PERIODICAL LITERATURE

EDITED BY GLEN E. WOOLFENDEN

An Entire Issue

Barclay-Smith, P. (ed.). 1967. X Bull. intern. council for bird preservation, pp. 1–209.—Contains the minutes of six conferences on bird preservation and reports on international wildfowl conservation and bird preservation in Africa, Asia, Europe, and Canada; includes articles on the status of the Cape Barren Goose (*Cereopsis*), oil pollution, effects of pesticides, endangered species, particularly in Japan and Korea, farming and birds, the decrease of *Alcedo atthis,* preserves for migrating *Grus grus* in the Netherlands, and a census of the Collared Turtle Dove in the Netherlands.—F.E.L.

Snow, D. W. (ed.). 1967. Proc. 14th Intern. Orn. Congr., xxiii + 405 pp.—In addition to the papers presented at the plenary sessions, this book contains eight other sections: a preface by President Lack; the report of Secretary-General Tinbergen, an account of the Scottish Bird-Islands Study Cruise by Landsborough Thomson; the report of the Standing Committee on Ornithological Nomenclature, C. Vaurie, Chairman; a proposal for an internationally agreed world list of birds by Lack; and lists of the International Ornithological Committee, official delegates, and members of the 14th Congress. Abstracts of the 17 papers of the plenary sessions are located herein under the appropriate subject categories.—G.E.W.

Anatomy and Embryology

Bock, W. J. 1967. The use of adaptive characters in avian classification. Proc. 14th Intern. Orn. Congr. (1966): 61–74.—All features used in classification are adaptive, and adaptive features may be extremely useful taxonomic characters. The term paradaptive is used for those aspects of features that are not dependent upon selection and hence cannot be judged in the range of adaptive to nonadaptive. Paradaptive aspects of a feature are dependent only upon accidental evolutionary mechanisms and hence may be either adaptive or nonadaptive according to whether they are accepted or rejected by selection.—G.E.W.

Hirschberger, W. 1967. Histologische Untersuchungen an den primären visuellen Zentren des Eulengehirnes and der retinalen Repräsentation in ihnen. J. f. Orn., 108: 187–202.—A histological study of the primary visual centers in the brain of an owl (*Strix aluco*). Nerve fibers were traced from the retina to the brain.—H.C.M.

With, T. W. 1967. Freie Porphyrine in Federn. J. f. Orn., 108: 480–483.—Similar coproporphyrins were found in the feathers of several owls and the bustard, *Otis tarda*. (English summary.)—H.C.M.

Behavior

Baumgart, W. 1967. Alpendohlenkonien in Felsschächten des Westbalkan. J. f. Orn., 108: 341–345.—Alpine Choughs, *Pyrrhocorax* (*Coracia*) *graculus,* which normally nest on cliffs, nest in holes between rocks in level or sloping fields in the western Balkans.—H.C.M.

Berger, A. J. "1967" [1968]. Behavior of hand-raised *Empidonax* flycatchers. Jack-Pine Warbler, 45: 131–138.—Fledglings of *E. traillii* became independent of hand-feeding by the author about 27 days of age, as did a single *E. flaviventris*. *E. virescens* required 38–39 days. Included are notes on calls, sleeping, preening, bathing, etc.—R.B.

BREMOND, J.-C. 1967. Reconnaissance de schemas reactogenes lies a l'information contenue dans le chant territorial du rouge-gorge (*Erithacus rubecula*). Proc. 14th Intern. Orn. Congr. (1966): 217–229.—Using the playback of single songs, modified songs, and artificial signals, Bremond determined experimentally the coding system relating to specific and territorial information in the European Robin. The song of this species is variable, but three rules of syntax were described: 1) the consecutive songs are always different, 2) all motifs within a song are different, and 3) the motifs within a song alternate between high and low frequency. The experiments indicate that patterns following only rule 1 brought about little response. Rule 2 transmitted information about species specificity. Rules 2 and 3, in combination, transmitted information about territory.—R.C.S.

BURNS, R. D. 1967. Behavior of a captive Lark Sparrow. Jack-Pine Warbler, 45: 81–85.—Notes on a 5-year-old male of *Chondestes grammacus,* captive since 10 days old. Deals mainly with postures during and following attempted copulations with a rock.—R.B.

DE LANNOY, J. 1967. Zur Prägung von Instinkthandlungen (Untersuchungen an Stockenten *Anas platyrhynchos* L. und Kolbenenten *Netta rufina* Pallas). Z. Tierpsychol., 24: 162–200.—The species were reared with conspecifics, another species, in isolation, or a combination of same species and other species. The fixed action patterns were the same whether directed at a conspecific or another species, although the taxis component is dependent on the species on which imprinting occurs. Species recognition probably is based largely on selective learning of species characters. The concept of imprinting is considered and the "primacy of experience" is the main factor distinguishing it from other types of learning.—M.S.F.

DONOHOE, R. W., C. E. MCKIBBEN, AND C. E. LOWRY. 1968. Turkey nesting behavior. Wilson Bull., 80: 103–104.

DOTT, H. E. M. 1967. Three Fulmars apparently sharing parental duties. Brit. Birds, 60: 521–522.

DRIVER, P. M. 1967. Notes on the clicking of avian egg-young, with comments on its mechanism and function. Ibis, 109: 434–437.—Young of many nidifugous birds click loudly for a day or so before and after they hatch, and the noise supposedly promotes hatching synchrony in some species. Study of eggs with windows cut in them revealed that the egg-young start to click the moment the inner shell membrane is broken and they begin to breathe air. How the sound is produced is still unknown, although Driver suggests it may be caused by movements of cartilage as the respiratory system adjusts.—W.B.R.

DUEBBERT, H. F. 1968. Two female Mallards incubating on one nest. Wilson Bull., 80: 102.

FELLOWES, E. C. 1967. Kestrel and Barn Owl sharing entrance to nest-sites. Brit. Birds, 60: 522–523.

HOLCOMB, L. 1968. Reaction of Mourning Doves to cowbird eggs. Wilson Bull., 80: 105.

KOST, W. 1967. Wachtel (*Coturnix coturnix*) "wassert" in Roten Meer. Vogelwarte, 24: 40–41.—Land birds of several species have been observed landing briefly on the surface of water, apparently to drink the water.—H.C.M.

LADHAMS, D. E. 1968. Diving times of grebes. Brit. Birds, 61: 27–30.

LÖHRL, H. 1967. Bewegungsweisen des Mauerläufers *Tichodroma muraria* im Hinblick auf die Anpassung an seinen Biotop. J. f. Orn., 108: 165–186.—Describes behavior patterns of the Wall Creeper, based on intensive observations of 23 breeding pairs and two captive birds. Creeping and jumping movements on walls are

peculiar although in some respects they are similar to movements of Rock Nuthatches. Wing flashing in this species is believed to function in social behavior. (English summary.)—H.C.M.

LUMSDEN, H. G. 1965. Displays of the Sharptail Grouse. Ontario Dept. Lands and Forests, Res. Rept. no. 66: pp. 1–68.—The behavior of *Pedioecetes phasianellus* was studied on Maintoulin Island and in the Rainy River region of Ontario. Territoriality, alarm calls and postures, advertising displays, aggressive displays, and courtship and mating are described and illustrated in detail.—**F.E.L.**

MARLER, P. 1967. Comparative study of song development in sparrows. Proc. 14th Intern. Orn. Congr. (1966): 231–244.—Study of song development in the Song and White-crowned Sparrows, and Arizona and Oregon Juncos indicates that the degree of learning necessary for the development of the normal song varies among closely related species. White-crowned Sparrows depend upon hearing adults, while Arizona Juncos do not require exposure to adult song. The paper comments on learning in the maintenance of dialects, periods of learning and migration, and the effects of group experience and exposure on adult song.—R.C.S.

MEANLEY, B. 1968. Singing behavior of the Swainson's Warbler. Wilson Bull., 80: 72–77.

MERILEES, W. J. 1967. Spotted Sandpiper chicks returning to the nest. Canadian Field-Nat., 81: 223.—After initial departure four chicks returned and apparently spent their first night in the nest.—R.W.N.

MILLER, R. S. 1967. Further observations on interactions between dragonflies and hummingbirds. Blue Jay, 25: 185–186.—Territorial blue-darner dragonflies (*Aeschna interupta*) chased and harried female Ruby-throated Hummingbirds. In some encounters the dragonfly seized and momentarily held the bird. These aggressive interactions are believed due to the similarity of habitat, body size, coloration, and flight behavior.—R.W.N.

NICKELL, W. P. 1967. Breast-wetting behavior of the Osprey at the nest. Jack-Pine Warbler, 45: 96–97.

NOTTEBOHM, F. 1967. The role of sensory feedback in the development of avian vocalizations. Proc. 14th Intern. Orn. Congr. (1966): 265–280.—Chaffinches, *Fringilla coelebs,* when raised in sound isolation from a few days of age, had no song phrase structure and no terminal flourishes on their songs, even though the tonality and length compared favorably to the normal song of the species. Experiments in which males were deafened at different ages indicated that the greater the experience in singing the individual had, the less the song would be distorted after deafening. Experiments in which the sensory nerve to the syrinx was cut indicate that once full song is developed it depends upon central nervous control rather than proprioceptive feedback.—R.C.S.

REA, S. C. 1968. A territorial encounter between Screech Owls. Wilson Bull., 80: 107–108.

