

SUMMARY

We had 171 return and recovery records from the 2603 grackles banded. It would appear that birds nesting in the central Michigan area do not spread out to other areas of the state to any great extent. Most of the grackles from central Michigan going south apparently travel in a westerly direction toward Mississippi. Many papers have been written about the average length of bird life. From this study it would appear that average length of life of the Bronzed Grackle is much less than two years. Bronzed Grackles are shot in Michigan as being undesirable and in the southern states many people shoot them for food.—C. C. Ludwig, 79 Durand St., East Lansing, Mich.

RECENT LITERATURE  
BANDING  
(See also Numbers 6, 29, 65)

**1. Report of the Sempach Bird Station 1949 and 1950.** (Bericht der Vogelwarte Sempach 1949 und 1950.) A. Schifferli. 1951. Der Ornithologische Beobachter 48(6): 181-207.

The portion of this report dealing with banding activities states that wing marking of freshly hatched birds with tarsi too small for banding was used for the first time in Switzerland in 1949 and 1950. The technique is not described but is reported as having been used in Sweden during previous years. Swiss experience suggests that it is a useful method.

The total number of birds banded by Swiss cooperators during 1949 and 1950 are tabulated by species. Separate figures are given for birds banded in the nest and for those taken by trapping. The totals for the two years are as follows:

	<u>Trapped</u>	<u>Banded in Nest</u>	<u>Total</u>
1949	5,590	6,954	12,544
1950	5,550	6,811	12,361

Included in the totals are some birds banded outside of Switzerland, presumably with Swiss bands. The list comprises 172 species. One thousand three hundred and sixteen "recoveries" (Ringfunde—not defined) are listed for the two years, but it is not clear whether these refer to all recoveries reported during the period or to those from the birds banded during the period. Since the tabulation of nestlings banded indicates that a major portion of these were of the smaller species as opposed to terns, gulls, etc., it is obvious that Swiss practice differs from that in the United States in this respect.

All the distant recoveries are listed, including those from foreign countries recovered in Switzerland. Only the most interesting of the "near recoveries" (not defined but perhaps equivalent to our returns) are included, although the total records for each species are given. Several Starling (*Sturnus vulgaris*) recoveries from Africa at distances of 1200-2000 km. from the point of banding are of particular interest. An adult ♀ Swallow (*Hirundo rustica*) banded June 19, 1949 at Granges-Md. was found on October 23, 1950 at Usere, Warri-Provinz, Nigeria, 5500 km. distant from the place of banding. The tabulation comprises records for 102 species. Age and sex records are given in most cases. This is a valuable compilation.—R. O. Bender.

**2. Wild Geese. Wild Ducks. Waterfowl Collection. The American Boom Trap.** Peter Scott. 1953. In Fifth Annual Report of the Severn Wildfowl Trust, 1951-1952. pp. 9-77. Country Life, Ltd. London. 10 shillings. A summary of the wintering goose populations at Slimbridge, with description of marking of geese, of use of rocket-nets, of recaptures and recoveries. Ringing and recoveries of ducks are summarized and experiences with two "decoys" described. In a chapter on "The breeding of the Ne-Ne or Hawaiian Goose" (pp. 64-67), a table shows that 31 *Branta sandvicensis* were alive in captivity in June 1952 and that 13 wild birds had been seen in 1951; with an estimated additional 17 wild birds, the estimated total population is 62. There are one gander and two geese at Severn; 19 eggs were laid in 1952, nine young hatched and all were raised. Photographs are given of the goslings with their Silkie-cross Bantam foster parents and

later when well grown. As to the boom trap used at the Swan Lake Refuge in Missouri, the author says: "The problems of catching wild geese in a country where food supplies for geese are comparatively short and artificial baiting is highly successful are essentially different from those in Britain, where goose food (oats gleaned from stubbles, potatoes, sprouting wheat and grass) is plentiful," p. 77. The rocket-net covers six times as much space as the boom trap.—M. M. Nice.

**3. A Balance for Weighing Tits without Capture.** Norman C. Moore. 1953. *British Birds*, 46(3) : 103-105. Description, illustrated with chart and photograph, of the balance devised to weigh titmice as they feed on bait.—M. M. Nice.

**4. Live Trapping of Diving Ducks.** George S. Hunt and Kenneth J. Dahlka. 1953. *Journal of Wildlife Management*, 17(1) : 92-95. Although the trap utilized is not new, the modifications and techniques developed in its use are worthy of careful study for anyone interested in trapping diving ducks alive. The four figures help considerably in understanding the construction and operation of the trap.—Helmut K. Buechner.

## MIGRATION

**5. Racial and Sexual Differences in Migration in *Sphyrapicus varius*.** Thomas R. Howell. 1953. *The Auk*, 70(2) : 118-126. This interesting study deals with the racially variable movements of *S. v. varius*, *S. v. nuchalis*, *S. v. daggetti*, and *S. v. ruber*. The investigation revealed that *S. v. varius*, in addition to being the most highly migratory, showed an unusually high proportion of females in the peripheral regions of its winter range. *S. v. nuchalis* is less migratory and the sex ratio is not displaced to a statistically significant extent. *S. v. daggetti* is still less migratory and displacement from the expected 1:1 ratio in sex is again not statistically significant. *S. v. ruber* is practically sedentary and on the basis of 10 specimens there is no evidence of disproportion in sex ratio.

In his discussion, Howell points out that there appears to be a correlation between intensity of pigmentation and tendency to migrate. He suggests that the control of these two characters is . . . "genetic rather than endocrine . . ." It might be more accurate to state that the effect of the genes controlling pigmentation does not appear to be affected by sex hormones. An alternative suggestion would be that the differences between the sexes (and subspecies) may be the result of a genetic effect on the way the feather-producing tissues respond to hormones.

Evidence available indicates that multiple sex-linked pleiotropic genes furnish a suitable explanation for the inverse relationship between intensity of pigmentation and migratory tendency. It would be interesting to know more of the role of selection and genetic drift as it acted on these two qualities which appear to be so closely linked in inheritance. This thought-provoking study merits close attention of zoogeographers and systematists.—J. C. Dickinson, Jr.

**6. Homing of the Manx Shearwater.** Rosario Mazzeo. 1953. *The Auk*, 70(2) : 200-201. Two Manx Shearwaters were flown to Boston, Massachusetts from the colony on Skokholm, an island off the southwest coast of Wales. One survived the journey. The single bird was released at Logan International Airport at 8:15 A.M., E.D.S.T., June 3. This individual was found in its home burrow at 1:30 A.M., B.S.T., June 16th. It had traveled at least 3,200 statute miles in a little more than 12½ days.—J. C. Dickinson, Jr.

**7. Movements of Robins Banded in Nashville, Tennessee.** Amelia R. Laskey. 1953. *Migrant*, 24(1) : 5-7. From 2,495 *Turdus migratorius* banded from 1931-1951, 132 returns and recoveries have resulted. Some local birds migrate to Louisiana and Florida, but when hackberries are abundant, some remain for the winter. "Some local Robins may wander for the early part of the winter, or make short migrations, and return in January and February." The winter flocks at Nashville include migrants from Michigan, Ohio and New York state, as well as Tennessee breeding birds. Most of the Robins were caught with water-drips as bait in dry years from August to November.—M. M. Nice.

**8. Migration in Late September and Early October, 1951.** David Jenkins. *British Birds*, 46(3): 77-98; (4): 121-131. An elaborate report on observations in Norway, Sweden, Finland, Germany, Holland, and Great Britain with two maps, 11 graphs showing barometric pressure, wind strength, and temperature, and 20 tables giving numbers of each species recorded at different stations throughout the migration. Little in the way of conclusions from this impressive array of facts can be gleaned from the discussion or the summary, but on p. 92, the author writes: "Climatic factors acting on birds at the end of September, 1951, included anticyclonic weather conditions [high barometric pressures], extending over practically the whole of northern Europe, minimum wind strength and a marked fall in temperature over a wide area succeeded by minimum temperature variation. From a consideration of the opinions of other workers and of weather conditions at the times of earlier migration waves during the month, it seems that these conditions are very favourable for migration."—M. M. Nice.

### POPULATION DYNAMICS

(See also Numbers 1, 22, 24, 27, 40, 55)

**9. The Index of Heron Population, 1952.** W. B. Alexander. 1953. *British Birds*, 46(3): 100-103. A continuation of the cooperative counting of heronries of *Ardea cinerea* begun in 1928. "The winter of 1951-52 was again a comparatively mild one. . . . Since the year 1947 when, as a result of the preceding severe winter, the population fell to 54 per cent of the standard, the annual percentage increases have been 2 (in 1948), 35 (in 1949), 18 (in 1950), 10 (in 1951) and now 5 (in 1952). This gives us the most striking instance yet seen in the heron population of recovery to normal after a severe set-back and accords well with the explanation of the balance of population as being due to a density-dependent mortality provided by Lack (*antea*, vol. XXXIX, pp. 204-6)."—M. M. Nice.

**10. Notes on the Relative Mortality of Adults and Young Pink-footed Geese.** Hugh Boyd. 1953. In Severn Wildfowl Trust Fifth Annual Report, 1951-1952. p. 28. Using Hanson's and Smith's (1950) formula, the figures from some 2400 *Anser brachyrhynchus* banded during two winters show vulnerability of young as 1.28 in comparison with 1.00 of adults. This is in striking contrast with results for *Branta canadensis* at Horseshoe Lake, Illinois where the vulnerability of young was over eight times that of the adults. "The difference between Canada Geese and Pinkfeet is believed to result from differences in the methods of shooting and the much more extensive use of decoys (dummies) in North America."—M. M. Nice.

