

35-204712, banded at Sutherland, Iowa, September 26, 1935, by Gustav J. Schultz, was found dead November 1, 1935, at Newell, Iowa, about 35 miles away.

A293311, banded at Sioux City, Iowa, December 24, 1931, by Mrs. Marie Dales, was found dead May 11, 1932, about 80 miles away, at Santee, Nebraska.

B270818, banded as an immature, at Battle Creek, Michigan, October 23, 1933, by L. C. Nielsen, was captured by hand in the early morning of December 14, 1933, by Dr. J. Van Tyne, at Ann Arbor, about 85 miles distance. The bird seemed to be suffering from cold but was released in good condition two hours later.

39-247157, banded as an immature, at Chevy Chase, Maryland, August 20, 1943, by A. E. Clattenburg, Jr., was found, slightly injured November 2, 1943, at Ranks, Lancaster County, Pennsylvania, a flight of about 85 miles.

36-120378, banded at Raleigh, North Carolina, May 29, 1938, by J. L. Primrose, was found dead December 26, 1939, at Winston-Salem, North Carolina, about 95 miles away.

41-202287, banded at Elberton, Elbert Co., Georgia, April 4, 1944, by P. B. Smith, was "found" January 18, 1945, about 105 miles north in Dickinson County, Virginia, 3 miles north of Herald.

37-231808, banded at Iowa City, Iowa, April 18, 1940, by C. G. Danforth, was killed by a train at Des Moines, Iowa, 110 miles distant.

35-208878, banded at Memphis, Tennessee, February 18, 1936, by Mrs. C. W. Govert, was killed about November 25, 1936, 145 miles away, 3 miles north of Russellville, Alabama.

37-237826, banded at Takoma Park, Maryland, March 10, 1939, by L. M. Ashley, was found dead July 20, 1940, almost 200 miles away, at New Kensington, Pennsylvania.—MAY THACHER COOKE, U. S. Fish and Wildlife Service, Washington, D. C.

RECENT LITERATURE

Reviews by Donald S. Farner and others

BANDING AND MIGRATION

1. Do Individual Birds Always Use the Same Migratory Route? (Zieht der einzelne Vogel stets auf demselben Weg?) Rudolph Drost. 1941. *Ardea*, 30(4): 215-223. Of the migratory birds banded at Helgoland prior to the end of 1940, six were recorded as returns in a later migratory period. These returns were as follows: one Continental Song Thrush, *Turdus ericetorum philomelos* Brehm; three European Blackbirds, *Turdus merula merula* L.; one Sky Lark, *Alauda arvensis arvensis* L., and one Pied Flycatcher, *Muscicapa hypoleuca* (Pallas). Up to the end of June, 1940, about 104,000 migrating birds had been banded at Helgoland. Of these 16,123 were *Turdus ericetorum philomelos*; 15,410 were *Turdus merula merula*; 2,530 *Alauda arvensis arvensis*; and 2,617 *Muscicapa hypoleuca*. In comparing these numbers with the above-cited data on returns there is little evidence to support a theory of repeated individual use of the same migratory route. Among the recoveries are those of the twelve migrating individuals for which the recovery data are such that the use of the same route as employed when they were banded is precluded. They are as follows: one *Muscicapa hypoleuca*; one Continental Robin, *Erithacus rubecula rubecula* (L.); one Fieldfare, *Turdus pilaris* L.; five *Turdus merula merula*; two *Turdus ericetorum philomelos*; and two European Woodcock, *Scolopax rusticola rusticola* L. The author concludes that individual migrants do not use repeatedly the same migratory route and that his data indicate frequent individual changes in migratory routes. The author further points out that, although this applies to the species under discussion, it is probably true for all species which migrate on a broad front. It will be interesting for operators of banding stations in America to examine their data from this aspect.—D. S. F.

2. Observations Concerning the Spring Migration of the Chaffinch, *Fringilla coelebs* L., in Nijmegen. (Waarnemingen betreffende den Voorjaarstrek van den Vink (*Fringilla coelebs* L.) bij Nijmegen.) D. A. Vleugel. 1943. *Ardea*, 32(3/4): 250-263. This study is based on counts of migratory finches at various localities in southeastern Holland. Between Nijmegen and Beek the rim of hills serve as guide lines causing the migrants to swerve abruptly eastward, thus avoiding the tree-less Ooijpolders. In 1934 and 1935 the migration began in the first third of March and on 17 April 1935 was still in progress to a certain degree. In localities with much woodland the numbers of observed migrating birds was higher (about 225 per hour) than in localities with little woodland (about 90 per hour); few or none were observed in the tree-less areas. A strong positive correlation between atmospheric temperature and numbers of observed migrating birds (with a lag of one day) was observed except in the event of otherwise unfavorable meteorologic conditions. In absolute numbers the greater part of the migration occurred when the wind was in the same direction as the course of migration. However, the greater daily rates occurred on days when the direction of the wind was against the course of the migrants. In general such days produced otherwise ideal conditions for migration.—D. S. F.

3. Bird Banding Activities in Belgium in 1941. (Oeuvre du baguage des oiseaux en Belgique. Exercice 1941.) Ch. Dupond. 1942. *Le Gerfaut*, 32(2): 33-37. This is a list of 64 returns and recoveries mostly recorded during 1941. Sixteen of the records are of the European Blackbird, *Turdus merula merula* L. The number of foreign recoveries is small because of war conditions.—D. S. F.

4. Bird Banding Activities in Belgium in 1942. (Oeuvre du baguage des oiseaux en Belgique. Exercice 1942.) Ch. Dupond. 1943. *Le Gerfaut*, 33(2): 56-58. This is a list of 42 returns and recoveries recorded during 1942, the unusually small number being attributable to suspension of banding activities and restrictions on international communications.—D. S. F.

5. Birds Banded in Foreign Countries and Recovered in Belgium. (Oiseaux bagués à l'étranger et retrouvés en Belgique.) Ch. Dupond. 1942. *Le Gerfaut*, 32(2): 38-39. This is a list of 26 foreign-banded birds recovered in Belgium. Eight are Starlings, *Sturnus vulgaris vulgaris* L., banded in Germany, Italy, Sweden, and the Netherlands.—D. S. F.

6. Recoveries of Foreign Banded Birds in the Netherlands. (Terugvondsten van in het buitenland geringde vogels, 18.) C. G. B. Ten Kate. 1944. *Limosa*, 17(2/3): 94-97. Thirty-three recoveries in eight species of birds banded in other countries. Eighteen are recoveries of the Black Headed Gull, *Larus ridibundus* L. An interesting recovery in this species was a bird banded on the nest at Ossendrecht, Belgium, July 26, 1939, and recovered in July, 1942, in Noord-Brabant.—D. S. F.

7. Recovery of Marked Birds. E. P. Leach. 1945. *British Birds*, 38: 347-350; 370-372. A number of longevity records are given—in the first paper: Rook, *Corvus frugilegus frugilegus* L., 12 years; two Starlings, *Sturnus vulgaris vulgaris* L., of 6 years, three of 7 years; Blackbirds, *Turdus merula merula* L., 6 and 7 years; Common Heron, *Ardea cinerea cinerea* L., 9 years; Widgeon, *Anas penelope* L., 7 and 8 years; Cormorant, (*Phalacrocorax carbo carbo* (L.)), 9 years; in the second paper: Sandwich Tern, *Sterna sandvicensis sandvicensis* Latham, 13 years. Starlings ringed in fall and winter in England were retaken in England, Holland, Denmark and Sweden.—M. M. NICE.