RICHTER, D. 1967. Deutungsversuch zur Nahrungsaufnahme eines schnabelverletzten Austern fischers (*Haematopus ostralegus*). J. f. Orn., 108: 328–334.—Discusses the feeding behavior of an Oystercatcher that lacked the terminal fourth of its lower mandible in terms of a reorganization of innate motor patterns. (English summary.)—H.C.M.

SCHUBERT, M. 1967. Probleme der Motivwahl und der Gesangsaktivitat bei *Phylloscopus trochilus* (L.) J. f. Orn., 108: 265–294.—A detailed analysis of timing, frequency, individual and specific variation, and factors involved in the motivation of song in the Willow Warbler. (English summary.)—H.C.M.

SIMMONS, K. E. L. 1967. Pied-billed Grebe behaviour. Brit. Birds, 60: 530–531.

SINDELAR, C., AND E. SCHLUTER. Osprey carrying bird. Wilson Bull., 80: 103.

STORER, R. W. 1967. Pied-billed Grebe behaviour. Brit. Birds, 60: 531–532.

THORPE, W. H. 1967. Vocal imitation and antiphonal song and its implications. Proc. 14th Intern. Orn. Congr. (1966): 245–263.—After reviewing the development of song in the Chaffinch, the paper points out that imitation occurs in species in which song is important in maintaining the pair bond, but is deemphasized in species recognition. Also discussed are antiphonal singing in the African Boubou Shrike, *Laniarius aethiopicus* and imitation in the Mynah, *Gracula religiosa*.—R.C.S.

TRETZEL, E. 1967. Imitition und Transposition menschlicher Pfiffe durch Amseln (*Turdus m. merula* L.). Ein weiterer Nachweis relativen Lernens und akusticher Abstraktion bei Vogeln. Z. Tierpsychol., 24: 137–161.—One individual was the original mimic of human whistles and his neighbors learned from him, leading to a local dialect. Birds were capable of "acoustical abstractions."—M.S.F.

DISEASES AND PARASITES

BARROW, J. H., JR., N. KELKER, AND H. MILLER. 1968. The transmission of *Leucocytozoon simondi* to birds by *Simulium rugglesi* in northern Michigan. Amer. Midl. Nat., 79: 197–204.—*Simulium rugglesi* attacking birds were collected from 15 April 1959 to 21 August 1962. Several new host feeding records were recorded; females showed a decided feeding preference for ducks over all other birds tested except Herring Gulls and Red-winged Blackbird fledgings. *S. rugglesi* transmit *Leucocytozoon* among summer residents rather than migrating birds.—G.D.S.

GIBSON, G. C. 1967. *Splendidofilaria pectoralis* n. sp. (Filarioidea: Onchocercidae) from tetraonid birds in northwestern North America. Canadian J. Zool., 45 (6-Pt 2): 1135–1147.—Describes the adult, fourth-stage larvae, and microfilaria of a new species of filarioid found in several species of tetraonids. Observations on prevalence, epizootiology, and pathology are discussed.—H.W.K.

HARPER, G., R. KLATASKE, R. ROBEL, AND M. HANSEN. 1967. Helminths of Greater Prairie Chickens in Kansas. J. Wildl. Mgmt., 31: 265–269.—Three species of nematodes and two of cestodes were found in 106 birds; incidence was 82.1 per cent, the highest infection being 27 nematodes in one bird. (From Wildl. Rev., no. 126, 1967.)—J.S.M.

HERMAN, C. M., J. O. KNISLEY, JR., AND E. L. SNYDER. 1966. Subinoculation as a technique in the diagnosis of avian Plasmodium. Avian Dis., 10: 541–547.—". . . blood subinoculated from wild Canada Geese, negative for *Plasmodium* by examination of peripheral blood smears, into 5-day-old domestic geese produced 60 per cent infection in the recipients." (From Wildl. Rev., no. 124, 1966.)—J.S.M.

MACDONALD, J. W., M. J. EVERETT, AND M. MAULE. 1968. Blackbirds with salmonellosis. Brit. Birds, 61: 85–87.

VAUGHT, R. W., H. C. MCDOUGLE, AND H. H. BURGESS. 1967. Fowl cholera in waterfowl at Squaw Creek National Wildlife Refuge, Missouri. J. Wildl. Mgmt., 31: 248–253.—Losses of several thousand Lesser Snow Geese, Blue Geese, and Mallards were associated with stresses caused by limited open water, inclement weather, and overcrowding of birds.—J.P.R.

VERBEEK, N. A. M., AND W. P. CARNEY. 1968. Parasites of the Water Pipit (*Anthus spinoletta alticola*) from Montana. Bird-Banding, 39: 33–36.—Adds some new parasites and summarizes all other known records for the species.—M.A.J.

VON FRISCH, O., AND H. VON FRISCH. 1967. Beobachtungen zur Brutbiologie und Jungenentwicklung des Häherkuckkucks (*Clamator glandarius*). Z. Tierpsychol.,

24: 130–136.—Cuckoo parasitism of magpies was studied in southern France. Young cuckoos hatched first, grew faster, and had better feeding releasers. Behavior of hand-raised cuckoos is described.—M.S.F.

WILSON, N. 1968. *Carnus hemapterus* Nitzsch (Diptera: Milichiidae) from Starlings in Indiana. Amer. Midl. Nat., 79: 251–252.

DISTRIBUTION AND ANNOTATED LISTS

BAILEY, R. S. 1967. Migrant waders in the Indian Ocean. Ibis, 109: 437–439.—Sight records of 14 species, but only Whimbrels and Ruddy Turnstones occurred more than 150 miles from land. Wintering shorebirds reach the Indian Ocean islands in late September–October and, as usual, a few nonbreeders summer.—W.B.R.

BENSON, C. W. 1967. Recent records of the White Stork, *C. ciconia,* from Zambia (formerly Northern Rhodesia). Vogelwarte, 24: 38–40.—The White Stork is a regular visitor as far west as 29° E.—H.C.M.

BLAGOSKLONOV, K. N. 1967. [Birds of the capital Moscow.] Zhivotnoe naselenie Moskvy i podmoskviya. Georg. Inst. Acad. Sci. USSR, Moscow, pp. 79–82.—Of the 177 species recorded from Moscow, populations of feral pigeons and Hooded Crows have increased, and those of the House Sparrow, swallows, Starling, Rook, and wagtails have decreased. (In Russian.)—F.J.T.

BROBERG, L. 1967. A Long-toed Stint *Calidris subminuta* in Ethiopia. Ibis, 109: 440.—A specimen netted 6 January 1964 at a Rift Valley lake is the first African record of this Siberian bird.—W.B.R.

BROWN, R. G. B. 1967. Sea birds off Halifax, March, 1967. Canadian Field-Nat., 81: 276–278.

BRUNTON, D. 1967. First record of the Summer Tanager in Ottawa, Ontario. Canadian Field-Nat., 81: 274.

DAVIS, R. A. 1967. Bird notes from James Bay in late November. Canadian Field-Nat., 81: 229–230.

DEKKER, D. 1968. Autumn records of Parasitic Jaegers in central Alberta. Blue Jay, 26: 16–17.—Thirty-two observations, 1964–1967.—R.W.N.

DENNIS, R. H. 1967. Sardinian Warbler on Fair Isle. Brit. Birds, 60: 483–485.

ERSKINE, A. J. 1968. Birds observed in north-central Alberta, summer 1964. Blue Jay, 26: 24–31.—An annotated account of 138 species with emphasis on habitat. Comparisons are made with list for same area by Soper in 1944.—R.W.N.

EVANS, R. M., AND R. W. NERO. 1967. Sight record of Green Heron at Delta, Manitoba. Blue Jay, 25: 184.

FERGUSON-LEES, I. J. 1968. Serins breeding in southern England. Brit. Birds, 61: 87–88.

GRANT, P. J. 1967. The European records of Laughing Gulls in 1964–66. Brit. Birds, 60: 489–490.

HELLEINER, C. W. 1967. Say's Phoebe, *Sayornis saya,* in Nova Scotia. Canadian Field-Nat., 81: 230.

HUDSON, R. 1968. Recoveries in Great Britain and Ireland of birds ringed abroad. Brit. Birds, 61: 65–76.—Includes first American Widgeon.—H.B.

JACKSON, J. A., AND J. D. RISING. 1968. Mid-winter bird count for 1967. Kansas Orn. Soc. Bull., 19: 1–8.

JOHNSON, R. R., AND J. E. JOHNSON. 1968. A Swallow-tailed Kite in trans-Pecos Texas. Wilson Bull., 80: 102–103.

JONES, B., AND M. T. MYRES. 1968. First record of Ruff for Alberta. Blue Jay, 26: 17–21.—One of four found 15 May 1967 near Calgary was collected, this being

the second record for western Canada. Weather data for the period are shown and the possibility of a western breeding population is discussed.—R.W.N.

KEITH, S. 1967. New bird records from Alaska and the Alaska Highway. Canadian Field-Nat., 81: 196–200.—Notes on five unusual species.—R.W.N.

KINZELBACH, R. 1967. Zur Vorkommen von *Motacilla flava cinereocapilla* Savi in Mitteleuropa.—J. f. Orn., 108: 65–70.—Isolated local populations of this race of wagtail exist in Europe north of the Alps separated in varying degrees from populations in France, Italy, and Switzerland.—H.C.M.

KOVSHAR, A. F. 1965. [Supplements to the list of birds of the reserve Aksu-Djabaghli, Talas-Alataou.] Trudy Gos. Zapovednjika Aksu-Djabaghli, Kaynar Publ. House, Alma Ata, 2: 237–245.—Additions to the previously published lists of birds of the reserve, dealing with 32 spp. of birds. (In Russian.)—F.J.T.