**11. Notes on Field Counts of Age-group Ratios and Brood-size.** Hugh Boyd. 1953. In Severn Wildfowl Trust Fifth Annual Report, 1951-1952. pp. 14-19. Tables are given on proportions of adults and immature White-fronted Geese, *Anser a. albifrons* and brood-size in flocks for five winters. Brood-size ranged from one to eight with three the most common number. In "1950-51 and 1951-52 there were twice as many parents as unsuccessful adults but . . . in 1949-50 the proportion was reversed. Thus 1949 may have been a 'non-breeding' year in some parts of the breeding range of the Whitefronts wintering on the New Grounds."—M. M. Nice.

**12. A City on the Rhine and its Tawny Owl Population.** (Eine rheinische Stadt und ihr Waldkauzbestand.) A. Krambrich. 1953. *Die Vogelwelt*, 74(2): 49-51. The territories of twelve breeding pairs of Tawny Owls (*Strix aluco*) in Bonn are mapped diagrammatically. Breeding territories were ascertained by a calling pair census, followed by a calling young census. Most existing nesting territories have been "occupied for decades" and the Tawny Owl population has remained relatively stable in spite of the advent of large municipal buildings. Unfortunately the author does not state during what year or years the census was made.—Frances Hamerstrom.

**13. The estimation of population parameters from data obtained by means of the capture-recapture method. II. The estimation of total numbers.** Leslie, P. H. 1952. *Biometrika* **39**: 363-388. A generalized discussion of the Lincoln Index and Jackson's method for cases in which the death rate (including emigration) is variable and the population may be diluted by immigration and/or births. (See Moran, item 15.) A test for absence of dilution and a method of securing approximations from a long chain of samples are given.—C. H. Blake.

**14. The time intervals between industrial accidents.** Maguire, B. A., Pearson, E. S., and Wynn, A. H. A. 1952. *Biometrika* **39**: 168-180, 2 fig. This paper discusses the same problem as the spacing of repeats which was considered earlier by the reviewer. (*Bird-Banding*, **19**: 156-159.) Rephrased for the banding problem, if the expectation of repeats per unit of time ( $E$ ) is a constant, the time interval between repeats is exponentially distributed with both mean and standard deviation of  $1/E$ . It is possible to determine also whether there is a 'closed interval' after a trapping during which no repeat is possible. The statistical distribution of the sum and of the mean of  $n$  intervals is considered and a method given for examining the significance of a difference in means, using the variance ratio,  $F$ . Methods are also given for showing whether intervals of great length indicate inhomogeneity in the data. We may, therefore, distinguish, to a degree, between repeats and returns. Seasonal or other time or order dependent differences may be examined.—C. H. Blake.

**15. The estimation of death-rates from capture-mark-recapture sampling.** Moran, P. A. P., 1952. *Biometrika* **39**: 181-188. This is a discussion of Leslie and Chitty's (1951) paper. (See *Bird-Banding* **23**: 77.) It is concluded that the method uses the information in the data efficiently although it underestimates the variances.—C. H. Blake.

**16. Studies in statistical ecology. I. Spatial distribution.** Skellam, J. G. 1952. *Biometrika* **39**: 346-362. The problem is to find a means of determining whether the distribution of individuals over an area is random or non-random. The method chosen is to study the distances between individuals. Some aspects of quadrat sampling are discussed.—C. H. Blake.

**17. Samples with the same number in each stratum.** Stevens, W. L. 1952. *Biometrika* **39**: 414-417. The aim is to deduce the total population from a fixed number of samples drawn from each stratum (say county) and the variance in each stratum and for the total population. The most efficient scheme needs two samples from each stratum.—C. H. Blake.

**18. Sequential sampling tagging for population size problems.** Goodman, Leo A. 1953. *Annals Math. Statistics*, **24**: 56-70. Samples are drawn from a population and replaced until a predetermined number of marked individuals have been drawn from a part of the population, say the portion banded before the first sampling, whose size is known. No allowance is made for population changes occurring during sampling. It is shown that this procedure is better than drawing a predetermined number of samples. Several accessory matters, such as confidence and fiducial limits, are discussed. Here is the mathematical basis for a useful practical method but the programming is yet to be done.—C. H. Blake.

## FOOD HABITS

(See also Numbers 36, 39, 41)

**19. Food Habits of the Hobby.** (Zur Ernährung des Baumfalken (*Falco subbuteo*)). C. Klaas. 1953. *Die Vogelwelt*, **74**(2): 48-49. An unusually high occurrence of Swifts, *Apus apus*, taken by Hobbies during the third week in August was attributed largely to the weakening of the migrating Swifts by an insect shortage during a period of cold, wet weather which made them easy prey.—Frances Hamerstrom.

**20. Food Habits of Mountain Quail (*Oreortyx picta*) in Eastern Washington.** Charles F. Yocom and Stanley W. Harris. 1953. *Journal of Wildlife Management*, 17(2): 204-207. An analysis of 27 gizzards and 26 crops from 33 autumn-shot Mountain Quail, *Oreortyx picta*, showed 95 items of food, 85 of which were plant material. In order of importance, the five ecologically significant plants were: Smooth Sumac, *Rhus glabra*; Hop Clover, *Trifolium agrarium*; Common Chickweed, *Stellaria media*; Hackberry, *Celtis douglasii*; and Common Sunflower, *Helianthus annuus*.—Helmut K. Buechner.

### NIDIFICATION & REPRODUCTION (See also Numbers 11, 29, 30, 31, 35, 62)

**21. The Pied Flycatcher's Reaction to its Eggs.** (Svartvita flugsnapparens, *Muscicapa hypoleuca*, (Pall.) reaktion på sina ägg. Lars von Haartman. 1952. Svensk Faun. Revy 3 pp. 84-92. The investigation was conducted from 1945 and the paper is based on about 100 experiments. The observations were made through a "periscope" attached over the nestbox instead of the lid. Both sexes carry out fecal sacs, but because the female alone incubates she carries out the eggshells. When carrying out excreta the bird leaves the nest in a horizontal upward flight; it drops slightly when going out to hunt, but falls almost to the ground when frightened. The author believes that when a bird moves the eggs while incubating the objective is not to "turn" them but to roll them together under the broodspot. The stimulus for rolling is of a tactile nature. Very energetic egg-rolling was observed 1) when a very large egg was placed in the nest, 2) when the eggs were separated, 3) when replaced by dice, 4) when the whole clutch was taken away. The author disagrees with Tinbergen and Lorenz that part of the egg-rolling is displacement activity, even when a bird rolls an egg that has been removed, because "the adequate initial stimulus exists: the empty nest admittedly stimulates the broodspot in a different way than the eggs. Once the initial impulse is precipitated, the action continues as if automatically . . ." p. 86. Broken eggs are carried out. The bird may peck an egg with a small hole, sometimes breaking it. While so doing the female, curiously, gives the "feeding note," usually uttered by the parents when standing with food over a nestling which does not gape, p. 88. Half eggshells are picked up only if the broken edge lies upward. When the clutch was replaced by five red marbles the female reacted negatively but she continued incubating black squares, balls made of wax or brown marbles. However, she became used to the red marbles and finally incubated them. She was willing to incubate as large an egg as that of an eider, in vain trying to balance on top of it, but she fled when she was confronted with a swan's egg in the nest. It is suggested that the reaction to incubate is released by the "signal," nest with content, which to the flycatcher may mean a nest with a duck's egg as well as an empty one. An uneven surface is the "signal" for the carrying-out reaction. Because of the bird's tolerance of foreign objects in the nest, it is thought that it does not know its own eggs, which is perhaps not a necessary ability in a hole-nester. This is an interesting paper.—Louise de K. Lawrence.

**22. Life History and Productivity of a Population of Western Mourning Doves in California.** John B. Cowan. 1952. *California Fish and Game*, 38(4): 505-521. Studies on *Zenidura macroura marginella* from May 1, 1948 through April 1952 on the Gray Lodge State Game Refuge, Butte, California. Most of the observations were made on the two-acre Willow Pond Area. The nests were built in trees, at an average height of 11 feet. Nesting lasted from mid-March to September 20, one tenth of all the broods raised being still in the nest on September 1, the date on which the hunting season opens. Nests might be used 4 to 6 times a season, the first egg of a subsequent brood often appearing 1, 2 or 3 days after the fledging of the young. One pair actually raised 12 young in six successful broods in one season, as shown in Figure 5. Each pair attempted an average of 5.1 broods per season, which matches the findings of McClure (1943). Success of nests was high, 64.5 per cent of 220 attempts, and the "average annual productivity for each pair on the Willow Pond Area in 1949 and 1950 was 6.3 nestlings." We are not told the success of the eggs laid, but California seems to afford a very favorable environment for nesting Mourning Doves.—M. M. Nice.

**23. The Relations between Tufted Ducks and Laridae in Mixed Colonies.** (Die Beziehungen zwischen Reiherenten und Möwenvögeln in gemischten Kolonien.) Kailevi Raitasuo. 1953. *Ornis Fennica*, **30**(1): 1-16. The preference *Aythya fuligula* shows on Finnish reefs for nesting with colonies of Black-headed Gulls, *Larus ridibundus*, and terns (*Sterna hirundo*) has usually been attributed to its desires for protection from crows. The author watched for 20 hours on a little island off the coast of Finland and found that female Tufted Ducks were harassed by the breeding Black-headed Gulls and Common Terns when they returned to their nests. Smaller nesting associates such as Turnstones, *Arrenaria interpres*, Common Sandpipers, *Actitis macularia* and White Wagtails, *Motacilla alba*, were ignored by the Laridae. It has not been shown that Tufted Ducks succeed better in such mixed colonies than when nesting alone on inland lakes. The author does not believe that the association is for the purposes of protection, but is an expression of sociability. He suggests that the releasing mechanism may be the black and white effect of the plumage of the Laridae which is somewhat like that of ducks. In explanation of the separate nesting of these ducks and gulls on the lakes, the author states that in such situations the gulls build floating nests, while Tufted Ducks always need solid foundations for their nests.—M. M. Nice.