ECOLOGY AND POPULATION

8. **The Breeding-Bird Population in the Woodland Parts of "Het Bosch" in Amsterdam in 1942.** (De broedvogelbevolking in de boschgedeelten van "Het Bosch" van Amsterdam in 1942.) J. E. Sluifers. 1943. *Ardea*, 32(3/4): 139-163. "Het Bosch" is an area of about 2300 acres ("ongeveer 900 ha.") which occupies parts of three polders (areas reclaimed from the sea). Of this area 187 acres (75 ha.) have been planted with trees and shrubs. Planting of the woodland areas began in 1936 and continued through 1940. The plan followed was to plant woodland trees beneath a screen of alder. Among the trees planted were oak, ash, thorn ash, beech, birch, linden, poplar, etc. Underbrush such as hawthorn and elder were also planted. Although the author points out that a census of singing males is not necessarily a good census of breeding pairs because of unpaired singing males, and that this method has other shortcomings and difficulties, he nevertheless found it to be the most suitable. The census was conducted from 15 April to 23 June. He visited "Het Bosch" two to four times per week during this period customarily from an hour before sunrise to one or two hours after sunrise. Singing males were recorded on outline maps (scale 1:10,000) at the time of observation. The observations which were repeated, with certainty, three to five times over the spread of the season, were transferred to the master map as territory-occupying birds, and indicated by a sign at the place where the male sang most frequently. Some trouble was encountered in the cases of the European Blackbird, *Turdus merula merula* L., and the Song Thrush, *Turdus ericetorum ericetorum* Turton. These species sang for such a short period that there was not time enough to cover the entire area. To remedy this the author obtained the assistance of a colleague. The study was confined to the woodland parts (187 acres). The following paragraph is a summary of the observations in this area.

In the case of *Turdus ericetorum ericetorum*, 32 territories were found. This species was found to prefer breeding in the hawthorn. Food was obtained outside of the territories. It appeared that each territory contained a nesting pair. There were 30 territories of *Turdus merula merula*. Most of the nests were in the hawthorns. In this species also it was found that each territory contained a nesting pair. Most food-seeking was done outside the territory. The density of 16 territories per 100 acres (40 per square kilometer) compares closely with the 17 per 100 acres (43/km².) found by Heyder in Oederan and the 16 per 100 acres observed by Alexander in Rome. The White Throat, *Sylvia communis communis* Latham, was found to have 18 territories. This density, about 10 per 100 acres (24/km².), is very similar to that (25/km².) observed by Palmgren in southern Finland. Three territories of the Lesser White Throat, *Sylvia curruca curruca* (L.), were found, this being the first year in which this species nested in the area. In the case of the Garden Warbler, *Sylvia borin* Boddaert, 37 territories were found. Most of the nests were found in elders. With the Icterine Warbler, *Hippolais icterina icterina* (Vieillot), it was the dominant breeding species of the rich underbrush. Only in the open woodland parts without underbrush were there no Garden Warblers. There were four territories of the Chiffchaff, *Phylloscopus collybita collybita* (Vieillot), which is considerably restricted to the higher foliage trees. The Willow Warbler *Phylloscopus trochilus fitis* (Bechstein), was more numerous because it found a suitable biotope even in the youngest plantings. There were 19 territories established by this species. Three territories of the Great Reed Warbler, *Acrocephalus arundinaceus arundinaceus* (L.) were recorded. This is not a forest species; the territories were on two small islands and in forest area adjacent to water. A similar situation existed in regard to the Reed Warbler, *Acrocephalus scirpaceus scirpaceus* (Hermann); three territories were recorded. There were nine territories occupied by Marsh Warblers, *Acrocephalus palustris* (Bechstein). The biotope used by this species was one of undergrowth of tall

weeds, especially nettles, in areas where no digging had been done during the year. *Hippolais icterina icterina* was the dominant form of the woodland and with 52 territories it was the most abundant species. "Nevertheless I got, in this species, the strong impression that part of the singing males were unpaired, . . ." The Wren, *Troglodytes troglodytes troglodytes* (L.), was represented by a single singing male despite the fact that there were many suitable places for this species. A single pair of Tree Pipits, *Anthus trivialis trivialis* (L.) was recorded. There were six territories of the Carion Crow, *Corvus corone corone* L., each with a nest. The Continental Chaffinch, *Fringilla coelebs coelebs* L. was represented by two territories. It is suggested that this low density can be explained by the lack of older trees. There were 16 territories of Linnets, *Carduelis cannabina cannabina* (L.). Their territories were difficult to ascertain because the males frequently were outside of them. In the case of the Greenfinch (*Chloris chloris chloris* (L.)) there were five territories. This species presented the same difficulty as *cannabina*. A single Reed Bunting, *Emberiza schoeniclus schoeniclus* (L.), established a territory in the brush along a canal; it is not a breeding bird of the woodlands. Cuckoos, *Cuculus canorus canorus* L., were seen very frequently. This very interesting study is concluded with discussions concerning the absence of certain species, the development of the breeding-bird population, and the establishment of new species. The author regards comparison of his data with those of other authors as impossible because of (1) difference in methods, (2) difference in geographic position of the census area through which modifications in the bird population appear, and (3) difference in the age, composition, etc., of the woodland and brush parts of "Het Bosch." Whereas these are sound and valid points yet it does seem that a critical comparison with similar data from other localities and types of areas could have been very enlightening. This paper is not only an interesting contribution at the present time, but it will also serve as a very important basis of comparison for future studies in "Het Bosch" and elsewhere.—D. S. F.

9. Some Considerations Concerning the Cause of the Colonizations by Birds of the Zuiderzee Polders. (Enkele beschouwingen naar aanleiding van de vogelkolonisatie in de nieuwe Zuiderzeepolders.) J. Muller. 1944. *Limosa*, 17(2/3): 55-63. This is a discussion of the possible methods and causes of the colonization of the polders (low areas reclaimed from salt water by drainage) of the Zuiderzee. In the case of the Avocet, *Recurvirostra avosetta* L., it is concluded that colonization is accomplished by birds which are breeding for the first time since those which have bred previously return to the previous nesting localities. In the first year of colonization there were more rotten eggs, abandoned birds, and dead young than during the second year despite the fact that nesting conditions were better during the first year. This is interpreted as the result of the breeding activities of a population composed almost exclusively of birds breeding for the first time. The author postulates the existence of a "potential breeding reserve" composed mostly of the "younger generation." If the opportunity for colonization presents itself these birds breed in the newly available territories if not they are manifest as "oversummering" non-breeding birds.

The Beach Plover, *Charadrius alexandrinus alexandrinus* L., also colonized in large numbers. It is assumed in the case of this species also that the colonization was accomplished principally by young birds. The situation in the case of the Ringed Plover, *Charadrius hiaticula hiaticula* L., was different in that although migratory birds were common during the first season only a small number of the species nested. The author feels convinced that this cannot be explained by lack of suitable nesting conditions. Also previous investigations have shown that in this species there is an unvarying return of adult birds to the previous nesting localities, but that the young show some tendency to wander from the birth locality in selecting their breeding locality. It is concluded that the breeding birds

in the polders were young birds only and that the sparse colonization may be due to the fact that the Netherlands lie on the southern periphery of the breeding range of the species. Colonization by the Little Ringed Plover, *Charadrius dubius curonicus* Gmelin, was similar to that of *alexandrinus* with some older birds thought to have participated. With the Lapwing, *Vanellus vanellus* (L.), there has been a marginal colonization of Noordoostpolder from an already well-inhabited region. In this species it has been shown by banding studies that not only do the adult birds return to the previous nesting localities but also that the young show a similarly strong tendency to return to their birthplaces to breed. This leads to a surplus in the breeding area. If there are available territories very nearby they are presumably filled by first-year birds; this would account for the marginal colonization of the polder. If no territories are available nearby the first-year birds are non-breeders and are the beginners of the early migration (wegtrek).

