



My experience, gained through three years of investigation into the life history of the Sparrow Hawk, suggests that the new right rectrices were about 45 to 60 days old. After banding and releasing the bird, it had little or no difficulty in flying or maneuvering normally — Donald S. Heintzelman, 629 Green Street, Allentown, Pennsylvania.

RECENT LITERATURE

BANDING

1. **Oystercatcher 34 Years Old — the Oldest Ringed Bird to Date of the Vogelwarte Helgoland!** (Austernfischer (*Haematopus ostralegus*) 34 Jahre Alt — bis Jetzt Aeltester Ringvogel der Vogelwarte Helgoland!) F. Goethe and P. Kramer. 1962. *Die Vogelwarte*, 21(3): 220. Banded as a chick on Mellum Island 18 June, 1927, this individual was found nesting on the island in 1944, 1949, 1952, 1954 and 1961. On the last 3 occasions it had the same mate. Other long-lived Oystercatchers have reached 27, 29 and 32 years. — M. M. Nice.

POPULATION DYNAMICS

(See Nos. 1, 5, 8, 9, 10)

MIGRATION

2. **Fall migration at Torhamn.** (Höststräcket vid Torhamn 1957-58.) 1962. Carl-Ivar Carlsson. *Vår Fågelvärld*, 21: 5-14. (English summary.) This peninsula, projecting southwards into the Baltic Sea at a point almost half-way between Ottenby and Falsterbo, is becoming a locality of importance in the mapping of visible migra-

tion routes. In both years five observers manned the post from 29 June to 22 November. The migratory flight direction is predominantly SW or WSW.

The most numerous migrant was the Eider (*Somateria mollissima*). Males in eclipse migrated during June, non-breeding young Eiders in July and August on their way to the late-summer molting places, while the main body, consisting chiefly of females and juveniles with an odd bird in full plumage, passed through during October. On a trip southwards by ship 6 November 1957, no migration was observed along the coast. About 30 to 35 kilometers farther out, however, several flocks of waterfowl were seen. Then came another "bird-free" zone of about 30 kilometers before migrants were encountered again, all flying SSW.

The migration of the Crossbills (*Loxia* spp.) is of particular interest. In 1957 they failed to appear almost entirely, while in 1958 they migrated rather evenly distributed over the whole observation period. In both years and also in 1955 and 1956, however, the Crossbills migrated in late May in numbers considerably exceeding the figures of late summer and fall. This supports Svärdsön's theory that the Crossbills are wont to undertake their main migratory movements of the year immediately after the end of the breeding season. In 1956 this May migration was halted by a rich supply of food confronting the birds in the eastern part of the province in the form of an outbreak of caterpillars attacking the oaks. Here and in the upland of Torhamn the Crossbills could be seen daily in flocks up to 300 birds devouring the caterpillars. — Louise de K. Lawrence.

3. The migration of shorebirds at Hull Lake, west central Sweden, 1959 and its relation to the temperature. (Vadarsträcket vid Hullsjön 1959 och dess beroende av temperaturen.) 1962. Leif Nilsson. *Vår Fågelvärld*, 21: 15-25. (English summary.) While many ornithologists have studied the correlations between the weather and the migration of birds, especially passerines, the movements of shorebirds have hitherto been given scant attention. This study indicates that, in general, shorebirds are influenced by the temperature in much the same way as are the passerines, i.e. main migratory movements in the spring occur most often with rising temperature and in the fall with falling temperature. There are exceptions, however. For example, large flocks of shorebirds arrived at Hull Lake during a period of rising temperature on 19-20 August. This phenomenon was apparently correlated with a cold front over the White Sea in northeastern Russia. This cold air, it is suggested, aroused the migration urge to such a pitch that the birds flew southwest-wards non-stop until the warm air over central Sweden halted the flight. von Haartman (1939) found that in the fall variations in temperature only exceptionally influenced the migration of the Curlew (*Numenius arquata*). — Louise de K. Lawrence.

