PERIODICAL LITERATURE

BELCHER, CHARLES F. Nota sobre la agachona, *Thinocorys rumicivorus*. El Hornero, **6**: 313–314, 8 text-figs., July 1936.—The author, after various futile attempts to locate the nest of a Seedsnipe he had repeatedly flushed in the open country of Pilcaniyen, Rio Negro, Argentina, at length found it after flushing the bird within a yard distance. He found that the bird had partly buried the four eggs with loose earth and a few straws, probably, he supposes, when it saw him near at hand, so that only the small ends of the eggs were visible on very close scrutiny of the spot. The four speckled eggs are shown in the figure, of natural size.

CAMPBELL, JAMES W. On the food of some British birds. British Birds, **30**: 209–218, 1 Dec. 1936.—An analysis of contents of crop and gizzard in fourteen species. Volume of food was determined by its water displacement in a graduated glass. Rooks and Jackdaws show a similar diet, with about 85 per cent of vegetable matter, largely grains, the animal matter chiefly insects. In the case of the Common Jay, the importance of the oak as a source of food is emphasized. Acorns in the birds examined constitute half the vegetable content of stomachs, while the larvae, pupae and ova of insects included, are chiefly those living in oak trees. The winter food of fourteen Barnacle Geese was entirely vegetable matter, consisting of over ninety per cent green grass, in addition to leaves, horsetail rush, moss, liverwort and seeds. By contrast, the stomachs of Eastern Brant in the same period held mostly the marine green alga, *Enteromorpha*, with smaller amounts of eel-grass, *Zostera*, the latter probably unobtainable at present in quantity, so that the former may be an acceptable substitute. The Ringed Plover and Golden Plover feed largely on animal matter, chiefly insects and small snails. Snipe and Woodcock in fall and winter consume much insect larvae as well as seeds and other vegetable matter. Both the Common Snipe and the Woodcock were fouud to have remains of earthworms in their stomachs, whereas the Jack Snipe had none, but had eaten snails (*Succinea*) instead. Pheasant chicks from six to fourteen days old fed almost exclusively on insects, with a trace of snails. The species of insects given include full-grown larvae of the burnet moths which are supposedly examples of warning coloration and distasteful to birds. The Common Partridge and the Red-legged Partridge agree in being almost wholly vegetarian although a few insects are also taken.

CAMPO, E. MUNOZ DEL. Observaciones sobre rapaces nocturnas en cautividad. El Hornero, **6**: 306–310, 2 text-figs., July 1936.—Brief notes on food suitable for captive hawks and owls, the favorite being rodents. Captive Burrowing Owls were watched while at work excavating their burrow. They clear away the earth with their feet, like a small dog, scattering it to a distance. All four captive birds collaborated, digging it to a depth of two meters.

CHAPIN, JAMES P. A new Peacock-like bird from the Belgian Congo. Rev. Zool. et Bot. Africaines, **29**: 1–6, text-fig. 1–3, 20 Nov. 1936.—The discovery of this remarkable bird, which Dr. Chapin describes as a new genus and species, *Afropavo congensis*, is as unexpected and surprising as was that of the okapi. Its existence was not suspected until, in 1913, Dr. Chapin rescued a feather from a native's hat at Avakubi, Belgian Congo, that was evidently a secondary from some large bird, of unknown identity. In 1936, while visiting the Congo Museum at Tervueren, Belgium, he noticed two birds mounted and placed in an obscure corner, that had been received in 1914 from the small museum of the Compagnie de Kasai, Brussels. They had been labelled 'Peacocks' and had been set aside without further investigation. These birds proved to be of the same species as that represented by

the problematical secondary, a true pheasant, related to the Asiatic Peacock, and providing "one more example of an African forest bird with suggestive affinities to an Oriental group." Shortly after this discovery, M. de Mathelin de Papiguy independently told Dr. Chapin of a similar bird, which he had eaten, killed by a native in the eastern Congo Forest at Angunu! The species is evidently of restricted range and secretive habits to have so long escaped the notice of explorers. It has no long peacock-like train but the head and neck are covered with short downy feathers, surmounted by an occipital crest in the shape of a tuft of narrow, slightly diffuse plumes. One of the specimens is an adult male with a spur, the other perhaps a female or an immature male. The second metacarpal shows the small protuberance distinguishing the Phasianidae from the Numididae.

CORTI, ULRICH A. Vogelschutz und Kulturlandschaft. Der Ornith. Beobachter, L'Ornithologiste, **33:** 208–211, Sep. 1936.—Advocates more careful research of Swiss birds as to their food habits, before a given species is adjudged harmful or beneficial. Since censuses of fruit trees and areas of field crops are available in Switzerland, if the average effect of a single bird is determined the total effect of the species on certain crops can be estimated. Thus, if from one to five apples are regarded as saved by the insectivorous birds per tree, the total for Switzerland would amount to from 150 to 750 tons of apples yearly. Similarly, a rough calculation of the harm done by cherry eaters, assuming so many cherries are eaten per bird, shows a total loss of 675 tons of cherries, a loss to be figured against the good the birds do in other ways. Exact studies of this sort are urged.

DAGUERRE, JUAN B. Sobre nidificación de aves de la Prov. de Buenos Aires. El Hornero, **6:** 280–288, 4 text-figs., July 1936.—Instances cases where the social parrot, *Myiopsitta monacha*, which makes large multiple nests, abandoned these nests in the lower branches of trees when persecuted by man, and started new compound nests in the higher limbs of eucalyptus trees. Another parrot, *Cyanolyseus patagonus*, which nests in holes in banks, was formerly abundant in the littoral region of Buenos Aires Province, but due to human persecution in taking the young birds, easily accomplished by thrusting a pole with a noose or a hook at the end into the burrow, the bird is now completely exterminated in all this region, and is rare in Santa Fé Province. Both species and two others are now decreed pests! In marshy regions, the Southern Everglade Kite (*Rostrhamus sociabilis*) makes its nest in reed beds, constructing it out of the stalks of reeds and other vegetation. Notes are given on the nesting habits of various species of Argentine birds.

