

## RECENT LITERATURE

## BANDING

(See also numbers 10, 19, 27)

1. **Herring Gulls - 1961 Recoveries.** C. C. Ludwig. 1962. *Inland Bird Banding News*, 34: 41, 55-56. Raw data on 100 Herring Gulls banded by the Ludwigs on the Great Lakes, and reported through the Fish and Wildlife Service during 1961. For 1960 reports, see *Bird-Banding*, 32: 231.—E. Alexander Bergstrom.

2. **Banding Screech Owls and Kestrels at Nest Boxes.** Stuart D. Henderson and John B. Holt, Jr. 1962. *EBBA News*, 25: 93-104. Two hundred nest boxes were put up in an area of 70 square miles near Andover, Mass., to facilitate the banding of *Otus asio*. By 1961 only 10 were occupied by the owls, but 30 were occupied by kestrels (*Falco sparverius*). Details of box construction and placement are given, including ways to reduce use by squirrels.

Over a period of 3 years, 137 Screech Owls and 155 Kestrels were banded. All 7 recoveries of the owls (4 adults and 3 nestlings) have been local, to a maximum distance of 15 miles from place of banding. Six Kestrel recoveries include 1 from Savannah, Georgia, and 2 from Connecticut.—E. Alexander Bergstrom.

3. **Barn Swallow Banding - Some Results and Conclusions.** Ralph K. Bell. 1962. *EBBA News*, 25: 111-116. Comments on the banding of 3,653 individuals of *Hirundo rustica* in Pennsylvania, 1954-1961. Just over 1,000 of these were nestlings; the best time is while the feathers are still in the quill, to minimize premature leaving of the nest. The remainder of the birds were taken with short mist nets, set near or between farm buildings.

Eleven swallows banded as nestlings in other barns, from ½ mile to 16 miles distant, were retaken in a mist net at the author's farm, after an average time lapse of 29 days. In addition, 9 birds banded by a subpermittee, 3 to 5 miles away, were also netted. Only 2 out of the 20 recaptures suggested possible travel in family groups.

To date two birds have been recovered more than 25 miles away, neither in the year of banding. One was 42 miles WSW and the other 30 miles ESE (these seem to suggest different migration routes, but the species covers great distances in its daily foraging and probably seldom takes a straight route).—E. Alexander Bergstrom.

4. **More on the Travels of Herring Gulls.** John V. Dennis and William Pepper. 1962. *EBBA News*, 25: 139-144. Comments on 276 recoveries, away from the breeding colony, of *Larus argentatus* banded in Massachusetts, at Nantucket, Marthas Vineyard, and nearby smaller islands. Less than 6 percent of these were north of the banding site, mostly in the season of banding. One bird wandered inland, to Alpena, Michigan, on Lake Huron, 8 months after banding. Recoveries to the south of the breeding sites suggest a migration route along the south shore of Long Island more extensive than migration along Long Island Sound. Appreciable numbers were recovered from Florida and Texas.

One striking record was of a bird banded July 18, 1960 on Muskeget by Pepper and recovered on February 20, 1961 at Lake Papagayo near Acapulco in Guerrero Province, Mexico. The shortest overland crossing to the Pacific in Mexico would be at the Isthmus of Tehuantepec, some 120 miles wide. The bird probably did not use the water crossing at the Panama Canal, as "the Canal is almost beyond the limits of the Herring Gull's winter range, and moreover it scarcely seems possible that the gull could have covered the tremendous distances involved during the interval of seven months between banding and recovery."—E. Alexander Bergstrom.

5. **Report of Gull Banding in Montana.** Louis M. Moos. 1962. *Western Bird Bander*, 37: 39-41. Description of the banding of Ring-billed (*Larus delawarensis*), Franklin's (*L. pipixcan*), and California (*L. californicus*) Gulls in Teton County, Montana, from 1954 through 1961. "Of the total of 3,038 California Gulls banded, there have been 132 returns [recoveries]—84 of these were made at Vancouver, B. C., by Mr. R. F. Oldaker, who made the observations and read the

band numbers with a homemade telescope. Of the 566 Ring-billed Gulls banded, there have been only six returns—one of which was observed by Mr. Oldaker. There have been no returns from the 366 Franklin Gulls banded". Eighteen recoveries of special interest, mostly on the Pacific coast south to Baja California, are listed.—E. Alexander Bergstrom.

## MIGRATION

(See numbers 4, 5, 6)

## POPULATION DYNAMICS

(See also numbers 10, 12, 29)

**6. From the duck censuses 1959/60 and 1960/61: the Mallard and the Tufted Duck.** (Från andräkningarna 1959/60 och 1960/61: Gräsanden (*Anas platyrhynchos*) och viggan (*Aythya fuligula*.) Lief Nilsson. 1962. *Vår Fågelvärld*, 21: 121-129. (English summary.) As previously shown, the weather, ice conditions, and migration, are the chief factors influencing the density of the duck populations in Sweden during the winter. In the two species considered here, the inland populations reached their lowest levels around the end of January and the beginning of February, whereas in the coastal localities at the same time or slightly later the number of ducks increased to a winter peak. An exception to this pattern occurred in November and December of the second year when the Tufted Duck increased to an unusually early peak in the coastal localities; apparently a strong movement to the open sea followed a spell of abnormally cold weather in late October.

Although the sex ratio varied considerably from census to census, the number of males tended to exceed that of the females by from 5 to 10 percent.—Louise de K. Lawrence.

**7. The Effect of Pairing on Cooing of Pinned Mourning Doves.** Arthur L. Frankel and Thomas S. Baskett. 1961. *Journal of Wildlife Management*, 25(4): 372-384. Censusing *Zenaidura macroura* by counting the calling males has been standardized technique used in 44 states since 1955. In the present investigation 3 laboratory-reared male and 5 female doves were used. "Tenfold increases in frequency of perch coos resulted when females were removed from their mates. When the females were returned, cooing dropped to the previous levels, if pair bonds were restored." Cooing was not influenced by weather factors nor by position in the nesting cycle. As very little cooing comes from mated males, the call-count technique is shown to be no reliable indicator of the number of Mourning Doves nesting in an area.—M. M. Nice.

**8. Robin Recaptures on Fair Isle.** Peter Davis. 1962. *British Birds*, 55(6): 225-229. On Fair Isle, Shetland, migrating *Erithacus rubecula* that repeated in the traps more often lost than gained weight during the first 2 days. "The losses may be connected with the noticeable friction among newly arrived Robins; perhaps a bird must establish a territory before settling down to feed intensively." "Most Robins recover sufficiently to resume passage before the fifth day after arrival." Spring birds weigh more than fall birds and are in a greater hurry to get on with their journey than they are in the autumn.—M. M. Nice.

