midst of post-nuptial molt with three wing feathers on each side missing, and several tail feathers out. Most of the head and neck feathers had been molted and the new ones were in the pin-feather stage. Baits used were bread and berries.—DANIEL SMILEY, JR., Mohonk Lake, New York.

Chickadee Movements at Demarest, New Jersey.—Obviously unusual numbers of new Chickadees (*Penthestes a. atricapillus*) about the Demarest, New Jersey, banding station during the present March (1938), led to a checking of the records for the current month in comparison to those of March, 1937.

At least 27 Chickadees banded prior to March 1st and most of them prior to January 1st, were repeating quite consistently in the traps up to March. Coincident with the accession of new, unbanded Chickadees from March 15th on only eight such "old-timers" were taken and each of them only once. The repeating birds in the last half of March were mainly the newly-banded Chickadees, further suggesting that new birds had definitely replaced their predecessors.

The figures show that from January 1, 1937, Chicadees banded were as follows: —one on January 5th; one on February 21st; one on February 28th; two on March 23d; one on March 28th. This could doubtless be considered as a normal occurrence of heretofore unbanded Chickadees, *i.e.*, three during the months of January and February and three in March.

For the current year, there was one Chickadee banded on February 8; one on February 15th; one on February 20th; three on March 7th; two on March 24th; one on March 25th; three on March 26th; four on March 27th; three on March 28th. Exactly the same number in the first two months of the year as in 1937, *i.e.*, three, but in March sixteen as compared with the three of March, 1937. The question arises, have we during March, 1938, experienced an unusual movement of Chickadees? Just what should be considered a normal movement of Chickadees out of the breeding season and finally how much after all do we really yet know about the subject?—B. S. BOWDISH, Demarest, New Jersey.

RECENT LITERATURE

(Reviews by Margaret M. Nice and Thomas T. McCabe)

BANDING AND MIGRATION

1. Report of the Bird-Ringing Committee: Progress for 1937. A. Landsborough Thompson. 1938. *British Birds*, 31 : 345–351. On June 1, 1937 the control of the "*British Birds* Marking Scheme" was transferred to the Bird-Ringing Committee of the British Trust for Ornithology. The work is partly financed by the journal *British Birds* and partly by the payment by coöperators of 6 shillings per hundred rings. In 1937 45,181 birds were ringed, of which 23,281 were nestlings. The ten species ringed in largest numbers since 1909 were as follows, the total number ringed being given and, in parentheses, the percentage of recoveries: Song Thrush (*Turdus philomelos*) 59,997 (1.8); Blackbird (*Turdus merula*) 50,718 (4.1); Starling (*Sturnus vulgaris*) 49,754 (4.3); Barn Swallow (*Hirundo rustica*) 38,656 (0.9); Lapwing (*Vanellus vanellus*) 32,780 (2.2); Chaffinch (*Fringilla coelebs*) 26,071 (3.9); Greenfinch (*Chloris chloris*) 23,672 (6.5); Redbreast (*Erithacus rubecula*) 19,793 (9.1); Common Tern (*Sterna hirundo*) 17,884 (2.7); Sandwich Tern (*Sterna sandvicensis*) 14,332 (1.7).

Recovery percentages are high for Titmice (15.8–18.5) due to trapping. Other high percentages are due to shooting: Heron, 10.9; Cormorant, 19.4; hawks, 5.6–23.4; ducks, 4.8–19.2. This last figure is not as bad as this country's record which averages about 20 per cent.

2. Bird Banding Brevities—No. 12. Amelia R. Laskey. 1938. *The Migrant*, 9 : 10–11. Four male Mockingbirds (*Mimus polyglottos*), three of them, old birds, defended their territories from October on. Two were on their nesting territories, but one has spent three winters on this lot, although nesting

75 yards northwest. "Stimulated by the unusually mild weather of late December, January, and February, all Mockingbirds sang throughout the winter. "AYB" and "YAR" won mates by mid-February which was about three weeks ahead of the usual date."

Several returns of winter residents are recorded: a White-crowned Sparrow (*Zonotrichia l. leucophrys*) for the fourth time, and a White-throated Sparrow (*Zonotrichia albicollis*), two Field Sparrows (*Spizella p. pusilla*), and a Junco (*Junco h. hyemalis*) over 5 years old. A pair of Carolina Wrens have stayed together over two years, the male being almost 5 years old.

3. Striking Return Migration of Sky-Larks (*Alauda arvensis*) on February 20, 1937 near Flensburg. (Auffallender Rüchzug von Feldlerchen (*Alauda arvensis*) am 20.II.1937 bei Flensburg). Emeis. 1938. *Der Vogelzug*, 9 : 39. For a few days before February 20th the weather was mild and rainy and migrating Sky-Larks were singing. That night there was a heavy snowfall, and the next day there was a large migration *southwest* of Sky-Larks, Lapwings, and Fieldfares (*Turdus pilaris*).

LIFE HISTORY

4. New Researches on the White Storks of North Africa. (Nouvelles Recherches sur les Cigognes Blanches de l'Afrique du Nord.) G. Bouet. 1938. *L'Oiseau et la Revue Française d'Ornithologie*, 8 : 20–45.. Approximately 62,000 *Ciconia ciconia* nest in French North Africa, according to answers to questionnaires from government officials. In about a third of the Moroccan reports the bird had decreased, probably as a result of the drainage and cultivation of formerly wild land. Where feeding grounds are restricted, the resident Storks drive off new pairs; where the food supply is ample, they let them stay. The author banded 650 young Storks in Algeria in June, 1935. He believes that Storks do not eat grasshoppers that have died from poison, and that they regurgitate dying ones.

The Storks migrate south in the first half of August, rapidly crossing the Sahara, which is extremely dry at that season, and striking east to Central Africa. The return migration is a leisurely affair, starting in February; the birds come by way of the oases and feed upon the batrachians, mollusks, and reptiles that have emerged in response to the spring moisture.

5. Breeding of the Cuban Flamingo in the Berlin Zoo. (Ueber einige brutbiologische Beobachtungen im Berliner Zoologischen Garten im Jahre 1937.) Georg Steinbacher. 1938. *Beiträge zur Fortpflanzungsbiologie der Vögel*, 14 : 55–56. In a sizeable flock of *Phoenicopterus ruber* six individuals stayed in pairs. Although sociable, the birds are quarrelsome. Single eggs were laid on the following dates: June 1, 1934, July 7, 1936, June 5, 1937, but all were infertile. Both sexes incubated, the female for longer periods. The male was the chief defender of the nest. In 1936 the male of the nesting pair was abnormally peaceful; he and his mate were driven from the nest by a second pair, that in turn after one day were dispossessed by a third pair that incubated the egg for a long time!

