

The Federation of Ontario Naturalists provided financial support for this project.

## REFERENCE

- WILLIAMSON, K. 1954. The Fair Isle apparatus for collecting bird ecto-parasites. *British Birds*, 47: 234-5.—James Woodford, and Frank T. Lovesy, Royal Ontario Museum, Toronto 5, Ontario and 220 Gowan Ave., Toronto 7, Ontario.

**Whip-poor-will (*Caprimulgus carolinensis*) Netted; Band Size**—Three of these birds have been taken in mist nets so far this spring (1960). Two were netted between 8:30 and 9:00 p.m. on April 5 and 9 which at this season and latitude is after dusk has fallen but prior to full darkness. The third was in a net at first inspection just after dawn (5:30 p.m., May 11). Size 3 bands, as recommended by the Fish and Wildlife Service, are too large, sliding off over the toes. A size 2 band is satisfactory. The tarsal diameter of all three birds was 4 mm.—R. O. Bender, Cobbis Mill Road, Bridgeton, N. J.

**Deformed bills—Catbird (*Dumetella carolinensis*)**—On Sept. 12, 1959, a Catbird taken in a mist net was observed to have a very abnormal upper mandible which extended 5 mm beyond the end of the lower mandible. The terminal 5 mm was bent downward in a decided hook, the top of which was 4 mm below the under surface of the lower mandible. This bird, 56-127996, weighed 34.3 gms, which may be a trifle low for a fall bird, yet it appeared to be in good condition. It was seen in the vicinity three times in the succeeding four days. A careful examination did not disclose any indication of an injury, hence it seems possible that the deformed bill was the result of a mutation.

**Catbird 59-174207** appeared to have suffered a broken upper mandible at some previous time. The apparent break, about 8 mm from the feathers, had healed, but had left a raised area across the bill about 2 mm in height. When this bird took my finger in its bill, the upper mandible bent very noticeably at the point of the presumed break. The bird weighed a normal 36.7 gms.

**Blue Jay (*Cyanocitta cristata*) 553-27368**, taken in a clover-leaf trap on March 5, 1960, had an upper mandible 4 mm shorter than the lower which was very thin right out to the tip where there was a bulge which did not resemble a normal tip. No evidence of recent injury could be observed, but the irregular surface of the thin section suggested a previous injury. The bird was rather light, 81.0 gms, but occasionally other individuals with normal bills have been weighed at as low as 76.2 gms.—R. O. Bender, Cobb's Mill Road, Bridgeton, N. J.

## RECENT LITERATURE

## BANDING

1. **Recoveries of Ringed Birds. Mediterranean Islands.** Wladyslaw Rydzewski. 1960. *Rivista Italiana di Ornitologia*, 30 (Series 2): 1-77. In publishing this carefully and laboriously assembled compilation of banding data, the editor and founder of the *Ring* has performed another great service to banding and to ornithology. Here are listed with available data the Mediterranean island recoveries reported to date from the some 36 ringing schemes in Europe. With the exception of a few annual lists of "recoveries of foreign bandings" published by several European countries, and a few analyses of waterfowl recoveries by states and by "flyways" published in this country, practically all recovery data have been published according to place of banding. I hope that the value of this pilot assemblage from the recovery locality standpoint will encourage the publication of similar compilations for other well defined geographical regions. Students of faunistics and distribution have heretofore largely neglected these valuable data because of the difficulty of finding and assembling them from the widely scattered literature. A similar breakdown of recoveries from various parts of Africa would be most useful, and in this country a compilation by islands of the rapidly mounting recoveries from the West Indies, now reposing quietly in the Patuxent files, would well repay someone's efforts to dig them out, sort them, and publish them.—O. L. Austin, Jr.

**2. Report on Bird Ringing for 1958.** Robert Spencer. 1959. *British Birds*, **52**, Supplement: 441-482. "In 1958 the ringing scheme reached two milestones: for the first time 200,000 birds were ringed in a year, and the grand total since 1909 passed the two million mark." The use of mist nets is resulting in a decided increase of numbers of birds ringed. The 1958 ringing total was 200,835 birds, and during this year more than 6,300 recoveries were reported; these include "recaptures by other than the ringer at any distance and local recoveries of dead birds." Thirty-two pages are devoted to a "Selected List of Recoveries" of which perhaps the most striking relates the fate of 4 out of 5 Kestrels (*Falco tinnunculus*) from the same brood, all of which were shot or found dead the following winter—one 14 miles west, one 85 miles south southeast, one 285 miles south southwest, and one 380 miles south southeast.—M. M. Nice.

**3. British Recoveries of Birds Ringed Abroad.** E. P. Leach. 1959. *British Birds*, **52** (Supplement): 482-492. The most amazing record is that of a Curlew (*Numenius arquata*) ringed in Finland as a chick 6 June 1926 and shot in Norfolk 15 January 1958—in its 32nd year. Careful investigation was made with the Museum authorities at Gothenburg; fortunately the ring was saved. A juvenile Mute Swan (*Cygnus olor*), ringed in Lithuania was found dead in Dumfries, Scotland 4 years later. "A Great Tit ringed in Germany and Blue Tits marked there and in Belgium, all as juveniles during May-July 1957, are interesting as defining points of origin of the remarkable tit irruption of that autumn. . . . Once again there is unwelcome evidence of a mass influx of foreign Great Black-backed Gulls, this time from Russia as well as Iceland and Norway, the immigrants being widely spread over the British Isles." The whole report is of great interest.—M. M. Nice.

**4. Activities at the Ottenby Bird Station 1958. Report No. 25.** (Verksamheten vid Ottenby fågelstation 1958.) Bengt Danielson. 1959. *Vår Fågelvärld*, **18**: 249-279. (English summary.) The 1958 season, during which continuous observations and banding were carried out from 14 April to 2 November, is described as the station's most successful year, yielding a "rich harvest" of returns and recoveries. Actual results were: 16,983 new birds banded, 217 birds banded at Ottenby recovered, and 9 foreign recoveries trapped and released. Practically all birds banded after 1 July were weighed and measurements were taken of certain species. Irruptions of Green Woodpeckers (*Picus canus*) in August, Redpolls (*Carduelis flammea*) in June-July, and Crossbills (*Loxia curvirostra*) in early July, apparently originated in the east since similar movements were also noted in Estonia. In mid-July a remarkable wave of southbound migrants, mostly Lapwings (*Vanellus vanellus*) and small shore-birds, followed upon the passage of an unusually intense storm which developed over central Sweden.—Louise de K. Lawrence.