## NIDIFICATION

(See also numbers 2, 11, 13, 24)

**9. Redstarts and Cowbirds.** Millicent S. Ficken. 1961. *Kingbird*, July. 2pp. The female American Redstart (*Setophaga ruticilla*), a common host of the Cowbird (*Molothrus ater*), behaves aggressively towards the female parasite even before the nest is built. The Redstart threatens the larger bird by posture, "snarling," and bill-snapping, and, if the Cowbird approaches the nest, by dive-bombing, landing on her back and pecking her head. These tactics often result in

the departure of the intruder. Two other warblers—the Ovenbird (*Seiurus aurocapillus*) (Hann, 1937), and Kirtland's Warbler (*Dendroica kirtlandii*) (Mayfield, 1961)—do not recognize the Cowbird as an enemy, but another favorite host—the Song Sparrow (*Melospiza melodia*) certainly does so in Ohio (Nice, 1937, 1943). We need more observations on this subject.—M. M. Nice.

**10. Planned Ringing of the Ringed Plover.** (Planberingungen am Sandregenpfeifer (*Charadrius hiaticula*).) Hans Bub. 1962. *Journal für Ornithologie*, **103** (2/3): 243-249. From 1948 to 1959 from 1 to 4 pairs of Ringed Plovers nested by the Vogelwarte Helgoland in Wilhelmshaven; 12 adults and 41 chicks were ringed. None of the latter were seen again, but their parents showed much faithfulness to their nesting place. One pair was present for 8 years. One male bred for 7 years; his first mate was with him in 1948, 1951, 1952, and 1953. Her whereabouts during 1949 and 1950 are unknown. Of 92 eggs laid, 46 hatched, 50 percent. Six second broods were started but none succeeded.—M. M. Nice.

## BEHAVIOR

(See also numbers 7, 8, 9, 24, 30, 31)

**11. On the Ability of Crested Terns, *Sterna bergii*, to Recognize their Own Chicks.** S. J. J. F. Davies and R. Carrick. 1962. *Australian Journal of Zoology*, **10**(2): 171-177. Fifty-six experiments exchanging eggs and chicks between 24 nests of this tern on Montagu Island, New South Wales, showed that parents do not recognize their own eggs or newly hatched chicks, but have learned to know their own chicks by the time they are 2 days old. At this stage the parent pecked or threw out the strange chick, then searched for its own chick which it covered, sometimes having to fight another tern away. "Comparison of these results with those obtained on other Laridae suggests that the ability to distinguish their own chicks appears shortly before the latter begin to wander from the nest."—M. M. Nice.

**12. Post-fledging Behaviour of Choughs on Bardsey Island.** Susan Cowdy. 1962. *British Birds*, **55**(6): 229-232. One or two pairs of *Pyrhocorax pyrrhocorax* have nested on this island off the coast of Wales in most years since 1953; 47 young have been reared and ringed, but not one has returned to breed. The young of one brood became strong on the wing 5 days after fledging and were fed by regurgitation for at least 7 days after leaving the nest. From the 5th day on the parents started to turn over small clods of earth, then moved away to let the chicks pick up the exposed insects, chiefly ants.—M. M. Nice.

**13. Ethology and Ecology of Golden Plovers on St. Lawrence Island, Bering Sea.** E. G. Franz Sauer. 1962. *Psychologische Forschung*, **26**: 399-470. The author studied 7 pairs of Pacific Golden Plovers (*Pluvialis dominica fulva*) for 3 months in 1960. The birds arrived already paired. Territories "covered up to one half of a square kilometer." Each pair defended its territory, nest and chicks from Ruddy Turnstones (*Arenaria interpres*), arctic foxes, and other predators. Much individuality was shown by the different birds in methods of distraction display, fighting, and cryptic behavior. Males incubated "from about 7.00 to 19.00, the females during the 'night.'" During incubation the males molted into "eclipse" plumage by the middle of July, at which time they closely resembled the females. A very interesting paper.—M. M. Nice.

**14. On the wintering and roosting habits of the Jackdaw.** (Observationer rörande övervintring och övernattnings hos kajan (*Corvus monedula*).) Allan Lundin. 1962. *Vår Fågelvärld*, **21**: 81-95. (English summary.) This paper deals mainly with the time and the specific behavior patterns connected with the Jackdaws' assembly at the roosts and their awakening in the morning during the non-breeding season of the year. The observations were made from 1956 to 1959, partly inland at Uppsala and partly at Ledskär on the coast east of this town.

In both places the Jackdaws left the roosts during July and August after sunrise, although awakening occurred a short time before. The end of August and the beginning of September saw the departure advance an hour to occur before sunrise. This marked the transition from the breeding to the non-breeding season.

Similarly during July and August the birds flew into the roosts *before* sunset. After that time they gradually delayed their arrival until by early November, they came in *after* sunset. This continued until the beginning of March, when the reverse trend was again established in connection with the lengthening days and the onset of the breeding season.

The explanation given is that by the changed timing of the flights into and from the roosts, the Jackdaws compensate for the shortening of the foraging day during the critical season. This conclusion also finds support in the fact that during the height of the winter the arrival to or departure from the roosts follow a more abbreviated and direct procedure, without "swarming," "circling", or other delaying manoeuvres, as at other times. This is a stimulating paper containing many interesting details.—Louise de K. Lawrence.

**15. Higher and Lower Organization in Evolution.** Julian Huxley. 1962. *Journal of the Royal College of Surgeons of Edinburgh*, 7: 163-179. In discussing the biological value of the mental aspect of life in higher animals, the author states that this aspect is "of advantage for the simple reason that it gives a fuller awareness of both outer and inner situations." In conclusion he mentions three new phenomena of the present day: the "power explosion," "consumption explosion," and "population explosion." The second of these he describes as "most strikingly manifested in North America", where "more and more of the world's resources are being exploited so that they may be consumed in greater quantity and at higher speed in order to make bigger profits for the people who produce and sell them. This . . . cannot go on for long without disaster."

As to the population explosion, he writes: "We must abandon the idea of a race between food and people, between production and reproduction, in favour of the ecological idea of a balance between population and resources. This in turn is prompting us to ask the fundamental question—what are people for? We are beginning to realize that it is for the *quality* of their lives rather than for their number or any quantitative criterion."—M. M. Nice.

