RECENT LITERATURE

EDITED BY GLEN E. WOOLFENDEN

Anatomy and Embryology

Decker, J. D. 1966. An electron microscopic investigation of osteogenesis in the embryonic chick. Amer. J. Anat., **118:** 591–614.

Fleming, T. H. 1966. The thigh musculature of three species of Scolopacidae. Condor, **68:** 293–298.

Lindsay, F. E. F., and H. J. Smith. 1965. Coronary arteries of *Gallus domesticus*. Amer. J. Anat., **116:** 301–314.—Three heart types recognized by the relative distribution of the right and left deep coronary arteries: right coronary dominance, left coronary dominance, and balanced coronary circulation; the first type is most common.—M.K.R.

Behavior

Beer, C. G. 1966. Adaptations to nesting habitat in the reproductive behaviour of the Black-billed Gull *Larus bulleri*. Ibis, **108:** 394–410.—Breeding habits of this New Zealand endemic differ from those of most gulls in ways that seem to increase nesting success at the precarious sites (gravel bars in river beds that flood frequently) the birds use. Pairs form away from the nesting area and females lay soon after the pairs occupy the colony. Agonistic displays are poorly developed and the birds tolerate much closer spacing of nests than is usual for gulls. Usual clutch size is reduced to two and laying tends to be highly synchronous, probably because nests are so close together. Young remain near the nest for a day or two after they hatch, swim readily at an early age, and take to the water in groups when alarmed. It isn't clear why the species chooses such nesting places, because New Zealand has no important ground predators and little of the food for young comes from the rivers.—W.B.R.

Brackbill, H. 1966. Herons leaving the water to defecate. Wilson Bull., **78:** 316.

Curio, E., and P. Kramer. 1964. Vom Mangrovefinken (*Cactospiza heliobates* Snodgrass und Heller). Ziet. f. Tierpsychol., **21:** 223–234.—Feeding habits and social behavior are discussed. As does *C. pallida,* this species uses a stick as a probe. Ecological relationships of the two species are discussed.—M.S.F.

Dunham, D. W. 1966. Reaction to predators in the Rose-breasted Grosbeak. Wilson Bull., **78:** 279–282.

Etienne, A. 1964. Der Einfluss von Testosteron auf das Verhalten junger Stockerpel (*Anas platyrhynchos* L.). Zeit. f. Tierpsychol, **21:** 822–836.—Four male Mallard chicks treated with testosterone implants and injections showed increased attack, alertness, and courtship and diminished escape behavior. The different activities had different thresholds.—M.S.F.

Etienne, A., and H. Fischer. 1964. Untersuchung über das Verhalten kastrierter Stockenten (*Anas platyrhynchos* L.) unddessen Beeinflussung durch Testosteron. Zeit. f. Tierpsychol., **21:** 348–358.—In castrated females only mating behavior was reduced, but castrated males were less active, less attack prone, and less reactive to flight releasing situations. Castrated males treated with testosterone showed an increase in aggression. Females so treated were affected in all the specifically female innate movements.—M.S.F.

FABRICIUS, E. 1964. Crucial periods in the development of the following response in young nidifugous birds. Zeit. f. Tierpsychol., **21:** 326–337.—Discusses reactions to visual and vocal stimuli. Strongest and most complete imprinting occurs during a period of a few hours after hatching. Termination of imprinting comes with the development of the fear response.—M.S.F.

FFRENCH, R. "1965." Some unusual habits of Little Blue Herons. Caribbean J. Sci., **5:** 89–90.—*Florida caerulea* in Trinidad caught a fish and picked up floating sticks while fluttering over deep water.—W.B.R.

GATES, J. M. 1966. Renesting behavior in the Ring-necked Pheasant. Wilson Bull., **78:** 309–315.

GOTHE, J. 1964. Droh- und Beschwichtigungsgebärdenbeim Mausebussard (*Buteo buteo* L.). Zeit. f. Tierpsychol., **21:** 749–754.—Threat and appeasement displays studied at carrion bait.—M.S.F.

GWINNER, E. 1964. Untersuchungen über das Ausdrucks- und Sozialverhalten des Kolkraben (*Corvus corax corax* L.). Ziet. f. Tierpsychol., **21:** 657–748.—Sexual and agonistic displays studied in 18 hand-raised Common Ravens. Each sex possesses three sex-specific signals. Aggressive and sexual tendencies mutually enhance each other. The displays are highly variable allowing communication of subtle details of social information. Members of a pair are able to recognize each other by vocalizations. Non-reproductive displays are also discussed.—M.S.F.

KILHAM, L. 1966. Reproductive behavior of Hairy Woodpeckers I. Pair formation and courtship. Wilson Bull., **78:** 251–265.

KLINGHAMMER, E., AND E. H. HESS. 1964. Parental feeding in Ring Doves (*Streptopelia roseogrisea*): innate or learned? Zeit. f. Tierpsychol., **21:** 338–341.—Parental feeding appears to be innate, in contrast to Lehrman's findings that it is learned.—M.S.F.

KLOPFER, P. H., AND J. P. HAILMAN. 1964. Basic parameters of following and imprinting in precocial birds. Zeit. f. Tierpsychol., **21:** 755–762.—Findings contradict the "law of effort" since neither subsequent choice nor the amount of subsequent following are directly related to amount of initial following. Temperature reinforcement is not important.—M.S.F.

LIND, E. A. 1962. Verhalten der Mehlschwalbe, *Delichon u. urbica* (L.), zu ihren Feinden. Ann. Zool. Soc. "Vanamo" **23:** 38 pp.—Describes and discusses the alert, alarm, escape, and attack behavior of individual House Martins and their colonies, and the use of these behavior patterns throughout the breeding season. Alarms reach peak frequency during nest site selection in the spring and in the fall, and at fledging time. The enemy is followed and, at times, slightly mobbed by the martins; a bird of prey is always followed from above. Dummy experiments showed that *Lanius excubitor*, which often plunders its nests, is recognized as an enemy. Besides falcons, cats, and men, the most dangerous enemy of the martin is the House Sparrow, as a nest competitor. Breeding success is higher when the nest is ready from the previous year than when a new one is built. The House Sparrow is almost always successful in occupying the martin's nest. Where sparrows have been controlled or exterminated the martin population has increased rapidly. The author thinks that martin populations in Finland are limited by the House Sparrow. As the latter decreases towards the north, the size of martin colonies increases. (In German: English summary.)—M.D.F.U.

LIND, E. A. 1963. Zum Schwarmverhalten der Mehlschwalbe, *Delichon u. urbica* (L.). Ann. Zool. Soc. "Vanamo," **25:** 1–71.—In House Martins flocking occurs

basically in three types of situations: in response to an attractive habitat (*e.g.*, feeding over lake surfaces on cold days) when protection is involved (*e.g.*, when a predator disturbs the nests), and when the birds are idle (*e.g.*, "unemployed" due to brood failure). Flocking habits and behavior in Finnish breeding habitats are described. (In German; English summary.)—M.D.F.U.

MILLIGAN, M. 1966. Vocal responses of White-crowned Sparrows to recorded songs of their own and other species. Animal Behav., **14:** 356–361.—Differences in response to intraspecific and interspecific songs are not distinct, but a matter of probability. Response becomes more restricted to intraspecific singing as the season progresses.—A.S.G.

NICOLAI, J. 1964. Der Brutparasitismus der Viduinae als ethologischer Problem. Zeit. f. Tierpsychol., **21:** 9–204.—Analysis of behavior patterns of viduines that are related to brood parasitism. Discusses song (part of song is like that of the species parasitized, part innate), call notes, and the evolution of brood parasitism. On the basis of courtship, innate song elements, and molts and plumages the viduines are considered closely related to the euplectines. High degree of host specificity is brought about by imprinting. Race and species formation has paralleled that of the host; consequently all viduine forms whose hosts attain species rank also attain species rank. A color plate shows the striking convergence in plumage of adults and young of five species with the hosts. Includes many spectrographs.—M.S.F.