**5. Banding White Pelicans at Anaho National Wildlife Refuge, Nevada.** Eugene Kridler. 1960. *News from the Bird-Banders*, **35**: 5-6 (including map of recoveries). Recoveries are concentrated along the west coast of Mexico in the states of Sinaloa, Nayarit and Michoacan. Only one bird was recovered on the Gulf of Mexico.—E. Alexander Bergstrom.

**6. Recoveries of Robins Banded at Oakland, California.** Howard L. Cogswell. 1960. *News from the Bird-Banders*, **35**: 7-9. During the winter of 1957-58, 444 Robins (*Turdus migratorius*) were banded in Oakland, from a winter roost of about 30,000 birds. By the end of the following summer, 15 had been recorded at distances of one mile or more away. Apparently both local birds and winter residents from the north used the roost.—E. Alexander Bergstrom.

**7. A Method for Proper Determination of Band Sizes in North American Birds.** Don Bleitz. 1960. *News from the Bird-Banders*, **35**: 1-2 (one illustration). A gauge similar to a wire gauge, with each slot representing the exact inside diameter of one band size, permits the gathering of information on the number of individuals of a species which take each size of band (at exact measurements). This is essentially the Michener gauge (see *Bird-Banding*, **18**: 77-79), but seems to have been reinvented independently. It is a "go-no go" type, in contrast to the Blake gauge (see *Bird-Banding*, **25**: 11-16), which permits exact measurement of the leg in millimeters. It is much more useful to know the

exact size (for example, if 10% of the individuals seem to require a band size one size larger than that commonly in use, are they oversize by about .1 m, or is there an appreciable variation in size?). Certainly, any publishing recommendations on band size changes should specify whether they are based on the Michener-Bleitze gauge or on the Blake gauge.—E. Alexander Bergstrom.

**8. The Point Pelee Bird-Banding Station: 1954-57.** J. Woodford and W. J. Wasserfall. 1958. The Bulletin/Federation of Ontario Naturalists, No. 80, June, 1958. General description of the first four years of banding at Point Pelee, Ontario (Lake Erie), sponsored by the Federation of Ontario Naturalists. The first full-scale Heligoland trap in North America was built here, in 1954. Since 1955, mist nets have played an active part. Selected recoveries are listed.—E. Alexander Bergstrom.

**9. A Discussion of Robin Banding.** Geoffrey Gill. 1958. *Inland Bird-Banding News*, 30: 41-42; 54. Results of the banding of 1,773 Robins (*Turdus migratorius*) at Huntington, Long Island, N. Y., from 1922 to 1957. Out of 140 nestlings banded, 3 were reported later: found dead in later years, 1½ to 2 miles from place of banding. Six birds were recovered in the southeastern U. S., in winter, as far west as Louisiana. The bulk of Robins banded at this station were taken in late summer and early fall in housetraps baited with water.—E. Alexander Bergstrom.

## MIGRATION

**10. Orientation of migratory restlessness in the White-crowned Sparrow.** L. Richard Mewaldt and Richard G. Rose. 1960. *Science*, 131(3393): 105-106. At night White-crowned Sparrows caged under open sky displayed predominantly southward activity in fall, predominantly northward activity in spring. By day they tended to do the opposite or to move at random. Orientation did not become clear-cut until two or three nights after the onset of migratory restlessness. Part-time screening of the portions of the sky near the horizon had no perceptible effect on performance, but rotation of the cage revealed some influence of interior points of reference. Under overcast skies, birds did not readjust for rotation as readily as otherwise.

Such are the findings of Mewaldt and Rose as given in a necessarily brief preliminary report on recent tests in California. The exact significance of their important work and its relation to the prior experiments conducted with Old-World Warblers by Sauer will not become apparent until the authors have fuller opportunity to explain what their method of measuring orientation means in terms of what the bird is actually doing. Sauer watched the birds to see in what direction they were aligning themselves; Mewaldt and Rose use automatic recording apparatus. The interiors of their circular cages are each fitted with an octagonal perching "ring." Every side of the polygon is hooked up to register the number of times the bird alights on it. However, according to Sauer, the orientation of a bird is not always closely correlated with its position on the perching ring. Birds frequently align themselves tangential to the ring and, when heading north, often perch on the south side, where they have the most extensive view of the sky. Thus, one cannot yet be sure that the two techniques would lead to essentially the same evaluation even if applied to the same set of movements.—R. J. Newman.

**11. On the temporal pattern of nocturnal migration in thrushes.** D. A. Vleugel. 1960. *Auk*, 77(1): 10-18. Usually when the most migrants are seen crossing before the moon in this country, the fewest are heard, and vice versa. The Dutch ornithologist Vleugel now compounds this oddity by reminding us that the number of flight calls abroad tends to vary timewise as the number of lunar silhouettes does here. Though some of his cited references should have warned him otherwise, he apparently regards the typical American flight-call pattern—few sounds before midnight, a maximum at dawn—as a phenomenon peculiar to the Gaspé Peninsula, where Stanley C. Ball first systematically studied it. The fact is that observers at a number of places, watching the moon and listening simultaneously, have recorded aural evidence that directly contradicts their visual evidence. Gaspé-like flight-call maxima just before dawn have even been noted at sea.

As a result, Vleugel's attempt to explain the auditory data from the Gaspé as erroneous and purely local—as the result of selection of the wrong vantage point to detect an influx of thrushes over water from Anticosti Island—fails to penetrate to the heart of the general problem. An interesting sidelight stressed by Vleugel is that European radar observations by Sutter in Switzerland and Harper in Britain confirm our American hour-to-hour lunar pattern. To add to the confusion, however, American radar data from New England are rumored not to do so.—R. J. Newman.