## PARASITES AND DISEASES

**16. Histoplasmosis and Starlings.** James Kieran, M.D. 1962. *Western Bird Bander*, 37: 38:39. Discussion based on a paper in the June 15, 1961 issue of the *New England Journal of Medicine*, by M. L. Furcolow, M.D., and collaborators. "Histoplasmosis is a pulmonary disease, somewhat similar to tuberculosis. The etiological agent is a fungus, *Histoplasma capsulatum*, which is inhaled from infected soil, giving rise to an inflammation within the lung tissue, causing symptoms of cough, sputum, and fever. In 95% of the patients, the symptoms soon subside, and the episode is finished, although occasionally permanent pulmonary scars remain. Five percent of the patients develop a chronic disease, which may necessitate surgery, and occasionally progresses to death. The fungus grows in moist, cool, fertile soils. Epidemics have been frequently associated with soil contaminated with chicken and pigeon droppings, as well as by bat droppings, and, on one report, oilbird droppings.

"In the past several years . . . starlings have been implicated. The largest such epidemic, . . . in Mexico, Missouri, . . . occurred in April, 1959, at which time 64 Boy Scouts had been at work together clearing a large city park. The main activity had been raking leaves and debris into piles. Of the 64 Scouts who were exposed here, 62 developed one or more of the signs of histoplasmosis. The site . . . was heavily overgrown with brush and small trees, and had been a favorite roosting place for starlings for eight years. . . . their droppings almost completely covered the ground . . . Soil samples . . . showed large numbers of *histoplasma capsulatum*. . . . the birds themselves were not the carriers of the disease, but . . . their dropping created an ideal medium for the multiplication of this pathologic fungus. . . .

"The significance to ornithologists is quite clear. For those who work in areas which are shaded, and have been contaminated by droppings from starlings, respiratory protection from infection by *histoplasma capsulatum* should be maintained. The wearing of a simple gauze or paper mask will suffice. In addition, those individuals who are likely to be exposed . . . should probably have a "histoplasmin skin test . . ."

It would be useful to banders to know whether other areas heavily contaminated by droppings, such as roosts of grackles or redwinged blackbirds, or heron rookeries, may also contain this fungus. It would be prudent to assume that they may do so, and that breathing in dust in such areas should be kept to a minimum.—E. Alexander Bergstrom.

## CONSERVATION

(See number 31)

## ZOOGEOGRAPHY

(See also numbers 25, 26, 27, 28)

**17. A comparison between the bird census results of different ornithologists.** Anders Enemar. 1962. *Var Fagelvärld*, 21: 109-120. Six experienced ornithologists undertook an experimental census working together in one group over the same area. The plot was divided into six sections, each examined for singing males of passerine species.

Final results brought out these points: 1) familiarity with the locality did not appreciably enhance the norm of accuracy, established through previous experiments at 50 to 75 percent, in discovering its stable song-bird population; 2) each pair of census-takers averaged 1 in every 4 birds missed by either partner; (3) because birds usually become silent when their territory is invaded, the chance of the census-taker remaining unaware of their existence is high. One might remark here that six census-takers in a group would be likely to discover far fewer birds than one threading silently and unobtrusively through the area; and one observer familiar with his plot and surveying it with method and perseverance might well discover no less than 95 percent of the birds living and nesting there.

Unfortunately the author neglected to study the American literature on this subject. He might have found not only many useful references in the contributions of expert census-takers and population investigators, but also several accepted terms and expressions that might have helped him overcome the difficulties involved in the use of an English text.—Louise de K. Lawrence.

**18. The Birds of Guilford, Connecticut.** An Annotated List by Locke Mackenzie. Foreword by Roger Tory Peterson. Geological notes by John E. Sanders. 1961. Peabody Museum of Natural History, Yale University. 110 pp., folded map, paperbound. Price \$1.50. Primarily an annotated list of 266 species believed to have occurred in one coastal township in Connecticut. Like so many other New England areas, the birds as they now occur can be viewed in the perspective of generations of man's interest. From the nineteenth century, extensive data survive from Captain Brooks, the keeper of Falkner's Light, and from Dr. Louis Bennett Bishop (who built up a personal collection of 52,000 specimens from his wide-ranging trips). The notes include not only unusual stragglers but details on many commoner species, such as the transition of the Turkey Vulture into a regular nesting species.—E. Alexander Bergstrom.

**19. The House Finch: A New East Coast Migrant.** Gilbert Cant and Hope Putnam Geis. 1961. *EBBA News*, 24: 102-107. *Carpodacus mexicanus* does not occur naturally, even as a straggler, east of the 100th meridian. Introduced on western Long Island in 1940 by the release of cage birds, the first "unimpeachable" mainland record was from Westchester County, N. Y., in 1948; the species was found breeding in extreme southwestern Connecticut in 1952.

"It is often assumed that these mainland birds are descended from the colonists on Long Island. There is not a shred of evidence for this. There are, as yet, in the Fish & Wildlife files, no records of House Finches banded on Long Island and recovered on the mainland to the north. On the other hand, two banded at Riverside [Conn.] have been recovered on Long Island, one by Leroy Wilcox at Speonk and one by Geoffrey Gill at Huntington." . . .

"The species was first recorded in New Jersey in 1955 and quickly spread through the Camden-Philadelphia metropolitan area. Most of these occurrences were in winter, but some pairs bred in Union, N. J. in 1959; adults with fledglings were banded there in 1960 (Knorr). The most numerous bandings and the most

interesting records from the Philadelphia area are reported from Ardmore, eight miles northwest of the city center. Dr. E. Wayne Marshall, Jr., first observed the species on Dec. 29, 1957, and by March 31, 1961 had banded 317. His earliest fall date . . . is Nov. 8 (in 1958) and his latest spring date is April 4 (in 1961)."

The species is virtually non-migratory in its original habitat, but the authors believe a migration pattern is emerging in the East, on an inland route "from the Riverside-Mamaroneck areas to Philadelphia, roughly following the main line of the Pennsylvania Railroad." The authors' respective stations are only nine miles apart, and in similar terrain, but neither has recovered a bird banded by the other. A minor part of the summer resident population remains in the area in winter. At least two individuals are known to have made a round trip between these summer and winter ranges, and a third probably did so. The airline distance is about 115 to 125 miles.

