

On the 65th try, the adult Veery dragged the young Cowbird from the nest and dropped it. Then the Veery flew heavily off with the nestling, settling to earth about ten feet from the nest. One more flight carried the birds out of my sight. At the time of removal, the young Cowbird weighed about 12 grams.

The fact that the Veery's attention was directed entirely to the leg with the aluminum band, rather than to the leg with the red band, makes it seem possible that the color of the band, being similar to that of a fecal sac, released a removal response in the parent. In connection with this, it is interesting to note that immediately after carrying the young Cowbird off, the Veery returned, looked the nest over, impaled the remaining egg (which at this time was three days overdue), and flew off with it. The bird then returned, looked in the nest (putting its head in the nest 13 times), and flew off.

The remaining Cowbird, and the young Veery, survived to leave the nest on July 14, aged ten days and nine days respectively.—Ormsby Annan, 270 Birch Street, Winnetka, Illinois.

(*Ed. note:* for other reports of similar conduct, see *Bird-Banding*, 25: 61, April, 1954, and the references cited therein.)

**Distinctions between the Connecticut and the Mourning Warblers.**—With the increase in the use of mist nets a larger number of warblers in winter plumage, both adult and immature, will come into the hands of banders. The Connecticut (*Oporornis agilis*) and the Mourning Warblers (*O. philadelphia*) are particularly confusing since females, and young, of these two species really show no color differences. There are, however, other and usable distinctions.

**Connecticut Warbler:** tail not longer than distance from bend of wing to tips of secondaries; ninth primary not longer than sixth; difference in length of wing (flat) and tail about 22 mm., wing (female) 67-72 mm., tail 47-49 mm.

**Mourning Warbler:** tail longer than distance from bend of wing to tips of secondaries; ninth primary longer than sixth; difference in length of wing and tail about 12 mm., wing (female) 55-62 mm., tail 43-50 mm.

Note that the tail is measured from the insertion of the middle feathers to the end of the longest feather.

MacGillivray's Warbler (*O. tolmiei*) is very similar to the Mourning Warbler. The two may even be conspecific. The difference between wing and tail is not more than 8 mm. (usually only 5 or 6 mm.). The tail of the female is 48-58 mm. long. See Phillips, 1947, *Auk*, 64: 296.—Charles H. Blake, Museum of Comparative Zoology, Cambridge, Mass.

## RECENT LITERATURE

### BANDING

(See also Numbers 16, 17, 18, 38, 50, 76)

1. **XVith Report on Bird-Banding in Hungary.** (A Magyar Madortani Intezet 1951-1953. Evi Madarjelölési XVI jelentés.) Kalman Warga. 1955. *Aquila* 59-62: 233-251. (English summary.) This, the first of three reports (see numbers 2 and 3 for the others) on postwar banding activities in Hungary published in this issue, presents the data for returns and recoveries of the "old type" rings received in 1952-53. The 262 records are distributed among 49 species, and though a few of them are of recent, postwar bandings with the old rings, most of them are prewar records that have just come to the author's attention, and are published here to present as complete a record as possible of the many data that were lost when the Institute of Ornithology at Budapest burned during the war. Most of the records are repeats and short-term returns in our sense, but the list contains a number of interesting recoveries, chief among them being a dozen or so of *Bombycilla garrulus* banded in Budapest in 1932 and 1933 and retaken within the next year or so in Poland, Norway, Finland, and the USSR. There are a number of Italian recoveries of various songbirds, and two Congo recoveries, one of a *Hirundo rustica*, the other of a *Muscicapa albicollis*, both prewar.—O. L. Austin, Jr.

**2. XVIIth Report on Bird-Banding in Hungary.** (A Magyar Madartani Intezet 1951-53. Évi Madarjelölési. XVII jelentés.) Dr. Imre Patkai. 1955. *Aquila* 59-62: 253-273. (English summary.) This intriguing story of the rebirth of banding in Hungary in 1951 is the first authentic account I have seen of how banding is accomplished in a Soviet satellite state. After the destruction of the Institute for Ornithology in Budapest during World War II and the tragic loss of all the banding records stored there (more than 1,000 recoveries from some 66,000 birds banded from 1933 to 1944), the "Hungarian explorers of bird-migration" managed to carry on from 1945 to 1950 with the few of the old series bands left on hand (see no. 1), and with "rings kindly given us by Swiss and Czechoslovakian brother-institutions." In 1951 a small group of 42 "voluntary cooperators" started a new banding scheme, and they had to do it from the ground up, starting with the manufacture of their own bands.

To us in this country, who never have to worry about our supply of bands—we simply send our postcard to Patuxent for what we need—the story is fantastic. This group of enthusiasts fortunately included a dozen or more planning-technicians, tool-makers, locksmiths, instrument-makers, and lathe-operators from local factories who designed and built the machines to manufacture bands for the group, and then went on "with the cooperation of the factory managers" to produce from "waste-material, entirely free of charge" enough aluminum bands in seven sizes to keep the program going. Reading between the lines, it has been an uphill struggle all the way, but the group has grown steadily. By 1953 it numbered 98 cooperators, who managed to band 2,392 birds in 1951, 5,639 in 1952, and 8,782 in 1953, a grand total of 16,813 birds of 146 species.

These are pitifully small quantities compared to our wholesale banding in this country, supported as we are by the wealthiest and most altruistically scientific-minded government in the world, but the program is already getting results. Though their long list of "returns" is padded with many retraps of no significance and short-term returns to the place of banding, the recovery percentages are consistently higher than those we obtain in this country. The 174 *Ardea purpuria* banded yielded 9 recoveries, and 1,293 *Larus ridibundus* 18 recoveries at the time of writing, among them reports from Italy, France, and North Africa.—O. L. Austin, Jr.

**3. Records of Birds ringed abroad and found in Hungary. XVIIIth Report on Ringing.** (Kulföldi Gyurus Madarak Kezrekerülei. XVIII Gyuruzesi Jelentes.) Keve Andras. 1955. *Aquila* 59-62: 275-285. (English summary.) The 107 Hungarian recoveries of foreign banded birds are distributed among 34 species, most of them water birds, and bearing bands from such famous ringing programs as Radolfzell, Rossitten, Göteborg, Viborg, Helgoland, and Bologna. Roughly half of them are pre-World War II recoveries, several dating to 1908-1914, the data resupplied by the ringers and published here to replace as completely as possible the records destroyed when the Budapest Institute for Ornithology burned down in 1945. Among the more interesting recent recoveries are 2 *Corvus frugilegus*, a *Sturnus vulgaris*, a *Buteo buteo*, and a half dozen ducks and geese from Russia, 3 *Larus ridibundus* from Lithuania, 1 from Warsaw, and 7 from Praha, Czechoslovakia (banding data not supplied); also 8 *Sturnus vulgaris*, 12 *Coturnix coturnix*, and a *Chlidonias niger* from Italy. It is encouraging to see some of this fine new material at last getting into print.—O. L. Austin, Jr.

**4. Results of the ringing investigation of migration instituted by the Royal Museum of Natural History, Leiden, 40 (1953), 2.** Resultaten van het ringonderzoek betreffende de vogeltrek, ingesteld door het Rijksmuseum van Natuurlijke Historie te Leiden, XL (1953), 2.) G. C. A. Junge and J. Taapken. 1955. *Limosa*, 28 (1-2): 1-27. This second half of the Netherlands banding report for 1953 (for the first see *Bird-Banding* 26:121) lists the raw data for some 390 returns and recoveries received in 1953 from 40 species of land birds (doves through the passerines) banded in the Netherlands, almost two-thirds of them (245) for the Starling. Most of the records are of birds taken in 1953 and banded within the preceding year or two, but there are a gratifying number of records of banded birds recovered several years previously, some as early as 1948, at long last being reported to the Museum, the bulk of them of

course from behind the Iron Curtain. Dutch banders ringed 23,378 birds of 152 species in 1953, 8,209 of them Starlings. I have suggested before that a study of the wealth of banding data on the Starling now available in the Netherlands will be most rewarding, and is long overdue.—O. L. Austin, Jr.

**5. Recoveries of birds banded abroad, 27.** (Terugvondsten van in het buitenland geringde vogels, 27.) C. G. B. ten Kate and J. Taapken. 1955. *Limosa* **28**(1-2): 30-44. Lists the raw data for some 365 Holland recoveries of foreign banded birds of 61 species received by the Leiden Museum since the publication of the last list in 1953 (*Bird-Banding* **25**: 153). Most of the recoveries are for water birds and raptors, but quite a few small passerines are represented. As is to be expected, most of the birds were banded north of Holland, in the British Isles, Scandinavia, and the Baltic shores, and taken on their first southward flight after banding. An *Anas crecca* from Latvia and 2 *Sturnus vulgaris* and 3 *Larus ridibundus* from Poland are the only ones from behind the Iron Curtain.—O. L. Austin, Jr.

**6. The Goteborg Natural History Museum's Banding of Migratory Birds in 1954.** (Goteborgs Naturhistoriska Museums Rinkmarkningar ar Flyttfaglar under 1954.) Viking Fontaine. 1955. *Sartryck ur Goteborgs Musei Arstryck*, 1955: 8-29. In 1954, 99 cooperators in Sweden marked 4,312 birds of 117 species, most of them passerines, with Goteborg Museum bands, bringing the totals since 1911 to 244,980 birds of 229 species. The details of some 250 recoveries and returns from 65 species are listed, also 5 Swedish recoveries of birds banded abroad.—O. L. Austin, Jr.

**7. The Ringing Scheme 1954.** R. Spencer. 1955. *Bird Study*, **2**(4): 201-203. British ringers banded a record total of 102,858 birds of 209 species and subspecies in 1954. Of the some 300 cooperators who accomplished this, 24 banded more than 1,000, 5 of these more than 3,000, and the largest single contribution, in excess of 6,000, was by the Skokholm Bird Observatory. Nine species were banded for the first time, two of which, *Geothlypis trichas* and *Turdus sibiricus*, were the first records of their species for Great Britain. Among the several noteworthy recoveries mentioned are a Manx Shearwater from Skokholm recovered 2 years later in Newfoundland, incidentally the second record of the species for that island. Longevity records include a 15-year Cormorant, "Arctic Terns retrapped on the Farne Isles 16, 18 and 19 years after ringing," and a Common Tern which reached the age of 25 years (a record age for the species—see *Bird-Banding*, **27**: 128-129).—O. L. Austin, Jr.

**8. "Loss of Rings."** 1955. *Bird Study*, **1**(4): 174, **2**(1): 44, **2**(2): 98-100, and **2**(3): 153. Letters from banders detailing their experiences with loss of bands by passerines show more colored celluloid bands are lost than metal B.T.O. rings, but report excessive wear on some of the latter within a year or two in several instances, and suggest that rings be made of a tougher metal. An announcement (**2**(2): 103) states that rings now "are being manufactured from aluminum of a harder temper, and ringers are advised to use pliers for all sizes. It is hoped that the greater hardness of the metal will insure longer life for the rings." A letter from Robert Spencer, Secretary of the Ringing Committee (**2**(4): 203) announces that "laboratory tests are being undertaken to assess the suitability of various alloys, and that small batches of experimental rings made from Monel (a nickel alloy) will be tried on certain species next year." (If I remember correctly, an experimental lot of monel bands the Fish & Wildlife Service had made for sea birds back in the early 1930's proved much too stiff for practical use. It was almost impossible to close them tightly, even with heavy pliers.) Robert Elmes reports (**2**(3): 153) on an unusual case of loss that may occur more frequently than hitherto suspected. On a Blackbird, *Turdus merula*, he trapped during a very cold spell, "Ice had formed between the B.T.O. ring and the leg, forcing the ring open. I warmed the ring in my hand and when the ice had melted the ring simply fell off, the gap being of ample size for the tarsus to pass through."—O. L. Austin, Jr.