DEAKIN, ALAN. Natural hybridization and genetics of Flickers (*Colaptes*). Amer. Naturalist, **70:** 585–590, 1936.—From a study of the series of Flickers in the National Museum at Ottawa, and especially of two families together consisting of four parent birds and their nine young, in which both pairs of parents were hybrid between the Yellow-shafted and the Red-shafted Flickers, the author attempts an analysis of the genetic characters involved, whereby the various degrees of intermediate plumage may be expressed as combinations of dominant and recessive traits. This theoretical explanation should some day be tested by rearing the young of known hybrid parents.

DROST, RUDOLF. Ueber das Brutkleid männlicher Trauerfliegenfänger, *Muscicapa hypoleuca*. Der Vogelzug, **7:** 179–186, 2 text-figs., Oct. 1936.—A comparison of 237 skins of breeding males of the Pied Flycatcher from northern and central Europe shows that in color they may be ranged in a continuous series, from those with a uniformly black upper side, occurring in Scandinavia, to those which are

brown or gray above, and occur in middle Europe. These differences the author believes are of systematic importance but he assigns them no names.

DUPOND, CH. Oeuvre du baguage des oiseaux en Belgique. Le Gerfaut, **26:** 69–125, 1936.—The progress of birdbanding in Belgium is outlined, with increasing numbers of returns, amounting to 500 in 1934, 628 in 1935. Details are given for 572 of the latter, covering 64 species, as well as for five species banded outside of Belgium. Brief comment is added as to the interpretation of these returns. It is shown that the Bullfinches nesting at high altitudes in the mountains, descend to the lowlands to winter.

DUPONT, PAUL. Moeurs de Petits Coqs de Bruyère. Le Gerfaut, **26:** 139–142, 1936.—In eastern Holland several small groups of *Lyrurus* were at various times observed feeding near a station for testing explosives. They showed great regularity in their times of arrival at a feeding area and were extraordinarily unmindful of the frequent loud detonations produced in the experiments.

GABRIELSON, IRA N. Bird notes from the Lake Francis region of southern Minnesota. Wilson Bull., **48:** 305–309, Dec. 1936.—A briefly annotated list of sixty-three species seen in mid-summer. Of birds that lend a more western aspect to the otherwise eastern species, are Western Meadowlark, Dickcissel, Yellow-headed Blackbird. Bob-white were abundant.

GÉROUDET, P. Les mouettes rieuses de Suisse, d'apres les résultats du baguage. II. partie. Les hôtes d'hiver et de passage en Suisse. Der Ornith. Beobachter, L'Ornithologiste, **33:** 167–177, 1936.—The Black-headed Gull (*Larus ridibundus*) as a winter resident and migrant in Switzerland has been intensively studied for a period of years by means of banding. It is believed that those which merely migrate through, may on passage stop for a time with birds that winter in Switzerland. Comparatively few of the birds banded in southern Germany, pass the winter in Switzerland. In summer, flocks of first-year young are found accompanying adult non-breeding birds, in places where they are not nesting. The birds that reach Switzerland in southward migration, follow the Rhine as a main flyway, bringing in birds from the North Sea coast. The Danube also acts as a directive for birds from Czechoslovakia, Hungary and Silesia. Migration may take place at night. A large proportion of these gulls returns each winter to the same stations they individually occupied in preceding winters, but there are many others that do not, and have been retaken in subsequent winters elsewhere. Winter-resident birds remain in the same locality from October to March, with however, a certain amount of drift away to the southwest. In general, birds in their second summer do not breed. Longevity records for wild banded birds are now available of from six to ten years (one case).

GEYR VON SCHWEPPENBURG, H. Wie ziehen die holländischen Jungstörche? Der Vogelzug, **7:** 187–190, Oct. 1936.—Haverschmidt's study of the migration of White Storks of Holland, led him to disbelieve in the previously accepted view that they reach Africa by two routes, birds east of the Weser skirting the east end of the Mediterranean, while those west of it pass south by way of the Straits of Gibraltar. The present author shows that his results in banding Dutch storks may be otherwise interpreted, to the effect that the birds of *northern* Holland in general take the southeastern route, while those of *southern* Holland use the western.

GILL, GEOFFROY. Further notes on the constancy of Catbirds to mates and to territory. Wilson Bull., **48:** 303–305, Dec. 1936.—A male bird, previously reported upon, now is found at the close of the third season, to have been constant to the

same 'territory' for two seasons and for four nestings out of five, but had mated with a different female in each nesting. In the two following years he remained mated to the same female.

HARPER, EDUARDO C., AND DRABBLE, LIONEL. Sobre la nidificación de los Flamencos (*Phoenicopterus ruber chilensis* Mol.). El Hornero, **6**: 249–253, 7 text-figs., July 1936.—An account of observations on a large nesting colony of Chilean Flamingoes found on an island in a lake in Santa Fé Province, Argentina. Nests are placed near together in a single colony, the exact site of which varies from year to year, but is always on the north side of the island. Nesting begins about the 15th to 20th of January, in the warmest part of the year. The authors conclude that the sun's heat is the major factor in hatching the eggs, for the birds were not seen to incubate by day. After several days the eggs become much smeared with mud. Such eggs are hot to the touch, while those not mudded are cold. The colony was estimated to contain some ten thousand nests, while the number of adult birds was larger, probably exceeding fifty thousand. In several cases, a nest with two eggs was found.

