

GENERAL NOTES

A medium-dull White-throated Sparrow in its seventh winter. On March 7, 1957, I trapped a White-throated Sparrow (*Zonotrichia albicollis*) return, No. 138-102953, at my Garden City, N. Y. station. It had been banded on December 3, 1950, had also returned on December 11, 1953, and was now a minimum of 6½ years old, presumably in its seventh winter. But it was still in medium-dull plumage, almost or quite identical with that in 1953 (see Nichols, 1954, *Bird-Banding*, 25 (2) : 60), not having acquired the brightness which I have earlier supposed to be adult winter plumage for both sexes. It was probably the sluggish banded individual seen sitting motionless beside the trap shortly before it was caught; and it bit and squeaked when handled, its behavior contrasting with that of a somewhat brighter bird trapped March 9, which was lively and difficult to hold.

There is considerable variation in the plumage of White-throated Sparrows in fall and winter. They can be roughly classified as dull, medium-dull, medium, medium-bright and bright. What I call high plumage with a great amount of clear white about the head, I have seen only in spring, and assume it is lost before the following winter.

There may or may not be seasonal regression beyond this, or individual White-throated Sparrows that never attain "high plumage." The 1957 return of 138-102953 is worth placing on record, as it may prove helpful in eventually arriving at a more detailed picture of the apparently complicated plumage changes in this species. For further data on the subject see Nichols and Boggs, 1929, *Bull. Northeastern Bird-Banding Assn.*, 5 (3) : 94-97; and Brackbill, 1954, *Bird-Banding*, 25 (4) : 148-149.—J. T. Nichols, The American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y.

Winter Territorialism of Gray Shrikes (*Lanius excubitor*). The repeated homing of an adult female of the European race (see review no. 19 in this issue) led me to examine my records of these shrikes banded at our station in West Hartford, Connecticut. An immature banded on December 5, 1953, and released some five miles to the westward, returned on January 30, 1954, but did not return again after being transported some eight miles airline in the same direction. In the two following winters, five more (including one adult) were released at distance of seven or eight miles, mostly in the same westerly direction, and none returned. No major geographic barriers intervene, though a low range of hills may have some effect. As no shrikes were seen around our station other than those captured, it is very doubtful that any of these shrikes returned without being recaptured. My impression, from this limited evidence, would be that homing ability on winter territory may vary with the individual, and is less strong in immature shrikes.—E. Alexander Bergstrom, 37 Old Brook Road, West Hartford 7, Conn.

RECENT LITERATURE

BANDING

(See also numbers 14, 103)

I. The Ring. A quarterly "ornithological bulletin" edited and published by Dr. W. Ryzewski, 1 Altyre Road, Croydon, Surrey, England. Photo-offset. \$2.50 per year. Every bander will want this useful and informative little periodical. It fills a unique and long-empty niche in banding literature, that of sort of an international "trade journal." Its first number, published in October 1954, is devoted largely to a proposed standardization of methods of publishing recovery reports. Discussion in subsequent issues revised, clarified, augmented, and simplified the proposals into the standard format now being adhered to by most of the European banding groups.

Other issues contain: Short histories of banding programs and prominent banding stations throughout the world; details of punch-card systems for recording data, including several British, an Australian, a French, and a German system as well as the familiar American IBM card; notes on trapping and netting techniques; problems of manufacturing; recommendations for styles of numbers, letters, and address legends on bands.

Each number lists the contents of current issues of all other banding periodicals, including *Bird-Banding*, and notices all published reports of bandings, recoveries, and studies based on banding. A "Notes and News" section describes banding activities in progress here, there, and everywhere. Each issue reports a few outstanding recoveries of particular interest or significance. A useful section lists "mystery bands" of unknown origin and attempts to track them down, successfully in a gratifying number of cases. Of special interest is its listing of maximum longevities reported to date, kept current in each issue.

Dr. Ryzdewski is to be congratulated and thanked for the service he is rendering to bird banding the world around. I strongly urge all banders to subscribe to *The Ring*, and to get the back numbers while they are still in print. The most recent issue, No. 10, February 1957, states that Numbers 1 through 9 are still available: No. 1, October 1954 through No. 5, November 1955, \$3.00; Numbers 6 through 9, 1956, \$2.50.—O. L. Austin, Jr.

2. A Banding Technique for Burrowing Petrels. D. L. Serventy. 1956. *Emu*, 56(3): 215-218. Describes the monel metal bands used for shearwater researches on islands in Bass Strait which "have given complete satisfaction, and have now been under test for six breeding seasons." These bands are evidently quite malleable, for they can be partly bent and shaped by finger pressure, and wound on the leg, scroll fashion, and closed quite easily with a pair of long-nosed pliers.

The monel bands tried out by the Fish & Wildlife Service some time ago were rejected partly because of their costliness, but primarily because the alloy then used was much too hard and springy to be closed securely, even with pliers. The Australian alloy seems to have overcome this fault, and the cost of the strip bands is not excessive, "about 2d. dearer than the current price of an equivalent-sized American band."

We have lost and are still losing a great deal of priceless data through the impermanence on marine birds of our aluminum bands, even when treated by annealing or electrolytic coating. So much is being spent by the government as well as by private cooperators on banding marine birds that a more permanent band would soon repay the increased cost. Now that suitable alloys apparently are available, the Fish and Wildlife Service should have little trouble justifying the increased cost of better bands for use on sea birds.—O. L. Austin, Jr.

3. The 1955 activities of Ottenby Bird Station. (Verksamheten vid Ottenby fågelstation 1955. Meddelande nr 21.) Wolf Jennings. 1956. *Vår Fågelvärld*, 15(3): 151-176. (English summary.) During the cold spring of 1955 the migration started unusually late. The delays in the main migration of certain species were notable, for instance, those of some thrushes were retarded into May and of warblers into June. Reversed movements before outbreaks of cold air from the north occurred on several occasions. A scarcity of *Calidris* species marked the fall migration, while a remarkable flight of Sparrow Hawks (*Accipiter nisus*) took place in September, and the increase of Jays (*Garrulus glandarius*) observed in many parts of Sweden was reflected in the Ottenby records during October. A total of 9,522 birds were banded, not quite sufficient to reach the 100,000 mark in the 9 years the station has been in existence. The Robin (*Erithacus rubecula*) headed the list with 1,641 captured, followed by the Starling with 967. Up to 31 Jan. 1956, 155 recoveries were reported of exceptionally many species. Among these the Greenfinch (*Chloris chloris*), Ortolan Bunting (*Emberiza hortulana*), Wryneck (*Jynx torquilla*), Spotted Redshank (*Tringa erythropus*), and Great Black-backed Gull (*Larus marinus*), were reported for the first time. The recoveries reveal that Camargue in the Rhône delta is an important stopover locality for shorebirds on migration between Africa and Ottenby.—Louise de K. Lawrence.

4. British Recoveries of Birds Ringed Abroad. E. P. Leach. 1956. *British Birds*, 49(11): 438-452. "This list continues from that published in 1952 (*antea*, vol. xiv, pp. 458-465), but is in the revised form now internationally adopted." These symbols and terms were adopted at the XIth International Ornithological Congress and give a maximum of information in a minimum of space. One excellent feature is the statement of the latitude and longitude of the place of ringing and of recovery.

A Grey Heron (*Ardea cinerea*) banded in the nest in Sweden was found dead in England 15½ years later. The first foreign-marked examples of four species are recorded as follows: Hobby (*Falco subbuteo*) ringed in the nest in Sweden 20-7-53, shot 23-9-53 in Norfolk; Swift (*Apus apus*) ringed in the nest in Norway 25-7-54, found dead in Yorkshire 25-8-54; Spotted Flycatcher (*Muscicapa striata*) ringed as adult 24-9-50 in France, found dead 14-6-53 in Wales; Grey Wagtail (*Motacilla cinerea*) ringed 6-5-52 in the nest in Belgium, found dead 13-3-53 in Norfolk. Wintering Black-headed Gulls (*Larus ridibundus*) come from northern Europe, Czechoslovakia, Saxony and Bavaria. Two Starlings (*Sturnus vulgaris*) ringed in Holland in October and transported to Switzerland, were found in England in December of the same year, while a third was found there 2 winters later.—M. M. Nice.

5. Report on Bird-Ringing for 1955. Robert Spencer. 1957. *British Birds*, 50(2): 37-72. The 19th report of the Bird-Ringing Committee of the British Trust for Ornithology is a model of clarity and succinctness. A total of 126,303 birds were ringed, 35,718 being nestlings or chicks. "4,063 recoveries were handled in 1955 compared with 3,043 in 1954." Table II gives ringing and recovery totals for 1955 as well as grand totals. Most of the report is concerned with a selected list of recoveries. Eight Manx Shearwaters (*Procellaria puffinus*) ringed at Skokholm, Wales, were recovered in Brazil. Six tables give the countries and months of recovery of Mallard (*Anas platyrhynchos*), Teal (*A. crecca*), and Wigeon (*A. penelope*). A Lapwing (*Vanellus vanellus*) ringed as a chick June 1947 on Holy Island was recovered 28 April 1952 in the U.S.S.R. An adult Turnstone (*Arenaria interpres*) ringed in Northumberland 30 August 1955 was shot in Gabon 27 October. Another adult ringed in Devonshire 13 January 1951 was killed 14 June 1955 on Ellesmere Island. A Woodpigeon (*Columba palumbus*), banded as a chick, was killed 9½ years later 2 miles northeast of its birthplace. Two Skylarks (*Alauda arvensis*) ringed in winter were taken in summer in Norway and Finland. Three tables are devoted to the countries and months of recoveries of Starlings (*Sturnus vulgaris*) and Blackbirds (*Turdus merula*); recoveries of four of the latter from southern France and Spain "are unprecedented."—M. M. Nice.

6. The Göteborg Natural History Museum's Banding of Migratory Birds in 1955. (Göteborgs Naturhistoriska Museums Ringmärkningar av Flyttfåglar under 1955.) Viking Fontaine. 1956. *Särtryck ur Göteborgs Musei Årstryck 1956*: 9-31. The Göteborg Museum's cooperators banded 3,980 birds in 1955, bringing the grand totals since 1911 to 248,960 of 229 species, which so far have yielded 7,385 returns, repeats, and recoveries of 152 species. The Göteborg Museum is one of the few in Europe that have refused to adopt the reporting system advocated in *The Ring* (see no. 1, above). Its list of 268 "returns" reported from 54 species in 1955 contains a high percentage of insignificant recoveries and returns of short duration, especially among the passerines, and the report is not nearly as detailed and useful as it could be made.—O. L. Austin, Jr.

7. Bird-Banding in Norway 1955 (Report No. 6). Holger Holgerson. 1956. *Sterna* 2 (pt. 1, no. 26): 1-48. Banders under the Stavanger Museum auspices banded 37,232 birds in 1955, nearly 8,000 more than in 1954. Only 7,500 of these were trapped as adults or juveniles; the majority, almost 30,000, were banded as nestlings or downy young. The report gives the raw data for some 450 recoveries of 53 species, most of them water birds, with pertinent short comments on the more interesting and significant ones. Among these are large numbers of Pink-footed Geese all banded as adults in Spitsbergen in July 1954 and shot on the wintering grounds mainly in Germany, a few in the Netherlands, Belgium, and

northern France. Of the 525 Pink-footed Geese banded in Spitsbergen in 1954, 72 had been reported by the end of 1955, not a single one of them in the British Isles, which is the wintering ground of the Greenland and Iceland Pink-foots.—O. L. Austin, Jr.

8. Hessian Band Returns. (Hessische Ringvogel-Funde.) Werner Sunkel. 1956. *Vogelring*, **25**(2): 39-59. Annotated compilation of returns of birds banded in Hessia during the last two decades. Material on the Hawfinch (*C. coccyzus*) is particularly extensive.—Frances Hamerstrom.

9. Bird Banding in 1953. (Prstenovanje ptica u 1953. godini.) Renata Kroneisl-Rucner. 1956. *Larus*, **8**(1954): 5-26. In 1953, 107 Yugoslav cooperators banded 7,441 birds of 97 species, most of them small passerines and about 25 percent of them nestlings. The 70 "recoveries" listed as received during the year are mostly returns and repeats in our terminology. Raw data are also given for 46 Yugoslavia recoveries of 24 species banded abroad in 9 other European countries. None of these records by themselves are of outstanding interest or significance.—O. L. Austin, Jr.