In the case of the Reed Warbler, *Acrocephalus scirpaceus* Hermann, it is concluded that colonization occurs by the taking up of territories by first-year males who are unable to find territories near their birthplaces because of the earlier arrival of old males. In support of this the author compares the earlier spring arrival in Schokland (middle of May) and later arrival in the polder (last week in May). This species is contrasted with the Reed Bunting, *Emberiza schoeniclus* L. Both apparently colonized Noordoostpolder from Schokland. However, *scirpaceus* spread over the entire available terrain whereas *schoeniclus* remained restricted to a small area adjacent to Schokland. The author interprets this as indicating in *schoeniclus* a greater tendency to return to the birthplace to breed and the possible lack of the surplus of males which exists in *scirpaceus*. Whereas there is much in this paper that is speculative and based on indirect evidence, nevertheless it is interesting, stimulating and worthy of serious thought.—D. S. F.

10. The Expedition of the M. N. Gracioso through the Waters of Extreme Northwestern Mexico. (La Expedición del M. N. "Gracioso" por aguas del extremo noroeste mexicano.) B. F. Osorio Tafall. 1944. *Anales de la Escuela Nacional de Ciencias Biológicas*, 3(3/4): 331-360. The author during April, May, and June, 1944, accompanied an expedition visiting the desert islands along the coasts of the Gulf of California and the west coast of Baja California. This expedition was sponsored by the recently organized "Guanos y Fertilizantes de México, S.A.," for the purposes of ascertaining the factors influencing the populations of the guano-producing birds and means for increasing them. The following are the guano-producing species of this region: (1) Brandt's Cormorant, *Phalacrocorax penicillatus* Brandt. The principal advantages of this species are its gregariousness, density within the colony, and large clutch. The principal disadvantage is the use of relatively large amounts of nesting material tending to reduce the quality of the guano. This species was found principally on small islands and isolated rocks on the west coast of Baja California but except for two rocks was not sufficiently abundant to use the available territory. The author is of the opinion that the elementary measures of protection would result in considerable increases in the sizes of the colonies of this species. Three other species of cormorants, tentatively identified as *Phalacrocorax olivaceus mexicanus* (Brandt), *Phalacrocorax auritus albociliatus* Ridgway, and *Phalacrocorax pelagicus resplendens* Audubon, occur in this region but, for one reason or another, are not important in guano production. (2) The Blue-footed Booby, *Sula nebouxi* Milne-Edwards, is the more southern of the two species of boobies occurring principally in the southern part of the Gulf of California. (3) Brewster's Booby, *Sula leucogaster brewsteri* Goss, occurs principally in the northern part of the Gulf of California. The California Brown Pelican, *Pelecanus occidentalis californicus* Ridgway, occurs in colonies on some of the islands but economic exploitation of its guano does not seem feasible and it is therefore not regarded as an important guano-producing bird.

In the Gulf of California the birds were found to feed principally on fish including: *Anchoviella compressa* (Girard), *Anchoviella delicatissima* (Girard), *Anchoviella helleri* Hubbs, *Harengula thrissina* (Jordan and Gilbert), *Opis-thonema libertate* (Gunther), and *Sardinella stolidifera* (Jordan and Gilbert). The cormorants on the west coast of Baja California were feeding principally on the anchovy, *Engraulis mordax* Girard; the California sardine, *Sardinops caerulea* (Girard), the "Sardina bacona," *Anchovia macrolepidota* (Kner and Steindachner), and the mackerel *Pneumatophorus diego* (Ayres). Crustaceans of the genus *Munida* were found in the digestive tracts of some birds.

Soft ticks of the genus *Ornithodoros* were found commonly; *Argas* was rare. Mallophaga were found commonly on the cormorants, boobies, and pelicans. Principal predators were found to be Wyman's Gull, *Larus occidentalis wymani* Dickey and van Rossem; the Yellow-footed Gull, *Larus occidentalis livens* Dwight; and Heermann's Gull, *Larus heermanni* Cassin. On occasion sea lions, *Zalophus californianus* Lesson, may detrimentally molest the birds.

It has been suggested that the number of birds has decreased from year to year. If this is accepted as true the following probable causes are suggested: (1) human activity, (2) climatologic changes, (3) reduction in food, (4) increase in predators. The author offers some evidence to support a conclusion of "ecologic depression" and consequently reduced numbers of birds in 1944. He is of the opinion that "with the protective measures already adopted and others under consideration, it will be possible to have an important annual crop of guano that will be of great value to Mexican agriculture."—D. S. F.

11. Adaptability of the Chukar Partridge to Missouri Conditions. Werner O. Nagel. 1945. *Journal of Wildlife Management*, 9(3): 207-216. A total of 1,838 Chukar partridges released at fourteen selected areas in Missouri were closely watched during a period of three years. The birds survived and bred quite well on some of the areas but were unable to maintain themselves anywhere because of the wandering habit which resulted in wide scattering and eventual disappearance of the colonies. The birds persisted longest in the mixed cover of farm lands but quickly disappeared from prairie lands, woodlands and marshlands. Nests containing two to nineteen eggs were found between May 5 and August 11. The incubation period at the game farm was 21.5 days. The average number of young produced by thirteen pairs was 14.6.—JOHN T. EMLEN, JR.

12. Some Observations on Stone Chats in North Cornwall. E. R. and E. D. Parrinder. 1945. *British Birds*, 38: 362-369. Fifteen pairs of *Saxicola torquata hibernans* (Hartert) were found breeding on a five-mile stretch of cliffs near Tintagel; twenty-two nests of twelve pairs were located. The Stonechat nests close to the ground but gorse bushes were an essential part of each territory, serving as look-out posts for food. Territories were about two acres in size. Nesting starts in late March and early April; five pairs raised one brood, two pairs two broods and five pairs three broods. "The average clutch size was 5.0 for the first broods, 5.7 for the second broods, and 4.2 for the third broods." Of 122 eggs laid 114 hatched (93.4 percent), and 111 nestlings flew (91 percent of the eggs laid)—extraordinarily high success for an open-nesting bird. The female incubates for half to three-quarters of an hour at a time and stays off the nest about 10 minutes. Some of the pairs remained on their territories all winter.—M. M. NICE.

13. The Status of Certain Species of Birds on the Lake Carl Blackwell Project. F. M. Baumgartner. 1945. *Proc. Oklahoma Acad. Science*, 25: 24-26. Observations on a made lake in north-central Oklahoma from 1939-44. Increase in the surface area from 1,000 to 3,000 acres has been accompanied by a larger fish supply and an increase in the numbers of Ospreys, Common Terns

and White Pelicans. Concomitant with the deeper water, food-plants for ducks were destroyed and the number of winter ducks has decreased. In 1939 a sizable population of cotton rats supported a large number of hawks and owls; during severe weather in January, 1940, the rodents died off and the birds of prey for the most part disappeared.—M. M. NICE.

14. The Nesting Biology of the Pied Flycatcher. (Die Brutbiologie des Trauerfliegenschnäppers (*Muscapa h. hypoleuca* Pallas.) Gerhard Creutz. 1943. *Ber. Verein. Schles. Ornith.* 28: 28 ff. Results of banding at nest boxes at Pillnitz near Dresden from 1935-1942. Of 71 nesting females 14 (20 percent) returned; of 554 nestlings, 8 (1.5 percent) returned. Sets averaged 6.08 eggs; females nesting for the first time averaged fewer eggs than did older birds. Bigamy was fairly common. Only one brood is raised. The female incubates and in some pairs is fed by the male. Of 738 eggs in 122 layings 466 young were fledged (63.2 percent), typical for hole nesters. Each pair fledged on the average 3.8 young.—M. M. NICE.