As yet, none of these banded birds has been recovered farther north in New England. An occasional bird has been reported seen in Litchfield or Hartford counties, but most of the banding stations that handle sizeable numbers of Purple Finches (such as mine in West Hartford) have never recorded the House Finch. As the Purple Finch does nest in these more northerly parts of Connecticut, I suspect that the House Finch either will not establish itself there as a breeding species, or will at least find a somewhat different microhabitat. In California, the Purple Finch tends to prefer "moist and shaded" places, while the House Finch favors "open spaces and sunshine"; thus the two species tend to be separated altitudinally in the breeding season (Grimmell and Miller, *The Distribution of the Birds of California*, 1944, pp. 449-454).

Most eastern banders have trouble identifying the two species, even in the hand: (1) general body shape: the Purple Finch resembles the House Sparrow, while the House Finch resembles the American Tree Sparrow; (2) bill shape: Purple Finch, upper line of the culmen in silhouette virtually straight, but in the House Finch, markedly convex; (3) tail shape: Purple Finch usually shows a pronounced central notch, while the House Finch has a square end; (4) underparts: Purple Finch, clear, whitish background with heavy spots (usually of a raindrop shape), lower tail coverts clear or only indistinctly spotted; House Finch, dusky ground color, heavy, longitudinal streaks, under tail coverts conspicuously streaked.—E. Alexander Bergstrom.

## PHYSIOLOGY AND PSYCHOLOGY

(See also numbers 11, 22, 30, 31)

**20. Temperature Regulation of Some Antarctic Penguins.** R. Goldsmith and W. J. L. Sladen. 1961. *J. Physiol.* **157**: 251-262. Body temperature of two of the most common species of Antarctic penguin (*Apdenodytes forsteri*, the Emperor, and *Pygoscelis adeliae*, the Adelie) was measured by means of a stomach thermostat, allowing recordings over long periods to be made without disturbing the birds. Results suggest that the Emperor chick has no diurnal temperature variation during the period of 24-hr. daylight but may develop this when a normal day-night pattern occurs.

The mean body temperature of adult Adelies varied from 37.7 to 40.2°C, although one bird developed a pyrexia of 44.3°C. Adelie chicks developed the ability to live outside the nest about 15 days after hatching, but could only enter the water without a drop in body temperature after they had moulted their down.—E. Alexander Bergstrom.

**21. Soluble Lead Poisoning in Shorebirds.** Richard B. Hoger. 1961. *Inland Bird Banding News*, **33**: 52-55. At Cinder Flats on Lake Calumet on the outskirts of Chicago, almost 2,000 shorebirds were picked up ill, from 1954 through 1958. For some unknown reason, the illness did not appear during 1957. Soluble lead was found in the livers of specimens tested. "Pabulum and medicated water was administered orally to try to flush the poison out of the birds and at the same time hope they retained enough nourishment to keep them going. Calcium gluconate, for shock . . . , was also used. . . . when these birds are in this poisoned state they cannot feed by themselves, so force feeding is a must." Out of some 1,448 birds treated during this period, 465 (32 percent) were considered cured.—E. Alexander Bergstrom.

## PLUMAGES AND MOLTS

(See also number 25)

22. **Albinism and Melanism in Birds.** Bryan L. Sage. 1962. *British Birds*, 55(6): 201-225. An interesting review of the subject, illustrated with 13 photographs. Albinism is discussed under different aspects—heredity, diet, senility, and injury. "Most pure albinos are pathological to a greater or lesser degree, and have a poor expectation of life." No records were found of "lethal conditions associated with melanism."—M. M. Nice.

## FOOD

23. **Reaction of Greenfinches to Sunflower Seeds of Various Colours.** Dr. Janet Kear. 1961. *EBBA News*, 24: 135. In Pennsylvania tests, Wood (see *Bird-Banding*, 32: 59, January, 1961) found no preference shown by birds between black and striped sunflower seeds. Experiments in Gloucestershire, England, with Greenfinches (*Chloris chloris*) and Bullfinches (*Pyrrhula pyrrhula*) showed some preference for white seeds over striped, with very little use of the black seeds, when a choice was offered. The finches ate black seeds readily if no alternate was offered.—E. Alexander Bergstrom.

## BOOKS AND MONOGRAPHS

24. **Development of Behavior in Precocial Birds.** Margaret Morse Nice. 1962. *Trans. Linn. Soc. N. N.*, pp. i-xii + 1-212. Price \$4.00. Mrs. Nice has developed her investigations of the development of early behavior in birds, which began with 4 years of studies at the Delta Waterfowl Research Station in Manitoba, into a survey of parental care and early behavior development in the whole animal kingdom. Her personal experience and inclinations naturally play a large part in the examples chosen and make the book original and substantial. This is perhaps more valuable than a complete and detailed review of the World's literature on the subject, which she has not attempted.

The work reflects the great interest of the author in comparative analysis and in the separation of analogies and homologies. She considers the basic functions of parental care as defense and the provision of food; supplementary to these are guidance, sanitation, and provision of heat. She describes the performance of these functions as either "passive" or "active". One misses precise definitions, particularly of the former category. In a few instances Mrs. Nice refers to the problems of "innate" or "learned".

The first four chapters are devoted to the functions of parental care throughout the animal kingdom and the early development of behavior among vertebrates as exemplified by a few cases. In the succeeding chapters the author concentrates on these conditions in birds.

Parental care appears as early as in the Porifera and Coelenterata and is most highly developed in the Insecta. According to the author's term "passive parental care", one certainly could include also some protozoans and colonial forms like Volvox. In vertebrates, beginning with some fish and amphibians, reduction in the number of offspring parallels increase in parental care. Care of offspring brings many remarkable adaptations in habits and structure of adults, as well as modifications in the life history of young. However, her statement that all reptiles exhibit passive defense of their eggs is questionable. Generalizations are better avoided wherever lack of knowledge calls for precaution.

With birds homeothermy first appears, and with it parental care becomes universal. Some discussion of nest parasitism and foster parentage would have been desirable at this point.

The topic of post-embryonic development of behavior is introduced with a brief review of observations in chicks (better: chickens) and in turtles. Short but informative comparative treatises follow on a fish, an amphibian, a reptile, and on precocial and altricial birds and mammals. Mrs. Nice refers to eight precocial and altricial stages and discusses the placement of various birds in these categories. The megapodes are the only group with precocial chicks independent of their

parents. In the following part on precocial chicks that follow parents but find their own food, she has worked in results from her own and her daughter's four years of studies at Delta. They include the observations of hatching behavior in more than 100 birds of 30 species. Many sketches illustrate the text, which must be read for details on specific behavior patterns (scratching the head, patting, *etc.*). It begins with a qualitative description of post-hatching behavior in ducklings, which she considers next to the megapodes "the most highly developed precocial birds". As further examples Killdeer and Spotted Sandpiper are discussed, and the author lists the ages of attainment for 35 motor patterns. The statement that plovers "with no functional hind toe and short front toes" are "not suited for running through vegetation or on very soft ground" seems unwarranted from my experience.