10. Marker for Game Birds. T. H. Blank and J. S. Ash. 1956. *Journal of Wildlife Management*, **20**(3): 328-329. A detailed description of a marker used successfully on *Perdix perdix* for field identification. It consists of a numbered or lettered colored plastic tab which lies on the back, and which is held in place by a soft leather harness around the base of each humerus. Birds thus marked have been recognized as individuals from 150 yards. The marker remains useful for periods from 6 to 9 months.—Oliver H. Hewitt.

11. A Colored Neckband for Marking Birds. John J. Craighead and Dwight S. Stockstad. 1956. *Journal of Wildlife Management*, **20**(3): 331-332. A strap of polyvinyl chloride tape, secured around the neck by a falconer's knot, has been very successful for marking Canada Geese.—Oliver H. Hewitt.

12. A Solenoid Mechanism for Springing Bird Traps. Oakleigh Thorne II, 1957. Thorne Ecological Research Station, Boulder, Colorado, Bulletin No. 4. 6pp. Describes a relatively cheap and simple electrical mechanism for springing non-automatic bird traps that the author claims is "considerably more quick and efficient than the conventional pull-string method."—O. L. Austin, Jr.

MIGRATION

(See also numbers 59, 75)

13. Two Physiological Considerations in Bird Migration. W. B. Yapp. 1956. *Wilson Bulletin*, **68**(4): 312-319. This paper consists of two unrelated theoretical discussions, only the second of which has anything to do with physiology. In the first discussion the author theorizes on what a migrating bird out of sight of land may do when it encounters a cross wind. He gets somewhat tangled in navigation terminology obviously unfamiliar to him, but concludes correctly that if the wind is blowing in the right direction a migrant flying a random course will eventually be carried to land at the velocity of the wind.

In the second discussion he probes into the amount of energy birds consume on long flights. He presents several very impressive formulas derived, however, from unverified assumptions, and concludes that a migrant's energy expenditure will be between 0.4 and 1.0 percent of its body weight per hour. He makes no estimate of the amount of time a migrant could thus spend in the air before exhausting its energy reserves.

It is difficult to determine the purpose of this paper. The discussion on orientation is extremely sketchy, and the discussion of energy expenditure, while detailed, is mainly conjecture. Neither discussion considers the migrating bird in its actual environment.—William H. Allen.

14. Ottenby Bird Station. (Ottenby fågelstation.) Gustav Danielsson. 1955. *Sveriges Natur*, 2: This is a resumé of the origin of the station and some of the important facts that the work there has revealed. The theory that birds follow certain flyways has now been abandoned. Normally the migrations of birds advance on broad fronts. Because certain species prefer flying over land possessing the character of their specific environmental requirements and avoid flying over unsuited areas, leading lines, principally coastlines, often act as "corralling fences" diverting the migrants into "safer" directions. The north-south coastlines of the elongated island of Öland force the fall migrants to foregather in great numbers at its south end where the station was established in 1946 through the efforts of the newly-founded Sweden's Ornithological Federation. The accidental discovery of large concentrations of birds in May 1949 led to the station extending its activities also throughout the spring migration. The so-called "island-effect" known to influence the flight of birds across the sea, especially on foggy and rainy nights, in the absence of leading lines from the south explained the springtime concentrations at Öland's southern tip. One observer and two banders man the station during the season, assisted by volunteers. Warm weather in the south, warm air sectors with low barometric pressure, are favorable for migratory movement at Ottenby; cold fronts reverse migration southwards across the sea again. Based on a decade of accomplished all-day observations and careful recording, statistical analyses of the gathered material can now begin.—Louise de K. Lawrence.

15. The Migration of Birds at Falsterbo 1949-1950. (Fågelsträckret vid Falsterbo 1949-1950. Meddelande från Falsterbo fågelstation 7.) Staffan Ulfstrand. 1956. *Vår Fågelvärd*, 15(3): 187-199. (English summary.) The author points out that the Station's figures on yearly fluctuations are somewhat inaccurate because of such variable factors as the relative skill of the observers, the flight patterns of the birds, and the light at the time of observation. Nevertheless, analysis of the data allows certain noteworthy deductions, even if they are not new. Species closely related systematically and ecologically tend to fluctuate similarly in numbers. The fluctuations of selected species observed simultaneously at Falsterbo and at Ottenby do not always coincide, indicating geographical changes from year to year in the migration routes. Meteorological conditions influence migration in countless ways and, though the relationship between the weather and bird movements is extremely complicated, this factor is most important to keep in mind when analyzing the yearly fluctuations at a given locality. Changes in the proportion of migrating individuals within a species, probably in combination with their nesting success, apparently play a significant role in the movements of the so-called irruptive species. If these birds are to be differentiated from the true migrants, not the number of birds observed, but the reasons underlying their migration should first be taken into account.—Louis de K. Lawrence.

16. Bird Observations at Utsira 1917-1954. (Fågelobservationer på Utsira 1917-1954.) Ragnar Edberg. 1956. *Fauna och Flora*, (1-2): 49-64. The publication of migration results from Utsira (see, in particular, H. T. L. Schanning in the *Stavanger Museum Year Books* for 1935-36 and 1937-38) led the author to investigate all the observations made during 37 years on this small island off the coast of Norway on the 59th parallel. Migratory movements to or from the island have seldom been observed, but its situation far from the mainland, like Heligoland and Fair Isle, makes it an attractive resting place for migrants. Muster had suggested the possibility of Utsira being the bridgehead from which the eastern, especially the Asiatic migrants frequently found on Fair Isle, cross the sea. Edberg considers the available evidence insufficient to prove the contention. He lists a total of 150 species for the island, six of which are represented by two races as verified by specimens. The list adds one new species, the Siberian Tree Pipit (*Anthus hodgsoni inopinatus*), to the European bird list, 4 species and 3 races to the Scandinavian, and 7 species and 5 races to the Norwegian lists. Fifteen species of sea and shore birds and eight passerines have nested on the island.—Louise de Kiriline Lawrence.

17. Lapwings on the Radar Screen. (Kiebitze auf den Radarschirm.) Harry Hofmann. 1956. *Der Ornithologische Beobachter*, 53(3): 79-81. This paper reports radar observation of a flock of Lapwings (*Vanellus vanellus*) during a flight of about 80 km. in 1½ hrs. The flight path, which is plotted on a map, was most peculiar. Although the birds were flying above heavy cloud cover at an altitude of 2200 m., they appeared to follow a course from one airway beacon to another, including the one at the airport where the radar observations were made. There is, of course, no evidence that the flock was in fact influenced either by the beacons which they could not see, or by the radar installation. The identity of the birds and the size of the flock (about 120) was verified by observers from a sports plane who were directed to it by radio signals based on radar. They were flying between two cloud layers. This observation was made on 31 January 1956 when a slow-moving cold air mass from the northeast was under-running warm air in the area. Flight velocity of the flock was calculated at 55 km./hr. with wind effects being considered negligible.—R. O. Bender.

18. Migratory Associations of Raptors. (Zugeselligkeit bei Greifvögeln.) Wolfgang von Westernhagen. 1955. *Die Vogelwarte*, 18(1): 15-19. Species composition of 110 observations (1949-1954) in Northern Germany and Denmark was as follows: *Buteo* sp., 16,000; *Pernis apivorus*, 7,500; *Pandion haliaetus*, 25; *Accipiter nisus*, 830; *Falco tinnunculus*, 114; *F. peregrinus*, 30; *F. columbarius*, 25; *F. subbuteo*, 24; *Circus cyaneus*, 47; *C. aeruginosus*, 12; *Milvus milvus*, 18; *M. migrans*, 4. Counts of Sparrow Hawks and Kestrels, which are common in Scandinavia, would have been markedly higher if comparable counts of raptors traveling alone over a wide area could have been included. Species which are solitary migrants and are not bound by traditional flyways are: *Pandion haliaetus* and *Falco peregrinus* particularly, and *Falco tinnunculus*, *F. subbuteo*, *Accipiter nisus*, and *Circus cyaneus* predominantly. Species which travel in aggregations are the *Buteos* and *Pernis apivorus*; so do *Milvus* spp., but so few Kites go to Scandinavia that they scarcely alter the picture along this flyway. Soaring raptors most commonly migrated when there were rising currents of air. Migration routes and weather are discussed.—Frances Hamerstrom.

19. Winter Territorialism of a Great Grey Shrike (*Lanius excubitor*). (Winterreviertreue eines Raubwürgers (*Lanius excubitor*)). Georg A. Radtke. 1956. *Die Vogelwarte*, 18(3): 157-160. During the winter of 1953-54 an adult female Great Grey Shrike was caught five times. Each time it was released in a different direction from the banding station at distances of 2.5, 6.8, 5.6, 18.2, 15.2 and 37.2 kilometers. It homed successfully on all but the last release.—Frances Hamerstrom.

20. The Genus *Coturnix*—an Invasion Bird Group. (Die Gattung *Coturnix*—eine Invasionsvogel-Gruppe.) Friedrich A. Kipp. 1956. *Die Vogelwarte*, 18(3): 160-164. The Quails (*Coturnix* spp.) show gypsy types of mass movements, comparable in some respects to Crossbill (*Loxia*) movements. The Quails' pointed wings apparently are an adaptation, not only for migration, but for widespread wandering. The range of this genus is uncommonly large for a gallinaceous bird: Africa, Madagascar, Europe, Asia, and Australia. This paper and that of Meise (*Die Vogelwarte*, 17(3): 211-215) lead the reviewer to question the wisdom of introducing this genus with its weedy spread potential into the United States.—Frances Hamerstrom.

21. Crane Migration at Müritz. (Kranichzug an der Müritz.) Helmut Richter. 1956. *Die Vogelwelt*, 77(4): 97-108. At Müritz, Germany, an autumn gathering region for Cranes (*Grus grus*), their fall migration occurs in two phases: (1) early migrants in small flocks of less than 200 that remain in a specific area for an extended period, and (2) the main migration which passes through rather quickly in large numbers. Daily counts of Cranes showed peaks ranging between 2,000 and 2,500 in 1949 and 1954 respectively and up to 10,000 in 1955. In years of high counts the Cranes stayed about half as long as in years of low counts. The age ratio of migrants was 5 adults to 1 young. Flocks arriving early contained fewest young. Family groups stayed together and adults still fed well-grown young as late as October. Fall display is described.—Frances Hamerstrom.

22. Migration at the Smith's Knoll Light-vessel, Autumn 1953. D. B. Peakall. 1956. *British Birds*, 49(10): 373-388. Observations for 2 months from a lightship 26 miles from the Norfolk coast gave information on "effect of wind direction and force on the direction and flock-size of Starlings," and on the time and direction of peak migration of various other species. The main departure of passerines from the continent occurs at dawn.—M. M. Nice.

23. Autumn Migration on the Kintyre Peninsula. Ivan M. Goodbody. 1956. *British Birds*, 49(11): 417-431. From observations of diurnal migrations on the western coast of Scotland for three successive autumns the author concludes: "The strength of the wind appears important in determining whether birds leave the coasting movement and depart to sea; Skylarks (strong fliers) are less affected than Meadow Pipits (weak fliers). Wind-direction is considered to be of secondary importance and determines which way the birds travel in order to overcome drift." Two maps and six tables are provided.—M. M. Nice.

24. Movements of House Sparrows. D. Summers-Smith. 1956. *British Birds*, 49(12): 465-488. (See also No. 28.) A table of 33 recoveries of *Passer domesticus* ringed in western Europe and recovered more than 5 miles away contains only 18 records over 20 miles, the greatest distance being 200 miles. Of 436 recoveries in Great Britain, 91 percent are within 1 mile of the place of ringing, 6 percent within 1 to 5 miles, and 3 percent over 5 miles. Of 228 recoveries in Europe, the corresponding percentages are 89, 6, and 5. There is migration, however, in some portions of the range, particularly in Asia. Color-ringing in England has shown that once a bird has bred it is completely faithful to its nesting area throughout the year, although in fall it may travel a half mile to a grain field. A roost in Egypt was estimated to contain 100,000 birds that assembled from a 4-mile radius.