PEELLE, M. L. 1966. Behavior of Blue-winged Warblers under snake attack upon a cowbird nestling. Jack-pine Warbler, **44:** 74–76.

RAHMANN-ESSER, M. 1964. Erlernen rhythmischer Handlungsfolgen bei Hühnern. Zeit. f. Tierpsychol., **21:** 837–853.—Chickens can learn certain rhythmical sequences of visual patterns.—M.S.F.

RUSCHI, A. 1964. [The controlled movements of the outer rectrices in *Loddigesia mirabilis* (Bourcier) and the snap produced by the male.] Bol. Mus. Biol. Prof. Mello-Leitão, no. 44: 1–4.—The fantastic tail movements of the hummingbird, Marvelous Spatuletail, are described, with drawings. The author considers that the castanet-like snap is produced by the bill, for it can be uttered when the bird is preening or stretching, and when deprived of its rectrices by molt. (In Portuguese; English summary.)—E.E.

RUSCHI, A. 1965. [The movements of the outer rectrices in *Loddigesia mirabilis* (Bourcier), during bathing and stretching. (Trochilidae—Aves).] Bol. Mus. Biol. Prof. Mello Leitão, no. 49: 1–3.—Tail movements illustrated by photographs. In Portuguese; English summary.)—E.E.

SMITH, N. G. 1966. Adaptations to cliff-nesting in some arctic gulls (*Larus*). Ibis, **108:** 68–83.—The breeding behavior of kittiwakes differs from that of most other gulls in ways that seem adaptive for nesting on cliffs. Cliff-nesting Glaucous, Iceland, and Thayer's gulls have some of the same adaptations. Glaucous Gulls use large ledges and show only slight differences from non-cliff nesters. Iceland and Thayer's gulls act like kittiwakes when they nest on cliffs and more like Herring Gulls when they nest on flat ground, except that ground-nesting *thayeri* retain some "kittiwake traits." Field experiments showed that one of these adaptations (chicks staying in the nest when approached) is "effectively innate" in *thayeri* but depends on early experience in Iceland, Glaucous, and Herring gulls.—W.B.R.

VINCE, M. A. 1966. Potential stimulation produced by avian embryos. Animal

Behav., **14**: 34–40.—Eggs of six precocial (synchronously hatching) and two passerine (non-synchronously hatching) species were rigged for recording of sound and movement and incubated in isolation. Live embryos of all species produced almost continuous recordings of sound and movement. Rhythms of clicking and hatching were characteristic.—A.S.G.

Distribution and Annotated Lists

Arnold, K. A. 1966. Distributional notes on Costa Rican birds. Wilson Bull., **78**: 316–317.

Bartonek, J. C. 1966. Trumpeter Swan in Utah. Condor, **68**: 521.

Bédard, J. 1966. New records of alcids from St. Lawrence Island, Alaska. Condor, **68**: 503–506.

Benson, C. W., and M. P. S. Irwin. 1966. Lynes' Flufftail, *Sarothrura lynesi*, in Rhodesia. Arnoldia (Rhodesia), **2** (31): 3 pp.—First record for Rhodesia, over 500 miles from the nearest known locality at the Bamgweulu swamps.—M.A.T.

Bond, J. 1966. Eleventh supplement to the check-list of birds of the West Indies (1956). Acad. Nat. Sci. of Philadelphia, 1966: 13 pp.—Comments on 29 species, and lists additional records for 22 islands. Reports based on sight records have increased greatly and present the usual difficulties. Notable new data include: Glossy Ibis and American Coot breeding in Jamaica; nests of the Sharp-shinned Hawk and *Asio stygius* found in Las Villas Province, Cuba; *Mimocichla plumbea* on Grand Cayman, the endemic *M. ravida* possibly extinct; continued northward spread of the Glossy Cowbird; and introduced *Tiaris canora* apparently replacing *T. bicolor* on New Providence.—W.B.R.

Bourne, W. R. P. 1966. Further notes on the birds of the Cape Verde Islands. Ibis, **108**: 425–429.—Comments on some 20 species. The peculiar lark, *Alauda razae*, probably evolved on Raza, rather than being relict there. Three species of *Passer* (*domesticus, hispaniolensis*, and the Cape Verde endemic, *iagoensis*) are now established on small, arid Sao Vicente.—W.B.R.

Cameron, R. A. D., and L. Cornwallis. 1966. Autumn notes from Azraq, Jordan. Ibis, **108**: 284–287.—Observations on 4–18 September 1963 recorded about 110 species (about 40 migrant passerines) at this 15 square mile oasis in the Syrian Desert. Occurrence of migrants suggested constant overhead passage on a broad front, mainly in a north-south direction.—W.B.R.

Elgood, J. H., R. E. Sharland, and P. Ward. 1966. Palaearctic migrants in Nigeria. Ibis, **108**: 84–116.—In all, 136 species are known to winter, mainly in savannas of the northern and central parts. Few (especially, few passerines) occur in the rain forest and mangrove swamps of southern Nigeria. Other topics treated in this important supplement to Moreau's account (Ibis, 1961) of Mediterranean-Saharan migration include: birds banded in the Palaearctic and recovered in Nigeria (*ca.* 50 birds from 20 species); migrants banded in Nigeria and recovered at the place of banding in later winters (*ca.* 90 from 4 species); direction of migration; flight lines; size of wintering population; winter range in Nigeria in relation to latitude of breeding range; and habitat choice by wintering birds.—W.B.R.

Gilliard, E. T., and M. LeCroy. 1966. Birds of the middle Sepik region, New Guinea. Bull. Amer. Mus. Nat. Hist., **132**: 247–276.

Gore, G., and P. Gore. 1966. The Avocet *Recurvirostra avosetta* in Senegambia. Ibis, **108**: 281.—Though it has been considered rare in West Africa, recent ob-

servations show that large numbers of Avocets winter in coastal swamps of Senegal and Gambia.—W.B.R.

GREIJ, E. D. 1966. Ancient Murrelet in Michigan. Wilson Bull., **78:** 320.

GREINER, D. W., AND B. NEILL. 1966. Nesting record of the Hermit Thrush in the Black Hills. Wilson Bull., **78:** 321–322.

HARRIS, M. P. 1966. Some land birds in the Caribbean. Condor, **68:** 516–517.

LOFTIN, H. "1965." On unusual distributional records from the Panama Canal Zone region. Caribbean J. Sci., **5:** 83–86.—Such records are suspect, because birds from remote parts of Panama and from outside the country are freely sold in markets. Canal Zone populations of *Mimus gilvus* and *Sicalis luteola* may have originated from escapes.—W.B.R.

LOFTIN, H., AND S. L. OLSON. 1966. Florida herons recovered in Carribbean localities. Florida. Nat., **39:** 119.—Nestling herons were banded 1959–1965 on Palmetto Island, Wakulla County; recoveries the following winter of *Florida caerulea, Leucophoyx thula,* and *Hydranassa tricolor* came respectively from Jamaica, British Guiana, and Cuba, as well as from as far away as Georgia and Mississippi in the United States.—E.E.

PINTO, A. A. DA ROSA. 1963. Notas sobre uma recente colecção de aves de Moçambique do Museu Dr. Álvaro de Castro, com a descrição de duas novas subespécies. Mem. Inst. Invest. Cient. Moçamb. (Lourenço Marques), **5:** 31–49.—New records for the country and extensions of range. *Mirafra sabota fradei* (p. 41) and *Laniarius ferrugineus savensis* (p. 47) are described.—M.A.T.

RIPLEY, S. D., AND G. H. HEINRICH. 1966. Additions to the avifauna of Northern Angola II. Postilla, no. 95: 1–29.—A continuation from Postilla no. 47.

ROBBINS, S. D., JR. *et al.* 1966. The changing seasons. The 1965–66 winter season. Aud. Field Notes, **20:** 396–461.—Winter finches penetrated deeply into the south and there were an unusual number of Great Gray Owls reported in southern Canada and northern United States. European Lapwings (33) were recorded in January and February in southeastern Canada and near Newfoundland; the last similar incursion occurred in 1927–1928.—E.E.