6. Nesting of the Snake Eagle. (Observations sur la Nidification du Circaete Jean-le-Blanc *Circaetus ferox gallicus* (J. F. Gmelin) 1788.) Robert Hainard and Maurice Blanchet. 1937. *Alauda*, Ser. III, 9 : 277–286. Two nests were watched from blinds. At the first the birds were watched in the late afternoon; on May 29th and 31st the male took his turn at incubating at 6.30 and 5.30, but on June 9th, he failed to appear. The other nest was watched from noon till 8 P.M. on June 15th; the male soon came with the tail of a snake hanging from his bill, whereupon the female took hold with foot and beak and pulled out an immense adder, which she fed to the young bird. At 2.10 the male returned with another large adder; his mate fed this to the young and ate some herself. The little bird slept in her shadow, then began to call; its mother

looked about in the nest, then left at 3.50, returning in 25 minutes with a green branch which she placed before her child. Four days later the nest was watched from 10 A.M. to 5 P.M.; the young bird was alone until 1.15 when the mother came with an adder which she fed to the young. She left at 2.15, in 15 minutes bringing a green beech branch which she placed *on* her child, sheltered it for a half hour, then brought another branch, and after that a slow worm which she fed entire. On July 23d the young bird was still in the nest, but no parent appeared between 2 and 6 P.M. On August 5th the nest was empty. The article is vividly illustrated with pen sketches.

7. Observations on the Capercaillie. (Beobachtungen am Auerhuhn.) H. Noll. 1938. *Ornithologische Beobachter*, 35 : 86–90. In the high Alps *Tetrao u. urogallus* goes through its courtship display on a tree, its calls being audible for 200 to 300 meters. After mild winters Dr. Noll has recorded the notes as early as April 6th, at which time the snow was nearly gone, while after severe winters it was delayed until May 13th, at which date the snow was still a half meter deep. The time of start of the performance in the morning is closely correlated with light. When a female approaches, the male flies to the ground and continues his display there. The birds will not perform when the wind is blowing. Winter sports, and lumbering are very disturbing to these fine birds.

8. A Study of the Home Life of the Eastern Belted Kingfisher. Henry Mousley. 1938. *Wilson Bulletin*, 50 : 1–12. A pair of *Megaceryle a. alcyon* were watched for 42 hours near Montreal, the hole being excavated between May 11th and 23d. The young were fed at the average rate of once every 25.2 minutes. The male fed twice as often as the female; he also brooded the young at night. Both parents tried to frighten cows away from the vicinity of the hole by flying at and over them, rattling loudly. The first note heard from the young was this same rattling call, given at the age of 21 days. Fledging took 31–32 days.

9. Observations on the European Kingfisher. (Vom Eisvogel, *Alcedo atthis ispida* L.)—H. Ris. 1938. *Ornithologische Beobachter*, 35: 74–77. At a nest on the Aare the parents fed the young about every half hour. The parent usually dove into the water as it left the nest, dropping again into the water several times. Sometimes the female sat before the hole for two hours, every half hour dropping into the water to bathe.

10. The Comparative Breeding Biology of the African Hornbills. (Bucerotidae).—R. E. Moreau. 1937. *Proc. Zool. Soc. London.* Ser. A, 1937: 331–346. Three papers on Hornbills appeared in 1937; the present one gives an excellent review of all that had been published up-to-date. (For a review of the author's previous study see *Bird-Banding*, July, 1937.) The females voluntarily wall themselves into the nesting holes, remaining for 50 to 108 days. "African hornbills include species that are in several respects unique among birds, though no one of them combines all their peculiarities, namely: the length of time the female remains in a state of broody inactivity; her sudden wholesale moult, that results in a period when she is not only incapable of flight, like a wild goose, but practically naked; the prolonged devotion of the male to the duty of feeding his whole family; and the technical ability displayed by the nestlings long before they are fledged."

11. Observations on Breeding and Molting in Different Species of *Lophoceros.* (Brut- und Mauserbeobachtungen and verschiedenen *Lophoceros*-Arten.)—W. Hoesh. 1937. *Ornithologische Monatsberichte*, 45: 106–114. Only a few of these hornbills in Southwest Africa breed in any one year. At a nest of *Lophoceros bradfieldi* the male fed his incubating mate every one to two and a half hours.

12. Life History of Hornbills.—(Uit het leven der neushoornvogels)—*De Tropische Natuur*, 26:117–127, 140–147, 166–173. An account of hornbills in

Sumatra and Java with splendid photographs. Observations are given on the nesting of *Buceros rhinoceros, Anthracoceros coronatus, A. malayanus,* and *Rhyticeros plicatus.*

13. The Great Spotted Woodpecker. (Der Grosse Buntspecht)—N. Tracy. 1938. *Beiträge zur Fortpflanzungsbiologie der Vögel,* 14:41–48. Experiences with some 37 nests of *Dryobates major* in England. Of 33 nests whose outcome was known, Starlings drove away the parents of 8; in 22 nests young were raised—66 per cent of success. Once the author hit a stump and 5 young jumped out, yet all returned within a half hour. Contrary to Steinfatt's experience (see *Bird-Banding,* July and October, 1937), the females fed the young up to the time of fledging. During incubation the adults changed places about every two hours but the male incubated at night, as is the rule with woodpeckers. At one nest where the young were 21 days old, the parents were bringing food every few minutes, but would jerk back their heads so that the young had to lean far out; one nestling soon made its first flight.

Both the Greater and Lesser Spotted Woodpecker (*Dryobates minor*) construct sleeping holes for themselves from June till December, but never use them for nesting.

14. Observations on the Life History of the Rock Swallow. (Beobach tungen zur Lebensweise der Felsenschwal be [*Riparia rupestris* (Scop)].)—Fritz Prenn. 1937. *Journal für Ornithologie,* 85: 577–586. A pair of these birds that nest on southern-facing ledges in the Tyrol was watched in 1936. The female incubated; in warm weather she was off the nest almost as much as on; on cloudy days she spent from 4 to 62 minutes on and one to 10 minutes off. Her mate called her off the nest; occasionally he incubated and brooded. The young were fed once every 1.6 to 3 minutes.