Despite its largely sedentary nature, it has, through small introductions in many parts of the world "multiplied and spread in a remarkable way, so that it is now present in over half of the inhabited area of the earth." An interesting table compares the rate of spread of this species in Siberia and North and South America; the average rate ranged from 1 to 34 miles per year, with a median of 18 miles (p. 478).

"The clue to the House Sparrow's sedentary behaviour may lie in its adaptation to complete dependence on man." Thus it is able to rely on a constant supply of food. Of the author's ringed adults "more have died (disappeared) in the breeding-season and moult than during the winter-months (60% April-September; 40% October-March).—M. M. Nice.

25. The Chaffinch Migration in North Devon. David Lack. 1957. *British Birds*, 50(1): 10-19. "In late October, thousands of Chaffinches set off out to sea, chiefly W.N.W., from Bull Point on the 'corner' of North Devon, heading for Ireland." The influence of wind direction is discussed, as well as the origin and destination of these and other migrants watched.—M. M. Nice.

26. On Yearly and Daily Rhythm in Migratory Birds. (Ueber Jahres- und Tagesrhythmus bei Zugvögeln. II. Mitteilung.) Helmuth O. Wagner. 1956. *Zeitschrift für Tierpsychologie*, 13(1): 82-92. Eleven charts are given showing activity in recording cages of various birds kept under changing rhythms of light and darkness. "It is concluded that migratory activities are dependent on an endogenous rhythm, while the everyday changes of periods of activity and rest are determined by external factors."—M. M. Nice.

27. The Visual Observation of Night Migration. B. G. Tunmore. 1956. *Bird Study*, 3(4): 237-241. Over a 3-year period, 1953 through 1955, members of the Cambridge Bird Club tried to duplicate in England Lowery's studies of nocturnal migration by observing birds flying across the moon. Their efforts were hampered continually by bad weather—clouds and high winds—and only once, on 14 August 1954, were conditions good enough for satisfactory observations. Most of the birds were traveling roughly SSE, but "a smaller number were apparently flying in random directions. No attempt to estimate the density of the passage was

made, although it must have been considerable. It is believed that most of the birds seen were passerines, although a Swift (*Apus apus*) and some Lapwings (*Vanellus vanellus*) were identified." The author concludes: "The coincidence of a full moon, fine weather and migration are not so common here, but some observers may, perhaps, be able to spend some time on this kind of work and might improve our knowledge of migration on this side of the Atlantic."—O. L. Austin, Jr.

POPULATION DYNAMICS

(See also numbers 24, 64)

28. Mortality of the House Sparrow. D. Summers-Smith. 1956. *Bird Study*, 3(4): 265-270. (See also no. 24.) Analysis of the B.T.O. banding returns shows the annual mortality in House Sparrows (*Passer domesticus*) to be 70 percent in the first year and to average 42 percent in subsequent years. This is considerably lower than the average annual adult mortality demonstrated for other small passerines. The author thinks this "may be accounted for by the constancy of its food supply and by its sedentary habits, by which it avoids the hazards of migration. In Britain the major predator is the domestic cat (birds of prey being too low in numbers to have a significant effect) and without this and motor traffic, which also takes a considerable toll, an even lower figure might be expected."

A further breakdown of the data shows that 54 percent of the adult deaths occur during the breeding season (April to July), while the remaining 46 percent are divided almost equally between the other two 4-month periods. "The main reason for high mortality during the breeding season is considered to be increased predation and the physical effort of rearing successive broods."

I wish the author had gone one step farther and compared his mortality figures for this highly successful species with its reproductive potential and its apparent nesting success and annual recruitment. Such an analysis could be highly revealing.

Unfortunately we have no comparable data on the House Sparrow in North America. Because they are sedentary and extremely local in their distribution, the Fish and Wildlife Service has always discouraged banding them. Most American banders who are inflicted with them at their trapping stations regard them as plagued nuisances, and many just quietly dispose of all they catch. They eat enormous quantities of bait and tend to drive away the more desirable indigenous species. At the A.O.R.S. we destroy them as fast as they appear to prevent their usurping our nesting boxes and interfering with our Tree Swallow and Bluebird studies. Nevertheless by neglecting to band them we are missing opportunities for useful and significant research. Certainly it would be most worth while, if opportunity presents itself, for some suburban bander or group of banders to concentrate on the species and work out its demography in this country.—O. L. Austin, Jr.

29. Territoriality and Survival in the Plain Titmouse. Keith L. Dixon. 1956. *The Condor*, 58(3): 169-182. Twenty-two adult and 39 1st-year Plain Titmice, *Parus inornatus*, were color-banded during a study which extended intermittently from 1946 to 1952. All observations were made on a 144-acre wooded area in Strawberry Canyon in the Berkeley Hills of Alameda County, California. Territories tended to remain constant all year, and year after year. Boundaries were maintained following disappearance of adjacent territory holders; no expansion was made into vacated areas. Of particular interest is the high annual survival rate (about 75 percent) which is attributed to the year-round territoriality of the population studied. This implies a life expectancy in territorial adults on the order of 3.5 years. High juvenal mortality is probable during the period of dispersal.—L. Richard Mewaldt.

30. The Breeding of the Dipper in North Westmorland. R. W. Robson. 1956. *Bird Study*, 3(3): 170-180. The breeding population on the Eden River and its tributaries during 1952-55 was from 3.5 to 4 pairs per 25 square kilometers, and was higher in sandstone than in limestone areas. The author

tabulates data on local movements of banded birds, clutch size, and breeding success. The annual mortality, figured from the observed breeding success in this assumed stable population, is theoretically 64.4 percent.—O. L. Austin, Jr.

31. A 17-year-old Swift. (Ein siebzehnjähriger Mauersegler.) Emil Weitnauer 1956. *Der Ornithologische Beobachter*, **53**(3): 94. A Swift (*Apus apus*) banded on 17 July 1939 in a nest in Oltingen returned to nest in 1942 and each year thereafter until 1951. In 1948 the bird was determined to be a male. He returned again to nest in 1956 at 17 years of age.—R. O. Bender.

NIDIFICATION AND REPRODUCTION

(See also numbers 44, 47, 52, 60, 62, 69, 72, 81, 83, 87, 89)

32. A Sea-Cave Nest of the Black Swift. Ken Legg. 1956. *The Condor*, **58**(3): 183-187. This appears to be the first record of the nest of the Black Swift (*Nephoecetes niger*) in a sea-cave. The cave, which is open to surf at high tide, is located near Santa Cruz in Santa Cruz County, California. The thick-walled, compact nest was composed almost entirely (90%) of live, green seaweed (*Enteromorpha* sp.). Apparently no saliva was used. The one egg present in the nest on 7 July hatched probably on 3 August, suggesting an incubation period of about 27 days. The nestling period of 45 days terminated on 17 September. Although naked on 4 August, the young Swift had a heavy covering of down on 18 August, and had short tail and wing feathers on 25 August, the day it was banded. A fresh pellet apparently regurgitated by the nestling was found on 18 August. Portions of winged ants, a crane fly, a damsel fly, and some beetles and flies were found just outside of the nest.—L. Richard Mewaldt.

33. Age Determination and Dating Nesting Events in the Willow Ptarmigan. Kaj Westerskov. 1956. *Journal of Wildlife Management*, **20**(3): 274-279. Information on this subject from 11 important Norwegian papers (1922-1942) is presented and compared with the few North American data available. A reference chart for back-dating nesting events is based on the ptarmigan's definite wing moult sequence.—Oliver H. Hewitt.

34. The Way of a Dove. V. T. Lowe. 1956. *Emu*, **56**(3): 167-182. An amateurish but significant study of the nesting habits of the Peaceful Doves (*Geopelia placida*) resident on a fruit farm in southeastern Australia, of interest particularly for its evidence of the species' almost continuously successive nestings during the breeding season (September to February). The author was able to follow the activities of one color-banded male through 11 nestings in two breeding seasons with three successive females. This male participated in 7 productive and 1 incomplete nesting in a single breeding season. The paper also contains good notes on predators, courtship, territoriality, voice, and behavior.—O. L. Austin, Jr.

35. Further Data on African Parasitic Cuckoos. Herbert Friedmann. 1956. *Proceedings of the United States National Museum*, **106**(3374): 377-408. Information on 11 species of 4 genera in regard to host species, egg-laying, eviction of eggs and young of hosts, etc. A detailed account is given of eviction activities and of development of a nestling Red-chested Cuckoo, *Cuculus solitarius*, as well as courtship feeding in the Emerald Cuckoo (*Chalcites cupreus*), and Didric (*Chalcites caprius*), although in one case with the latter species it was a well-grown young being fed by an adult male, suggesting "that fledgling feeding may be only courtship feeding with a grown young being mistaken for a hen by the cock bird."—M. M. Nice.

36. Bigamy in Swallow. R. A. Richardson. 1956. *British Birds*, **49**(12): 503. A color-ringed male *Hirundo rustica* nested normally in 1953, 1954, and 1956, but in 1955 he had two mates, one color-ringed, that nested at the same time within 4 yards of each other. He fed only one brood and the other young died

when half-grown. "The successful female disappeared after her brood had fledged, and the male and the 'neglected' mate then co-operated in rearing a second brood."—M. M. Nice.

37. Breeding Biology and Development of Young in the Curlew. (Zur Brutbiologie und Jugendentwicklung des Brachvogel (*Numenius arquata* L.). Otto v. Frisch. 1956. *Zeitschrift für Tierpsychologie*, 13(1): 50-81. Curlews were studied in a bog area near Munich and some were hand raised. Sexes were distinguishable, for the female had a rounder and clumsier form, while the male was more slender and angular. "Each male defends its territory in two ways, 'passively' through its territory-marking flight and 'actively' in a fighting behaviour which is highly ritualized and rarely leads to actual attack." Eggs were incubated by both parents for 29 days; they usually changed places twice daily. The young were very independent, finding their own food from the first, needing their parents for the first 2 weeks for warmth and after that only for warning from danger and repelling enemies. The chicks crouched spontaneously upon the sight of a large bird in the air or an enemy on the ground; in a few days they associated the parents' warning cry with the danger. They had a very loose bond to one another; at the end of 3 weeks the hand-reared birds began to threaten one another and developed a dominance order. Curlews evidently do not breed until over a year old. A very fine study.—M. M. Nice.

38. Collared Turtle Dove breeding at Varberg. (Turkduvan (*Streptopelia decaocto*) häckfågel i Varberg.) O. F. Reuterwal. 1956. *Vår Fågelvärld*, 15(4): 262-268. (English summary.) Evidence of breeding by two pairs from April to November 1956 was obtained in southwestern Sweden. During the nest-building the male finds and carries dry twigs to the female, who sits in the crotch of a branch and merely puts them under her. The wind often blew down these nests. Only two broods were raised. The method of nest-building and the predation of Magpies (*Pica pica*) were evidently to blame for the poor nesting success.—Louise de K. Lawrence.

39. Hybridization between Fieldfare and Blackbird. Bastarder mellan björktrast (snökskata) och koltrast (*Turdus pilaris* L. ♂ X *Turdus merula* L. ♀). Viking Fontaine. 1955. *Fauna och Flora*, (6): 225: 233. (English summary.)

In 1950 a pair of Blackbirds nested as usual in the conservatory of the Botanical Gardens at Gothenburg, Sweden, to which they had access through an open window. Incubation was in progress when a male Fieldfare entered the conservatory and, after fierce battles, finally ousted the male Blackbird. The female accepted courtship-feedings from the male Fieldfare. Her brood of true Blackbirds was duly raised and fledged, whereupon mating occurred between her and the Fieldfare. From this union she laid four eggs and the pair successfully raised the four hybrids. While individually separable, the young birds bore greater resemblance to the Fieldfare in color and markings than to the mother Blackbird. One of them escaped, but the other three were kept until they died and their skins were preserved. A more detailed account of the behavior of the birds during the various stages of this rare liaison would have been of utmost interest. According to the records, the Fieldfare has figured before in extra-specific matings among thrushes, once with another Blackbird and another time with a Redwing (*Turdus musicus*).—Louise de K. Lawrence.

