branch. Actually, a rectangular hole is best for a wren house, to make it easier for the bird to carry in sticks, and a house swinging from a branch is no less attractive to this species than one on a pole or the trunk of a tree.

It is probably a mistake for any general pamphlet on bird houses to describe in detail any Wood Duck house, as the game management literature on that subject is mountainous, and growing apace. Nothing in the Cranbrook description of two designs of wooden houses for this species suggests to the layman that their effectiveness is limited in many if not most parts of the country because they don't even attempt to reduce use by raccoons or grey squirrels. Anyone interested in putting up a number of Wood Duck houses should refer to an excellent brief discussion by Clark G. Webster in "Nest Boxes for Wood Ducks," Wildlife Leaflet 351 of the U. S. Fish and Wildlife Service, February, 1954 (available without charge), or to a longer treatment such as by Frank C. Bellrose in "Housing for Wood Ducks" (see *Bird-Banding*, **24**:160). Complete success in countering use by mammals hasn't been achieved, but progress is being made.

The section on feeding stations would be more useful if it suggested ways of controlling competition for food by gray squirrels, a widespread and difficult problem.

While there are a great many pamphlets and books that discuss bird houses among other subjects, there are at least three pamphlets limited to that subject that afford a comparison with the Cranbrook bulletin. The most general is "Homes for Birds," Conservation Bulletin 14 of the U. S. Fish and Wildlife Service (15c). It is satisfactory in general, though sharing such drawbacks as omission of reference to wood preservatives. "Bird Houses." Circular 29 of the National Audubon Society (5c), is designed for schools and Junior Audubon clubs, and quite useful for that purpose. In many ways the best of the group—especially for sound construction and detailed explanations—is "Provide Your Birds A Nesting Place," a reprint from the *Bulletin of the Massachusetts Audubon Society*, available from the Society at 155 Newbury St., Boston 16 (16 pp., 10c). About its only defect is lack of a warning to the inexperienced that a modern wood preservative of the pentachlorophenol group is mildly toxic and calls for a few simple precautions.

We lack pamphlets or articles on bird houses and bird feeders designed specifically for banding stations. Perhaps it will not be possible to treat the subject comprehensively until more experiments have been concluded, but we hope to include some mention of such designs in *Bird-Banding* from time to time.—E. Alexander Bergstrom.

51. Birds of France.— (Oiseaux de France.) 1955. No. 10. 16 p.p. Association pour l'Etude dans la Nature des Oiseaux de France et leur Protection. 129 Blvd. St. Germain, Paris 6, France. 100 francs. The bulletin appears in new format, 6 by 9 inches, printed, with paper cover. Aptly, in contrast with the high scientific plateau of the previous issue, a "very young colleague," B. Milleroux, supplies the leading article, a study of the Red-backed Shrike, *Lanius collurio*, covering, briefly, field identification, habitat, postures, food, and nest. Popular journals in this country would do well to promote similar studies by their young members.

J. de Brichambaut describes, briefly, the Common (Red) Crossbill, *Loxia curvirostra*, mentioning field identification, plumages, food, and method of feeding. M. Deramond provides an illustrated essay on the field identification of the six common Titmice. Well expressed in simple language for the novice is the major paper, an introduction to ecology by F. Spitz.

Perhaps French ornithologists are well acquainted with and visualize easily such historical names as the ancient provinces of Poitou, Berry, and Lyonnais. Certainly, few Americans possess the facilities to locate them. Similar usage has been in evidence in previous bulletins. One raises the question as to whether definition by the names of modern cities and towns might not be preferable. In 1953 the organization banded 239 birds of 33 species.—Wendell Taber.

52. Birds of France.—(Oiseaux de France.) 1955. No. 11. 40 pp. Association pour l'Etude dans la Nature des Oiseaux de France et leur Protection. 129 Blvd. St. Germain, Paris 6, France. 100 francs. Following a concise but skilfully prepared illustrated paper on the field identification of the various woodpeckers written jointly with J. Hubert, Mr. F. Spitz features an introductory study of the various biotypes in France. He establishes eight major classifications, such as forests, marshes, man-made habitats, and lists a total of 65 minor types, together with the dominant bird-life of each. Constructive for the student is M. Deramond's article on making and recording observations on sex, food, and general behavior. Well taken is his accent on recording "positive" actions—what the bird does, and advice to omit "negative" comments—what the bird does not do. In the case of the cautious, *trained* scientist, however, some negative comments may well possess value if for no further reason than that of pointing out the need for additional study.

Mr. Julien reprints a fascinating paper on banding at the island of Ouessant, the westermost point of France. This study appeared originally in "PENN AR BED," No. 4 (see *Bird-Banding*, **26**(3): 122). While the lighthouse is the most powerful one in the world, game birds are, emphatically, not endangered. Mr. Julien elaborates on the wide range of species picked up exhausted at night and released the following day after banding. He does not mention mortality, to make a comment of the "negative" type mentioned above. In the daytime excellent trapping conditions prevail at a nearby vale and beach. Banders employ both Japanese and Italian nets. While the accent is on migrants, nesting birds are also banded. In this issue (to be completed in the next) Mr. Julien presents full information on banding records of the island for *Puffinus puffinus, Sula bassana, Alca torda, Vanellus vanellus, Limosa lapponica,* and *Scolopax rustica.*—Wendell Taber.

NOTES AND NEWS

We are pleased to announce that the Blake leg gauge (*Bird-Banding*, **25**: 11-16, January, 1954; also 76-82 of this issue) is now available commercially, in lucite plastic with an engraved scale, made by Mr. Parker Reed, of Lexington, Mass. They may be obtained from the Massachusetts Audubon Society, 155 Newbury St., Boston, Mass., at $1.25 each, including postage within the United States and Canada.

The general note captioned "Memphis-banded Chimney Swift in Peru," in this issue, is reprinted from "Mid-South Bird Notes" (of December 9, 1955), mimeographed notes by Mr. Coffey. In general, *Bird-Banding* will not carry any paper or note which has already appeared in print elsewhere, but an occasional exception will be made for material of special interest that originally appeared in a periodical which is not widely available.

As this issue goes to the printer, in early February, our Review Editor, Dr. O. L. Austin, Jr., is still in the Antarctic. He was mentioned in the *New York Times* for having collected a Ross's Seal the day the icebreaker U.S.S. *Glacier* reached the Ross Sea, and in *Newsweek* (for January 16, 1956) for having banded some 500 penguins. We are looking forward to his return by the end of April, and therefore correspondence on reviews should once again be sent to him rather than to Dr. Farner—to whom our thanks are due for his help meanwhile.

The favorable Treasurer's report of the Northeastern Bird-Banding Association for the year ending October 31, 1955, appears below. We are particularly happy at the appreciable increase in income from subscriptions and dues, and hope for a further increase this year. Help from present readers in securing new ones can be reflected quite directly in longer issues, since the cost of printing more copies is far less than the cost of the basic print order, per copy.

Longer issues also depend on the supply of papers and general notes, which, as this issue goes to the printer, is not adequate. While we know of a number of papers being prepared with a view to publication in *Bird-Banding*, the next papers which are actually finished and accepted for publication will appear in the October issue—a much shorter interval than in the past two years.