**12. Palearctic waders in eastern North America.** Eugene Eisenmann. 1959. *British Birds*, 53(3): 136-139. This 4-page communication is a commentary on certain aspects of I.C.T. Nisbet's *Wader migration in North America and its relation to transatlantic crossing*, reviewed in *Bird-Banding*, 31(1): 45. In all three of these published items—commentary, original article, and review—the word "wader" is used in its British ornithological sense, i.e., as synonymous with "shore bird," not as a term that either denotes or includes herons and their allies.

Eisenmann points out that only two Palearctic species of shore birds, the Curlew Sandpiper (*Erolia ferruginea*) and the Ruff (*Philomachus pugnax*) can be currently considered "of not infrequent occurrence" on the Atlantic coast of North America. Unlike other rare shorebirds, they are more in evidence there in spring than in autumn. To explain this odd seasonal distribution, Eisenmann further explores Nisbet's suggestion that the birds may have crossed the Atlantic during the previous autumn, at tropical latitudes. He reports that during the period when Palearctic birds are migrating southward to Africa southeast trade winds blow briskly and regularly south of the equator, while the zone just north of it is the breeding area of great cyclones that commonly travel westward toward the West Indies then curve northward along the North American coast. He points out that, as a result, even European birds arriving in the United States in autumn may have traversed the ocean at tropical latitudes. The astonishing number of Palearctic strays found on the little island of Barbados, easternmost of the Antilles, supports the idea of a tropical crossing. A complication not discussed is that weather patterns favoring Nisbet's suggestion of fall passage from Africa to America are unfavorable for his simultaneously postulated flight of American waders to Africa.—R. J. Newman.

**13. The September Drift-Movements of 1956 and 1958.** Kenneth Williamson. 1959. *British Birds*, 52(10 & 11): 334-377. In the first week of September in 1956 and 1958 there were large drift movements mostly of night-migrating passerines of east European origin. The bulk of these southern and eastern rarities that normally migrate southeast in the autumn consisted of birds of the year. The author believes that the orientation mechanism may not mature until after a brief phase of random postjuvenile dispersion, as was found in the experiments by Perdeck (1958, *Ardea*, 46) with Starlings (*Sturnus vulgaris*). "In a season so markedly anticyclonic as 1958, the light easterly winds produced a drift-aided dispersal far to the west of the normal range."—M. M. Nice.

**14. The Height of Bird Migration.** David Lack. 1960. *British Birds*, 53(1): 5-10. Through the courtesy of the R. A. F. Fighter Command Dr. Lack obtained information through radar on migration over Norfolk and over the North Sea off Norfolk by means of a much more powerful and accurate heightfinder than those previously in use. The common Passerine winter visitors were found to migrate for the most part below 5,000 feet. They usually fly higher in spring than in fall and higher at night than by day. Occasionally they were recorded at 14,000 feet and rarely as high as 21,000 feet. Waders, mostly Lapwings (*Vanellus vanellus*), usually travelled between 3,000 and 6,000 feet; the highest echo was at 11,000 feet.—M. M. Nice.

**15. A Study of the Vertical Distribution of Birds.** Richard P. Ries. 1958. *EBBA News*, 21: 61-64. Study of the variation in height above ground during the day, of birds taken in nets at Island Beach, New Jersey in 1957. Statistical analysis of a sample of 85 birds indicated a greater average height early and late in the day, and lower near midday. The author does not comment on the possible effect of varying net visibility: in most net lanes, the upper part of the net tends to be in sunlight longer than the lower part (Island Beach has few

larger trees to provide shade in midday). As birds would tend to avoid the more visible part of the net, the vertical distribution of birds netted would be biased in the middle of the day. Under overcast conditions (such as prevailed during the period the author was at Island Beach), this bias would be lessened, but perhaps not eliminated.—E. Alexander Bergstrom.

**16. A Meteorological Analysis of the 1958 Island Beach Netting Data.** Gilbert S. Raynor. 1959. *EBBA News*, **22**: 73-81, 10 figs. This study should be compared with the general review of Operation Recovery in 1958, by Baird, Bagg, Nisbet and Robbins (*Bird-Banding*, **30**: 143-171). In particular, Raynor considers the correlation of migration in the fall with temperature drops not too good. The difficulty seems to lie in the flight of September 23, 1958, where he found no corresponding temperature drop. This seems to result from his use of 9 weather stations between Boston and Buffalo, at 7 P.M., as a base; while Baird *et al.* used the 1 A.M. figure for a much wider range of stations, including two in Canada and three in northern New England, indicating an average temperature drop of 6½ that night. Raynor continues to put more emphasis on stable air as a factor favoring migration.—E. Alexander Bergstrom.

**18. The Autumn Migration of the Double-crested Cormorant Through Eastern New England.** Ian C. T. Nisbet and James Baird. 1959. *Massachusetts Audubon*, **43**: 224-227. The route through the southern part of eastern New England seems very narrow. In general, it follows the coast. However, where the coast is not trending southwest, the birds depart from it: they cross the narrow neck of Cape Ann, and cross overland from Boston Bay to Narragansett Bay. The bulk of the flight continues over Block Island to Montauk Point, rather than following along the Connecticut coast. Birds seen far inland (such as those along the Connecticut River) are probably overland migrants from the St. Lawrence. Peaks of migrants appear to follow cold fronts.—E. Alexander Bergstrom.

#### POPULATION DYNAMICS

(See also Numbers 20, 31)

**19. Bluebirds Suffer from Severe February Weather.** Amelia R. Laskey. 1959. *Inland Bird-Banding News*, **30**: 57. After the cold, snowy weather of mid-February, 1958, some 40 dead emaciated Bluebirds were found in or near nest boxes in Warner Parks, Nashville, Tenn., including 12 in one box and 1 dead on the ground under it. The nesting population in the parks in the spring of 1958 was only about half that of 1957. During the season, 22 pairs fledged 146 young, 50.7% of the number of eggs laid (including second and third broods).—E. Alexander Bergstrom.