40. At a nest of the Golden Oriole in southern Scania 1955. (Vid ett sydskänskt bo av sommargyllingen (*Oriolus o. oriolus* L.) år 1955.) Walter Hermanson. 1956. *Fauna och Flora*, (1-2): 15-21. This paper is based on 23 hours of observation at a nest built about 90 feet from the ground in a large beech. Incubation was shared by both sexes and the change-overs were signaled by fluting notes. After hatching the parents fed the young at a mean rate of about 12 to 13 times per hour. The female, which accounted for 40 percent of the feedings, foraged farther afield and apparently brought larger meals than the male. The four young left the nest in the course of 2 days after 13 to 14 days of nest life. At this time they could fly only very short distances and the female accounted for most of their feedings. Two days later the family had left the nesting territory.—Louise de K. Lawrence.

41. Two nests of the Grasshopper Warbler in central Sweden. (Två bofynd av gräshoppsångaren (*Locustella naevis*) i södra Dalarna.) Sune Norström. 1956. *Fauna och Flora*, (1-2): 33-37. No nests of this warbler had been found in the province of Dalecarlia until the present discoveries in August 1955. The nests were built on the ground and made of stalks and narrow blades of grass. One contained four young, the fifth lying dead outside, the other had five young and one addled egg. As the observer was about to replace the cover after his inspection of one nest, a parent arrived with food in the bill. Immediately it adopted the sleeping posture, obviously a displacement movement in response to the unexpected situation. When the observer resumed his activity before withdrawing, the bird abruptly attacked his fingers. Similar behavior was observed at both nests on three occasions.—Louise de K. Lawrence.

42. Bank Swallows (*Riparia riparia*) as nesting birds in walls along the Mosel. (Uferschwalben als Brutvögel der Mauern entlang der Mosel.) Bernhard Jakobs. 1956. *Ornithologische Mitteilungen*, 8(10): 198. The author estimates that, along the Mosel where natural nesting places are scarce, 30-40 percent of the breeding Bank Swallows nest in stone or concrete walls. Drainpipes through these walls, as well as crevices in the stone walls, are used as nesting sites. Rosenberg (*Orn. Mitt.* 8(6): 109) called attention to this nesting behavior which is also the subject of a short note by Prünthe and Mester (*Orn. Mitt.* 8(10): 197).—R. O. Bender.

43. Swallows nest on the back of a mounted Sparrow Hawk. (Schwalbennest auf dem Rücken eines preparierten Sperbers.) Josef Geibert. 1956. *Ornithologische Mitteilungen*, 8(12): 236. Recent issues of this magazine have carried short notes on unusual nesting sites used by the Barn Swallow (*Hirundo rustica*), but this one tops them all. A pair of Swallows built a nest on the back of a Sparrow Hawk (*Accipiter nisus*—roughly equivalent to our Sharp-shinned Hawk) mounted with wings spread in the vestibule of a home. Both adults and the young were banded. The following year a pair again occupied this site; the male proving to be one of the brood of the previous year. A fine photograph shows the nest with young.—R. O. Bender.

BEHAVIOR

(See also numbers 34, 35, 36, 37, 41, 90, 92)

44. Studies of the behavior of young Caspian Terns. (Beteendestudier över ungar av skrärtärna, *Hydroprogne tschegrava*.) Göran Bergman. 1956. *Vår Fågelvärld*, 15(4): 223-245. (English summary.) This paper concerns two hand-raised Caspian Terns from the time one was 2 days old and the other was still in the egg 8 hours before hatching. Particularly notable were the abrupt changes that occurred as development progressed in the behavior of the young birds and in the shifts of locality of their territories. Four stages of development were recognized: 1) the nest-stage, 2) the territory stage, 3) the shore territory stage, and 4) the roaming stage.

Reaction to the "fish-call," a combination location and feeding-call given by the parent, was innate, being established before hatching. This call was easily imitated. Even if human speech merely happened to contain several aphonic syllables followed by an accented one, the young birds reacted as to the fish-call by begging notes. During the nest-stage, nothing but the fish-call released the following reaction in the chicks. After this, they followed the parent substitute without the call being given when they were hungry, but ignored him completely when well fed. The importance of the young gaining "acoustic recognition" of the parent is obvious in the crowded conditions of the nesting colony. When the parent lands, bowing and flicking the large red bill from side to side, the signal for the chick to dash to the right bird amid the many and grasp the fish is foolproof. The reaction to the "warning" calls of the adults is also developed before hatching. So long as the old birds kept on giving alarm-calls, the sounding of the fish-call could not elicit any response in the young terns.

During the nest-stage, cold and heat drove the chicks into the nest-scraps when they were outside, where under natural conditions the parent stood ready to hover them. After this time, they found their own favorite spots of cover under rocks and vegetation outside the scrape and thereby gained a recognition of the features of their territory.

The chicks possessed the aggressive movements of the adults from the first days of life. The notes and postures of the begging and aggressive attitudes showed considerable similarity. In the begging posture, however, a round-shaped head was achieved by erecting the black crown and the white feathers at the corners of the mouth while, in the aggressive pose, the head appeared triangular with the feathers of the forehead and along the malar regions depressed. The young terns did not develop the bowing and bill-flicking movements, which are aggression-inhibitive in character, before the age of 3 months.

During the nest-stage, the chicks snapped at any object near them. This was interpreted as a stage of "experimenting" before discrimination was learned. Objects whose color contrasted sharply with the background proved strongly stimulating and the intensive snapping elicited by these objects sometimes acquired the character of continuous play.

No drinking occurred until fledging. Bill-washing after meals developed before flying and food-washing after the birds were fully fledged. The food-washing was released by a weakening of the tendency to feed. It occurred in the adults when the urge to feed the young overpowered their desire to eat the fish themselves and, in the young terns, when their hunger lost part of its edge.

The terns acquired personal recognition of the parent companion. They even knew his boat and sometimes they would come to him despite their strong aversion to flying near forested land.

These are only a few highlights of this notable contribution to comparative ethology. It should gain the attention of all students of bird behavior to learn in particular the painstaking methods and knowledgeable ways in which the author extracted the data and deduced their significance.—Louise de K. Lawrence.

45. Symbiosis between Grey Heron and Fallow Deer. (Symbios mellan häger (*Ardea cinerea*) och dovhjort (*Dama dama*). Report 1 from Skansen's department of Natural History.) Kai Curry-Lindahl. 1956. *Vår Fågelvärld*, 15(2): 123-126. (English summary.) Describes how Grey Herons, liberated and breeding near the Skansen Zoological Gardens at Stockholm, feed on insects that collect around the eyes of the deer in the pens, and compares the behavior with that of the Cattle Egret (*Bubulcus ibis*) and Snowy Egret (*Leucophoyx thula*) in relation to ruminants. The remarkable point in this case is that the Grey Heron, in contrast to the usual habits of the egrets, fed on insects captured directly from the body of the animal, and stabbed them so near the deer's eyes with such accuracy as never to cause painful injury. The deer not only submitted to the treatment, but even showed willingness to cooperate. However, the author was not certain whether the observed behavior concerned only one bird and one deer, or the whole colony and herd.—Louise de K. Lawrence.

46. Long-tailed Tits roosting in cavity in the ground. (Stjårtmesar (*Aegithalos caudatus*) övernattande i håligheter i marken.) Knut Borg. 1956. *Vår Fågelvärld*, 15(2): 130-131. The finding of 10 Long-tailed Tits roosting together in a cavity in a sandbank from December to February during a cold winter is significant in view of observations on American Paridae, which usually assign one roosting bird to a cavity.—Louise de K. Lawrence.

47. Changing of the guard at the nest of a pair of Cranes (*Grus grus*). (Ett tranpars vaktavlösning.) Sixten Jonsson. 1956. *Sveriges Natur*, Year Book of the Swedish Conservation Society, 46: 57-58. The male alighted 3 meters from the nest where the female sat incubating, pointed his bill skywards, dropped his wings, ruffed his tail (a sign of great excitement), and trumpeted loudly. The female arose and advanced towards him, posturing in the same way. The birds met, both trumpeting loudly, and passed one another. Trumpeting ceased, the male went to the nest and sank down on the eggs while the female waded up to her belly into the water of the swamp in search of food. Excellent photographs picture the whole sequence of the birds' behavior.—Louise de K. Lawrence.

48. Hoopoe with fledglings on Gotland 1954. (Härfågel (*Upupa e. epops* L.) med ungar på Gotland 1954.) Nils Noréhn. 1956. *Fauna och Flora*, (1-2): 22-32. Since the middle of the last century the Hoopoe for unknown reasons has decreased until at present it is found breeding only occasionally in southeastern Sweden. An adult was observed feeding five newly fledged young in a pasture on the island of Gotland. The parent probed with its curved bill for food in the ground. The shorter bills of the fledglings distinguished them from the parent. Once when alarmed by a flock of gulls screaming overhead, the Hoopoe stretched itself, raised the crest, and thereupon adopted "cryptic posture"—it crouched flat on the ground, partly extended the black and white checkered wings, and pointed the bill obliquely upwards.—Louise de K. Lawrence.

49. On the question of the Nocturnal Behavior of the Swift. Fifth Report. (Zur Frage des Nächtigens beim Nauersegler V. Beitrag.) Emil Weitnauer. 1956. *Der Ornithologische Beobachter* 53(3): 74-79. This paper is one of a series which have gradually made it clear that non-breeding Swifts (*Apus apus*), presumably first and perhaps some second-year individuals, spend entire nights aloft when weather conditions are favorable. In this report the author describes observations made by radar at the Kloten-Zurich airport during four nights in the summer of 1955. Movements of the flocks of Swifts are plotted and their relationship to weather conditions pointed out. The identity of the radar objects as flocks of Swifts was verified on a bright moonlight night from an aircraft directed to the flock by radar. A most interesting study.—R. O. Bender.

50. The Life of the Domestic Hen. (Lebensart des Haushuhns.) Erich Baumer. 1955. *Zeitschrift für Tierpsychologie*, 12(3): 387-401. From boyhood the author has watched with keen interest and sympathy his flock of chickens of very different breeds kept under as natural conditions as possible. He has gained insight into their behavior and capacities that is impossible under the artificial setups favored by most observers of domestic fowl. Play fights within a brood from the age of 3 weeks tend to establish dominance hierarchy, which becomes definitely settled by an outburst of general fighting at about the 7th week. A bond may last between sisters for over a year. Memory for places is strong; a rooster sought out his former sleeping place after an absence of 15 months. Some of the bantams proved particularly ingenious in their methods of retaining dominance over the growing cockerels and pullets of the larger breeds.—M. M. Nice.

51. The Instinctive Behavior Patterns of the Common Gull. (Die angeborenen Verhaltensweisen der Sturmmöwe (*Larus c. canus*)). Kuni v. Pfeffer-Hülsemann. 1955. *Zeitschrift für Tierpsychologie*, 12(3): 434-451. Characteristic postures and calls are described and illustrated and compared with those of the Herring Gull, *L. argentatus*. "Pair formation probably takes place before the arrival on the breeding grounds. The partners know each other personally," particularly by characters of the face. The chick at first does not pick food from the parent's bill as does the young Herring Gull, but the parents put regurgitated material into the chick's open bill. Due to this different method of feeding as well as to the smaller size and weaker voice of the Common Gull chicks, attempts to get Herring Gulls to raise Common Gulls failed.—M. M. Nice.

52. The Biology and Ethology of the Bullfinch. (Zur Biologie und Ethologie des Gimpels (*Pyrrhula pyrrhula* L.)). Jürgen Nicolai. 1956. *Zeitschrift für Tierpsychologie*, 13(1): 93-132. A 5-year intensive study of wild and captive Bullfinches. The song is weak, given by both sexes, and, in keeping with the non-territoriality of the species, has no significance in repelling males or attracting females in the breeding season, although young males in their first fall and winter sing while "courting" their first and temporary mates. A male or female kept alone sings a good deal and some males show themselves gifted mimics.