15. Behavior of the Bush-Tit in the Breeding Season.—Alice Baldwin Addicott 1938. *Condor,* 40: 49–63. A study of *Psaltriparus m. minimus* on the campus of Stanford University in southern California. Pairs usually leave the the flock in February and wander off to find a nest site. Territories range from diameters of 50 to 300 or 400 yards. "Territorial ownership appears to be poorly developed." A third bird will be tolerated and will even help in nest-building, incubating, feeding and brooding the young! The building of the elaborate hanging nest is described and illustrated. The most essential material is spider web. From 13 to 51 days were spent in building different nests, the average being 33. In case of second nests, material is taken from the old.

If a bird is banded at the nest, it usually deserts and its place taken by another. Both parents incubate about equally, *but only the female develops a brood patch.* On warm days there is little incubating; on cold days they alternate every 2–15 minutes. Both parents sleep in the nest. Incubation lasts 12 days, fledging 14 days. The young leave the nest suddenly, after which the parents gather them together. The next day the young follow in a flock as the parents forage. They are fed for 9–14 days after leaving the nest.

16. All Day Feeding of a Family of Gold-Crests.—Iakttagelser över Kungsfäfelns, *Regulus regulus,* uppfödning av sina ungar.)—Sten Bergman. 1937. *Fauna och Flora,* 4: 160–163. A nest of these Kinglets was watched all day long near Stockholm on July 16, 1934; 8 days later the young flew. The parents fed from 2.48 A.M. to 7.58 P.M. The number of trips per hour ranged from 12 to 24 (6–7 A.M.), and totalled 301. The average interval for the 17 hours 10 minutes was 3 minutes 25 seconds.

17. All Day Feeding of a Family of Pied Flycatchers. (Iakttagelser över den svart och vita flugsnapparens, (*Muscicapa atricapilla,* uppfödning av sina ungar.)—Sten Bergman. 1934. *Fauna och Flora,* 1: 161–166. A nest of *Muscicapa hypoleuca* near Stockholm was watched all day June 26, 1934. The 5 young flew the next day. The parents fed from 2.17 A.M. to 9.24 P.M. The female brought 392 meals, the male 249, the total for the 19 hours and 7 minutes

being 641, or once every 1.8 minutes. This appears to be one of the largest records published.

18. Nesting Behavior of the Spotted Flycatcher. (Zu: "Das Brutleben des Grauschnäppers.")—H. Ecke. 1938. *Ornithologische Monatsberichte*, 46: 40–42. In answer to Steinfatt's belief that only the female incubates (see *Bird-Banding*, January, 1937), the author relates his experiences with a pair in which the female was color-banded. She did most of the incubating, but the male relieved her for short periods—5–10 minutes at a time in the hottest part of the day. The male built a second nest in early June, 50 meters from the first nest in which the young hatched June 4th and 5th; 6 days later the female must have started laying her second set. On June 13th the well-feathered young were banded; three days later the female was incubating steadily and her mate did most of the feeding of the young that left the nest on the 18th. They settled on a telegraph wire about 2 meters from their "incubating mama"; for more than a week this wire was their daytime perch and they were fed here by both parents, the female often interrupting her incubating for this purpose. The male was seen on the eggs of the second set only once. Four of the five eggs hatched and the young flew July 15th.

19. Studies of the Nesting Activities of Latimer's Vireo (*Vireo latimeri* Baird).—Nina Spaulding. 1937. *Journal of Agriculture, University of Porto Rico*, 21: 17–28. This study extended over three seasons in western Porto Rico. The male sings a great deal, and the female sings during courtship and while building. "When the female is in song, singing occurs responsively between the pair." One nest took 6 days to construct, both birds building, but the female doing the lining. Both birds incubated, the female about twice as much as the male. The latter did not sing on the nest in contrast to some Vireos. The male fed four times as often as his mate, while she brooded the young for twice as long as he. He passed food to her, and often she ate it herself; she never passed any to him. Feedings averaged once every 9.5 minutes. In 17 hours, 22 minutes on three consecutive days the male brooded a total of 275 minutes in 16 periods (average length 17 minutes), and the female brooded 675 minutes in 22 periods (average length 37 minutes). The birds were fearless in defense of their young, even attacking the observer.

20. Baird's Sparrow.—B. W. Cartwright, T. M. Shortt and R. D. Harris. 1937. *Contributions of the Royal Ontario Museum of Zoology*, No. 11: 153–197. *Ammodramus bairdi* nests on upland prairie in the Dakotas, Manitoba, Saskatchewan and Alberta; its associates are Chestnut-collared Longspurs, Sprague's Pipits, Savannah and Clay-colored Sparrows. It is the "best singer of all the grass sparrows known to" the authors. It appears to be "one of the irreconcilables. It is doubtful whether it will ever be able to adjust itself to cultivated land." The birds arrived near Winnipeg in June and raised two broods; there was very little nest mortality. The female incubated and did most of the feeding of the young in the nest, but the male took charge of the young after they left, since the female may start another nest immediately. Young were fed on an average of once every 6.3 minutes. Parents ate small insects themselves and fed large grasshoppers to the young. The young left the nest at the age of 8 to 10 days. The birds stay on their large territories of some 62,000 square feet. Two pairs stayed together for two broods, but in a third case a new male mated with the female. He followed her "around as she attended to the young of the first nest." He "sang vigorously. The male of the previous nesting, on the other hand, sang little and was non-combative, allowing the new arrival to use his territory freely." "They are not pugnacious either among themselves or other species." An interesting study.

For a review of a notable life history study, see the review article by Mr. McCabe in this issue.

BIRD BEHAVIOR

21. The Nesting of the White Ibis. (Uit het leven der witte ibissen *Threskiornis aethiopicus melanocephalus*).—A. Hoogerwerk. 1937. *Limosa*, 10: 137–146. In West Java White Ibises build nests so near together that they form a platform 4 meters in diameter holding 20 to 25 nests. Birds on one platform have eggs and young in similar stages; other platforms differ. For instance, on August 22d one platform held young 6 weeks old, while another close by had eggs ready to hatch. Both parents incubate the 2 to 4 eggs. The birds sit close beside each other, and quarrel to only a small extent. In case of danger the young crowd together at the edge of the platform, afterwards each returning to its own spot. Parents recognize their own young. Young grow according to the number in the nest, an only child prospering much better than two or three. The article is illustrated with fine photographs.