4. The migration at Falsterbo 1958. Report No. 20 from Falsterbo Bird Station. (Fågelsträcket vid Falsterbo år 1958.) 1962. Sven Mathiasson. *Vår Fågelvärld*, 21: 26-41. (English summary.) During June and July, Starlings (*Sturnus vulgaris*), gulls, and swifts dominated the migration activities. The early fall (August) saw an increased movement of late summer migrants, including shorebirds. During this time a Crossbill (*Loxia* spp.) migration, 1,390 individuals, was the outstanding event. During the fall months, September-November, migration reached its peak. Lately a number of formerly rare birds have appeared more frequently. Among these are the Goshawk (*Accipiter gentilis*), the Black Kite (*Milvus migrans*), and the Carrion Crow (*Corvus corone*). Hybridization between the latter and a Hooded Crow (*Corvus cornix*) was proved again this year for the second time. The 3 fledglings resembled their Hooded parent. — Louise de K. Lawrence.

NIDIFICATION

(See also Nos. 10, 11, 12, 16, 20, 30)

5. Nesting of the House Finch at Pocatello, Idaho. Victor E. Jones and Edson Fichter. 1961. *Tebitwa: The Journal of the Idaho State College Museum*, 4 (2): 1-9. Of 470 eggs laid from 1943-46 by *Carpodacus mexicanus* in 113 nests on the campus of Idaho State College 296 (63 percent) hatched and 267 (57 percent) fledged. This agrees closely with 59 percent success of 283 eggs laid by this species in Denver, Colorado from 1906-10 (W. H. Bergtold, 1913. *Auk*, 30: 40-73); but is higher than the 45 percent success of 127 eggs in Sacramento, California (F. G. Evendon, 1957, *Condor*, 59: 112-117) where cats preyed upon the young. In Idaho incubation averaged 13.3 days, fledging 17 days. Seven tables are presented and the problems of nesting success and of limiting factors are discussed. — M. M. Nice.

6. **Blackbirds Rearing Five Broods in One Season.** H. Mayer-Gross and C. M. Perrins. 1962. *British Birds*, 55(5): 189-190. A pair of *Turdus merula* in Oxford raised 5 broods in less than 7 months in 1961; from 20 eggs 16 young were fledged. The first egg was laid on January 23; the last chick fledged on July 26. The same nest was used for the first 4 broods. "The hen was exceptionally tame and in the later part of the season would fly to the nest on seeing anyone approach; she then had to be lifted off and would sit on the back of one's hand and peck it while the contents of the nest were examined."— M. M. Nice.

7. **Data on the Weight of Avian Yolk from Hatching till Disappearance.** (Daten über das Gewicht des Vogeldottersackes vom Schlüpfstag bis zum Schwinden.) Louise Schmekel. 1960. *Revue Suisse de Zoologie*, 68(6): 103-110. (With French and English summaries.) From records at the Basel Zoo average and maximum percentages are given of 161 newly hatched individuals of 39 species of weight of yolk in comparison to total body weight. In the majority of altricial species the figures averaged between 5 and 10 percent of the body weight; in precocials between 12 and 25 percent. (Fresh eggs of altricial and semi-altricial species of the North Temperate Zone have been found to average about 20 percent of yolk; those of precocials and semi-precocials from 27 to 36 percent [see Nice, 1962, *Transactions of the Linnaean Society of New York*, VIII: Table 4].

A graph is presented showing the very rapid decrease in post-embryonic life in percentage of yolk in the Starling (*Sturnus vulgaris*) and the less rapid disappearance in the European Quail (*Coturnix coturnix*) and Ostrich (*Struthio* sp.) With the first species it was practically gone by the fourth day, in the second by the sixth day, but in the third there was still 7 percent on the seventh day in contrast to 26 percent on the first. All 6 titles in the bibliography are studies on the domestic fowl; five are by North American authors and four of these were published between 1924 and 1933. — M. M. Nice.

8. **The Ecology of the Red-backed Shrike.** (Zur Oekologie des Neuntötters — *Lanius collurio* L.) J. Havlin. 1959. *Zoologické Listy* 8(1): 63-95. (In Czech with summary in German.) A report on 4 years of intensive study of the nesting of this attractive bird. Egg laying starts at the beginning of May; the early nests are normally more successful than those starting in mid June or July. Clutch size ranged from 1 to 7 eggs; in 2 favorable years (1954, 1956) it averaged 5.0 and 5.1 eggs; in 2 years of drought (1955 and 1957), 4.3 and 4.6. In 1957 71 pairs nested on 21 square kilometers of farm land, 3.4 pairs per square kilometer. Success of nesting was high: of 963 eggs in 216 nests 799 young were fledged — 83 percent — from 163 nests — 75 percent. The author concludes that this species increased more than enough to replace the population and that the number of nesting pairs depends primarily on the actual conditions met each year and not on the success of the previous year's breeding. — M. M. Nice.