HARPER, FRANCIS. The distribution of the Limpkin and its staple food, *Pomacea*. The Nautilus, **50**: 37–40, 2 text-figs., Oct. 1936.—The normal range of the Limpkin coincides with the distribution of the large freshwater snail, *Pomacea paludosa*, upon which it primarily depends for food, at least in Florida, and in southern Georgia to the lower Altamaha River. Two records of the Limpkin from South Carolina and Harper's record of it from the Okefinokee Swamp, Georgia, are doubtless of accidental wanderers. The nocturnal activity of the bird may be a result of the activity of the snail which at night comes into the shallows or even out of the water.

HARTERT, E., PALUDAN, K., LORD ROTHSCHILD, AND STRESEMANN, E. Die Vögel des Weyland-gebirges und seines Vorlandes. Mitteil. a. d. Zool. Mus. Berlin, **21**: 165–240, map, 19 text-figs., Aug. 1936.—A report based on a collection of some 1300 skins collected by Georg Stein in the Weyland Mountains of New Guinea, and their foothills. A brief history of ornithological work done in this region is given, especially that of Stein, followed by a list, with brief comment, of 245 native species and eight migrants obtained. Zoogeographically, the avifauna of New Guinea may be divided into an upland and a lowland group. In western New Guinea the upland series forms more or less of a unit, characteristic of levels mainly above 3000 meters, extending along the central backbone of the island from the Weyland Mountains near the west end, eastward to at least the Orange Mts. (Mt. Goliath), while still farther to the eastward, some other forms come in. Also the slopes falling off to the Sepik River have certain peculiar forms. Still farther eastward comes a long stretch, the Bismark Range, as yet almost unknown ornithologically, while beyond on the high mountains of southeastern New Guinea a number of upland species abruptly drop out and others appear. At the west end of the island, Mt. Arfak is peculiar in having a number of endemic mountain forms, for this area is cut off by a wide stretch of lowlands, which acts as a barrier. The lowland fauna is quite distinct, for while the high mountains serve to give continuity to the ornis of the uplands, they act as a barrier to that of the lowlands, since practically all of the passes are above 2000 meters, and usually higher. Thus the central backbone of high ranges divides the New Guinea lowlands into a northern and a southern coastal area. This great barrier begins at the west end near the isthmus separating Geelvink and Triton Bays and extends continuously to the extreme southeast end of the island, a distance of over 1125 miles. Here

and there in the latter region, the steep mountain ranges come very close to the sea, narrowing the lowlands to a coastwise strip or to nothing at all. The result is that the lowland avifauna north of the central watershed has many characteristic groups of birds different from their nearest relatives of the southern side. These two faunas mingle to some extent at the extreme west end of the island where the mountains descend at the region of Geelvink Bay. The distinctness of the birds of the opposite sides is illustrated by the distribution of a number of related groups plotted on eighteen small maps of the island. Often these are represented by other forms west of Geelvink Bay, in the western lobe of New Guinea. It is in the southern lowland area that the species of Australian affinity occur. Where species have succeeded in getting around the western end of the mountain barrier, related forms may remain distinct if they occupy different ecological niches or they may hybridize in a limited contact area. Significant of the thoroughness with which western New Guinea is now known, is the fact that no new species are described, although eight new races are named. Two new monotypic genera are proposed: *Rhagologus* (p. 206) for a shrike, *Pachycephala leucostigma;* and *Androphobus* (p. 220) for a timaliid, *Androphilus viridis.*

HICKS, LAWRENCE E., AND DAMBACH, CHARLES A. A statistical survey of the winter bird life of southeastern Ohio—Muskingum County. Wilson Bull., **48:** 273–275, Dec. 1936.—In the course of continuous field observation from December 15, 1934 to February 15, 1935, sixty-five species of birds were seen in this hill country, and a record of numbers of each is given. A daily average of 2468 birds was enumerated of which nearly 2000 were Crows or Starlings. Northern visitors were conspicuously absent. The hordes of Starlings evidently make a decided drain upon the available food. Many raptorial birds are attracted nightly to their roosting place as they gather for the night.

KENNARD, FREDERIC H. John Marion Priour. Wilson Bull., **48:** 284–289, text-fig. 48, Dec. 1936.—A brief biography of this veteran hunter and collector of Corpus Christi, Texas. He was born in Rennes, France, in 1812, and came to this country in 1831. It seems to have been his chance meeting with Colonel N. S. Goss that aroused a latent interest in birds and collecting. In later years he devoted himself largely to hunting and collecting birds, but from a commercial point of interest. His fine qualities as a companion and outdoor man endeared him to many ornithologists who from time to time camped and collected with him.

KHAKHLOFF, V.-A. Les oiseaux de la Steppe de Kouznetzk et du Salair. Le Gerfaut, **26:** 126–137, pl. 1–4, 1936.—This is the first part of a translation of an article in Russian on the avifauna of a little-known steppe area in western Siberia, isolated by coniferous forests from the more extensive steppes to the eastward. The scant literature is reviewed and recent explorations in the area are outlined. Hitherto 141 species of birds have been recorded from the region.

KRÄTZIG, H., AND SCHÜZ, E. Ergebnis der Versetzung ostbaltischer Stäre ins Binnenland. Der Vogelzug, **7:** 163–175, 3 maps, Oct. 1936.—Results of extensive banding of Starlings in eastern Germany, show that birds from Silesia commence migration in October, and spreading from west-southwest to south-southwest, go chiefly to upper Italy and the adjacent Mediterranean coast, thence across to northwestern Africa from Tunis and Algiers to Gibraltar. A few winter in northern Italy. Birds banded in Saxony are deflected westward by mountain ranges and for the most part go farther west through France and southern Spain to northwestern Africa. Many winter in the Garonne region, however.