Next comes the domestic chicken as an example of the precocial chick that follows its parents and is shown food. The author also refers to other gallinaceous birds as the most characteristic representatives of this group. I wonder just how sharp the difference between this and the preceding category really is? Most of our detailed information on maturation of behavior patterns has come from the domestic chicken. Studies are mentioned where chickens were raised in solitary confinement, and Mrs. Nice refers to such important researches as those of Spalding (1873), Hess (1953) and others.

Selected representatives of precocial birds that follow their parents and are fed by them are the grebes, Virginia Rail, Sora, and Coot. All have a strong attachment to their siblings, and the new-hatched grebes as "weak swimmers" spend most of their time in their parents' feathers. Gulls and terns are described as "semi-precocial", whose chicks, while capable of following their parents, usually remain on or near the nest. The Bittern, Condor, and owls, which are covered with down are hatched with their eyes closed and are unable to leave the nest, she classifies as "semi-altricial". In general, our present knowledge of this group is still scant.

Finally the author discusses the passerines as altricial species. The outstanding problem in this group is the phenomenon of imprinting, which in both precocials and altricials is primarily concerned with learning the characteristics of the parent-companion, and secondarily of the future sex-companion. Usually imprinting needs reinforcement, and it is less irreversible than Lorenz (1935, '37) originally thought. Imprinting of cycles or rhythms, and geographical imprinting in migratory birds are not mentioned. Comparison of 18 basic coordinations of behavior development in precocial and altricial birds shows 15 appear at the same developmental stage in all the birds studied.

The remaining chapters are a survey of the embryonic development and thermoregulation in birds. A comparison of species with rapid development stresses a marked correspondence between precocial embryos of 12 to 13 days of age and a newly hatched altricial. Homeothermy is acquired during development; in small altricial species it may start several days after hatching, and it then develops rapidly. In precocials temperature regulation starts during incubation and develops comparatively slowly. Reckoned from the start of incubation, most altricials become independent of parental brooding and shading at about 20 to 29 days, the precocials at about 37 to 48 days. The comparatively slow development of temperature regulation in many precocials constitutes a strong bond to the parent. In her general summary, Mrs. Nice stresses the most significant alternative: many offspring and no care, few offspring and parental care.

Mrs. Nice has presented us with an informative and detailed treatise on the classification and order of sequence of early development of behavior in precocial, semi-precocial, semi-altricial, and altricial species. She has emphasized the class Aves, and worked in personal observations as well as essential facts from many sources. She has provided a solid concept and a framework that will stimulate students of animal behavior for many years to come to fill in details in the areas she has staked out. Last but not least, she has achieved to her own and to all our satisfaction "a glimpse into the fundamental kinship of all life, into the unity in its infinite diversity." We are grateful for her work.—E. G. Franz Sauer.

**25. Handbook of North American Birds.** Volume I. Loons through Flamingoes. Edited by Ralph S. Palmer. 1962. Yale University Press, New Haven and London. 567 pages, illustrated. Price \$15.00. As the first and "pilot" volume in a series of great interest and concern to all American ornithologists, the appear-



ance of this book has been awaited eagerly for almost 10 years. It proves to be a good, sound, thorough job. It is not without its faults, which are only to be expected in a work of this magnitude, but I have been surprised by the excessively hypercritical tone of the few reviews of it that have appeared to date.

I can't help feeling that these reflect the individual reviewers' sense of proprietorship or of national pride, their fear that the series will not measure up in the eyes of the rest of the ornithological world to what they feel it can and should, particularly in comparison with its British forerunner. They perhaps feel that the severest sort of criticism here at home is the best possible defense abroad of the series as representative of American ornithological capabilities. This is like locking the door after the theft. Far more timely than such criticism at this point would have been actual help to the editor in compiling the volume. None of its most outspoken critics so far has made, to my knowledge, a single contribution to this supposedly cooperative venture, and the failure was certainly not through lack of opportunity so to do.

Perhaps in view of my own contributions to the volume and my long personal acquaintance with the editor and most of the major contributors to it, I should disqualify myself as a reviewer. However, my initialed contributions to it are so minor that frankly I don't feel I deserve mention on the acknowledgment page, and there are so few living ornithologists with whom I have not had some personal contact that were I to allow this to be a factor, I'd do no reviewing—and no remarks from the peanut gallery, please.

Apparently the most resented and certainly the most controversial single item in the Handbook is its adoption of the Humphrey-Parkes terminology for plumages and molts which, now that it is actually in use, is being roundly and almost universally condemned. Much of the indignation surely stems from having it thrust down our throats in so important and authoritative a work before it has been thoroughly tried and tested. I had my say about it when it was first proposed for the Handbook (*Bird-Banding*, 1959, p. 247), and where were all its current detractors then, when criticisms and suggestions for its improvement were requested? The new system isn't perfect, but neither is the old which, by the way, I am retaining for the remainder of the Bent series; it was proposed essentially to remedy defects in the old, and as a potentially sounder and more adaptable system of notation.

Any novel system, technique, or procedure in handling or presenting data, unless its advantages are immediately apparent and easily assimilated, is certain to be resented by those thoroughly drilled in the old established one. I am annoyed at having to stop and translate the new terminology every time I encounter it, to have to figure out whether basic is first juvenal or first winter, and why first nuptial is an alternate—if indeed it is. Like a foreign language, you can have no facility in it until you can use it without mentally translating it into your mother tongue. The new terminology is going to take considerable getting used to, but at this point I don't see what else we can do—except ignore it and hope it dies a natural death, which doesn't seem likely.

If the sample of technical reviews I have seen so far is any criterion, by the time the lot is in scarcely an aspect of the book will be left un-nitpicked to pieces. I have seen—and heard—adverse criticisms of everything about it, from the few inevitable errors it contains that have so far been discovered to the selection of material, the style of presentation, the illustrations, the maps, and even the price. I was amused to find a quote from my own works (on the attitude of the Japanese toward *Nycticorax*) cited among several similar examples of "unimportant trivia" on which costly space is wasted. The inclusion of an assessment of the banding effort for each species is condemned as not providing "any useful information" and "without biological significance." Ah well, it takes all sorts to make a world, and we're all entitled to our own opinions. I have my own of what constitutes trivia and what is without biological significance, and criticisms such as these rank high therein.