KRECHMAR, A. V. 1966. [Birds of West Taymirs.] Biologiya ptitz. Tr. Zool. Inst. Acad. Sci. USSR, 39: 185–312.—Description of the area and especially the habitats, and an account of the 122 species, emphasizing seasonal variation. (In Russian.)—F.J.T.

LAMEY, J. 1967. Unusual sight records of birds near Churchill, Manitoba. Canadian Field-Nat., 81: 228–229.

LAMEY, J. 1967. Sight record of Scissor-tailed Flycatcher near Toronto, Ontario. Canadian Field-Nat., 81: 279.

LANE, J., B. PETERS, AND W. MILLER. 1967. Manitoba's first collected specimen of the Varied Thrush. Canadian Field-Nat., 81: 222–223.

MAY, A. W. 1967. Occurrence of ptarmigan off northern Labrador. Canadian Field-Nat., 81: 227–228.—Birds perched on a ship 120 miles from land.—R.W.N.

NERO, R. W. 1968. Manitoba Black Guillemot specimen. Blue Jay, 26: 14–15.—First inland record for the province; other records reviewed.—R.W.N.

NIETHAMMER, G. AND J. 1967. Neunachweise für Afghanistans Vogelwelt. J. f. Orn., 108: 76–80.—New information on the occurrence, distribution, and breeding of birds in Afghanistan.—H.C.M.

NIETHAMMER, J. 1967. Storche in Afghanistan. Vogelwarte, 24: 42–44.—Discusses the status *C. ciconia* in Afghanistan.—H.C.M.

OGILVIE, M. A., AND R. J. F. TAYLOR. 1967. Summer records from West-Spitsbergen. Ibis, 109: 299–309.—Accounts of nesting Common Eiders, Pink-footed and Barnacle geese are notable in this well-annotated list of 28 species.—W.B.R.

OUELLET, H. 1967. An overlooked record of the Ruff in Quebec. Canadian Field-Nat., 81: 222 .

OUELLET, H. 1967. Dispersal of land birds on the islands of the Gulf of St. Lawrence, Canada. Canadian J. Zool., 45(6-Pt 2): 1149–1167.—A review of the distribution of 16 families of land birds on islands. The author concludes that in only two of these is distance separating islands from mainland a limiting factor. The most limiting factor is availability of suitable habitats.—H.W.K.

PARKES, K. C. 1968. Some bird records from western Pennsylvania. Wilson Bull., 80: 100–102.

POTAPOV, R. L. 1966. [Birds of Pamirs.] Biologiya ptitz. Tr. Zool. Inst. Acad. Sci. USSR, 39: 3–119.—Faunistics, biology, and ecology of 50 species of birds regularly breeding within the Pamirs. As with Ivanov's book, 1940, Birds of the Tadjikistan, this is a useful paper. (In Russian.)—F.J.T.

REESE, J. G. 1968. King Eiders summering in Chesapeake Bay. Maryland Birdlife, 24: 17–18.

RUCNER, D. 1967. Über die Verbreitung der *Hippolais*-Arten im Küstenlande Jugo-

slawiens. J. f. Orn., 108: 71–75.—Recent discoveries extend the breeding range of several species of warblers into the coastal regions of northern Yugoslavia.—H.C.M.

RAINES, R. J., AND A. A. BELL. 1967. Penduline Tit in Yorkshire: a species new to Britain and Ireland. Brit. Birds, 60: 517–520.

SCHADE, F., AND R. M. PALLARES. 1968. Las aves del Paraguay. II Parte. Rev. Parag. de Microb., 3: 86–105.—A list of species in eighteen families (Accipitridae–Columbidae), giving native names and brief descriptions of each with occasional ecological comments.—A.S.G.

SCHÜZ, E., AND W. GEHLHOFF. 1967. Die Brutverbreitung des Weissstorchs im Vorderen und Mittleren Orient. Vogelwarte, 24: 48–62.—A discussion of the breeding distribution of the White Stork in the Near and Middle East. The birds may be decreasing in some areas but in many others little recent change in populations is apparent. (English summary.)—H.C.M.

SHORT, L. L., JR., AND R. S. CROSSIN. 1967. Notes on the avifauna of northwestern Baja California. Trans. San Diego Soc. Nat. Hist., 14: 281–300.—Results of fieldwork during April, 1967, include the first Black Hawk sighting in Baja California, an abundance of raptors in riparian woodland, and information on distribution, taxonomy, and life history of various birds. Range extensions are noted for the Acorn Woodpecker, Verdin, Cactus Wren, and Ground Dove. The Chaparral-Sonoran Desert ecotone is discussed and a boundary between the two biomes suggested. (From authors' abstract.)—F.E.L.

SIBLEY, F. C., AND R. B. CLAPP. 1967. Distribution and dispersal of Central Pacific Lesser Frigatebirds *Fregata ariel*. Ibis, 109: 328–337.—Though almost unreported before this work, the species in fact is abundant in the area with about 80,000 breeding in the Phoenix and Line islands. Recoveries (79 from 13,027 nestlings banded in 1963–64) show that juveniles disperse to the southwest Pacific (Solomons, Bismarcks, New Guinea), and thence north (Philippines, Taiwan, Japan), moving in about the same direction as the prevailing surface winds. The most distant recovery (Kharbarovsk District, Siberia) was *c.* 5,000 miles air-line from the banding place (Enderbury Island). These data are especially notable because previous authors have considered frigatebirds essentially sedentary.—W.B.R.

SKRYABIN, N. G. 1966. [On the number and distribution of the waterfowl on Baykal Sea.] Voprosi Zool., Tomsk Univ. Publ. House, Tomsk, pp. 160–161.—At present 20 species of waterfowl breed on Lake Baikal, with an estimated total population of 17,000 ducks. Numbers appear to be decreasing, and Bean and Grey Lag geese have been extirpated. (In Russian.)—F.J.T.

SMITH, W. 1967. The Barn Owl in Alberta. Blue Jay, 25: 187.

STEELE, W. S. 1967. The Passenger Pigeon in Wellington County, Ontario. Canadian Field-Nat., 81: 172–174.—Recollections, reports of interviews and specimens. —R.W.N.

STORER, R. W., AND W. W. DALQUEST. 1967. Birds from the Save River area of Mozambique. Occ. Pap., Mus. Zool., Univ. Michigan, no. 652: 14 pp.—A list, with sparse annotations, of about 150 species collected or seen on two visits in October 1963 and 1965.—R.B.

TULLOCH, R. J. 1968. Snowy Owls breeding in Shetland in 1967. Brit. Birds, 61: 119–132.—First substantiated breeding record in the wild of *Nyctea* for the British Isles; behavior and nesting described.—H.B.

URBAN, E. K., AND L. H. WALKINSHAW. 1967. The Sudan Crowned Crane in Ethiopia. Ibis, 109: 431–433.—*Balearica pavonina cecilae* is a widely distributed and fairly common breeding bird in southwestern Ethiopia.—W.B.R.

VAN VELZEN, W. T., AND G. H. COLE. 1967. Maryland's first Baird's Sparrow. Maryland Birdlife, 23: 87.—Immature female, North Ocean City, 14 October 1966.—H.B.

WATERSTON, G. 1968. Black-browed Albatross on the Bass Rock. Brit. Birds, 61: 22–27.

WHEELER, C. E., AND P. J. OLIVER. 1967. Black Duck in Kent. Brit. Birds, 60: 482–483.

ECOLOGY AND POPULATION

BENDELL, J. F., AND P. W. ELLIOTT. 1967. Behavior and the regulation of numbers in Blue Grouse. Canadian Wildlife Service Rept. Ser. no. 4: 76 pp. (Available from Queen's Printer, Ottawa, $1.00.)—The importance of behavior in the regulation of numbers of *Dendragapus obscurus fuliginosus* as studied on the summer range on Vancouver Island. The study emphasizes territorial behavior and population statistics of males. Territorial behavior functions mainly to provide the undisputed use of a place for mating, courting, and copulating. Some behavior of females in spring is described and discussed.—F.E.L.

BERNDT, R., AND M. HENZ. 1967. Die Kohlmeise, *Parus major,* als Invasionsvogel. Vogelwarte, 24: 17–37.—Invasions or massed irregular movements of the Great Tit are correlated with population maxima. Discusses the role of irregular movements as a population control mechanism and the evolution of such mechanisms. (English summary.)—H.C.M.

BRUSH, A. H. 1968. Conalbumin variation in populations of the Redwinged Blackbird, *Agelaius phoeniceus.* Comp. Biochem. Physiol., 25: 159–168.—The frequency of conalbumin alleles in egg white varies geographically. The greatest heterogeneity was found in sedentary populations in Washington state. The origins of the variation and its genetic and functional bases in natural populations are discussed.—Author's abstract.

CORNWALLIS, R. K., AND A. D. TOWNSEND. 1968. Waxwings in Britain and Europe during 1965/66. Brit. Birds, 61: 97–118.—The greatest recorded eruption is attributed to "a state of acute imbalance between population and food supply;" development of the movement from Fenno-Scandia is detailed.—H.B.

COULSON, J. C., AND M. G. BRAZENDALE. 1968. Movements of Cormorants ringed in the British Isles and evidence of colony-specific dispersal. Brit. Birds, 61: 1–21.

COWARDIN, L. M., G. E. CUMMINGS, AND P. B. REED, JR. 1967. Stump and tree nesting by Mallards and Black Ducks. J. Wildl. Mgmt., 31: 229–235.—Mallards and Black Ducks made extensive use of stumps and dead snags in timbered impoundments in New York.—J.P.R.