**9. Bulletin of French Banding Stations.** (Bulletin des Stations Francaises Baguage.) Christian Jouanin, M. H. Julien, and J. Giban. Undated. No. 8 (1952-1953). Museum National d'Histoire Naturelle, Paris, and Centre National de Recherches Agronomiques, Versailles. The banding program run by the Natural History Museum in Paris has managed to operate continuously since its inception in 1930 despite World War II and the Occupation. The 176,000 birds banded in the 24 years through 1953 have yielded 1,686 "retakes." In the same period the Banding Service has recorded 2,152 recoveries in France of foreign-banded birds. This report states that 21,930 birds were banded in 1952 and 1953, but gives no details on species banded or cooperators. It lists the details for the 413 "retakes" reported during the 2-year period, scattered among some 78 species, most of them banded in France, quite a number elsewhere in Europe and in North Africa, and a few at Kerguelen Island. For each repeat (space is wasted on quite a few) and return, elapsed time between handlings is given, and for the recoveries the elapsed time, distance, and direction. The 100 or more returns and recoveries listed for *Passer hispaniolensis*, all banded in Morocco by the Crop Protection Service, show an intensive study has been made of this usually sedentary species, doubtless in connection with control measures, but which should yield excellent material for analysis of its population dynamics. Two most interesting recoveries are a *Diomedea exulans* banded as a nestling at Kerguelen and found dead a year later more than 8,000 miles westward in Chile, and an adult *Corvus frugilegus* banded in France 12 January and reported 50 days later from Livny, USSR, some 1,500 miles eastward.—O. L. Austin, Jr.

**10. Reconstruction of Heligoland Traps.** H. G. Brownlow, 1955. *Bird Study*, 2(2): 86-87. Useful suggestions for giving longer efficient life to these large, expensive traps, and thus reducing maintenance costs.—O. L. Austin, Jr.

**11. Improved Technique in Goose Trapping with Cannon-type Net Traps.** Lewis B. Turner. 1956. *Journal of Wildlife Management*, 20(2): 201-203. Presents many useful suggestions based on 5 years of experience with the Dill cannon-type net.—Helmut K. Buechner.

**12. Radio-controlled Firing Device for the Cannon-net Trap.** Jack R. Grieb and Mitchell G. Sheldon. 1956. *Journal of Wildlife Management*, 20(2): 203-205. The technique described here eliminates wire from trapline to blind and also the need for a blind, since firing can be accomplished from any line-of-sight location.—Helmut K. Buechner.

**13. Large Traps for Catching Quail.** Lyle K. Sows and Lynn A. Greenwalt. 1956. *Journal of Wildlife Management*, 20(2): 215-216. Comparison of catches in the standard Stoddard trap (1 by 3 by 3 feet) and larger traps (3 by 3 by 6 feet) in 460 sets and a catch of 3,631 Gambel Quail (*Lophortyx gambeli*) showed the latter to be more efficient. Small traps caught more than 2 birds only 9.6 percent of the time, whereas the large traps caught more than 10 birds 40.7 percent of the time.—Helmut K. Buechner.

**14. Plastic Neck Markers for Woodcock.** Claude Z. Westfall and Robert B. Weeden. 1956. *Journal of Wildlife Management*, 20(2): 218-219. Plastic "bowtie" markers, which have been successfully used with gallinaceous birds, proved of great value in studying Woodcock (*Philohela minor*) behavior on the breeding grounds. Specifications are given.—Helmut K. Buechner.

## MIGRATION

(See also Numbers 9, 51, 52)

**15. The Migratory Phase of Robin Behaviour.** J. Murray Speirs. 1956. *Bulletin Federation of Ontario Naturalists*, no. 72: 20-27. In winter Robin flocks are associated with patches of persistent fruits, and with plentiful food the birds can withstand considerable cold. Maps showing weather conditions 20 January, 1940, during a cold spell, and 5 February during a warm spell are

accompanied by maps showing the southward trend of *Turdus migratorius* populations from 15 to 25 January, and the northward trend from then to 10 February. "The spring migration is not a continuous, uninterrupted movement to the north but . . . southward shifts occur when cold, snowy weather is encountered." As to daily rhythms, "At dusk throughout the year robins tend to stream to the local roost, wherever they may be. Even in the midst of the nesting season male robins go to roost. At the roost they give up their exclusive territorial behaviour and for a time exhibit the tolerant flocking behaviour of the migratory phase."—M. M. Nice.

**16. The Migrations of British Chats (*Oenanthe*, *Saxicola*, *Phoenicurus*) as Shown by the Results of Ringing.** A. Landsborough Thomson. 1956. *British Birds*, 49(2): 63-73. Recoveries ranged from 0.6 percent with the Whinchat, *Saxicola rubetra*, to 1.9 percent for the Wheatear, *Oenanthe oenanthe*. A male Black Redstart, *Phoenicurus ochrurus*, was found nesting in his 6th year 31 miles from his birthplace. Most recoveries on migration have been in the fall from France, Spain and Portugal. Only the Wheatear has yielded recoveries from North Africa.—M. M. Nice.

**17. The Migration of the Coot in Relation to Britain.** R. G. B. Brown. 1955. *Bird Study*, 2(3): 135-142. Analysis of recoveries of *Fulica atra* banded largely in Holland, north Germany, and Britain shows the species generally migrates northeast-southwest on a broad front in western Europe, but there is a narrower, more restricted movement as well along the south Baltic, North Sea and north French coasts, from which some birds enter Britain both to winter and in passage. Too few data are available to interpret movement within Britain.—O. L. Austin, Jr.

**18. The Iberian Peninsula and Migration.** R. E. Moreau. 1956. *Bird Study*, 3(1): 1-25. An analysis of some 2,000 Spain and Portugal recoveries of banded birds of 125 species from the standpoint of their place of banding. Large numbers of northern European birds pass through the peninsula on route to Africa, and some winter there. The author notes that wintering birds, such as the Sparrowhawk, Robin, and Starling, may come from as far as the Gulf of Finland, but passage migrants, except for the Pied Flycatcher, do not come from so far northeast. Some wintering species tend to concentrate in particular parts of the Peninsula, and species populations from different countries tend to be segregated in different parts of the peninsula, thus demonstrating both site-tenacity and group-adherence. "Many passage migrants make a great deal of westing in autumn before they leave Europe, and more reach the extreme west of the Peninsula than would have been expected from the widespread nature of their wintering-grounds south of the Sahara."—O. L. Austin, Jr.

**19. Some Remarks on Birds Fallen at a Lightvessel in the North Sea.** (Nogle bemaerkninger om fugle, faldet ved et fyrskip i Nordsøen.) Harry Madsen and Knud Storgaard. 1955. *Dansk Ornithologisk Forenings Tidsskrift*, 49(4): 201-205. (From the English summary.) Comments on 317 birds of 9 species, mostly migrant passerines, picked up on a Danish lightship 70 miles west of Jutland in 1953 and sent to the Zoological Museum, Copenhagen. Many of them were evidently injured by striking the light or the ship's superstructure, but 139 landed on the vessel, thin, exhausted, and ill. A series of 28 Starlings that came aboard in poor condition in March and April showed an average weight loss of 30 percent. As examination showed no pathogenic microbes, "Their illness is most likely caused by drinking salt water, especially from the deck of the lightvessel, but probably also on their way across the sea. The exhaustion of the food reserves in the fat tissues and ensuing breakdown of cell proteins in metabolism were aided by this diarrhea caused by salt water drinking, thus resulting in the death of the birds."—O. L. Austin, Jr.

**20. The Autumn Immigration of the Greenland Redpoll (*Carduelis flammea rostrata* (Coues) into Scotland.** Kenneth Williamson. 1956. *Dansk Ornithologisk Forenings Tidsskrift*, 50(2): 125-133. (Danish summary.) Comments on the occasional appearance in passage at Fair Isle of large dark Red-

polls, the most recent in the autumn of 1955. The influxes frequently coincide with those of parties of southern Greenland Lapland Longspurs and Greenland Wheatears, and seem to be correlated with cyclonic flows of westerly winds across the North Atlantic. A series of 37 weight records of Greenland Redpolls obtained at Fair Isle shows they achieve "a considerable gain in weight" during their 9-10 day stay. "The fact that recuperation appears to be slow-starting suggests a physiological basis for the weight-loss, such as would be due to the exhaustion of fat reserves during a long overseas flight."—O. L. Austin, Jr.

**21. The Movements of Geese at Tipperne, W. Jutland.** (Saessenes traek til og fra Tipperne.) Hans Lind. 1956. *Dansk Ornithologisk Forenings Tidsskrift*, 50(2): 90-124. (English summary.) An analysis of the counts of geese made regularly from 1929 through 1954 by the keeper at the Tipperne sanctuary at Ringkøbing Fjord on the North Sea. The data are presented in charts and graphs which show quite clearly the seasonal movements and relative abundance of the three commonest species, the Grey Lag, Pink-footed, and Brent Geese. The author comments on the local distribution of these and the five other less common species of geese observed at the sanctuary.—O. L. Austin, Jr.

**22. A Case of Reversed Migration in April 1955.** (Ett fall av omvänd flyttning i april 1955. Meddelande nr 20 fran Ottenby fågelstation.) Bengt Danielsson. 1956. *Vår Fågelvärld* 15(1): 54-56. When a cold front from the NW arrived the morning of April 13 birds were observed flying southwestward towards the mainland of southern Sweden. These movements continued for more than 3 hours. Birds of 11 species (1,015 individuals) took part. Linnets (*Carduelis cannabina*) were most numerous (800), and set a record day count for the species at Ottenby.—Louise de K. Lawrence.

#### POPULATION DYNAMICS

(See Numbers 7, 25, 28, 29, 39, 66)

#### LONGEVITY AND MORTALITY

(See Numbers 7, 16)

#### NIDIFICATION AND REPRODUCTION

(See also Numbers 37, 40, 41, 44, 50, 51)

**23. Breeding Behavior of Jaegers and Owls near Barrow, Alaska.** Frank A. Pitelka, P. Quentin Tomich, and George W. Treichel. 1955. *The Condor*, 57(1): 3-18. Observations were made on the breeding behavior of the Pomarine Jaeger, *Stercorarius pomarinus*, Snowy Owl, *Nyctea scandiaca*, and Short-eared Owl, *Asio flammeus*, on the arctic coast near Barrow, Alaska (latitude 71° N). Nests included in the study area were: of the Jaeger, 30+ in 1952 and 80+ in 1953; of the Snowy Owl, 3 in 1952 and 7 in 1953; and of the Short-eared Owl, 28 in 1953. No nests of the Short-eared Owl were detected in the Barrow area in 1952. Discussed in some detail are habitat, breeding schedule, pairing display, territoriality, and distraction display. All three species were apparently dependent on Lemmings, *Lemmus sibiricus*, for food for themselves and their young. Lemmings were more abundant in 1953 than in 1952 in the Barrow area. Clutch size of the Pomarine Jaeger was not found to exceed two eggs. This correlates well with the observation that breeding birds of both sexes showed two distinct, bilaterally placed brood patches, each large enough to accommodate one egg. Pairs were found to be distinctly territorial rather than colonial in habit. In the Short-eared Owl the period of incubation was determined to be approximately 28-30 days, with the female alone doing the incubating. In one nest the period of incubation was extended to at least 37 days. In this case the fifth egg hatched late on the 37th day or on the 38th day (personal communication with senior author). The nesting cycle of the Pomarine Jaeger was found to last 10 or 11 weeks, in the Short-eared Owl, 11 or 12 weeks, and in the Snowy Owl about 13 to 15 weeks. The ecological relations between these three predators and the Lemming are reported by the same authors in another paper (*Ecological Monographs*, 25: 85-117).—L. Richard Mewaldt.