15. Some Examples of Commensalism in Birds. (Quelques exemples de commensalisme chez les oiseaux.) Ch. Dupond. 1942. *Le Gerfaut*, 32(2): 48-53. A review of a number of observations of the nesting of small birds near or within the nest of larger birds. An interesting review of this subject.—D. S. F.

16. Winter Night Habits of Birds. A. D. Moore. 1945. *The Wilson Bulletin*, 57(4): 253-260. The title of this paper is misleading. The content is a theoretical discussion of the ways in which conduction, convection and radiation may affect heat loss in sleeping birds in enclosed or open roosting sites. Suggestions (untried) are made on ways to measure air temperature and wind movement at a roost.—JOHN T. EMLEN, JR.

17. The Condition of the Colonies of Herons and Cormorants in Belgium after the War. (Situation des colonies de Hérons et de Cormorans en Belgique après la guerre 1940-1945.) Ch. Dupond. 1945. *Le Gerfaut*, 35(2): 67-70. In general the heronries and cormorant colonies were not extensively affected by the war. The heronry and cormorant colony at Coolkerke lez-Bruges were destroyed. The heronry at Furnes because of the defensive inundations performed by the Germans and the disappearance of the trees, is being destroyed. A new colony of cormorants, which increased to 65 nests in 1945, was established at Woumen near Dixmude. The herons at this locality increased from two pairs in 1938 or 1939 to 80 nests in 1945.—D. S. F.

PHYSIOLOGY

18. Resistance to Hunger in Birds. S. Charles Kendeigh. 1945. *Journal of Wildlife Management*, 9(3): 217-226. English Sparrows, as they were removed from traps, were placed in small individual cages in a darkened room without food or water. Survival time was found to be closely related to environmental temperatures, being longest (67.5 hours) at 29° C. Greatest loss of body weight before death coincided with longest survival at middle temperatures. Death was attributed to exhaustion of energy reserves only between temperatures of 21° and 35°; below 21° death occurred from inability to maintain the required rate of heat production, above 35° it occurred from inability to maintain the required rate of water evaporation.

Survival without food fell below 14.5 hours, the length of a mid-winter night, at -18° C., which thus becomes a critical temperature for survival of the species in the field.

A smattering of observations on various other species by the author and others indicates a direct correlation of survival time with body size, stored fat and metabolic rate. The relation of hunger resistance to winter survival and winter distribution of several species, and the probable influence of special feeding and roosting habits are briefly discussed.

This paper is a valuable contribution to our understanding of the fundamental factors which determine distribution and survival of bird populations.—JOHN T. EMLEN, JR.

19. The Occurrence of the Incubation-Patch in Some Brazilian Birds. David E. Davis. 1945. *The Wilson Bulletin*, 57(3): 188-190. In a series of about 1,000 birds collected during the breeding season, 43 species showed brood patches in one or both sexes. The occurrence of the patch, as to sex, invariably agreed with the incubation habits of the species when these were known.—JOHN T. EMLEN, JR.

20. The Question of Erythrisms. (Het vraagstuk van het erythrisme.) W. Ph. J. Hellebrekers. *Limosa*, 17 (2/3): 84-88. A brief discussion of the occurrence of erythristic eggs among birds based largely on information in the literature with some observations made by the author.—D. S. F.

REPRODUCTION

21. Supplementary Notes on the Diving Petrel. L. E. Richdale. 1945. *Trans. Roy. Soc. New Zealand*, 75, Part I: 42-53. Further data on the Kuaka, *Pelecanoides urinatrix* (Gmelin), on Whero Island, gathered in fourteen weeks in three nesting seasons between December 1, 1942, and February 12, 1944. "There is a tendency for pairs to remain together in subsequent seasons." "The Diving Petrel changes guard daily during the incubation period." Twelve tables give information on weights and measurements of eggs, data on estimating age of chicks, details as to parental care, measurements of bills of young and adults, statistics on the population, etc. Once a chick has chipped the shell, it takes at least three days to emerge. "In 1942-43, it was noted that 60 eggs produced chicks, seven were addled, while two were deserted when found. This means that just over ten percent of the eggs incubated failed to hatch, which seems rather a high percentage."—M. M. NICE.

22. Studies of Central American Redstarts. Alexander F. Skutch. 1945. *The Wilson Bulletin*, 57(4): 217-242. Observations on breeding behavior and data on nesting are presented for three forms of the genus *Myioborus* (Comptothlypidae) studied in Central America. All three follow a similar general pattern in which nest building and incubation are performed by the female, while care of the young is shared by both parents. The Pacific Orange-bellied Redstart, *Myoborius miniatus hellmayri* van Rossem, differs significantly from the Costa Rican form, *Myoborius miniatus aurantiacus* (Baird), and the Collared Redstart, *Myoborius torquatus* (Baird), in pairing for the nesting season only, and in avoiding members of its species outside the breeding season. *M. m. aurantiacus* and *M. torquatus*, more terrestrial in habits, pair a few months after they are fledged and remain paired throughout the year. The author calls attention to the similarities in behavior between these warblers and the migratory, sexually dimorphic forms of North America. From his rather wide experience with neotropical birds he generalizes that "with few exceptions, all members of . . . a family of birds follow the same general plan of incubating eggs; and the species in which the sexes are alike in color behave very much the same as species in which the sexes

are greatly different. Contrary to the statements of theorists of the last century, the color of the plumage seems not to be correlated with incubation habits."—JOHN T. EMLEN, JR.

23. Polygamy in the Black-Tailed Godwit. (Cas de polygamie chez la Barge à queue noire.) A. de Bont. 1945 *Le Gerfaut*, 35(2): 65-66. The author presents data demonstrating that polygamy occurs in *Limosa limosa limosa* (L.). In the dense population observed by the author in Belgium the frequency of polygamy is placed at five percent.—D. S. F.

24. A Record of Breeding of the White-Fronted Goose, *Anser albifrons albifrons* (Scopoli), in the Netherlands. (Een broedgeval van de kolgans, *Anser a. albifrons* in Nederland.) Tsjeard Gs. de Vries. 1944. *Limosa*, 17(2/3): 82-84. A professional goose catcher has a flock of decoy geese consisting of Bean Geese and principally White-fronted Geese. Except during the catching season these geese have their freedom but nevertheless remain in the vicinity throughout the year; they feed and breed in the nearby swamps. In the spring of 1942 a wild young female *albifrons* which had wintered in the area failed to migrate. She flew about with the decoy geese and sought food with them. The following season she also failed to migrate and in May began the construction of a nest. There were constant attempts at copulation with one of the "tame" ganders. The nest was destroyed by boys. In 1944 she constructed another nest which on May 29 contained one egg. On June 2 she began incubating five eggs. (Two pairs of "tame geese" had young by this time.) However, she was disturbed by a dog and since she did not return the following day the eggs were collected because of the danger of frost and predation. The mean measurement of the five eggs was 416.6 x 258.9 mm. The mean weight was 628 grams; the mean weight of the empty shells was 60.1 grams. The incubation period for the decoy geese (same species) is 26-28 days.—D. S. F.

25. The Goshawk, *Accipiter gentilis gallinarum* (Brehm), Nesting on the Ground. (Havik, *Accipiter gentilis gallinarum* (Brehm), nestelend op den grond.) H. F. A. Schweigman. 1941. *Ardea*, 30(4): 269. This interesting and unusual observation was made near Enschede, Holland.—D. S. F.