DEKKER, D. 1967. Disappearance of the Peregrine Falcon as a breeding bird in a river valley in Alberta. Blue Jay, 25: 175–176.—An apparent shortage of adult birds accompanied their disappearance on this and other rivers in Alberta.—R.W.N.

EDWARDS, B. F. 1968. A study of the Prairie Falcon in southern Alberta. Blue Jay, 26: 32–37.—Food habits, reproductive success, and site description, based on eight active nests. Birds appeared to be the primary food item of adults; ground squirrels were the main item given to young. Fledging success of 5 from 12 eggs hatched was considered poor.—R.W.N.

EWERT, D. N., AND P. D. CANTINO. "1967" [1968]. Summer observations of Dickcissels and Western Meadowlarks in the Lansing area. Jack-Pine Warbler, 45: 128–130.—Dickcissels seemingly were more common in 1967 than previously.—R.B.

FELDMANN, R. 1967. Methoden and allgemeine Ergebnisse der Limikden-Zählung'

in Westfalen. Vogelwarte, 24: 44–48.—An analysis of several years of systematic counts of migrant shorebirds in four localities in Westphalia.—H.C.M.

GALOUSHIN, V. M. 1967. [An attempt at estimating the population of birds of prey in the Moscow district.] Zhivotnoe naselenie Moskvy i Podmoskviya. Georg. Inst. Acad. Sci. USSR, Moscow, pp. 30–32.—Over 14 species of raptors with an average density of about 150 pairs per 1,000 km sq were found in a 37,000 km sq sector of the district, with the Goshawk the most common species. (In Russian.)—F.J.T.

GERRARD, J. M., AND D. W. A. WHITFIELD. 1967. Bald Eagle banding in northern Saskatchewan (1967). Blue Jay, 25: 177–183.—Twenty-seven eagles were banded in 18 nests; 24 other active nests were recorded. An estimate of 600 nesting pairs for the province was extrapolated from these figures.—R.W.N.

HAARTMAN, L. v. 1967. Clutch-size in the Pied Flycatcher. Proc. 14th Intern. Orn. Congr. (1966): 155–164.—The mean size of 1,124 completed clutches of *Ficedula hypoleuca* in southwestern Finland was 6.288256 ± 0.030322, and the range 1 to 9 eggs. The species is a determinate layer, and older females lay larger clutches than yearlings. Early clutches are of larger size than later clutches, which also is true for most other Finnish passerines. The survival of members of large broods appears to be at least as good as those of small broods. I doubt that this 24-year study ever will be equalled in the United States. It is a pity that our academic structure and research funding methods discourage the gathering of meaningful samples of basic data.—H.C.M.

HAVLIN, J. 1966. Breeding season and clutch size in the European Pochard, *Aythya ferina,* and Tufted Duck, *A. fuligula,* in Czechoslovakia. Zool. Listy, 15: 175–189.—The start of breeding was heavily influenced by weather in both species, differences in subsequent years being 20 to 30 days. Average clutch was 8.3 in *A. ferina* and 8.8 in *A. fuligula,* and mixed clutches were common. (In English; Czech. summary.)—F.J.T.

HOLCOMB, L. C., AND G. TWIEST. 1968. Ecological factors affecting nest building in Red-winged Blackbirds. Bird-Banding, 39: 14–22.—Mean time for nest building was 3 days, with no change in use of low versus high vegetation for nest sites as the season progressed. Nests built under 24 inches were 17.2 per cent successful; those over 48 inches were 34.8 per cent successful. Differences in sizes of nests were not correlated with success of nest.—M.A.J.

HOUSTON, C. S. 1968. Recoveries of Marsh Hawks banded in Saskatchewan. Blue Jay, 26: 12–13.—Twenty-four recoveries, 1929–1961.—R.W.N.

JAMES, H. G. 1968. Bird predation on black fly larvae and pupae in Ontario. Canadian J. Zool., 46: 106–107.—Individuals of seven species of shore and water birds collected 9 August 1966 at Healey Falls near Campbellford, Ontario, fed on immature stages of the blackfly, *Simulium vittatum.* One mallard had eaten 6,050 larvae and pupae.—H.W.K.

JONES, R. E., AND A. S. LEOPOLD. 1967. Nesting interference in a dense population of Wood Ducks. J. Wildl. Mgmt., 31: 221–228.—A population dependent on nest boxes increased faster than boxes were added, and became self limiting because of nesting interference, compound nesting, and nest desertion.—J.P.R.

KLIMA, M. 1966. A study on diurnal activity rhythm in the European Pochard, *Aythya ferina* (L.) in nature. Zool. Listy, 15: 317–332.—Observation of several hundred birds for 315 hours revealed that 53 per cent of the 24-hour day is spent roosting and sleeping and 29 per cent feeding. (In English; Czech. summary.)—F.J.T.

KRÁL, B., AND J. FIGALA. 1966. [Breeding biology of the Purple Heron, *Ardea purpurea,* in the Velký Tisý and Malý Tisý reserves.] Zool. Listy, 15: 33–46.—

Location and size of colonies, phenology, nests, clutch size, measurements and color of eggs, incubation period, nesting success, and interavian relationships. (In Czech.; English summary.)—F.J.T.

LACK, D. 1967. Interrelationships in breeding adaptations as shown by marine birds. Proc. 14th Intern. Orn. Congr. (1966): 3–42.—This extensive review of the numerous and varied specialized adaptations for breeding of marine birds was the presidential address to the XIV I.O.C. The author states the evidence for his conclusions is circumstantial and the possible adaptive relationships suggested are based on comparisons between species and should be tested by field experiments. An informative and stimulating presentation.—H.W.K.

LÖSCHAU, M., AND M. LENZ. 1967. Zur Verbreitung der Türkentaube (*Streptopelia decaocto*) in Gross-Berlin. J. f. Orn., 108: 51–64.—A population survey of the Turtle Dove in West Berlin. The birds attain greatest density in areas with dense human population yet with a reasonable density of trees along streets and in yards. Forests, wooded parks, and the treeless center of town are essentially devoid of this species.—H.C.M.

LOWTHER, J. K., AND R. E. WALKER. 1967. Sex ratios and wing chord lengths of Pine Siskins (*Spinus pinus*) in Algonquin Park, Ontario. Canadian Field-Nat., 81: 220–222.—Twice as many males as females were found in 371 captured birds. Wing measurements of the two sexes overlapped too much to allow differentiation on this basis.—R.W.N.

MARTZ, G. F. 1967. Effects of nesting cover removal on breeding puddle ducks. J. Wildl. Mgmt., 31: 236–247.—Spring populations and nest densities were lower in areas where cover was removed, but removal may have only redistributed breeding ducks without reducing the total population.—J.P.R.

MCNEIL, R. 1967. Concerning the cranial development in the Greenish Elaenia, *Myiopagis viridicata* (Vieillot). Amer. Midl. Nat., 78: 529–530.—Greenish Elaenias breeding in northern Venezuela have a completely ossified skull and thus differ from the breeding population of Mexico.—G.E.W.

MOHR, R. 1967. Zum Vorkommen von *Acanthis flammea cabaret* im Rhein-Main Nahe-Gebiet. J. f. Orn., 108: 484–490.—Lesser Redpolls appear every winter in central West Germany. Banding returns suggest that most, if not all, of these birds breed in the British Isles. (English summary.)—H.C.M.

MONROE, B. L., JR. "1967" [1968]. Dickcissel populations in southwestern Michigan. Jack-Pine Warbler, 45: 124–127.—More plentiful in 1967 than 1966.—R.B.

NERO, R. W. 1968. Wet waterbirds—a problem at sewage lagoons. Blue Jay, 26: 2–7.—Surface-tension-reducing pollutants were evidently the cause of "wet-feathering" in Western Grebes and other species at Regina, spring of 1964.—R.W.N.

NERO, R. W. 1968. Bank Swallows in gravel stock-piles in Manitoba. Blue Jay, 26: 23.

NICOLAI, J. 1967. Rassen- und Artbildung in der Viduinengattung *Hypochera*. J. f. Orn., 108: 309–319.—Presents data and arguments to indicate that where species or forms of Combassou have overlapping ranges they are brood parasites on different species of hosts. Song of the adult, and structural features of the nestling of the parasite are remarkably similar to the host. Nicolai believes that morphologically similar populations of Combassou, which, however, parasitize different species of host, are in fact different species. (English summary.)—H.C.M.

NIETHAMMER, G. 1967. Zwei Jahre Vogelbeobachtungen an stehenden Gewässern bei Kabul in Afghanistan. J. f. Orn., 108: 119–164.—Weekly or semiweekly cen-

suses of birds on or about two lakes in Afghanistan over a period of 2 years. (English summary.)—H.C.M.

PARMELEE, D. F., D. W. GREINER, AND W. D. GRAUL. Summer schedule and breeding biology of the White-rumped Sandpiper in the central Canadian arctic. Wilson Bull., 80: 5–29.—Color frontispiece of downy young.—G.E.W.

RAKHILIN, V. K. 1967. [The future of the feral pigeon in Moscow.] Zhivotnoe naselenie Moskvy i Podoskviya. Georg. Inst. Acad. Sci. USSR, Moscow, pp. 85–86. —After great reduction during and following World War II, only about 5,000 *Columba livia* remained in the city in the 1950s. Public feeding was permitted in 1956 and the population rapidly increased and reached a level of about 60,000 birds in the 1960s. About 5 broods per year are produced. Regulative and control measures are recommended. (In Russian.)—F.J.T.

