## RECENT LITERATURE

EDITED BY FRANK McKINNEY

### Anatomy and Embryology

De Gennaro, L. D. 1959. Differentiation of the glycogen body of the chick embryo under normal and experimental conditions. Growth, **23:** 235–249.

Lindenmaier, P., and M. R. Kare. 1959. The taste end-organs of the chicken. Poultry Sci., **38:** 545–550.—Morphology, distribution, and numbers of taste buds.—P. H. B.

Wetherbee, D. K. 1961. Observations on the developmental conditions of neonatal birds. Amer. Midl. Nat., **65:** 413–435.—Data on a number of species (chiefly North American) artificially hatched in an incubator, giving *inter alia,* longest incubation period, average weight of egg and neonatal, average length of certain neonatal bones compared with adults.—E. E.

### Behavior

Dane, B., C. Walcott, and W. H. Drury. 1959. The form and duration of the display actions of the Goldeneye *(Bucephala clangula).* Behaviour, **14:** 265–281.—Analysis of movie films provides a detailed catalog of displays. Two categories are distinguished: (1) flock displays and (2) precopulatory actions and copulation. Some displays are very constant in form and duration; others have constant form but vary in duration. Some female displays are variable in both form and duration.—F. M.

Dilger, W. C. 1960. The comparative ethology of the African Parrot genus Agapornis. Zeitschr. für Tierpsychol., **17:** 649–685.—The behavior of all species of *Agapornis* except *swinderniana* (five species, including all four subspecies of *personata*) was studied in great detail under captive conditions. Behavior of the young, maintenance activities, locomotion, agonistic and reproductive behavior are fully described. Evolutionary trends in morphological and behavioral characters are traced, *e.g.,* loss of sexual dichromatism (with coincident changes in agonistic and sexual behavior), increasing ritualization of displacement scratching, gradual loss of carrying nest material in the feathers and the acquisition of carrying such material in the bill, increase in complexity of nests. It is suggested that "display extinction must be as normal as display evolution and . . . there must be very strong competition among existing displays from the standpoint of their value as signals prompting certain responses in the recipient." The paper is very fully illustrated with one color plate and a fine series of photographs.—F. M.

Drury, W. H., Jr. 1960. Breeding activities of Long-tailed Jaeger, Herring Gull and Arctic Tern on Bylot Island, Northwest Territories, Canada. Bird-Banding, **31:** 63–79.—Behavioral and life history observations of examples of three subgroups of Laridae are presented and compared.—R. E. P.

Frazier, A., and V. Nolan, Jr. 1959. Communal roosting by the Eastern Bluebird in winter. Bird-Banding, **30:** 219–226.

Hall, K. R. L. 1960. Egg-covering by the White-fronted Sandplover *Charadrius marginatus.* Ibis, **102:** 545–553.—The author made 118 daylight observations on the degree to which this plover covered its eggs with sand at 41 different nests. In 44 per cent of the observations the eggs were more than half covered,

and in only 23 per cent were they uncovered. Eggs were better covered between 0700 and 1500 suntime; at certain nests, eggs were more covered on second inspection than on first, in the same day. On 16 of 118 occasions when birds were frightened from the nest by a human, they made a leaving scuffle, which swept sand over the eggs. Similar behavior in other members of the genus is compared. The leaving scuffle indicates conflict of drives to incubate and escape. —J. W. H.

Johnsgard, P. 1960. Pair-formation mechanisms in *Anas* (Anatidae) and related genera. Ibis, **102:** 616–618.—The importance of "Leading-and-inciting" in pair formation is stressed. This behavior pattern and "Mock-preening" occur in most members of the genus *Anas* and are recorded in other tribes of Anatidae. —J. W. H.

Kear, J. 1960. Abnormal sexual behavior of a Hawfinch *Coccothraustes coccothraustes.* Ibis, **102:** 614–616.—A hand-raised female displayed to her brother but later transferred attention to the author, performing displays toward her and threatening other humans.—J. W. H.