BEHAVIOR

26. Courtship and Allied Behaviour in Penguins. L. E. Richdale. 1945. *The Emu*, 44(4): 305-319; 45(1): 37-54. A detailed description, illustrated with seven superb photographs, of "Types of Behaviour" in penguins, particularly in the two species on which the author has made exhaustive studies—*Megadyptes antipodes* (Hombron and Jacquinot) and *Eudyptes sclateri* Buller. What some authors call "courtship" or "display," Mr. Richdale terms "love-habits." With penguins "love-habits are taking place with equal intensity during the whole period they are on the breeding grounds." "It seems established that very little of the love-habit behaviour in penguins has true 'courtship' value, i.e., that it is used before and will lead up to 'marriage.' Some of it has a purely social significance, e.g., saluting between males which the observer is aware are definitely known to each other. Much of it, however, if it does not serve as a bond to keep the family together, must have an emotional companionship value. Certainly it appears to be self-exhausting and as such has little connection with coition."—M. M. NICE.

27. Contribution to the Nesting Biology of the Pied Wheatear. (Beitrag zur Brutbiologie des Nonnensteinschmätzers (*Oenanthe pleschanka*

pleschanka (Lepechin).) Erich Eggebrecht. 1943. *Ornithologische Monatsberichte*, 51: 127-135. Very interesting account of behavior at the beginning of the breeding season of *Oenanthe leucomela leucomela* (Pallas) in the South Ukraine. On April 29 there were five females along a kilometer stretch of rocky slope; the females were stationary, while eight males courted them and fought each other. Four days later the females were still in the same places, but two of them had mates that drove off intruders. On May 5 all five pairs were established, but three unmated males were still present. One female was building at two nest sites; occasionally she sang, less loudly and more melodiously than the male. Nest territory and nest site are chosen by the female, while the boundaries of the territory are settled by the male.—M. M. NICE.

28. Nesting Behavior of Wood Warblers. S. Charles Kendeigh. 1945. *The Wilson Bulletin*, 57(3): 145-164. Notes on twelve species of Wood Warblers made during three summers on a twenty-one acre tract in east central New York State are summarized, and a common pattern of behavior is outlined. The plotting of all sight records on maps demonstrated localizations which, with the aid of local peculiarities of song, were interpreted as individual territories. Observations on behavior were made at fourteen nests.

Male territories are advertised by song and defended by chasing but rarely fighting. Females defend a smaller area near the nest. Song decreases markedly at the time the eggs hatch. Display is used in territory advertising and in courtship before coition.

In addition to the defended territory, a more extensive home range is found in individuals of some species, particularly after incubation has started at the nest.

Nest building is performed almost entirely by the female. Incubation from the laying of the last egg is normally twelve days, and the nestling period, eight to ten days. Both sexes feed the young. Periods of attentiveness and inattentiveness at the nest are well-marked.—JOHN T. EMLEN, JR.

29. Contribution to the Knowledge of the Behaviour of the Oystercatcher (*Haematopus ostralegus* L.) G. F. Makkink. 1942. *Ardea*, 31(1): 23-74. Valuable, detailed observations and illuminating conclusions. First the "components of the behaviour" are described, with sketches showing various attitudes taken by the birds; then more general problems discussed. "In early spring the birds of the flock perform all possible sexual activities and in this way get acquainted with each other. Gradually more fixed relations are established. When mated the pairs leave the flock in search of a nest site, which is not a territory. This procedure is termed 'sociogamous mating,' opposite to 'territoriogamous mating' in species which begin with staking out a territory. Sociogamous species are nidifugous, territoriogamous species are nidiculous or remain with their young ones on the territory (*Vanellus*, *Phalaropus*)." p. 72. In "territoriogamous species the mates become tied down to a distinct nesting site, whereas in sociogamous species the tie concerns the mate," p. 62, and the parents follow the young.

"The piping performance is considered as a procedure which brings the sexes together and stimulates them so much that fights between rival birds of pairs occur on the one hand and nesting activities between future mates on the other. . . . The pseudo-sleeping attitude . . . which occurs frequently in encounters" is considered "an attitude of inactivity occurring at the very moment of the balancing of two antagonistic impulses." Promiscuity is characteristic of Oystercatchers both before and after pairing.—M. M. NICE.

30. Sexual Dimorphism in Voice and some Preliminary Observations Concerning the Behaviour of the European Coot. (Geslachtelijk geluidverschil en enkele voorlopige mededelingen aangaande het gedrag van den Meer

koet.) D. Grimeyer. *Ardea*, 32(3/4): 273-278. The author describes a difference in the voices of the male and female European Coots, *Fulica atra atra* L. This was found to be the only usable character in the field. The difference in voice is correlated with a difference in the anatomy of the syrinx as described by W. Rüppell. There is described in some detail the slapping of the nest-floor with one leg while standing on the other. The author also makes note of the association of the coot with the common Pochard, *Nyroca ferina ferina* (L.) and the Tufted Duck, *Nyroca fuligula* (L.). He suggests that the coots obtain food which floats to the surface as a result of the "diving and bottom-rummaging of these ducks."—D. S. F.

31. Albino Purple Martin at Seattle Martin Roost. Earl J. Larrison. 1945. *The Murrelet*, 26(3): 45-46. This albino was pursued by a flock of "12,000-odd martins" prior to roosting. The flock reappeared without the albino of which no trace could be found.—D. S. F.

32. The Bathing of Struthious Birds. (Vom Baden der Straussenartigen.) Karl M. Schneider. 1943. *Ornithologische Monatsberichte*, 51(1): 34-38. The struthious birds in the Leipzig Zoo were supplied with two large water tanks; the Ostriches, *Struthio camelus camelus* L. and *Struthio camelus massaicus* Neumann, were never seen to bathe in water, but often did so in sand. Cassowaries (*Casuaris*) bathe often, Emus (*Dromaius novaehollandiae*) occasionally. The article is illustrated with eleven photographs.—M. M. NICE.

33. Strange Nesting Habits of Tree Sparrows in Bessarabia. (Besondere Nistweise des Feldsperlings in Bessarabien.) Fritz Frank. 1944. *Ornithologische Monatsberichte*, 52: 156-157. *Passer montanus montanus* L. is abundant in the villages of Bessarabia, but as all nesting places under roofs and in barns seem to be taken by *Passer domesticus* L., the Tree Sparrow nests between rocks in the wells, as many as five to a well and at depths from 50 cm to 5 meters below the level of the earth. Constant drawing of water by natives did not disturb the birds. These nesting sites are safe from predators, but might present dangers when the young leave the nest.—M. M. NICE.

34. The Display of the Corn-Crake. A. G. Mason. 1945. *British Birds*, 38: 351-2. Corn-Crakes, *Crex crex* L., were called up to a stuffed dummy "by imitating the crake-crake song with a pair of bones"; when the bird answered and approached, the experimenter in a blind stopped craking; most birds uttered a few crakes upon seeing the dummy, then made up a courtship display and finally attempted coition, whereupon a trap net was sprung upon them and they were caught and banded. Courtship and aggressive displays are described, and the former illustrated with photographs. The net was not used when the photographs were taken; on this occasion after twenty-three attempts at coition the bird "went away and returned with a green caterpillar, which it offered to the dummy. It eventually ate the caterpillar and resumed its display and attempts at coition." The results of the experiments are described in detail in the *Irish Naturalists' Journal*, 7: 226-237, 321-333.—M. M. NICE.