**24. Annual Cycle in a Population of California Quail.** Richard E. Genelly. 1955. *The Condor*, 57(5): 263-285. For 3 years (1950-53) individually banded and marked California Quail, *Lophortyx californica*, were observed on San Pablo Ridge, in Contra Costa County, California. Courtship and pairing, which begin in late February or early March, result in a monogamous bond which lasts through the nesting season. In 29 pairs whose age composition was known, 13 1st-year males mated with 11 1st-year and 2 adult females, while 16 adult males mated with 8 1st-year and 8 adult females. Threatening and fighting, which occurs between individuals in all seasons, was correlated to defense of mate from February to July, defense of territory from March to June, defense of young from June to September, and to position in peck order from July to February. During the breeding season, unmated males appeared "primarily concerned with keeping in close company with paired quail, especially the females" and were usually intolerant of other unmated males.

A few data on the testis cycle (21 specimens from March through July) reveal rapid increases in size in early March to maximum size in late April, May, and early June, and then down to minimum size in late July. The annual molt lasts from June to October and begins about a month sooner in males than in females. The monthly mean weight for males was higher from December to March than during the rest of the year. In females, one weight peak parallels that in the male, but another greater peak in weight occurs during the breeding season. A lag in weight increase during the breeding season in 1st-year females is consistent with the observation that they lay their eggs somewhat later than do the adults.—L. Richard Mewaldt.

**25. Population Structure in Salt Marsh Song Sparrows. Part I. Environment and Annual Cycle.** Richard F. Johnston. 1956. *The Condor*, 58(1): 24-44. The author studied the non-migratory Salt Marsh Song Sparrow, *Melospiza melodia samuelis*, from 1950 to 1955 on San Pablo Salt Marsh on the edge of San Francisco Bay at Richmond, Contra Costa County, California. Tides there reach two highs and two lows daily, and fluctuate most between springs and neaps in December-January and June-July, least in March and in September. Tides high enough (6.4 feet plus) to flood nests occurred on from 14 to 20 percent of the 100± days of each of three breeding seasons (1952-54). These high spring tides, which are more common as June approaches, almost always destroy the eggs and nestlings less than 8 days old; older nestlings escape by climbing the vegetation above the nest. The moult date of first clutches of the salt marsh birds is 28 March, about 2 weeks earlier than for Song Sparrows nesting in near-by uplands. This is apparently an adaptation to take advantage of the lower spring tides of March and April.

He banded 287 birds, mostly nestlings, with the regular numbered metal bands and with colored bands. Males started setting up territories in late fall and winter, and by late February were fully territorial. He marked 48 territories involving 24 adult birds, and compared their positions from one breeding season to the next. Forty of these showed no change in location; the eight that moved shifted (center to center) an average of only 16 meters. The median distance of dispersal for 34 banded nestlings establishing their first breeding territory was 185 meters between extremes of 30 and 960 meters. He suggests that the "limited adult movement and restricted distance of dispersal of these Song Sparrows mark them as the most sedentary population of birds yet investigated."—L. Richard Mewaldt.

**26. Three Records of Male Mongolian Pheasants Incubating Clutches.** Vernon D. Semones and Charles G. Crispens, Jr. 1956. *Journal of Wildlife Management*, 20(2): 200-201. One of the cocks incubated a nest of 4 eggs for an undisclosed period in a 40-acre pen. Each of the other two incubated clutches of 3 eggs in 5-acre pens. One incubated for at least 14 days and the other for 8 days. Since only small, partial clutches were incubated and nests were abandoned short of the full incubation period, little biological significance in terms of population dynamics can be attached to the observations.—Helmut K. Buechner.

**27. Studies of the Breeding Biology of the Kestrel in Copenhagen.** (Ynglebiologiske studier over Tarufalken (*Falco tinnunculus* L.) i København.) Carl Michael Petersen. 1956. *Dansk Ornithologisk Forenings Tidsskrift*. 50(2): 134-159. (From the English summary.) Regular observations on a pair of Kestrels nesting in a Copenhagen church tower reveal many interesting facets of their breeding behavior. The author comments on their occupancy and defense of territory, courtship, nest site, laying, incubation, and feeding habits. Of interest is the observed change of diet—until the young hatched the prey consisted exclusively of mice, but the young were fed principally on small birds. Also unusual was the bigamous behavior of the male who, while his first mate was laying, paired with a new female who nested in an empty hole in the wall a few meters away, laid a clutch of fertile eggs and abandoned them after 11 days of incubation.—O. L. Austin, Jr.

**28. British tits (*Parus* spp.) in nesting boxes.** David Lack. 1955. *Ardea* 43 (1/3): 50-84. (Dutch summary.) A detailed report of extensive nest box studies carried out from 1947 to 1953 by a group of observers under the supervision of the Edward Gray Institute, and based largely on the now classic researches of Dr. H. N. Kluyver in Holland, 1951 (see *Bird-Banding* 23: 130), Dr. Lack's analysis of the voluminous English data shows that though the breeding populations of Great and Blue Tits are higher in those habitats where food for the young is more plentiful, annual fluctuations in numbers are not related to annual variations in food for the young, but are possibly due to local differences in winter mortality. Laying in deciduous woods is so timed that the young will require food when caterpillars are abundant; the laying season and the emergence of caterpillars vary from year to year as much as a month, but always in parallel, both being correlated with spring temperature. Clutches average larger in rich deciduous woods than in poorer habitats, and tend to be larger in years when caterpillars are more numerous, usually in milder springs. Clutches are slightly smaller with higher population densities, but the effect is small in any one locality. The Coal Tit, adapted to conifers, lays earlier than the hardwood-inhabiting Great and Blue Tits, shows much smaller local, seasonal, and annual fluctuation in clutch-size, probably because caterpillars are common for a much longer period in the conifers, and has second broods more commonly.—O. L. Austin, Jr.

**29. The Breeding Habits and Food of Short-eared Owls after a Vole Plague.** J. D. Lockie. 1955. *Bird Study*, 2(2): 53-69. Describes the nesting and feeding of *Asio flammeus* during and after a decline in their principal prey, *Microtus agrestis*. These owls are strongly territorial and hunt only within their territories, which they defend stoutly against all intruders. Predation on the owls' eggs and young, mostly by foxes and crows, was very heavy. In the 24 nests with eggs studied, only 5 survived to hatch, and only 2 of these fledged their young. Scarcity of food evidently contributed to the nest mortality. In the one brood studied as the voles declined, the parents were unable to bring enough food for all the nestlings, and the two smallest (the last two to hatch) starved to death, while the third youngest was saved only by removing it before it became too weak and hand-rearing it. The author attributes the failure of several clutches to hatch to probable chilling of the eggs, because "the male was unable to feed the female adequately and she had to leave the eggs unattended while she hunted herself." Estimates of the vole population and the proportion of it taken by the owls suggest "that owls and other predators hastened the decline in the numbers of voles early in the spring when ground cover was low and the voles were not breeding. However, the failure of the voles to increase later in the summer, when they were producing young, is likely to have been due to factors other than predation."—O. L. Austin, Jr.

**30. Observations of two Nests of Grasshopper Warbler at Stora Tuna.** (Observationer vid två bon av gräshoppsångare (*Locustella naevia*) i Stora Tuna.) Sune Norström. 1956. *Vår Fågelvärld*, 15(1): 28-32. Late in August 1955 two nests of this warbler were found among rich vegetation in a bog and a meadow, respectively. Both nests were built on the ground and made of



grass stalks and fine grass blades. One contained 4 young and a fifth lay dead outside the nest; the other had 5 young and one addled egg. The parents foraged near the ground, fed one or two young at a time, and carried the fecal sacs away. The food seen was green larvae, snails, and flies. The adults were uncommonly unafraid. Once as the author was deleting the traces of his visit, a parent returned with food in its bill. Immediately it adopted the sleeping pose just above the nest, obviously a displacement activity released by the sight of the intruder. Then it attacked the observer's hand, pinching it hard with its bill as it uttered a high-pitched yelping note. This interesting reaction was recorded at both nests. Although this warbler is known as a night-singer, it was heard once singing at high noon in brightest sunshine.—Louise de K. Lawrence.

### BEHAVIOR

(See also Numbers 15, 23, 24, 27, 30, 38, 55, 65)

**31. The Nature of the Predator—Reactions of Waders towards Humans; with Special Reference to the Role of Aggressive-, Escape- and Brooding-Drives.** K. E. L. Simmons. 1955. *Behaviour*, 8(2-3): 130-173. A valuable, scholarly piece of work, with many sketches and photographs of different displays. "While the majority of escape patterns and displacement activities are also shown by non-breeding birds, demonstration, distraction-display, threat behaviour and attack appear only in reproductively motivated ones." This presentation of the subject lays a foundation through its "objective methods of investigation and interpretation"; "more precise work on individual species is now desirable."—M. M. Nice.

**32. Observations during the Raising of Young Herring Gulls.** (Beobachtungen bei der Aufzucht junger Silbermöve.) Friedrich Goethe. 1955. *Zeitschrift für Tierpsychologie*, 12(3): 402-432. Detailed records are given on the development of behavior patterns in 35 *Larus argentatus* hatched in captivity and raised by hand. Their power of flight matured between the 45th and 62nd day, with the 51st as the median. Much attention is given to vocal development; seven different calls of "chicks and juvenile gulls were interpreted phonetically and examined as to their function; the occurrence of the yodelling as threat-display corresponds chronologically with dominance." A valuable study.—M. M. Nice.

**33. The Significance of Some Behaviour Patterns of Pigeons.** Derek Goodwin. 1956. *Bird Study*, 3(1): 25-37. Careful, detailed observations on seven species both in the field and in captivity. Head shaking is a "response to stimuli that are (evidently) psychologically displeasing." "Nodding is derived from nest-building movements. It is shown when the bird intends to 'hold its ground' and may be either hostile or appeasing in context." Caressing is seen only within a family—between mates, or between young, or by parents to young. The male's "driving" of his mate occurs only when other males are present; its function is to prevent insemination of the female by a rival. Interference with copulating pairs is seen only in males; this behavior is ascribed to the same "behaviour-complex as driving."—M. M. Nice.