Klopfer, P. H. 1959. Social interactions in discrimination learning with special reference to feeding behavior in birds. Behaviour, **14:** 282–299.—Feeding tests with Greenfinches showed that single birds learned to discriminate between two patterns rapidly as did birds allowed to observe a trained bird performing. Birds trained in the presence of an untrained partner required much longer. In this case, it appears that a feeding response can be established more easily than an avoidance response by a process of conditioning. This type of learning is thought to operate in species with conservative feeding habits.—F. M.

Moynihan, M. 1959. Notes on the behavior of some North American Gulls. IV. The ontogeny of hostile behavior and display patterns. Behaviour, **14:** 214–239.—The development of displays in young Franklin's Gulls *(Larus pipixcan)* and Ring-billed Gulls *(L. delawarensis)* is described. All display calls are considered to develop from the two intensities of distress notes given by newly hatched chicks. Most display postures are variable at first and have no signal function; they gradually become standardized as this function develops.—F. M.

Murton, R. K. 1960. Some photographs of Wood Pigeon behaviour and feeding. Brit. Birds, **53:** 321–324.

Parmelee, D. F. 1959. The breeding behavior of the Painted Bunting in southern Oklahoma. Bird-Banding, **30:** 1–18.—Life-history study of the species in Oklahoma with particular attention to the role of the sexes in care of the young: only females built, incubated, or attended the brood, except that males cared for broods if females laid a second clutch. Behavior is compared to that of Indigo Buntings.—R. E. P.

Stokes, A. W. 1960. Nest-site selection and courtship behaviour of the Blue Tit *Parus caeruleus.* Ibis, **102:** 507–519.—Courtship behavior from nest selection to incubation is described, and the causation and origin of the behavior is discussed. Hole inspection maintains the pair bond. The courtship dance has been modified from the head-forward threat. The female dominates her mate when the nest site is selected. Great Tits dominate Blue Tits during site selection and may eject them. The Blue Tit's bright plumage may have evolved as enhancement of the head-forward threat and is of secondary epigamic value—J. W. H.

Tinbergen, N. 1959. Comparative studies of the behaviour of Gulls (Laridae): a progress report. Behaviour, **15:** 1–70.—An important paper summarizing much of the recent research on gull behavior and discussing broad conclusions that

are emerging from work on many species. The three central problems—functions, causation, and evolution of behavior patterns—are fully discussed. A functional distinction is made between "distance-increasing" and "distance-reducing" displays. Causation is discussed in terms of multiple motivation (the simultaneous arousal of attack, escape, and sexual "tendencies"). The performance of many displacement activities is thought to be facilitated by the primary occurrence of an intention movement. Evolutionary changes in displays and in behavior mechanisms and the ultimate causes for these are discussed.—F. M.

Warren, R. P. and R. A. Hinde. 1961. Does the male stimulate oestrogen secretion in female canaries? Science, **133:** 1354–1355.—Previous experiments had suggested that presence of the male accelerates (but does not initiate) estrogen secretion in female canaries, leading to nest-building. The present experiment indicates that females treated with estrogen will build nests during the non-breeding season, with or without the presence of males, and regardless of day-length or temperature. Ovulation did not occur (being suppressed by the exogenous estrogen), but incubation did, indicating that neither ovulation nor the presence of eggs or egg-substitutes is a prerequisite for incubating activity.—K. C. P.

### Distribution and Annotated Lists

Benson, C. W. 1960. The birds of the Comoro Islands: results of the British Ornithologists' Union Centenary Expedition 1958. Ibis, **103b:** 5–106.—The Comoros consist of four main islands, of volcanic origin, situated at the northern end of the Mozambique Channel, between Africa and Madagascar. Until the present expedition, the avifauna was poorly known and no precise information was available on ecology. Breeding seasons are similar to those in Rhodesia, Nyasaland, and Madagascar. The avifauna is considered to be derived mostly from Madagascar (30 species) and Africa (12 species). The systematic list includes data on sub-species (12 new forms distinguished), distribution, ecology, and breeding condition of specimens collected. An appendix lists species now rejected or of uncertain occurrence and those introduced and now extinct.—F. M.