22. The Northern Bald Eagle in British Columbia.—J. A. Munro. 1938. *Wilson Bulletin*, 50: 28–35. The food of *Haliæetus leucocephalus* in this region is largely fish and carrion, although occasionally diving Ducks and Coots are taken. *Fulica americana* shows the same defense reaction to this eagle that *Fulica atra* in Europe shows in relation to *Halæetus albicilla* (see *Bird-Banding*, January, 1938); the birds "come together in a close flock and move rapidly across the water with necks outstretched." "The pursuing eagle planes downward but checks its flight when a few feet above the mass of birds." "This maneuver may be repeated a dozen times without a capture being made," the eagle taking only stragglers.

23. The Breeding Behaviour of Temminck's Stint.—H. N. Southern and W. S. Lewis. 1938. *British Birds*, 31: 314–321. The nesting of *Calidris temminckii* was watched in Swedish Lapland, 1,000 feet above sea level. Courtship consisted of a special flight—"the bird hanging in the air and turning and twisting in complicated spirals", at the same time "trilling." After this came the "Ground Display," the male settling on his particular stone and trilling and flicking his wings. "Since they were lifted each time to their fullest extent, the effect produced was one of alternating flashes, as the light axillaries and under-wing coverts were momentarily exposed to view." "The presence of other birds going through the same display always seemed to provide mutual encouragement." Scrapes were made near the males' stones, but the females were indifferent to the courtship activities of the males. Three days of rain and high wind came at the solstice, and no Stint was seen afterwards. The males had held a breeding territory, but no question of food value was involved.

24. On the Behavior of Fighting Great Tits. (Ueber das Verhalten Kämpfender Kohlmeisen (*Parus m. major* L.).—N. Tinbergen. 1937. *Ardea*, 26: 222–223. Male Great Tits quarrel over territory in spring, but most of their behavior is threat. They fly in a more upright position than usual, indulging in a kind of shaking or dance. Then both hammer on trees near each other, or tear off buds. Blue Tits (*Parus cæruleus*) behave in much the same manner.

Male Great Tits also threaten each other by sitting near each other, stretching up the head and neck and exhibiting their black breasts. They then turn their heads back and forth showing the yellow, black and white markings to the opponent. Females do not behave in this way; the black on their breasts is less wide.

25. The Social Behavior of Bass in Rearing Ponds.—T. H. Langlois. 1934. *Trans. American Fisheries Society*, 64: 146–150. When Small-mouth Bass (*Micropterus dolomieu*) are reared in clear ponds free from vegetation and provided with artificial foods, competition for food and shelter is reduced, growth is fairly equal and "the fish become socially integrated." "Integration is an indication of the universal attitudes of toleration and fearlessness, and the lack of integration indicates the fact that certain individual bass are dominant to certain

others. The occurrence of superiority and awareness of it, and of inferiority and awareness of it, in the case of bass leads to cannibalism, and fear of being eaten is sufficient motive to prevent little fish from swimming freely with big fish."

26. Analysis of Biological Stimuli to Some Behavior Patterns of a Stickleback. (Eine reizbiologische Analyse einiger Verhaltensweisen von *Gasterosteus aculeatus* L.)—J. J. ter Pelkwijk and N. Tinbergen. 1937. *Zeitschrift für Tierpsychologie*, 1 : 193–200. The authors found that both color and movement serve as "releasers" (Lorenz, Der Kumpan, 1935). For instance, the red coloration of the male calls forth an attack reaction from another male, but a "following" reaction from a female ready to lay. An exceedingly interesting paper.

For books concerned with animal behavior see Nos. 53, 54 and 55.

SONG

27. Notes on the Song of Immature Birds.—Amelia R. Laskey. 1937. *The Migrant*, 8 : 67–68. An immature female Cardinal (*Richmondena c. cardinalis*), raised by hand, began to give soft warblings when about a month old. After about a month she started with some of the adult notes. She did not sing in late October and November, but began again in mid December, and in February had attained the adult song. A Bronzed Grackle (*Quiscalus quiscula æneus*), also raised by hand started singing in mid August when 3 months old; he gave the adult song, although no others of his kind were about. He was free, but tame; he courted the Cardinal.

28. The Song Periods of Some Common Southeastern Pennsylvania Birds in Comparison with their Seasonal Reproductive Cycles.—Frank L. Burns. 1937. *Oologist*, 54 : 114–130. A "Graphic Chart of Song Period" is given for 25 species in Berwyn, Pennsylvania, followed by tables giving "Duration of Breeding Song Period" and "Approximate Length of Nesting Cycle." It is an excellent thing to have records on the song periods of birds and we need them for a great variety of localities. When Mr. Burns credits Mourning Doves, Robins, and Song Sparrrows with raising only two broods per year, because he calculates that each "cycle" lasts some 35 days, he forgets that with these and many other species cycles often overlap. Banded Robins have raised three broods successfully, banded Song Sparrows have raised three and in one case four broods, while it is a matter of common knowledge that Mourning Doves nest from April to September.

29. Native Bird Songs.—Victor Record 25765. Recorded from Nature by A. R. Brand and the Laboratory of Ornithology, Cornell University. 75 cents. Excellent renditions of the songs of 8 species are given on this record—Hermit and Wood Thrush, Brown Thrasher, Field Sparrow, Phoebe, Black-capped Chickadee, Whippoorwill and Loon.

ECOLOGY AND POPULATION PROBLEMS

30. Environmental Factors Affecting Waterfowl in the Suisun Area, California.—James Moffitt. 1938. *Condor*, 40 : 76–84. The activities of waterfowl have a marked influence on marshes. Lesser Snow Geese (*Chen h. hyperborea*) make ponds by tearing up clump of three-square (*Scirpus americanus*) for its bulbs; then Whistling Swans (*Cygnus columbianus*) deepen the ponds by "reaching down with their long necks." Sago pondweed is attractive to surface-feeding ducks, but ponds become too deep for it and then diving ducks (especially Canvasbacks (*Nyroca valisineria*)—come in. The introduced carp "deepen ponds and are tremendously destuctive to food plants." Domestic animals ruin ponds for Mallards (*Anas platyrhynchos*) through destruction of the tules, but this helps Wilson Snipe (*Capella delicata*). Burning of the tules destroys much duck food. The author discusses problems of water level and salinity and deplores the mosquito control operations.