**34. The Amateur and the Study of Bird Display. Suggestions for Further Work.** Edward A. Armstrong. 1956. *British Birds*, 49(3): 97-106. In this day of professional preoccupation with the subject of bird behavior, the amateur may feel a little discouraged. The author points out in some detail the vast field in which a naturalist can add to our knowledge on the subject of bird display, concluding with a long list of "Species of Special Interest."—M. M. Nice.

**35. Begging Responses of Certain Buntings.** R. J. Andrew. 1956. *British Birds*, 49(3): 107-111. An interesting, detailed, critical study of development of begging, fear, and aggressive responses in three *Emberiza* species.—M. M. Nice.

**36. Behavior of the Birds during the Solar Eclipse June 30, 1954.** (Fåglarnas uppträdande under solförmörkelsen den 30 juni 1954). Christman Ehrström. 1956. *Vår Fågelvärld*, 15(1): 1-28. (English summary.) This paper is based on 107 reports received from observers during the eclipse in answer

to an appeal for data through the press and radio. Some of these observations were of all-day duration, others covered several hours before and after the eclipse. The most important fact brought out was that the behavior of each species and group of birds reflected their own peculiarities of habit and daily rhythm. Thus, the diurnal song-birds ceased singing for about 15 minutes during totality. It is of interest that, in general, the light intensity required to start birds singing after darkness was many times higher than that needed to induce the cessation of song before it. This was more marked in birds known as late risers. The Willow Warbler (*Phylloscopus trochilus*), whose indifference to weather conditions and light intensity is well known, sang during maximal obscuration.

Dawn and dusk singing thrushes (*Turdus*) increased their singing as darkness fell. The Blackbird (*T. merula*) sang for a long time before and after, but not during totality, while the Song Thrush (*T. ericetorum*) sang throughout the darkest period of the eclipse. Nocturnal birds started activities as it grew dark but became abruptly silent and still as light returned. The influence of the eclipse on the feeding of the young was less conspicuous. Species that usually were active later at night showed less reaction to the increasing darkness than those which ceased activities earlier. One male Whinchat (*Saxicola rubetra*) went to roost while totality lasted. A flock of Jackdaws (*Corvus monedula*) and House Sparrows (*Passer domesticus*) flew to their roosts, but Starlings (*Sturnus vulgaris*) failed to appear at a watched roosting place. Great numbers of Common Gulls (*Larus canus*) resting on wharfs and shores suddenly arose with a great commotion of flapping wings and loud cries as the eclipse began. Apparently they were entirely disoriented when darkness caught them without the usual prerequisite of going to roost at night with a barrier of water between themselves and the dangers lurking on land. In regions where the maximal obscuration was less than 90 percent, the birds observed showed no significant reaction to the diminishing light.—Louise de K. Lawrence.

#### WILDLIFE MANAGEMENT

(See also Numbers 11, 12, 13, 14, 21, 26, 29, 56, 59,  
62, 63, 64, 66, 67, 68)

37. The behavior of the Great Reed Warbler, *Acrocephalus arundinaceus*; with special reference to nest building and territorial defense. (Das Verhalten des Drosselrohrsängers, *Acrocephalus arundinaceus* (L.), am Brutplatz mit besonderer Berücksichtigung der Nestbautechnik und der Revierbehauptung.) H. N. Kluyver. 1955. *Ardea* 43(1/3): 1-50. (From the English summary.) Interesting observations on this attractive Palaearctic songster made on the shores of a Rhineland pond. The species lacks sexual dimorphism, but "In May and June males are distinguishable from females by the worn state of their plumage. The sexes differ in behavior as well, the males defending their territories and singing persistently and loudly, the females singing much less frequently and never as loudly. The female alone builds the nest and incubates." Elsewhere in the species' range both sexes incubate. "Some males do not settle in reed beds but in *Typha* or *Scirpus*. Such males fail to breed, since no female can build in these plants. Some females try, but they have to give up because the heavy nest, which is built of wet material, receives insufficient support." The author describes the courtship, selection of nest site, and behavior during the breeding period in detail. He determined the incubation period to be 14 days and the fledging period 12 days. "At the moment of leaving the nest the fledglings cannot fly, but they leap skillfully from one reed stem upon the other. A disturbance at the nest may cause them to do this already when eight days old." Typical attitudes of the nesting adults are shown in 12 excellent drawings by M. J. C. Kolvoort.—O. L. Austin, Jr.

38. Investigation of Woodcock, Snipe, and Rails in 1955. Special Scientific Report: Wildlife No. 31, U. S. Fish and Wildlife Service and Canadian Wildlife Service, January 1956, 54 pp., photo-offset. This is the fifth annual report of its kind (for the previous ones see *Bird-Banding* 26: 170-171). It contains: "Summary of Woodcock, Snipe and Rail Investigations for 1955" by John W. Aldrich, "A Method of Measuring Wintering Woodcock Populations on Nocturnal Feeding Sites in Louisiana" by Leslie L. Glasgow, "Wintering

Woodcock Populations in West-Central Louisiana, 1954-1955" by V. H. Reid and Phil Goodrum, "Woodcock Singing Ground Counts in Canada—1955" by V. E. F. Solman, "Woodcock Census Studies in Northeastern United States—1955" by Howard L. Mendall, "Woodcock Singing Ground Counts for the Middle Eastern States, 1955" by P. F. English, "Woodcock Singing Ground Counts in the Central-Northern United States—1955" by John W. Aldrich, "Massachusetts Woodcock Studies—1955" by William G. Sheldon, "Cover Requirements of Breeding Woodcock in Central Maine" by Robert B. Weeden, "The Juvenal Plumage of the American Woodcock" by Allen J. Duvall, and "Wilson's Snipe Wintering Ground Studies, 1954-1955" by Chandler S. Robbins.

The outstanding paper in the collection is Sheldon's report on the activities of the Massachusetts Cooperative Wildlife Research Unit, which indeed had a busy and profitable season of Woodcock work. Of 69 Woodcock netted in the spring, 11 were returns. During the summer they netted 94 more and caught 8 in funnel traps set primarily for Ruffed Grouse. "New light Japanese mist nets were used with much greater success than the heavier nets used in previous years. Less than one out of three birds hitting the heavy nets in 1953 and 1954 became entangled. With the new nets approximately three out of four birds which hit the nets squarely were captured." Their Woodcock studies also included continued censusing (15 percent drop in the Massachusetts population since 1954), ecological analysis of the study areas, estimates of age and sex ratios, studies of molts, weights, and parasites, and some most interesting observations on flight patterns and postnuptial behavior. "The most conspicuous behavior characteristic from mid-June until late July is a 'semi-courtship' flight performed by the juvenal male birds" which the author believes to be caused by the same light intensity that "prompts the beginning of singing earlier in the year."—O. L. Austin, Jr.

**39. Estimation of Fall Quail Populations in Iowa.** Edward L. Kozicky, Raymond J. Jessen and George O. Hendrickson and Everett B. Speaker. 1956. *Journal of Wildlife Management*, 20(2): 97-104. Based on presence or absence, the percentage occupancy of Bobwhite Quail (*Colinus v. virginianus*) ranges shows a decline from a peak in 1939, when 85-90 percent were occupied, to between 45 and 50 percent in 1953, the lowest population level. By randomly stratifying land units of 40 acres into good, fair, and poor ranges with optimum allocation of the percentage in each category, the best estimate of occupied forties can be obtained for any one year. Matching forties from year to year to detect changes in populations provides a technique equally as efficient for simple random stratification and stratification with optimum allocation. To detect a shift in population from one year to the next over an area of 60 counties with 95 percent confidence, a change of at least 24 percent is required. This paper is of great value in providing an objective technique for estimating quail populations for a given year and detecting year-to-year shifts within specified limits of statistical precision.—Helmut K. Buechner.

**40. A Simple Field Candler for Waterfowl Eggs.** Milton W. Weller. 1956. *Journal of Wildlife Management*, 20(2): 111-113. A mailing tube or rolled magazine is suggested as a candler using the sun as a light source. Five criteria for determination of the age of embryos and characteristics of seven age levels are described. The age classes (fresh, 4, 8, 12, 16, 20, 22 days) are well illustrated.—Helmut K. Buechner.

**41. A Pheasant Nest Activity Recording Instrument.** E. D. Klonglan, I. A. Coleman and E. L. Kozicky. 1956. *Journal of Wildlife Management*, 20(2): 173-177. A good review of nest-recording apparatuses and a detailed description of what appears to be an excellent recorder for activity at pheasant nests are presented in this paper. It records when the bird is on the nest, when it is off the nest, and movements while on the nest.—Helmut K. Buechner.

**42. A Comparative Test of the Investigator as a Variable in Aging Quail.** Walter Rosene, Jr., and Frank W. Fitch, Jr. 1956. *Journal of Wildlife Management*, 20(2): 205-207. Five biologists determined the ages of 200 quail wings. In separating juveniles from adults they disagreed on 8 percent of the

sample, but conceding 11 obvious errors reduced this to 3.5 percent. They agreed on completion of postnuptial molt on only 29 of the 53 adult wings. The majority decided 79 of the juvenile wings were from birds 150 days of age or older, but all five agreed on only 87 percent of these. For 63 wings of birds less than 150 days old, the age computations on four individuals ranged from 106 to 113 days. Suggestions are given for future study to increase the accuracy of age determination.—Helmut K. Buechner.

**43. Researches and data on woodpecker damage to timber and electric poles.** Nagahisa Kuroda. 1955. *Miscellaneous Reports of the Yamashina Institute for Ornithology and Zoology*, No. 6, June 1955: 227-240. (From the English summary.) In response to requests by the Forestry Bureau, the author made a 2-day survey of woodlands in Gifu where excessive woodpecker damage both to standing timber and electric poles was reported. He found most of the damage in the larger cryptomeria trees, which usually contained from 1 to 10 holes per tree, also in a few other trees, one bamboo, and two electric poles (one unwired). "They are damaged as no big trees, fit for woodpeckers to make holes, are found in surrounding young second growth (for charcoal) where they feed." As he saw only one woodpecker (*Dendrocopos leucotos*) during the survey, he concludes a single bird "seems to work a fairly wide area." Recommended remedies are "to provide them with substitute blocks of timber or to plant big trees for the future."—O. L. Austin, Jr.

### CONSERVATION

(See also Numbers 43, 49, 57, 70, 72)

**44. Status of birds on Torishima: particularly of the Steller's Albatross.** Yoshitera Ono. 1955. *Tori*, 14(66): 24-32. (From the English summary.) It will be remembered that the world's only known colony of *Diomedea albatrus*, once feared extinct, was rediscovered on Torishima in April 1954 (See *Bird-Banding* 26: 86). The author of this paper visited Torishima 25 January 1955, evidently with the vessel that supplies the lonely weather station there twice a year, and "estimated 23-25 birds to be the optimum number. They were nesting on a pebbly grassy sand slope of 20-30°, which is well protected from seasonal NW winds by the surrounding cliffs. Only three chicks of a chicken size were found, and there were three abandoned eggs. Most individuals were adults, none of the black juvenile and only a few subadults with black napes having been seen. Some were observed flying to and from the slope, but seemed to go no more than 4 km. away at the most."