Dunmire, W. W. 1961. Birds of the national parks in Hawaii. Hawaii Nat. Hist. Assoc., Honolulu, Hawaii. 36 pp.—A most attractive booklet, well illustrated with line drawings, photographs, and a color plate, giving descriptions and notes on habitat, voice, status, and other matters. Areas treated: Hawaii Volcanoes National Park on the island of Hawaii and Haleakala National Park on Maui.—E. E.

Gallagher, M. D. 1960. Bird notes from Christmas Island, Pacific Ocean. Ibis, **102:** 489–502.—Includes a description of the island, table of rainfall, discussion of predators, and an annotated systematic list (with notes on 27 species) based on observations from June 1958 until June 1959. Breeding seasons vary greatly among species.—J. W. H.

James, D. 1960. Some recent findings concerning the avifauna of Arkansas. Proc. Ark. Acad. Sci., **14:** 8–13.

Mountfort, G. 1960. Notes on the birds of Tenerife. Ibis, **102:** 618–619.—Further documentation of the effects of human disturbance on the avifauna of this island. Several species reported as scarce in 1953 could not be found in 1960.—J. W. H.

Paige, J. P. 1960. Bird notes from Aden and Oman. Ibis, **102:** 520–525. The author's notes are intended to supplement Meinertzhagen's 1954 *Birds of Arabia.*

An annotated list of species includes notes on range extensions, migrations, and a brief discussion of feeding methods of *Pelecanus rufescens*.—J. W. H.

Shaub, M. S. 1959. Evening Grosbeak juvenals at Hadley, Massachusetts—July 1958. Bird-Banding, **30:** 226–228.

Smith, M. Q. 1960. Notes on the birds of the Trebizond area of Turkey. Ibis, **102:** 576–583.—Based on casual observations in 1958 and 1959 and on notes made by K. M. Guichard in 1959, the writer gives a description of the region, discusses migration, and provides a briefly annotated list of the birds observed.—J. W. H.

Stager, K. E. "1960" [-1961]. The composition and origin of the avifauna. *In* Symposium: The biogeography of Baja California and adjacent seas. Syst. Zool., **9:** 179–183.—Summary based largely on the work of J. Davis, also Grinnell and Nelson. The endemism of the Cape region does not represent a "potent center of differentiation," but a little-differentiated remnant of an avifauna associated with a Cape relict of a Sierra Madrean element of the Madro-Tertiary flora once continuously distributed to the north and east. The possibility of a direct land connection between the Cape and the Mexican mainland is rejected.—K. C. P.

Stager, K. E. 1961. The Machris Brazilian Expedition. Ornithology: Non-passerines. Los Angeles Co. Mus. Contr. Sci., **41:** 1-27.—Birds collected in central Goiás, Brazil, in 1956; habitat and abundance indicated.—E. E.

Tickell, W. L. N. 1960. Notes from the South Orkneys and South Georgia. Ibis, **102:** 612–614.

Udvardy, M. D. F. 1961. Additions to the check list of Hawaiian birds. Elepaio, **21:** 84–90.—Additions to the 1958 check-list of E. H. Bryan, Jr., as well as cases of changed status or new records of supposedly rare birds, documented by literature references, usually of sight observations.—E. E.

Webb, J. S., and D. K. Wetherbee. 1960. Southeastern breeding range of the Brown-headed Cowbird. Bird-Banding, **31:** 83–87.—Evidence for a recent southern extension of the breeding range of this species.—R. E. P.

## Ecology and Populations

Ash, J. S. 1960. Bird of prey numbers on a Hampshire game-preserve during 1952-1959. Brit. Birds, **53:** 285–300.

Atkinson-Willes, G. L., and G. V. T. Matthews. 1960. The past status of the Brent Goose. Brit. Birds, **53:** 352–357.

Norris, R. A. 1960. Density, racial composition, sociality, and selective predation in nonbreeding populations of Savannah Sparrows. Bird-Banding, **31:** 173–216.—A detailed study of populations, behavior, predation, and ecology of both natural and "semi-confined" wing-clipped birds. Some signs of a social hierarchy were noted, and data suggesting differential predation among races are presented.—R. E. P.