ROLLE, F. T. 1966. Notes on birds from some West Indian islands. Stahlia (Misc. Pap. Mus. Biol., Univ. of Puerto Rico), no. 7.—Observations and specimens from five small islands of the Antillean region.—G.E.W.

RUSCHI, A. 1965. [The actual geographic distribution of *Loddigesia mirabilis* (Bourcier) and some observations respecting it.] Bol. Mus. Biol. Prof. Mello-Leitão, no. 46: 1–3.—This rare and local hummingbird seems to be restricted to the Department of Amazonas, Peru, in the provinces of Chacapoyas and Luyas, between 1,700–3,700 meters. (In Portuguese; English summary.)—E.E.

RUSCHI, A. 1965. [Current account of the hummingbird species of Brazil, with their geographic distribution by states, territories and federal district, and an analytic key to the genera represented in Brazil. (Trochilidae—Aves).] Bol. Mus. Biol. Prof. Mello-Leitão, no. 47: 1–20.—Hummingbirds listed as now known to occur in Brazil include 142 forms, the largest number (54) from Amazonas, a state which extends on both sides of the Amazon, and thus sometimes include two or more races of one species. (I can add one species new to Brazil, *Phaethornis malaris,* of which I have seen two Amapá examples; the forms listed by Ruschi [following Zimmer] as races of *P. malaris* seem to me best regarded as subspecies of *P. superciliosus.* However the inclusion of *P. s. saturatior* in the Brazilian avifauna [from the same Roraiman area as *P. s. superciliosus*] is surely an error.)

A useful bibliography of works dealing with Brazilian hummingbird distribution is appended. (In Portuguese; English summary.)—E.E.

SALOMONSEN, F. 1965. [Penduline Tit (*Remiz pendulinus* (L.)) as a breeding bird in Denmark.] Dansk Ornithologisk Forenings Tidsskrift, **59:** 41–47.—A characteristic nest containing six addled eggs was found in a marsh west of Copenhagen in September, 1964. This, and one seen on Bornholm in April, 1964, are the first records for western Scandinavia. The nearest breeding places are in Poland, where the species appears to be expanding its range. Occurrences in Denmark may be related to unusually warm and dry weather in the spring of 1964. (In Danish; English summary.)—W.B.R.

SALOMONSEN, F. 1965. [Tenth preliminary list of recoveries of birds ringed in Greenland.] Dansk Ornithologisk Forenings Tidsskrift, **59:** 92–103.—Barnacle Geese and Greenland White-fronted Geese, recovered mainly in Ireland and western Scotland, make up nearly two-thirds of the 129 recoveries of 14 species. One White-fronted Goose was banded 16 years previously as an adult. New World recoveries (Fulmar, 2; Oldsquaw, 1; King Eider, 6; and Brunnich's Murre, 26) are all from Canada, principally Newfoundland and the arctic islands. (In Danish; English summary.)—W.B.R.

SCHROEDER, C. H. 1966. Recent records of the Bufflehead breeding in North Dakota. North Dakota Outdoors, **28:** 14.—Two sight records and a photograph of a female with a brood on the Souris River document recent breeding by this species.—J.P.R.

SHORT, L. L., JR. 1966. Some spring migrant and breeding records from northern Nebraska. Nebraska Bird Rev., **34:** 18–20.

SMITH, B. 1966. A second record of Ancient Murrelet from Nevada. Condor, **68:** 511–512.

THOMSON, A. L. 1966. The status of two swallow species in The Gambia. Ibis, **108:** 281–282.—Wire-tailed (*Hirundo smithii*) and Pied-winged (*H. leucosoma*) swallows, formerly thought to be either very rare or mistakenly reported, are regular in small numbers. Both have been seen in most months, and *H. smithii* surely breeds there.—W.B.R.

WARNER, A. C. 1966. Breeding-range expansion of the Scissor-tailed Flycatcher into Missouri and in other states. Wilson Bull., **78:** 289–300.

WAUER, R. H. 1966. Eastern Phoebe in Utah. Condor, **68:** 519.

WILBUR, R. O. 1966. Inland record of an Oldsquaw in California. Condor, **68:** 516.

WINTERBOTTOM, J. M. 1966. Results of the Percy FitzPatrick Institute—Windhoek State Museum Joint Ornithological Expeditions: 3. Report on the birds of the Okavango Valley. Cimbebasia, Windhoek, S.W.A., no. 15: 78 pp.—Report on the collection and an analysis of the faunal relationships of the Okavango Valley in South West Africa. The valley lies in the transition zone between the South West Arid district and the Rhodesian Highlands (South Central Highlands). The limits of the districts and the extent of the transition zone are defined.—M.A.T.

ECOLOGY AND POPULATION

BAILEY, R. 1966. The sea-birds of the southeast coast of Arabia. Ibis, **108:** 224–264.—From May to September southwest winds cause upwelling that creates a productive zone whose fauna includes many seabirds. Upwelling off Arabia is sharply seasonal. Discussion of distribution and abundance of seabirds in relation to oceanographic conditions is based on 205 one-hour counts made from a re-

search ship during the southwest monsoon, June–August, 1963, and 29 counts in March and May, 1964, when little upwelling occurred. The common seabirds are Northern Phalarope, Blue-faced Booby, three migrant procellariiforms from the Southern Hemisphere, four endemic subspecies (races of Audubon's Shearwater, Red-billed Tropic-bird, Bridled Tern, and *Thalasseus bergii*), and three endemic species (*Bulweria fallax, Phalacrocorax nigrogularis*, and *Larus hemprichi*). Most are commonest during the southwest monsoon and in colder water close to shore. Insofar as known, the breeding species (Blue-faced Booby and the endemics) nest during the southwest monsoon; some leave the area during the rest of the year. The high degree of endemism and the absence of most pantropical species suggest that the seabird fauna is closely adapted to conditions in the area of upwelling. Includes a detailed statistical analysis of the data.—W.B.R.

BENDELL, J. F., AND P. W. ELLIOTT. 1966. Habitat selection in Blue Grouse. Condor, **68:** 431–446.

CRAUFORD, R. Q. 1966. Notes on the ecology of the Cattle Egret *Ardeola ibis* at Rokupr, Sierra Leone. Ibis, **108:** 411–418.—Cattle Egrets occur from November through June (their non-breeding season and the local dry season) and here are not associated with cattle. They roost in mangroves and feed in native garden patches, at a density of about one bird per half-acre of foraging area. Flocks go to roost about a half-hour before twilight, earlier than most herons. The effective feeding radius is judged to be about 12 miles.—W.B.R.

ESCALANTE, R. 1966. Notes on the Uruguayan population of *Larus belcheri*. Condor, **68:** 507–510.

FFRENCH, R. P. 1966. The utilization of mangroves by birds in Trinidad. Ibis, **108:** 423–424.—Regular inhabitants include: 43 species (24 land birds) known to nest in mangroves; 34 additional resident species; 15 northern winter visitors; and 2 southern winter visitors, 1 of which (*Muscivora tyrannus*) forms a roost of "several hundreds of thousands" in Caroni Swamp.—W.B.R.

GRANT, P. R. 1966. The coexistence of two wren species of the genus *Thryothorus*. Wilson Bull., **78:** 266–278.

HARRISSON, T. 1966. Further notes on super-canopy birds in Borneo. Ibis, **108:** 419–420.—Observations from helicopters add 15 species to an earlier list (Ibis, **105:** 403–406) of birds seen above the jungle canopy. Large birds, especially raptores, predominate.—W.B.R.

KOLB, H., *et al.* 1966. Winter bird-population study. Aud. Field Notes, **20:** 462–480.—Bird populations in 33 habitats were reported upon for the 1965–1966 winter season.—E.E.

KOPISCHKE, E. D., AND M. M. NELSON. 1966. Grit availability and pheasant densities in Minnesota and South Dakota. J. Wildl. Mgmt., **30:** 269–275.—Pheasants can selectively pick calcium- and magnesium-bearing grit; differences in availability of these elements is thought not to limit pheasant densities in the areas studied.—J.P.R.