As an experiment in transplanting, in the summer of 1934 over three thousand

Starlings captured in the region of Memel on the Baltic coast of Lithuania were brought to Breslau and to Dresden where they were banded and released in early autumn. Recoveries showed that some returned in the general direction of Lithuania (to the northeast), but most of them went west and southwest, to England, Belgium, and chiefly to France, northern Spain and Algiers. No recoveries were had from Italy. In the following spring some were retaken in their native Lithuania, but others were found in France and Germany. The evidence shows, however, that in general these transplanted birds tended to migrate south to the regions usually visited by the Lithuanian Starlings, and to return to their respective populations in spring. A detailed list of these recoveries and a map are given.

LASKEY, AMELIA R. Fall and winter behavior of Mockingbirds. Wilson Bull., **48**: 241–255, Dec. 1936.—In Tennessee, where the behavior of Mockingbirds was studied, they show a marked preference for the neighborhood of human habitations. By following individuals that had been banded it was found that selection of territory takes place in the autumn beginning about October first. These territories are strictly guarded throughout autumn and winter, and partly depend on the presence of sufficient food. Birds holding adjacent territories are alert to drive away intruders, when one of their number by special notes gives warning of the approach of another stranger Mockingbird. Mock encounters ("dances") or actual fights take place at times on the territory borders between two established birds. The pairs of birds may remain together all winter; both sexes sing. Many notes on individual birds.

LAURI, SIIVONEN. Ein neuer Apparat zur Registrierung der Intensitätsvariation der Zugunruhe bei gekäfigten Zugvögeln. Ornis Fennica, **13**: 67–69, text-fig., July 1936.—Describes an ingenious device for recording the migration urge of a caged bird, through having a perch so pivoted that each time the bird alights upon it, a wire arm is moved, which, acting on a cog wheel, unwinds a given length of linen thread from a spool. The length of thread unwound gives the relative amount of the bird's nightly activity. An alarm clock is added, which by an electromagnet makes a mark at hourly intervals. A diagram of the arrangement is given.

LENTZ, DR. Vögel des Winters in Mallorca. Der Ornith. Beobachter, L'Ornithologiste, **34**: 21–31, Nov. 1936.—A list of sixty-four resident and winter birds observed in southern Mallorca, Balearic Islands, with brief annotations on eight other birds of rare occurrence as stragglers or migrants. Of the resident species, a large proportion are represented by races peculiar to these islands. The author points out that there are no woodpeckers, tree-creepers, jays or rollers, while the Carrion Crow, the Hooded Crow and the Rook are also absent. The Flamingo, *Phoenicopterus r. antiquus*, still occurs as an occasional visitor, but no longer in flocks as a migrant.

MCCABE, T. T. Endemism and the American Northwest. Wilson Bull., **48**: 289–302, text-fig. 49, Dec. 1936.—In British Columbia, there are practically no endemic species with the probable exception of the Northwestern Crow, which the author regards as specifically distinct from *Corvus brachyrhynchos*. The southern Alaskan coast offers a striking contrast; while in the number of what appear to be relict forms, western Alaska and its islands are remarkably rich. The bird population of the interior of British Columbia is large, and is the result of invasion from three contiguous areas: the Far North, the East, and the Rocky Mountain and Great Basin areas.

MEISE, WILHELM. Zur Systematik und Verbreitungsgeschichte der Haus- und

Weidensperlinge, *Passer domesticus* (L.) und *hispaniolensis* (T.). Journ. f. Ornith., **84:** 631–672, 3 text-figs., Oct. 1936.—The Spanish Sparrow, with its reddish-brown instead of gray crown, black-streaked instead of gray back, and white instead of gray ear coverts, occupies a wide area in the Mediterranean basin, from Spain to Persia and in northern Africa. Over most of its range it occurs toegther with the House Sparrow, but in a different niche, inhabiting tree growth along streams. In eastern Algeria and western Tunis, however, it becomes a house-living commensal with man, and here hybridizes with the House Sparrow. Apparently, however, the relationships are not at all simple. In northern Italy the House Sparrow by insensible degrees intergrades with the peninsular bird, as a true geographic subspecies (*P. domesticus italiae*). This latter, however, over most of the southern part of Italy, in Corsica and Crete is very variable, and becomes increasingly more like the Spanish Sparrow to the south and in the opposite parts of Africa, a fact to be explained only on the hypothesis that here the two species have hybridized. The Italian Sparrow is thus a fairly constant hybrid-species, at least over most of the Peninsula. Probably both parent species at one time inhabited areas at opposite ends of the Mediterranean, and later their ranges widely overlapped. Where the habits of the two remained different the species kept distinct, but where, as in northern Africa, the Spanish Sparrow became a house species as about oases, hybridization took place. The nomenclatural questions involved are discussed.

Morley, L. C., and Wetmore, P. W. The etiology of ulcerative enteritis in upland game birds. Science, n.s., **84:** 272–373, Sept. 18, 1936.—"Ulcerative enteritis, or so-called 'quail disease,' first came to the attention of sportsmen early in 1900 through the exceedingly heavy losses encountered in importations of Mexican quail." It is highly infectious and rapidly fatal, with an incubation period of about four days. These authors for the first time have isolated the organism from the liver and spleen of diseased Bob-white, Valley Quail, and Ruffed Grouse, and have named it *Corynebacterium perdicum*. The morphology, cultural and physiological characters are described. The symptoms of the disease are sudden death with characteristic lentiform ulcers in the intestines. When grown on culture media most of the strains lose their virulence. Toxin production has not yet been shown.

Nicholson, E. M. The index of Heron population, 1936. British Birds, **30:** 202–205, 1 Dec. 1936.—Beginning in 1928, a study made of the Common Heron in the British Isles has now been extended to cover more than 120 heronries. The population of Herons has now "satisfactorily recovered from the setback experienced between 1928 and 1934" in spite of an unfavorable season in 1935. The outstanding feature of this recovery is that while some heronries have shown a considerable loss in the year past, others have increased in the number of breeding birds, so that in the aggregate the breeding population for the area covered remains about the same. These violent fluctuations in separate areas or heronries seem characteristic for the species.