9. **The Breeding Season and Number of Young of the Starling, *Sturnus vulgaris* L., in Czechoslovakia.** Jirí Havlin and Cestmír Folk. 1961. *Zoologické Listy*, 10(1): 67-84. (In Czech with a 5-page summary in English.) Based on data from 6,247 nests from the banding station of the Czechoslovakian Ornithological Society (National Museum, Prague). In the second nesting period about one-third as many nesting birds is involved as in the first. "In middle elevations of 250-500 m. the percentage of second nesting is higher than both in lower and higher elevations." The average number of young banded per nest was 4.4 in the first brood, 3.7 in the second. The comparable figures reported for 4 other countries are: Switzerland, 4.5 and 4; Germany, 4.3 and 3.7; Netherlands, 4.2 and 3.5; Great Britain, 3.9 and 3.00. — M. M. Nice.

LIFE HISTORY

10. **Distribution, Habitat Requirements, and Life History of the Black-Capped Vireo (*Vireo atricapilla*).** Jean W. Graber. 1961. *Ecological Monographs*, 31: 313-336. An exhaustive study of the present breeding and wintering ranges of this rare little bird. The breeding range has shrunk since the start of the century, due apparently to disturbance of some of its former nesting grounds by man and also to severe drought that killed much of the scrubby growth this bird requires. Through extensive search Dr. Graber found that this vireo breeds very locally from north central Oklahoma through central Texas to north central Mexico, and that it winters

on the west coast of Mexico from southern Sonora to Guerrero. The bird has rigid requirements of vegetative and climatic factors — "scrub-oak growth of irregular height and distribution," and monthly means of temperature both in summer and winter between 63° and 87° F.

The male is much attached to his territory, returning to it year after year. He has special courtship songs and displays. Male and female share nest building and incubation, although the male develops no brood patch. Incubation typically lasts 14 days; fledging 10 to 13 days. One juvenile was cared for by its father for 44 days after it had left the nest. Interesting observations on behavior and molt were made on a captive fledgling. The female alone broods the chicks. The male brings about three-fourths of the food to the young. He takes charge of the fledglings of the first brood while the female either incubates the eggs and feeds the young of the second by herself, or is assisted in these activities by a new mate.

Nesting success was poor during 1955 and 1956, largely due to Cowbirds, (*Molothrus ater*). "One cowbird chick requires as much food as four vireo chicks." "Of 243 eggs, 43 (17.66%) were successful to the stage of nest-leaving. Of 75 nests, 15 (20%) were successful in producing one [vireo] fledgling." Adult survival was excellent. Of 12 males banded in 1954, 9 returned in 1955 and 5 in 1956. Of 12 females banded in 1954, 5 were found in 1955 and 2 in 1956. A notable study. — M. M. Nice.

11. **Natural History of the Bell Vireo, *Vireo bellii* Audubon.** Jon C. Barlow. 1962. *University of Kansas Publications, Museum of Natural History*, 12(5): 241-296. The Bell Vireo, in marked contrast to the Black-capped, is a widely distributed species of the West and Middle West and is even expanding its range eastward. It breeds freely in some of the same areas as the Black-capped, as found by Mrs. Graber and others, but also nests in willows, thickets, gardens and rather open brushy fields. In 1959 and 1960 Mr. Barlow concentrated on the behavior of a small population of this species in Douglas County, Kansas. He describes five aggressive displays used in territory establishment and six displays connected with courtship. Nest building is started by the male who constructs the suspension apparatus, after which the female makes and lines the bag; both sexes adorn the exterior. Both sexes incubate, but only the female has a brood patch. "Incubation lasts fourteen days." In 1959, nine of 29 vireo eggs "gave rise to fledglings," but the following year every one of the 50 eggs found were failures — 37 of these losses due to Cowbirds.

This interesting bulletin may be obtained for 25 cents from the Museum of Natural History, Lawrence, Kansas. — M. M. Nice.