In pair formation the "female shows ritualized threatening, the male answers by a display of the belly feathers and lateral bending of the tail." Females that are especially eager for a mate exaggerate the display. "As healthy Bullfinch males are completely inhibited from attacking a female, the male is unable to maintain its display in the face of these actual attacks and flees." Another instinctive movement is the "bill flirt," which evidently originated from courtship

feeding. In engaged and mated pairs the male feeds the female from his crop; this "is derived from the sphere of parental care." "Synchronization of the readiness to mate is largely brought about by the partners showing nesting material to each other." The male chooses the nest site, but the female builds and incubates alone, receiving all her food meantime from her mate. The young are fed by regurgitation on half-ripened seeds. Pairs stay mated for life.

Hand-reared females that were not properly nourished may lay and incubate their eggs, but are apt to kill their young. One of them did feed her young, but failed to brood them after 2 days. A male with similar upbringing killed his newly hatched young. A male 21 days old brooded a nestling 10 days younger and carried away its droppings. "All young males show exclusively female sexual activities until late in winter."

Bullfinches reared in isolation become very attached to their caretakers, but if given mates of their own species during their first winter they make a normal adjustment. But if the bird continues to be kept exclusively with people, it "later accepts one of them as a permanent mate. It is only then that the sexual imprinting to humans has become irreversible. Males reared in isolation behave very tenderly to their human partner, attempt to feed him and are strongly personally attached to him. . . . Females are very aggressive and furiously attack humans." (Quotations from the English summary.) A notable study.—M. M. Nice.

53. Records of the Development of Original and Unusual Feeding Methods by Wild Passerine Birds. W. H. Thorpe. 1956. *British Birds*, 49(10):389-395. An example of the Blue Tit, *Parus caeruleus*, "learning to wind up a suspended perch on its string and so reach food" is considered as "Trial-and-Error Learning, not Insight." Some passerine birds that do not normally feed in the inverted position have learned to do so to procure bait, particularly in severe weather; it is suggested that this is not true imitation, but that "it may merely be that the attention of the bird is drawn to the food source (local enhancement) and that it then learns the trick in the same way as did the first bird."—M. M. Nice.

54. Notes on Tufted Duck in St. James' Park, London. E. H. Gillham. 1957. *British Birds*, 50(1): 2-10. From 1953 to 1955 8 to 15 pairs of *Aythya fuligula* have bred in this park in Inner London. During the last 2 years a few non-breeding adults were present. "One of the surplus males had a fixation for Mallards (*Anus platyrhynchos*) and associated only with courting parties of that species which it accompanied constantly between 27th April and 17th May. This drake Tufted ignored females of his own species and tried only to court Mallard."

As Hochbaum (1944) found with all female diving ducks at Delta, Tufted females deserted their young before they could fly. "In one instance a brood was left when a few days old (these young reared themselves), but most frequently the desertions occurred two-thirds of the way through the fledging period. "The cold and wet summer of 1954 was a disastrous one for breeding Tufted and I saw only two different broods, each of 4 ducklings"; these soon died. Abandoned ducklings showed no tendency to join other broods. Some of the females completed their wing molt in the park, while others went elsewhere. Departure of the young coincided with a passage of migrants.—M. M. Nice.

55. Does Begging by Young Birds Release Sexual Behavior in Adults? (Vermag das Betteln des Jungvogels sexuelles Verhalten beim Altvogel auszulösen?) Hans Rittinghaus. 1956. *Die Vogelwelt*, 77(4): 116-118. The author describes an adult male Sandwich Tern (*Sterna sandvicensis*) bearing food, displaying to, and mounting a fledged, begging young bird of the same species. He also gives an account of an adult male Skylark (*Alauda arvensis*) descending from a song flight to mount a 14- or 15-day-old juvenile, probably one of his own offspring.—Frances Hamerstrom.

56. Behavior Studies on the Black Woodpecker (*Dryocopus martius*). A Contribution to the Use of Decoys in the Wild. (Verhaltensstudien an Schwarzspechten (*Dryocopus martius*). Ein Beitrag zur Methodik des Freiland-Attrapen-Versuches.) Dieter Blume. 1956. *Die Vogelwelt*, 77(5): 129-151. Stuffed

skins as decoys, papier maché decoys, and calls "Kwih" and "Rürr" were tried on Black Woodpeckers at different times of year, different times of day, and in different parts of territories. Response to calling and to decoys was sometimes "normal," sometimes the reaction was situation-specific, and sometimes substitute behavior (drumming and preening) was elicited. "Kwih" is a relatively undifferentiated call for sex, species, and localization. "Kijak" and "Rürr" calls and associated movements are more specialized and highly differentiated. "Kijak" signifies recognition of species with a warning not to come too close, except in the breeding season when it connotes tolerance, appeasement, and even invitation to the hole toward the female. Males show a multiple behavior pattern toward other males with ceremonious threat, display of hind neck, and "Rürr" calls. Good sketches show behavior patterns.

Substitute behavior (hewing, climbing, knocking, and drumming) decreases at the breeding season. Black Woodpeckers appeared not to become "accustomed" (gewöhnt) to the decoys or to their positions. Blume does not make clear how he determined the absence of learning or conditioning to decoys, nor how he distinguished between substitute behavior and display. A footnote mentions that certain reactions which have been designated as substitute behavior may turn out to be ambivalent movements, redirection activities, and overflow activities or neuroses. A stimulating paper however.—Frances Hamerstrom.

57. Sleeping Habits of Tree Creepers and Other Small Birds on Cold Winter Nights. (Schlafgewohnheiten der Baumläufer (*Certhia brachydactyla*, *C. familiaris*) und andere Kleinvögel in kalten Winternächten.) Hans Löhrl. 1955. *Die Vogelwarte*, 18(2): 71-77. Excellent description of communal roosts of up to 20 Tree Creepers, and discussion of the winter sleeping habits of the Goldcrest (*R. regulus*), Titmice (*Paridae*), Starling (*Sturnus vulgaris*), and Wren (*T. troglodytes*).—Frances Hamerstrom.

58. Winter Fighting in Feeding Flocks of Rooks, Jackdaws and Carrion Crows. J. D. Lockie. 1956. *Bird Study*, 3(3): 180-190. In a study of feeding flocks of Rooks (*Corvus frugilegus*), Jackdaws (*C. monedula*), and Carrion Crows (*C. corone*) for three winters, the author noted aggressive behavior to be connected primarily with mating and food. He describes the threat postures used in various situations. He considers food-fighting and reproductive-fighting functionally different, as the former occurs when food is least available and when sexual behavior is inhibited. He argues that "the social hierarchy is an adaptation to reduce the bodily harm from food-fighting, that the existence of food-fighting implies that the birds which do it are liable to come against the food limit at times, and that when food is short, food-fighting, assisted by the social hierarchy, distributes what food there is unequally, some animals obtaining enough, and others much too little." An interesting analysis of observed behavior, told with a refreshing minimum of the current behaviorist jargon.—O. L. Austin, Jr.

59. The Roosting Times of the Swift. H. F. Church. 1956. *Bird Study*, 3(3): 217-220. The author timed the roosting of Swifts (*Apus apus*) at a large breeding colony at latitude 55°46'N, and found that the birds came to roost at definite intervals after sunset relatively independently of weather conditions. This interval decreased from 30 minutes at the summer solstice to 15 minutes in mid-August. He attributes this to the birds' reaction to "total light intensity or to that of particular spectral ranges." A possibility he does not mention is that the birds may be reacting to the percentage of polarized light in the skylight when the sun is below the horizon, on which weather conditions have little effect.

Assuming flying time and feeding time to be synonymous, he considers both to be functions of day length rather than of day-to-day weather. He therefore concludes that the additional feeding time of the longer summer days at higher latitudes "is the main reason that the Swift, towards the northerly limit of its breeding range, arrives latest and departs earliest."—William H. Allen.

ECOLOGY

(See also numbers 82, 96)

60. Further results of bird colonization experiments in Beech Woods. (Weitere Ergebnisse über Vogelansiedlungsversuche in Buchenwäldern.) Herbert Bruns. 1956. *Ornithologische Mitteilungen*, **8**(11): 201-206. The possibility of controlling destructive outbreaks of forest insect pests by artificially increasing the bird population is receiving careful study in Europe. Installation of large numbers of nesting boxes has been shown to increase the normal population density in mixed woods several fold, thus demonstrating that nesting site availability rather than food supply has been the limiting factor. (See Bruns 1955, *Orn. Mitt.* **7**(12): 221.)

Since many European forests contain essentially single species of trees and since these uniform forests have been shown to have very low densities of nesting birds (0.1 to at the most 1.0 pair per hectare), it became important to determine whether population increases could also be achieved in these forests by nest-box installation. This paper reports on a study in six test plots in uniform red-beech woods conducted during 1955 and 1956. In order to eliminate local and accidental effects, the six plots were from forests in Northern, Middle, and Southern Germany. Five of the plots were from 4 to 9 hectares in area; the sixth was of only 1 hectare. Nest boxes of several kinds were hung to give densities of 25 and 50 per hectare.

The lowest population determined on a test plot in terms of broods fledged was 2.2 per hectare while the highest (on the one hectare plot) was 19.0. The maximum for a normal sized plot was 13.0 broods, which the author considers a better value. Plots with southwest exposure had higher densities than those facing west or northwest. Densities were higher on the edges of the test plots than in the centers. High densities were principally due to increases in the population of Pied Flycatcher. An excess of nesting boxes is considered desirable in order to provide the birds with a choice of sites and also to provide sleeping quarters for the males.

The effect of increased bird population on outbreaks of forest insect pests remains to be determined but, if the populations can be maintained at these higher levels for a number of years, very interesting information should be obtained.—R. O. Bender.

WILDLIFE MANAGEMENT

(See also numbers 2, 20, 33, 65, 67, 94)

61. Shrub Lespedeza as a Quail Management Plant in Southeastern Virginia. George A. Gehrken. 1956. *Journal of Wildlife Management*, **20**(3): 239-242. A test of the assumption that plantings of *Lespedeza bicolor*, properly made on farms under a good land-use plan, should result in a measurable increase in quail populations. Seventy-nine border plantings, averaging about one acre per farm, were planted on 14 representative farms in 1948. Gehrken censused quail with two dogs on these farms annually through the following 5 years, and annual hunting records from 10 "outstanding" hunters were used. No significant changes were discovered in coveys located per hour, in quail killed per hour, or in juvenile-adult ratios over the 5-year period. No control farms were included in the survey, but figures on coveys flushed per hour and on juvenile-adult ratios conform remarkably with those reported from Missouri. It is concluded that bicolor plantings had no practical benefits in increasing quail populations.—Oliver H. Hewitt.

62. Experiments on Causes of Duck Nest Predation. M. C. Hammond and W. R. Forward. 1956. *Journal of Wildlife Management*, **20**(3): 243-247. Waterfowl nesting studies involving markers, close approach to the nest or disturbance of the incubating female are unreliable sources of information on production. Bias results from nest losses to avian and mammalian predators attracted by the observer's activities. Range cattle often trample nests when they investigate

nest markers. Defecation on the eggs by the disturbed female may increase fox and coyote predation, although an experiment with chicken eggs scented with duck feces failed to prove this point. The authors conclude that "energies devoted to studies aimed at measuring moderate differences in waterfowl nesting success from year to year, between localities, or between habitats would be more wisely diverted to other lines of endeavor if the method of study involves approaching nests and flushing ducks from them."—Oliver H. Hewitt.

63. A Study of Waterfowl Broods in Eastern Montana with Special Reference to Movements and the Relationship of Reservoir Fencing to Production. Paul F. Berg. 1956. *Journal of Wildlife Management*, 20(3): 253-262. Comparisons of growth of vegetation and duck brood production were made between 12 unfenced ponds and 12 ponds from which grazing livestock had been excluded. Fluctuating water levels prevented evaluation of the benefits of fencing. Forty broods of Mallards, Pintails and Blue-winged Teal were marked with airplane dope. Twelve observations of 9 marked broods indicated movements from 0.38 to 1.02 miles overland. Brood movement was generally from bare ponds to those with emergent vegetation, from small to larger ponds, and from ponds with lowered water levels to those with more stable levels.—Oliver H. Hewitt.