Noll, H. Beringungsergebnisse an unseren schweizerischen Lachmöven. I. Teil. Der Ornith. Beobachter, L'Ornithologiste, **33:** 159–167, map, 1936.—A study of the Black-headed Gulls that winter in Switzerland. Banded birds are found to move occasionally from one breeding area, as in the Linth plains, to another, as the Boden Lake. Their chief wintering area is the western Mediterranean basin, reached by way of the Gulf of Lyons and the Rhone valley, with a northern wintering limit at Genfer Lake. The second wintering area is the Atlantic coast of

Europe, as far north as England. A few birds seem to cross the Alps and winter at the mouth of the Po. First-year birds may remain in the following summer on the wintering range. The adults return with great regularity to their particular home ground, resulting in a clan formation, whereby birds from a particular colony hold together in their wintering area.

ORFILA, RICARDO N. Los Psittaciformes Argentinos [Argentine parrots]. El Hornero, **6**: 197–225, pl. 2, 11 text-figs, July 1936.—The first part of a synopsis with keys to families, subfamilies and genera of Argentine parrots, with an account of the technical characters of these groups. The genera *Anodorhynchus*, *Ara*, *Aratinga*, *Thectocercus*, and *Eupsittula* are treated, with brief lists of synonyms and of specimens in the Argentine Museum of Natural Sciences. Outline drawings and photographs illustrate heads and characters of the bill, supplementing descriptions of each species.

PAECHNATZ, HERMANN. Aus dem Tageslauf überwinternder Schwanzmeisen (*Aegithalus c. caudatus*). Der Vogelzug, **7**: 175–179, Oct. 1936.—The Long-tailed Tit is known to differ from other titmice in its habit of keeping in flocks of its own kind instead of associating in winter with other forest birds. The author followed the daily doings of a flock of nine of these tits throughout a winter. Of special interest are the sleeping habits. Nightly toward sunset they resorted to a certain twig about two meters from the ground. The first bird to seek the twig was soon followed by a second which perched close beside it. Shortly a third would come and push its way between the two others; the fourth, fifth and others in turn pushed in between two of the middle birds, until the original two finally perched at opposite ends of the line. The time of roosting varies in accordance with clear or cloudy sky; if clear they roost after sunset, but if cloudy, then before sunset. The day's wandering of the flock on December 27 as a typical example is plotted.

PALMGREN, PONTUS. Bemerkungen über die ökologische Bedeutung der biologischen Anatomie des Fusses bei einigen Kleinvogelarten. Ornis Fennica, **13**: 53–58, 2 text-figs., 25 July 1936.—Experiments designed to find out whether certain small tree-living birds showed a distinct preference for perching on smooth leafy twigs or on the needle-covered twigs of spruce or fir. A twig of each was placed in a cage and by ingenious recording devices, the number of times the bird alighted on the twigs was recorded daily. Of seven species so studied, including Bullfinch, Goldfinch, Black-cap, Fieldfare, and Redbreast, the Fieldfare showed 42 per cent of choices for the fir twig, the Bullfinch 52 per cent, while the others chose the smooth twig almost exclusively. A correlation is shown between width of span and choice of perch, the short-toed birds obviously avoiding the fir twig, with its needles. A list of common birds arranged according to the increasing length of foot span shows a similar but not absolute correlation, for other factors come in. A list arranged in accordance with the relative length of hind toe to the total span of the foot, shows that it is greatest in birds such as tits and crossbills that cling to twigs, often upside down.

PEREYRA, JOSÉ A. Importancia de nuestras aves. El Hornero, **6**: 254–261, July 1936.—A general article on the value of birds in destroying insects injurious to agriculture as well as rodents which may become harmful as destroyers of crops or as disease bearers.

PHILIPPI, RODOLFO A. Aves de Arica y alrededores (extremo norte de Chile). El Hornero, **6**: 225–239, 5 text-figs, July 1936.—A brief list of 55 species of birds seen in the neighborhood of Arica, in the extreme north of Chile. Arica is in the arid part of the sub-tropics, in a region with a characteristic desert fauna, similar

to that of the coast of Peru but very distinct from that of central Chile. Land birds are few in species: a wren, a titlark, a swallow, five sparrows, an oriole, three flycatchers, two wood-hewers, two hummingbirds, an ani, two owls, two hawks and three kinds of vultures are listed, in addition to seabirds. One of the hummingbirds, *Myrtis yarrellii*, is limited to this region. The House Sparrow is introduced. The Ani accompanies horses and cattle, alighting on their backs to secure ticks and fly larvae.

PUMFRETT, D. G. Heron and cattle. British Birds, **30:** 229, 1 Dec. 1936.—An interesting case of a Common Heron in Surrey, England, alighting among a grazing herd of cows, apparently to take advantage of their aid in discovering frogs disturbed by their passage. It would stand among them until the last cow had passed, when it would walk quickly on to overtake the herd. Four times the bird was seen to strike into the grass and secure a frog, with which it flew to an adjacent stream, there disposed of its prey and returned to continue its watch in the midst of the herd.

SCHNURRE, OTTO. Zum Vogelfang des Grossen Buntspechts. Beiträge z. Fortpflanzungsbiol. d. Vögel, **12:** 232–234, Nov. 1936.—An instance of the Great Spotted Woodpecker (*Dendrocopus major*) preying on small birds is described, as seen in Grenzmark, Germany. While the author watched a newly flown family of tree creepers in a neighboring pine, a male woodpecker appeared, causing the group to become alarmed and to pursue it. Suddenly the woodpecker seized a creeper and flew off, with the others giving chase. It finally hung its prey in a fork and hammered it to pieces, eating first the brain then the stomach, disposing of the meal in ten minutes. A dozen or more instances are quoted from literature concerning the killing of young birds or eating of the eggs by this species.