SCHNELL, G. D. 1967. Frequency distribution of Rough-legged Hawks. Aud. Bull., No. 143, p. 13–14.—Frequencies of three somewhat arbitrary color classes of *Buteo lagopus*—dark, intermediate, and light—were recorded during the winters of 1964–65 and 1965–66 in northern Illinois.—G.D.S.

SERVENTY, D. L. 1967. Aspects of the population ecology of the Short-tailed Shearwater *Puffinus tenuirostris*. Proc. 14th Intern. Orn. Congr. (1966): 165–190.—After a transequatorial migration, returning breeding birds make landfall on Fisher's Island, Tasmania, in the last week of September. About 6 weeks are spent in re-excavating the breeding burrow, and then both sexes leave on a 3-week "honeymoon" flight. The egg is laid immediately upon return and the sexes, beginning with the male, alternately incubate in shifts of 12–14 days. The incubation period is about 53 days. The young is fed once every 3 to 15 days (mean, 9 days). Adults forage as far as 1,000 miles from the breeding colony. Young are deserted by the parents and then leave the colony about the first week in May. An average of 37 per cent of the young return to Fisher's Island after being at sea at least 3 years, suggesting high survival and good homing ability. Only 31 per cent of these returnees breed (at ages of 5 to 8 years) on Fisher's Island; others breed on nearby islands. Of these returning young 80 per cent act as replacements for mates of established birds. Older females lay significantly larger eggs than young birds. Another outstanding example of what can be gained from a long-term (over 19 years) study.—H.C.M.

SHULJPIN, L. M. 1965. [Materials in the avifauna of the reserve Aksu-Djabaghli, Talas-Alataou.] Trudy Gos. Zapovednjika Aksu-Djabaghli, 2: 160–202.—Ecological and biological data for 30 species, mostly Turdidae, found in the reserve. (In Russian.)—F.J.T.

SICK, H. 1967. Hochwasserbedingte Vogelwanderungen in den neuweltlichen Tropen. Vogelwarte, 24: 1–6.—Two species of terns, two of shorebirds, a nightjar, and various swallows nest on temporary sandbars on the rivers of the Amazon system. The birds move regularly during high water to other, drier, areas. (In German.)—H.C.M.

SPEIRS, J. M., AND R. ORENSTEIN. 1967. Bird populations in fields of Ontario County, 1965. Canadian Field-Nat., 81: 175–183.—Breeding bird censuses in 11 fields of 40 acres each; abundance figures are given.—R.W.N.

TINBERGEN, N. 1967. Adaptive features of the Black-headed Gull *Larus ridibundus*. L. Proc. 14th Intern. Orn. Congr. (1966): 43–59.—This review, presented by the Secretary-General of the XIV I.O.C. takes up where Lack's paper (see above in this category) ends and is an extensive and interesting discussion of studies (only some of which are experimental) Tinbergen and others conducted on egg and young coloration, egg shell removal, colonial nesting, territorialism, courtship, breeding-

cycle synchronization, habitat synchronization, and "spacing-out." He concludes with a strong plea that more attention be given to the study of effects as well as of causes through experimental techniques.—H.W.K.

VERMEER, K. 1968. Ecological aspects of ducks nesting in high densities among larids. Wilson Bull., 80: 78–83.

WASILEWSKI, A. 1967. The effect of interspecific competition on the number and distribution of birds in forest biotopes. Ekologia Polska, Ser. A, 15: 641–695.—Based on four different forest types within the Kampineswoods near Warsaw, the general abundance and number of both dominant and influent bird species increase with habitat diversity by means of overlap of territories. (In English; Polish summary.)—F.J.T.

WELLER, M. W., AND C. E. SPATCHER. 1965. Role of habitat in the distribution and abundance of marsh birds. Agr. Home Econ. Exp. Sta., Iowa State Univ. Sci. and Tech., Spec. Rept. No. 43, pp. 1–43.—Detailed analyses of fluctuations in vegetation and associated bird populations at two small glacial marshes in central Iowa during the 1950s when severe drought was followed by gradually rising water levels. During dry periods only adaptable species such as Red-wings were present. As water levels rose densely vegetated areas were opened up by muskrat cutting, and Yellow-headed Blackbirds, Coots, Pied-billed Grebes, and Least Bitterns became established and increased in numbers. Many additional details on bird densities and habitat preferences are included in this interesting paper.—G.E.W.

WEST, G. C., L. J. PEYTON, AND S. SAVAGE. 1968. Changing composition of a redpoll flock during spring migration. Bird-Banding, 39: 51–55.—Redpolls netted from large migrating flocks near Fairbanks, Alaska, in April, showed two peaks, both in numbers of birds present and percentage of Hoary as compared with Common Redpolls. Recaptures indicate that individuals remain only a few days.—M.A.J.

ZINK, G. 1967. Populationsdynamik des Weissen Storchs, *Ciconia ciconia,* in Mitteleuropa. Proc. 14th Intern. Orn. Congr. (1966): 191–215.—After a high in the 1890s, a low in the 1920s, and an increase until about the 1940s, populations of the White Stork have shown an unprecedented decline in most areas of central Europe. Storks have been extirpated in Sweden and Switzerland, but in some parts of northern Germany the decline has been arrested since 1949 and some populations in eastern Europe are actually increasing. Successful production of young is in part attributable to the weather, but in some years extensive, inexplicable breeding failures occur. Adult mortality has increased from 24 per cent in 1955–1959 to 37 per cent in 1960–1964. The reasons for the increased mortality remain largely obscure in spite of considerable investigation. An excellent summary of an incredible amount of work.—H.C.M.

EVOLUTION AND GENETICS

BROWN, R. G. B. 1967. Species isolation between the Herring Gull *Larus argentatus* and Lesser Black-backed Gull *L. fuscus*. Ibis, 109: 310–317.—These gulls are similar in ecology and behavior, fully interfertile, and linked by interbreeding subspecies, but they behave as species in a dense colony of 9,000 pairs each on Walney Island, Lancashire. Mixed pairs are rare because females make almost no species errors when choosing mates. Mantle color seems to be the most important recognition difference. The present almost infallible barriers to hybridization must have evolved when ecological differences between the species were sufficient to disadvantage hybrids.—W.B.R.

DUNMORE, R. 1968. Plumage polymorphism in a feral population of the rock

pigeon. Amer. Midl. Nat., 79: 1–7.—A sample of 647 *Columba livia* collected in Syracuse, New York between July 1964 and February 1965 showed polymorphism of plumage color and wing pattern. Five mutant phenotypes each comprised more than 2.5 per cent of the sample and apparently were being maintained by unknown selective advantages. Proportions of two common phenotypes showed significant seasonal change.—G.D.S.

FRIEDMANN, H. 1968. Parallel evolution in the small species of *Indicator* (Aves). Proc. U. S. Natl. Mus., 125 (3655): 1–10.—A series of sympatric species, each with a paler, grayer form in the open grasslands of eastern Africa and a darker, greener form in the forests of central and western Africa. In some the forms are clearly conspecific, in others they have achieved specific distinction.—G.E.W.

STRESEMANN, E. 1967. Inheritance and adaptation in molt. Proc. 14th Intern. Orn. Congr. (1966): 75–80.—Most birds molt their remiges and rectrices in a regular fashion, the most common and widespread method being that which starts with the innermost primary and rectrix. Taxonomic and ecologic conclusions often can be drawn from studying the exceptions. Several examples of each are presented.—G.E.W.

VALENTINE, J. W. 1968. The evolution of ecological units above the population level. J. Paleontol., 42: 253–267.—Ecologic systems are organized as a hierarchy with a base of nucleotides as units of heredity. Different levels include the individual organism, the niche, the ecosystem, the biome, and the biosphere. As the hierarchy as a whole evolves in concert, study of the more inclusive systems may indicate pathways of evolution of the less inclusive.

General Biology

BARTHOLOMEW, R. M. 1967. A study of the winter activity of Bobwhites through the use of radio telemetry. Occ. Pap., Adams Center Ecol. Studies, no. 17: 25 pp.—Wing irritation and high mortality indicated that carrying a 10 g transmitter attached by leather straps encircling the base of the wings was a hardship. Average size of the range of four coveys from January to March in southern Illinois was 38 acres. Heavy rain caused lengthy movements. No mid-day loafing headquarters and no roosting headquarters were apparent; the coveys roosted in the vicinity of their afternoon activity.—R.B.

BERGER, A. J. "1967" [1968]. Traill's Flycatcher in Washtenaw County, Michigan. Jack-Pine Warbler, 45: 117–123.—Data from 325 nests are compared and largely agree with Walkinshaw (1966. Wilson Bull., 78: 31–46.)—R.B.

BERGER, W. 1967. Die Mauser des Sprossers (*Luscinia luscinia*). J. f. Orn., 108: 320–327.—A detailed account of the molt of the Thrush Nightingale.—H.C.M.

BROCKWAY, B. F. 1968. Budgerigars are not determinate egg-layers. Wilson Bull., 80: 106–107.

BURGER, J. 1968. Incubation period of the Spotted Sandpiper. Wilson Bull., 80: 104–105.

CLARK, G. A., JR. 1968. An indoor Blue Jay nest. Bird-Banding, 39: 55–56.—The bird nested inside a garage; nesting was normal otherwise.—M.A.J.

DEXTER, R. W. 1968. Analysis of the 1966 and 1967 returns of Chimney Swifts at Kent, Ohio. Bird-Banding, 39: 56–57.—Details of nesting for 33 banded birds that returned in 1966, and of 31 in 1967.—M.A.J.