**24. Nesting and Abundance of the Cuban Sandhill Crane on the Isle of Pines.** Lawrence H. Walkinshaw. 1953. *The Auk*, **70**(1): 1-10. The author reports the results of his visit to the Isle of Pines to observe *Grus canadensis nesiotae* in 1951. Included are data on five nests covering locality, dates, plant association, size of nests, size and color of eggs, size of young birds and behavior of adult cranes. The author states that the species has increased on the island since his visit in 1945. The data presented in support of this conclusion are inconclusive in that the two visits were made during different months and no information is supplied to show that the census methods used were equitable. Estimates made by natives indicated that there were approximately 100 birds on the island.

Egg laying appears to have occurred between late March and late April. It is disappointing that so much detail is presented concerning behavior of nesting adults without any comments or conclusions based on these observations.—J. C. Dickinson, Jr.

**25. Housing for Wood Ducks.** Frank C. Bellrose. 1953. Illinois Natural History Survey Circular 45. 47 pp. An excellent discussion of the problems faced by *Aix sponsa* in finding a safe home. "By the early 1900's, the combined effect of habitat destruction and overshooting had so seriously depleted its numbers that conservationists feared the species would be exterminated." Complete protection from legal shooting from 1918 to 1941 resulted in a general increase in numbers. Now, however, with accelerated drainage of wooded bottomlands and swamplands, with lumbering, and increase of raccoons, this superb bird is again endangered. Detailed instructions are given for the making and placing of mammal-proof nest boxes. From 1939 to 1945 51 percent of 820 unsuccessful nests were destroyed by fox squirrels, 37 percent by raccoons, 10 by bull snakes and 2 by opossums. The raccoons also killed the adult Wood Duck in one out of every three cases of predation. After a nest is destroyed, the hen renests at a distance of half a mile to four miles, starting to lay again after about 13 days. Definite homing was found to successful nesting sites. When nest success approached or surpassed 50 percent, the population increased over a number of years, but with lower nest success the birds soon disappeared. Details are given on the home life of Wood Ducks. The pamphlet is profusely illustrated with fine photographs and a beautiful reproduction of an oil painting by Robert H. Cary. This attractive, helpful and authoritative booklet may be obtained without cost from the Illinois Natural History Survey, Natural Resources Building, Urbana, Illinois.—M. M. Nice.

**26. Inland Breeding of the Oystercatcher.** (Zum Brüten des Austernfischers (*Haematopus ostralegus*) im Binnenland.) Paul Blaszyk. 1953. *Die Vogelwelt*, **74**(2): 41-45. A marked spread and increase of Oystercatchers into the interior is attributed primarily to improvement of and increase in acreage of pastureland.

They nest in sparse vegetation, rear their young in the grassland rather than on mud flats, and are not dependent upon large bodies of water. Most of the increase is attributed to the conversion of acid heaths into alkaline meadows [a further loss of a dwindling ecological niche in Germany]. Reduced hunting pressure has also played a part in the species' increase. The author considers it improbable that the spread into the interior stems from Holland.—Frances Hamerstrom.

**27. Myvatn 1951.** Peter Scott. 1953. In Severn Wildfowl Trust Fifth Annual Report 1951-1952. pp. 125-132. A delightful account from the author's diary of two visits to an eight by five-mile shallow lake in north-eastern Iceland, "which probably holds the greatest breeding concentration of Western European ducks." The farmers from the 19 farms around the lake cherish the ducks, taking for the table all but four eggs each year from each nest. This has been the custom for 700 years and "figures for the egg-crop over the last fifty years show no overall decline, although there have been some changes in the status of the species." In response to the milder Icelandic climate during the last 30 years, Oldsquaws, *Clangula hyemalis*, have decreased, while other species have come in: Gadwall, *Anas strepera*, Shoveller, *Spatula clypeata* and Tufted Duck, *Aythya fuligula*. On August 11 one Red-breasted Merganser, *Mergus serrator*, had 21 ducklings of her own kind and one young Scaup, *Aythya marila*, while a Scaup female had 30 ducklings under her care. Many dead ducklings were found as well as "many lost and unaccompanied ducklings which must surely have perished in the cold north wind of that last-but-one day."—M. M. Nice.

**28. American Goldfinch and Canary Cross.** Olive P. Wetherbee. 1953. *American Cage-Bird Magazine*. March: 55-56. A hand-raised male *Spinus tristis*, was bred each summer to several Canary hens from 1941 through 1947. Out of 74 eggs only three young were raised, all males. These had the undulating flight of the Goldfinch and the *per-chicoree* call, but were apple-green in color with no black cap. One of the hybrids has been "mated several times and some of the resulting eggs were added after a few days incubation which suggests fertility but never was any definite embryo discernible."—M. M. Nice. -

#### LIFE HISTORY

(See Numbers 21, 35, 62)

#### BEHAVIOR

(See also Number 67)

**29. The Severn Wildfowl Trust Expedition to Central Iceland, 1951.** Peter Scott, James Fisher and Finnur Gudmundson. 1953. In Severn Wildfowl Trust Fifth Annual Report, 1951-1952. pp. 78-115. From June 28 to August 2, 1951, the authors camped at an oasis in the centre of Iceland studying what is probably the largest colony of Pink-footed Geese, *Anser brachyrhynchus*, in the world, the 44 square miles of tundra-bog being estimated to contain some 2300 pairs. Here there was good food-supply, principally grasses and *Equisetum*, lack of disturbance by man and comparative freedom from predation. The most destructive predator was the Great Black-headed Gull, *Larus marinus*, perhaps 40 individuals with no evidence of breeding. The Arctic "fox is strenuously controlled by the farmers, because of the lambs." No Pinkfoot nests were found closer than 14 yards apart. "One Pinkfoot female had a Barnacle gander (*Branta leucopsis*) as mate. This was the only Barnacle seen." The goslings are often 48 hours old before they leave the nest. "There seems to be a strong urge to run uphill when danger threatens. Goslings released, after marking, on the edge of a stream, all turned and ran back up the shore among humans and ponies. This was the initial direction which they had been taking before being caught. . . . The tendency of goslings to regard humans as their parents was frequently observed. . . . On several occasions it was difficult to get away after marking a young brood without being followed by them," (pp.:89-90). Probably some 20 pairs of Whooper Swans, *Cygnus cygnus*, were breeding on the oasis. The

"cygnets would sometimes follow humans even when at least a week old. Newly hatched cygnets usually followed, and a hasty retreat was necessary if they were not to be led away from the nest. Older cygnets would feign death when handled, hanging their heads in a lifeless attitude," (pp. 103-4). Sometimes geese after being marked and released would try to get back into the trap with the rest of the flock. A slow and stealthy approach to a crouching bird would often result in its capture, for "evidently the inertia involved in crouching is only overcome by a sharp stimulus." A total of 1151 Pink-foots was ringed. Notes on other birds of the region are given. The Dunlin, *Calidris alpina*, is called "Plover's Page," because of its curious association with Golden Plovers, *Pluvialis apricaria*, which were rarely seen without Dunlins in attendance, the plover apparently playing a passive part. "Dunlins also fraternized with Purple Sandpipers," *Calidris maritima*. A list of invertebrates is included as well as one on plants. Peter Scott's inimitable sketches add greatly to this most interesting paper, as well as to many other articles in this Report of the Severn Wildfowl Trust.—M. M. Nice.

**30. Variations in the Development of Broodiness in Fowl.** A. O. Ramsey. 1953. *Behaviour*, 5(1): 51-57. Adoption experiments with Cochin Bantam hens by confining them together with chicks (in winter) in 50 by 50 by 150cm runways in a brooder house. "The maternal behavior of the hens developed slowly and manifested itself in 4 definite stages, each stage separated by one or more days from those following it. These stages are: (1) brooding; (2) titbitting [calling to food]; (3) clucking; and (4) normal broody behavior. When stage 4 was reached, clucking continued for 10 days or more even if the chicks were removed." Socially dominant hens were slower in accepting chicks than were subordinate hens. Interestingly enough, Mallard ducklings were adopted more readily than were chicks. Three of the six hens in this experiment were inexperienced, but two had adopted chicks in previous years. The sixth, BW, had been dominant in 1951 and in an experiment with chicks reached stage 1 only; in 1952 she was third in the peck-order and adopted ducklings quickly.—M. M. Nice.

**31. Some Displacement Activities of the Black-headed Gull.** M. Moynihan. 1953. *Behaviour*, 5(1): 58-80. When a *Larus ridibundus* is unable to incubate its eggs properly, the two most common displacement activities are nest-building and preening. Nest-building under these circumstances does not differ from that earlier in the season except that scrape-making is not used. "During slow floods, the displacement building stimulated by the seepage of water into the nest might easily be great enough to markedly raise the level of the nests." (p. 71). Fighting increases when all three eggs are removed, but this is not considered displacement activity. The different types of behavior in response to different experiments are analyzed in five tables, and building activities are illustrated in three photographs.—M. M. Nice.

**32. On Encounters Between Wild White-fronted Geese in Winter Flocks.** Hugh Boyd. 1953. *Behaviour*, 5(2): 86-129. Detailed observations of mechanisms of adjustment of conflicts in large flocks of *Anser a. albifrons* on the estuary of the River Severn in Gloucestershire, England during three winters. The flocks are unstable; the majority of the persistent groups consist of families and paired adults. Parents dominated paired adults; these dominated juveniles in families, who were superior to single adults, with unattached juveniles at the bottom of the order. Large families dominated smaller families. The contacts observed are analyzed in 21 tables and three series of charts. "Males attack more and are more successful than females, though the sexes are alike in the vigour of their attack and in the threats they use. There is very little fighting within families. Geese of other species are tolerated within flocks of White-fronted Geese." The situations that produce conflict are sexual rivalry, connected with the formation of pairs, interference with freedom of movement, and preservation of family cohesion. The author criticizes Jenkins' (1944) concept of "moving family territory," preferring to define in terms of 'distance' the defence by adults of an area about the young and mate.—M. M. Nice.