I've noted a few errors and slips that haven't yet been pointed out publicly, and I expect to spot more as I have occasion to use the book more intensively. These I shall send the editor privately for his use in preparing for future revisions or addenda, just as for years I've sent similar comments on the Check-List to the chairman of the Check-List committee as they come to my notice. I prefer to use this opportunity to compliment the editor on his accomplishments. Gathering and reducing to a standard format the varied styles of 26 different contributors

is no small feat. Neither is the supplying, usually under pressure at the last minute, of sections omitted by contributors, and of whole accounts (always promised with the best of intentions) that failed to materialize by press time.

Those responsible for this volume will be the last to proclaim it the ultimate, complete work on North American birds. They've tried, and successfully, to present succinctly the latest and most complete information at hand. They realize fully as well as their critics that much of this is still tentative and subject to revision as further research is accomplished. What they have presented is invaluable in revealing the blanks that future investigators can fill. I for one look forward to having the next and successive volumes join the first on my working shelf. I will be particularly interested to see how the critical reception of this pilot volume affects their contents, and whether or not its appearance will stimulate other ornithologists in this country to contribute their share to the completion of the rest.—O. L. Austin, Jr.

**26. Check-List of Birds of the World.** A continuation of the work of James L. Peters. Volume 15. Ernst Mayr and James C. Greenway, Jr., Editors. 1962. Museum of Comparative Zoology, Cambridge, Massachusetts. pp. i-x, 1-315. Price \$7.50. The appearance of another volume in this indispensable series is always welcome. The compilers and editors are to be congratulated that only two years have passed since the publication of the previous one. Nevertheless we all hope, and I am sure the editors do too, that we will not have to wait until 1974 for the remaining six volumes.

The current issue being the final volume in the series according to the incongruous sequence adopted by the Editorial Committee (see *Bird-Banding*, 1960, p. 234), the editors apologize to librarians and others who may be discommoded by its appearance out of sequence. However it pleases me to see that it thus places its contents, the crows, birds of paradise, *et alii*, at least in a temporal sequence nearer to the systematic sequence Peters favored. May the volumes treating the nine-primaried oscines be the last to appear!

Detailed evaluation of the systematics presented in the volume I leave to others working more actively in this field. I cannot resist pointing out, however, that Peters never found it necessary to resort to an addendum. I can understand the desirability of listing new forms described after the manuscripts were completed and in the printer's hands, but just how those two *Cracticus* species (added on p. 284) were overlooked in galley is difficult to explain. Those responsible can hardly plead over-haste to meet a commercial deadline.

The handling of two vexing problems mentioned by the editors in their introduction deserves comment. On the first of these, the inclusion of English common or vernacular names at the species level, I have not been alone in my pleas for more thorough treatment (see *Bird-Banding*, 1962, p. 233). In this volume the editors have quibbled by using the English names available in just five sources, one each respectively for North America, Britain and Europe, Australia, New Zealand, and South Africa. They thus insinuate that the many good lists for parts of the world these do not cover are not worth considering—Vaurie's careful attention to vernacular names in his "Birds of the Palearctic Fauna" for instance, Ripley's ditto for India, and Eisenmann's for Middle America, to mention only a few. Despite these editorial "ground rules," it seems rather sad that a leading student of the Paradisaeidae should supply English names for only 3 of the 40 species he recognizes, though certainly the Australian list gives a vernacular name for the 4th species that occurs within its limits. I doubt that these five "official" sources were combed seriously for all the English names they give for the species treated in this volume. For *Acridotheres cristatellus*, for instance, Crested Myna is available in one of their sources, the A. O. U. Check-List. The starlings are almost as badly skimmed as the birds of paradise, and one would think that there weren't any sound English names available for the many neotropical and oriental jays. Such halfway measures are deplorable. Future volumes should give this subject the attention it deserves, even though it means considerable digging and, perhaps worse, having to make decisions with no inflexible rules of nomenclature to go by.

For the second problem, keeping abreast of the latest "official" geographic names in this rapidly changing world, I have not only the utmost sympathy but commendation for the way it is handled. The distributionist has trouble enough keeping up with the most recent decisions of the Board on Geographic Names in this country and its counterparts abroad. The present generation of readers will

find it far easier to follow the geographical terms used here than many recently adopted counterparts—or can you locate Togo, Mali, Gabon, or Ghana without looking them up? But one wonders how familiar our current names will be to readers 20, 40, or 60 years hence? The problem, though acute at the moment, is not a new one. I am reminded of the little grammar-school geography James Peters and his predecessor Outram Bangs always kept close at hand in the bird rooms at the M. C. Z. Published about 1870 and long superceded and out of print, it had been Mr. Bangs's boyhood geography, and its crude maps showed the region beyond the Mississippi in the "territories" of the Civil War period. In the 1920s, only 50 years later, it was still an indispensable reference book for anyone working on birds of the middle and far west. As lovable but slightly profane Mr. Bangs used to explain with his sweet smile after consulting it satisfactorily, "Shows all those goddam 'forts' the army fellas, Bendire, Mearns, Coues, Henshaw and the rest, used on their specimen labels!"—O. L. Austin, Jr.

**27. Alabama Birds.** Thomas A. Imhof. 1962. University of Alabama Press, University, Alabama. xxx - 591 pages, illustrated. Price \$7.50. Among ornithological publications the American state bird book is a genre all its own. Well over 100 have been published since the turn of the century. This is the second for Alabama; there have been five for Florida, and at least one or more for most other states. Zoogeographically it is an incongruity, for by definition it is limited to its state's political boundaries, which seldom coincide with the natural ones that govern bird distribution. Strangely enough for the only state whose political boundaries are completely natural—Hawaii, no really adequate and comprehensive work as yet exists. What an opportunity for someone in the near (we hope) future!

Usually subsidized by public funds, priced below actual cost, paying the author no royalties (many are written by state or federal employees), and often distributed free to state schools and libraries, the traditional state bird book aims primarily to interest, inform, and edify the taxpaying laity. From this standpoint, that of telling the average Alabaman about his birds, Imhof's book ranks high among other state-subsidized works. Handsomely printed, lavishly illustrated with photos, maps, and 43 color plates, it is written simply and clearly, and is exceptionally well edited and proofed (I've noted only two minor typos so far, both in captions, where they are most prone to occur). Considering that subspecies are beyond the comprehension of all but a minute fraction of his audience, and that most of his distributional data are based on sight records, the author has wisely limited his treatment to the species level. He tells how each species may be recognized most easily; details its status throughout Alabama, describes its nesting and food habits, and briefly outlines its extralimital distribution. Introductory chapters describe the state's well-marked physiographic regions and discuss bird study, migration, and the history of ornithology in Alabama. Six pages are devoted to a popular account of banding, its importance and potentialities, and there is a most opportune and trenchant chapter on "Birds and the Law."