Sowls, L. K. 1960. Results of a banding study of Gambel's quail in southern Arizona. J. Wildl. Mgt., **24:** 185–190.—Recovery data suggest that birds which hatch in a year of high productivity continue to have a higher survival rate, even as adults in later years, than birds hatched in a year of low productivity.

Stamm, D. D., D. E. Davis, and C. S. Robbins. 1960. A method of studying wild bird populations by mist-netting and banding. Bird-Banding, **31:** 115–130.—A comparison of mist netting and recapture of banded birds with the spot-

mapping technique for estimating breeding bird populations, both approaches being used simultaneously on the same area. The method allows detection and evaluation of error resulting from net shyness and recruiting, and further allows collection of data on disease and parasites. The two census techniques gave close agreement.—R. E. P.

Yocom, C. F., and H. A. Hansen. 1960. Population studies of waterfowl in eastern Washington. J. Wildl. Mgt., **24:** 237–250.—Distribution and production of ducks and factors affecting them, particularly weather.—J. P. R.

## Evolution and Genetics

Hamilton, T. H. 1961. The adaptive significance of intraspecific trends of variation in wing length and body size among bird species. Evolution, **15:** 180–195.—A review of ecogeographical "rules" affecting size variation in birds, with emphasis on the multiplicity of possible selection forces involved. Should be read in connection with Rand's criticism (*Wils. Bull.*, **73,** 1961: 46–56) of an earlier paper by Hamilton, and the latter's reply (*ibid.*: 215–217).—K. C. P.

Irwin, M. R., and W. J. Miller. 1961. Interrelationships and evolutionary patterns of cellular antigens in Columbidae. Evolution, **15:** 30–43.—Analysis of the presence or absence in over 30 species of Columbidae of cellular antigens that distinguish *Columba livia* and *C. guinea* from one another. "Undoubtedly the relationships of the cellular antigens in these various species are an index of changes in the causative genes, so that the relationships among the cellular antigens are indicative of the changes from a common ancestral form which have occurred in the evolution of these species" (from authors' summary).—K. C. P.

Lowther, J. K. 1961. Polymorphism in the White-throated Sparrow, *Zonotrichia albicollis* (Gmelin). Can. J. Zool., **39:** 281–292.—Examination of 286 museum and 199 live specimens revealed two morphic types in both sexes (white-striped and tan-striped, according to the color of the median crown stripe). Proportions of white-striped males and tan-striped females increased from Newfoundland to the northwestern part of the range. The morphic types appear to be genetically determined and do not change with age. White-striped morphs mate selectively with tan-striped morphs; this appears to be the only case of this type of selective mating known in birds. Evidence that the proportion of the two forms in the central part of the range has not changed over a period of 100 years suggests that this species exhibits a balanced polymorphism.—F. M.

Mayfield, H. 1961. Cowbird parasitism and the population of the Kirtland's Warbler. Evolution, **15:** 174–179.—Essentially a summary of Chapter 14 of Mayfield's book (1960. *The Kirtland's Warbler.* Cranbrook Inst. Sci.), with emphasis on the impact of cowbird parasitism on survival of the warbler as a species.—K. C. P.

Newcomer, E. H. 1959. The meiotic chromosome of the fowl. Cytologia, **24:** 403–410.—On the removal of microchromosomes from a chromosomal status to that of chromosomoids.—P. H. B.

Sato, I., and I. L. Kosin. 1960. A cytological study of the parthenogenetically developing turkey germ discs and embryos. Cytologia, **25:** 256–266.—Lists evidence that macrochromosomes and microchromosomes are of the same nature, contra Newcomer.—P. H. B.

GENERAL BIOLOGY

Carvalho, C. T. de. 1960. Sôbre pterilose e bionomia de *"Panyptila cayennensis"* (Gmelin, 1789) (Aves, Apodidae). Rev. Brasil Biol., **20** (3): 315–325.—Notes on the biology and pterylosis of the Lesser Swallow-tailed Swift in Belem, Pará, Brazil. Birds use the nest for roosting and shelter throughout the year and probably have two broods. (In Portuguese; English summary.)—E. E.