SCHÜZ, E. Ring-Wiederfunde auswärtiger Stationen 13. Der Vogelzug, **7:** 191–197, 1 text-fig., Oct. 1936.—A summary of returns of birds banded at this Station. From banded birds, the following determinations of ages to which the species have lived are given: White Stork, nineteen years; Black Tern, seventeen years; Common Swift (*Apus apus*), at least fourteen years; *Apus melba*, in three cases ten years; Puffin, eight years; Greater Tit, eight years; Redstart, six years; Roller, five years.

SCHUSTER, LUDWIG. Einige Bemerkungen zum Brutgeschäft des Kleinspechts. Beiträge z. Fortpflanzungsbiol. d. Vögel, **12:** 221–225, Nov. 1936.—A study of the nesting of the Lesser Spotted Woodpecker (*Dryobates minor hortorum*) near Lienewitzer Lake, Germany. Both sexes took part in excavating the nest hole, but the male took the larger share. Other observers have averred that the male or the female exclusively performs this labor, but the probability is that there is considerable variation in the behavior of individual pairs. The female when desiring coitus, regularly flew to the hole, then after clinging a moment, at once flew to where the male was perched near the top of a neighboring tree, where copulation took place, on a limb. The male in this instance did most of the incubation during the day, and apparently all of it during the night. In two days, only the male was seen feeding the young, though the author does not mention the possibility that the female had been killed meanwhile, for in other cases both sexes are said to share.

SCOTT, CARROLL D. Who killed the Condors? Nature Mag. (Washington, D. C.), **28:** 368–370, 4 text-figs., Dec. (=Nov.) 1936.—Reviews the decrease in the numbers of California Condors, which began with the great influx of settlers about 1850. Within the two decades following, Condors were exterminated in the northwest and middle parts of California. In the '80's they were obviously fewer in the

southern areas and were largely gone even by the middle '90's. The author believes this extermination was mainly due to the increasing human population and wanton shooting of the birds, rather than to poisoning as commonly believed. He fails to recognize that a contributing factor may have been the transformation of large areas from cattle ranches to fruit farms and the reduction in numbers of large game mammals and predators, thus reducing the potential food supply of dead carcases, for large birds require proportionate amounts of food. Two of the figures reproduce photographs of living condors by Finley and Bohlman.

SIIVONEN, LAURI. Die Stärkevariation des nächtlichen Zuges bei *Turdus ph. philomelos* Brehm und *T. musicus* L., auf Grund der Zuglaute geschätzt und mit der Zugunruhe einer gekäfigten Singdrosseel verglichen. Ornis Fennica, **13:** 59–63, 4 text-figs., July 1936.—The Song Thrush and the Redwing Thrush migrate at the same time in southern Finland, giving their characteristic call note as they pass over by night. Observations were made between 6 o'clock and 1 o'clock at night, by counting the birds heard passing, after which these were plotted for ten-minute intervals for the separate days in October. On three different nights the height of migration was between eight or nine and ten o'clock. A chart prepared to show night activity of a caged thrush during the same period, shows a close correlation between its times of "migration urge" and those of the wild birds. Of the five migration waves during the month, four coincided with falling barometer, and the fifth with rising barometer but falling temperature, the last regarded as causative.

SIIVONEN, L., AND PALMGREN, P. Ueber die Einwirkung der Temperatursenkung auf die Zugstimmung bei einer gekäfigten Singdrossel (*Turdus ph. philomelos* Brehm). Ornis Fennica, **13:** 64–67, 1 text-fig., July 1936.—Experiments were made with a caged Song Thrush kept in a laboratory in Finland, to see if by artificially lowering the temperature of the cage, enclosed in a large container, the bird would show a corresponding disposition to start migration by night activity. The experiments were carried on from November 5 to December 31. Without exception, in each of five cases in which the temperature was dropped to nearly freezing point, the bird showed a renewal or a strong increase of the migration urge, as evidenced by night-time restlessness, except that the final temperature drop, about Dec. 25–26, brought forth no response, since the disposition to migrate was now at its normal close. The authors suppose that the fall of temperature is accompanied by increased metabolism, by body-temperature regulation calling forth the migratory urge. They seem not to have considered the concomitant shrinking of the genital glands, which Rowan has shown to be closely correlated with the desire to migrate.

SKAGGS, M. B. The occurrence of white herons in the Youngstown, Ohio, region. Wilson Bull., **48:** 269–272, Dec. 1936.—Presents records gathered since 1918 for American Egret, Snowy Egret, and Little Blue Heron. An American Egret was seen at Youngstown on July 29, 1918, but no more until 1924, when all three of the species named appeared; in 1925 a single Egret was seen in August. Since 1930, white herons have notably increased. In that year seven Egrets and numbers of Little Blue Herons are recorded. In 1933, the proportions were reversed, for the Egrets outnumbered the latter, and a single Snowy Egret appeared. As many as fifty American Egrets were seen in one day. In 1934, the Little Blue Heron was the most common of the three, with as many as seven Snowy Egrets on August 14. All the Little Blue Herons have been the immature white-plumaged birds.

S[NYDER], L. L. The Starling in Ontario. Roy. Ontario Mus. Zool., Toronto, leaflet

no. 4 (reprinted from Bull. 6), 4 pp., Jan. 1937.—A brief popular account of the spread and local effects of the Starling in Ontario. They are now permanently established as far northwest as Port Arthur and have been seen as far north as Moosonee and York Factory, with occasional records from Manitoba and one from Alberta. The large flocks in autumn and winter consume much food that might be available for other species, and their early nesting excludes many native birds from nest-holes. The bird-eating hawks, such as Cooper's and Sharp-shinned Hawks, and some owls seem to be their chief natural enemies. Of forty Cooper's Hawks killed in 1931 and 1932, seventeen had eaten Starlings.