**33. Flocking Behaviour of Oystercatchers.** Kenneth Willamson. 1953. *British Birds*, 46(3) : 108-110. The behavior on a winter day of 1500 *Haematopus ostralegus* in response to a rising tide is described. The birds were resting in the "pseudo-sleeping" attitude, standing on one or both legs with bills pushed into the scapulars but eyes wide open. Every few minutes those Oystercatchers nearest the rising tide "faced about and, piping vigorously and in unison, began to move away from the encroaching waters"; immediately the others "woke up," so that within a few seconds "an army of birds extending the full width of the little peninsula was advancing towards the hide." This vigilance is necessary in order that each bird may keep about itself a small clear space for immediate take-off in case of danger.—M. M. Nice.

**34. Inter-family Dominance in Canada Geese.** Harold C. Hanson. 1953. *The Auk* 70(1) : 11-16. Observations of inter-family dominance-subordination in *Branta canadensis interior* were made at Horseshoe Lake, Illinois. The number of observed birds that were marked to enable positive identification is not given and there seems to be some possibility of inter-group mixing of individuals. The author dismisses body size of individuals as a factor without giving data supporting this contention, and with only a corroborative citation of Allee (*Cooperation among animals*, 1951). While the statement by Allee refers to domestic chickens, it has been shown by Greenberg and Noble (*Physiol. Zool.*, 17: 392-439, 1944) in lizards and Greenberg (*Physiol. Zool.*, 20: 267-299, 1947) in fish that body size is important. Further clarification is needed concerning what parts body size, seniority in the area, hormones, and chance factors play in modifying group dominance. One wonders why only two contacts of the eight-member family group are listed in Table I, when from the text it is apparent that a "number" of observations were made of this group. We have analysed statistically the collected data presented in this paper. They show a significant positive correlation ( $P < .01$ ) between social dominance and the number of family group members.—Paul G. Pearson and J. C. Dickinson, Jr.

**35. Notes on the Life History of the Blood-colored Woodpecker in Surinam.** Fr. Haverschmidt. 1953. *The Auk*, 70(1) : 21-25. This paper presents notes on the nesting and roosting habits of *Venilornis sanguinensis*, a species apparently confined to the Guianas. Both sexes were observed to drum and both are active in hole excavation. Roosting holes are used by groups of mixed sexed individuals. Both sexes take part in incubation and both are active in feeding the young birds. Haverschmidt concludes that *V. sanguinensis* belongs in the group designated as the "*Tripsurus type*" by Skutch (*The Auk*, 65: 225-260).—J. C. Dickinson, Jr.

**36. Factors Affecting Feeding Rates of Anis.** A. L. Rand. 1953. *The Auk*, 70(1) : 26-30. Field gathered data on the Groove-billed Ani, *Crotophaga sulcirostris*, and notes on the habits of the species near San Salvador, El Salvador are presented in this paper. Two methods of feeding were observed, (1) walking about and snapping up insects sitting on the grass and (2) in company with cattle—pursuing insects stimulated into movement by the activity of the grazing animals. Rand interprets his data to show that there is a "very clear advantage" to the Ani in using the cow as a beater. The data are analysed subjectively and presented in a form that precludes statistical analysis by me. The conclusions are based on "trys" to capture insects which might also be interpreted as showing that cattle stir more insects into activity than do anis. I do not question the advantage to the ani of its relationship with cattle, but I am not convinced that Rand's data demonstrate it.

Other data are presented which tend to show a higher rate of feeding during the rainy season but no accurate comparison of food utilized is presented. Thus, it is quite possible that volume (or food value) of intake remains constant. A considerable number of variables are mentioned but not evaluated.—J. C. Dickinson, Jr.

#### ECOLOGY

(See Numbers 16, 23, 26, 38, 39, 40, 50, 52, 66)

## WILDLIFE MANAGEMENT

(See also Numbers 22, 25, 26, 27, 42, 43, 49)

**37. Guano Enterprise in South West Africa.** R. W. Rand. 1952. *The Ostrich* 23(3): 169-185. Guano deposits are exploited commercially along the "Namib strip" of the Southwest African coast between latitudes 21°40' S. and 26° S. Formerly sand islands contributed to the deposits, but now the harvest is solely from man-made platforms erected as roosts for the cormorants. Rand points out that little is known about the many interrelated ecological factors influencing the guano crop, but emphasizes the important effects of the cold, northward-moving Benguela current. The region is chiefly a sand waste with few rocky outcroppings, and the adjoining waters are rich in plankton. The coastal area averages less than an inch of annual rainfall; therefore leaching and decomposition of the guano is minimized. Rand describes the topography and guano-collecting activities at each of the three present exploitation sites, Sandwich Harbour, Walvis Bay, and Cape Cross. Of the two endemic cormorant species the Crowned Cormorant, *Phalacrocorax africanus coronatus*, is of minor importance, but the White-breasted Cormorant, *P. carbo lucidus*, nests on the platforms throughout the year. The most important species is the Cape Cormorant, *P. capensis*, which is present from January to August. Although normally breeding at the Cape Province guano islands, it appears to be starting to breed on the Southwest African platforms. Bank Cormorants, *P. neglectus*, roost on the platforms, but Reed Cormorants, *P. a. africanus* are only occasional visitors. Management of the platforms is still in its infancy. Commercial rivalry has hurt the industry, and there is much to be learned about the means of increasing the guano crop, which is regularly in excess of 1000 tons, and in 1942 attained 3500 tons.—Hustace H. Poor.

**38. The Effects of DDT Upon the Survival and Growth of Nestling Songbirds.** Robert T. Mitchell, Harry P. Blagbrough, and Robert C. VanEtten. 1953. *Journal of Wildlife Management*, 17(1): 45-54. In two uncultivated, 20-acre fields about one-fourth mile apart, 293 nest boxes were erected with a frequency of 3.5 boxes per acre in the open and about 45 feet apart along community edges and hedge rows. Aerial sprayings were made on June 14, 1949 and June 6, 1950, with a spray formula of one pound of DDT per gallon of fuel oil applied at a rate of three pounds of DDT per acre. Both fields were sprayed, each being divided into a sprayed and unsprayed portion. To determine changes in breeding populations, eight census trips were made before and eight after spraying. Adults were trapped in the boxes and color banded to determine movements and subsequent choice of nesting sites. Daily weights of young were taken until they fledged. Sweep-net samples were obtained to determine changes in invertebrate populations. A decrease in the adult population in the sprayed area and an increase in the unsprayed unit occurred both years following DDT application, but the population differences were not statistically significant when all species were considered together. However, six of eight House Wren, *Troglodytes aëdon*, and two of three Bluebird, *Sialia sialis*, territories were lost in the sprayed area. These losses were partly offset by slight gains in other species. Post-spray abandonments of seven nests containing eggs were observed in the sprayed area and three in the unsprayed area. In re-nesting there was no apparent avoidance of the sprayed area by parent birds selecting nesting sites. Mortality of 23 out of 28 first-brood House Wrens on the day of spraying in 1949 indicated a significant effect of the spray, but there was little difference between areas among second-brood House Wrens. In both years surviving young House Wrens hatched before or shortly after spraying had growth rates well below the average for House Wrens in the unsprayed area. Invertebrates were significantly reduced, but recovered in numbers by the fifth or sixth week following spraying. Because data from 486 nests of 27 different species of songbirds obtained over a period of eight years show that most eggs hatch between mid-May and the third week in June, it is recommended that spraying be avoided during this period.—Helmut K. Büchner

**39. The Relation of Bald Eagles to Breeding Ducks in New Brunswick.**

Bruce S. Wright. 1953. *Journal of Wildlife Management*, 17(1): 55-62. The role of the Bald Eagle, *Haliaeetus leucocephalus leucocephalus*, as a predator on breeding ducks was studied through six field seasons. Systematic collections of prey remains at feeding perches and sandbar feeding stations, observations from blinds, and food-preference tests made with different combinations of bait were used to determine food habits. A tabulation of 138 eagle meals consumed between March and November showed that 90 percent of the food consisted of fish of eight species, only one of which is fished commercially. Birds made up 9 percent of the sample and mammals 1 percent. Black Ducks, *Anas rubripes*, were taken six times during the breeding season. Birds of this species offered at feeding stations on eleven occasions were never accepted, decided preference being shown for fish which was offered at the same time. The evidence indicates that the Bald Eagle is a scavenger and fish-eater in summer and rarely takes birds for food. Wright concluded that the Bald Eagle may become an important factor in the survival of wintering waterfowl in local areas in the estuary of the St. John River, but that the number of eagles wintering in the north is such a small fraction of the number present in summer, the total loss by eagle predation cannot be large.—Helmut K. Buechner.

**40. Some Aspects of the Population Ecology of Breeding Mourning Doves in Georgia.**

Milton N. Hopkins and Eugene P. Odum. 1953. *Journal of Wildlife Management*, 17(2): 132-143. Five study areas of 100 acres each in the coastal plain and five in the piedmont were spot-mapped to determine total numbers of breeding Mourning Doves, *Zenaidura macroura carolinensis*. The combined average density was about 3.3 pairs per 100 acres. There is some evidence that food patches or other concentrations of food resulted in earlier breeding and larger numbers of Doves. Apparently Doves do not nest in large colonies in Georgia. Nesting mortality was a "normal" 48 percent. Trichomoniasis was not epidemic in the region in 1950 and 1951 when the study was conducted, though there was a serious outbreak in Alabama. Doves made less than three nestings per pair and produced only about two young per pair, a total productivity for the season of less than half of that which had been expected. The effects of trichomoniasis prior to 1950, the hot, dry mid-summer of 1950, low food supply, and the action of density-dependent effects are suggested as possible explanations for the low production, but no evidence was secured to support any of these hypotheses.—Helmut K. Buechner.