LEWIS, J. B. 1966. Hybridization between wild and domestic Turkeys in Missouri. J. Wildl. Mgmt., **30:** 431–432.—Plumage characteristics indicate that 27 per cent of yearling gobblers in the spring hunting seasons of 1963–1965 were hybrids. This suggests the existence of self-maintaining hybrid populations since no hybrids have been released in Missouri for over 20 years.—J.P.R.

MCGILVREY, F. B. 1966. Fall food habits of ducks near Santee Refuge, South Carolina. J. Wildl. Mgmt., **30:** 577–580.—Stomachs from 360 ducks of 10 species

were examined to determine the use of marsh plants, and the effects of lake levels and the refuge farming program on food habits.—J.P.R.

NELSON, J. B. 1966. Flighting behaviour of Galapagos storm petrels. Ibis, **108:** 430–432.—On all 10 visits (March–June, 1964; 26 November 1964) to a colony of *Oceanodroma tethys* and *O. castro* on Tower Island large numbers of both species were seen engaging in apparently aimless, midday flights that lasted several hours. Short-eared Owls (*Asio galapagoensis*) preyed heavily on the flighting petrels. Significance of flighting is unknown, but its persistence for several months seemed to rule out close association with pair formation or nest site selection.—W.B.R.

NELSON, M. M., J. B. MOYLE, AND A. T. FARNHAM. 1966. Cobalt levels in foods and livers of pheasants. J. Wildl. Mgmt., **30:** 423–425.—Cobalt is not a limiting nutritional factor for pheasants in southeastern Minnesota where the population is low.—J.P.R.

ROOT, R. B. 1966. The avian response to a population outbreak of the tent caterpillar, *Malacosoma constrictum* (Stretch) (Lepidoptera: Lasiocampidae). The Pan-Pacific Entomol., **42:** 48–53.—The feeding behavior of *Polioptila caerulea, Vireo gilvus, V. huttoni, Vermivora celata,* and *Parus inornatus* during an outbreak of tent caterpillars suggests the insect's integument discourages attack and that birds are not effective in controlling their populations.—G.E.W.

RUCNER, D. 1965. Von der Bedeutung der Ornis der relikten Kieferwälder von Mala Kapela und ihrer Beziehungen zur Ornis anderer Waldgesellschaften. Larus, 16–18: 38–78.—Pine forests were important elements of the Tertiary landscape in south-central Europe and also dominated under certain phases of the Postglacial. As they are now mostly substituted by beech-fir forests, during the last millenia, the bird fauna inhabiting the remaining pine woods was analyzed, revealing not a single species entirely dependent on pine. Of the 16 species that in Croatia are characteristic of these woods, 4 are common in the spruce forests of the taiga, some in the oak forests, and others are widespread in many kinds of wooded habitats. Thus the main result of this work is showing again that local populations may be specialized to use exclusively certain kinds of habitats, whereas elsewhere others are preferred. (In Serbocroatian; German summary.)—M.D.F.U.

RUSCHI, A. 1965. [Observations on the nesting, incubation and care of young in *Colibri coruscans coruscans* (Gould), done only by the female. (Trochilidae—Aves)]. Bol. Mus. Biol. Prof. Mello-Leitão, no. 45: 1–9.—Two ornithologists have independently reported incubation by the male of the hummingbird *Colibri coruscans* in Ecuador and Venezuela—the only member of its family for which male participation in nesting activities has been claimed. The author observed a female (later captured) in Ecuador incubating alone for two days, and in captivity two females taken alive in Ecuador and Venezuela reproduced successfully on five occasions; in no case did the males participate in nest building, incubation, or care of young, although one female incubated eggs in a nest while still feeding young in another nest. In *Colibri serrirostris* only the female incubates and cares for the young, as is true of all the other hummingbirds studied by the author. Possibly the observations of a supposed male at the nest may have referred to a second female, as has been noted in another species. (In Portuguese; English summary.)—E.E.

RUSCHI, A. 1965. [The position maintained on the nest by female hummingbirds during incubation and brooding young.] Bol. Mus. Biol. Prof. Mello-Leitão,

no. 48: 1–3.—The type of nest and position of the female when sitting in it are reviewed for all hummingbird genera. (In Portuguese; English summary.)—E.E.

SADE, D. S., AND R. W. HILDRECH. "1965" (rec'd 15 April 1966). Notes on the Green Monkey (*Cercopithecus aethiops sabeus*) on St. Kitts, West Indies. Caribbean J. Sci., **5:** 67–81.—A feral population established around 1700 now numbers *ca.* 1,500 individuals. These monkeys probably exterminated the Bullfinch, *Loxigilla portoricensis grandis*. Red-tailed Hawks may prey on infant monkeys.—W.B.R.

SKUTCH, A. F. 1966. A breeding bird census and nesting success in Central America. Ibis, **108:** 1–16.—A 3.75-acre pasture and dooryard in Costa Rica supported 106 adults (28.2/acre) of 26 species in 1944, and over four years 41 per cent of 208 nests in which eggs were laid were successful. A perceptive discussion of difficulties in obtaining valid information on nest success is followed by a summary of data from Skutch's 30 years work. Of 434 open or roofed nests in secondary vegetation found before the last egg was laid, 35 per cent succeeded, and 30 per cent of the 883 eggs produced fledglings. In forests, only 23.5 per cent of 136 such nests succeeded. Hole-nesting birds had much greater success (60.3 per cent of 68 nests) in all habitats. Nest success of all species for one season in six localities ranged from 21 to 53 per cent and tended to increase with altitude. Predation is the main cause of failure, and increase in nest success from forest to altered habitats and from lowland to montane areas is probably related to decrease in predators, especially snakes. Because of the low rate of annual recruitment, it is evident that tropical birds must be long-lived. This is a landmark paper in study of bird populations in the tropics.—W.B.R.

SNOW, D. W., AND B. K. SNOW. 1966. The breeding season of the Madieran Storm Petrel *Oceanodroma castro* in the Galapagos. Ibis, **108:** 283–284.—Fortnightly checks of 19 nest holes on South Plaza Island over a 15-month period showed egg-laying peaks in December and May–June. Because birds were unmarked, it is not certain that any nested in both periods, but some probably did. Success of the May–June nesting was decidedly greater. Fledging period (four records only) was several weeks longer than Allen (Ibis, **103b:** 274–295.) found for this species on Ascension Island.—W.B.R.

SUSSMAN, O., R. E. KERLIN, W. C. CARTER, J. SWINEBROAD, AND M. GOLDFIELD. 1966. Ecology of arbovirus infection in New Jersey. Bird-Banding, **37:** 183–190.—Apparently the pertinent results are to be published elsewhere.—G.E.W.

VERBEEK, N. A. M. 1966. Wanderings of the Ancient Murrelet: some additional comments. Condor, **68:** 510–511.

WARD, P. 1966. Distribution, systematics, and polymorphism of the African Weaver-bird *Quelea quelea*. Ibis, **108:** 34–40.—This nomadic species of grasslands of sub-Saharan Africa breeds in immense colonies where annual grasses produce abundant seed in the rainy season. In the dry season, it inhabits areas subject to seasonal flooding and becomes a pest of grain crops. Breeding males have dimorphic plumage: the "white-faced" morph comprises 5 to 25 per cent of the population, and the "black-faced" morph varies geographically in extent of black. Ward recognizes three subspecies—*quelea* (West Africa), *aethiopica* (Sudan), and *lathami* (South Africa)—and rejects three others. The recognized forms intergrade across wide zones occupied by variable hybrid swarms, rather than clinally.—W.B.R.

WINTERBOTTOM, J. W. 1966. The comparative ecology of the birds of some Karoo habitats in the Cape Province. Ostrich, **37:** 109–127.—The distinctness of the avifauna of the Strandveld of the West Coast is brought out; and the central

position of the Central Upper Karoo for the karoo fauna as a whole is also revealed. (Author's summary.)—M.A.T.