64. Some viewpoints relating to the White-tailed Eagle. (Några synpunkter på havsörnen.) Göran Bergman. 1955. *Sveriges Natur*. (3): 82-87. According to the latest counts, the total adult population in Sweden and Finland of the White-tailed Eagle (*Haliaeetus albicilla*) consists of some 70 pairs. This means that about 100 juveniles are fledged yearly and migrate southwestward to the wintering grounds in southern Scandinavia. Pressure is now being exercised, primarily by hunters of waterfowl, to decimate this stock further. Presenting strong evidence in support of his views, the author points out that any decline in the present population of eagles would spell catastrophe for the species, that other natural controls would replace them, and that the notion of an increase in waterfowl resulting from the disappearance of the eagles is pure "wishful thinking, lacking support entirely in experience."—Louise de K. Lawrence.

PARASITES AND DISEASES

65. Causes of Population Fluctuations in Capercaillie. (Über die Gründe für die Frequenzvariation beim Auerwild.) N. Høglund and K. Borg. 1955. *Zeitschrift für Jagdwissenschaft*, 1(2): 59-62. Population decreases of Capercaillie (*Tetrao urogallus*) are primarily the result of poor survival of young of the year. Leucocytozoon was ruled out as a cause. Of some 400 Capercaillie carcasses examined, 30 percent of the deaths were attributed to Toxoplasmosis, which caused 12 percent of Hare (*Lepus* spp.) deaths during the same period (1948-1952). The incubation period of Toxoplasmosis is presumed to be about 2 months. Symptoms of the acute form are ruffled nape and neck feathers and a spiral twisting of the neck, ending in death in 3 or 4 days. The heaviest mortality is in south and central Sweden, in juveniles, and from August through October.

Capercaillie chicks have a poor heat-regulating mechanism. A series of 1129 rectal temperature readings on 30 pen-reared chicks showed the average temperature of newly-hatched, dry chicks to be 37.9°C.; this rises gradually until the 18th day, when the normal adult temperature of 41.6°C. is reached. Chicks chilled quickly even when the air temperature was only slightly below body temperature. Cold and rain produced faster chilling than cold alone. The authors conclude from these data that chick mortality is high in cold, wet weather because the chicks must spend so much time regaining warmth under the hen that even with a good food supply near, they succumb to starvation.—Frances Hamerstrom.

66. Contribution to the study of the ectoparasitic fauna of birds from Croatia. (Prilog poznavanju ektoparazitske faune ptica NR Hrvatske.) M. Zukovic and T. Wikerhauser. 1956. *Larus*, 8(1954): 102-111. (English summary.) Lists 36 species of biting lice (Mallophaga), 1 fly, and 1 tick collected

from 55 birds of 39 species representing 23 families. Quite a number are apparently new host records.—O. L. Austin, Jr.

67. D.D.T. Poisoning of Birds. Victor A. D. Sales. 1957. *British Birds*, **50**(1): 20-22. Symptoms before death of three birds that had fed in a vegetable garden heavily sprayed with D.D.T.—M. M. Nice.

PHYSIOLOGY AND PSYCHOLOGY

(See also numbers 13, 59)

68. The Body Temperatures of the North Island Kiwis. Donald S. Farner, Norman Chivers, and Thane Riney. 1956. *Emu*, **56**(3): 199-206. The authors obtained a series of body temperature readings at various times of the day and night from captive Kiwis (*Apteryx australis mantelli*) at Hawkes Bay and Auckland, New Zealand. After subjecting these data to exhaustive, complicated (and to me not entirely necessary) statistical analysis they conclude: "Mean nocturnal temperatures for six captive North Island Kiwis were found to range from 38.2°C. to 39.9°C. whereas mean daytime temperatures varied from 36.4°C. to 37.2°C. The weighted mean difference between nocturnal and daytime temperatures, 1.76°C., is statistically highly significant. It appears that the body temperature of this species may be somewhat lower than that of other species of the same order of body size." They have certainly proved, to my satisfaction at least, that the body temperature of the flightless, highly nocturnal Kiwi is, as might be expected, higher at night than in the daytime and somewhat lower on the average than that of flying birds about the same size.—O. L. Austin, Jr.

69. A Method of Sexing Petrels in Field Observations. D. L. Serventy. 1956. *Emu*, **56**(3): 213-214. Sexes of the Short-tailed Shearwater (*Puffinus tenuirostris*) are readily differentiated for some 2 months at the height of their period of sexual activity by the size and shape of the cloaca. The species lays a huge egg, and as the laying period approaches (19 Nov.-3 Dec.) the characteristic differences become pronounced. The female cloaca becomes "transversely distended, with swollen lips," whereas "in male birds, as in non-breeding females, the cloacal opening is small and inconspicuous, with the vent roundish or feebly transverse." After egg-laying the female cloaca gradually relapses to the normal form. It is usually recognizable through December, but "from mid-January onwards, females may barely, if at all, be distinguished from males." Students of species lacking sexual dimorphism have given too little attention to this possible means of differentiating between sexes at nesting time.—O. L. Austin, Jr.

70. Factors Influencing Testis Coloration in Birds. D. L. Serventy and A. J. Marshall. 1956. *Emu*, **56**(3): 219-222. A dissertation on the mechanical and histochemical changes that cause the avian testis to become lighter in color as it increases in size with the onset of sexual activity and darker as it regresses after the breeding season.—O. L. Austin, Jr.

71. The Effect of Diet on Photoperiod-Induced Lipid Deposition in the White-Throated Sparrow. Eugene P. Odum and James C. Major. 1956. *The Condor*, **58**(3): 222-228. Two groups of caged White-throated Sparrows, *Zonotrichia albicollis*, kept indoors at 68° F. were exposed to increased photoperiods beginning November 28. Fifteen minutes of extra light was added daily to the initial 12-hour day until a 16-hour day was reached on December 16. These long days were continued until early February. Group A (10 birds) received a high fat diet while group B (12 birds) was fed a low fat diet. A third group C (5 birds), also kept indoors but on natural photoperiods, was fed a mixed diet. In early February the extractable lipids in the birds of groups A and B greatly exceeded those in group C, and were similar in amount of distribution to normal premigratory birds. The different percentages of fat in the diets of groups A and B had but little effect on the magnitude of the fat deposition. An approximation of food consumption suggests a decided increase in caloric intake at the time of increased fat deposition in both experimental groups. A molt, resembling the pre-nuptial, and weight increases were induced simultaneously in both of groups A and B about 7 or 8 weeks after light increases were begun and about 5 weeks

after the 16-hour days were reached. A report on the gonadal response (if any) during or at the conclusion of these weight and feather changes would have been interesting.—L. Richard Mewaldt.

72. The Annual Reproductive Cycle of the California Gull. David W. Johnston. 1956. *The Condor*, **58**(2): 134-162 (I. Criteria of Age and the Testis Cycle); **58**(3): 206-221 (II. Histology and Female Reproductive System). This well-presented account of criteria for age determination and of the reproductive biology of the California Gull, *Larus californicus*, is based on 485 specimens collected from 1951 to 1953. Most collections were made on the winter range in the San Francisco Bay region of California and on nesting grounds at Mono Lake, about 175 miles inland. Four age groups (1st-year, 2nd-year, 3rd-year, and adult) are distinguished on the basis of plumage and soft parts; these criteria were confirmed by collecting banded birds of known age. The bursa of Fabricius was present in all subadults, except an occasional 3rd-year bird, whereas out of 122 adult plumaged birds collected, 8 were found to have a bursa.

Although birds leave the coastal areas and move inland in spring, most 1st-year gulls remain away from the nesting grounds. Fewer of each of the successively younger age groups were found at the breeding colonies. Among migrating birds, 1st-year males show very little testicular growth, testes of 2nd-year birds enlarge to about one-fourth adult size, and testes of 3rd-year birds develop to about one-half adult size. No 1st-year or 2nd-year gulls of either sex were found to breed, whereas some 3rd-year females and about one-half of the 3rd-year males were believed to breed. In females, no ovarian follicles enlarged beyond 6 mm. were found except in adults just prior to egg laying.

Attempts to demonstrate ketosteroids in the testes of adults from February to May by the 2,4-dinitrophenylhydrazine reaction and by the hydrazide-tetrazonium reaction were negative. Mouse material, run simultaneously with the gull testes, showed positive tests for the ketosteroid in the interstitial cells. Seasonal variation in size of the ducts of the reproductive system and seasonal or cyclic enrichment of colors of the bill, eye, eyelid, and gape of both sexes are nonetheless attributed to increased androgen production in the spring. The endocrine complex responsible for these cyclic changes is not yet understood.—L. Richard Mewaldt.

PLUMAGES AND MOLTS

73. Pterylography and Molt of the Allen Hummingbird. Elmer C. Aldrich. 1956. *The Condor*, **58**(2): 121-133. This account of pterylography and molt in the Allen Hummingbird, *Selasphorus sasin*, contributes to a relatively neglected area of study. The 10 primaries and 10 rectrices are sexually dimorphic and are specialized in form and structure to serve in production of flight sounds. A frontal apterium in the capital tract appears to be characteristic of the Trochilidae and some other closely related forms. A postjuvenile molt takes place after mid-October. A prenuptial molt observed in 1st-year males is possibly a portion of a protracted postjuvenile molt. Adults apparently undergo one molt only, a complete annual molt between October and February on the wintering grounds.—L. Richard Mewaldt.

ZOOGEOGRAPHY

(See also numbers 15, 16, 20, 48, 59, 101)

74. On the extent of variation of the Camargue Blue-headed Wagtail and the Blue-headed Wagtail immigration into Switzerland. (Über die Variationsbreite der Camargue Schafstelzen (*Motacilla flava*) und die Schafstelzen-Einwanderung in die Schweiz.) Martin Schwarz. 1956. *Der Ornithologische Beobachter*, **53**(3): 61-72. Recently the Blue-headed Wagtail has been found repeatedly nesting in Switzerland. The males of this species have racial plumage differences that make field identification possible. The racial affinities of the Swiss immigrants were confusing; individuals typical of the Middle European race *M. f. flava* were found as well as some typical of the southern races *cinereocapilla* and *iberiae*. Many others of suspected mixed character have been reported.

In an effort to clarify this situation the author made a careful field study of the racial affinities of the Blue-headed Wagtails of the Camargue in the South of France. Here he found the Spanish race *iberiae* and the Italian race *cinereocapilla* apparently interbreeding; 7 out of 10 males observed were intermediate, 2 were *cinereocapilla*, and only 1 *iberiae*. The author concludes that a substantial part of the Swiss immigration represents birds from southern France. Some of these interbreed with normally migrant *M. f. flava* that remain behind to nest.—R. O. Bender.

75. An over-all picture of the occurrence of the Kittiwake in Switzerland during the winter of 1954/55. (Über das gehäufte Auftreten der Dreizehnröwe in der Schweiz im Winter 1954/55.) Ernst Sutter. 1956. *Der Ornithologische Beobachter* 53(3) : 81-93. During the winter of 1954/55 unusual numbers of Kittiwakes (*Rissa tridactyla*) were observed throughout Central Europe. Peak numbers were observed at the end of December and at the beginning of February. These are shown to be related to severe storms off the coast of France at these times which carried inland over Germany and Switzerland. Comments on behaviour and food are included. This is another of the comprehensive and valuable reports which the European ornithologists prepare on unusual movements of birds.—R. O. Bender.

76. Establishment of Black-headed Gulls (*Larus ridibundus*) in Hamburg City. (Die Besiedlung des Hamburger Stadtgebietes durch Lachmöven (*Larus ridibundus*.) Dierk Franck. 1955. *Die Vogelwelt*, 76(3) : 81-91. A 3-year study shows that Black-headed Gulls wintering in Hamburg reach their population peak in late January. They take up the better habitats in order of their desirability, based on food, visibility, and distance from occupied habitats. Young gulls are forced into the poorer habitats.—Frances Hamerstrom.

77. Two Types of Spread in the Fieldfare (*Turdus pilaris* L.). (Zwei Ausbreitungstypen der Wacholderdrossel (*Turdus pilaris* L.)) J. Peitzmeier. 1955. *Die Vogelwelt*, 76(3) : 91-93. In Lower Saxony and Hesse the Fieldfare shows a spotty, saltatory extension of range. In contrast, this same species has spread in southeast Westphalia in regular progressive increments.—Frances Hamerstrom.