Excellent photographs show a Steller's Albatross on its nest, an abandoned egg, one of the half-grown "chicken size" chicks in the nest, and a Black-footed Albatross on its nest (the first evidence that *D. nigripes* has also reoccupied its former nesting ground on Torishima). The staff of the Weather Station is doing all it can to protect the "albatross village" as they call it, but suspect occasional surreptitious landings of fishermen. Another danger is the presence of feral cats and dogs, which have greatly reduced the large breeding population of storm petrels (*Oceanodroma tristrami*). Peregrine Falcons "are another predator to not only the petrels but also the small land birds resident of wintering on the island. They are, therefore, extremely shy and the White-eye [*Zosterops*] was found to be extinct from the island . . . Fast protective measures from the predators are deemed necessary."—O. L. Austin, Jr.

**45. The Whooper Swan at Lake Hyoko, Suibara, Niigata Prefecture: The Story of its taming.** Toraji Yamagiwa. 1955. *Tori* 14(66): 14-23. (From the English summary.) As with many of Japan's "Natural Monuments" and waterfowl preserves, small Lake Hyoko (less than 20 acres) in a village on the Sea of Japan in north central Honshu, suffered from poaching during World War II and the Occupation. It was mainly a duck resort, seldom if ever used by swans. (Swans were formerly abundant in this region, but were almost extirpated in Japan before they were first protected in 1925. Since then they have been slowly coming back.) They reappeared at Suibara for the first time in late January 1950, when a flock of 8 *Cygnus cygnus* visited the lake. This nucleus increased to 47 in March before the birds went north. Thanks

to persistent efforts to protect and encourage them, swans have returned there ever since, 27 in 1951, 39 in 1952, 33 in 1953, and 32 in 1954. At first the birds had to be guarded closely, especially when the lake froze so that boys and dogs could reach them. With great effort a stream was diverted into the lake to keep it from freezing, and grain was put out for the birds. The birds have now become so tame that they will come when their "chief protector" calls them, and feed within a few yards of him. "They were, however, watchful to the voice of other persons. As the lake is in the village, there are still occasional annoyances, for example, the fireworks." One of the two photographs illustrating the report shows a flock of some 28 birds, including two *Cygnus bewickii* with the Whoopers; the other shows the flock coming quite fearlessly to be fed.—O. L. Austin, Jr.

**46. Bird report from Arasake, Kagoshima, Kyushu.** Kenji Shimomura. 1955. *Tori*, 14(66): 33-36. (From the English summary.) Good news from the famous crane sanctuary in Kyushu, Japan. The wintering population of White-necked Cranes (*Grus vipio*), which "decreased abruptly by successive poaching" during World War II (and also by American officers and men during the Occupation, though the author, Japan's finest bird photographer and an authority on her "Natural Monuments," tactfully refrains from saying so) is once again on the increase. More exciting is his report of a flock of more than 20 Spoonbills (*Platalea leucorodia*), one of the rarest of the Japanese rarities, now wintering on the sanctuary. The article is accompanied by four of Shimomura's incomparable photographs showing the cranes in company with Spoonbills, Whooper Swans, and Bean Geese.—O. L. Austin, Jr.

#### ZOOGEOGRAPHY

(See also Numbers 20, 44, 45, 46, 71, 72, 73, 74, 75, 76)

**47. An Ecological Analysis of the Interbreeding of Crested Titmice in Texas.**—Keith L. Dixon. 1955. *Univ. Calif. Pub. Zool.*, 54(3): 125-206. \$1.35. This is another of the thorough studies following the pattern established by Alden H. Miller. Dixon concludes that *Parus atricristatus* Cassin is not a valid species, and that the recognizable races of *Parus bicolor* Linn. are *Parus bicolor bicolor*, *P. b. atricristatus*, *P. b. sennetti*, *P. b. dysleptus*, and *P. b. paloduro*. This conclusion is based upon documentation of a lack of reproductive isolation between the two previously recognized species. The thoroughness of the investigation and the resultant wealth of accumulated data leave little doubt as to the correctness of his conclusions, but a slightly puzzling comment is made on p. 164: ". . . , the degree of divergence between the black-crested and tufted titmice is greater than that between ordinary geographic races. This is to be expected in a case of secondary intergradation as distinguished from primary intergradation." One is left to imagine the degree of difference which Dixon considers "ordinary." The reproductive behavior of the animals involved seems to be in disagreement with the conclusion that their divergence is greater than usually expected between interbreeding populations. The degree of divergence apparent to the investigator (but not to the birds) is then utilized to strengthen the proposal of secondary intergradation.

Dixon proposes that the parental stocks, "*atricristatus*" and "*bicolor*," were isolated at some time in the past and that their present status has come about as the result of interbreeding of these previously isolated units. Introgressive hybridization is suggested as an explanation for the present distribution of characteristics in the populations treated.—J. C. Dickinson, Jr.

**48. On the influence of man on the fauna of Finland and on the interrelations between some culture-influenced mammals and birds.** (Några synpunkter på människans inflytande på faunan och på kulturinfluerade arters inbördes relationer.) Göran Bergaman. 1955. *Nordenskiöld-samfundets tidskrift*, 1955: 56-71. (From the English summary.) Suggests a major factor in the decline of the Golden Eagle (*Aquila chrysaetos*) in Finland is the absence today of dead large animals over vast areas of its former breeding range. The bird now survives only in the reindeer-breeding region, where it finds enough wolverine-killed reindeer to support it in winter, and can prey on the young reindeer in summer.

Most interesting to us who have watched the same sequence of events in New England are his comments on the displacement of the Common and Arctic Terns by Herring and Black-backed Gulls. "The great increase of the herring gull depends on the capacity of this bird to feed on refuse. This very distinct practice has probably developed from the bird's being forced to seek food in the winter on tidal shores, then in ice-free harbours, and on the rubbish dumps of the towns . . . The great black-backed gulls (*Larus marinus*) are strongly increasing . . . [and] in Finland have reached about as great a number as the herring gulls had 30 years ago. The blackbacks frequent harbours, and they feed on fish refuse, young ducks, and domestic refuse, too. The feeding of the common gull (*Larus canus*) on the fields seems to have been learned from the black-headed gulls. All these gulls formerly nested in localities very typical for each species; now that their populations have increased so strongly, they can all be found breeding on all kinds of small islands in the archipelago."—O. L. Austin, Jr.

**49. The Birds of St. Martin, Saba, and St. Eustatius.** K. H. Voous. 1955. *Studies on the Fauna of Curacao and other Caribbean Islands*. 6(25): 1-82. Dr. Voous spent 7 months, from September 1951 to April 1952, making an ornithological survey of the Netherlands West Indies. In this, the first of his reports on the region, he brings together the available ornithological data from the three small Dutch islands at the northern end of the Lesser Antilles. He was able to spend but a scant 6 weeks on them, from 1 February to 14 March 1952, roughly 2 weeks on each, during which he collected 164 specimens. In addition to his own field experience, he has sifted the available literature and produced an authoritative little volume that future bird workers on these islands will find indispensable.

The introduction contains a brief description of the three islands, their ornithological history, and their zoogeography. The systematic list gives notes on taxonomy (where warranted), status, local and world-wide distribution, available data on breeding, and on "protective measures" being taken for each of the 62 species known from the three islands. He has amassed an amazing amount of information, and most surprising is it to note (though Dr. Voous does not mention it), that his short 6-week stay on the islands was longer than that of any of the several other reliable ornithologists and collectors who have worked there. This, of course, accounts for the list's brevity—as none of these workers visited the islands during the autumn migration, no valid records are available for such undoubted regular transients as *Charadrius hiaticula*, *Sterna dougalli*, *Sterna albifrons*, and several score more common North American species that must pass that way every year. Under "protective measures" he states whether or not the species is protected by law, and pleads for further protection of those species in need of it. Reading between the lines, the laws protecting the few species dignified by legal attention are seldom enforced.—O. L. Austin, Jr.

**50. The Geography, Birds, and Mammals of the Perry River Region.** Harold C. Hanson, Paul Queneau, and Peter Scott. Special Publication No. 3 of the Arctic Institute of North America, February 1956, 96 pp., ill. Presents the scientific results of the highly successful expedition the authors made the summer of 1949 to the restricted breeding ground of Ross's Goose. (Peter Scott published his journal of the expedition in 1951 under the title *Wild Geese and Eskimos*.) From all they accomplished in a scant 7 weeks, they must have kept going steadily every waking minute, and spent very little time sleeping! The systematic accounts of the 47 species and subspecies of birds they observed, which fill almost two-thirds of this report, contain a wealth of new and excellent material, particularly on the nesting waterfowl. Most important, of course, is the detailed report of their thorough investigation of the status of Ross's Goose on its breeding grounds and their observations on its nesting. They banded 25 Ross's Geese (the first ever banded), 6 Lesser Snow Geese, and 27 Pintails. "Considerably larger numbers could have been banded had time been available, but extensive banding in this area will always be difficult because of transportation problems."—O. L. Austin, Jr.

**51. The Recent Spread of Lapwings, *Vanellus vanellus* (L.) in Finland.** (Die Neuzeitliche Ausbreitung des Kiebitzes, *Vanellus vanellus* (L.), in Finnland.) Olavi Kalela, 1955. *Annales Zoologici Societatis Zoologicae Botanicæ Fennicæ "Vanamo,"* 16(11): 1-80. (English and Finnish summaries.) Until 1890 the Lapwing rarely bred in Finland, and occurred only in the extreme southwest corner of the country. Since then it has spread rapidly northeastward, and now nests up to Lat. 66°N on the Swedish border and to 63°N in the east on the USSR border. In this carefully documented study the author traces the spread and gives a logical explanation for it.

Though the Lapwing breeds primarily in cultivated lands, its recent spread has been much too rapid to be explained by expanded agriculture. While the presence of such habitat is a prerequisite, the Lapwing's spread is "evidently connected with the recent changes in climate," particularly the warmer springs, which influence the Lapwing populations in several ways, largely through feeding conditions. The author considers the milder springs have encouraged population increase through the cumulative effect of four factors: "1. decreased mortality in the end phases of the migration period; 2. increased immigration as a consequence of extended migration; 3. increased numbers of birds starting to breed, and 4. decreased numbers of females which, having lost their first clutches, stop breeding." He believes the range extension to be "a secondary effect of the increase in population." Though territorial behavior forces some of the birds away from optimal habitats so that they occupy "suboptimal breeding areas, . . . spread into new areas is in part due to prolonged migration in spring not connected with territorial behavior."—O. L. Austin, Jr.

**52. Changes in the Bird Life of the Faeroes in relation to the Climatic Changes in the North Atlantic Area.** (Forandringer i den færøske fugleverden i relation til klimaændringen i det nordatlantiske område.) Arne Nørrevang, 1955. *Dansk Ornithologisk Forenings Tidsskrift,* 49(4): 206-229. (From the English summary.) An interesting analysis of the considerable literature on Faeroe Island birds published in the last 20 years to determine what, if any, of the changes noted since the publication of Salomonsen's careful monograph in 1935 can be attributed to the well-known and often-discussed recent increase in annual temperatures. The author recognizes "that some of the apparent changes may be due to the increased ornithological activity in the Faeroes," but concludes that a number of the observed additions to the avifauna and some of the apparent decreases can well be responses to the climatic changes. "It is supposed that the decrease in numbers of breeding Red-throated Loons, Snow Buntings and probably also Purple Sandpipers is due to the higher temperature in the breeding-time." He points out that of the species recorded in the Faeroes for the first time during the last 20 years, 11 percent have come from the north, 29 percent from the east, 25 percent from the southeast, and 36 percent from the south. Almost a score of species, most of them small land birds, that are now seen more regularly on migration have recently spread northward in Scandinavia, from whence "it is now more probable that they should arrive in the Faeroes, carried by the wind." Also of significance are the observed increases in the breeding populations of a number of species and the regular wintering today of others that formerly always migrated southward.—O. L. Austin, Jr.