DICK, J. A. 1967. An albino Ring-billed Gull from Ontario. Canadian Field-Nat., 81: 224–225.

FOLK, Č., AND I. TOUŠKOVA. 1966. [Foods of the Rook, *Corvus frugilegus,* in the

prebreeding and breeding seasons.] Zool. Listy, 15: 23–32.—Based on 181 stomachs from Moravia, the contents were 63 per cent vegetable, 20 per cent animal, and minerals. The main plant foods were seeds of cultivated plants, e.g. corn and barley. (In Czech; German summary.)—F.J.T.

FORBES-WATSON, A. D. 1967. Observations at a nest of the Cuckoo-roller *Leptosomus discolor*. Ibis, 109: 425–430.—Six hours watching at a nest on Mayotte, Comoro Islands, gives us the first reliable breeding data for this monotypic coraciiform family, endemic to Madagascar and nearby islands. Notable details include: nest in a large tree-hole 4 m above ground at 450 m elevation in secondary dry forest; egg (from fragments) smooth, cream-colored, *c.* 46 × 37 mm; egg shells and excreta left in nest; probably starts incubating with first egg, as the two young were of different sizes; young covered with dense white down; adults apparently monogamous and territorial; both gathered food for young but only the female fed them; food brought at a rate of 6/day/nestling, only item seen a chameleon (species?). From their behavior Cuckoo-rollers seem more closely related to hoopoes than to rollers.—W.B.R.

GODFREY, W. E. 1967. Xanthochroism in the Cape May Warbler and Evening Grosbeak. Canadian Field-Nat., 81: 226–227.

GRIER, J. W. 1968. Immature Bald Eagle with an abnormal beak. Bird-Banding, 39: 58–59.

GROSS, A. O. 1968. Albinistic eggs (white eggs) of some North American birds. Bird-Banding, 39: 1–6.—Summarizes and discusses records, all from Falconiformes, Charadriiformes, and Passeriformes.—M.A.J.

HARRIMAN, A. E. 1968. Rejection thresholds for citric acid solutions in cowbirds, Starlings, and Red-wing Blackbirds. Amer. Midl. Nat., 79: 240–242.—The degree of rejection for acid in laboratory drinking preference tests may be correlated with the acidic components of customarily selected natural foods. In a series of two-bottle tests with citric acid concentrations opposite distilled water, Starlings proved significantly less averse to drinking the test acid concentrations than did the granivorous Brown-headed Cowbirds or Red-winged Blackbirds, suggesting that taste factors may contribute to dietary selection in birds.—G.D.S.

HARTMAN, F. E. 1968. White-headed Cardinal. Bird-Banding, 39: 57.

HATCH, D. R. M. 1967. Cowbird egg in crow nest. Blue Jay, 25: 189.

JEHL, J. R., JR., AND D. J. T. HUSSELL. 1968. Incubation periods of some subarctic birds. Canadian Field-Nat., 80: 179.—Data for 9 charadriiforms and 6 passerines.—G.E.W.

JOHNSON, W. J., AND J. A. COBLE. 1967. Notes on the food habits of Pigeon Hawks. Jack-Pine Warbler, 45: 97–98.—Castings and remains around a former nest included bats, squirrels, and insects as well as birds of six or more species.—R.B.

LICHT, L. E. 1968. Age of a female *Amazona festiva* at sexual maturity. Wilson Bull., 80: 106.

MCGEEN, D. S., AND J. J. MCGEEN. 1968. The cowbirds of Otter Lake. Wilson Bull., 80: 84–93.

MCNICHOLL, M. 1968. Cowbird egg in Mourning Dove nest. Blue Jay, 26: 22–23.

MITTERLING, L. A. 1968. Apple feeding by wild Blue Jays (*Cyanocitta cristata*) in captivity. Bird-Banding, 39: 23–30.—Includes some information on food selection and drinking, but mostly of horticultural interest.—M.A.J.

NEWTON, I. 1967. Attacks on fruit buds by Redpolls *Carduelis flammea*. Ibis, 109: 440–441.—In 1965 and 1966 Redpolls destroyed many buds of pear trees on a south-east England fruit farm. This is said to be the first report in England of a noxious

habit that has become widespread among introduced Redpolls in New Zealand since 1951.—W.B.R.

ORING, L. W. 1967. Egg-laying of a Golden Plover *Pluvialis apricaria*. Ibis, 109: 434.—About 24 hours elapsed between the laying of the first and second egg and an equal or lesser amount of time between the second and third. Brooding, by the female, began after the third egg, but full incubation probably was not yet underway; observations were made in Sweden in mid-June.—W.B.R.

SEALY, S. G. 1967. Unusual fatal accident involving a Lapland Longspur. Blue Jay, 25: 188.—Foot caught in seal blubber left at trap site.—R.W.N.

STEPHAN, B. 1967. Die Schmuckfedern im Flügel von *Semioptera wallacei*. J. f. Orn., 108: 47–50.—Describes and discusses the elongated, ornamental lesser wing-coverts of Wallace's Standardwing Bird of Paradise.—H.C.M.

STURGES, F. W. 1968. Radiosensitivity of Song Sparrows and Slate-colored Juncos. Wilson Bull., 80: 108–109.

SOUTHERN, W. E. 1967. Further comments on subadult Bald Eagle plumages. Jack-Pine Warbler, 45: 70–80.—Seven plumages following natal down, terminating in the adult plumage presumably acquired about the seventh year, are described. —R.B.

MANAGEMENT AND CONSERVATION

CRIDER, E. D., AND J. C. MCDANIEL. 1967. Alpha-chloralose used to capture Canada Geese. J. Wildl. Mgmt., 31: 258–264.—An anesthetizing drug applied to corn bait permitted capture of 578 geese. The method has a number of advantages but further research is needed to perfect it.—J.P.R.

HENNY, C. J. 1967. Estimating band-reporting rates from banding and crippling loss data. J. Wildl. Mgmt., 31: 533–538.—A measure of reporting rate was obtained by comparing the first-year band recovery rate, adjusted for crippling loss, with the first-year mortality rate, determined by life table methods, and adjusted for non-hunting mortality.—J.P.R.

HUDEC, K. 1963. The present situation of waterfowl in Czechoslovakia and the future. Proc. 1st European meeting on wildfowl cons., pp. 35–38.

HUDEC, K. 1963. Remarks on hunting seasons of waterfowl in Europe. Proc. 1st European meeting on wildfowl cons., pp. 125–132.

IRBY, H. D., L. N. LOCKE, AND G. E. BAGLEY. 1967. Relative toxicity of lead and selected substitute shot types to game farm Mallards. J. Wildl. Mgmt., 31: 253–257. —Plastic coated lead shot was about as toxic as commercial lead shot but magnesium alloy shot was less toxic. Iron, copper, zinc-coated iron, and molybdenum-coated iron shot showed little evidence of toxicity.—J.P.R.

MUSSEHL, T. W., AND R. B. FINLEY, JR. 1967. Residues of DDT in forest grouse following spruce budworm spraying. J. Wildl. Mgmt., 31: 270–287.—Residues (up to 80 ppm) appeared in fat of Blue Grouse within 7 days of spraying, reached a maximum in 9–10 months, were still detectable nearly 2 years later, and appeared in eggs and chicks 1 year after spraying. Residues exceeded FDA tolerance levels for domestic meat.—J.P.R.

VAUGHT, R. W., AND L. M. KIRSCH. 1966. Canada Geese of the eastern prairie population, with special reference to the Swan Lake flock. Missouri Dept. Conserv., Tech. Bull. no. 3: xiii + 91 pp.—At Swan Lake National Wildlife Refuge management resulted in population increases from none in 1937 to a peak of 133,000 in 1955. *Branta canadensis interior* is the principal subspecies using Swan Lake. This report analyzes 3,762 recoveries from 18,707 Canada Geese banded from 1948

to 1960. Seasonal distribution, vulnerability and mortality, a history of goose management at Swan Lake, techniques, and recommendations for future management are discussed.—F.E.L.

Migration and Orientation

Bellrose, F. 1967. Radar in orientation research. Proc. 14th Intern. Orn. Congr. (1966): 281–309.—A summary of radar (APS-31, APS-42A, WSR-57) findings on nocturnal migration carried out since 1960. Data are evaluated in terms of environmental cues from stars and moon, winds, and landscape. Large numbers of birds migrate without the use of celestial cues, but volume of migration is greater under clear skies. Overcast is accompanied by a greater reduction of migration in fall than in spring. Most birds fly below cloud bases in overcast conditions but will fly above clouds if their tops are at low altitude. Overcast results in a slightly greater spread in flight directions and rain and fog cause disorientation. Most birds fly with following winds in spring and fall, and correct for drift within a few degrees. Changes in wind velocity are not accompanied by proportional changes in ground speeds of birds. Migrants adjust their energy output in relation to the degree of wind assistance or resistance. Turbulence structure of the wind combined with ground reference points serves as a basis for orientation of nocturnal migrants. —K.P.A.

Broekhuysen, G. 1967. Bird migration in the most southern part of the African continent. Vogelwarte, 24: 6–16.—Lists long distance migrants, recent range extensions into the southern Cape, and speculates on the origins of innate migratory behavior.—H.C.M.

Graber, R. R. 1968. Nocturnal migration in Illinois—different points of view. Wilson Bull., 80: 36–71 .

Southern, W. E. "1967" [1968]. Dispersal and migration of Ring-billed Gulls from a Michigan population. Jack-Pine Warbler, 45: 102–111.—Juvenile *Larus delewarensis* dispersed from a colony in Presque Isle County by early August, but definite southward migration did not begin until September. Winter recoveries were mainly from the Gulf Coast. A northward migration occurs in spring, but 1-year-old birds do not spend the summer in the vicinity of the breeding colony.—R.B.