Ever since Fuertes set the standards, still unsurpassed, with his illustrations for Eaton's "Birds of New York" and Forbush's "Birds of Massachusetts," state bird books have been judged by (and collected for) their color plates far out of proportion to their worth as contributions to knowledge. This book introduces the work of two newcomers, Richard A. Parks and David C. Hulse, whose paintings show promise and, except for Hulse's plate of the crane, stork, spoonbill, and ibises which is plain godawful, strike me as quite adequate. Most novel and interesting are the several plates—of divers, gulls, waders, owls, soaring hawks—in black and white against a neutral yellow background, which allow comparison of similar species as you often see them afield, without benefit of color. The outstanding art in the book is the magnificent frontpiece of a turkey by Walter A. Weber, of whose fine work we see all too little.

The state bird book is most useful to ornithologists as a single compendium of all the distributional information available to date on the region it covers. Its value in this regard depends on the author's thoroughness in gathering his material and his care and soundness in evaluating it. In gathering his data Imhof has searched the literature most thoroughly, and he has tapped sources too often neglected, such as the banding and recovery records in the Patuxent files. Thanks largely to his own boundless and contagious enthusiasm and energy, the past 15 years have seen a tremendous upsurge in interest in bird study, in bird watching,

and in bird banding throughout Alabama. By far the greater part of the book's local distributional and seasonal information is based on sight records he and others have gathered during this period.

The book's main weakness is the author's assessment of these records, particularly those of rare and unusual species for which no specimen verification exists. These he classes not in the usual category of "hypothetical," but as "not completely acceptable," which is nonsense. "Acceptable" as applied to bird records is, like the adjectives "unique" and "pregnant," not subject to qualification of degree—they either are or they are not. Unfortunately this misleading category contains 46 of the 352 species he manifestly accepts as occurring in Alabama—this is the total for the state given on the jacket blurb, in the foreword, and repeated several times in the introduction. Each of these 46 species appears in its proper sequence in the systematic list, and is treated as fully as those whose occurrence in Alabama is not questionable, its "not completely acceptable" status indicated only by the enclosure of the common name in brackets.

The evidence for these 46 species in Alabama—and Imhof is meticulous in presenting it in detail—shows perhaps a third of them to be acceptable in that, even though no Alabama specimens are traceable today, their occurrence is based on a specimen examined in the hand, identified and reported by competent authority. These include the 11 species, most of them now extinct or extirpated, unreported since Howell accepted them in 1924, and the several more recent ones based on a banding recovery (Swainson's Hawk), or examined in the hand by a person of known competence (White-fronted Goose, Common Scoter, Sandhill Crane). The remaining 30-odd species, based only on anywhere from 1 to 8 sight records apiece by persons of varying degrees of experience (including to my embarrassment one of my own) are not acceptable. They should have been unmistakably so designated and omitted from the totals.

With the increasing difficulty of collecting in much of this and other countries today, the rising tide of publication of sight records is making the problem of accepting those for unlikely ones ever more critical. The only way to avoid the embarrassment of having to pass judgment on the personal reliability of those reporting them is to abide strictly by set standards of proof—specimen in the hand or other irrefutable evidence such as a clear photograph. We are all subject to error—I thought I saw a Red-throated Loon at Fort Morgan, and I may well have. But though I know the species well in the field, I could have been mistaken, and the absence of firm proof suggests the strong likelihood that I was. Nor do the several other Red-throated Loons reported from the Gulf region since then strengthen the case—they are still sight records, and as such still questionable regardless of who made them.

I have every sympathy with the author's desire to record all he can of our knowledge of the birds of Alabama and to add as many species as possible to its known avifauna. He has made a fine contribution, but it would have been sounder had he evaluated his evidence on the rarities as strictly as he should have.—O. L. Austin, Jr.

**28. The Biosystematics of American Crows.** David W. Johnson. 1961. University of Washington Press, Seattle, pp. viii + 119. Price \$3.25. This is a valiant attempt to clarify the systematics of one of the more difficult groups of North American birds. The author has reviewed the literature (bibliography of 7 pages), spent considerable time afield in the eastern and northwestern United States, and examined 2269 breeding specimens of 8 of the 10 generally recognized living species of the genus *Corvus* in North America and the West Indies. He bases his conclusions largely on a statistical analysis of the measurements of this certainly adequate sample and, to a lesser extent, on the color, geographic distribution, habitat, voice, and behavior of each population. His most important findings recommend revising the accepted diagnosis of the species *C. brachyrhynchos*; he makes strong cases for denying recognition to the race *paulus*, for re-delineating the breeding ranges of *C. b. brachyrhynchos*, *pascuus*, and *hesperus*, and for reducing *Corvus caurinus* from specific rank to a subspecies of *brachyrhynchos*. He considers *C. nasicus* and *C. leucognathus* specifically distinct, the *C. palmarum* populations of Cuba and Hispaniola inseparable, and *sinloae* a subspecies of *imparatus*.

I am puzzled by his failure to include in his analysis the other two North American *Corvus* species — *corax* and *cryptoleucus*, unless he feels their common epithet "raven" sets them apart systematically from those called "crows." This

is not justified, for the two "ravens" differ little if any more morphologically from the eight "crows" he considers than the latter do among themselves. These two species are an integral part of the American *Corvus* complex, and as such cannot be disregarded in assaying its origin and development on this continent, which its systematics should reflect.

His treatment of the considerable fossil evidence is most perfunctory. He throws doubt on the identification of fossil *caurinus* from southern California, but mentions nothing of the fossil records of *brachyrhynchus*, *ossifragus*, *nasicus*, *leucognaphalus*, and *cryptoleucus*, all of which have a bearing on his thesis. He acknowledges without comment Wetmore's description of a small Pleistocene crow (*C. pumilis*) from Puerto Rico and St. Croix, but omits Brodkorb's discovery (1959) of another small fossil species (*C. wetmorei*) from the Bahamas.