Evolution and Genetics

Grant, P. R. 1966. Further information on the relative length of the tarsus in land birds. Postilla, no. 98: 1–13.—Comparisons of closely related species of land birds support the hypothesis that use of rigid perches in foraging selects for relatively greater tarsal length.—G.E.W.

Lanyon, W. E. 1966. Hybridization in meadowlarks. Bull. Amer. Mus. Nat. Hist., **134:** 1–26.—Analysis of the morphology and vocalizations of six F_1 hybrids from two pairings of male *Sturnella neglecta* and female *S. magna* in Quebec and New York. In the latter case the adult pair was captured and subsequently analyzed as were the five young. "Hybrid meadowlarks can be identified with accuracy and authority only on the basis of a prior knowledge of the phenotypic recombinations of specific characters in hybrids of known parentage."—G.E.W.

Ridpath, M. G., and R. E. Moreau. 1966. The birds of Tasmania: ecology and evolution. Ibis, **108:** 348–393.—The birds are Australian, but Tasmania has fewer species (104 breeding land birds *vs.* 176 in a comparable area of southeastern Australia) and unusually many endemics (14 species, 27 subspecies) for a continental island connected with Australia as recently as about 12,000 years ago. Notable among the endemics are two monotypic genera, *Lathamus* (a parrot) and *Acanthornis* (a sylviid), and the flightless Native Hen, *Tribonyx* (a gallinule). Some 70 species, including many of the endemics, are common in the warmer, dryer sections where the vegetation resembles types that are widespread in Australia. These habitats were reduced or absent in glacial times, and most of the birds probably colonized Tasmania since the peak of the last Pleistocene glaciation. In contrast, only 17 species occur commonly in the temperate rain forest and associated habitats that occupy large areas in western Tasmania and at higher elevations. A most interesting preliminary survey of an avifauna known to few ornithologists.—W.B.R.

General Biology

Amadon, D. 1965. Notes on the Galapagos Hawk. L'Ois. et la Rev. Fran. d'Orn., **35:** 9–21.—Observations of the nesting and feeding behavior of *Buteo galapagoensis* and remarks on the systematic position of the species.—G.E.W.

Bassini, E. 1966. [Statistical results of the data on capture of the Brambling (*Fringilla montifringilla* L.) in Italian bird-catching devices.] Ric. Zool. appl. alla Caccia (Univ. Bologna), **42:** 1–42.—Data from northern and central Italy, some going back as far as 1892, indicate numbers taken, chiefly in October and November. (In Italian; English, French, and German summaries.)—E.E.

Berger, A. J. 1966. The nestling period of the Great Crested Flycatcher. Wilson Bull., **78:** 320.

Blaker, D. 1966. Notes on the Sandplovers *Charadrius* in southern Africa. Ostrich, **37:** 95–102.—Comparison of the distribution and behavior of four resident and one migrant species.—M.A.T.

Bostic, D. L., and R. C. Banks. 1966. A record of stingray predation by the Brown Pelican. Condor, **68:** 515–516.

Clapp, R., and T. C. Abbott. 1966. Pilot black snake predation on the Long-billed Marsh Wren. Wilson Bull., **78:** 321.

CLAPP, R. B., AND F. C. SIBLEY. 1966. Longevity records of some central Pacific seabirds. Bird-Banding, **37:** 193–197.

CUNNINGHAM, R. L. 1966. Caspian Tern feeding upon carrion. Wilson Bull., **78:** 319.

DYRCZ, A. 1966. Distribution of the breeding colonies of the rook, *Corvus frugilegus* L., in Poland. Acta Ornithol. **9:** 227–240.—Census data obtained from school teachers and county administrative and forestry personnel are mapped to show densities. Size of rookeries correlates inversely with colony density, and the latter is positively correlated with corn culture. (In Polish; English and Russian summaries.)—M.D.F.U.

EVANS, P. R. 1966. Autumn movements, moult and measurements of the Lesser Redpoll *Carduelis flammea cabaret*. Ibis, **108:** 183–216.—This study in northeastern England, 1958–1964, develops detailed sex and age criteria and analyzes autumnal routine (especially molt and migration) of the classes distinguished. A local molt migration from breeding places to localities nearby that offer abundant food occurs in late summer, perhaps the first suggestion of this sort of movement by a passerine. Molt of adults begins in early August as the second brood reaches independence, is generally of typical passerine character, and lasts 43 to 56 days, after which adults migrate at once. They lose weight slightly in early molt, gain a little weight toward the end of molt, and migrate without significant fat reserves. Migration is overland to southern England, where they may winter in years of good birch seed crops, thence via a short over-sea flight to Belgium. Juveniles complete molt (body plumage and some wing coverts only) earlier, but migrate with adults. The main value of migration to this population may be in reaching areas where midwinter days allow a little more time for feeding.—W.B.R.

FANKHAUSER, D. P. 1966. Movements of Starlings in relation to a roost near Hanover, Pennsylvania. Bird-Banding, **37:** 200–203.

HARRIS, M. P. 1966. Breeding biology of the Manx Shearwater *Puffinus puffinus*. Ibis, **108:** 17–33.—Data are mainly from 100 nest burrows regularly examined in 1963 and 1964 in the large (35,000 pairs) Skokholm colony. Adults begin night visits in February, and the mean date of the 10-week laying period is in early May. The single egg is about 15 per cent of the female's weight. A lost egg is rarely replaced. Both sexes incubate and feed young. Other data (averages): incubation spells, about 6 days; incubation period, 51 days; feeding rate, two periods in 3 days; maximum weight of chicks, 505–755 g at 39–61 days; desertion period, 8.5 days; fledging period, 70 days; weight at fledging, 450 g. No correlation was found between date eggs were laid and the feeding rate, growth rate, or fledging weight of chicks. In 1964, 78 per cent of eggs hatched, and 95.5 per cent of hatchlings fledged. None of nine pairs presented with experimental "twins" succeeded in rearing both. Availability of food for young immediately after they fledge and on their migration to winter quarters off southern Brazil may be the most critical factor affecting production.—W.B.R.

HARTMAN, F. A. 1966. Egg of the Great Black Hawk, *Buteogallus urubitinga ridgwayi*. Condor, **68:** 515.

HAVERSCHMIDT, F. 1966. The migration and wintering of the Upland Plover in Surinam. Wilson Bull., **78:** 319–320.

HEPWORTH, J. L. 1966. An attack and riding of a Red-tailed Hawk. Wilson Bull., **78:** 318.

HOLCOMB, L. C. 1966. Red-winged Blackbird nestling development. Wilson Bull., **78:** 283–288.

IRBY, H. D., AND L. H. BLANKENSHIP. 1966. Breeding behavior of immature Mourning Doves. J. Wildl. Mgmt., **30:** 598–604.—Immatures were observed calling and copulating and were involved in at least 10 nestings on two areas near Tucson, Arizona, in 1963. Five young were fledged. The contribution of such breeding to the dove population was not determined.—J.P.R.

KALE, H. W., II, AND W. L. JENNINGS. 1966. Movements of immature Mockingbirds between swamp and residential areas of Pinellas County, Florida. Bird-Banding, **37:** 113–120.—Between 7 July and 5 August 1964, 187 immature *Mimus polyglottos* were banded, color-marked, and released from a hardwood swamp north of St. Petersburg. Newspaper articles soliciting public cooperation resulted in 38 "verified" observations. The returning of young Mockingbirds to the residential areas provides a possible transport mechanism of arbovirus from swamp reservoirs to areas of human habitation. Avian pox infected 102 of 189 birds.—G.E.W.