Walcott, C., and M. Michener. 1967. Analysis of tracks of single homing pigeons. Proc. 14th Intern. Orn. Congr. (1966): 311–329.—Single homing pigeons equipped with radio telemetry devices were released at distances of 35–45 miles from their home loft and followed in an airplane. Initial flight directions were consistently toward the loft as long as the sun was visible. Pigeons failed to orient and landed if the sun was obscured. Landmarks were most important in the area of the loft, but may have served as checks along the route. Birds released in unfamiliar areas showed true navigation, probably based on the sun. Birds with their biological clocks shifted (10, 20, and 120 minutes) consistently showed directional choices intermediate between those expected on the basis of simple compass direction orientation toward home and true bi-coordinate navigation. Clock shifts of 120 minutes altered compass orientation by much more than predicted by a sun azimuth hypothesis.—K.P.A.

Wallraff, H. G. 1967. The present status of our knowledge about pigeon homing. Proc. 14th Intern. Orn. Congr. (1966): 331–358.—Discusses recent findings and reviews knowledge of pigeon homing. Inexperienced homing pigeons possess an innate preferred compass direction. Initial flight directions represent a resultant of this component and the direction of the home loft. Departure directions of ex-

perienced birds are further influenced by former flights. Greater spread in flight directions under overcast and clock-shifting experiments suggest that displaced pigeons make use of the sun. Birds exhibit differential abilities to home to aviaries of different types.—K.P.A.

WOLHUTER, B. R. 1968. Apparent homing in the Red-tailed Hawk. Bird-Banding, 39: 61.—A bird escaped 5 days after capture and returned to its original hunting perch, 4.25 miles away.—M.A.J.

MISCELLANEOUS

AMES, P. L., AND E. H. STICKNEY. 1968. Avian anatomical specimens in the Peabody Museum of Natural History, Yale University. Postilla, No. 118, pp. 1–40.—Following brief remarks on history, geographic and systematic representation, preparation, storage and records, and loan procedures is a systematic list of the alcohol-preserved and skeletal specimens in the collections at Yale University. Seven abbreviations designate the kinds of material available. Other institutions should be encouraged to publish similar listings, not only because they enhance the work of anatomists, but also because they will point out the serious gaps in the collections of anatomical material throughout the world. If similar procedures had been followed long ago perhaps we would not be in the situation exemplified by the Labrador Duck for which numerous skins were preserved, but no innards.—G.E.W.

ASHMOLE, M. J., AND N. P. ASHMOLE. 1968. The use of food samples from sea birds in the study of seasonal variation in the surface fauna of tropical oceanic areas. Pacific Sci., 22: 1–10.—Regurgitation from sea birds, for example Fairy, Sooty, and Noddy Terns and certain boobies, provides an important source for specimens of certain tropical marine surface-inhabiting organisms such as flying fish, tuna, and squid. Regular collecting provides data useful in studies of reproductive cycles and may prove less expensive than oceanographic investigations.—G.E.W.

BERGER, A. J. 1968. George Miksch Sutton. Wilson Bull., 80: 30–35.

BUB, H. 1967. Vogelfang und Vogelberingung Teil 1: Allgemeines und Fang mit Siebfallen und Reusen. 116 pp., 85 illus. 5.80 MDN Teil 2: Fang mit grossen Reusen, Spannetzen, Fangkafigen und Fussschlingen. 122 pp., 115 illus. 7.80 MDN (Two more volumes will appear in 1968.) Die Neue Brehm-Bucheri. A Zeimsen Verlag Wittenberg-Lutherstadt.—A most comprehensive survey of techniques used in the catching and banding of birds. Includes ancient methods and new devices from all corners of the world, techniques for catching almost every type of bird. The abundance of illustrations makes this work useful even to those with only a marginal command of German.—H.C.M.

(Editor.) 1968. Acquisitions. Museum News, 49, (3.)—Photo of albino Anna's hummingbird in San Diego Natural History Museum. Also reproduction in black and white of a painting by John Quinn of *Eriocnemis mirabilis,* a recently described species of Trochilidae collected by John Dunning in Colombia (reproduced lifesize on the cover, May number).

EDGAR, R. L. 1968. Catching colonial seabirds for banding. Bird-Banding, 39: 41–43.—Describes noose-like device.—M.A.J.

GUARINO, J. L. 1968. Evaluation of a colored leg tag for Starlings and blackbirds. Bird-Banding, 39: 6–13.—Marking birds with plastic leg tags increased recovery rates and sight records up to 400 per cent.—M.A.J.

HEIMERDINGER, M. A., AND R. C. LEBERMAN. 1966. The comparative efficiency of 30 and 36 mm mesh in mist nets. Bird-Banding, 37: 280–285.—Nets of 30 mm

mesh proved statistically better for trapping birds requiring band sizes, X, 0, and 1, and 36 mm mesh nets were statistically better for trapping birds requiring band sizes 1B and larger.—F.E.L.

HUMPHREY, P. S., D. BRIDGE, AND T. E. LOVEJOY. 1968. A technique for mist-netting in the forest canopy. Bird-Banding, 39: 43–50.—Describes set-up for raising nets up to 30 meters above the ground. (It helps to have an experienced tree climber for initial installation!)—M.A.J.

JOOST, W. 1967. Die Vogelbilder des Danziger Naturforschers Johann Philipp Breyne (1680–1764). J. f. Orn., 108: 295–308.—A list of the paintings of Breyne, an eighteenth century north-German naturalist and artist.—H.C.M.

NETTLESHIP, D. N. 1968. Band size for Common Puffins in Newfoundland. Bird-Banding, 39: 57.—Band size 5 is best.—M.A.J.

OLROG, C. C. 1968. Bird-banding in South America. Bird-Banding, 39: 30–32.—A limited program indicated a large scale program might be feasible.—M.A.J.

PRESCOTT, K. W. 1968. Praying mantis feeds on netted Brown Creeper. Bird-Banding, 39: 59.—Remarkably, the bird remained motionless while the insect fed on its wing, and when released its flight seemed unimpaired.—M.A.J.

SEALY, S. G. 1968. Some alcid leg sizes and band sizes. Bird-Banding, 38: 59.

STRESEMANN, E. 1967. Vor-und Frühgeschichte der Vogelforschung auf Helgoland. J. f. Orn., 108: 377–429.—The history of ornithology on the Island of Helgoland. —H.C.M.

TICKELL, W. L. N. 1968. Color-dyeing albatrosses. Bird-Banding, 39: 36–40.—Describes techniques, advantages and disadvantages, and reports some results for *Diomedea exulans*.—M.A.J.

PHYSIOLOGY

ASCHOFF, J. 1967. Circadian rhythms in birds. Proc. 14th Intern. Orn. Congr. (1966): 81–105.—A superbly organized review. The criteria for the existence of circadian rhythms are discussed and the evidence for their existence in birds is presented. The "one-oscillator" model is presented and discussed. Because circadian rhythms are important in the temporal specialization of species, several adaptive aspects of the phenomena are discussed. These include the nature of the general patterns in species, the mechanism of the entertainment of rhythms, the relations between rhythms of different processes (phase-angle difference), and finally the effect of season and latitude.—A.H.B.

CAIN, J. R., V. K. ABBOTT, AND V. L. ROGALLO. 1967. Heart rate of the developing chick embryo. Proc. Soc. Exp. Biol. Med., 126: 507–510.—Description of a miniature ballistographic method which causes a minimum of disturbance to the embryo and allows sequential measurements on the same embryo. Developmental rates are higher than those of other studies presumably because of the reduced trauma during measurement.—A.H.B.

DANZER, L. A., AND J. E. COHN. 1967. The dissociation curve for goose blood. Resp. Physiol., 3: 302–306.—Hemoglobin saturation curves were displaced significantly to the right when compared to human dissociation curves. Saturation never exceeded 95 per cent up to an oxygen tension of 150 mm Hg.—A.H.B.

DYER, M. I. 1968. Respiratory metabolism studies on Red-winged Blackbird nestlings. Canadian J. Zool., 46: 223–233.—Nestlings from upland and marsh populations show different metabolic responses to lowered ambient temperatures. The upland group maintains homeothermy by increases in metabolism, the other decreases its metabolism as T_a is dropped. No difference in metabolic rate exists be-

tween populations from the two ecological areas; however, differences in the respiratory quotient for the two populations were found. Body temperatures indicate a progressive establishment of homeothermy during the nestling period which can be abandoned in the face of high T_b–T_a gradients.—A.H.B.

FARNER, D. S. 1967. The control of avian reproductive cycles. Proc. 14th Intern. Orn. Congr. (1966): 107–133.—A comprehensive review of the temporal control of reproduction in birds which correlates theoretical considerations with field and laboratory work, concentrating on the role of the hypothalamo-hypophysial system, the factors which control it, and those processes it controls, both directly and indirectly. Also included are discussions of the mechanisms that terminate reproductive activity and adaptations in opportunistic breeders.—A.H.B.

HELMS, C. W. 1968. Food, fat, and feathers. Amer. Zool., 8: 151–167.—One paper of a symposium on animal nutrition. The White-throated Sparrow is used to exemplify problems of nutrition and metabolism in small birds during their annual cycle. Data from field studies agree remarkably well with those from caged birds. Measurements of minimal metabolism by energy balance methods and gaseous methods are compared. Ambient temperature, metabolic energy, and body weight are related.—A.S.G.