**53. The Birds of Nissum Fjord.** (Nissum Fjords Fugle.) Ernst Torp Pederesen and Leif Lyneborg Jensen, 1956. *Dansk Ornithologisk Forenings Tidsskrift,* 50(1): 1-66. (English summary.) A detailed account based on five summers of observation on the abundance and distribution of the birds breeding in a hitherto little studied fjordland area of Denmark's west coast, fronting the North Sea. The paper has useful maps and an illuminating chart showing the various biotopes, and the avian species breeding in each. The area is rich in water birds—waders, gulls, terns, ducks—to which the authors have paid particular attention. A lengthy systematic list gives the available data from the literature as well as the author's observations on all species known to have been observed in the immediate vicinity and comments on the status of each.—O. L. Austin, Jr.

**54. The House Sparrow in North Norway.** (Graspurven (*Passer domesticus* (L.) i Nord-Norge.) Hj. Munthe-Kass Lund, 1956. *Dansk Ornithologisk*

*Forenings Tidsskrift*, 50(1): 67-76. (From the English summary.) The old literature shows the House Sparrow to have appeared for the first time north of the Arctic Circle in Norway and Finland in the 1870s. It was first seen in Tromsø in 1879, but until quite recently has never been numerous there. In 1953/54 the author observed a flock of 300 near the Tromsø Museum, and during the next two summers obtained evidence of the species' recent spread to distant villages along the northern coast. He finds it difficult to believe that this usually sedentary species could have covered the enormous distances (the greatest he mentions is 270 kilometers) between towns in northern Norway unassisted, and postulates, on the strength of a sailor's statement that his ship had sparrows in its hold on several winter voyages, that the bird has spread to these distant spots mainly by means of ships. While possible, this seems a bit far-fetched and unnecessary. After all, the House Sparrow does have wings, and is capable of using them quite effectively.—O. L. Austin, Jr.

**55. The Greenish Warbler and the Hedge Sparrow—two New Species for the Region of Valdemarsvik.** (Lundsångaren (*Phylloscopus trochiloides*) och järnsparv (*Prunella modularis*)—två nyinvandrade arter i Valdemarsvikstrakten.) Viking Olsson. 1956. *Vår Fågelvärld* 15(1): 33-43. (English summary.) The author discusses various aspects of the immigration of these two species into central Sweden, the sparrow from the southwest and the warbler from the southeast. He concludes that both cases were due to prolonged migration influenced by warm spring weather. An interesting behavior sidelight is furnished by the Greenish Warbler. A lone male established his territory overlapping that of a pair of Willow Warblers (*P. trochilus*) and began paying attention to the female of the pair while she was building the nest. At each visit he intensified his singing greatly. The female tolerated but ignored him, but he became completely dominant over her mate despite his somewhat larger size. As the female began incubating the Greenish Warbler perched near the nest for prolonged periods and sang and his aggressiveness diminished towards its rightful owner. Unfortunately, he disappeared before the young hatched. Apparently the Greenish Warbler's attraction to the Willow Warbler was due chiefly to his lack of species companions and enhanced by the two species' great similarity in appearance. No copulatory attempts were observed.—Louise de K. Lawrence.

**56. A Census of Mute Swans in Uppland the Summer of 1955.** (En inventering av knölsvanen (*Cygnus olor*) i Uppland sommaren 1955.) Allan Lundin and Göran Hansson. 1956. *Vår Fågelvärld*, 15(1): 44-48. (English summary.) The first bird count from the air in Sweden was made 10 June 1955 when the Royal Swedish Air Force put six planes at the disposal of the Uppsala Ornithological Club. Each plane covered 200 kilometers. In all 406 swans were counted in 65 different localities, in 35 of which 73 birds were occupying nests. Many swans, evidently non-breeders, kept together in flocks off the nesting grounds; as many as 135 such birds were seen in one spot. Careful planning is needed for such a survey, especially in regard to the growth of vegetation and the time in the nesting cycle. A cruising height of 100 to 150 meters proved most ideal. For censusing white birds the weather should be cloudy as the reflections of light and of white clouds on sunny days proved greatly confusing.—Louise de K. Lawrence.

**57. Ornithological Notes from Soteskär.** Ornitologiska anteckningar från Soteskär.) Bertil Wahlin. 1956. *Vår Fågelvärld* 15(1): 49-53. (English summary.) This is primarily a check on the present population in Sweden of the Puffin (*Fratercula arctica grabae*). These birds breed only on a small oceanic island off the Swedish west coast. Actual count (29) showed the birds more numerous than expected. The species' sharp decrease during the 1940's was believed due partly to changes in the climate and partly to the increased numbers of gulls which prey on the young as they emerge from the burrows to make their dangerous initial trip to the sea.—Louise de K. Lawrence.



## ECOLOGY

(See Numbers 25, 38, 47, 48, 53, 66)

## MORPHOLOGY AND ANATOMY

**58. Major Arteries near the Heart in the Whooping Crane.** Harvey I. Fisher. 1955. *The Condor*, 57(5): 286-289. Three variously preserved Whooping Cranes, *Grus americana*, were dissected. The arteries near the heart, though showing individual variation, displayed the bifurcated intercostal arteries and the bicarotidinae normales condition postulated as characteristic of the order Gruiformes. However, they differed from two other species of Gruiformes in the manner of origin of the accessory ascending esophageal and vertebral arteries.—L. Richard Mewaldt.

**59. Determination of Sex and Age of Scaled Quail.** O. C. Wallmo. 1956. *Journal of Wildlife Management*, 20(2): 154-158. Apparently this article represents the first published account of the slight sexual dimorphism in Scaled Quail (*Callipepla squamata pallida*). In adult males the plumage on the side of the face is uniformly pearl gray, while in the female it is streaked and dirty gray. Feathers of the throat have a distinct black central line in females; in males the same feathers have a faint brown line or none at all. Although less precise, the length of the plume is useful in distinguishing sexes, those of males averaging about 6 mm longer than in females. Based on development in five known-aged chicks, the time sequence of the postjuvenile molt of primary feathers is shown in tabular form. Adult birds of the first year can be recognized by the light-colored tips of the outer coverts.—Helmut K. Buechner.

## PHYSIOLOGY

(See also Number 24)

**60. Liver and Spleen Weight Cycles in Non-migratory White-crowned Sparrows.** Barbara Blanchard Oakeson. 1956. *The Condor*, 58(1): 45-50. In three seasons from November to March the author collected 55 resident male *Zonotrichia leucophrys nuttalli* at Guadalupe, Santa Barbara County, California. These she compared with 114 migratory male *Z. l. gambelii* collected at near-by Santa Barbara from January to April, and 8 males taken in May at Mountain Village, Alaska. Weights of the testes, liver, and spleen of *nuttalli* appear to follow a cycle similar to that in *gambelii*, but about 2 months earlier. This is consistent with the earlier breeding season of *nuttalli*. Body and liver weights reached their maximum in February in *nuttalli* and in April in *gambelii*. Splenic weights were highest in both races about a month earlier. Testis volume reached about 150 mm in *nuttalli* in March and in *gambelii* in late May. These data suggest to Dr. Oakeson that the patterns of liver and spleen weight changes are basically the same in the two races during the period when gonad growth is greatest, and that migration of *gambelii* probably does not account for its low liver and spleen weights in May.—L. Richard Mewaldt.

**61. Body temperature of parids in the arctic winter.** Miklos D. F. Udvardy. 1955. *Ornis fennica* 32(4): 102-107. (English and Finnish summaries). "Winter body temperatures of Siberian Tits (*Parus cinctus*), taken during daylight hours, were compared with those of other tits, in arctic and subarctic habitats. All these temperatures are similar. Thus, thermal adaptation of the Siberian Tit to the arctic winter was not indicated, at least in daytime. Previous data which seemed to indicate such adaptation were obtained by a method that is open to several sources of error, and involved only these birds."—O. L. Austin, Jr.

## FOOD

(See also Numbers 27, 29, 48)

**62. A Food Study of the Florida Bobwhite *Colinus virginianus floridanus* (Coores).** Albert M. Laessle and O. Earle Frye, Jr. 1956. *Journal of Wildlife Management*, 20(2): 125-131. Based on 375 crops taken at monthly

intervals, this is the first major food-habits study of Bobwhite Quail (*Colinus virginianus*) for Florida. Foods differ greatly from those reported elsewhere in habitats of Bobwhite Quail. The two principal foods, slough-grass (*Scleria muhlenbergia*) and wax-myrtle (*Myrica* spp.), bore a reciprocal relationship to each other. After the achenes of slough-grass mature in September, they constitute an average of 75 percent of the diets for a period of about 3 months. Wax-myrtle is consumed in large quantities immediately before and after the period when slough-grass fruits are available. As the former is available during the period of heavy utilization of the latter, a strong preference for slough-grass is apparent. The fact that the crude protein content of slough-grass is 6 times higher and calcium 29 times higher than found in wax-myrtle appears to have some significance. Seasonal distribution of 23 foods is presented graphically and other foods are listed elsewhere.—Helmut K. Buechner.

**63. Differences in Vulnerability of the Prey of Nesting Kingfishers.** Alfred W. Eipper. 1956. *Journal of Wildlife Management*, 20(2): 177-183. Remains of 325 and 462 food organisms found in each of two nests of Kingfisher (*Megaceryle a. alcyon*) showed a diet consisting of about half fish and half crayfish. Of a dozen kinds of fish, the stone rollers (*Camptostoma anomalum*) formed about 50 percent of the diet. The size of the fish, coupled with greater vulnerability while spawning at precisely the time when advanced nestlings were in the Kingfisher burrow, may explain the high utilization of this fish. Only one-third of the two genera of crayfish in the stream are represented by *Cambarus*, but both Kingfisher nests contained only remains of crayfish belonging to this genus. Breeding behavior of these crayfish seemed largely, though not alone, responsible for increased vulnerability to Kingfisher attack.—Helmut K. Buechner.

**64. Food and Agricultural Importance of the Partridge (*Perdix p. perdix* L.) in Hungary.** (A Fogoly (*Perdix p. perdix* L.) taplalkozasa es mezogazdasagi jelentosege magyarországon.) A. Vertse, Z. Zsak, and Z. Kaszab. 1955. *Aquila* 59-62: 13-68. (From the English summary.) Presents the results of a 3-year study by the Institute of Ornithology in cooperation with the Game Department of the Ministry of Agriculture on the feeding habits of the Hungarian Partridge. The analysis of the contents of 451 Partridge stomachs shows the species, which lives in cultivated farm lands, subsists mainly on weed seeds and foliage, some cereal grains, and on insects. From April to June insects make up 51.3 percent of the diet, and most of the insects destroyed are harmful to farm crops. The amount of insect food declines rapidly in summer and fall as seeds and grains become available. In November the diet is exclusively weed seeds. From December until early April their food is entirely vegetable matter, and the birds eat the leafy parts of grains and clovers when heavy snowfalls cover their preferred weed seeds.—O. L. Austin, Jr.