31. The 1937 Waterfowl Season in the Prince Albert District, Central Saskatchewan.—O. C. Furniss. 1938. *Wilson Bulletin*, 50 : 17–27. In this unusually favorable region 14 species of ducks nest. The sex ratio of the adults averages 1.39 males to 1 female. In 1935, of 41 nests 73 per cent hatched; in 1937, of 67 nests 74 per cent hatched. Very little destruction is caused by Crows (*Corvus brachyrhynchos*) and Marsh Hawks (*Circus hudsonius*), but in 1937 skunks increased and robbed nests. The average size of sets ranges from 6 with the Ruddy Duck (*Erismatura jamaicensis rubida*) to 10.2 with the Blue-winged Teal (*Querquedula discors*). For the five weeks following hatching there was a mortality of 32 per cent among Mallard ducklings, and 21 per cent among Canvasbacks.

Nesting conditions were good until the late summer of 1936, which was hot and dry, as well as the following summer, and consequently much water and cover has disappeared. "Even when conditions here were nearly normal and conditions elsewhere much worse, there was no new influx of birds. The total number of young birds decreased this year (1937) by fifty per cent and the broods by almost the same figure. . . . The severe drought throughout the southern portions of the Prairie Provinces will not be offset by the halting conservation policies at present in force and continued open seasons."

32. Wild Geese Nesting near Duck Hawks and Snowy Owls. (Ueber das nachbarliche Nisten von Wildgänsen und Wanderfalken bzw. Schneeulen in der Tundra.)—H. Grote. 1938. *Beiträge zur Fortpflanzungsbiologie der Vögel*, 14 : 68–69. On Wrangel Island two Russian scientists report that Snow Geese (*Chen hyperborea*) settle near Snowy Owls (*Nyctea nyctea*); the latter protect the colonies of the geese by driving off Arctic Foxes, large gulls and Ravens, yet do not injure the geese.

33. The Tufted Duck Nesting with Terns. (Ueber die Abhängigkeit der Reiherente, *Nyroca fulgila* (L.), von den Lariden als Brutvogel im Schärmhof.)—Eric Fabricius. 1938. *Ornis Fennica*, 14 : 115–125. The Tufted Duck prefers those islands on which terns nest; the latter are very aggressive against Hooded Crows (*Corvus cornix*) and other winged egg-robbers. Other islands that seem favorable, yet have no terns, seldom have Tufted Ducks. In five cases where they nested without tern protection, they hid their nests in vegetation, whereas when nesting with terns, their nests lie fairly open. The Common Tern (*Sterna hirundo*) is the most important protector, but the Arctic Tern (*Sterna macrura*), Black-headed Gull (*Larus ridibundus*), Common Gull (*Larus canus*) and Lesser Black-backed Gull (*Larus fuscus*) also serve.

The Eider Duck (*Somateria mollissima*) and Velvet Scoter (*Oidemia fusca*) seem to cling to gull colonies.

34. Tufted Duck Nesting with Laridae. (Zur Kenntnis der Brutpsychologie der Reiherente, *Nyroca fulgila* (L.).) Lars von Haartman. 1938. *Ornis Fennica*, 14 : 125–134. Of 120 pairs found in the summer of 1937, 114 were nesting together with Laridæ.

35. Observations on the Effect of a Spring Drought on Reproduction in the Hungarian Partridge.—Paul L. Errington and F. N. Hamerstrom, Jr. *Condor*, 40 : 71–73. The spring in northwest Iowa was dry in 1934, "normal" in 1933 and wet in 1935. Seven of 15 nests of *Perdix perdix* produced young (in May); only one of 11 did so in 1934 (and this was in June). The great loss was largely due to the "unsatisfactory status of nesting habitats." The birds renested in 1934 and eventually raised a fair number of young.

36. The Size of Rook Colonies in 1936.—(De sterkte der roeken-kolonies in 1936 (*Corvus frugilevus* L.)—The Editors. 1937. *Ardea*, 26: 202–207. Censuses of Rook nests in Holland came to 30,000 in 1924 and 38,090 in 1936. Twenty-eight colonies were in connection with heronries of the Grey Heron (*Ardea cinerea*).

37. Decrease and Increase of Massachusetts Birds.—Ludlow Griscom. 1938. *Bulletin of Mass. Audubon Society,* 22 (3): 10–11. Species that have increased in the last twenty years are gulls, terns, most shore-birds, the European Cormorant; those that have decreased include many of the ducks and 14 other species. The author writes of the disastrous effects of destruction of breeding range. He stresses the importance of "accurate and continuous records of the *total number of individals observed* of all birds whose fortunes in our area are in any way doubtful or unfavorable," so as to have accurate information as to changes in status.

38. A Study of the Snowshoe Rabbit.—Stuart Criddle. 1938. *Canadian Field Naturalist,* 52: 35–40. An interesting account of life history and habits of *Lepus americanus,* based on intimate field knowledge. An important finding is the following: the "birth rate of the individual rabbit remains the same during years of abundance (of rabbits) and scarcity." It is astonishing to learn of the arduous labor these rabbits have to do to keep the runways free of obstructions in summer (working "for many hours each night"), and to pack down the snow in winter. "During prolonged and heavy snow storms the rabbits work day and night in an effort to keep it packed down along their main runways."

39. Some Ecological Aspects of Bird Life.—N. L. Roberts 1937–1938. *Emu,* 37: 48–55, 150–156, 186–196. This paper, the first of the three parts of which was noticed in *Bird-Banding,* IX, 62, is a long list of what might be called the spectacular incidents of avian ecology, such as seem to isolate and reveal with special emphasis some dependence, mutual or otherwise, on climatic or floral factors, mammals, other birds, or insects. Many, to use Moreau's phrase, are "obligate", which might as well read "obvious". The opposite class, which make ecology the baffling science it is, are "facultative,"—distributions or cycles without perceptible or cogent correlates. Perhaps the best general criticism of the paper is that there are too many of the former, and too few of the latter. The result is to leave the impression of almost naive hopefulness, of faith not only in adaptive, but in contemporaneously adaptive factors, of confidence that any shoe which may be forced to fit some glib fact or traveller's tale may be laced up and tied by the ecologist with a pleasant sense of finality. The naturalist's world will undoubtedly be the duller for it, but modern ecological research, especially with land animals, is richer in failures and in contradictions than in successes. It is very desirable to make students see animals as factors in a complex environment, but not to suggest that solutions are apt to be easy or spectacular, or indeed, in the most interesting classes of problems, to be hoped for with much confidence.—T. T. McC.