HINDE, R. A. 1967. Aspects of the control of avian reproductive development within the breeding season. Proc. 14th Intern. Orn. Congr. (1966): 135–153.—A detailed description of the cycle in the domestic canary, *Serinus canarius,* with numerous comparisons to the Ring Dove (*Streptopelia risoria*) and other species previously discussed in a review by Lehrman (1961. *In* Sex and internal secretions. W. C. Young, ed.). Hinde discusses the relationships between behavioral and physiological events within the cycle. Although a considerable amount of observational information is presented, the work is not basically experimental. Every effort is made to define clearly the stages, stimuli, and responses of each event in the cycle. The discussion of the role of hormones is extensive but reflects the dearth of sufficient work on nondomestic species in this field.—A.H.B.

JOHNSON, R. E. 1968. Temperature regulation in the White-tailed Ptarmigan, *Lagopus leucurus*. Comp. Biochem. Physiol., 24: 1003–1014.—In a population of *Lagopus leucurus* from Montana, the standard metabolic rate was slightly higher than expected, probably a result of the continuous molt of this species. The lower critical temperature (6.5 to 11.5°C) is one of the lowest reported for birds and reflects excellent insulation. Evaporative efficiency is very low, and ambient temperature may be an important factor in habitat selection.—A.H.B.

KING, J. R. 1968. Cycles of fat deposition and molt in White-crowned Sparrows in constant environmental conditions. Comp. Biochem. Physiol., 24: 827–837.—In *Zonotrichia leucophrys gambelii* autonomous molt and fat deposition cycles persist in photoperiodic conditions (LD 20 : 4) that have been assumed to maintain gonadal photorefractoriness indefinitely, and an autonomous cycle of fat deposition occurs in conditions (LD 8 : 16) regarded as nonstimulatory. Four possible mechanisms of fat deposition and molt are considered and the evidence for possible choices among the alternatives are discussed.—A.H.B.

MENAKER, M. 1968. Extraretinal light perception in the sparrow, I. Entrainment of the biological clock. Proc. Natl. Acad. Sci., 59: 414–421 (4 figs.).—House Sparrows (*Passer domesticus*) blinded by optic enucleation and maintained free-living in cages synchronize their circadian rhythms to 24-hour cycles of visible light and darkness in a manner remarkably similar to those of birds with vision. Thus the

blinded birds obey "Aschoff's rule." The operated sparrows "must therefore possess an extraretinal photoreceptor which is coupled to its biological clock."

RIJKE, A. M. 1968. The water repellency and feather structure of cormorants, Phalacrocoracidae. J. Exp. Biol., 48: 185–189.—Analysis and measurements to support the thesis that the function of wing spreading of cormorants is feather drying. Structural differences in cormorant feathers make them less water repellent than duck feathers. As the parameter measured (a relationship between barb and barbule diameter and spacing) is accessible this analysis can be extended to other groups.—A.H.B.

RISING, J. D. 1968. The effect of temperature variation in the metabolic activity of the Harris' Sparrow. Comp. Biochem. Physiol., 25: 327–334.—CO_2 production increases as an inverse function of ambient temperature from T_a's of −10 to +39°C. Metabolic responses were similar to other species, but *Zonotrichia querula* showed a poor tolerance for extremely high ambient temperatures (i.e. 40 – 41°C). Temperature tolerances seem to be environmentally selected and do not reflect phylogenetic relationships among Passeriformes.—A.H.B.

ROGERS, D. T., JR. 1968. Energy expenditure of caged postmigrants in Panama. Bird-Banding, 39: 60–61.—Estimates of energy requirements for several species of small insectivorous passerines.—M.A.J.

RYLANDER, M. K. 1967. The electrophoretic patterns of the serum proteins of the genera *Erolia* and *Ereunetes* (Family Scolopacidae). Murrelet, 48: 39–40.—Electrophoresis of serum on starch gel showed great intraspecific variation and no significant variation between the species or genera studied.—A.H.B.

SCHWARZ, D., AND H. W. NEHLS. 1967. Untersuchungen zur biologischen Bedeutung der Salzdrüsen bei freilebenden Sturmmöwen (*Larus canus* L.). J. f. Orn., 108: 335–340.—Nasal salt glands were extirpated on a number of Common Gulls and the birds were released. Mortality rates appeared to be no different for operated and unoperated birds.—H.C.M.

SCOTT, D. M., AND A. L. A. MIDDLETON. 1968. The annual testicular cycle of the Brown-headed Cowbird (*Molothrus ater*). Canadian J. Zool., 46: 77–87.—An analysis of the spermatogenic condition and of the weight of testes from 450 Brown-headed Cowbirds at London, Ontario. Testes of birds more than one year old reached maximal weights about 3 weeks before and were usually greater than those of yearlings. A discussion on some aspects of testicular regression in the cowbird is presented.—H.W.K.

STRATIL, A. 1968. Transferrin and albumin loci in chicken, *Gallus gallus* L. Comp. Biochem. Physiol., 24: 113–121.—The author claims that in *Gallus gallus* serum and yolk transferrins, ovotransferrin, and a protein in the seminal plasma of cocks all are determined genetically at a single autosomal locus represented by three alleles, but that the products of the loci (designated *Tf*) are phenotypically different in each fluid. Serum and yolk albumins also apparently are controlled from a single locus with three alleles. The phenotypes are different in the protein of yolk and serum. —A.H.B.

TEJNING, S. 1967. Mercury in pheasants (*Phasianus colchicus* L.) deriving from seed grain dressed with methyl and ethyl mercury compounds. Oikos, 18: 334–344. —Experiments with alkyl-mercury-treated seeds revealed that treated grain left on the ground during sowing could explain completely the high mercury contents in Swedish pheasants and other seed-eating birds and in their predators. An excellent study and review of the literature on this subject.—H.W.K.

TESTER, J. R., F. MCKINNEY, AND D. B. SINIFF. 1968. Mortality of three species

of ducks—*Anas discors, A. crecca,* and *A. clypeata*—exposed to ionizing radiation. Radiation Res., 33: 364–370.—$LD_{50(30)}$ of gamma radiation for all three species were lower than expected and indicated specific differences in radiation resistance. The results were equivocal as experimental conditions varied. The more resistant birds (*A. clypeata*) were larger than the most sensitive birds (*A. crecca*).—A.H.B.

TUCKER, V. A. 1968. Respiratory exchange and evaporative water loss in the flying Budgerigar. J. Exp. Biol., 48: 67–87.—Oxygen consumption of birds taught to fly in a wind tunnel was remarkably dependent on both flight speed and flight angle. Respiratory water loss of birds flying at 35 km/hr was dependent on temperature, being lowest at 18 to 20° and increasing 3 to 4 times at 36 to 37°C. The majority of the increased energy production associated with flight is derived from fat metabolism. The energetics of flying, heat and water budgets of small birds, and the relation between respiratory rate and wing-beat frequency are discussed.—A.H.B.

TUCKER, V. A. 1968. Respiratory physiology of House Sparrows in relation to high altitude flight. J. Exp. Biol., 48: 55–66.—At a simulated altitude of 6,100 m birds increased their effective ventilation by approximately equal increments in respiratory rate and effective total volume. Oxygen transport was maintained at relatively high rates, despite arterial blood saturation of less than 40 per cent. Increased transport is due largely to the greater cardiac output of birds as compared to mammals. Decreases in body temperature of 2°C also increased blood oxygen affinity. The adaptations of the avian respiratory system, the energetics of migration, and possible advantages of high altitude flight are discussed.—A.H.B.

TAXONOMY AND PALEONTOLOGY

ACKERMANN, A. 1967. Quantitative Untersuchungen an körnerfressenden Singvögeln. J. f. Orn., 108: 430–473.—Numerical taxonomy applied to eight species of oscines, using 150 skeletal measurements. *Passer* differs from the Carduelinae, *Fringilla coelebs* is peculiar, *Carduelis citrinella* should be included in *Serinus,* and other similarly startling conclusions. (English summary.)—H.C.M.

CLANCEY, P. A. 1967. Taxonomy of southern African *Zosterops.* Ibis, 109: 318–327.—Only one species of *Zosterops* may exist in southern Africa despite the fact that *capensis, pallidus,* and *virens* meet without interbreeding in some areas. Clancey unites these forms under *pallidus,* and recognizes three additional clinal subspecies, *atmorii, caniviridis,* and *sundevalli,* assigning *"Z. vaalensis"* to the synonymy of the latter. He defers merging *pallidus* (*sensu lato*) and *senegalensis* pending more data from the contact zone in southern Moçambique.—W.B.R.

DICKERMAN, R. W. 1968. Notes on the Red Rail (*Laterallus ruber*). Wilson Bull., 80: 94–99.

FEDUCCIA, J. A., AND R. L. WILSON. 1967. Avian fossils from the Lower Pliocene of Kansas. Occ. Pap., Mus. Zool., Univ. Michigan, no. 655: 6 pp.—Two new species from the Ogallala formation: *Ortalis affinis* (carpometacarpus; similar to *O. vetula*) and *Pliopicus brodkorbi* (tarsometatarsus; possibly allied to *Melanerpes*). —R.B.

KNIPRATH, E. 1967. Untersuchungen zur variation der Rücken färbung der beiden Meisen *Parus montanus* und *Parus palustris.* J. f. Orn., 108: 1–46.—Photoelectric measurements of the color of the back of Willow and Marsh Tits. Age variation was found in *montanus,* but not in *palustris.* In both species sexes are identical and saturation and brightness vary geographically. (English summary.)—H.C.M.