S[NYDER], L. L. About birds in winter. Roy. Ontario Mus. Zool., Toronto, leaflet no. 9 (reprinted from The School), 4 pp., Jan. 1937.—A contrast is drawn between the winter land birds of Baffin Land, namely the Rock Ptarmigan and the Raven, and those of the Algonquin Park and southern Ontario, where different conditions make possible a larger winter avifauna.

STONE, WITMER. Zoological results of the George Vanderbilt African Expedition of 1934. Part VI,—Birds. Proc. Acad. Nat. Sci. Philadelphia, **88**: 529–598, Dec. 23, 1936.—A report on a collection of nearly 1300 birds representing 417 forms made during a five months' journey across equatorial Africa from Mombasa in the east to the Belgian Congo, and across French Equatorial Africa from the Ubanghi-Shari region to the Cameroons. Significant of the comparative thoroughness with which the birds of this region are known, is the fact that no new forms are described; however, there are many significant notes on the validity of various races whose recognition was previously doubtful. The careful notes of the collector, James A. G. Rehn, as to color of iris, bill and feet are given. The species, with critical remarks, are listed in three sections: those of the Kenya and Uganda region; those of the Belgian Congo; and those of French Equatorial Africa, thus emphasizing the important differences and similarities in the avifaunas of these ecologically different areas.

STONER, DAYTON. Wildlife casualties on the highways. Wilson Bull., **48**: 276–383, Dec. 1936.—Summaries are given of the numbers of reptiles, birds and mammals noted as killed by motor traffic on highways between Albany and Iowa City, a distance involving over two thousand miles. The highest mortality was found to be in agricultural States, among domesticated and semi-domesticated animals. In over eight thousand miles, the number of casualties noted was 1277. An extensive bibliography on this subject is appended.

TECHNAU, GERT. Die Nasendrüse der Vögel. Zugleich ein Beitrag zur Morphologie der Nasenhöhle. Journ. f. Ornith., **84**: 511–617, pl. 4–6, 26 text-figs., Oct. 1936.—A general investigation of the nasal glands and the morphology of the nasal chamber in the major groups of birds. According to their situation and development, the nasal glands, which appear as small brown masses, may be regarded as of three types: (1) those having a preorbital position in the sinus orbitalis of the eye; (2) those lying within the orbit or along its border, a group which includes a wide range of modifications; and (3) those that are supraorbital in position, lying in a deep supraorbital groove which may or may not be open at its lateral border. Usually each gland is more or less divisible into two sections, which send their secretion through a common duct to the anterior chamber of the nasal cavity. A simpler condition is found in the African Ostrich, the Galli, the bustards, grebes, penguins, the steganopods except the Tropic-bird, and a few others, in which the mass is single. The glands are wanting in the cassowaries, the Hoatzin, sand grouse, screamers, as well as in the Whale-headed Stork and the toucans of the

genus *Rhamphastos*. In these, the orbital gland to some extent takes the place of the nasal gland. In woodpeckers there is a tongue gland, comparable with the maxillary gland of ducks, opening on the roof of the bill chamber near its tip. The volume of the nasal glands is correlated with their position: the smallest and most primitive type, the preorbital, occurs particularly in land birds; the medium-sized or orbital glands are found in birds of inland waters; while the largest and best-developed type, the supraorbital, is found in birds of ocean and seacoast or of brackish water. It may vary in development in accordance with the habitat even in close-related genera or species. In general, its function is to bathe the mucous membrane of the anterior chamber of the nasal cavity with its secretion thereby cleansing the air breathed in before its entrance into the second chamber, with probably the added function in waterbirds of arresting the progress of minute particles of foreign matter that may be forced into the cavity during feeding, while in marine birds in which the glands are best developed, their secretion probably helps to counteract the irritation of salt on the mucous membrane of the nasal chamber. The latter is divided into three sections, anterior, middle, and olfactory. The turbinal bones are contained within these chambers, the last or uppermost being the best developed. In the Turkey Vulture and the Fulmar these bones seem especially well developed and scroll-like, a fact perhaps to be correlated with some power of scent.

TUCKER, B. W. An observation of the roosting of swifts. British Birds, **30**: 206–208, 1 text-fig., 1 Dec. 1936.—After the breeding season adult Swifts (*Apus apus*) in Corsica were observed to spend the night perched on an old nest in a recess of a roof. Daytime activity commences at about the time of sunrise.

VÖLKER, OTTO. Ueber den gelben Federfarbstoff des Wellensittichs (*Melopsittacus undulatus* (Shaw)). Journ. f. Ornith., **84**: 618–630, 2 text-figs., Oct. 1936.—The author previously showed that birds display a marked selectivity in the deposit of carotin-like pigments derived from their plant food. This deposit may take place in fatty tissue of certain species, as well as in the feathers, scales, and bill; but only in the case of lutein and its isomere, zeaxanthin. The lutein is either laid down directly or under specific change. Carotin, lycopin, and the xanthophylls,—taraxanthin and violaxanthin,—are not so deposited. The apparent exception is capsanthin, the coloring matter of red pepper, which is a xanthophyll, but it is found that this xanthophyll is combined with two hydroxyls, which results in its property of coloring feathers, as in canaries. Krukenberg first described the yellow pigment of certain parrots as psittacofulvin, but the present investigation shows that the yellow pigment of the Grass Parrakeet is different in its chemical and spectroscopic properties. By feeding birds on vegetable matter that lacks carotinoids this parrot develops yellow pigment nevertheless, hence this must be synthetized in the organism from colorless substances. Under analysis by filtered ultraviolet light, the yellow feathers of forehead and chin show a slight golden-yellow fluorescence, while the unpigmented parts of the feathers show a pale-blue fluorescence.