12. **A Life History Study of the Yellowthroat, *Geothlypis trichas*.** P. B. Hofslund. 1960. *Proceedings of the Minnesota Academy of Science*, 27: 144-174. This interesting paper is based on four years of study, two at Ann Arbor, Michigan and two at Duluth, Minnesota. Graphs show the close relationship between high temperatures and the arrival of male and female Yellowthroats. Males may sing as many as 250 songs in an hour. The flight song "appears to be primarily a warning to the female, for it was heard most frequently when I first entered a territory, or when the female was off the nest." The female incubates alone and is occasionally fed by her mate. Incubation lasts 12 days, fledging 8 days, but the chicks are cared for by the parents until they are a month or more old.

In Ann Arbor, at about 42° north latitude, the first males arrived on the breeding grounds May 1, 1948 and May 2, 1949, but at Duluth, at about 46° 40' north latitude they did not appear until June 2, 1950 and May 21, 1951. Two broods are raised in Ann Arbor, only one in Duluth. It is a comfort to read of good nesting success of these Yellowthroats: of 152 eggs, 79 produced young that fledged — 51.9 percent. The Cowbird played the largest role in the loss of eggs and young, accounting for 43.8 percent of the total failures. — M. M. Nice.

ECOLOGY

(See also Nos. 8, 10)

13. **On Some Inter-relations of the Woody-plants, Birds and Forest Pest Insects.** (Ueber einige Wechselbeziehungen zwischen Gehölzen, Vögeln und Forstschädlingen.) F. J. Turcek. 1961. *Zeitschrift für Angewandte Zoologie*, 48(4): 423-440. (With summary in English.) A rather short paper based on the author's comprehensive book (1961, reviewed in *Bird-Banding*, 1961, pp. 249-250). Of Central-European bird species 156 are known to feed upon fruits and seeds of

255 species of woody plants. These birds play a large part in the dispersal of these plants and many of them serve as helpers to the plants by destroying their insect enemies. The distribution of 4290 nests of 73 species among 42 genera of woody plants is shown in Tables 2 and 3. Table 4 gives the 13 worst insect enemies and most affected shrubs, while Table 5 lists 22 shrubs according to usefulness to birds by affording them seeds and fruits, nesting sites and insect prey. — M. M. Nice.

14. **Environmental Requirements in the Blackbird, *Turdus merula* L.** Jir! Havlin. 1962. *Práce: Acta Academiae Scientiarum Cechoslovenicae Basis Brunensis*, 34(1): 1-48. (Czech with summary in English.) Food requirements prove to be of greatest importance in the ecology of the European Blackbird. To study this subject 87 "forest" and 111 "town" birds were collected; the results of the stomach examinations are shown in 4 large tables. This species is adapted to shrubberies and to "an abundance of animal food in the top layer of moist litter inside shrubby thickets." In summer it feeds largely on fruits, but in winter most of the "forest" birds migrate due to food shortage. The "town" birds, however, can find food throughout the winter, and more of them are resident. They have a "greater population density, more frequent nesting and higher reproduction rate (per unit of acreage)" than their fellows in the forest. In town, they became "used to living close to man, abandoned dense shrubberies, now keeping mostly to open grassy areas. Their protective adaptations, except for their alertness and ability to realize danger, mostly lost their importance. In this new environment, their black color is not protective any more; also they have become more noisy." — M. M. Nice.

BEHAVIOR

(See also Nos. 11, 12)

15. **The Comparative Ethology of Wood Warblers: a Review.** Millicent S. Ficken and Robert W. Ficken. 1962. *The Living Bird. First Annual of the Cornell Laboratory of Ornithology*: 103-122. From their intensive studies of a number of parulids and from the literature the authors compare various aspects of behavior among members of this family, as walking, tail movements, agonistic displays, courtship displays, song, etc. Under "Head-scratching" they report that the Golden-winged and Blue-winged Warblers (*Vermivora chrysoptera* and *V. pinus*) scratch indirectly, in contrast to 3 other *Vermivora* species that have been observed to scratch directly (Nice and Schantz, 1959, *Auk*, 76: 340.) Interestingly enough, the average song pitch of 9 species that sing from medium to high levels ranges from 4150 to 8900 cycles per second, while that of 7 species that forage at low levels ranges from 2600 to 5125. The median of the first set is 6600, of the second 4000. The authors suggest that the ancestor of wood warblers "was largely ground-adapted," because of the prevalence of ground or low-nesting, of distraction displays, and of flight songs in forest-dwelling warblers. — M. M. Nice.