Carvalho, C. T. de. 1960. Comportamento de *Myiozetetes cayanensis* e notas biológicas sobre espécies afins (Passeres, Tyrannidae). Pap. Avul. Dept. Zool., S. Paulo, **14** (15): 121–132.—Data on the life history, including incubation period, of a tropical tyrannid in Brazil, with comparative notes on certain allied species. States that in addition to the well-known spherical nest, *Pitangus sulphuratus* also builds open cup nests in sheltered situations. (In Portuguese; English summary.)—E. E.

Davis, T. A. W. 1960. Kestrel pellets at a winter roost. Brit. Birds, **53**: 281–284.

Davison, V. E., and W. H. Hamor. 1960. A system for classifying plant foods of birds. J. Wildl. Mgt. **24**: 307–313.—Foods are classified as choice, fair, and unimportant. Stomach analysis, observation, experiment, and field trial are all needed to understand food habits of a species.—J. P. R.

Lloyd, M. 1960. Statistical analysis of Marchant's data on breeding success and clutch-size. Ibis, **102**: 600–611.—An astute application of statistical analysis to Marchant's breeding data on Ecuadorian birds published in recent issues of *Ibis*. Some year-to-year changes in breeding success are most likely correlated with changes in abundance of snakes, not, as supposed by Marchant, with certain differences in weather. Lloyd reveals the existence of a mechanism for clutch-size adjustment for species that nest in both the growing and dry seasons and presents evidence that clutch size may be affected by unfavorable weather in midbreeding season (or by abundance of snakes then or some other unrecognized factor). There are included several pages of commentary by Mr. Marchant.—J. W. H.

Marchant, S. 1960. The breeding of some S. W. Ecuadorian birds. Ibis, **102**: 584–599.—A continuation of the author's studies published in previous numbers of the *Ibis*. Specific accounts deal with many aspects of breeding in *Molothrus bonariensis, Icterus grace-annae, Pezites militaris, Pheucticus chrysopeplus, Neorhynchus peruvianus, Sporophila telasco, Volatinia jacarina, Phrygilus alaudinus, Rhodospingus cruentus,* and *Poospiza hispaniolensis*. These studies provide valuable and often unique contributions to our knowledge of South American birds.—J. W. H.

Mussehl, T. W. 1960. Blue grouse production, movements, and populations in the Bridger Mountains, Montana. J. Wildl. Mgt. **24**: 60–68.—Chronology and extent of seasonal movements, development of young, population characteristics, and general life-history information.—J. P. R.

Seel, D. C. 1960. The behaviour of a pair of House Sparrows while rearing young. Brit. Birds, **53**: 303–310.

Snow, B. 1960. The breeding biology of the Shag *Phalacrocorax aristotelis* on the island of Lundy, Bristol Channel. Ibis, **102**: 554–575.—A comprehensive study from May 1954 to May 1958 provided statistics on breeding season, nest sites and nests, egg laying, replacement clutches, clutch size, incubation and hatching success, egg size and weight, fledgling success, weight of the young and period of dependence on parents, and variation in breeding success.—J. W. H.

Williams, G. R. 1959. Aging, growth-rate and breeding season phenology of wild populations of California Quail in New Zealand. Bird-Banding, **30:** 203–218.—Development of the primaries was used for aging and found to give hatching date within three-four days for the ages 4-21 weeks in the field. A difference in rate of increase of body weight between wild and captive young was consistent but small. Data indicate a five-month breeding season, peaking in December.—R. E. P.

MANAGEMENT AND CONSERVATION

Atwood, E. L., and A. D. Geis. 1960. Problems associated with practices that increase the reported recoveries of waterfowl bands. J. Wildl. Mgt. **24:** 272–279.—Variability in reported recoveries for different years, areas, and species is increased by efforts to get a higher proportion of shot, banded ducks reported.—J. P. R.

Campbell, H. 1960. An evaluation of gallinaceous guzzlers for quail in New Mexico. J. Wildl. Mgt. **24:** 21–26.—Providing surface water for quail is considered impractical under New Mexico conditions, in view of the high cost and doubtful value of "guzzlers."—J. P. R.