78. Census of Breeding Canada Geese, 1953. N. G. Blarnton Jones. *Bird Study*, 3(3) : 153-170. The Canada Goose was first brought to England some 300 years ago. Escapes from parks and aviaries soon established themselves in the wild. This cooperative study of the species' present status shows it to be distributed in isolated, localized sub-populations. "The total population in July, 1953 (adults, non-breeders and goslings), was between 2,200 and 4,000. Non-human predation is small. Man occasionally limits some populations by egg destruction and shooting. Habitat seems not to determine the range of the species. Restricted movements seem to limit the discovery of new waters by geese and to be the cause of the very local distribution."—O. L. Austin, Jr.

79. The Mute Swan Population of the Eastern Borders. H. F. Church. 1956. *Bird Study*, 3(3) : 212-217. "Counts over four years of Mute Swans in the lower Tweed valley and on coastal flats adjoining suggest that there is a regular, seasonal movement between the two habitats, the coast being preferred in the winter. There are, however, discrepancies which may indicate that other haunts are occasionally used. The large summer population which haunts the estuary is composed of non-breeding birds. The percentage of cygnets in wintering flocks is of the order of 10-15 percent. The literature indicates that the Mute Swan has increased during this century in the Tweed area and counts of non-breeding birds along the river indicate a considerable change even in the last ten years."—O. L. Austin, Jr.

80. The Wintering of Blackcaps in the British Isles. J. Stafford. 1956. *Bird Study*, 3(4) : 251-257. The Blackcap (*Sylvia atricapilla*) is a common summer resident in the British Isles. This study of its occurrence in winter is

based on 9 years of B.T.O. records. How many of the wintering individuals manage to survive until spring is debatable, but one case of survival through to spring is described. An interesting and unexplained phenomenon is the apparent tendency of females to be more common in the north and males in the south of the British Isles during winter.—O. L. Austin, Jr.

81. Bird Notes from Spitsbergen, Summer 1955. I. D. Pennie and D. G. Andrew. *Sterna* 2 (pt. 2, no. 27): 49-63. Notes on 29 species observed at this arctic outpost from 26 June to 12 July 1955. Contains some interesting notes on Glaucous Gulls robbing the nests of Pink-footed and Barnacle Geese.—O. L. Austin, Jr.

82. Birdlife in central Jämtland. (Fågellivet i socknarna Rödön, Näskott, och Alsen i mellersta Jämtland.) Nils Nilsson. 1955. *Fauna och Flora*, (4): 145-186. This remarkable continuous record of the avifauna in a particular district of northern Sweden, assembled in the course of 65 years, accents the contribution to ornithology made by the stationary naturalist through meticulous and unintermittent observation and note-taking. The annotated list comprises 151 birds, most of which at one time or another bred in the area. Among the wealth of interesting notes that accompany each species, a few are extracted:

The cyclic fluctuations of the Bullfinch (*Pyrrhula pyrrhula*) were found to be correlated inversely to those of the squirrel, as were those of a few other small birds nesting in conifers. The Skylark (*Alauda arvensis*), which was common in the beginning of 1900, has now almost disappeared, due mainly to the increased population of roaming domestic cats. On a single occasion in 1931, when the rowan-berries were particularly abundant after the warm summer of 1930, Bohemian Waxwings (*Bombycilla g. garrulus*) nested in the area the following spring and summer. Swifts (*Apus a. apus*) have occupied a nest-box ever since it was affixed close under the roof of the author's house one day in 1903, a period of some 50 years.

The notes furnish repeated evidence of the close relationship that exists between clutch-size and food supply in carnivorous birds. Tengmalm's Owl (*Aegolius junereus*), for instance, disappears in years when the lemming populations dwindle but returns to the same nesting places when the rodents are again plentiful. It lays 5 to 6 eggs in lean years and 7 to 8 in years of plenty. The Honey Buzzard (*Pernis pivoorus*) lays no eggs at all during cold and rainy summers when wasps and bumblebees are scarce, although it remains in the nest locality and may be seen refurbishing the old nest with fresh branches until far into the summer. The Green Sandpiper (*Tringa ochropus*), which lays its eggs in nests abandoned by other birds, once incubated a clutch laid in a depression on top of a squirrel's nest. Excellent photographs reveal interesting details in the choice of site and nest construction of Crossbills (*Loxia c. curvirostra*), Siberian Jay (*Perisoreus infaustus*), Crane (*Grus g. grus*), and many other species.—Louise de K. Lawrence.

83. Bird observations in Lapland. (Fågelobservationer i Lapland.) C. M. Acland, V. C. Maxse, D. B. Peakall. 1956. *Fauna och Flora*, (4): 162-173. During a 3-week visit at Abisko on the 68th parallel, 81 species were listed. The courtship of 8 pairs of Long-tailed Ducks (*Clangula hyemalis*) observed on the half-frozen lake; the first record for the Torneträsk lake of Black-headed Gulls (*Larus ridibundus*); a colony of Fieldfares (*Turdus pilaris*) nesting on the shelves of a sheer cliff above the river; the nest of an Arctic Redpoll (*Carduelis hornemanni*) containing 6 eggs; and the nest of a Pine Grosbeak (*Pinicola enucleator*) with 3 young in a juniper, the second nest discovered above the pine tree limit, were the highlights of this ornithological excursion into the land of the midnight sun in the summer of 1955.—Louise de K. Lawrence.

84. Birds of the Gävle Region. (Gävletraktens fåglar.) Gösta Hultberg. 1956. *Vår Fågelvärld*, 15(2): 81-120. (English summary.) In 1954-55, 14 amateur ornithologists of the Gävle Nature Club undertook a bird count around Gävle in south-central Sweden on the Gulf of Bothnia. Their aim was to inventory the avifauna of this hitherto neglected region for comparison with a count made in 1850. Their carefully worked-out methods are described in detail. The result

was an annotated list of 200 species, of which 135 breed regularly, 4 probably bred, and 61 are transients. The census added 48 species to the 1850 count, but these were reduced to a definite 19 by allowing for the less accurate census methods, fewer observers, and less efficient transportation of a century ago, and other pertinent information.

The most interesting changes include the dispersal northward of the Reed Warbler (*Acrocephalus scirpaceus*), Marsh Harrier (*Circus aeruginosus*), and Wood Warbler (*Phylloscopus sibilatrix*), and the appearance from the east of the Scarlet Grosbeak (*Carpodacus erythrinus*). On the other hand, such birds as the Roller (*Coracias garrulus*), Black Stork (*Ciconia nigra*), and Greylag Goose (*Anser anser*), which reached their northernmost ranges in the region 100 years ago, have now totally withdrawn. The data show that, in general, bird life has increased in this area during the past century despite the encroachments of civilization upon the natural environs. Some birds have profited by the increased human occupancy, particularly during the cold season. Increased food supplies in the form of garbage and other offal now permit flocks of Laridae and Corvidae to find ample sustenance throughout the winter.—Louise de Kiriline Lawrence.

85. Redwing Breeding at Lake Hornborg, Västergötland. (Rödvingesträsen (*Turdus musicus*) häckande i Hornborgasjön.) Karl Georg Wingstrand. 1956. *Vår Fågelvärld*, 15(2): 120-123. (English summary). This is a noteworthy case of southward extension of the breeding range of a northern species, caused apparently neither by changes in climate nor an abbreviated migration. The Redwings seem to have occupied this locality in response to the recent growth of willow which has sprung up as the lake dried and became marshland. This provides the same habitat the species favors in the north.—Louise de Kiriline Lawrence.

86. Birdlife at the Visby coast the winter 1956. (Något om fågellivet vid Visby-kusten vintern 1956.) Gösta Håkansson. 1956. *Vår Fågelvärld*, 15(4): 248-251. (English summary.) Ice formed in the Baltic Sea around the island of Gotland during the cold winter of 1956 and drove large flocks of wintering sea-birds into the harbor of Visby in search of open water. Sixteen species were observed, including ducks, eiders, loons, swans, guillemots, and cormorants. Despite efforts to provide food for these birds, many died from starvation. Before the ice broke up in late March, migrating Black-headed Gulls (*Larus ridibundus*) arrived already in full summer plumage while the winter populations still retained their winter-dress. Ice formation and oil pollution are considered the greatest hazards of the sea-bird populations around the coasts of Sweden.—Louise de K. Lawrence.

87. Scarlet Grosbeaks in northern Sweden. (Rosenfinken i Skellefteå 1955.) G. Öberg. 1956. *Sveriges Natur*, (1): 21-24. In June 1955, a blind person successfully identified a singing Scarlet Grosbeak (*Carpodacus erythrinus*) in the neighborhood of Skellefteå through his acute hearing and good memory of a record played several years earlier in the radio. The author confirmed the discovery of a male in full plumage accompanied by a female which apparently also sang. A nest was subsequently found, built "nearly" on the ground in tall grass at a roadside filled with dense undergrowth. One egg was laid, but the birds deserted the nest when disturbed. Although a few earlier occurrences of the species are reported from the region, this is the first evidence of breeding.—Louise de K. Lawrence.

88. The House Wren in Tennessee. Lee R. Hendron. 1956. *Migrant*, 27(2): 23-30. A report of all the references to *Troglodytes aedon* in Tennessee appearing in the *Migrant* during the last 25 years. The House Wren has recently established itself as a breeding species in eastern Tennessee and appears to be spreading southwestward. One of the writers speaks of the House Wren as driving out Bewick's Wren (*Thryomanes bewickii*), but on the whole the former settles in residential sections of towns and cities, while the latter prefers farm homes. A map with some method of indicating first breeding records in different localities would have been helpful.—M. M. Nice.

89. Photographic Studies of Some Less Familiar Birds. LXXVI. Osprey. Photographed by M. D. England. 1956. *British Birds*, 49(12): 489-493. "Like a number of the birds of prey, the Osprey (*Pandion haliaetus*) is a widespread species and has a breeding-range which extends from Alaska in the northwest to Australia in the south-east. It is, however, mainly a bird of the northern hemisphere." At one time it nested rather commonly in Scotland, but was extirpated by egg collectors by 1908. Two pairs attempted to nest there in 1955 and 1956 and the writer deplors the publicity given them "on the wireless and in the press." Ten fine photographs of "these magnificent birds" are shown; they were taken in Sweden. Incubation lasts 5 weeks and is shared by the male who also brings food to his mate on the nest and the major part of the food for the young during the 8- to 10-week fledging period.—M. M. Nice.

FOOD

(See also numbers 32, 45, 48, 71, 81)

90. Feather-Eating and Pellet-Formation in the Great Crested Grebe. K. E. L. Simmons. 1955. *British Birds*, 49(11): 432-435. A new theory of the function of feather eating by grebes has been proposed by Hanzak (1952, *Acta Mus. Nat. Prague*, 8B: 6-37), namely that the feathers envelope the fish bones apparently to form ejectable pellets. Simmons accepts this view, although he admits: "As yet, no one seems to have seen the actual ejection of such a pellet and the pellet itself is unknown."

This seems to lie in the realm of conjecture. After extensive observation of Western Grebes (*Aechmophorus occidentalis*) and a study of their food which involved examination of 27 stomachs, G. E. Lawrence (1950, *Condor*, 52: 3-16) agrees with the prevailing opinion: "The feather mass which completely fills the stomachs of Western Grebes appears to function to protect the inner lining of the stomach from the sharp bones of fish, it also prevents undigested bones from passing into the lower alimentary tract." He states: "The Western Grebe does not regurgitate undigested bones, scales and chitinous parts. These sharp objects have been found in many states of erosion by digestive action. Vertebral segments often were found discolored and spineless in the very center of the feather mass. The presence of the limpet shells and small stones also indicates that material not readily digested remains in the grebe stomach until it is softened or eroded."—M. M. Nice.

91. Feeding Association between Coot and Little Grebe. N. P. Ashmole, R. G. B. Brown and N. Tinbergen. 1956. *British Birds*, 49(12): 501. In January 1956 five *Podiceps ruficollis* were noted closely attending individual *Fulica atra* that were diving in shallow water; the Grebe "would always dive just after the Coot had done so." "It seems probable that the Little Grebes were in this case feeding on Crustaceans or other small animals disturbed by the Coot."—M. M. Nice.