16. **Behavior of the Eastern Bluebird at the Nest.** James M. Hartshorne. 1962. *The Living Bird. First Annual of the Cornell Laboratory of Ornithology*: 131-149. The author accomplished the remarkable feat of incubating eggs of *Sialia sialis*, raising the hatchlings by hand, keeping them in pairs in small sound-proof chambers and having them breed normally. Observation of these captive pairs was checked by watching the nesting of wild pairs. Females build, incubate and brood, although sometimes their mates may sleep in the nest boxes with them. Both parents feed the young about equally. Interestingly enough, the captive pairs showed a strong impulse to fly off with the fecal sacs; "the conditions of confinement were adequate for normal reproductive activities, except when carrying fecal matter." A fledgling was seen to feed itself at 21 days of age. A 36-day fledgling fed two 26-day fledglings for several days. Excellent work. — M. M. Nice.

17. **Head-scratching in the Psittaciformes.** J. le Gay Brereton and K. Immanuelmann. 1962. *Ibis*, 104(2): 169-175. A long table lists the faunal regions and head-scratching methods of many species of parrots. The authors conclude: "The head-scratching behaviour pattern is a valid taxonomic character. It supports the divisions within the Psittaciformes in the case of the Strigopinae, Nestorinae, Loriinae, and Kakatoeinae, but indicates that the Psittacinae are comprised of a number of groups." Evolutionary aspects of the subject are discussed, but no conclusions reached. — M. M. Nice.

18. **Studies in Behavior and Phylogeny of Certain New World Jays (Garulinae).** John William Hardy. 1959. *University of Kansas Science Bulletin*, 42(2): 13-149. Detailed observations on the behavior and life history of the Blue Jay (*Cyanocitta cristata*) and Mexican Jay (*Apelocoma ultramarina arizonae*) both in the wild and in captivity. The former is territorial, the latter highly social at all seasons. Part I discusses breeding behavior, Part II non-breeding behavior of these two species. Part III treats of phylogeny and systematics. The author proposes two tribes of New World jays: an "Inornate line" — *Apelocomini*, and an "Ornate line" — *Cyanocini*. He states: "A high degree of sociality is thought to be more primitive than territoriality of pairs in New World jays. All highly social species exhibit prominent age dimorphism of bill color, parti-colored bills, exteriorly, distinguishing sub-breeding status and, often, 'helper' status in the breeding season. In less social species the bill is parti-colored exteriorly only prior to postjuvinal molt, although remnants of parti-coloredness persist on the interior surfaces of the bill for a longer period." There is a great deal of valuable material in this study. It is illustrated with photographs and excellent sketches by Robert M. Mengal. — M. M. Nice.

19. **Aggressive Behavior of the Red-gartered Coot.** (Comportamiento Agresivo de *Fulica armillata* Vieillot.) Jorge R. Navas. 1960. *Revista del Museo Argentino de Ciencias Naturales*, 6(3): 103-129. (Summary in English). Observations on this very aggressive large coot in the province of Buenos Aires. Three pages of silhouettes graphically display the different attitudes of these highly territorial birds. The author distinguishes six stages of aggression: "incipient threat, simple charge, tumbling charge, splattering, challenging, and fighting." Comparisons are made with the displays of the American Coot (*Fulica americana*). — M. M. Nice.

20. **How Do Black-headed Gulls Distinguish Between Eggs and Egg-shells?** N. Tinbergen, H. Kruuk, M. Paillette and R. Stamm. 1962. *British Birds*, 55(3): 120-129. Careful, detailed, ingenious experiments carried out in a gullery at Raven-glass, Cumberland. Models of eggs and shells were prepared, one shell having inside it a piece of lead equal in weight to a real egg. Models were presented, one at a time, on the rim of nests containing one or two eggs. Four tables give the results of three sets of experiments. "Eggs are rolled into the nest and brooded, while shells are picked up in the bill and removed . . . The egg-shell elicits removal because it differs from the intact egg in the following characteristics: it shows a thin edge; this edge is serrated; and it shows white. . . . In addition it was shown that egg-shell removal is a chain of acts: nibbling is elicited by visual stimuli; during nibbling the weight is checked and if it does not grossly exceed that of a real shell, the object is carried; if it equals the weight of an egg or a chick, the chain is broken off." — M. M. Nice.