**41. Consumption of Cereal Grains by Migratory Waterfowl.**

James S. Jordan. 1953. *Journal of Wildlife Management*, 17(2): 120-123. Presented in this paper are some valuable data for which there has been an obvious need for the past two decades, but which have been mostly unavailable. The average daily food intake for Mallard, *Anas platyrhynchos*; Blue-winged Teal, *Anas discors*; and Canada Goose, *Branta canadensis*, was determined under penned conditions, using whole yellow corn, mixed grains, and rice. Interesting records were obtained showing increased food intake with lower temperatures. Under average weather conditions in early fall, Mallards consumed about 0.16 pound of small grains and 0.13 pound of corn daily. During a period of strong winds and snowfall the maximum intake of 20 Mallard drakes was an average of 0.33 pound of corn for each. Canada Geese consumed about twice the amount taken by Mallards. During fall and winter months Mallard drakes consumed about 15 percent more than Mallard hens; during the spring, hens took an average of 16.6 percent more food than the drakes. Rapidly growing ducks between eight and nine weeks old consumed 44 percent more food than the adults. From these data a better measure of carrying capacity of ranges should be possible.—Helmut K. Buechner.

**PARASITES & DISEASES**

**42. Blood Parasites of the Canada Goose, *Branta canadensis interior*.**

Norman D. Levine and Harold C. Hanson. 1953. *Journal of Wildlife Management*, 17(2): 185-196. In a study of blood smears from 353 Canada Geese, *Branta canadensis interior*, collected in southern Illinois, *Leucocytozoon simondi* was found in 21 juveniles, 6 yearlings, and 5 adults; *Haemoproteus* sp. was found in none of

the juveniles, 1 yearling, and 4 adults; *Plasmodium* sp. was found in 1 adult; and microfilariae were found in 1 juvenile, 1 yearling, and 2 adults. Valuable tabular summaries of literature reports of these parasites in other waterfowl are presented. All of the Geese examined were healthy individuals that had made migratory flights to the breeding grounds, indicating that they were carriers and not clinical cases.—Helmut K. Buechner.

**43. The Effects of Streptomycin Against Spontaneous Quail Disease in Bobwhites.** Charles M. Kirkpatrick and Harold E. Moses. 1953. *Journal of Wildlife Management*, 17(1): 24-28. Treatment of drinking water with five grams of streptomycin per gallon the first day followed by one gram per gallon on subsequent days reduced adult mortality caused by ulcerative enteritis in pen-reared Bobwhite, *Colinus virginianus*, from 21 percent to 4 percent. Over a seven-week period, growing quail exposed to the disease were reduced by 17 percent when untreated and by 2 percent when treated with a diet containing 0.1 percent streptomycin mixture. This paper is an important contribution to the successful and economical rearing of game-farm birds for experimental or restocking purposes.—Helmut K. Buechner.

### PHYSIOLOGY

**44. Artificial Rearing of Two Spectacled Penguins.** (Künstliche Aufzucht von zwei Brillenpinguinen). Hans Wackernagel. 1952. *Der Ornithologische Beobachter* 49(3): 69-79.

This paper deals with the rearing, behavior, and growth of two Spectacled Penguin chicks (*Spheniscus demersus* L.) which were raised from the ages of 5 and 7 days at the Zoological Institute of the University of Basel. It is in four sections; the first outlines some of the problems encountered in the selection of food. Liberal use was made of vitamin preparations. This section also presents notes on behavior. The chicks took scarcely any notice of their keepers and the author expresses the belief that they could not recognize individual persons.

The second section discusses the rate of growth of body weight. Average weight increase was 50 g. per day but during the period of greatest growth it reached a maximum of 225 g. per day. On these days about one-fourth of the food intake was converted to body weight. Relatively minor variations are noted in the growth curves plotted as Fig. 1. While the average weight of adult Spectacled Penguins is of the order of 3.1 kg. these two chicks reached weights of 5.2 and 5.7 kg. at 114 days of age after which their weight began to decline. (See No. 45.)

The third section refers briefly to six graphs which show the rate of growth of six body parts; plumage development is discussed briefly in the fourth section.—R. O. Bender.

**45. Concerning the Growth of Penguins.** (Über das Wachstum der Pinguine), Ernst Sutter. 1952. *Der Ornithologische Beobachter* 49(3): 79-84.

The available data in literature on body weight and rate of growth are reviewed to determine whether the rapid growth and excessive weight relative to adult weight which was found for captive Penguins (see No. 44) had natural counterparts or whether they might be the result of the artificial rearing. Sutter's data (three tables) suggest that the Adelie Penguin has a similar rapid growth rate in the wild but that no other Penguin has shown the excess weight development found in the captive birds. Since the available data are limited, the question may still be considered to be open.—R. O. Bender.

### MORPHOLOGY & ANATOMY

**46. On the Locomotor Anatomy of the Blue Coua, *Coua caerulea*.** Andrew J. Berger. 1953. *Auk*, 70(1): 49-83. As the author points out, the classification of the Cuculidae is unsatisfactory. This is his third contribution on the anatomy of these birds with the ultimate goal of utilizing such studies to reclassify the group. The anatomy of the genus *Coua*, endemic to Madagascar, is little known. In another publication (*Wilson Bull.*, 65(1): 12-17, 1953), Berger has described the pterylosis of *C. caerulea*. In the paper at hand there is a short sec-

on osteology. Several skeletal proportions are used to make a preliminary comparison between *Coua* and the New World genera *Coccyzus*, *Crotophaga*, and *eococcyx*. The major portion of the article is devoted to the myology of the ppendages. The practice of using measurements in describing the muscles is very helpful.—Julian J. Baumel.

**47. A System of Age Classification for Field Studies of Waterfowl Broods.** Charles Southwick. 1953. *Journal of Wildlife Management*, 17(1): 8. Based on hand-raised birds, a system is presented for aging Mallard, *Anas platyrhynchos*; Pintail, *Anas acuta*; Blue-winged Teal, *Anas discors*; Shoveller, *Anas clypeata*; Baldpate, *Anas americana*; Canvasback, *Aythya valisineria*; Redhead, *Aythya americana*; and Ringneck Duck, *Aythya collaris*. Within most species reasonable similarity in weight and plumage development occurred between individuals; but in Blue-winged Teal some individuals at five weeks were completely feathered and weighed over 300 grams, while others were still predominantly downy and weighed less than 230 grams. A synopsis of observations on growth and plumage development from one day to six weeks is presented in tabular form. From these data five age classes are suggested for aging broods in the field, but field tests are needed before the system can be generally accepted.—Helmut K. Buechner.

**48. Sex and Age Studies in Fall-Shot Woodcock (*Philohela minor*) from Southern Wisconsin.** Frederick Greeley. 1953. *Journal of Wildlife Management*, 17(1): 29-32. Various measurements on 209 Woodcock collected between 1946 and 1951 resulted in the establishment of one new criterion for distinguishing between sexes. The width of the outer three primary feathers was greater in the females, the average being 3.9 mm. for 29 females and 2.8 mm. for 5 males. Overlap occurred in five of these measurements. Aging by use of the ura of Fabricius is difficult in Woodcock because of the small size of the vent. The basal width of the oviduct was the only measurement that could be correlated with the presence or absence of the bursa. In 58 females with bursae the basal diameter of the oviduct was not over 1 mm., while 55 females without bursae had a basal oviduct diameter of 3 mm. or more. Three females without bursae had the small oviduct. Probing the bursa can be facilitated by tearing the anterodorsal lip of the cloaca with the fingers and rolling back both sides of the cloaca to expose the inner surface. Of 43 birds, 79 percent were correctly aged in this manner. This paper is a worthy contribution to new techniques.—Helmut K. Buechner.

**49. Gamebird Weights.** Arnold L. Nelson and Alexander C. Martin. 1953. *Journal of Wildlife Management*, 17(1): 36-42. Presented in this paper is a useful tabulation of the average and maximum weights of 80 species of birds, based on nearly 26,000 weight records in the files of the U. S. Fish and Wildlife Service.—Helmut K. Buechner.

**50. Intestinal Morphology of Gallinaceous Birds in Relation to Food Habits.** A. Starker Leopold. 1953. *Journal of Wildlife Management*, 17(2): 97-203. Comparative measurements of 107 specimens representing 20 species showed that the "average" grouse exceeded the "average" seed-eating galliform by 30 percent in length of large intestine, 28 percent in length of small intestine, and 136 percent in length of caecum. These data suggest that the long caeca and intestines of browsing galliforms are an adaptation to support the greater abundance of microorganisms required in the digestion of cellulose and the absorption of the resulting products.—Helmut K. Buechner.

#### SYSTEMATICS

(See also Numbers 28, 54, 61)

**51. On A Collection of Birds from Georgia and Carolina Made About 810 by John Abbot.** Erwin Stresemann. 1953. *The Auk*, 70(2): 113-117. The author concludes that specimens in the "Seiber" collection, deposited in the

Zoological Museum of Berlin University in 1812, were actually secured by John Abbot. Abbot lived in Savannah, Georgia, at about this time (1810) and Stresemann presents evidence along several lines to support his theory: (1) the localities (Georgia and Carolina without exception), (2) the species represented (*Aimophila aestivalis* and *Vireo solitarius* are included.) (3) the vernacular names (appear to be compatible) and, (4) the period (1811) and place (London) of sale.

On the basis of this evidence the recommendation is made to restrict the type locality of *Aimophila aestivalis*, *Cistothorus stellaris* and *Regulus regulus satrapa* to "Vicinity of Savannah Georgia."—J. C. Dickinson, Jr.