LIFE HISTORY

35. Observations on the Life History of the European Redstart. (Waarnemingen omtrent de levenswijze de Gekraagde Roodstaart, *Phoenicurus ph. phoenicurus* (L.)) C. J. S. Ruiter. 1941. *Ardea*, 41(4): 175-214. Very fine population study. Each year about fifty pairs of Redstarts were trapped from 1935-39 in nesting boxes on a wooded field of 275 hectares at Wageningen; they

were caught when the young were seven days old. There were 471 captures of adults; 1362 young were banded. Sexes are distinguishable by plumage, also first year birds. Of the adults that returned 32 per cent of the males bred again in the old box, 90 per cent within 225 meters of the former nesting place and only 3 per cent nested from 326 to 425 meters distant; 21 per cent of the females bred in the former box, 72 per cent within 225 meters and 17 per cent from 326 to 1200 meters distant. Twelve times pairs remated the following year, but eight times pairs had other mates the second year, although their former mates were present. Ten times a male was found feeding two broods, probably taking over the care of a family where the male had perished. The female builds the nest, laying the first egg five days after the start of building; when a brood is destroyed the first egg of the next set is laid six days after. In the rare cases of second broods the interval between the dates of first eggs ranged between 36 and 43 days.

The average date of first eggs of 61 females previously banded as breeders was May 11.8, of 76 unbanded females (supposedly young birds from other localities) May 15.4, and of 23 first year females banded in the nest May 18.7. The average number of eggs laid by these three groups was 6.51, 6.14, 6.04. By means of the terragraph or aphigraph visits to and from the nest were recorded; the female was found to stay on the nest about 15 minutes and off it from 8-25. The number of periods off the nest throughout one incubation were: 23, 24, 27, 32, 28, 27, 28, 29, 30, 29, 32, 30. Incubation lasts 12-14 days. "In a nest with seven young, the parents brought in 21 feedings per young on the first day; this number gradually rose to 35 per young on the eighth day." Of the breeding birds 38 per cent returned; of banded young 6 per cent. Since some 79 per cent of fledged young apparently die before reaching breeding age, the author calculates that 23 per cent of surviving young return to their birthplace. If Lincoln's (*Bird-Banding*, 1934) supposition were true that "the location of the first nest is more or less a matter of chance anywhere within the natural range of the species," we could expect a young Redstart to return to its birthplace once in 100,000 years! Of the young that returned, 91 per cent nested within 225-1025 meters from the original nestbox. Some of the young were not found nesting until the end of the second year; the author calculated this was the case with 25 per cent of the young males and 58 per cent of the young females.—M. M. NICE.

36. Notes on the Life History of the Mexican Violet-ear. Helmuth O. Wagner. 1945. *The Wilson Bulletin*, 57(3): 165-187. In the Valle de México where this study was made the Violet-ear, *Colibri thalassinus thalassinus* (Swainson), is partially migratory; adult females, young and a varying number of adult males migrate southward in November and return in July.

One brood is raised on the summer range. Females start nest-building immediately on their arrival and, after completing the nest, look for a place where males are calling and displaying. One or more males respond to the appearance of a female, and a wild race ensues until one is successful in reaching the side of the female. The courtship performance which follows consists of a series of flights over the nesting territory of the female, terminating, presumably, in copulation. Females protect their 600-1000 square meter nesting territories against intruders. Males apparently pay no attention to the female after mating.

The compact nest is composed mainly of moss, but is at times lined with plant down stolen from neighboring nests of the White-eared Hummingbird. The nests of the latter may be destroyed in the process of robbery. The two eggs are incubated 16-17 days (one nest). The young, under favorable conditions, grow rapidly in size and attain full body weight in about two weeks; feathers, bill and body form develop during the remaining ten days in the nest with very little change in body size. The rate of development varies widely with weather conditions as they affect the frequency of feeding by the attending parent. This marked

response to the weather, it is suggested, may help to explain the variation in figures given in the literature for the nestling periods of several species of hummingbirds.—JOHN T. EMLEN, JR.

CONSERVATION AND WILDLIFE MANAGEMENT

37. Ratio of Reported to Unreported Duck Bands in Illinois. Frank C. Bellrose, Jr. 1945. *Journal of Wildlife Management*, 9(3): 254. The per cent of recovery of banded ducks by hunters has been used as an indicator of the total annual duck harvest. A previously unmeasured factor in these determinations has been the completeness of reporting by hunters taking banded birds. A questionnaire survey in 1944 indicates that about 75 per cent of the duck bands taken by Illinois hunters are reported. Applying this correction to the reported per cent of banding returns, and allowing for crippling losses at a rate measured in Illinois, the total annual harvest of ducks by waterfowlers is computed at about 11 per cent of the continental duck population.—JOHN T. EMLEN, JR.

38. Valley Quail Under Private Management at The Dune Lakes Club. Ben Glading, David M. Selleck, Fred T. Ross. 1945. *California Fish and Game*, 31(4): 167-183. An extremely high valley quail population (up to 4.8 birds per acre in late autumn) was built up by intensive habitat management on a tract of mediocre quail habitat in the coastal area of central California. Census methods included an adaptation of the Lincoln index, using locally trapped and introduced banded birds. In the years 1939-1941 more than one quail per habitable acre was killed during the annual hunting season; in 1941 the total kill plus the crippling loss was about two quail per acre. The ratio of young to adults in the fall population was 365 per hundred in 1940, 252 per hundred in 1941 and 141 per hundred in 1942, the decreasing ratio coinciding with a general decline in the total population.

The chief management methods employed were artificial feeding and predator control. Five hundred 100-pound sacks of steel cut corn were distributed over the area each year with the aid of a blower device mounted on a pickup truck and driven over the area three times a week. Bird predators were taken throughout the year with guns and traps, about 500 being accounted for each year in 1939 and 1940. Coincidentally about 150 mammalian carnivores and 2,000 rodents were trapped per year.

The remarkable response to management is attributed primarily to the predator control rather than the artificial feeding. The reasoning behind this interpretation is not clear to the reviewer since, despite control, the predator population was found to be higher here than on an unmanaged area with a low quail population a few miles to the south.—JOHN T. EMLEN, JR.

39. Vanishing New Zealand Birds. L. E. Richdale. 1945. *Otago Daily Times*, Dunedin, N. Z., pp. 58-72. 2/6. A vivid account of some of the birds on the unspoiled island, Big South Cape. The Robin, *Miro australis* (Sparrrn.) (see review in *Bird-Banding*, Jan., 1944, p. 29); Southern Saddleback, *Creadion carunculatus* (Gmel.); and Bush Wren, *Xenicus longipes* (Gmel.), are in one of their last strongholds. If rats and cats should get onto the island the Bush Wren and Saddleback might well be exterminated as species; the author suggests the possibilities of transferring "some pairs to other islands, or to suitable places on the mainland where there is a biological niche. The Bush Snipe, *Coenocorypha auklandica*, is very rare; it is persecuted by the Weka, *Gallirallus*, which seems to have been introduced there. The Morepork, *Ninox novaseelandiae*, is an owl which is becoming rare. Mutton-birds, *Puffinus griseus* (Gmelin), or Sooty Shearwaters were present in amazing numbers and gave "the most weird and unearthly

caterwauling that one could possibly imagine, like hundreds of tomcats calling out simultaneously." On some rat-infested islands the Shearwaters have been almost exterminated. Extraordinary noises were made by the Korure or Mottled Petrel, *Pterodroma inexpectata* (J. R. Forster), once found over the whole of South Island.—M. M. NICE.