21. **Development of Paddling and Other Movements in Young Black-headed Gulls.** Miriam Rothschild. 1962. *British Birds*, 55(3): 114-117. Very interesting paper on hand-raised *Larus ridibundus*. Paddling was usually first seen at 21 days, but occasionally occurred as early as 12 days. "The bird changes its weight quickly from one foot to the other and keeps up the dance for 20 to 120 seconds. It then ceases abruptly, steps backwards a pace, and glances sharply at its feet." "A bird blind from hatching also developed the complete paddling reaction at the usual age of three weeks. Even the backward step and downward jerk of the head at the cessation of movement took place."

The appearance of other coordinations is described; usually they were recorded later than in our hand-raised Franklin's Gulls (*L. pipixcan*) (*Transactions of the Linnaean Society of New York*, 8. 1962), a species much the same size as the Black-headed. I give the figures first for the British bird, followed by those for the North American one (in parentheses): simple bathing, 8th day (6 and 7 days); "side-to-side 'bathing roll'," 27 days (14 days); stretching wings up, 7th day (2-4 days); stretching wing and leg sidewise, 20 days (6 days); sleeping with head in scapulars, 28 days (5 and 7 days). Our Franklin's Gulls were not seen to paddle as long as we kept them, which was to the ages of 36 and 38 days. — M. M. Nice.

22. **Foot-paddling in Gulls.** N. Tinbergen. 1962. *British Birds*, 55(3): 117-120. Foot-paddling is practised by Herring Gulls (*Larus argentatus*) and Common Gulls (*L. canus*) in meadows with the result that large numbers of earthworms of the genus *Allolobophora* emerge and are consumed. It is also applied by these two

gulls and especially by the Black-headed Gull (*L. ridibundus*) in shallow water where it "serves to whirl up invisible prey." — M. M. Nice.

23. **Early Experience and Sexual Behavior in the Domestic Chicken.** B. Bambridge. 1962. *Science*, 136(3512): 259-260. Male chickens, each kept in its own box, were injected with male sex hormone from the fifth day on. Five were exposed from day 2-9 to a moving yellow model and six to a blue model. Six each were given similar treatment from day 2-17. Five each were exposed to these models from day 10-17. The chicks in the first two groups became imprinted on their respective models, while those in the third did not. Interestingly enough, on days 19 and 20 when all the chicks were exposed to both models, nine of the first group and nine of the second attempted to tread their respective models, while only one of the third group did so. Thus in this experiment imprinting on an artificial model, combined with lack of experience of their own species, clearly produced an abnormal sexual fixation in the majority of the birds. — M. M. Nice.

24. **Predation upon Goldcrest by a Great Tit.** (Talgöxe (*Parus major*) tar kungsfågel (*Regulus regulus*) som byte.) 1962. Ragnar Edberg. *Vår Fågelvärld*, 21: 43. On 16 April 1960, in the neighborhood of Ottenby, a small ball of feathers fell from a tree in front of the observer. It was a Great Tit with a struggling Goldcrest in its claws. Under the tit's energetic pecking the Goldcrest soon ceased struggling. When picked up the victim's brain, left eye, and the left breast muscle had been devoured.

Predations of this kind by Great Tits, Blue Tits (*Parus caeruleus*), and shrikes, have been observed at Ottenby many times, but only in situations of highly constricted space as inside traps or carrying cages. Unless the tit, in this case, was one with previous experience, it is difficult to account for such behavior in the wild. — Louise de K. Lawrence.

CONSERVATION

(See also No. 30)

25. **Silent Spring.** Rachel Carson. June 16, 23, 30, 1962. *The New Yorker*, 38(17): 35-99; (18): 31-89; (19): 35-67. A powerful presentation of the terrifying situation the world is in due to the massive and ever-mounting use of pesticides and herbicides that are poisoning our whole environment — air, water and soil — and are even threatening our genetic heritage. With masterly grasp of the whole complicated situation Miss Carson describes the nature of each group of chemical poisons and its history, its wide-spread destruction of most forms of life, its initial success in many cases against a particular pest and the subsequent resurgence of a resistant population of that pest.