**52. Hybridization in the Purple Grackle, *Quiscalus quiscula*.** Charles E. Huntington. 1952. *Syst. Zool.*, 1: 149-170. The author has re-examined the perplexing problem of the two major grackle races, *Q. q. quiscula* and *Q. q. versicolor* and the intermediates between them. Four approaches were used: 1. ecological factors, 2. statistical examination of the relation of beak and wing length to latitude, 3. behavior of individual birds in mixed breeding colony, 4. examination of returns of banded birds.

In Louisiana there does seem to be some ecological separation of *quiscula*, *versicolor*, and *stonei*. Elsewhere the species is so adaptable or ecologically tolerant that no firm conclusions can be drawn. At this point a comment on an ecological term may be in order. The author uses *euryecous* which seems equivalent to the phrase "ecologically tolerant." Ecology has undoubtedly suffered from a plethora of technical terms whose meanings are inapparent. In fact, I have found no other employment of *euryecous*. Allee et al. in "Principles of Animal Ecology" use *euryokous*. Neither word is constructed in the tradition of *monoecious* and both conceal the meaning of the last part of the word. Why not use more plain language in ecology?

It is concluded that wing length varies with latitude while culmen length varies inversely with latitude. The reviewer agrees that the available data only justify fitting one best line over the whole span of latitude but more data might show evidence for division of the best line into differing segments. One would interpret certain statements on pages 154 and 155 as meaning that the intermediates have absolutely larger wings and beaks than have the putative parent forms. However, figures 1 and 2 show that, at the most, these features are merely larger than one would expect from the regression lines. Hence heterosis is a minor phenomenon, if present at all.

The reviewer agrees with Huntington as to the probable hybrid origin of the intermediates but suggests another line of argument. The existence of several head and back colors seems to show that the colors are polygenic in origin. The interchange of individuals between one panmictic population and another is likely to be small. Those populations which were hybrid to begin with will remain so. The Hardy-Weinberg rule shows that the number of stable distributions of alleles and, hence, of phenotypes is essentially infinite. Any stable distribution, once attained, can be altered by population interchange or by selection. Both interchange and selection pressure operating on the characters studied appear to be low over most of the species' range. The attainment of a single distribution of phenotypes throughout the species will be very slow, and if there is any selection pressure varying geographically it will never occur. The weight of evidence favors the conclusion that at least several sets of values of the characters do occur as stable arrangements. Map 2 shows that the author is able to distinguish seven average values. He does not discuss the distribution of values of any character within a breeding colony except for a Hamden, Connecticut, colony which showed no evidence of sexual selection or reproductive isolation of back color. The colony is stated to be mixed. This is true for back color but does not prove genealogical mixture. A study of a number of colonies over a period of years might well be the next order of business.

Huntington concludes from the returns of banded birds that there may have been changes in the wintering grounds of some breeding populations and that there may be considerable interchange between populations. A close look at Table V shows that the birds of the NE and SE regions taken together keep to themselves. In all cases the greatest inter-regional movement is to the region north or south of the region of banding. The analysis would have been greatly

proved if winter banded birds were distinguished from those banded during the breeding season, and if the regions had been defined physiographically rather than by political boundaries. No statement is made as to any interchange by own breeding birds.

The author extends the range of *quiscula* farther north and west in Georgia and correspondingly narrows the range of *stonei*. His practical answer is to retain *versicolor* and *quiscula* as subspecies, and to use *stonei* and *ridgwayi* as convenient names for intermediates but giving them no formal ranges as subspecies.

Chapman's view that *versicolor* and *quiscula* were each isolated during a glaciation and subsequently came together is accepted by the author. He seems to be correct in saying that the intermediates do not arise by hybridization of the two terminal forms at present. However, they may have in the past. The paper should be studied by all who wish some idea of the complexity of the subspecies problem.—  
H. Blake.

**53. Systematic Notes on some Philippine Birds.** Finn Salomonsen. 1952. idensk. Medd. fra Dansk naturh. Foren., bd. 114, pp. 341-364. Recent collecting in the Philippines by Hoogstraal, Rabor, Gilliard, Salomonsen, the collectors of the Philippine National Museum and others have revealed how much still is to be learned about the systematics and distribution of Philippine birds. During a three week stay in Manila Salomonsen studied various new collections of the Philippine National Museum and reports his findings on 15 species, including a new one, *Rhabdornis longirostris*, the Luzon representative of *R. inornatus*. Eight subspecies are described as new, some being rather thin (*Cinnyris, Sarcops*). In the birds of an archipelago the populations of most islands will be slightly different and one must be careful not to conceal the presence of the good subspecies, by naming too many of the slightly different populations.—Ernst Mayr.

#### FAUNISTICS

(See also Numbers 61, 63)

**54. Birds of the Nueltin Lake Expedition, Keewatin, 1947.** Francis Harper. 1953. *American Midland Naturalist*, 49(1): 1-116. Detailed account of observations and collections of birds in this region west of Hudson Bay from May 20 to Dec. 6, 1947. Short sections are devoted to physiography and vegetation, a list of plants, and comparative abundance of bird species. Notes on molt, weights, habitats, voice and many other subjects are given. Ravens, *Corvus corax*, were not numerous; quite a number get caught in fox traps and this "may have a fairly serious effect on the Raven population as a whole." Harris Sparrow, *Zonotrichia querula*, nestlings are covered with a "thin, fluffy, wide-spreading down" that stands "erect for nearly an inch, forming such a protective canopy over the callow nestlings (fig. 8) that only two or three black flies managed to crawl over their bodies while I watched, although my own clothes were simply covered with these scourges of the Barren Grounds" (p. 99). Its song consists of two notes on one key and three more on a different key. This is very different from my experience with wintering birds in Oklahoma, where in late spring songs might last for more than eight minutes, being given continuously like those of thrushes (*Condor*, 31: 57-61. 1939); apparently these came from young birds, being analogous to the warbling of young Song Sparrows, *Melospiza melodia*. The querulous "scolding" note, so characteristic in winter, is not mentioned by the author. The White-crowned Sparrow, *Zonotrichia nigrilora* Todd, and Gambel Sparrow, *Z. gambelii* are not considered conspecific by Dr. Harper as they "have shared a breeding territory hundreds of miles in extent" for many years "without becoming thoroughly amalgamated" (p. 103).—M. M. Nice.

**55. A Census of the Kirtland's Warbler.** Harold Mayfield. 1953. *The Auk*, 70(1): 17-20. The methods and results of a census of the total population of *Dendroica kirtlandii* are clearly presented. This interesting small (Mayfield's estimate is less than 1,000) population has been the subject of close scrutiny by Mayfield and Dr. Josselyn Van Tyne for a number of years. This report presents data that indicate: (1) a minimum area of 60 acres of otherwise suitable habitat is required for occupancy, (2) isolated pairs are exceptional—"colonies" the rule,

(3) the minimum height of jack pines (*Pinus banksiana*) which have been found with associated colonies of Kirtland's Warblers is between two and three feet, (4) Red pines (*Pinus resinosa*) are suitable for breeding areas if they approach jack pines in configuration, (5) Planted stands are acceptable. This is a thorough and concise report.—J. C. Dickinson, Jr.

**56. Origin and Status of the House Finch in the Eastern United States.** John J. Elliott and Robert S. Arbib, Jr. 1953. *The Auk*, 70(1): 31-37. The authors have provided an interesting and well documented account of the history of *Carpodacus mexicanus* in the New York area. Introduction was apparently "accidental" as the result of the release of caged birds in early 1940. The present breeding population is estimated at approximately 280 individuals. Dusky appearance of eastern specimens is attributable to sooting and it is concluded that they are typical representatives of *C. m. frontalis* from California.—J. C. Dickinson, Jr.

**57. Observations and New Records of Birds from the Biminis, North-western Bahamas.** Charles Vaurie. 1953. *The Auk*, 70(1): 38-48. Observations made during the summer of 1951 by Mr. and Mrs. Vaurie, and by C. M. Breder, Jr. in previous years, have resulted in the addition of 35 species to the list of forms previously recorded from the Biminis. All of the 79 species now recorded from these islands are listed with notes concerning distribution and density, ecology, behavior and predation, and human damages to tern colonies. The author is a little inclined to over-extend his data in interpretation of behavior—thus, some species are described as having a "confiding nature" and others credited with ability to recognize an insect net as "harmless." Vaurie has contributed valuable information with the additions to the known avifauna of these interesting islands.—J. C. Dickinson, Jr.

**58. The Status of the Cattle Egret, *Ardeola ibis*, in the Eastern Cape Province.** C. J. Skead. 1952. *The Ostrich* 23(3): 186-218. In recent times the Cattle Egret, *Bubulcus ibis*, has been increasing in numbers in South Africa. Skead presents much detailed information on the change in status in Cape Province east of the 24°E meridian. Few were noted before 1900, and the first breeding record was in 1910. In the 1930's observations of individuals rose rapidly, with additional breeding records. The increase continued after 1940, and now thirty breeding colonies are known, the largest with 2,000 individuals.

Nesting and roosting habits, cross-country movements, and evidence of migration are reviewed, but no conclusions are reached regarding the reason for the increase or the direction from which the birds came. Skead points out that the Cattle Egret has been found in northern South America since 1937, and that it was twice recorded in the eastern United States in 1952.—Hustace H. Poor.

## SONG

(See also Numbers 54, 67)

**59. Secondary Song: a Tentative Classification.** M. D. Lister. 1953. *British Birds*, 46(4): 139-143. The author calls "primary song"—"the normal loud specific song" and classifies all other song as "secondary" under four subdivisions. "Whispering song" covers the ultra-quiet versions of the primary song with "an audibility limit of no more than about 20 yards." "Sub-song" is "very quiet inward rendering of song which is intrinsically different from the primary song"; it may consist of a "random, *sotto voce* warbling." "Rehearsed Song: The random utterance of song-notes by young and sometimes old birds before they have attained perfection in the primary song." "Rehearsed Song" seems to me a most inadequate term for the developing songs of young birds; the author's suggestion of "exploratory song" is better. The fourth category is "Female Song."—M. M. Nice.