KOEPCKE, H. W., AND M. KOEPCKE. 1964–1965. Las aves silvestres de importancia económica del Perú. Nos. 5–9: 33–72. Ministerio de Agricultura, Servicio Forestal y de Caza, Lima, Perú. Price, S/. 5 (about $0.25) per fascicle of 8 pp. Available from Horst Dickudt Librería, Pasaje Santiago Acuña no. 115, Casilla 1981, Lima, Perú.—Continuation of a work on Peruvian birds of economic importance (earlier parts reviewed: Auk, **82:** 111–112, 1965). Each number covers eight species, with a good drawing of each. Much useful, often unpublished, information on ecology, nesting, and food is provided, and means of separating the species treated from other allied Peruvian birds are given. The contents of the new numbers: no. 5, two cormorants, *Anhinga* and *Fregata*, and four herons; 6, seven herons (including *Cochlearius*) and *Jabiru*; 7, *Mycteria, Ajaia,* four ibises, a flamingo, and *Anhima*; 8, two *Chloephaga*, three *Dendrocygna, Sarkidiornis, Cairina*, and *Lophonetta*; 9, seven *Anas* and *Oxyura dominica.* (In Spanish.)—E.E.

KOEPCKE, M. 1965. Zur Kenntnis einiger Furnariiden (Aves) der Küste und des westlichen Andenabhanges Perus (mit Beschreibungen neuer Subspezies). Beitr. Neotrop. Fauna, **4:** 150–173.—Studies of some Furnariidae of the coast and west Andean slope of Peru, including new data on distribution and ecology of *Geositta crassirostris, G. cunicularia,* and *G. paytensis.* The following new subspecies are described: *G. cunicularia georgei, Leptasthenura pileata latistriata, Asthenes cactorum monticola,* and *A. cactorum lachayensis.* Data on life history and breeding of *A. cactorum* are provided, and differences from *A. modesta* are indicated. The range of *Phlaeocryptes melanops loaensis* is extended to southern Peru. (In German; English and Spanish summaries.)—E.E.

KOPISCHKE, E. D. 1966. Selection of calcium- and magnesium-bearing grit by pheasants in Minnesota. J. Wildl. Mgmt., **30:** 276–279.—Ingestion of calcareous grit by hens is much greater during egg laying than at any other time. A similar trend was found for magnesium, which is ingested in smaller quantities. No trend was found for cocks.—J.P.R.

MACINNES, C. D. 1966. Population behavior of eastern arctic Canada Geese. J. Wildl. Mgmt., **30:** 536–553.—Data show that geese nesting in the eastern arctic are a single interbreeding population, pioneering in a new environment. Regional and local variation of critical climatic factors may make survival marginal. Body size may be a major factor affecting survival under certain conditions. Assortative

mating among geese of mixed origin during northward migration and interchange of birds between different nesting units are major adaptations enhancing survival and expansion of the population.—J.P.R.

McGILVREY, F. B. 1966. Fall food habits of Wood Ducks from Lake Marion, South Carolina. J. Wildl. Mgmt., **30:** 193–195.—The foods of 108 *Aix sponsa* killed at a roost in an eight-day period consisted of 98 per cent seeds and fruits of oaks, bald cypress, sweet gum, water hickory, and corn.—J.P.R.

MORLION, M. 1964. Pterylography of the wing of the Ploceidae. Gerfaut, **54:** 111–158.—Almost no variation was noted between individuals, including those of the opposite sex, for the species examined, but "distinct differences" did appear among the genera, *Estrilda, Hypochera,* and *Textor.*—G.E.W.

MORSE, D. H. 1966. Notes on the Wren-thrush. Condor, **68:** 520–521.

MUNYER, E. A. 1966. Winter food of the Short-eared Owl, *Asio flammeus,* in Illinois. Trans. Illinois State Acad. Sci., **59:** 174–180.—A sample of 451 pellets and three stomachs collected at roosts in east-central Illinois contained a minimum of 1,025 prey items, 98 per cent of which were rodents (70 per cent *Peromyscus* sp.). One stomach held an entire least weasel (*Mustela rixosa*). Difficulties in interpreting food data from pellets are discussed.—W.B.R.

NEWTON, I. 1966. The moult of the Bullfinch *Pyrrhula pyrrhula.* Ibis, **108:** 41–67.—This study of the progress of molt and its timing in relation to other events is based on 663 individuals examined from 1962 to 1964 in a tract of deciduous woods and forest edge near Oxford. Adult molt, starting with loss of the first primary and ending with replacement of the ninth, last 10 to 12 weeks; the partial molt of juveniles lasts 7 to 9 weeks. Both adults and juveniles begin molting in late July, the onset of molt in adults was spread over 6 to 11 weeks, in juveniles, over 9 to 14 weeks. Parental care and molt tend to overlap slightly. Adults feeding young molt more slowly; onset of molt is greatly protracted in seasons favorable for late breeding; late-fledged juveniles replace fewer feathers. New feathers amount to 40 per cent of dry weight in adults, 33 per cent in juveniles. In both, feathers are produced at an average rate of 40 mg/day. Molting birds are less active, and all age classes tend to gain weight during molt. Molt apparently is timed to be completed just before food becomes scarce in late fall; and the adults and juveniles molting latest probably survive less well.—W.B.R.

ROGERS, J. P. 1966. Mallard predation by a Goshawk. Wilson Bull., **78:** 317–318.

ROGERS, J. P., AND L. J. KORSCHGEN. 1966. Foods of Lesser Scaups on breeding, migration, and wintering areas. J. Wildl. Mgmt., **30:** 258–264.—Animal foods, especially crustaceans, molluscs, and fishes, made up the bulk of the diet of 164 birds from Manitoba, Illinois, and Louisiana, but the proportion of animals decreased from summer to winter. These findings agree with other recent studies but differ from earlier findings which showed Lesser Scaups to be chiefly vegetarian.—J.P.R.

ROYAMA, T. 1966. Factors governing feeding rate, food requirement and brood size of nestling Great Tits *Parus major.* Ibis, **108:** 313–347.—This study, made in Japan in 1958–1960, analyzes feeding of 12 broods of *P. m. minor* (brood size, 3 to 13) for which a complete record of feeding visits and food consumed was obtained. Feeding rate varied inversely with average prey size and was largely independent of brood size. Variation was so large (1,300 to 6,300 feedings/brood) and irregular that feeding rate could not be taken as a reliable index of food consumption. Food consumed per nestling was inversely proportional to brood

size, but growth rate of nestlings did not vary significantly over a wide range of brood sizes. Nestlings in small broods apparently require more food, because the higher surface area to volume ratio of the brood as a whole results in more rapid loss of heat. As brood size increases thermal efficiency increases up to a point, and food required per nestling is lower, compensating for much of the requirement of the extra mouths to be fed. These findings point toward some new lines of study and suggest new concepts of the evolution of clutch size.—W.B.R.

RUSCHI, A. 1964. [The eggs of hummingbirds.] Bol. Mus. Biol. Prof. Mello-Leitão, no. 41: 1–4.—All hummingbirds lay a clutch of two plain white eggs; very rarely is a three-egg clutch found. In captivity one to five clutches are known in a year, although this is to some extent a matter of individual variation. Only females build the nest, incubate, and care for the young. Average egg dimensions and weights of 78 species and subspecies are given for birds breeding in South America, between 1934 and 1964. The largest and heaviest egg was of *Patagona gigas peruviana*, the smallest and lightest of *Heliactin cornuta*. (In Portuguese; English summary.)—E.E.

RUSCHI, A. 1964. [The season or period of reproduction in hummingbirds.] Bol. Mus. Biol. Prof. Mello-Leitão, no. 42: 1–9.—Breeding seasons of 106 species and subspecies of South American hummingbirds (chiefly Brazilian) as determined in the field or in captivity (at Santa Teresa in the Brazilian state of Espírito Santo) are given. In a few instances, unfortunately, the published period fails to indicate which months relate to breeding in the wild in northern South America and which to the same form in captivity in southeastern Brazil, for quite possibly the nesting season may shift depending on the local climate. (In Portuguese; English summary.)—E.E.