#### NIDIFICATION AND REPRODUCTION

**20. Observations on the breeding behavior and nesting success of the Coot.** (Några iakttagelser över häckningsbeteende och häckningsresultat hos sothönan (*Fulica atra*.) Torsten Askaner. 1959. *Vår Fågelvärld*, **18**: 285-310. (English summary.) The study was carried out during two nesting seasons in a moat and in a public park pond in southern Sweden. The Coots arrived before the ice vanished in the spring. Enlarging areas of open water released aggressive behavior. At first, this took the form of free-for-all battles. As the areas free of ice increased further, "balance" was achieved between the territorial contenders which, in turn, tended to establish the territorial borders. Posturing is described and illustrated by drawings. Most of the fighting was harmless, but once a female was knocked out for a few minutes when struck on the frontal shield. The territorial borders were not flexible as found in many other studies; the Coots displayed remarkable awareness of their exact locations. The proximity and the direction of movement of intruders in relation to the borders were paramount factors in the intensity of response of defending territory owners.

An "almost permanent" nest-building drive possessed the males and endured during the whole of the breeding season. In addition to the nest used, they constructed and kept in repair several other platforms. The females assisted by carrying material but did no building. Copulation took place on these platforms, or on the nest, or on land. Mating attempts in the water were unsuccessful. Both sexes incubated.

The nesting success in the moat differed greatly from that in the pond. Average hatching success in the first was about 39 percent against 60-87 percent in the pond. Of the chicks hatched in the moat only 15.4 to 19.0 percent survived to the age of 8 weeks, while this figure for the pond was 92.1 percent. One of the causes for this anomaly proved to be constricted territories, which engendered frequent fighting between the adults involving the safety of the chicks. Abundant food supplies, on the other hand, tended to cancel out this menace to their survival. The study shows ability in spotting and analyzing significant aspects of behavior, but positive recognition of individual birds through banding and marking would have made it more convincing.—Louise de K. Lawrence.

## BEHAVIOR (See also Numbers 20, 40)

**21. Some Thoughts on "Appeasement" Displays.** (Einige Gedanken über "Beschwichtigungsgebärden.") N. Tinbergen. 1959. *Zeitschrift für Tierpsychologie*, 16(6): 651-665. (With English summary). "Agonistic displays have either a distance-increasing function (threat displays) or a distance-reducing effect; the latter category seems to inhibit the aggressive tendencies of other birds directly, and are therefore named 'appeasement displays' . . . Threat displays seem to be due to the simultaneous arousal of the tendencies to attack and to escape." Appeasement displays seem to be due to a conflict between the tendency to flee and that to approach or to stay. "Pair formation displays often form a sequence of one or two displays closely resembling threat displays, followed by a posture similar to an appeasement display." Sketches and photographs illustrate this interesting paper.—M. M. Nice.

**22. Comparative Studies of the Behaviour of Gulls (*Laridae*): a Progressive Report.** N. Tinbergen. 1960. *Behaviour*, 15(1-2): 1-70. A detailed, well-illustrated report of recent studies on 14 species of gulls with comparisons drawn from observations on other species. The topics covered are methods of study, description of the displays, causation and origin of the displays and "some evolutionary aspects." Under "Origin of the Displays" Dr. Tinbergen agrees with students of other species that "displays are 'derived' movements." In some cases their origin is obvious, in others it is not because "such derived movements have undergone ritualization, which I will define as adaptive evolutionary change in the direction of increased efficiency as a signal. . . . So far, two main sources of derived movements have been recognized. (1) Movements immediately evoked by the situation (such as fighting movements evoked by the approach of an intruder into the territory) are performed either incompletely (intention movements) or with another orientation (redirected movements). Such movements are often called 'autochthonous.' (2) Movements belonging to patterns other than those immediately evoked by the situation and which are therefore usually unexpected and functionally out of context or irrelevant." In other words, displacement activities.

This is a small sample of the wealth of thought-provoking ideas in this important contribution.—M. M. Nice.

**23. Observations on the Fulmar in Spitzbergen.** C. J. Pennyquick and D. Webbe. 1959. *British Birds*, 52(10 & 11): 321-332. A colony of Atlantic Fulmars (*Fulmarus glacialis*) was watched from 23 July to 18 August 1957. Detailed descriptions of calls, displays, flight, and color phases are given, illustrated by 12 excellent photographs, mostly of birds in flight. As to ejection of oil, when "provoked a chick can perform the spitting movement and call as fast as 3 times per second."

"Quite apart from the deterrence of predators, this display is used by parents and chicks in aggression towards other Fulmars approaching their territory, and produces an immediate effect. Trespassing Fulmars would always retreat promptly from even a small chick spitting, whereas they would often ignore an adult cackling aggressively until it began to spit. Probably as a result of the extreme effectiveness of this display, the Fulmars hardly ever seemed to fight, and even the ejection of oil was infrequent." This peaceable behavior strongly contrasts with the continual fighting in the Guillemot (*Uria aalge*) colonies.

The young chick spits at anything that moves. The parent "alights a short

distance from it and approaches gradually, cackling every time the chick spits and thus eventually appeases the latter's aggressive behaviour." The chick gives its begging note and the parent begins to regurgitate and passes the food to its offspring.—M. M. Nice.

**24. Notes on Anting by British Passerine Birds in the Wild.** Introduced by K. E. L. Simmons. 1960. *British Birds*, 53(1): 11-25. After a brief review of some recent studies on anting and description of some of his own experiments, Mr. Simmons comments on the notes on this subject by 14 authors. Five of these concern Blackbirds (*Turdus merula*) and 10 concern Starlings (*Sturnus vulgaris*). Birds seem "particularly likely to ant at the times of the ants' reproductive swarming." One record proves to be the first for the Paridae—F. E. Muddeman's description of this behavior in four *Parus caeruleus* ("Anting by Blue Tits," p. 17.)—M. M. Nice.

**25. Observations on Blue-breasted Waxbills.** Derek Goodwin. 1959. *Avicultural Magazine*, 65(6): 149-169. A delightful account of two pairs of *Uraeginthus angolensis* in captivity, illustrated with sketches of many of the displays. Mutual preening appears to involve "sublimated aggressive tendencies on the part of the preener and of submissiveness on the part of the preenee." In courtship the male may assume the "Submissive Courtship or Wing-fluttering Display," interspersed with the self-assertive "Tail-twist Posture," as well as the Stem Display. In this the male seizes a long stem of grass, perches alongside the hen, twists his blue tail towards her and bounces up and down, singing and holding the stem.