Carney, S. M., and A. D. Geis. 1960. Mallard age and sex determination from wings. J. Wildl. Mgt. **24:** 372–381.—Wings collected from hunters were classified with better than 95 per cent accuracy. The use of such information in measuring populations and hunting mortality is discussed.—J. P. R.

Cohen, A., H. S. Peters, and L. E. Foote. 1960. Calling behavior of Mourning Doves in two midwest life zones. J. Wildl. Mgt. **24:** 203–212.—A statistical study of aspects of calling behavior potentially useful in censusing.—J. P. R.

Diem, K. L., and K. H. Lu. 1960. Factors influencing waterfowl censuses in the parklands, Alberta, Canada. J. Wildl. Mgt. **24:** 113–133.—Species characteristics and behavior, seasonal vegetative development, human error, time of day, and weather conditions as they affect aerial, roadside, and ground beat-out censuses—J. P. R.

Geis, A. D., and E. L. Atwood. 1961. Proportion of recovered waterfowl bands reported. J. Wildl. Mgt. **25:** 154–159.—About two banded birds are shot for each one reported. Conservation employees affect the proportion by reporting bands for hunters.—J. P. R.

Hanson, W. R., and R. J. Miller. 1961. Edge types and abundance of bobwhites in southern Illinois. J. Wildl. Mgt. **25:** 71–76.—The amount of certain edge types is more important than the aggregate of all edge types. Number of different cover tracts per unit area is also important.—J. P. R.

Hickey, J. J., and L. B. Hunt. 1960. Initial songbird mortality following a dutch elm disease control program. J. Wildl. Mgt. **24:** 259–265.—Robin mortality of 86-88 per cent began 7-15 days following spraying during the tree-dormant season, but generally lagged behind spraying by three weeks. Transient birds in May were not noticeably affected.—J. P. R.

Hunt, L. B. 1960. Song bird breeding populations in DDT-sprayed dutch elm disease communities. J. Wildl. Mgt. **24:** 139–146.—Study plots in three unsprayed communities averaged 409 breeding pairs per 100 acres. Plots in three sprayed communities contained 31, 68, and 90 per cent fewer breeding pairs.—J. P. R.

Korschgen, L. J. 1960. Production of game bird foods in Missouri. J. Wildl. Mgt. **24:** 395–401.—Good seeds of important fall foods were sufficiently abundant to support a higher quail population than was present.—J. P. R.

MIGRATION, ORIENTATION, AND BANDING

Baird, J., A. M. Bagg, I. C. T. Nisbet, and C. S. Robbins. 1959. Operation recovery—report on mist-netting along the Atlantic Coast in 1958. Bird-Banding, **30:** 143–171.—Report of cooperative efforts of 18 banding stations along the coast and a comparison with the previous year. Data from a large number of netting stations working simultaneously indicate that all large waves occurred closely after passage of cold fronts and usually with a sharp temperature drop and a flow of polar air. Cloud and rain delayed several waves. Waves of Yellow-breasted Chats usually arrived on SW winds and it is suggested that they come from the southwest, apparently coinciding with the arrival of many other southern and western birds in the Northeast.—R. E. P.

Baird, J., and I. C. T. Nisbet. 1959. Observations of diurnal migration in the Narragansett Bay area of Rhode Island, in fall 1958. Bird-Banding, **30:** 171–181.—Observations indicating species differences in willingness to cross open water, even between species of swallows, and describing local movement patterns.—R. E. P.

Berger, D. D., and H. C. Mueller. 1959. The Bal-Chatri: a trap for the birds of prey. Bird-Banding, **30:** 18–26.—Description of construction and use of a modification of this trap.—R. E. P.

Davis, D. E. 1960. Comments on the migration of Starlings in eastern United States. Bird-Banding, **31:** 216–219.—Interpretation of banding data to indicate some Starlings are migratory, some sedentary in U.S.—R. E. P.