No assessment of the relationships within this perplexing but fascinating genus can disregard any of the available evidence. As the present distribution of the Corvinae suggests they arose in the Palearctic, an evaluation of the relationships of the nearctic forms to those of the Old World is essential in determining, theoretically at least, their possible ancestry and evolution. Such a study was manifestly beyond the scope of this investigation which, though it contributes significantly to our knowledge of the group, adds little to our understanding of how it came to develop into the complex as we know it today.—O. L. Austin, Jr.

**29. Growth and Regulation of Animal Populations.** Lawrence B. Slobodkin. 1961. Holt, Rinehart and Winston, N. Y. 184 pp. \$5.00. In this compact treatise on animal abundance, the author seeks the basis for development of an ecological theory with predictive power that will "provide a guide for the practical solution of land utilization, pest eradication, and exploitation problems . . ." It is written for the mature student, but the mathematics are relatively simple, and all algebraic notation is elaborated in clear prose. Examples illustrate the principles discussed, and frequent summaries aid in understanding them.

Initially, the kinds of order and interaction existing in nature are investigated as a general description of population ecology. Disruption by man is evident and ecology is the key to understanding the "limits of resilience of the natural world . . ." as spreading human populations intensify problems. Discussing the properties of animal populations, the author examines competition, density, life expectancy, mortality, age distribution and reproductive rates. Populations in a steady state are compared with those showing exponential (Malthusian) rates of increase, and transitions are examined. Important sections treat food chains, trophic levels, and thermodynamic efficiency in building protoplasm. For all this a fine understanding of the literature on population dynamics provides background. The historically significant work of Gause (on yeast) is analyzed, and principles are cited from research on water fleas (*Daphnia*), flour beetles (*Tribolium*), and blowflies (*Lucilia*). When appropriate, reference is made to sea birds, warblers, lemings and other vertebrates, including man.

From the last chapters Slobodkin's own interesting ideas emerge. A few examples are:

- (1). Designing the ideal program for exploitation of prey is not easy, since the "prudent predator should take yield organisms in such a way as to maximize its yield and at the same time maximize the population efficiency of the prey." A natural ecological equilibrium between predator and prey may be advantageous in human activities, in contrast to the strenuous efforts usually exerted by man to maintain lack of equilibrium.
- (2). A population may act as a resonator (frequency analyzer) responding to random fluctuations in the environment, and "there is no evidence whatsoever of occult or extramundane controls operating to produce regularities in the terrestrial ecological world."
- (3). The answer to some questions "must lie in the area of natural selection of communities as a whole, rather than being explained on the basis of natural selection operating on single species within communities . . . . There is an evolutionary tendency to diversity, high efficiency, and food chains of limited length."

From his skilled analysis of today's knowledge, Slobodkin probes the challenging future of population ecology. Interesting developments are inevitable.—Franklin McCamey.

**30. Bird.** Lois and Louis Darling, with a foreword by Roger Tory Peterson. 1962. Houghton Mifflin Company, Boston. xx + 261 pp., lavishly illustrated with black-and-white sketches by the authors. Price \$5.00. This book is aimed at the serious amateur who finds some technical background important in his reading about birds, but who makes heavy going of standard general texts on ornithology intended for college classes. Few authors have the light touch necessary to pitch the explanation to the proper level, but the Darlings were successful in this ambitious attempt. The sketches contribute heavily not only to the charm of the book but also to the effectiveness of the discussion.

The first 42 pages discuss how birds evolved and how the process of evolution continues. Then 66 pages relate to behavior, including the mechanics of migration. The remainder of the book covers the anatomy and physiology of birds in considerable detail, probably more extensively than any other book on birds aimed at non-technical readers. A brief bibliography, aimed at further reading rather than detailed documentation of the text, completes the work.—E. Alexander Bergstrom.

**31. The Cry of a Bird.** Dorothy Yglesias. 1961. E. P. Dutton & Co., Inc., New York. 168 pp., ill. Price \$4.95. This is the story of the 31 years the author and her sister spent giving refuge and care to sick birds in a fishing village within a few miles of Lands' End and historic Penzance on the storm-battered Cornish coast. It was not a life-work planned, but an occupation enforced on two girls with no previous interest in birds when the first injured jackdaw came their way by accident. Those who have successfully nursed one injured creature usually have others brought to their ministrations. Thus the Yglesias sisters over the years had so many oiled, sick, and wounded birds to claim their attention and help that they apparently neglected their vocations and were consumed by this avocation of aid to sick birds and the accompanying study of avian pathology and behavior.

Through their hands and through their hearts over the years passed some 4,000 birds. Dorothy Yglesias writes of them with such great simplicity that the sensitive understanding given each bird is very clear. Each was named and is spoken of as an individual, but without anthropomorphism, so that observations on each bird's behavior give one the feeling that a true rapport existed between the Yglesias sisters and their patients. Diagnosis, treatment, and diet are all carefully recorded, as well as the findings of the attending veterinarian. The results of post-mortems performed whenever possible on those birds that did not survive are of particular interest.

The Misses Yglesias have given the land in which the Bird Hospital started to the Royal Society for the Prevention of Cruelty to Animals, which from time to time had given them financial aid and is now carrying on the work on a permanent basis.—Elizabeth S. Austin.

**32. Identification for Ringers. 2. The Genus *Phylloscopus*.** Kenneth Williamson. 1962. British Trust for Ornithology, Oxford. 86pp., paperbound, one color plate, 4 photographs, one sketch. Price 7s. Most Americans who have encountered any of these Old-World warblers in the field have come away with a sense of frustration in distinguishing their notoriously obscure plumages, and some appreciation of the problems of definite identification even in the hand. While none of these birds occurs in the Western Hemisphere (except a handful in extreme western Alaska), this field guide is a model for the treatment of a difficult group.

As we are finding out in preparing data sheets on nearctic species for the new manual for bird banders, a really good guide to the bird in the hand is not achieved by casual compilation of a few obvious comments. Comments in the technical literature are often scattered; they include many details of no real value to the identification of the bird in the hand, are often based on rather short series of specimens, and occasionally have gaps in such matters as the colors of soft parts. The best work in drawing up material for banders comes to amount to a serious, technical review of the entire group of birds, such as Williamson has produced here.

This guide stresses one point of universal value, the range of variation in any measurement or other characteristic. The previous monograph on the genus (by Ticehurst) showed a single value for the wing tail ratio (that is, tail-length expressed as a percentage of wing-length). Williamson found the variation within a species to be too great for such a ratio to be reliable, except for a few species—which have the normal range of variation of this ratio listed.—E. Alexander Bergstrom.