Both sexes build, incubate, brood and feed the young; in later stages the male's interest outlasts that of his mate. Voice is discussed in detail. Song as in other estrildines seems to be mainly sexual in character with no threatening or territorial meaning. "Often the song appears to be little more than an expression of general well-being." The young Blue-breasts sang a great deal. "It seemed as if the young birds were trying out every possible sound they were capable of uttering. . . . Both male and female juveniles sang but before the young males had attained adult plumage and their warbling had 'crystallized out' into the adult song their sisters had ceased to sing." Many comparisons are made with the behavior of other waxbills.—M. M. Nice.

### CONSERVATION

(See also Number 45)

**26. Can Oil Pollution Be Defeated?** John V. Dennis. 1959. *Massachusetts Audubon*, 44: 66-73. A general discussion of sources of oil pollution, and of losses to seabirds from this source. Included is a list of procedures for the care of individual oiled birds, such as the use of Fuller's Earth on the feathers to remove oil.—E. Alexander Bergstrom.

### WILDLIFE MANAGEMENT

(See also Numbers 31, 42)

**27. Some Effects of a Field Application of Dieldrin on Wildlife.** Thomas G. Scott, Yuell L. Willis, and Jack A. Ellis. 1959. *Journal of Wildlife Management*, 23(4): 409-427. Severe losses to birds and other wildlife resulted from a field application of dieldrin at the rate of 3 pounds per acre. Resident populations of Meadowlarks (*Sturnella magna*), Robins (*Turdus migratorius*), Brown Thrashers (*Toxostoma rufum*), Starlings (*Sturnus vulgaris*), Common Grackles (*Quiscalus quiscula*), and Ring-necked Pheasants (*Phasianus colchicus*) were almost eliminated. Horned Larks (*Eremophila alpestris*) suffered heavy losses, and many other species of birds were found dead. Although most of the mortality occurred during the week following application, bird populations remained low in the area throughout the spring and early summer. The low breeding bird population was attributed in part to the shortage of insects as food. The authors believe that the high mobility and productivity of wildlife populations would probably result in the recovery of most species on the treated area within the year following application of dieldrin.—F. C. Bellrose.

**28. Insecticides and Birds.** George J. Wallace. 1959. *Audubon Magazine*, **61**: 10-12, 35. Description of population declines of Robins (*Turdus migratorius*) from 1954 through 1958, at East Lansing, Michigan. In the summer of 1954, the nesting population on one tract of 185 acres was at least 185 pairs. In 1957, only 15 adults were found; in 1958, only 3 adults. In addition, fledglings were almost entirely absent.

The tract had been heavily sprayed with DDT to control elm bark beetles. Apparently the Robin mortality resulted from eating earthworms, as the worms concentrate the insecticide by feeding on leaf litter. Some other species were affected by the earthworms, and others by feeding on poisoned leaf insects. Over a period of 16 years, Wallace's records for East Lansing show that 49 out of 77 summer residents have disappeared or decreased in numbers; the majority of the species which decreased are known to have suffered from insecticides.—E. Alexander Bergstrom.

**29. Another Year of Robin Losses on a University Campus.** George J. Wallace. 1960. *Audubon Magazine*, **62**: 66-69. This supplements No. 28 above. An influx of Robins (*Turdus migratorius*) on the North Campus of Michigan State University, at East Lansing, Mich., resulted in a population slightly above the very low 1958 count. At least 55 birds were picked up dead; an analysis showed that all but one contained DDT, most of them in high concentrations (Wallace, personal communication). In effect, the entire population that started to nest was wiped out, plus one or more replacement groups. The campus drained off Robins from a much larger area. The fact that the campus had a few Robins tended to conceal the extent of the mortality. In contrast to fall kill of game birds, this mortality came at the time of year when it had the worst effect on reproductive success.

The campus has a general lack of insectivorous birds, despite attractive plantings. In contrast, birds such as Common Grackles and English Sparrows have increased.—E. Alexander Bergstrom.

**30. The Pesticide Problem/Wildlife—The Community of Living Things.** John L. George. 1960. *Massachusetts Audubon*, **44**: 226-232. General review, with bibliography of 38 titles. In addition to the Michigan studies (see Nos. 28 and 29 above), Robins in Wisconsin were very hard hit in areas sprayed with DDT, being reduced to about 2% of normal in the most heavily sprayed areas. The use of DDT to control the spruce budworm caused heavy losses of Atlantic salmon in the Miramichi River in New Brunswick. At Clear Lake, California, use of DDT led to heavy mortality of Western Grebes, largely by eating predaceous species of fish that had concentrated the chemical.—E. Alexander Bergstrom.

**31. Migration and Mortality of Hand-Reared Redheads (*Aythya americana*).** Milton W. Weller and Peter Ward. 1959. *Journal of Wildlife Management*, **23** (4): 427-433. Band recoveries from hand-reared Redheads were compared with those from wild birds for migration and mortality differences. Hand-reared Redheads were released at the Delta Marsh, Manitoba; others were shipped to the LaCreek National Wildlife Refuge, South Dakota and to the Seney National Wildlife Refuge, Michigan. Migratory movements of hand-reared and wild Redheads from the Delta Marsh were similar, but the hand-reared birds left the release site later and migrated more slowly. Hens of hand-reared Redheads homed back to the LaCreek and Seney refuges, but no increase occurred at either refuge in the breeding population as a result of the releases.—F. C. Bellrose.

**32. Mourning Dove Production in Four Idaho Orchards and Some Possible Implications.** Edson Fichter. 1959. *Journal of Wildlife Management*, **23** (4): 438-447. A brief account of the nesting success of 100 pairs of Mourning Doves (*Zenaidura macroura*) in southeastern Idaho compared with the nesting success of this species elsewhere in the United States. There were 266 nesting attempts, of which 177 were successful. Of 510 eggs laid, 385 hatched and 324 young left the nests. The causes of egg and nestling losses were obscure. A review of many nesting studies shows that the percent of egg loss is twice as great as that of nestlings.—F. C. Bellrose.