92. Lapwing Chicks "pattering" and Feeding on Tadpoles. G. L. Boyle. 1956. *British Birds*, 49(12): 502. Four *Vanellus vanellus* chicks were noted using the "foot-pattering" action in feeding "when less than a fortnight old." The chicks from this age caught tadpoles, beating them on the ground before swallowing them. They never took more than one or two at a time, although the pool was swarming with this prey.—M. M. Nice.

93. Concerning the Food of Our Forest Birds. (Über die Ernährung unsere Waldvögel.) Kurt Ruppert and Richard Langer. 1955. *Die Vogelwelt*, 76(3): 93-102. Analysis and discussion of 120 stomach contents of 11 species of birds, chiefly *Parus major*, *Sturnus vulgaris*, *Turdus merula*, and *Fringilla coelebs*.—Frances Hamerstrom.

94. What do the raptors eat? (Vad äter rovfågelnarna?) Kai Curry-Lindahl. 1956. *Sveriges Natur*, (3): 86-90. In connection with efforts to achieve the protection of all owls, falcons, and buzzard hawks, tables were worked out on the feeding biology of various species. Of nine species of owls, the Pygmy Owl (*Glaucidium passerinum*) and the Snowy Owl (*Nyctea scandiaca*) were the only

ones whose diet included birds to a small extent. The owls feed overwhelmingly on mice, rats, voles, shrews and other small mammals. The Merlin (*Falco columbarius*) and the Peregrine Falcon (*Falco peregrinus*) feed on birds, but in the food list of the latter crows occupied first place, nearly 22 per cent. The Hobby (*Falco subbuteo*) lives mostly on insects, the Kestrel (*Falco tinnunculus*) on insects and small mammals, and the normal food of the Buzzard (*Buteo buteo*) consists in the main of insects, reptiles, amphibians, and small mammals.—Louise de K. Lawrence.

95. Feeding Habits and Seasonal Movements of Mute Swans on Two South Devon Estuaries. Mary E. Gillham. 1956. *Bird Study*, 3(3): 203-212. Mute Swan grazing influences the vegetation of estuarine salt marsh turf considerably. They graze succulent plants and the semisucculent marsh grass most severely and wastefully, severing much of the vegetation and leaving it to wilt. Seasonal variations in food preferences lead to local migrations from one area to another.—O. L. Austin, Jr.

96. The Food of Nestling Jays and Magpies. D. F. Owen. 1956. *Bird Study*, 3(4): 257-265. Analyzes a large number of food samples collected over a 3-year period from nestling Jays (*Garrulus glandarius*) and Magpies (*Pica pica*) by the Kluijver "collar" method. The nestling jays were fed chiefly on Lepidoptera larvae from oaks and other broad-leaved trees (86 percent), with Coleoptera, Diptera, and Arachnids of secondary importance. Lepidoptera larvae made up 46 percent of the nestling magpie diet, Coleoptera 21 percent, Diptera 16 percent. Most members of the crow family, and a number of other British woodland passerines as well, feed their young predominantly on these defoliating caterpillars in late spring. As the author points out, "It would be interesting to know if the combined efforts of all these birds have more than a negligible effect on the caterpillar population."—O. L. Austin, Jr.

SONG

(See also number 34)

97. Bird Songs of Dooryard, Field and Forest, Volume III, From the Rockies to the Pacific. Recorded by Jerry and Norma Stillwell, published by Ficker Records, Old Greenwich, Conn. 1956. 33 1/3 r.p.m. \$7.95. This long-playing record includes 220 songs and calls of 68 western species. Most of these species have not been represented on Stillwell records before, and the remainder are represented here by different races. The new record shares the virtues of the other two—accurate reproduction, quiet surfaces, a wide variety of songs and calls, and convenient grouping of related species. It should find an active sale among those living in the western third of the country, and among those going west on trips. It has been my own experience that such records are invaluable even for short trips, making it possible to recognize many species on first hearing. For reviews of the two earlier Stillwell records, see *Bird-Banding*, 24: 85-86 and 25: 170-171.—E. Alexander Bergstrom.

98. Homologization of Bird Sounds. (Homologisierung von Stimmäusserungen bei Vögeln.) Albrecht Faber. 1955. *Die Vogelwarte*, 18(2): 77-84. (Translation of author's summary.) "This paper is to show how order can be brought in the diverse, apparently entirely heterogeneous structure of bird song. It appears that evolutionary relationships are truly to be found in the forms of sounds, even when the relationships apparently seem unrecognizable. Five species of Warblers (*Phylloscopus*) are analyzed [including oscillograms] and are compared as an example."—Frances Hamerstrom.

99. Concerning Vocal Sounds of the Black Woodpecker, Green Woodpecker, Grey-headed Woodpecker, and the Great Spotted Woodpecker. (Über die stimmlichen Lauttaeusserungen bei Schwarzspecht, Grünspecht, Grauspecht und Buntspecht.) Dieter Blume and Georg Jung. 1956. *Vogelring*, 25(2): 60-75. Woodpecker sounds are of three main types: "Kik," "Kui," and "Krr." All calls are used by both sexes. Some calls may signify general excitement, some are uttered in conflict situations, many promote keeping

distance between individuals. Mates have "presence," "correspondence," and "locating" calls in their large territories. Finally, there are calls to lead to the hole, and synchronization and stimulatory pair-building calls. Specific warning and fright, as well as social contact, calls are lacking. Calls of mates changing places at the nest or meeting within the nest territory are more on the order of subdued threats than greeting. Calls of the following species throughout the year are taken up individually: *Dryocopus martius*, *Picus viridis*, *P. canus* and *Dendrocopos major*.—Frances Hamerstrom.

100. On the singing of a female Pine Grosbeak. (Om en syngende hunn av konglebit, *Pinicola enucleator*.) A. Bernhoft-Osa. 1956. *Vår Fågelvärld*, 15(4): 245-247. (English summary.) Evidence of the ability to sing was obtained from the female when a pair of wild Pine Grosbeaks, captured in the fall of 1954, began singing together during the following spring. Copulation occurred and the singing female laid seven eggs in June. As she was unable to build a nest in the cage, the eggs did not hatch. It seems strange that adequate facilities for nesting were not provided, which might have revealed further valuable data. The female sang again the next spring but laid no eggs.—Louise de K. Lawrence.

BOOKS

101. Louisiana Birds. George H. Lowery, Jr. Illustrated by Robert E. Tucker. 1955. Published for Louisiana Wild Life and Fisheries Commission by Louisiana State University Press. xxiii + 556 pp., 40 pls., 135 figs., numerous photographs. \$5.00. Dr. Lowery has achieved, in an outstanding fashion, the goal he set for himself. His prefatory comment, "This is not a state bird book in the traditional sense. Its one objective is to introduce the people of Louisiana to the absorbing subject of ornithology, mainly through the medium of that wealth of bird life which is their heritage," is a concise description of the contents of this beautifully produced book. George Lowery actually was much too modest in the quoted sentences. He has produced a bird book which will be appreciated on many fronts. The people of Louisiana will not be its only admirers. In my opinion the approach he has used can well serve as a model for other states to follow. The author adds that a technical work on the birds of Louisiana is planned at a later date.

The author has followed a plan of non-technical presentation throughout the volume. Following a brief introduction which speaks of the fascination and value of bird study he treats successively: "Louisiana as a Place to See Birds; History of Louisiana Ornithology; the Louisiana State University Museum of Zoology; How to Identify Birds; Feathers, Plumage, and Molt; The Bird Skeleton; Migration; Economic Value of Birds; Conservation and Wildlife Management; Attracting Birds; Ornithological Societies and Bird Clubs; and Accounts of Species." All of the subjects are given knowledgeable treatment. The accounts of species are succinct essays which include clues to identification, general information on distribution and occurrence in Louisiana, and odd bits of knowledge of a miscellaneous nature. These accounts follow no set pattern of presentation and are uniformly interesting. I must admit that Dr. Lowery's failure to mention the extensive bird-banding program as a source of information in studies of longevity, migration, etc., is a surprising oversight.

Robert Tucker's artistry has been carried intact into the pages of this work through the outstanding engravings which were done by ornithologist S. A. Grimes' Respress-Grimes Engraving Company. The photographs, mostly by Grimes and Allan Cruickshank, are uniformly of high quality.

I have only words of praise for a job well done by all concerned in the production of this pace-setting book.—J. C. Dickinson, Jr.

102. The Ornithologists' Guide—Especially for Overseas. Major-General H. P. W. Hutson, editor. 1956. British Ornithologists Union, London. 275 + xix pp., 34 text figs. 21 s. (distributed in the U. S. by the Philosophical Library, Inc., 15 East 40th St., New York 16, N. Y., at \$6.00) While this is the third such compendium of ornithological knowledge to be published in the last two years, it is none the less welcome. Few single volumes cover such a wide range

of subjects. It treats briefly of our current knowledge of many topics, including polymorphism, navigational ability, learning ability, and distraction displays, and discusses such specific techniques as the management of a bird sanctuary, bird photography, skinning and preserving, and the collection of bird parasites. Its list of 46 contributors reads like an honor roll of British ornithologists, and includes a number of eminent naturalists from other parts of the world, especially the British Commonwealth.

The guide is divided into 9 major sections, 8 of which are further subdivided into a total of 67 subsections. As might be anticipated, space is lacking to develop reviews of various individual aspects of ornithology to the extent possible in the recent compendium published by the American Ornithologists' Union (*Recent Studies in Avian Biology*, Albert Wolfson, ed., University of Illinois Press, 1955). Compared to *The Bird Watcher's Reference Book* (see *Bird-Banding* 28: 110-111) its list of ornithological organizations and of nature preserves in various parts of the world is quite brief, and it does not attempt to include a detailed glossary. Devised by the B.O.U. for its members who either live permanently in distant parts of the world or who travel abroad for long periods, it is well worth including in the working library of any active ornithologist.—E. Alexander Bergstrom.

103. Bird-Ringing, the Art of Bird Study by Individual Marking. R. M. Lockley and Ros-mary Russell. 1953. John de Graff, Inc., 31 East 10th Street, New York 3, N. Y. 119 pp., ill. \$2.50. This useful manual, which should be on every bander's reference shelf, is now available as above. The American publisher lists a U. S. "publication date" of 30 September 1956, but the review copy accompanying the announcement is the original British edition with the de Graff, Inc., imprint pasted over the Crosby Lockwell & Son Ltd's on the title page. No changes have been made in the original, for a review of which see *Bird-Banding* 25(2) : 80-81.—O. L. Austin, Jr.

NOTES AND NEWS

Mr. Low, the author of the leading paper in this issue, has banded birds in many parts of the country, but in Massachusetts, North Dakota, Oklahoma and Maryland in particular. While employed by the O. L. Austin Ornithological Research Station on Cape Cod, he became familiar with Italian nets, and uses Japanese mist nets extensively on his farm in Maryland, and, in September, at Cape May, N. J.

The Reed holding cages referred to in that paper are sold by the Massachusetts Audubon Society, 155 Newbury St., Boston 16, Mass. The price of the 8-cell cage is \$13.50; that of the 12-cell cage is \$18.00. Shipment, by express, adds about \$1.80 or more depending on distance.

For details of price and availability of three sizes of Japanese mist nets handled by the Northeastern Bird-Banding Association, write to E. Alexander Bergstrom, 37 Old Brook Road, West Hartford 7, Conn.

A major problem for a bander who would like to use nets is where to obtain first-hand instruction in setting up nets and taking birds out of them. Any bander within easy reach of Drumlin Farm Wildlife Sanctuary at South Lincoln, Mass. (just west of route 128 and just north of the new Massachusetts Turnpike) is welcome at times when nets are being operated; write to Dr. William H. Drury, Jr., at that address. Similarly, a bander within reach of West Hartford, Conn., will be welcome at the station of E. Alexander Bergstrom; write to him at 37 Old Brook Road, West Hartford.

We have a request for four issues of the *Bulletin of the Northeastern Bird-Banding Association*, the predecessor of *Bird-Banding*: volume 1, numbers 1 and 4; volume 2, number 4; volume 4, number 2. If any reader is willing to sell these, or knows of any for sale, it would be very much appreciated if he would write to Dr. Robert A. McCabe, Dept. of Forestry and Wildlife Management, University of Wisconsin, 424 University Farm Place, Madison 6, Wisc.