She says, "We have put poisonous and biologically potent chemicals indiscriminately into the hands of persons who are largely or wholly ignorant of the harm they can do." She does not contend that "moderate chemical controls should never be used under any circumstances but rather, that we must reduce their use to a minimum and must as rapidly as possible develop and strengthen biological controls." Let us sincerely hope that Miss Carson's most admirable articles — and the forthcoming book from which they are excerpts — will awaken the public to our perilous situation. — M. M. Nice.

MORPHOLOGY AND ANATOMY

(See also No. 7)

26. **The Bio-mechanics of the Bird Skull.** William J. Beecher. 1962. *Bulletin of the Chicago Academy of Sciences*, 11(2): 10-33. With the evolution in birds of the forelimb for flight the bill had to take over the functions of capturing food and manipulating objects. "The upper bill came to be a separate part — movably hinged to the cranium to form a kinetic skull." This skull is "a simple machine, made up of first and second class levers." Dr. Beecher describes and illustrates the muscles and the jaw structure of many birds from ratites to passerines. — M. M. Nice.

27. **Variability of Somatic Characters in the European Blackbird, *Turdus merula merula* Linné, 1758.** Jirí Havlin. 1962. *Zoologické Listy*, 11(1): 1-14. (In Czech with summary in English.) A total of 234 adult Blackbirds were ex-

amined in the search for differences between "forest" and "town" populations; none was found except for "a more frequent dull colour of plumage with ferruginous tint and a greater tendency towards albinism in "town" blackbirds." "The average body weights of blackbirds in single months (in parentheses, numbers of cases . . .): Jan., 101.6 g (24); Feb., 99.4 g (19); March, 88.8 g (8); Apr., 88.4 g (19); May, 88.0 g (12); June, 96.9 g (11); July, 90.5 g (12); Aug., 86.9 g (11); Sept., 91.3 g (6); Oct., 91.8 g (5); Nov., 92.9 g (8); Dec., 108.7 g (21)." Males and females did not differ in average weight during the same month. — M. M. Nice.

FOOD

(See also Nos. 2, 13, 14, 24, 30)

28. Consumption and Digestion of Seeds in the Blackbird, *Turdus merula* L. Jirř Havlin. 1961. *Zoologické Listy*, 10(2): 243-248. (In Czech with summary in English.) Town populations of the blackbird were found to be capable of seed consumption which is not true with forest populations of this species. In feeding experiments with wild and captive birds some of the seeds and grains passed through the birds quickly in 30 to 60 to 120 minutes and these were mostly undamaged; part were passed after more than 12 hours and these had been more or less digested. — M. M. Nice.

BOOKS AND MONOGRAPHS

29. Our birds of the Northland. (Våra fåglar i Norden.) Edited by Kai Curry-Lindahl. 1961. *Natur och Kultur*, Stockholm. Part III, pp. 1023-1534, plates CXXXVIII-CVC. The third volume of this work, of which Vol. I and II have been reviewed earlier in this journal (31: 168, 32: 66), includes 28 species of Charadriiformes, 3 Columbiformes, 1 Cuculiformes, 11 Strigiformes, 1 Caprimulgiformes, 1 Apodiformes, 3 Coraciiformes, 9 Piciformes, and 7 Passeriformes. It closely follows the arrangement and generosity of set-up of the other two volumes. The effort to keep the work strictly up to date is manifest by the many references to the most recent literature.