Harris, S. W. 1961. Migrational homing in Mourning Doves. J. Wildl. Mgt. **25:** 61–65.—Adults had a calculated homing rate of nearly 100 per cent for males and 60 per cent for females. The rate for doves banded as nestlings was only 2 per cent—J. P. R.

Hofslund, P. B. 1959. Fall migration of Herring Gulls from Knife Island, Minnesota. Bird-Banding, **30:** 104–114.—Eighty-one band returns show a tendency for first-year birds to wander more than adults and for them to go east along Lake Superior. (See also Smith, W. J., *Bird-Banding,* **30:** 69–104.)—R. E. P.

Lack, D. 1960. Autumn "drift-migration" on the English east coast. Brit. Birds, **53:** 325–352, 379–397.—A detailed analysis of arrivals of night-migrant chats, warblers and flycatchers at observatories on the east coast, from 20 August to 10 October 1949-1959. The theory of Williamson and other workers that these migrants reach England as a result of "down-wind directed drift" is criticized. It is shown that there is a passage of night migrants in the absence of westward drift. Although the number of arrivals does tend to be large with easterly winds, this is only partly caused by drift, since easterly winds are associated with anticyclones over southern Scandinavia and these conditions favor heavy departures. Weather conditions (often local) on the English coast affect the proportion of migrants alighting.—F. M.

Middleton, R. J. 1960. Banding Robins at Norristown. Bird-Banding, **31:** 136–139.

Sargent, T. D. 1959. Winter studies on the Tree Sparrow, *Spizella arborea.* Bird-Banding, **30:** 27–37.—A study of flock structure and movements of Tree Sparrows in winter, suggesting that no structure exists and that the birds do not remain in a particular wintering area but wander.—R. E. P.

Shaub, M. S. 1960. The Evening Grosbeak incursion in the Northeast winter of 1957-1958. Bird-Banding, **31:** 140–150.

Shaub, B. M. 1960. The destruction of nearly one hundred Evening Grosbeaks at St. Leon le Grand, Quebec. Bird-Banding, **31**: 150–156.

Sheldon, W. G. 1960. A method of mist netting Woodcocks in summer. Bird-Banding, **31**: 130–135.

Sladen, W. J. L., and R. L. Penney. 1960. Penguin flipper-bands used by the USARP bird-banding program 1958-60. Bird-Banding, **31**: 79–82.

Smith, K. D. 1960. The passage of palaearctic migrants through Eritrea. Ibis, **102**: 536–544.—Status and altitudinal range of migrants and winter visitors is given. The paper supplements the author's (1957) check-list of the area. Rarities and species of uncertain status as well as coastal passage of ducks, waders, and sea birds are omitted.—J. W. H.

Smith, W. J. 1959. Movements of Michigan Herring Gulls. Bird-Banding, **30**: 69–104.—An analysis of 1,143 recoveries from bandings of nestlings on island colonies in Lakes Huron and Michigan. Young birds wandered more than adults and tended to follow water courses. A marked eastward tendency in autumn is tentatively explained by drift with the prevailing winds while soaring. —R. E. P.

Williamson, K., and I. J. Ferguson-Lees. 1960. Nearctic birds in Great Britain and Ireland in autumn 1958. Brit. Birds, **53**: 369–378.—Summarizes the unusually large number of records (involving 17 species) and relates their occurrence to North Atlantic weather conditions.—F. M.

Woodford, D. 1959. The use of mist-nets and a Heligoland trap at Point Pelee. Bird-Banding, **30**: 38–46.—A comparison of the effectiveness of the two types of trap, including data from many hours of trapping both ways.—R. E. P.

## Physiology

Helms, C. W., and W. H. Drury, Jr. 1960. Winter and migratory weight and fat field studies on some North American Buntings. Bird-Banding, **31**: 1–40.—Weight and fat studies of Tree Sparrows and Slate-colored Juncos and their relations to flocking, weather, and migration. About half of the daily variations of about 10 per cent of mean body weight were attributed to fat changes, the rest to ingested food. Variation was greatest in midwinter for both species. A scheme is given for classifying fat levels in trapped, living birds. Both species gained weight in midwinter and lost it after. Winter weight changes were closely related to temperature changes, but became independent of temperature during migratory periods.—R. E. P.