RUSCHI, A. 1964. [Nesting of *Loddigesia mirabilis* (Bourcier) in captivity and some observations on its hybridization with *Myrtis fanny fanny* (Lesson).] Bol. Mus. Biol. Prof. Mello-Leitão, no. 43: 1–7.—A female *Loddigesia* in a cage with a male *Myrtis* built a nest and laid two eggs; one young hatched and lived for 17 days, when a storm frightened the female so that she abandoned the nest. The young was unquestionably a hybrid, the first hybrid hummingbird known to have been hatched in captivity. Photographs of female on the nest. (In Portuguese; English summary.)—E.E.

SKEAD, C. J. 1966. A study of the Black Cucuckoo (*sic*)-Shrike *Campephaga phoenicea* (Latham). Ostrich, **37:** 71–75.—General breeding biology, and the use of the spinescent rump feathers in defense display.—M.A.T.

SNOW, B. K. 1966. Observations on the behaviour and ecology of the Flightless Cormorant *Nannopterum harrisi*. Ibis, **108:** 265–280 (and Plate 3 facing p. 265).—Observations of a scattered group totalling about 20 pairs on the west coast of Albemarle Island, Galápagos, mainly during two weeks in the fall of 1963. The species is restricted to areas that provide relatively shallow, cold water over rocky bottom for feeding and shelving beaches for easy landing, and is probably as well distributed as its requirements allow. Males are about one-third larger than females. The size disparity may permit utilization of a wider variety of food and reduce likelihood of competition. Eggs are laid in all months of the year except January and February, with peaks in April–June and possibly October; individuals probably breed only once a year. Both sexes incubate and care for young. The usual clutch is three, but no case is known of more than two eggs hatching or more than one young fledging. Scanty records suggest that nest success is ex-

tremely low. Courtship and nesting behavior is somewhat modified by the species' flightlessness and heavy build, but except for the apparent absence of allopreening resembles that of other cormorants.—W.B.R.

SNOW, D. W. 1966. Annual cycle of the Yellow Warbler in the Galapagos. Bird-Banding, **37:** 44–49.—*Dendroica petechia* breeds during the wet season in the Galápagos. Full molt follows breeding although considerable variability in timing exists. Pairs maintain a joint territory throughout the year. Song occurs in almost every month, but is at a minimum about four months after molt. Young birds undergo two partial molts between juvenal and adult plumages.—G.E.W.

TUNG-SHENG, FU, AND CHEN PENG. 1966. [The distribution and breeding habits of *Emberiza jankowskii.*] Acta Zool. Sinica, **18:** 195–198.—A second breeding area, disjunct from the primary one of the Ussurian-Korean border, has been located in the western part of Kirin Province and the eastern border of Inner Mongolia. Nesting vegetation is bushy areas or steppe. The nest is usually placed on the ground and contains 5 to 6 eggs. The nesting season begins about the end of May. (In Chinese; English summary.)—R.B.

WHITE, C. M., AND R. B. WEEDEN. 1966. Hunting methods of Gyrfalcons and behavior of their prey (ptarmigan). Condor, **68:** 517–519.

WINTERBOTTOM, J. W. 1966. Some notes on the Red-knobbed Coot *Fulica cristata* Gmelin in South Africa. Ostrich, **37:** 92–94.—Breeding biology.—M.A.T.

ZEIDLER, K. 1966. Untersuchungen über Flügelbefiederung und Mauser des Haussperlings (*Passer domesticus* L.). J. f. Orn., **107:** 113–153.—In the tradition of Stresemann, the author thoroughly investigated and carefully illustrated the complete sequence of molt in the House Sparrow, incorporating his results in a discussion of relationship between patterns of molt and taxonomic position. The molt of its remiges and rectrices follows the general mode of most oscines. Deviations from this pattern, as found in the Cinclidae and Cracticidae, for example, are considered phylogenetic adaptations. Direct environmental stimuli are thought to influence speed of molt only. The author predicts new insight into phylogenetic relationships from future molt studies but cautions against unfounded generalizations as, for example, assuming the Cracticidae show strong affinities to the crows and jays. (In German.)—E.G.F.S.

ZWICKEL, F. C., J. H. BRIGHAM, AND I. O. BUSS. 1966. Autumn weights of Blue Grouse in north-central Washington, 1954 to 1963. Condor, **68:** 488–496.

MIGRATION AND ORIENTATION

BAILEY, R. S. 1966. Migrant land-birds in the Mediterranean and Red seas and the Indian Ocean. Ibis, **108:** 421–422.—In June and November, 1963, and February, August, and September, 1964 16 species (8 passerines) were seen.—W.B.R.

HÖHN, E. O. 1966. Ringing (banding) and recoveries of phalaropes. Bird-Banding, **37:** 197–200.

JOHNSTON, D. W. 1966. A review of the vernal fat deposition picture in overland migrant birds. Bird-Banding, **37:** 172–183.—Part I: The White-throated Sparrow at the southern edge of its wintering range. *Zonotrichia albicollis* leaves northcentral Florida at least by early April, at which time individuals are both light in weight and lean, containing only enough "fuel" for about 90 miles of flying. Evidently northward movements begin with short flights, and as the birds move northward they become more obese. Part II: Vernal weight and fat characteristics of other migrant passerines. Both time and place are important in assessing fat deposition.

Early premigrants do not show a sharp increase in fat deposition whereas late premigrants and intramigrants generally do. An important paper.—G.E.W.

LOFTIN, H., D. T. ROGERS, JR., AND D. L. HICKS. 1966. Repeats, returns and recoveries of North American migrant birds banded in Panama. Bird-Banding, **37:** 35–44.—Of 51 species banded, 21 produced later records. Several species apparently winter in Panama, some returning to the same locality in subsequent years.—G.E.W.

MURRAY, B. G., JR., AND J. R. JEHL, JR. 1964. Weights of autumn migrants from coastal New Jersey. Bird-Banding, **35:** 253–263.—The average weights of fall migrants from Island Beach, New Jersey, are lower than those of birds from other areas. Since the Island Beach birds arrive from over the ocean the authors suggest these coastal migrants weigh less because they perform a nocturnal flight followed by an overwater flight to get back to land.—G.E.W.

RADABAUGH, B. E., F. E. RADABAUGH, AND C. A. RADABAUGH. 1966. Returns of Kirtland's Warblers banded as nestlings. Wilson Bull., **78:** 322.

PHYSIOLOGY

BAKER, C. M. A. 1966. Species, tissue, and individual specificity of low ionic strength extracts of avian muscle and other organs revealed by starch-gel electrophoresis. Canadian J. Biochem. **44:** 853–859.—Nonspecific stains of proteins soluble at low ionic strength yield 15–25 zones in vertical starch-gel electrophoresis. These bands were not coincident with the "major" protein bands. The results indicate a high degree of species specificity of the electrophoretic profiles of muscle extracts (myoglobin) and considerable tissue and individual specificity of both enzymes and other proteins in avian tissue extracts.—A.H.B.

DYCK, J. 1966. Determination of plumage colours, feather pigments and structure by means of reflection spectrophotometry. Dansk Ornithologisk Forenings Tidsskrift **60:** 49–76.—In spite of the fact that the plumage surface of birds is a nonplanar, nonhomogeneous surface and that feather microstructure may cause reflection to vary with the direction of incident light it is possible to measure the reflectance of plumages and to calculate values of hue, purity, and lightness. These values may be used as a measure of color, an evaluation which previously has been made by eye. Using reflectance curves, one can also evaluate the influence of these factors on the resulting colors. In accordance with theory, reflectance curves for Tyndall blue decrease at higher wave-lengths. Colors produced by interference (iridescent effects) show one reflectance peak. Provisional identifications of dominant carotenoids can also be made. Several examples of the reflectance technique (*Aegithina*, bands of mixed carotenoids; *Melopsittacus*, mixed carotenoids and Tyndall effect) are discussed. A major technical advance.—A.H.B.