**33. Blue Grouse Production, Movements, and Populations in the Bridger Mountains, Montana.** Thomas W. Mussehl. 1960. *Journal of Wildlife Management*, **24**(1): 60-68. Male Blue Grouse (*Dendragapus obscurus*) were observed displaying, largely in April and May, at elevations of 5,600 to 6,700 feet, in the montane forest. Three nests were found in bunchgrass prairie, 200 yards to over 1 mile from the montane forest. Hatching dates, derived from ages of juveniles, were between 25 May and 14 July. Homing was indicated by the finding of an adult male 1 year later about  $\frac{1}{4}$  mile from the place it was banded as a chick. A female, also banded as a chick, was found nearly 1 year later in the same clump of brush. Marked broods moved within an area of about  $\frac{1}{2}$  mile on the summer range. Dispersal from the summer range became apparent in August, and by mid-September the upward altitudinal migration was well underway. Lateral movements up to 2.1 miles and altitudinal movements up to 3.4 miles were recorded.—F. C. Bellrose.

### PHYSIOLOGY AND PSYCHOLOGY

**34. Two Conditions Limiting Critical Age for Imprinting.** Eckhard H. Hess. 1959. *Journal of Comparative and Physiological Psychology*, **52**(5): 515-518. Experiments on 137 White Rock chicks from hatching to the age of 36 hours showed the presence of fear in no chicks from 0-12 hours, in 10 percent at 13-16 hours, and from then on a rapid increase to 80 percent at 25-28 hours and 100 percent at 33-36 hours. Experiments on speed of locomotion of 60 chicks showed a steady increase up to the 16th hour. Dr. Hess concludes that the critical age for imprinting occurs after the establishment of locomotion and before the onset of fear.—M. M. Nice.

**35. An Experiment on Emphatic Learning in Ducks.** Peter H. Klopfer. 1957. *American Naturalist*, **91**(856): 61-63. A Muscovy Duck (*Cairina moschata*) learned to avoid an electrically wired food dish from observing the behavior of two other Muscovies tested with the apparatus, and the same was true with a number of Mallards (*Anas platyrhynchos*) that watched other Mallards coming into contact with the dishes. Such social facilitation in learning has often been observed with Crows (*Corvus brachyrhynchos*) that quickly shun a source of food after several of their companions have succumbed to poison.—M. M. Nice.

### MORPHOLOGY AND ANATOMY

**36. Bill length and body weight in Herring Gulls and Greater and Lesser Black-backed Gulls.** Report No. 50 from the State Veterinary Institute, Stockholm, Sweden. (Näbb längd och kroppsvikt hos gråtrut (*Larus argentatus*), havstrut (*L. marinus*) och silltrut (*L. fuscus*).) Karl Borg. 1959. *Vår Fågelvärld*, **18**: 311-317. (English summary.) During the population control work with chlorals on the Swedish west coast in 1957 and 1958, a number of anaesthetized gulls were obtained for measuring and weighing. Methods and calculations are given and results summarized in tables and graphs. The difference found between male and female bill lengths and body weights was statistically "highly significant" in all three species. As could be expected in proportionately developed birds, a correlation existed between the bill lengths and body weights in the Herring Gulls.—Louise de K. Lawrence.

### PLUMAGES AND MOLTS

**37. Identification of Immature Cuckoos.** Joseph R. Jehl, Jr. 1959. *EBBA News*, **22**: 102-103. Comparison of the immature Yellow-billed and Black-billed Cuckoos in the hand, by several points: (1) bill (basal half of lower mandible tends to be light, generally yellowish in y-b and bluish in b-b); (2) wings (rufous duller in b-b); (3) eyering (pale lemon yellow in y-b, deep chrome yellow in b-b); (4) underparts (usually grayish in y-b; usually with buffy tinge in b-b); (5) tail (in y-b, outer retrices broadly tipped with white central retrices dark to tip; in b-b, all retrices narrowly tipped with white, which may wear off infrequently); (6) back (warm brown in y-b; brown with olive gloss, and feathers often tipped with white, in the b-b).

We need more such studies, of other species readily confused, by banders with an opportunity to handle both species regularly. This comparison illustrates the many rewards of banding in Operation Recovery quite apart from actual recoveries.—E. Alexander Bergstrom.

### ZOOGEOGRAPHY (See also Numbers 1, 5, 6, 9)

**38. Habitat requirements of the Wood Warbler in northeastern Östergötland, central Sweden.** (Grönsångarens (*Phylloscopus sibilatrix*) häckningsterräng i nordöstra Östergötland.) Germund Tyler. 1959. *Vår Fågelvärld*, 18: 279-285. (English summary.) This investigation was undertaken during one breeding season and included 100 Wood Warbler territories. The species showed a preference for mixed woods, with birch (*Betula alba*) predominating and a moderate to dense underbrush, for marginal situations along roads, fields, or shores, and for slopes with southern exposure.—Louise de K. Lawrence.

**39. The Evening Grosbeak Returns to Northeastern Ohio.** Ralph W. Dexter. 1959. *Inland Bird-Banding News*, 31: 4-5. Description of the flight from December, 1957 through May, 1958.—E. Alexander Bergstrom.

### FOOD

**40. Feeding Behaviour of Choughs.** Brian C. Turner. 1959. *British Birds*, 52(10 & 11): 388-390. Notes on three captive *Pyrrhonorax pyrrhonorax*. After feeding on fly pupae, the birds regularly regurgitate some—still whole—and bury them in cracks between the bricks of the floor, after which the birds place 2 to 3 small stones on top. Later they dig them up and either eat them, replace them, or bury them elsewhere. Extra mealworms are not swallowed but carried in the bill to be buried.—M. M. Nice.

**41. The Food of Nestling Rooks near Oxford.** J. D. Lockie. 1959. *British Birds*, 52(10 & 11): 332-334. By placing collars around the necks of young *Corvus frugilegus* at intervals during their first 3 weeks of life, food was collected in 36 samples from 4 rookeries in 1952 and 47 samples from 2 rookeries the following year. "Earthworms formed the bulk of the food in all rookeries in each year except rookery A in 1953." In 1953 April was cold and dry and the percentage of grain fed was much higher than it had been in 1952. "The percentage survival of broods of 5 in 1953 was 55% whereas in 1952 it was 69% (Lockie, 1955)."—M. M. Nice.

### BOOKS

**42. Wildlife of Mexico. The game birds and mammals.** A. Starker Leopold. 1959. Berkeley and Los Angeles. Univ. California Press. 568 pp., 194 text-fig., 2 colored plates, map. Price \$12.50.