FOOD HABITS

40. Some Contributions Concerning the Food and Economic Importance of the Jackdaw, *Coloeus monedula* L. (Eenige gegevens over het voedsel en de economische beteekenis van de kauw (*Coloeus monedula*.) H. N. Kluijver. 1945. *Limosa*, 18(1): 1-11. This study is based partly on the answers to a questionnaire concerning the economic importance of the Jackdaw and partly on the analysis of the contents of 36 stomachs. It is concluded that the species is detrimental to agriculture because it eats the planted seeds and seedlings of many agricultural crops. A general increase in the population was noted. Stomach contents were 90 per cent of plant origin and 10 per cent animal. Of 36 stomachs with material in them, 33 contained plants or parts of plants of agricultural importance. The food carried to the young consists mostly of harmful insects. However, it is felt that, despite this destruction of harmful insects, the Jackdaw is still more harmful than beneficial to agriculture.—D. S. F.

41. Flushing Tube for Determining Food of Game Birds. Donald B. Vogtman. 1945. *Journal of Wildlife Management*, 9(3): 255-257. A double-tube stomach pump was developed for flushing out the crop contents of California Valley Quail and providing food samples for analysis. Seeds and grains were readily expelled, but leafy material offered some difficulty. A distinctive bait was used in trapping the birds so that it could be identified in the analyses and excluded from the record.—JOHN T. EMLÉN, JR.

PARASITOLOGY AND DISEASE

42. Population Trends and Blood Parasites of Ruffed Grouse in Ontario. A. Murray Fallis. 1945. *Journal of Wildlife Management*, 9(3): 203-206. Ruffed Grouse, according to the reports of cooperating observers in each of four zones, increased from 1935 to 1938, remained numerous from 1938 to 1941, then declined rather precipitously during 1942 and 1943. Blood parasites were numerous during the period of decline though the incidence of infection was less than during the decline of 1933-1934. Five types of blood parasites were found and a large number of birds contained two or more of them. It is noted that these multiple infections raise the question as to whether any are of pathogenic significance.—JOHN T. EMLÉN, JR.

43. Blood Protozoa from Birds. (Protozoarios sanguíneos de las aves.) Enrique Beltran. 1944. *Anales de la Escuela Nacional de Ciencias Biológicas*, 3(3/4): 361-366. This paper consists principally of a tabulation of the results of the examination of blood from 88 birds of 68 species taken in Chiapas, México. *Haemoproteus* was found in seven species, *Leucocytozoon* in six species, and *Plasmodium* in seven species. "Parasites very similar to *Aegyptianella pullorum* were found in two specimens of *Colinus virginianus*." Microfilariae (unidentified) were found in 23 specimens of 17 different species. The table shows the discovered occurrence of the parasites according to organs (brain, lung, liver, spleen, blood).—D. S. F.

DISTRIBUTION

44. Notes on the distribution of *Phalacrocorax penicillatus* (Brandt) in the Gulf of California, and on the west coast of Baja California. (Notas sobre la distribución de *Phalacrocorax penicillatus* (Brandt) en el Golfo de Cortes y la Costa Occidental de Baja California.) B. F. Osorio Tafall and M. del Toro Aviles. 1945. *Revista de la Sociedad Mexicana de Historia Natural*, 6(1/2) : 85-93. Brandt's Cormorant, known as "pato baza," is the most important guano-producing species on the west coast of Baja California. This species occurs along the entire length of the coast, preferring the islands near the shore. Four west coast nesting localities have been previously recorded in the literature; three of these were visited by the authors and were found to be still in use. Nine additional west coast nesting localities were discovered. Also, the authors found what appears to be the first recorded nesting colony in the Gulf of California. This locality is White Rock (Roca Blanca) near Isla Partida. The size of the colony was about 150 nests. The birds were found to be feeding on the following species of fish: "*Harengula thrissina* (Jordan and Gilbert), *Opisthonema libertate* (Günther), *Anchoa helleri* (Hubbs), and *Centengraulis mysticetus* (Günther)," all of which are abundant in the surrounding waters. A female was found to be parasitized by *Contracaecum spiculigerum* (Rudolphi), a cosmopolitan nematode parasite of marine birds. The guano produced by this colony was found to be of good quality (10.95 per cent nitrogen). Brandt's Cormorant occurs on the west coast at all times of the year, although the numbers decrease markedly at the end of the reproductive season. For example, on Adelaide Island during the nesting season there are an estimated 40,000 birds, whereas by the end of August or the beginning of September the island is practically deserted. Because of the increase in numbers on the California (USA) islands during the winter the authors raise the possibility of a northward winter migration caused by a northward migration of the fish on which they feed.—D. S. F.

45. The Invasion by Bohemian Waxwings, *Bombycilla garrulus* (L.), in the Netherlands (1943-44). (De invasie van de pestvogel, *Bombycilla garrulus* (L.), in Nederland (1943-44).) Rinke Tolman. 1944. *Limosa*, 17(2/3) : 63-68. The author summarizes more than two hundred counts and observations concerning the invasion of this species from November, 1943, to March, 1944. Similar invasions have been recorded in the Netherlands for 1903-4, 1913-4, 1921-2, 1931-2, 1932-3. In 1943 a flock of ten birds was observed at Amsterdam on November 1; slightly after the middle of the month they were common. In January and February the numbers decreased; however, a few were observed early in April. In general the birds were observed in flocks of 10-20, although one flock of more than 40 was observed. Principal foods used by the Waxwings were the fruit of the following plants: *Cotoneaster*, *Liguster*, hawthorn, rose, *Berberis*, *Taxus*, firethorn, *Prunus*, holly, thrush berry, Gelderse Rose. There is a single record (Haarlem) of feeding on insects and insect larvae.—D. S. F.

46. An Invasion of *Pterocles orientalis orientalis* (L.) in Belgium. (Une incursion de *Pterocles o. orientalis* (L.) en Belgique.) Ch. Dupond. 1942. *Le Gerfaut*, 32(1) : 1-15. This paper was prepared on the basis of a suggestion made by G. van Havre before his death in 1934 and concerns the invasion of Belgium by Sand Grouse in 1917. An account of this invasion was recorded by Floericke (1919) in *Mitteilungen ueber die Vogelwelt*. The notes of van Havre speak of a specimen shot from a flock of about twenty at Morlanwelz (Hainaut), 12 April 1917 by a German medical officer; the following day he shot another and several others were taken during the same period by other officers. A water-color painting of a female collected by the medical officer is regarded as unmistakable as to identification. The range of this species includes the more arid areas

extending from Spain and Portugal through northern Africa to Asia Minor, Russian Steppes, Arabia, etc. There are occasional records for Germany, France, Hungary, Greece and Italy. There is a review of much of the biology and zoogeography of this species.—D. S. F.

47. The Flamingos of Bonaire. (De Flamingo's van Bonaire.) A. E. H. Swaen. 1943. *Ardea*, 32(3/4): 163-179. This is an interesting summary of the available information, beginning with the early explorers, on the colonies of Flamingos *Phoenicopterus ruber* L., on Bonaire Island, Dutch West Indies.—D. S. F.

48. Contribution to the Study of the Distribution of Breeding Birds in Belgian Lorraine. (Contribution à l'étude de la dispersion des oiseaux nicheurs en Lorraine belge.) Alfred van Beneden. 1943. *Le Gerfaut*, 33(1): 1-31. This paper contains a general description of the area and notes on 121 species.—D. S. F.

49. On the distribution of *Garrulus glandarius brandti* Eversmann. K. H. Voous. 1946. *Limosa*, 18(1): 11-22. The author presents an interesting series of observations and theories concerning the pre-Pleistocene distribution and post-Pleistocene movements and distribution of the races of *Garrulus glandarius*.—D. S. F.