**65. The Problem of Cerophagy or Wax-eating in the Honeyguides.** Herbert Friedmaun and Jerome Kern. 1956. *Quarterly Review of Biology* 31(1): 19-30. Describes a series of experiments on live *Indicator minor* flown to Washington from Africa for the purpose, to determine "the mechanism by which the bird is enabled to metabolize beeswax to the point of extracting nourishment from it. The bulk of the evidence . . . suggests that this breakdown is due to the microflora of the bird's intestinal tract." The authors also comment on the significance of this ability to the unique "guiding" behavior of these interesting birds, which "is now known to be a form of excitement reaction of the bird when meeting with a potential foraging symbiont, i.e., with a creature, often a human being, that the bird associates with the act of opening bees' nests. Underlying this behavior, which for centuries has been a great stumbling block to naturalists attempting to explain it, is the cerophagous, or wax-eating tendency of the bird. It was . . . necessary to demonstrate that the tendency to consume was really an important part of the dietary picture. Of this there can no longer be any doubt."—O. L. Austin, Jr.

## PLUMAGES AND MOULT

(See Numbers 42, 59)

## PARASITES AND DISEASES

(See also Number 19)

**66. Diseases in Wild Birds.** A. R. Jenkins. 1955. *Bird Study*, 2(2):69-72. Since 1952 the members of the B.T.O. have been asked to look for dead or dying wild birds, and to send the corpses when possible to regional laboratories of the Public Health Laboratories Service for examination. This paper summarizes the laboratory findings on 224 corpses examined during the first 3 years of the investigation. A probable cause of death was established in 154 of these, of which infectious agents were believed responsible in 70 cases, trauma and poisoning by toxic chemicals in most of the rest. The evidence shows that pathogenic micro-organisms occur frequently in wild birds, "and that epidemics may on occasions produce quite a severe mortality. Population ecologists have tended to dismiss diseases as relatively unimportant in controlling the numbers of wild birds, but it may be necessary to revise this opinion."—O. L. Austin, Jr.

**67. Causes of Death in Partridges.** David Jenkins. 1955. *Bird Study*, 2(3): 142-143. Post mortem examination of 43 adult *Perdix perdix* found dead near Hampshire over a 3-year period showed 14 to have died from violence, and 31 birds "to be diseased or to be carrying parasites. In some cases it was impossible to make an exact diagnosis of the cause of death, but in each the infective agent was believed to be potentially lethal. Although these results indicate a fairly heavy incidence of disease in Partridges, it should not be assumed that disease was the primary cause of death."—O. L. Austin, Jr.

**68. Blood Parasites of Some Maine Waterfowl.** David C. O'Meara. 1956. *Journal of Wildlife Management*, 20(2): 207-209. The incidence of blood parasites *Leucocytozoon* spp., *Haemoproteus* spp., and *Microfilaria* spp. in 437 Black Duck (*Anas rubripes*) and 422 Wood Duck (*Aix sponsa*) are reported in this paper. In an area where simuliid black flies vectors were more abundant, the percentage (80) of Wood Ducks infected with *Leucocytozoon* was twice as high as in an area where the vectors were less abundant. New hosts are reported as follows: *Microfilaria* spp.—Blue-winged Teal (*Anas discors*) and American Goldeneye (*Bucephala clangula*); *Haemoproteus* spp.—Blue-winged Teal; *Leucocytozoon* spp.—Bufflehead (*Bucephala albeola*).—Helmut K. Buechner.

## SONG

(See Numbers 36, 69)

## BOOKS AND MONOGRAPHS

**69. Memoirs of a Bird Man.** Ludwig Koch. 1955. Phoenix House Ltd., London. Charles T. Branford Company, Boston. 188 pp. 43 illustrations. \$3.75.

This is the story of a pioneer in the field of recording bird songs. It is not an autobiography, says the author, but rather the story of a birdman. Here Ludwig Koch has set down his impressions of the era from when it first became possible to record the songs of birds up to the present time.

One gathers from this book that Mr. Koch (or Dr. Koch as he sometimes refers to himself) was born in 1881 into a wealthy family in the city of Frankfurt, a most precocious and talented child. Aside from an intensive training in music, voice, and violin, he tells nothing of his educational background, but says he always had an intense love for nature.

In 1889, when he was eight, he was presented with one of the earliest Edison phonographs and with this he recorded the song of an Indian Shama, a captive in a personal zoo which at times had as many as 68 animals in it. This is by far the earliest published record of recording the song of a bird, and Mr. Koch is justifiably proud of it. However, his first published recordings in 1932, to which he refers casually, is also a record for, so far as I know, only recordings of canaries or other caged birds had been published earlier than this, and it is quite possible that Mr. Koch recorded those.

One is impressed by Mr. Koch's interest in people, and by the fact that he is essentially an artist and a dramatist. Sometimes he seems so carried away by his association with royalty and eminent people that birds, their songs, and

recording them become little more than a means to an end. His keen sense of the dramatic puts the utmost in thrills, danger, and hardship into every experience, and his artistic nature places him far above any of the real mechanical or electrical problems of recording bird songs. Always the equipment is exceedingly complicated and delicate. Always it is giving trouble, but there is hardly more than a mention of the type of equipment he used.

Ludwig Koch took an active part in the first World War and in the twenties and early thirties he was interested in politics. This brought him into conflict with the Hitler government and in 1936 he fled to England, and later became a British citizen. The Nazis destroyed all of his early recordings and notes and much of his later work done in Germany. The earliest recording preserved, as listed in the B.B.C. Recorded Programs Library, is one of a Coot recorded in Germany in May, 1929.

In 1936 and 1937 Mr. Koch with E. M. Nicholson published two "Soundbooks" entitled "Song of Wild Birds" and "More Songs of Wild Birds," and later with Julian Huxley he published "Animal Language." In 1953 he prepared and published with Queen Elizabeth, the Queen Mother of Belgium, a "Soundbook" on song-birds in the gardens of the Palace of Laeken.

In many respects Ludwig Koch's life has been an enviable one. At least since his arrival in England, he has been able to devote all of his time to his chosen work of hunting out birds and recording their songs. And always he has been well financed by publishers, the B.B.C., or by royalty. In preparing his "Songs of Wild Birds," he tells of his crew of 7 men and a 7-ton van. On a trip to Belgium he had 90 cases of equipment and supplies.

If Mr. Koch ever suspected that other people in the world—both in Europe and America and Africa—were recording and studying bird songs, he never mentions it. The nearest he comes to it is on page 148 where he tells of a reception he gave at the B.B.C. in 1951. ". . . to my American friend and opposite number, Professor Arthur A. Allen, of Cornell University, and Mrs. Allen. Professor Allen is doing marvellous work in the United States, and his colored photographs of wild life are famous."

Koch tells little that would help a person trying to record bird songs, and many of his tales of hardship, frustration and expense might be discouraging. He even seems reluctant to share secrets with the purchasers of his book. On page 109 he says: "I cannot reveal the full story of how we discovered a family of puffins with young and how I finally succeeded in getting a recording which is a frequent source of delight to thousands of listeners and to myself." Of course it may have been that his publishers would not allow him the space to make the revelation, but this suggestion of secrecy about methods in a man who claims to be of so much help to scientists and students will not be readily understood nor accepted.

In 1948, 3 years before his retirement, the Koch collection of recorded bird songs and other animal sounds became a part of the B.B.C. Recorded Programs Library. Koch's contribution to this is outstanding, consisting of approximately 460 recordings of 180 different bird species or subspecies. It will probably be regretted by many that no summary of this series of recordings is to be found in an appendix.

In England and in much of Europe Ludwig Koch has achieved great popularity as a radio commentator. Here his artistry, his sense of the dramatic, and his showmanship, as well as his collection of recorded sounds and his pleasing accent, have enabled him to make a very real contribution in the field of popularizing natural history for the radio listener. Possibly many readers will find the sustained egotism of the book objectionable, but much of it is about experiences with birds by a man who has been deeply interested in them and able to spend much more time in the field than most of us.

The illustrations consist of 1 color photograph, 41 black and white photographs and 1 drawing. Thirty-one of the illustrations are of Mr. Koch.

All in all I enjoyed this book which told me so much of Ludwig Koch, his associates, his travels, and his trials and tribulations. But I do regret that he told so little of his art and his techniques. Maybe I just want too much.—Peter Paul Kellogg.

**70. Birds and Men.** Robert H. Welker. 1955. Belknap Press of Harvard University Press, Cambridge, 230pp., 40 figs. \$5.75. This easily written and yet very studiously prepared short book considers American birds in science, art, literature, and conservation between 1800 and 1900, the period when our present attitudes toward birds were being formed. The author tells first of the lengthy search after complete knowledge of our bird species, secondly shows that our early ornithological greats were also artists, and then describes how the conservation movement began on the ruins of our native fauna. Each of these developments was responsible in part for our present point of view.

The 19th century leaned heavily on the energetic scientific work of the 18th, as the large number of our species Karl von Linné named shows. After discussing this background Welker tells the story of the rugged individualists who developed in this period the real identity of ornithological America. Wilson, the earlier worker, set up his own monument in *American Ornithology*, yet Audubon emerges as probably the central figure of the book as he did of the century, eclipsing by his boldness Wilson's careful though usually uninspired paintings. Welker gives a better picture of the so-called feud between Audubon and Wilson than most of us have had before. For instance he points out Audubon's several piracies of Wilson's writings and poses, though this was common practice in those days.

In the end Audubon emerges in Welker's book as he should, as primarily the artist and secondarily the scientist. Whenever Audubon does appear as the scientist, it is where the two interests overlap, based as both are on skillful observing and recording of nature. As the interpretation of these is always colored by the reporter's personality, Audubon must always remain the actor-artist. His scientific contributions must have been to him only way-stations to his art, an attitude perfectly in keeping with the dramatic formality of the French Academy of Jacques David, where he received as fine artistic training as has ever been available to art students. (Most moderns are ignorant of this and are amazed at the cultivated sophistication of a supposed raw frontiersman.) I must say I did not react favorably to Welker's subjective discussions of Audubon's artistic merit. Art criticism today being a synthetic and largely falsely founded calling, to insert this substanceless house of straws into a scholarly history strikes a note with sour overtones. The author has happily avoided the common sin of stating values dogmatically, and it is usually clear that this chapter is opinion.

The later century—Thoreau of Concord, then John Burroughs, and finally the Conservation Movement—are treated with the same personal interest. One thing worth noting here is that in those pre-Darwin days the only measure of a wild creature's significance was its immediate application to man's welfare. Today the realization that man is only one of many creatures is acknowledged at least as an opinion, though by no means widely accepted.

Ornithologists are often prejudiced against "popular" bird books, but even so, this is one we can all enjoy and from which we can learn a great deal about the history behind our present attitudes.—William H. Drury, Jr.

**71. Annotated List of New Jersey Birds.** David Fables, Jr. 1955. Urner Ornithological Club, Newark Museum, 43 Washington St., Newark, N. J. xi + 95 pp. Price \$2.50. This is the first compilation of distribution records for the state of New Jersey as a whole since Witmer Stone's classic two volumes on *Bird Studies at Old Cape May* (1937). It is not a "state book" on an elaborate scale, but simply an introduction dealing with the physiography and ecology of the state, followed by an annotated list with concise comments on 370 species, 30 additional subspecies, 2 hybrids, and 19 hypothetical species.