**60. Dawn Chorus, April 13th.** Noble Rollin. 1953. *Dawn Song and All Day*, 1(8): 74-82. Fifteen observers from five contingents from lat. 57° N. lat. to 45° S. lat. sent in reports on dawn song, times being given in Local Apparent Time; the reports are listed and summarized in a chart showing the start of



singing of different species in relation to the sun's position below the horizon. Singing started distinctly earlier in the Northern Hemisphere than in the Southern, where it was fall. Yet the date was too early in the season for very early singing in North America. Thrushes (*Turdus*) typically begin singing when the sun is between 12° and 6° below the horizon.—M. M. Nice.

### BOOKS

**61. Birds of Mexico.** Emmet Reid Blake. 1953. University of Chicago Press, xxx + 644 pp. \$6.00. Because of my own great interest in Mexican birds and in books concerning them, I have examined "Birds of Mexico" avidly, paying special attention to the terse descriptions, the common names, the well worked out keys, the highly useful paragraphs titled 'remarks,' and the 329 drawings by Douglas E. Tibbitts. There is great satisfaction in having in hand, at last, a good book on Mexican birds, complete yet of convenient size for the field. A wise use of asterisks makes instantly clear which of the 967 species discussed are resident, which transient, etc.

I have two comments concerning the subject matter in general. First, a far greater number of distinctively Mexican birds should have been figured. Excellent pictures of at least 20 of the 23 charadriiform birds illustrated already exist in available guides, and the space used for these, as well as for drawings of most of the ducks and warblers, might well have been devoted to 'endemics.' Book-makers insist on scattering illustrations throughout a work, to be sure, but here the major purpose surely was to inform, not to beautify. Second, less space should have been given to descriptions of well known United States birds. Not only would this have reduced the size and cost of the book; it would have placed more emphasis on the less familiar birds. Perhaps I am wrong in believing that most users will be fairly well-informed about United States birds. Take, for example, the Eastern Wood Pewee. In my opinion this species should have received far less space than the Tropical Pewee (*Contopus cinereus*), and the writeup under *C. cinereus* (p. 352) should have stressed the fact that, *morphologically*, *C. virens*, *C. richardsoni* and *C. cinereus* are virtually indistinguishable, even in the hand. As for the songs of the three forms—that is another matter. For all I know at this writing, *C. cinereus* may be instantly distinguishable from its song, just as, *inter se*, *virens* and *richardsoni* are. My point is that the author might well have stressed this need for further information.

Obviously enough, no writer of a field guide can be expected to discuss the mannerisms or callnotes of a species known from a grand total of two museum skins. Some Mexican birds have, however, been seen and studied by many. No one who has lived with the Tawny-collared Nightjar or Salvin's Whip-poor-will (*Caprimulgus salvini*) can ever forget its sprightly *chip-willow* song, and many a bird student new to Mexico might be led directly to the bird through mention of this song. No one who has observed the Vermilion-crowned or Social Flycatcher (*Myiozetetes similis*) will ever forget its way of spreading and fluttering its wings while cheeping like a lost barnyard chick. The Tufted Flycatcher (*Mitrephanes phaeocercus*) can be recognized at great distance by its nervous wing-flicking and curious little song. The Sulphur-bellied Flycatcher (*Myiodynastes luteiventris*) and Streaked Flycatcher (*M. maculatus*) are, according to my experience, not at all easy to tell apart in the field. I well know the characters by which each can be identified in the hand, but I long to learn more about *behavior differences* between them. These Blake does not discuss. While we are speaking of flycatchers: the drawing of the Great Kiskadee (p. 246) seems to me a little too heavy-billed for that species. Drawings side by side of the Great Kiskadee and Boat-billed Flycatcher (*Megarhynchus pitangua*) would, in any event, have been very helpful.

When, a few years ago, I prepared the appendix for my own book, "Mexican Birds" (1951), I labored long over common names. The problem was, and continues to be, difficult. Some birds are virtually unknown, even though they have been collected many times. Too, there is a difference of opinion as to whether a given form is a "full species," and search for a common name which may, eventually, not be used at all seems little short of stupid. Thirdly, we have the hopelessly inadequate names already in wide use. Blake has, I know, carefully

considered *all* common English names ever used for Mexican birds. Certain of those first used by me he has adopted. Among wholly new ones proposed by him, the following seem a distinct improvement over any I have ever heard: Brown-hooded Parrot for *Pionopsitta haematosis*; Gray-collared Cotinga for *Pachyramphus major*; Red-capped Manakin for *Pipra mentalis*; Giant Wren for *Campylorhynchus chiapensis*; and Melodious Blackbird for *Dives dives*. On the other hand, I do not like Pale-billed Woodpecker for *Phloeocastes guatemalensis*, because the word pale does not in any way fit this tough, dynamic creature; Southern House Wren for *Troglodytes musculus*, because 'House Wren' too clearly connotes *T. aëdon*; Tropical Parula Warbler for *Parula pitayumi*, because 'Parula Warbler' connotes *P. americana*; Yellow-carpalled Sparrow for *Aimophila petenica*, because the word 'carpalled' is too pedantic and the yellow of the carpal region is neither noticeable nor distinctive; Greater Road-runner for *Geococcyx californianus*, because 'Road-runner' is enough; and Olivaceous Cormorant for *Phalacrocorax olivaceus*, because, despite the scientific name currently in wide use, the bird is not olivaceous in any plumage or plumage-stage. Blake has used my own name Brown-capped Flycatcher for *Myiarchus tyrannulus*. This is not a very good name; we should find a better.

Some persons argue that we should not bother ourselves about common names. "Stick to the scientific names and go ahead with your science," they say. "Let the 'bird-listers' call *Aulacorhynchus prasinus* the Green Bird, the *Pájaro Verde*, or the Emerald Toucanet, as they will." To this I reply: Common names should, whenever possible, be chosen with care, for they can become a cherished part of human life. Not that good common names are always strictly accurate. Bullbat and Nighthawk both seem to me excellent names for *Chordeiles minor*, yet the bird is neither a bat nor a hawk. Mexican birds are now, at this very moment, becoming part of our national life through the names we give them. Through such a beautiful and apt name as José María (for *Contopus pertinax*) we learn a little Spanish. We learned Chachalaca for *Ortalis vetula* long ago. Let us not belittle the importance of finding the right common names.

Blake's summaries of subspecies are useful. They treat largely of distribution rather than of morphological characters. A few scientific names are misspelled. Students who plan to use the book for reference should change *hyperonica* to *hyperonca* (p. 27), *asperus* to *aspersus* (p. 213), *merrelli* to *merrilli* (p. 229), *unirufus* to *unirufus* (p. 315), *pumilio* to *pumilo* (p. 381), and *effuticus* to *effuticus* (p. 417).

An error on p. 196 should be corrected. The bird figured there is the Orange-fronted Parakeet (*Aratinga canicularis*), not the Orange-chinned Parakeet. A more subtle error is that on p. 223, where the Pygmy Owl (*Glaucidium gnoma*) is called the Northern Saw-whet Owl. A somewhat misleading illustration is that of the plunging Lesser Nighthawk (p. 227). *Chordeiles acutipennis* occasionally dives for an insect, but the person who does not know Mexican birds might easily assume that the bird in the background is booming, and booming is something the Lesser Nighthawk does not do. *Chordeiles minor*, not *C. acutipennis*, is the boomer.

Despite the errors, to which I may have given more space than they merit, I greatly admire the book. From it I am learning much—e.g., that the eyes of the Bent-bill (*Oncostoma cinereigulare*) are white, a fact I did not know when I illustrated that species in my own book! Tibbitts's drawings have sparkle, and his technique of suggesting the habitat is often highly successful. Much of Blake's text, especially that under 'remarks,' is extremely good. May "Birds of Mexico" have the popularity and long use it deserves.—George Miksch Sutton.

**62. The California Condor.** Carl B. Koford. 1953. Research Report No. 4, National Audubon Society. New York. 154 pp. \$3.00. This impressive monograph with its 31 splendid photographs is the result of three years of field work—from March 1939 through June 1941 and from February to July 1946—with an additional year devoted to writing up the findings. The population of *Gymnogyps californianus* is reduced to about 60 individuals, a figure at which it apparently has remained for 30 years. It takes 14 months for a chick to reach independence and five to six years to reach adult plumage. Two captive birds lived 35 and about 40 years respectively. The author calculates that in order to keep up its

numbers the annual survival rate must be between 90 and 95 per cent. With such a small population and such slow reproduction—one egg (not replaced if taken) laid every other year after maturity is reached, the Condors are in a precarious condition. "The prevention of the death of a single condor or of the failure of a single nest may mean that the population will show an increase rather than a decrease for that year," (p. 23).

A thorough coverage of life history topics is offered with detailed observations on "general activities," on feeding, flight, breeding, behavior of young, conservation, and many other subjects. Everything in condor life moves slowly: parents lay incubate for 24 to 46 hours at a stretch (p. 147) and feed the young once or twice a day; the chick stays in the nest 20 weeks, then spends 10 weeks out of the nest before it can fly and is still more or less dependent on its parents for food for 30 more weeks—a total of 60 weeks from hatching to independence, (p. 87). The author correlates five stages of feather development of the young with corresponding stages of parental care, saying: "These stages correspond approximately with the five stages in the psychological development of passerines recognized by Nice (1943:14)," (p. 111). The Song Sparrow, however, develops 5 times as fast as the condor. Mr. Koford was not able to determine the incubation period; he found it was "at least 42 days," but in view of the very slow development of the young bird, I would expect it to last about 56 days, the period of incubation of the South American Condor, *Vultur gryphus*, whose egg weighs about 9/10 as much as that of our bird. I hope people will not overlook the "at least" and jump to the unwarranted conclusion that our condor's incubation period is 42 days. Such mistakes have been all too common in the past.