WELTER, WILFRED A. Feather arrangement, development, and molt of the Long-billed Marsh Wren. Wilson Bull., **48**: 256–269, text-fig. 39–46, Dec. 1936.—A detailed investigation of the feather tracts and moults in this species from the first to the twelfth day after hatching, with diagrams and photographs showing the areas concerned and the appearance of the young birds from day to day. Compared with the House Wren, the malar region differs in being conjoined to the auricular region by a few intermediate feathers; while the auricular and the

postauricular patches are hardly separated from each other, whereas in the House Wren they are distinct. There are seven pairs of under tail-coverts. The vestigial eleventh primary found by Boulton in the House Wren was not noted in the Marsh Wren. In opposition to the results of Dwight and Stone, the first-winter plumage involves a renewal of rectrices and remiges. There seems to be no evidence of a regular prenuptial moult, but differences of appearance between this and the winter plumage are due to wear.

WETMORE, ALEXANDER. Two new species of hawks from the Miocene of Nebraska. Proc. U. S. Nat. Mus., **84**: 73–78, text-fig. 13, 14, Dec. 1936.—The new species are: *Palaeoborus howardae* and *Falco ramenta*, both based on the distal end of tarsi from Miocene formations in Dawes County, Nebraska. The former is of special interest as a member of the subfamily Aegypiinae, now confined to the Old World; the second takes the genus *Falco* back in North America to at least the middle Tertiary. Incidental examination of the co-types of *Falco falconellus* Shufeldt proves that they represent fragments of at least three orders of birds and that the name must be regarded as unidentifiable.

ZIMMER, JOHN T. Studies of Peruvian birds. XXII. Notes on the Pipridae. Amer. Mus. Novitates, no. 889, 29 pp., Oct. 19, 1936.—Comparative notes on manakins chiefly found in Peru, with remarks on distribution. The following new races are described: *Pipra fasciicauda saturata*, type from Rio Seco, west of Moyabamba; *Pipra aureola borbae*, type from Borba, Rio Madeira, Brazil; *Pipra pipra occulta*, type from Uchco, east of Chachapoyas, Peru; *Pipra pipra pygmaea*, type from Chamicuros, Peru; *Pipra pipra discclor*, type from Puerto Indiana, northern Peru; *Pipra pipra separabilis*, type from Tapará, Rio Xingú, Brazil; *Machaeropterus pyrocephalus pallidiceps*, type from La Prición, Rio Caura, Peru; *Manacus manacus longibarbatus*, type from Tapará, Rio Xingú, Brazil; *Schiffornis turdinus aeneus*, type from Chaupe, Peru; *Schiffornis major duidae*, type from opposite El Merey, Venezuela.

ZIMMER, JOHN T. Studies of Peruvian birds. No. XXIII. Notes on *Doliornis*, *Pipreola*, *Attila*, *Laniocera*, *Rhytipterna*, and *Lipaugus*. Amer. Mus. Novitates, no. 893, 15 pp., Dec. 16, 1936.—Various critical notes on Peruvian members of these genera. The following new forms are described: *Pipreola riefferii confusa*, type locality Upper Sumaco, Ecuador; *Pseudattila*, new genus for *Attila phoenicurus*, in which the characters of scalation of the foot and the lack of union of the toes make it uncertain whether to place it in Tyrannidae or Cotingidae; *Rhytipterna simplex intermedia*, type locality Igarapé Brabo, Rio Tapajoz, Brazil. An important extension of range is recorded for *Rhytipterna immunda*, of which a specimen is reported upon from Santarem, Brazil.

ZIMMER, JOHN T. Studies of Peruvian birds. No. XXIV. Notes on *Pachyramphus*, *Platypsaris*, *Tityra*, and *Pyroderus*. Amer. Mus. Novitates, no. 894, 26 pp., Dec. 31, 1936.—Critical notes on rarer species, with additional records. New are: *Pachyramphus castaneus amazonus*, from Rosarinho, Rio Madeira, Brazil; *P. polychopterus tenebrosus*, from Puerto Indiana, Peru; *P. albogriseus guayaquilensis*, from Chimbo, western Ecuador. The occurrence of dichromatic phases in *P. polychopterus* is confirmed.

ZOTTA, ANGEL. Sobre el contenido estomacal de aves argentinas. El Hornero, **6**: 261–270, July 1936.—The continuation of a serial article on the examination of stomachs of birds in Argentina. Many species of Passeriformes are listed with a brief statement of the nature of the stomach contents in specimens examined. The ant-birds listed appear to feed largely on beetles as well as on ants.

ZOTTA, ANGEL R., AND DA FONSECA, SECUNDINO. Sinopsis de los Ciconiiformes Argentinos. El Hornero, **6**: 240–248, July 1936.—A continuation of the list with keys and descriptions of the Ciconiiformes of Argentina. The genera *Nycticorax*, *Tigrisoma*, *Ixobrychus*, and *Botaurus* are included, with line drawings of head, foot, wing and tail feathers of each, and there is a brief statement of distribution.

A new mimeographed publication, 'Bulletin of New England Bird-Life,' virtually continues the useful reports formerly gotten out by the Massachusetts State Board of Agriculture under the late E. H. Forbush. The first number appears under date of December 1, 1936, and it is planned to issue later numbers monthly, presenting the various phases of local bird life in convenient review. The publication of this bulletin, which is edited by Miss Juliet Richardson of the New England Museum of Natural History, 234 Berkeley St., Boston, should prove of much value in preserving a contemporary record of the local phases of ornithology, as well as in stimulating interest in the field study of birds. Subscriptions at the nominal cost of fifty cents yearly, will it is hoped, suffice to defray the cost of publication.