The account of the Cuckoo (*Cuculus canorus canorus*), for example, is filled with interesting details. The note *kock-ko* is given only by the male in connection with breeding activities. A bird was once heard giving 119 *kock-kos* in succession. The Cuckoo is particularly fond of hairy caterpillars. The hairs of these insects adhere to the congealed secretion on the lining of the bird's stomach. These accumulations are then discharged and regurgitated, much in the manner of owl pellets. A series of photographs shows the female's approach to a host's nest, how she picks up the host's egg and carries it away. She is also able to carry her own eggs from one nest to another as proved by Bunyard in experiments with marked eggs. On one occasion he actually saw the Cuckoo arrive with bill closed and then produce the egg from the crop. "The method of depositing an egg temporarily in an old unused nest," the author remarks, "for later transportation into an active nest is amazing. If the habit is general, then the observations of cuckoo-eggs in Pheasant (*Phasianus*) and Grebe (*Podiceps*) nests acquire a certain meaning." Another series of photographs shows a nestling Cuckoo ejecting its foster-brother. Wriggling in position under the unfortunate victim, the Cuckoo hoists it on the back and heaves it toward and eventually over the edge of the nest.

Accumulated data are, however, less extensive for some species. Despite very fine recent studies of European woodpeckers, in the opinion of this reviewer the accounts of several of these species lack the distinctive understanding that so distinguishes the work on the greater majority of the birds in this volume. — Louise de K. Lawrence.

30. Little Barrier Island (Hauturu). (2nd ed.) Compiled by W. M. Hamilton. 1961. New Zealand Department of Scientific and Industrial Research, Bull. 137: 1-198. R. E. Owen, Wellington, N. Z. 30s. This island, west of Auckland, was made a bird sanctuary in 1894. It is "the only remaining large forested area undisturbed by introduced browsing animals." Eight authors treat of the physiography, geology, vegetation, mammals, birds, etc., of the island. "The island became a bird sanctuary at a stage when it was believed that most of New Zealand's forest birds had little hope of survival." Now, however, that the introduced trees on the mainland are well grown, many of the native forest birds are reappearing in towns and gardens and exotic forests. One species, the Stichbird (*Notiomystis cincta*), extinct elsewhere, has survived on Hauturu.

A total of 30 native bird species and 9 introduced species breed on the island. Three species of petrels, Blue Penguins (*Eudyptula minor*), the North Island Kiwi (*Apteryx australis mantelli*) and many other interesting birds nest on the sanctuary. The only introduced predators are cats which live largely on the abundant Cook's Petrel (*Pterodroma cooki*). This island is a most valuable resource for studies of the ecology of native fauna and flora. — M. M. Nice.

NOTES AND NEWS

We regret the continued delays in publication of *Bird-Banding*, particularly the July issue. That issue suffered from the editor's absence abroad for several weeks, but was also held up by the temporary loss of all the illustrations and their proofs. We are endeavoring to get issues back to a more normal schedule.

Our shipments of mist nets continue to encounter delays, resulting partly from very heavy demand and partly from other factors such as unusual delays in customs. By the time this issue reaches you, we hope to have adequate stocks on hand. However, if you know your needs in advance, an early order may avoid delays at the time you plan to use the nets. For details of the five types of mist nets distributed by NEBBA, write to Mr. E. A. Bergstrom, 37 Old Brook Road, West Hartford 17, Conn.

Request for Assistance in Promoting Communication Between Ornithologists, Ecologists, and Arthropod-borne Virus Investigators

Extensive evidence indicates that wild birds are involved in the life cycle of many arthropod-borne viruses and are the source of infection for arthropods that infect man and domestic animals. The natural history of these viruses and the epidemiology of the diseases they produce are so complex that only a coordinated effort by specialists on all facets of ornithology, ecology and virology can produce the information needed.

The American Committee on Arthropod-borne Viruses (ACAV) has been attacking the virological aspects of these problems for several years, but greater participation by ornithologists is required. A meeting of ornithologists, virologists, ecologists and entomologists was organized in Atlanta, Georgia, February 16 and 17, 1962, to discuss information at hand, current investigations, and the need for more research and communication.

A subcommittee of the ACAV was formed to serve as a channel of information exchange, a focus for consultation, and to stimulate development of new tools and ideas.

The proceedings of the meeting and a list of references have been prepared and the subcommittee desires to distribute them as widely as possible. Interested persons may obtain copies from the chairman who will place their name on a mailing list for future communications.

American Committee on Arthropod-borne Viruses,

Subcommittee on the Relation of Birds to Arthropod-borne Viruses

David E. Davis
Joseph J. Hickey
Robert J. Newman
Maurice W. Provost

Donald D. Stamm, Chairman
USPHS, Communicable Disease Center
Atlanta 22, Georgia