BERGER, C. 1966. Mikroskopische und histochemische Untersuchungen an der Niere von *Columba livia aberratio domestica* L. Zeit. f. mikroskopish-anatomische Forschung **74:** 436–456.—Microscopic and histochemical investigations of the kidney of the pigeon. Nuclei-rich tubules were found to lie between the proximal tubules and the loops of Henle. Localizations of alkaline phosphatase activity (in the proximal tubules), naphtholic esterase activity (in the proximal tubules), and succinic dehydrogenase activity (distal tubules) were made by histochemical techniques. (In German; English summary.)—R.G.W.

KING, J. R., B. K. FOLLETT, D. S. FARNER, AND M. L. MORTON. 1966. Annual gonadal cycles and pituitary gonadotropins in *Zonotrichia leucophrys gambelii*. Condor, **68:** 476–487.

MASCHER, J. W. 1966. Weight variations in resting Dunlins (*Calidris a. alpina*) on autumn migration in Sweden. Bird-Banding, **37:** 1–34.—Dunlins occur at Ledskär from early July until early or even mid October with adults dominating until early August and with the later birds being almost all juveniles; sometimes a time gap occurs between the appearance of the two age groups. Passage proceeds faster earlier in the season. The weights of adults upon first capture averaged slightly more than those of the juveniles, but adults departed in a leaner condition. Juveniles increased in weight 0.59 g, adults 0.41 g, and the maximum fat deposition for birds resting at the station was 20–25 g or 40 per cent of the total body weight. No significant diurnal or seasonal variations in weight were noted. Dunlins arriving with appreciable fat stores showed pronounced loss of weight during the first two days, followed by a steady increase. Many other conclusions are not summarized here.—G.E.W.

MUELLER, H. C., AND D. D. BERGER. 1966. Analysis of weight and fat variations in transient Swainson's Thrushes. Bird-Banding, **37:** 83–112.—Analyses based on 5,580 handlings of 4,328 *Hylocichla ustulata* in southeastern Wisconsin. Recaptured thrushes showed a decline in weight and fat on the day after banding which was attributed to handling. Birds handled several times remained at lower weights with less fat for several days. Diurnal gain and overnight loss was measured several ways; deposition was approximately 0.34 g per day. No consistent temporal variation in weight was noted.—G.E.W.

SMYTH, M., AND G. A. BARTHOLOMEW. 1966. The water economy of the Black-throated Sparrow and the Rock Wren. Condor, **68:** 447–458.

TAXONOMY AND PALEONTOLOGY

AMADON, D. 1966. Another suggestion for stabilizing nomenclature. Syst. Zool., **15:** 54–58.—Biological nomenclature could be stabilized by introducing a new category exactly equivalent to the type genera of families, subfamilies, and tribes, which would be distinguished from such genera by not being italicized. The new category would be used for all species in the respective higher taxon. Resulting homonyms would be differentiated by identifying suffixes formed by using the describer and if necessary a number.—G.E.W.

AMADON, D. 1966. The scientific name of the Caspian Tern. Ibis, **108:** 424–425.—*Sterna caspia* Pallas, 1770, is the correct name, because it was selected by the apparent first reviser, Gmelin in 1788. The competing name, *Sterna tschegrava* Lepechin, has page priority, but its author was not consistently binominal.—W.B.R.

CLANCEY, P. A. 1966. A catalogue of birds of the South African sub-region. (Part III: Families Alaudidae–Turdidae). Durban Mus. Novit., **7:** 389–464.—A continuation of Clancey's careful checklist, with the first section of the oscines. The order of families is that of Roberts (= Wetmore), which has the great merit of familiarity to workers in this region. Two subspecies are described: *Cercomela familiaris actuosa* from East Griqualand, and *Erythropygia signata reclusa* from eastern Cape Province.—M.A.T.

CLANCEY, P. A., AND W. J. LAWSON. 1966. A new subspecies of the Olive-headed Golden Weaver from southern Moçambique. Durban Mus. Novit., **8:** 35–37.—*Ploceus olivaceiceps vicarius* subsp. nov. from Inhambane district, Sul do Save.—M.A.T.

FORD, N. L. 1966. Fossil owls from the Rexroad fauna of the Upper Pliocene of Kansas. Condor, **68:** 472–475.

PARKES, K. C., AND G. A. CLARK, JR. 1966. An additional character linking ratites and tinamous, and an interpretation of their monophyly. Condor, **68:** 459–471.

PHILLIPS, A. R., M. A. HOWE, AND W. E. LANYON. 1966. Identification of the flycatchers of eastern North America, with special emphasis on the genus *Empidonax*. Bird-Banding, **37:** 153–171.—A key to all tyrannids normally found east of the Great Plains based on living specimens in all plumages.—G.E.W.

RIPLEY, S. D., AND G. H. HEINRICH. 1966. Comments on the avifauna of Tanzania I. Postilla, no. 96: 1–45.—Included are the descriptions of seven new races.—G.E.W.

RUSCHI, A. "1961–63" [1964?]. [Hummingbirds of the state of Espírito Santo.] Rev. Inst. Histórico e Geográfico do Espírito Santo (Vitória, Espírito Santo, Brazil), nos. 22–24: 75–96.—Key to the genera, with drawings illustrating generic characters, descriptions (including measurements and weights) of all species, and details of distribution within Espírito Santo, Brazil. (In Portuguese.)—E.E.

SALOMONSEN, F. 1965. Notes on the Mountain Leaf-Warbler (*Phylloscopus trivirgatus* Strickland) in the Bismarck Archipelago. Vidensk. Medd. fra Dansk naturh. Foren., **128:** 77–83 (Noona Dan Papers No. 16).—Describes *P. t. leletensis,* subsp. nov., from mountain rain forest of central New Ireland; and reports four additional specimens of the rare *P. t. matthiae* (Mussau, St. Matthias Islands). These two forms differ considerably from the neighboring subspecies and resemble subspecies of the mountains of northwest New Guinea.—W.B.R.

SHORT, L. L., JR. 1966. A new Pliocene stork from Nebraska. Smithsonian Misc. Coll., **149:** 1–11.—*Dissourodes milleri*, n. gen., n. sp., from the Lower Pliocene of Nebraska is described from a distal tibiotarsus. Many, but not all, features of the bone are shared with *Dissoura* and *Jabiru.*—G.E.W.

SKEAD, C. J. 1966. Type locality of *Camaroptera brevicaudata noomei* Roberts. Ostrich, **37:** 140.—The correct type locality is the Pangola River of the northwest Transvaal, not the Pangola River of northern Zululand.—M.A.T.

STORER, R. W., AND F. B. GILL. 1966. A revision of the Mascarene White-eye, *Zosterops borbonica* (Aves). Occ. Pap. Mus. Zool. Univ. of Michigan, no. 648: 1–7.—Descriptions and a key for the five races of *Zosterops borbonica*, including two newly described herein, *Z. b. xerophila* and *Z. b. alopekion.* Four of the races are restricted to Reunion, the fifth occurs on Mauritius.—G.E.W.

WINTERBOTTOM, J. M. 1966. Classification of the thick-billed Passerines. Ostrich, **37:** 135–136.—The many different classifications for the thick-billed passerines are outlined. It is recommended that general works on ornithology should follow the traditional classification until agreement has been reached among experts. (Author's summary.)—To which I add *Amen.*—M.A.T.

WINTERBOTTOM, J. M. 1966. Systematic notes on birds of the Cape Province. XXV. The type locality and validity of *Plectropterus gambensis niger* P. L. Sclater. Ostrich, **37:** 138.—Type locality should be left as Zanzibar, and the validity of the race is doubtful.—M.A.T.

WINTERBOTTOM, J. M. 1966. Systematic notes on birds of the Cape Province. XXVI. The subspecies of *Philetairus socius.* Ostrich, **37:** 138.—Recognizes *P. s. socius, eremnus,* and *geminus.*—M.A.T.

WINTERBOTTOM, J. M. 1966. Systematic notes on birds of the Cape Province. XXVII. The type locality of *Passer motitensis* (A. Smith). Ostrich, **37:** 138–139.—Type locality is designated as Motito, near Old Latakoo, about 27° 04′ S, 23° 50′ E.—M.A.T.