The first attempt to treat the game animals of Mexico from a biological standpoint will be of interest to both hunters and conservationists. An introductory section deals with the environment, land use, wildlife utilization, and existing and proposed conservation methods. The bulk of the book treats the game animals, which are defined to include 71 species of birds and 49 mammals. Under each species is given a brief description, its range, natural history notes, and status as a game animal. Appendices include the Mexican game laws and an 8-page bibliography.

Field work financed by the Mexican government took place in 1944 and 1945, and shorter excursions under the auspices of the University of California helped fill some of the gaps in the original survey. An itinerary or even a list of the localities visited would have been useful, but a spot map (fig. 1) of the author's travels enables one to evaluate the coverage of the country. Fifty-one stations, mostly unidentified, are shown on the map, the number per state or territory varying from 6 (Chihuahua and Guerrero) to none (Aguascalientes, Colima, Quintana Roo, Tlaxcala, and Zacatecas), for an average of 1.8 camps per state. With a week's average stay at a camp, the data for each state were assembled in about 12½ days' field work. In a country so large and varied, with

such diverse environment and fauna, it is obvious that the conclusions are based on a minimum of data.

The book is profusely illustrated. The 32 photographs of habitats are especially useful, since the descriptions of the vegetational types are overly brief and non-definitive. The photographs by Charles W. Schwartz are superb. Others vary from excellent to poor. In the systematic account, 106 full pages are devoted to illustrations of individual species. These include lithographic crayon drawings by Schwartz, often with detailed inserts, and more or less accurate distributional maps. The medium seems to work well for mammals, but the bird drawings lack feather feel. Eighteen photographs of successful sportsmen with their victims strung up like Mussolini become a little too repetitious for even a hardened bird-killer. Perhaps more care could have been used in editing the illustrations; everyone knows what airplanes and oxcarts look like, and although a rarer sight, it is easy to imagine three laborers digging postholes.

Errors of fact or proofreading are relatively few in this pioneering work. I hope the book will find a wide audience, particularly in its planned Spanish language edition, and that it will be successful in furthering the badly needed conservation of natural resources in Latin America.—Pierce Brodtkorb.

**43. The Wandering Albatross.** William Jameson. 1959. William Morrow and Company, New York, 128 pp. illustrated. Price \$3.00. Here is one of those rarities that the conscientious and critical reviewer encounters all too seldom, a work that merits unstinted praise. Admiral Jameson (RN, ret.) first met the subject of this delightful monograph while cruising southern seas on the *Ark Royal* in her long but successful search for the Graf Spee in 1939. He writes of this greatest of all seabirds, which he has studied ever since, in delightfully informal fashion as only a sensitive and observing mariner with a rare gift of expression could. Frequent nautical references and terms enliven the account and give it proper tone: an albatross seen from the ship "well to leeward may not close her if the wind is strong." Another "turns down wind across the wake, 'reefs' its wings into a shallow W and dives rapidly to leeward."

The author presents in entertaining and easily assimilable form all the essential information that the average reader will want to know about the Wandering Albatross. Two features of the book are outstanding. The first is Jameson's lucid and simple description of the mechanics of albatross flight. His exposition on dynamic soaring is far and away the clearest I have yet encountered. The second is the Admiral's thorough search into the folklore, which for the albatross is of course primarily sailor's lore. He destroys, I sincerely hope for good and all, the ridiculous fantasy foisted on the English-speaking world by Coleridge that sailors believe it bad luck to kill an albatross. "There is certainly no evidence that sailors have the slightest compunction in killing an albatross," to which I would add, "or ever have had." The only ones who believe the superstition are those who have had Coleridge's "Rime" instilled into them at an early age. Such were non-existent before the mast in sailing ship days and are rare in modern ships even in officer's country. Nevertheless I have encountered the belief in otherwise quite sane and unsuperstitious naval officers, and it has several times interfered with my attempts to collect albatrosses.

The four-page bibliography lists most of the standard ornithological sources, and a number of 18th and early 19th century traveler's accounts that have largely been overlooked. It is of course not exhaustive, and is weakest in references to recent periodical literature, particularly on current banding activities, though all the classic and a few of the outstanding recent recoveries are cited. After all, there is a limit to the amount of technical detail you can include in a popular book, and this one gives an amazing amount of it with very few and minor inaccuracies. My only serious criticism of the book is that it is too short. I enjoyed every word of it so much I was sorry when I finished it that there was no more.—O. L. Austin, Jr.

**44. Our birds of the Northland.** (Våra fåglar i Norden.) Kai Curry-Lindahl. 1959. *Natur och Kultur*, Stockholm, Vol. 1, pp. 557, plates I-LXXXV. In Sweden the emphasis placed on good reference books of a scientific-popular nature in order to promote common knowledge of birds and their lives is clearly shown by the fact that in the past 10-15 years three major ornithological works of this type have been published. The present book is a second edition of the

first volume, ably edited and brought up to date by Kai Curry-Lindahl in collaboration with many of Scandinavia's foremost ornithologists. Of the two prefacing chapters, one written by Gustaf Rudbeck is a needed orientation on the work currently being done on migration as well as an apt evaluation of the various theories existing today. Suggested is a wider organization of cooperative effort in observations and experimentations—not in the laboratory—but in the field, in an attempt to overcome the discrepancies that now exist between these theories and the "facts of observation."

The annotated section is arranged according to Wetmore's system. It includes those species of the Orders Gaviiformes through Falconiformes which occur in Sweden regularly every year. Generous space is accorded each species, usually with one colored plate of a museum specimen set up to advantage in its milieu as well as a rich assortment of black and white photographs of live birds, depicting posturing and behavior situations, nests, young, and habitat. The description of the Golden Eagle (*Aquila chrysaetos chrysaetos*), for example, contains a remarkable piece of good writing on the finding of a nest in the Lapland wilderness, accounts of the hunting technique of this large predator illustrated by a series of photographs showing the killing of a fox, a detailed narrative of two days' watch at a nest, the activities of the parents and the feeding of the young eaglets. The description of plumages is complete for all ages in most species; the occurrence records often contain year to year histories of individuals or nests; in the breeding sections the data on egg-laying, incubation periods, and the participation of the sexes, are, in the majority of the cases, substantiated by evidence. Migration, the protection of raptors, hybridization, conclude these highly informative chapters.