While data for most of the older records may be found in Stone, a bibliography for the period from 1937 to date would have been useful. In general the names given are the latest available from the Supplements to the A.O.U. Checklist (down to 1954), but old names have been inadvertently retained in several places (see Gannet, White Ibis, Whistling Swan, and Green-tailed Towhee). A number of species are accepted on the basis of sight records only, without accompanying photographs, though never on the evidence of a single observer. It does not appear that old specimens were checked, and therefore it is not clear whether all species included on the basis of a specimen have a specimen currently available.

No mention is made of the Black Brant in the regular or hypothetical lists, though the type locality is Egg Harbor, N. J., based on a bird collected in 1846 (as an accidental), nor does the author suggest any reason to distrust the record, which has long been accepted in the A.O.U. Checklists.

Mr. Fables mentions the possibility that escaped birds account for some or all of the many records of European Teal in the 1930's; without attempting to rule out that possibility, it may be of interest that there is at least one east-west transatlantic crossing on record for the species. A teal banded in England (Peterborough) on 11/9/52 was reported from Newfoundland (Fogo Dist.) on 12/5/52 (*British Birds*, 46: 297).

The author refers under "Black Rail" to a Troy Meadows record described in Stone, but without mentioning that Stone lists this as a Yellow Rail; it may not be realized by some readers that the "kicker" call long ascribed to the Yellow Rail may well be a call of the Black Rail, as discussed in an (unpublished) paper by J. A. Hagar. The Lesser Black-backed Gull is listed on the basis of four sight records. Five races of the Sharp-tailed Sparrow are listed but it is not clear whether all are represented by specimens and whether older specimens (particularly for *A.c. nelsoni*) have been critically reexamined since the description of *A.c. diversa* and *A.c. altera*.

Despite some minor shortcomings, this is a careful, solid compilation, which should enjoy a wide sale among the rapidly rising number of field observers who live in or visit New Jersey.—E. Alexander Bergstrom.

**72. List of the Birds of Surinam.** F[rancois]. Haverschmidt. *Publications of the Foundations for Scientific Researches in Surinam and the Netherlands Antilles*, No. 13, November 1955, Utrecht, 153 pp. When I went to grammar school my geography book showed the purple-colored country between pink British Guiana and green French Guiana to be Dutch Guiana. When later (some 30 years ago) I sailed to those parts, my seafaring friends always referred to it as Paramaribo, from its main port and capital on the Surinam River. Today its official name to the world at large is Surinam. But by whatever name, ornithologists now consider the country practically synonymous with F. Haverschmidt, who is unquestionably the authority on its birds.

Before he started to work there in 1946, our knowledge of the birds of each of the three Guianas was roughly in proportion to the numbers of our banded Cape Cod Common Terns reported from them—56 from British Guiana and 32 from French, to only 3 from Surinam. The constant stream of papers he has been publishing ever since in periodicals here and abroad—they total almost two-thirds of all the titles he lists in the bibliography—have begun to make Surinam's bird life the best known of the three. Most of his papers, and the ones for which he is justly famous, are on life history and breeding biology, which is where his main interest lies. "Neither the species of birds nor their distribution" he writes, "are of paramount importance, as I feel a knowledge of the habits of the living bird is far more valuable." Nevertheless, he acknowledges that the student of bird habits must know what birds occur in his region and something of their distribution. The first words of his preface are: "Ever since I commenced studying bird life in Surinam I felt the need of a comprehensive reference work, listing all known bird species of that country and their distribution . . ."

The resulting volume is a fine example of just what a hand-list should be. The introduction gives a brief description of the country's terrain and climate, a history of the ornithological work done there, and an account of recent efforts to establish "fauna preservation" measures. We can be sure that the author himself has been the moving spirit behind the latter, which succeeded in 1954 in giving the country its first set of game laws. He recognizes in the systematic list 536 species, for each of which he cites the authority for the name and gives briefly its status, where and how recorded in Surinam, known breeding data if any, and its extralimital range.

An interesting table shows the 136 species known from French or British Guiana or both that have yet to be recorded from Surinam. This list was almost half again as long 10 years ago, and the number of birds still on it that *must* also occur in Surinam lends credence to the validity of the few species he admits to the Surinam list on the basis of sight records alone (usually his own),

among them the Pied-billed Grebe, Flamingo, Osprey, and Golden Plover. The ultraconservative might wish he had been a bit more critical and relegated these to a hypothetical list, together with many of those known only by one ancient specimen of uncertain collecting data, but he gives the available evidence for each record clearly, and the doubters are free to accept them or not as they choose. Personally I'd accept many of his sight records—certainly those for the Flamingo and Osprey cannot be questioned—though I would be happier with specimen verification for some of the others. So undoubtedly would F. Haverschmidt! May the next decade see him as successful and productive as the past one has in his work with the Surinam birds.—O. L. Austin, Jr.

**73. Birds between the Monadnocks.** William Patten Hill. 1956. Privately printed. Transcript Printing Co., Peterborough, New Hampshire. 72 pp., 5 maps. This annotated checklist of 183 species is a conservative, conscientious compilation of the records for a restricted locality in New Hampshire, the townships of Peterborough, Dublin, Jaffrey, and Harrisville. Of special interest is the prevalence of Lower Transition forms in contrast to the greater abundance of Canadian species in Fitzwilliam, the adjoining township to the southwest where the coniferous forest is more intensive despite its lower altitude.

Published primarily to promote local interest in birds, the booklet is accomplishing its purpose, thanks in no small measure to the author's personality. Though it does reflect a certain amount of the inevitable immaturity we all have to pass through, the weaknesses, such as they are, stand out plainly enough so any skilled ornithologist can make proper allowance for them. The booklet may be considered a generally reliable, authentic, and worthwhile addition to the literature on the avifauna of New Hampshire.—Wendell Taber.

**74. The History of Ornithology at the University of Michigan Biological Station.** Theodora Nelson. 1956. Burgess Pub. Co., Minneapolis, Minn. 106 pp. \$3.00. Founded at Douglas Lake, Cheboygan County, in northern Michigan in 1909, this biological station has had a long and distinguished history in bird study. The present book is based on a manuscript left by Dr. Frank N. Blanchard who taught ornithology there from 1922 till his death in 1937. Dr. Nelson has been connected with this department since 1923.

Following a brief history of ornithology at the Station, the major portion of the volume is devoted to the "Annotated List of Birds" giving the status of the 211 species recorded, 139 of which have nested in the region. Much information is provided on nesting and interesting notes are added on birds that have been hand-raised.

Twelve pages are devoted to a list of student reports based on original research in the field of ornithology, four pages to a bibliography of articles published by members of the Biological Station—students and faculty—and two pages to "References of General Interest." A gazeteer, an index to the list of birds, and two maps complete the volume. This small book is an excellent survey of the bird life of the area; it will prove of value to ornithologists in general and particularly to students at Douglas Lake.—M. M. Nice.

**75. Birds of France.** (Oiseaux de France). 1955. No. 12. 16 pp. Association pour l'Etude dans la Nature des Oiseaux de France et leur Protection, 129 Blvd. St. Germain, Paris 6, France. 100 francs. One continues impressed by the high scientific caliber of this bulletin for the novice. In this issue experts and tyros combine to present as an annotated checklist observations over a 4-year period at the ponds in Saint Quentin and Saclay (omitting birds of prey and sparrows). Discussing on the same high plateau the importance of sexing dead birds, Mr. Deramond explains the procedure in an instructive illustrated account. Worthy of note in the scattering of banding records is that of a Black-headed Gull, *Larus ridibundus*, ringed as a fledgling 29 May 1943 near Prague in Czechoslovakia, recovered far to the west at the Ile d'Ouessant 27 January 1947.

Congratulations to Mr. Deramond on his receipt of the Pourrat prize and of the silver medal from the Faculte de Medecine de Paris for his paper "L'histo-physiologie des glandes surrenales de certaines oiseaux sauvage."—Wendell Taber.

**76. Birds of France** (Oiseaux de France). 1955. No. 13. 16 pp. Association pour l'Etude dans la Nature des Oiseaux de France et leur Protection, 129 Blvd. St. Germain, Paris 6, France. 100 francs. The major paper in this issue is an account of the "camp-outs" at the island of Ouessant, off Finisterre, August 12-24 and September 13-24, 1955. The group made systematic daily observations of the island's birds and banded 451 birds of 34 species. Interestingly, only 21 birds (11 of them Lesser Black-backed Gulls) were not strictly land birds. Discussion is not in the form of a checklist, but a report on the more notable species. Except for shearwaters and gannets, counts of pelagic and littoral forms sound disappointingly low. In contrast land birds, both resident and migratory, tended to be present in some numbers.

One senses arising, but seemingly well handled, those problems of sight identification which, unshackled, plague us in this country. Still being argued at the time of publication, for instance, was the probable occurrence of a Buff-breasted Sandpiper, *Tryngites subruficollis*, (not at all impossible). Irrefutable photographs establish, fortunately, the presence of a Dartford Warbler, *Sylvia undulata*. Even more to the point is the absence from the list of banded species of a North American Water-thrush, *Seiurus noveboracensis*, captured in a banding-net (extreme accidental).—Wendell Taber.

#### NOTES AND NEWS

To aid in meeting the increasing demand for Japanese mist nets, the Northeastern Bird-Banding Association is now stocking these nets for sale. At the time this issue is mailed, stocks will have been exhausted by the active demand, but substantial shipments are expected during the winter. Nets obtained to date have been a 12-meter, 4-shelf net for small birds, and a net with heavier meshes suitable for shorebirds or larger land birds. While prices are moderate, and discounts are given to members of the Association or subscribers to *Bird-Banding*, we hope that these sales will benefit our Index Fund. Address inquiries to Mr. E. Alexander Bergstrom (37 Old Brook Road, West Hartford 7, Conn.), who is acting as agent for the Association in the sale of the nets.

The use of mist nets was essential to the Jamaican banding described in this issue. Dr. Blake has retired from the Massachusetts Institute of Technology and is now associated with the Museum of Comparative Zoology at Harvard. He plans to continue his Caribbean studies in six weeks on the Cayman Islands and Tobago during the fall migration.

An early issue of *Bird-Banding* will carry further papers by Dr. Blake on Purple Finches, one on females and one on juvenals. We are also looking forward to a paper on penguin banding in the Antarctic by Dr. Oliver L. Austin, Jr. We hope that a paper on detailed techniques of net handling can be included before long. It is still possible to give early publication to papers accepted.

Mr. Paul Schwarz of Caracas, Venezuela, writes that he banded nine Northern Water-thrushes (*Seiurus noveboracensis*) there in April, 1956, with one painted aluminum band on each leg. He is anxious to get reports on these. It appears that no numbered band was used, which rules out the chief possibility of hearing from these birds again. Even with numbered bands, the odds against any recovery are fantastically high. Down to about 1950, the banding records at Patuxent show 3,736 of this species banded, with no returns or recoveries (unpublished notes by the editor). For North American warblers in general, some 124,656 banded up to that time yielded 1,113 returns (.89%) and only 40 apparent recoveries.