50. Observations on the Ornithology of the Southern Zone of Vera Cruz. (Observaciones sobre la ornithologia de la zona sur de Veracruz, México.) Alexander Wetmore. 1944. *Revista de la Sociedad Mexicana de Historia Natural*, 5(3/4): 263-271. "In the extreme northeast of the large isthmus of Tehuantepec, in the southern part of the State of Vera Cruz, there rises the Sierra de Tuxtla, as an isolated mass of mountains, separated by extensive lowlands from the extreme Meseta central of México." Because of its isolated position the birds have been poorly known. The author visited this area during the months of March and April, 1939, and made a collection of birds. The collecting was continued in 1940 by Mr. Melbourne A. Carriker. The completed collection contains 291 forms with specimens of the majority of the species except for the more common aquatic birds. Most of the area belongs to the humid part of the Tropical Zone; however, in the high parts of the Sierra de Tuxtla and the Volcán de San Martín there is a small area of Subtropical Zone. Species typical of these zones are noted together with observations on their abundance. Also there are some notes on migratory birds from North America.—D. S. F.

51. Some Notes Concerning the Ornithological Discoveries in Eastern Siberia, Published in "Gerfaut," 1941, II. (Quelques notes sur les trouvailles ornithologiques de la Sibérie orientale, publiées dans "Le Gerfaut," 1941, II.) Hans Johansen. 1942. *Le Gerfaut*, 32(1): 15-16. A series of corrections and additions to the paper of W. N. Scanlon, *Le Gerfaut*, 31(2): 67-73, 1941. (See *Bird-Banding*, 16(4): 152-153.)—D. S. F.

52. Another Breeding Record of the Hoopoe (*Upupa epops epops* L.) in Western Netherlands. (Wederom een broedgeval van de hop (*Upupa e. epops* L.) in Westelijk Nederland.) F. G. J. Boer and M. J. Tekke. 1944. *Limosa*, 17(2/3): 88-89. The breeding pair recorded in this paper produced three young.—D. S. F.

SYSTEMATIC ORNITHOLOGY

53. A Systematic Study of the Netherlands Bean Goose, *Anser fabalis* (Latham). (Een systematische studie van Nederlands rietganzen, *Anser fabalis* (Latham).) K. H. Voous. 1944. *Limosa*, 17(2/3): 41-55. The author presents evidence indicating that the subspecies *Anser fabalis fabalis* Latham is dimorphic,

the differences being principally in the morphology of the bill and in general coloration. The two forms are referred to as *arvensis* Brehm and *segetum* Gmelin. Because the Siberian taiga geese show the slender form of bill and rounded nail characteristic of *arvensis* and because the Tundra Geese show the thick form of bill with curved mandible and the oval nail characteristic of *segetum* the author proposes to recognize *arvensis* and *segetum* as ecologic races of the subspecies *fabalis*. He then proposes the following arrangement of the species *fabalis*.

Taiga Geese:

1. *fabalis fabalis* (Latham) forma *arvensis* Brehm
Northern Europe, western Asia.
2. *fabalis sibiricus* (Alphéraky)
Eastern Asia.

Tundra Geese:

1. *fabalis fabalis* (Latham) forma *segetum* (Gmelin)
Northern Europe.
2. *fabalis rossicus* (Buturlin)
Northwest Siberia.
3. *fabalis serrirostris* Swinhoe
Northeast Siberia.

Assuming the author's interpretations and conclusions to be valid there is obviously the problem of adjusting his arrangement to acceptable trinomial nomenclature. *Anser fabalis rossicus* is added to the avifaunal list of Holland and western Europe. This is based on a male (Zoological Collection of the Amsterdam Museum) collected January 18, 1888, at Bunschoten (Utrecht).—D. S. F.

54. Birds Collected during the Whitney South Sea Expedition. 55. Notes on the Birds of Northern Melanesia. Ernst Mayr. 1945. *American Museum Novitates* No. 1294. 12 pp. Notes on the Cassowaries, grebes, herons, and hawks including nine new subspecies.—D. S. F.

55. Notes on the Taxonomy of the Birds of the Philippines. Jean Delacour and Ernst Mayr. 1945. *Zoologica*, 30: 105-117. The authors have recently been engaged in preparing a book on the birds of the Philippines (now in press), each author taking the responsibility for about half of the families represented. The taxonomic discussions here reviewed were also prepared independently by each author, and so indicated in square brackets in the original text, but each author is in agreement with the conclusions reached by his colleague.

The title is misleading; with the exception of the description of six new races from the Philippines and the discrediting of several subspecies described by others, the main reason for the publication of this paper seems to have been to indulge in a general orgy of genus lumping. There is no doubt but that the trend in the last twenty-five years has been toward the elimination of genera based on very minor structural characters, with more importance being attached to the obvious points of similarity. This is all as it should be if the genus is used in its primary function of indicating relationship, but there is no doubt in the reviewer's mind that, carried beyond its logical extreme, the genus can also be used to obscure relationships. The authors point out structural modifications, but dismiss them with such sweeping comments as "insufficient for generic distinction"; "loss of a morphological character rarely valid"; "do not constitute plausible generic characters"; "not sufficiently characterized," etc. In some instances the authors are probably correct, but the casual way in which currently accepted genera are rejected with some such sweeping statement as above provokes a feeling of irritation which increases with each repetition.

Furthermore, this sort of a paper by two well known senior ornithologists cannot help but exert a bad influence. The older ornithologists should feel responsible for setting an example of careful, accurate work, reasons for changes should be

explained, comparable cases cited and a general air of scholarly effort should pre-vade the article which would then inspire the confidence in their conclusions that mere assertions do not. It is to be hoped that in their forthcoming book on Philippine birds Messrs. Delacour and Mayr will amplify and substantiate the proposals they have made in their article under review.—J. L. PETERS.

LEGENDS

56. On the Ostrich which Puts Its Head in the Sand in Case of Danger, or: The History of a Legend. J. A. Bierens de Haan. 1943. *Ardea*, 32(1): 11-24. A scholarly search for the origin and history of this well-established myth; it is first mentioned by Pliny as hiding its head in bushes and this was the version generally followed, although an Arabian work on natural history published in 1371 speaks of "a heap of sand." "The belief that the ostrich when hiding its head thinks itself invisible to other creatures, is a very old one, the origin of which is lost in the mist of ages, and was handed over from one author to the other from antiquity till the 18th century."—M. M. NICE.

NEWS FROM EUROPEAN BIRD BANDERS

Since the end of the war many European ornithological journals have reached us, as well as considerable news of ornithologists. Most of the Dutch ornithologists survived; *Ardea* and *Limosa* were published continuously and in the latter reports of banding; Dr. Junge writes me that paper is now the limiting factor. In Belgium M. Dupond brought out *Le Gerfaut* with annual reports of banding. *L'Oiseau* was published in Paris throughout the war. Prof. L. A. Jagerskiold, director of banding under the auspices of the Goterborg Natural History Museum in Sweden, was killed, apparently in a hunting accident, in April, 1945.

Communication with Germany, Austria and Hungary is still very difficult. The *Journal fur Ornithologie*, *Ornithologische Monatsberichte* and *Der Vogelzug* were published through 1944. Dr. Stresemann has written us news of various banders. Ernst Schuz, Vogelwarte of the Rossitten Station on the Kurische Nehrung in East Prussia, founded in 1903 by J. Thienemann, is now in Ludwigsburg (Wurtemberg). Rudolph Drost, Vogelwarte of the famous Heligoland Station, started in 1904 by Hugo Weigold, is now in Gottingen. Jacob Schenk, leader of banding in Hungary since 1908, died in February, 1945. Werner Ruppell, who carried out brilliant homing experiments with Starlings, Swallows, Terns, and Hooded Crows, died of his wounds in July, 1945.—Margaret M. Nice.

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