Of special interest to the North American ornithologist is the chapter on the Canada Goose (*Branta canadensis canadensis*). This bird was introduced during the 1930s and 1940s, thrived and extended its range into central and northern Sweden. The Swedish Canada Goose enjoys complete all-year protection, migrates southwards for rather short distances, winters inland on open streams and rivers or along the sea shores as far south as the German North Sea coasts. Hybridization has occurred with five other species of geese, with the Mallard (*Anas platyrhynchos*), and the Mute Swan (*Cygnus olor*). The work is in 12" x 8" format and I have searched in vain for a typographical mistake. It is indeed a luxury model of consistent excellence.—Louise de K. Lawrence.

**45. Securing Open Space For Urban America: Conservation Easements.** William H. Whyte, Jr. 1959. Technical Bulletin 36, Urban Land Institute (1200 18th St., N.W., Washington 6, D.C.) \$3.00. While the importance of habitat preservation for wildlife conservation has received increasing emphasis, most studies cover the selection of areas best suited for wildlife, or the improvement of such areas by management once they have been acquired.

This monograph is the full, technical expression of an idea described by Whyte in *Life* (issue of August 17, 1959). This in turn was an expansion of a discussion by Whyte in a chapter of *The Exploding Metropolis* (by the editors of *Fortune*, 1958, paperback edition by Doubleday Anchor Books, 95¢). It spells out in detail the legal precedents and problems, with specific case citations, and eight appendices with state or federal statutes or easement agreements.

Whyte stresses the view that "open space must be sought as a positive benefit. Open space is not the absence of something harmful; it is a public benefit in its own right, now, and should be primarily justified on this basis."

The ability of a government agency, or of private groups, to preserve desirable areas by outright purchase is quite limited compared to the need for such preservation. In many cases, purchase of only part of the owner's rights is much less expensive than purchase in fee simple, and accomplishes as much. In farm land, for example, the agency may purchase an easement under which the landowner (and his successors) may not construct a building or cut trees or shrubs, yet he retains full use of the land for normal farming purposes.

All too often, inability to finance acquisition of the land prevents any real progress. The temptation is to consider the land only from the standpoint of wildlife management, and to regard other possible uses as simply interference. While obviously not all possible uses are compatible, many tracts can effectively serve several purposes: for example, wildlife management, flood control, and the preservation of "open space" as a matter of sound regional planning. This combination of purposes may justify immediate action, and may justify preservation

of many areas where no single reason was compelling in itself. Even where a purpose such as flood control does warrant immediate action, a little imagination will often make it possible to accomplish a secondary purpose—such as preservation and improvement of wildlife habitat—very economically. These ideas are not entirely new, but many of the best examples of successful multiple use of land are not widely known among those whose interest is primarily wildlife conservation. This is the best general discussion I have seen on what the problem is and how to go about putting the ideas into practice.—E. Alexander Bergstrom.

### NOTES AND NEWS

At the field meeting of NEBBA held on June 4, 1960 (at Arcadia Wildlife Sanctuary, near Northampton, Mass.), the Council reviewed the third draft of the proposed by-laws for NEBBA as a corporation, and recommended that the Association incorporate, and adopt these by-laws. The recommendations will be voted upon at the annual meeting, October 1.

The ten-year index to *Bird-Banding* for the years 1941 through 1950 will be ready this fall. It runs to some 256 pages, inasmuch as the reviews are indexed in detail; thus it can serve as a brief index to general ornithological literature of that decade as well as to papers and notes published in *Bird-Banding*. Copies are being sent without further charge to: (1) life members of NEBBA; (2) current exchanges; and (3) those who have contributed to the Index Fund over the past 10 or 12 years (this includes a number of copies to IBBA, in recognition of their generous support of the index). Present members or subscribers may purchase copies at \$3.00 (paperbound) or \$4.00 (hard covers), postpaid within the U.S. or Canada; the price to others will be \$4.00 (paperbound) or \$5.00 (hard covers). Orders should be sent to the Treasurer, Mrs. Downs.

Mrs. Downs can also furnish lists of back issues of *Bird-Banding* in stock (at \$1.25 per issue).

For prices and other information on the five types of mist net sold by NEBBA, inquire of Mr. E. A. Bergstrom, 37 Old Brook Road, West Hartford 17, Conn.

The Bird-Banding Office at Patuxent is planning an experiment on band legend, to compare the reporting rate of the present bands with one having no indication that a Federal agency is involved ("write P.O. Box 66, Bowie, Md., U.S.A."). The species in this test will be the Red-winged Blackbird, Common (= Bronzed or Purple of the 4th A.O.U. checklist) Grackle and Starling. Any bander who would like to take part, and who has reasonable expectations of banding 100 or more of any one of these species by December 31, 1961, should write to Dr. A. J. Duvall, Patuxent Wildlife Research Center, Laurel, Md. Only flying (non-nestling) birds will be used. The experimental bands (string of 50) will be used alternately with standard bands (string of 50 supplied by Patuxent specifically for this test) as controls. We hope that this test can be conducted on a sizeable scale, as any improvement in the reporting rate of bands would make our efforts as banders more effective.

Dr. Paul Bartsch died at the age of 89 on April 24, 1960. He did the first important scientific banding work in America, having banded, during 1901 and 1903, a total of 101 young Black-crowned Night Herons at two colonies in the District of Columbia. The bands were labelled "Return to Smithsonian," plus year, and a serial number. The results of this work were published in *Smithsonian Misc. Colls.*, 45 (1-2): 104-111 (Dec. 9, 1903). See also, *A Note on the First Bird-Banding in America*, by Dr. Bartsch, in *Bird-Banding*, 23: 59-60, April, 1952.

A conference on the potential role of birds in the epidemiology of certain viruses affecting man was held at the National Institutes of Health on April 4, 1960. The purpose was to bring ornithologists and virologists together in a joint effort to suggest solutions for these problems. A result of the discussions was recognition that many ornithological aspects need more research. For example, dates of arrival and of departure, numbers of migrants, distribution in South America and in southern United States, and also several physiological aspects