40. Observations of Breeding Birds on German Island Sanctuaries of the Western Baltic Sea, 1935–1937.—(Brutbeobachtungen auf deutschen Vogelschutzinseln der westlichen Ostsee 1935–1937).—Heinrich Schulz. 1937. *Ornithologische Monatschrift,* 11–12: 163–172. Largely a plea for better control of the Herring Gull (*Larus argentatus*) and Common Gull (*Larus canus*) by increasing commercial egg-collecting or by direct measures of destruction, both to prevent present damage to nests of shore-birds and ducks, and to check rapid increase of these gulls, and their spread to new islands.—T. T. McC.

41. Relations of Magpies and Jays as to Occupation of Areas.—Wechselbeziehungen im Lebensraum von Elster und Eichelhäher).—W. H. J. Götz. 1937. *Nitteilungen über die Vogelwelt,* 4: 53–61—A discussion of field studies of the nature of inter-habitat boundaries between *Pica pica* and *Garrulus glandarius.* The former occupies park country or mixed cultivated and brush or fruit land, the latter woods, but there is apt, when one habitat runs into the other, to be a zone of park land between, irregularly visited by the Jays, but not occupied, however suitable, by the Magpies. The author is definitely satisfied that it is the presence of one which keeps out the other, but it is impossible to find a concrete reason why it should be so.—T. T. McC.

42. The American Merganser in British Columbia and its Relation to the Fish Population.—J. A. Munro and W. A. Clemens. 1937. Biological Board of Canada, Bulletin 55: 1–50. This very sound investigation of the local status of *Mergus americanus* is one of the few economically-instigated documents to achieve scientific vision or to outline, without distortion, a well-conceived unit of natural history. After a somewhat cursory survey of the distribution and habits of the duck in the province, the paper is largely devoted to working out two or three links of a food-chain which is picked up at the mega-plankton-insect-larva stage, usually passes through one or more fish, and ends for present purposes with the merganser. This involves as detailed and independent a study of the food of the fish (700 stomachs) as of the duck (363 stomachs containing food) and it is in the estimate of the interplay of the three groups that the work leaves the paved highway of "research" and enters the difficult paths of biological thought.

Interesting points in the natural history of the merganser are the wide and even, but never dense, distribution, the restriction inland to the lakes and rivers of main waterways and absence from high and isolated lakes, the great versatility as to food, (sponges in sufficient number to have been taken with intent were found in several stomachs, and one contained over sixty dogwood seeds), as well as the habit, of such special importance in the aquatic avifauna of the province, of interior-coastal migratory movements, including the migration to the sea of the males about the time the eggs are laid.

The authors lean over backward in respect to fairness to the economic interests, though they condemn unequivocally any measures of general control. It is to be expected that, since economic questions are mere aspects of deep-seated biological mysteries, they should be no less baffling and fugitive than the basic philosophical problems in which they are involved, and the chances of producing glib, ready, and easy, answers for the guidance of bureaucratic policy are slim indeed. An example of this is the impossibility, in spite of large amounts of material and work, of stating explicitly the position of the merganser from the salmon-conservation angle in the merganser-sculpin-salmon-egg-or-fry chain or triangle.—T. T. McC.

CONSERVATION

43. Beautiful Birds of the Southern Audubon Sanctuaries.—Alexander Sprunt, Jr. 1938. National Association of Audubon Societies. Bulletin 8, 39 p. p. This charming booklet with its eleven beautiful color plates from paintings by Jacques and Peterson is happy evidence of the wonderful increase that has taken place in some species since their protection on their breeding grounds in the Audubon Sanctuaries. Vivid and sympathetic pictures are given us by Mr. Sprunt of Roseate Spoonbill and Wood Ibis, Limpkin and Brown Pelican, Herons and Egrets, White Ibis and Glossy Ibis. Their past and present status, their haunts and characteristics, are depicted in clear descriptions and interesting anecdotes. Although guarded by Audubon wardens, nevertheless the birds are subject to many dangers: collectors of eggs and skins, slaughter for food by natives, for plumes for the trade in Cuba, by tourists for "targets", by fishermen as supposed rivals; hurricanes at times wreak havoc, while potential drainage is one of the most serious of threats.

The book is being sold for $1.00, the proceeds to go to the Sanctuary Fund. It deserves the widest sale, not only for its intrinsic merit and educational value, but also because of the support afforded a most worthy enterprise.

44. Conservation Ethic.—Aldo Leopold 1938. *Bird Lore*, 40: 101–109. An analysis of the "back to nature" urge. "The disquieting thing in the modern picture is the trophy-hunter who never grows up, in whom the capacity for isolation, perception, and husbandry is undeveloped, or perhaps lost. He is the motorized ant who swarms the continents before learning to see his own back yard, who consumes but never creates outdoor satisfactions. For him the recreational engineer dilutes the wilderness and artificializes its trophies in the fond belief that he is rendering a public service."

"It is the expansion of transport without a corresponding growth of perception

which threatens us with qualitative bankruptcy of the recreational process. Recreational development is a job, not of building roads into lovely country, but of building receptivity into the still unlovely human mind."

45. A Recent Oil-Pollution and its Effect on the Water-Birds of the San Francisco Bay Area.—Elmer C. Aldrich. 1938. *Bird-Lore*, 40: 110–114. A description of the devastating effects of an accident to an oil tanker, "269 dead birds being found on five and one half miles of searched beach."

46. Oiled Birds Resorting to Fresh Water.—N. F. Ticehurst. 1938. *British Birds*, 31: 354–355. On a pond near Rye Harbor 90 dead Scoters (*Oidemia n. nigra* and *f. fusca*) were found. "The birds appear to be poisoned by something in the oil which they swallow when preening to rid themselves of it." Individuals with only small patches of oil on their feathers had "died in a condition of extreme emaciation." "Probably it is an irritant poison that causes thirst that only fresh water can satisfy and hence probably the urge to seek these pools."

47. The Advance of Conservation.—Rosalie Edge. 1938. Report of the Emergency Conservation Committee. Publication No. 70. 12 p. A cheering report of progress, telling how by strenuous efforts of conservationists the Yosemite sugar pines were saved, of gains made towards saving the Mount Olympus forests, and the great educational value of Hawk Mountain Sanctuary.

The Wilderness Society, Secretary, Robert S. Yard, 1840 Mintwood Place, Washington, D. C. is striving to save some unspoiled wilderness for ourselves and succeeding generations. It publishes an excellent journal *The Living Wilderness* and mimeographed *Wilderness News*. This society is doing yoemen's service and is well worthy of the support of all people interested in nature.