As to conservation, "In all, approximately 200 condors or their eggs have been taken as specimens," (p. 130). "The collection of eggs and young of condors in the past, especially around 1900, is sufficient to account for a significant decrease in the population," (p. 85). The author discusses mortality factors, various suggestions for artificial feeding of wild birds, and raising in zoos, but decides the greatest hope for the survival of this remarkable species is protection from disturbance by man.

It would have been of much interest if Mr. Koford had compared the South American Condor with ours, telling of its present status and of the development of the young, many of which have been raised in zoos. The chief criticism that can be made relates to the almost total lack of summaries. There is no summary of the whole work, no index, and brief, generalized, inadequate "summaries" for only four of the 14 chapters. This deficiency detracts seriously from the usefulness of this notable volume.—M. M. Nice.

**63. The Birds of Crater Lake Park.** Donald S. Farner. 1952. University of Kansas Press, xi—187 pp., 16 figs., map, paper covers. In this publication Dr. Farner gives us a full account of all the birds known within the 250 square miles embraced within the boundaries of Crater Lake National Park. The area extends on the yellow pine belt at 4,000 feet elevation on the east slope of the Cascade mountains up to the white-barked pines on the Crater rim to an altitude of 8,900 feet, thus both the eastern slopes and the western humid belt are included. Most of the birds are forest types and their habitats are well described.

The status of each species is given, with notes on its abundance, habitat and areas of occurrence. Notes on nesting, food, and behavior are given when available. An excellent feature is a list, with data, of specimens taken within the park, and locations where they are available for study.

The first notes available on the birds of this park were made by Major Charles Bendire on July 27, 1882. Since that time many ornithologists have visited the area and published a few fragmentary notes. Dr. Farner has brought all available data together, including his personal investigations and the notes compiled by the ranger-naturalists working within the park. The result is an excellent summation of the ornithology as known at present. This work will serve as an excellent guide to all visitors interested in birds, not only in the park but for the greater Cascades of southern Oregon. Stanley C. Jewett.

**64. The Biology of Birds.** Harry W. Hann. 1953. Edwards Bros. Ann Arbor, Michigan. 153 pp. \$2.72. A condensed survey, embodying results of

many of the latest researches. Fifteen main topics are treated, such as morphology and physiology, flight, migration and homing, breeding cycle, longevity, distribution, conservation, etc. There are nine plates illustrating anatomy, life zones and biotic communities; a 12 page bibliography, and a detailed index. The author attempts to cover a vast field; he tells a little of the history of each topic, and gives credit for most of the statements quoted. Consequently, despite omissions which could hardly have been avoided in a book of this size, he has presented a useful compendium of much up-to-date information. Considerable attention is paid to the question of social parasitism, to which subject Dr. Hann himself made a notable contribution in his study of the egg-laying habits of the Cowbird, *Molothrus æer*, in nests of the Ovenbird, *Seiurus aurocapillus*. It is strange to find him repeating the old story of the Cowbird's promiscuity (pp. 59, 90), when Amelia Laskey (1950. *Wils. Bull.*, 62: 157-174) in her very fine study of color-banded individuals determined that this species is monogamous, the dominant male being mated to the dominant female. This paper is included in the bibliography, but an error is made in the date.—M. M. Nice.

**65. A Guide to Bird Watching.** Joseph J. Hickey. Illustrated by Francis Lee Jaques. 1953. Garden City Books. New York. \$1.98. Reprint of the original 1943 edition. Delightfully, yet carefully and accurately written, this volume presents in appealing detail the various aspects of ornithology, describing them in a manner to bring to the surface latent interests the reader may well be unaware he possesses. The author commences with a brief explanation of nomenclature, but fails to explain the why of binomials and trinomials or to point out, for example, that a bird such as the Cairns's Warbler is merely a form of the Black-throated Blue Warbler. He introduces the reader to the art of field identification, the keeping of records, notes on behavior, and other pertinent subjects. In turn, chapters take up migration in its various aspects, the technique of counting or estimating the number of birds in a flock, and the broad subject of ecology. The final chapters are devoted to bird banding and to the constructive applications of bird watching. Appendices include a study of bird tracks based on the work of Charles A. Urner, illustrative breeding-bird censuses, an outline for compilation of a life history, an annotated list of bird books, and a list of bird clubs in the United States and Canada.

Throughout, the author emphasizes the innumerable opportunities for constructive work and gives appropriate references to the literature listed in the appendix. His associations are the New York region and the numerous incidents and episodes he mentions give added charm to the text, at the same time serving well to drive home various points. Noteworthy are his oft-repeated warnings of the weaknesses and dangers inherent in sight identifications. Owing, possibly, to the author's background, undue weight is placed on migration as compared with the potentials of studies of local summer or winter populations. Being a reprint of a volume now eleven years old, not only is the section on bird-banding badly outdated, but many books on other subjects have been published that would most certainly be included in a revised appendix in a revised edition. For the type of reader involved, these defects are not of major importance.

National in scope as this volume could and should be, the flow of anecdotes rather local in nature must necessarily lose much of its force among readers distant from New York City, and even in that area today when some of the individuals referred to may be unknown to a younger generation. From the national viewpoint, mention of a number of mid-western, Rocky Mountain and far-western species would have afforded better balance to an extremely worth-while book. Quite properly, for the New York region, the National Audubon Society is stressed. To find, though, as on pages 17 and 18, a discussion of the "A. O. U.", then only five lines on the Wilson Ornithological Club and the Wilson Bulletin, a lengthy description of the National Audubon Society and its activities, but no mention at all of the Cooper Ornithological Club, is a bit surprising.—Wendell Taber.

**66. A Zoologist in the Steppes and Forests of Patagonia.** (Als Zoologe in Steppen und Wäldern Patagoniens.) Hans Krieg. 1951. 2nd ed. Bayerischer Landwirtschaftsverlag. Munich. 194 pp. DM 14.80. A very interesting account

of the ecology of the animals in this inhospitable land as studied in 1938. On the steppes the animals have to adapt themselves to aridity, sudden changes of temperature and almost constant wind; the birds adjust to the last condition in two ways—some specialize in flight to utilize the wind, while others avoid it by staying in thick bushes and on the ground. Most of the birds, even a small parrot, *Cyanolyseus patagonicus*, are more or less sand-colored (p. 77) and ground-living birds of many different kinds have a protective operculum over each nostril, apparently as a protection against the dust. Very different were the birds in an irrigated region on the Rio Neuquén where orchards were protected from the wind by rows of Lombardy poplars. Strangely enough, this rich environment lures the communally-nesting cuckoo, *Guira guira*; they breed here, but most of them perish in the cold nights; yet more arrive from the north each spring. This species has become over-abundant in central Argentina. The males of both Rheas, *Rhea americana*, *Pterocnemia pennata*, were seen with young of markedly different ages, one of the latter leading a troop of 40.

"Never had I seen a country," writes Dr. Krieg of the great sheep estancia "El Condor," "that was so rich in birds of prey as this and nowhere else such beautiful birds of prey." He then enumerates 15 species (p. 126). "They are all much less shy than in Europe." No one bothers them; the people have no interest in any animal they cannot eat. The abundant and fearless Magellan Geese, *Chloëphaga picta*, are disliked by the sheep-herders, but are not shot, as ammunition is expensive, but great numbers of their eggs are eaten.

The rain forests of Nahuel Huapi are wonderfully beautiful, but poor in animal life. The two species of deer are endangered through overshooting by the natives, and disease brought in by feral cattle. Foreign mammals have already been introduced into Patagonia with unfortunate results—European hare, elk and wild boars, yet the authorities are planning to continue introductions into this national park. The final chapter is devoted to a resumé of the geological history of South America and the probable origin of its fauna. There are 45 photographs and an index. Most noteworthy are the delightful and telling sketches by the author, several of them in color.—M. M. Nice.

**67. Birds as Individuals.** Len Howard. 1952. Collins, St. James Place, London. 223 pp. Miss Howard is one of those rare individuals with a gift for taming wild birds; she is friend and hostess to Great Tits, *Parus major*, and Blue Tits, *P. caeruleus*, Robins, *Erithacus rubecula*, and Blackbirds, *Turdus merula*. The titmice fly freely in and out of her house, feed from her hands and sleep in boxes over her bed. Eric Hosking's photographs show her birds on her furniture, her shoulders and her hands. None of the tits seems to be banded, although at least one Robin carried a ring; she distinguishes the birds by slight differences in appearance and voice, but it is remarkable how she can keep track of large numbers of titmice from earliest youth to old age. She found amazing individuality in character among her birds. Some of her tales are truly astonishing, but we must remember that her subjects have a very unusual environment offered them by the author, and that as a result they show unsuspected reserves of response. In the same way a woodchuck or prairie dog in nature has a rather meager environment, but both these animals when hand-raised and given their liberty indoors and out may show surprising intelligence and originality. Although one may not always agree with Miss Howard's interpretations, the facts she relates give a new picture of the possibilities of behavior in the birds she watched. The last chapters deal with an analysis of bird song.—M. M. Nice.

## NOTES AND NEWS

*Bird-Banding* does not include a regular section on suggestions to contributors, for reasons of economy. In general, referring to previous issues will show how papers should be laid out for consistency with the rest of each issue. However, a few comments on tables and photographs may be helpful. Occasionally an author may refer to "the following table" or ask that a certain table or photograph appear on the same page with a certain part of the text. It is often difficult to arrange this, and it may be impossible. The best practice is to refer to each table or