Vinogradov, I. N. 1960. The aerodynamics of soaring bird flight. (Aerodinamika ptits-paritelei. DOSARM, Moscow. 1951.) Translator B. Toms. Roy. Aircraft Estab., Ministry of Aviation, London, England. Library Transl., No. **864**: 1–75.—Translation of a Russian work, published in 1951, which discusses certain aspects of bird flight (providing some mathematical formulae), with a view to application in building flapping flight aircraft. Through their complex wing and feather structure birds combine thrust with stability and maneuverability in a more efficient manner than do fixed-wing aircraft. Birds achieve boundary layer control, it is suggested, by blowing the air away through their wing slots, by sucking it away into the filamentous padding of wing down, and by creating circulation independent of the angle of attack, in trembling and hovering flight, by vibrating the manus. The corrugated wing surface and the wing down serve as "an adaptive disturbance of the flow properties of the wing." The V-forma-

tion adopted by many large, gregarious birds in flapping flight provides, the author urges, a wavelike flow of air, the energy of which is utilized by the following birds.—E. E.

### Taxonomy and Palaeontology

Goodwin, D. 1960. Taxonomy of the genus *Ducula*. Ibis, **102:** 526–535. A revision of the columbid genus *Ducula* of the Australasian and oriental regions, together with a discussion of affinities of related genera. "The genus *Ducula* is very close to *Ptilinopus, D. poliocephala* and its allies forming a connecting link between the two genera. The pied imperial pigeons are the most discrete group within *Ducula*." *D. paulina* and *D. oenothorax* are termed races of *D. aena*. *Lopholaimus* and *Hemiphaga* are considered closer to each other than either is to *Ducula* and are retained as monotypic genera. *Drepanoptila* and *Alectroenas* have evolved from *Ptilinopus* stock.—J. W. H.

Hall, B. P. 1961. The taxonomy and identification of pipits (genus *Anthus*). Bull. Brit. Mus. (Nat. Hist.) Zool., **7**(5) : 247–289.—All species are treated, but the Palearctic forms in much greater detail, including data on molts.—E. E.

Irwin, M. P. S. 1960. The relationship of some aberrant African *Serinus*. Ibis, **102:** 503–506.—Eleven specimens of *Serinus* collected in Portuguese East Africa adjacent to the Sabi-Lundi River junction in Southern Rhodesia provide "a range of variation from near *S. atrogularis* to near *S. mozambicus*." The systematic relationships of these two species, the generic affinities of the former, the ecological and geographical characteristics of their distribution, and similar problems among other species of *Serinus* are discussed. The aberrant specimens indicate local breakdown of isolating mechanisms (with resultant secondary hybridization) or reversion to ancestral characters.—J. W. H.

Tilden, J. W. 1961. Certain comments on the subspecies problem. Syst. Zool., **10:** 17–23.—An attempt at analyzing sources of disagreement on the value of the subspecies concept. "The good results outweigh the objections that have been brought forward." Most examples are taken from Lepidoptera; Tilden's unfamiliarity with ornithology is suggested by his use of "less than five thousand" as the total recognized number of bird species.—K. C. P.

### Miscellaneous

Boswall, J. 1961. A world catalogue of gramophone records of bird voice. Bio-Acoustics Bull., **1** (2) : 1–12. Cornell Univ. Lab. Ornith.—A useful list of commercially published records issued between 1910-1960. The list is by authors, giving title, diameter of the disk, rpm, publisher, and usually the number of species included. An introduction indicates the countries and zoogeographic regions in which published bird recordings have been made, and the total species (approximately 963) covered. Unfortunately there is no geographic cross referencing, and in a few instances neither the title of the disk nor the comment in this catalogue indicates the country or area whose birds are included.—E. E.

Eklund, C. R. 1959. Antarctic ornithological studies during the IGY. Bird-Banding, **30:** 114–118.—A survey of studies undertaken.

Wood-Gush, D. G. M. 1959. A history of the domestic chicken from antiquity to the 19th century. Poultry Sci., **38:** 321–326.