BOOKS

48. The Handbook of British Birds. I. Crows to Flycatchers.—H. F. Witherby, F. C. R. Jourdain, N. F. Ticehurst and B. W. Tucker. 1938. London. Witherby. 323 pp. 25s. This monumental work, to appear in five volumes, is the successor "largely rewritten and greatly expanded" of the Practical Handbook of British Birds, which for many years was the authoritative guide for Great Britian and also much used by Europeans. The present Handbook is a comprehensive and detailed treatment of the birds recorded from the British Isles with one "entirely new feature," colored plates of every bird shown in different stages of plumage. "The terminology and treatment of orders, sub-orders and families conform with Dr. Wetmore's own well-known scheme of classification." The subject headings under each bird are: Habitat; Field-characters and General Habits; Voice; Display and Posturing; Breeding; Food; Distribution; Distribution Abroad; Migrations: Description; Characters and allied Forms. Birds that are merely accidental in Great Britain are treated with almost the same fullness as those that nest in the country, so the usefulness of the work is much enlarged. Descriptions are given for each sex, age and season, and in the case of nestlings, the color of the down, and its position, and color of the inside of the mouth. Weights are not mentioned. Under Breeding are given nest site and material; number, color and size of eggs; breeding season; incubation period and share of sexes; fledging period and care by each sex; number of broods. The colored plates are excellent for identification; ordinarily four species are treated in separate pictures on one page with two to five plumages shown, the size of each picture being two and three-eighths by three and three-fourths inches.

In contrast to ambitious State books of our country, we find pictures given for information rather than works of art, and an entire absence of "literary write-up." Instead we have here an amazing amount of exact information, concisely stated and readily found. This admirable book can be highly recommended not only for its encyclopedic wealth of information, but as an inspiration and a model. When shall we know enough about our birds to make possible such a treatment for our country?

49. Logbook of Minnesota Bird Life 1917–1937.—Thomas S. Roberts. 1938. Minneapolis. The University of Minnesota Press. 355 pp. $3.50. Illustrated by a beautiful etching of the Duck Hawk and charming sketches by Walter Breckenridge, as well as a useful map of the State showing life zones and counties, the bimonthly season reports sent to the magazine *Bird-Lore* are here reprinted with some additional matter. An index gives references to species and coöperators. Although such a series of reports is chiefly of local importance, yet the accounts of fluctuations in temperature and precipitation and their effects on the birds are of general interest. The value of the book would have been greatly enhanced if Dr. Roberts had given us a final chapter in which these important subjects were summarized for the period of twenty years.

50. The Blue-winged Teal. Its Ecology and Management.—Logan J. Bennett. 1938. Ames, Iowa. The Collegiate Press. 144 pp. $1.50. A study of *Querquedula discors*, largely on its breeding grounds in Iowa. The sex ratio of 36 nestlings showed 58 per cent males. Of 5,090 adults counted in migration, nesting, and wintering in Mexico, 59 per cent were males. Weights were recorded for about 50 adults; males were heaviest on the wintering grounds and lightest in the spring and summer; females were heaviest just before nesting and lightest while rearing young.

The female chooses the nesting site, makes a scrape and lines it with down. Her mate stays near-by until about 3 days after incubation begins. The average set in 341 normal nests was 9.3 eggs; in 27 second attempts 4.3. The female leaves the nest once or twice a day, about 7 A.M. and 7 P.M., staying away 20 minutes to an hour. She becomes more and more attached to her nest, staying away for shorter periods; during the last four days she will feign injury when flushed. Incubation lasts 21–23 days. The mother calls the young to food during the first few days. Broods get mixed, and nestlings are readily adopted, one duck being seen with 42 young of different ages.

Of 233 nests, 133 (59.9 per cent) were successful. Only 14.8 per cent of renestings were successful. Mowing destroyed 17 per cent, flooding 7 per cent.

Before 1900 there were 6,000,000 acres of tall grass prairie in Iowa with potholes and marshes; now most of it has been drained, only 50,000 acres of suitable duck nesting territory being left. Over-grazing eliminated the ducks and the grasses, so the dominant plants are now weeds. Moderate grazing benefits the ducks, paths to the water being made which are used by the ducklings, and also excess populations of skunks and badgers are prevented. Wild hay is of great value for holding the soil and water. Excellent suggestions are given for management and in regard to shooting practices

51. The Lore of the Lyre Bird.—Pratt Ambrose. 1937. 3rd. Ed. Robertson and Mullens. Melbourne. 71 pp. 5s. An account of a wild male *Menura novaehollandiæ* that became friends with a woman living alone 24 miles from Melbourne on a piece of virgin jungle. The remarkable song, both specific and imitated, and extraordinary display are described and pictured. Lyre birds belong to a sub-order among the Passerines. They are territorial, and monogamous; the female builds the nest, incubates her one egg and cares for the chick, the young staying with their parents until they become mature at the age of four years, according to Mr. Pratt. The introduced fox is a terrible pest to these birds. It is a pity that such a unique opportunity to study this shy species should not have been utilized by some one with a more objective point of view, who would not expatiate on this bird's "elementary conception of social virtue," on his "exacting taste" and "discriminating disposition" that impel him "to reside in places of supreme loveliness and grandeur" and of the belief that "bereaved" hen birds "retire into some deep recess of the jungle and remain hidden until they die of loneliness or grief," male birds under like circumstances consoling themselves with the companionship of other "widowers unwilling to remarry."

52. A Prairie Grove.—Donald Peattie. 1938. 289 pp. New York. Simon and Schuster. $2.50 Two pictures are drawn of this grove in northern Illinois—one during the seventeenth century visit of French explorers and missionaries to

the Illinois, a childlike, treacherous, but engaging people, and the second during the breaking of the sod by the nineteenth century New England pioneers. Of most interest to naturalists is the fine account of primeval life—the incredible myriads of the pigeons, the strange dance of the cranes, the absurd ceremonials of the prairie chickens, and the proud beauty of the prairie. The first of these wonders has been utterly destroyed; the rest are in the process of becoming legendary.—CONSTANCE NICE.

53. A Herd of Red Deer. A Study in Animal Behaviour.—F. Fraser Darling. 1937. Oxford University Press. 215 pages. A remarkable study of a wild mammal in Scotland. The social system is a matriarchy, the hinds and their young, who stay with their mothers to their third year of life, roaming about together over their territory, where they are joined in the fall by the stags. A mature hind is the leader; she is especially alert. As to territory, "as a species red deer react strongly to any imposition of overcrowding." "Conservatism of habit, a factor of importance for the survival of species, tends to restrict movement to a particular area. . . . Choice is another reason for individuals or groups remaining on one area. Animals live in definite places because they like them. Familiarity with one piece of ground enables an animal to use it in the most advantageous manner for its comfort and well-being." p. 29. "The red deer, *Cervus elaphus* L., in their social life appear to me to have reached the highest development of sociality of the grazing herd. The persistence of the species is dependent upon it." A most interesting book and charmingly written.

54. Bird Flocks and the Breeding Cycle. A Contribution to the Study of Avian Sociality.—F. Fraser Darling. 1938. Cambridge University Press. 124 pp. An interesting and suggestive little book, based on two seasons of study of colonies of Herring and Lesser Black-backed Gulls (*Larus argentatus* and *fuscus*). In 1936 the average number of eggs in the nests of both species was 2.1, in 1937, 2.9. In the first year feeding conditions were poor and the gulls ate farmers' oats; in the second they were good and the gulls lived on fish. Chicks in the downy stage (the first two weeks) were preyed upon by Greater Black-backed Gulls (*Larus marinus*) and Grey Herons (*Ardea cinerea*). The Herring and Lesser Blackbacked Gulls never mobbed the Greater Black-backs (five pairs of which nested on the island), but they did mob the Herons. Peregrine Falcons (*Falco p. peregrinus*) take older chicks. It is an advantage to have chicks hatch as nearly at the same time as possible; this happened in the largest colonies; they nested earlier than in the small ones and more nearly at the same time, and they lost a smaller percentage of chicks. From 86 to 95 per cent of the eggs hatched; from 36 to 57 per cent were fledged.

The author points out differences in behavior that were linked with the closeness of nesting pairs of *argentatus* and greater spacing in *fuscus*. (Hooded Crows (*Corvus cornix*) robbed the latter, but not the former.) Little quarreling took place, either inter- or intra-specific, with either gull. Communal courting is cited for a number of species, and the interesting fact stated that in Eider Ducks (*Somateria mollissima*) an "auntie" sometimes joins a mother and helps protect the brood. (See No. 21 for group stimulation of breeding.)

The book deals primarily "with the social nature of many species at the courting and nesting times, and it is suggested that numbers of a flock and the visual and auditory patterns evoked act primarily on the nervous system by way of eye and ear, then on the anterior pituitary, and from that seat of control on the testis and ovary." p. 6. A good discussion is given of the subject of "sexual periodicity" with reference to the principal authorities. The author concludes, "I do believe that the fundamental tendency among living things is to foregather and coöperate, however unconsciously, rather than not to do so.". p. 110.

55. The Life of Birds. (Aus dem Leben der Vögel).—Oskar Heinroth. 1938. Verstandliche Wissenschaft 34. Berlin. Julius Springer. 165 pp. RM. 4.80. From his unique experience in studying the development from the egg of practically all the species of central Europe, Dr. Heinroth has given us a book that is a

mine of information on the biology of birds. The chapter titles cover among other subjects: the nest; nesting; injury-feigning; birds that lay in nests of other species; courtship and mating; the egg and growth of the young; molt; methods of communication of birds; senses; mental abilities; homing; does the bird know its eggs? Does it recognize its young? Which parent feeds and cares for the young? Does the length of incubation depend on the size of the bird? Does the size of the egg depend on the size of the bird?

In most cases Dr. Heinroth answers his own questions with a general rule, but is careful to emphasize exceptions. Again and again he links differences in structure with differences in habit, pointing out characters that are of survival value for the species. For instance, the down of hole-nesting ducks is white, that of ducks nesting in the open dark. Molt occurs at different times according to life-history: with shrikes that migrate far to the south it takes place in the winter quarters, with resident species in August; in the female Sparrow Hawk (*Accipiter nisus*) while she is caring for the eggs and young, but later in the male who must hunt for his family; in drakes early in the summer; in ducks not until the young are partly grown; in swans the female first, the male later, one parent being always ready to defend the young; while in the female hornbill a sudden complete loss of feathers occurs while she is immured in her nesting hole.

As to relative intelligence and stupidity, this is a question of the survival of the species, and "can be effected as well through a well-developed brain as through good flight or swimming ability or through the raising of numerous offspring." In the matter of intelligence, the average bird is decidedly behind the average mammal, since flight in a way takes the place of thinking.

The hundred photographs are well chosen for illustrating the varied subjects treated. This little book is so full of sane, illuminating wisdom that its translation into English would be a boon to the bird students of England and America.

BIRD DISEASES

(Reviews by Dr. Carlton M. Herman)

Red-shouldered Hawks Deafened by Maggots.—Lewis O. Shelley. 1938. *Bird Lore* 40:233–234. Protocalliphora maggots are reported from the ears of several Red-shouldered Hawks. Twenty specimens were taken from the ears of two nestlings. The maggots, primarily blood-suckers, had destroyed the ear drums probably causing deafness and had eaten around the outside of the ear greatly disfiguring the outer ear cavity.

The Parasites of British Birds and Mammals. XIX. Further records of *Ornithomyia* spp. from British birds, together with notes.—Gordon B. Thompson. 1938. *Ent. Mon. Mag.* 74:129–133. *Ornithomyia* spp. are reported from 18 species of birds, *O. avicularia* from ten species, *O. fringillina* from eight species. Three flies is the greatest number reported from an individual bird. Greatest abundance is during the summer months, none were collected during the winter. It is not known where these flies spend the winter. Puparia are reported from three nests collected in March, April and August, respectively. A fly was caught on a Barred Warbler (*Sylvia n. nisoria*) at the Isle of May on the 12th of July apparently during migration. Complete records are given.

The Relative Incidence of Blood Protozoa in Some Birds from Cape Cod.—C. M. Herman. 1938. *Trans. Amer. Micr. Soc.* 57:132–141. An analysis from the examination of blood smears from 2385 birds of 61 species captured at the Austin Ornithological Research Station. Blood parasites were noted in 209 birds of 27 species. The infections reported include the malaria parasites *Plasmodium, Haemoproteus,* and *Leucocytozoon* as well as *Trypanosoma* and *Toxoplasma.* The greatest incidence of infection (sixty per cent) was with *Haemoproteus* in Chipping Sparrows. An extensive bibliography of publications on blood parasites from North American birds is included.