RECENT LITERATURE

EDITED BY JOHN WILLIAM HARDY

Anatomy and Embryology

Archer, O. K., D. E. R. Sutherland, and R. A. Good. 1963. Appendix of the rabbit: a homologue of the bursa in the chicken? Nature, **200:** 337–339.—Interesting similarities between the two organs are demonstrated, especially in histology and development.—H. C. S.

Brush, A. H., and K. Allen. 1963. Astaxanthin in the Cedar Waxwing. Science, **142:** 47–48.—The pigment on the secondary feathers of the Cedar Waxwing (*Bombycilla cedrorum*) is deposited as an amorphous layer upon a supporting medullary structure. The pigment was extracted with alkali and analyzed by chromatographic and spectrophotometric methods. The results indicate that the pigment is astacene (3,3′, 4,4′-tetraketo-β-carotene), the oxidation product of astaxanthin.—Authors' abstract.

Kuroda, N. 1963. [A fragmental observation on the avian kidney.] Misc. Repts. Yamashina's Inst. Ornith. and Zool., **3:** 274–281.—Descriptions of external kidney morphology of 39 species (34 figured) of 17 orders. The shape of the kidney is correlated with that of the pelvic girdle when the latter is adaptively compressed. In a few cases the kidney shape may be a taxonomically useful character. The kidney represents approximately one per cent of fat-free body weight of both large and small birds, but may average proportionately larger in sea birds. (In Japanese; summary and captions in English.)—K. C. P.

Malt, R. A., and K. A. Hartman. 1963. Infra-red spectra of embryonic chick feathers. Nature, **200:** 703–704.

Behavior

Helms, C. W. 1963. A mutual display of the Catbird. Bird-Banding, **34:** 38–39.—A display, possibly functioning in pair formation or maintenance, involving presentation of the rusty under-tail coverts.—G. W. C.

Homann, P. H. 1963. Reaction of Wood Warbler to young. Bird-Banding, **34:** 95.—An adult male *Phylloscopus sibilatrix* attempted to remove aluminum bands from legs of fledged young.—G. W. C.

Hundley, M. H. 1964. Observations on reactions of avifauna in Maine to total eclipse of the sun, July 20, 1963. Florida Nat., **37:** 8, 25.—Singing ceased when sun was not visible, except for thrushes.—E. E.

Johnson, R. A. 1963. Habitat preference and behavior of breeding jungle fowl in central western Thailand. Wilson Bull., **75:** 270–272.—Flocks typically consisting of one cock and two to five hens of *Gallus gallus* live in bamboo forest.—J. T. T.

Kilham, L. 1963. Food storing of Red-bellied Woodpeckers. Wilson Bull., **75:** 227–234.—*Centurus carolinus* stores acorns, etc., in natural crevices; its feeding behavior and use of the tongue are also described.—J. T. T.

McBride, G., J. W. James, and R. N. Shoffner. 1963. Social forces determining spacing and head orientation in a flock of domestic hens. Nature, **197:** 1272–1273.—Hens are not randomly spaced under the usual intensive housing conditions. The uniform distribution is based on visual interactions. There is a tendency for the hens to avoid each others' frontal aspect.—H. C. S.

PANOV, E. N. 1963. [On the systematic position of *Charadrius hiaticula placidus* Gray and Gray, based on ethological data.] Zool. Zhurnal, **42:** 1546–1553.—*C. h. placidus* and *C. h. hiaticula* do not interbreed and can be considered on a behavioral basis to be distinct species. (In Russian; English summary.)—F. J. T.

THORPE, W. H. 1963. Antiphonal singing in birds as evidence for avian auditory reaction time. Nature, **197:** 774–776.—Spectrographic records of antiphonal singing by pairs of *Laniarius erythrogaster* indicate that the female responds to the male within a remarkably short period of time, the reaction time being on the order of 150 msec or less. The partners are completely concealed from one another, thereby eliminating any visual cues.—H. C. S.

DISEASES AND PARASITES

ANDREWS, R. D., A. O. HAUGEN, AND L. Y. QUINN. 1963. Antibodies of pullorum and Newcastle disease virus in pheasants. J. Wildl. Mgmt., **27:** 220–224.—Of wild birds, 446 were negative for Newcastle disease but three of 435 from game farms were positive. Pullorum was found in 15 wild birds and suspected in 4 from game farms. —J. P. R.

CZAPLIŃSKI, B. 1962. Nematodes and acanthocephalans of domestic and wild Anseriformes in Poland. II. Nematoda (excl. *Amidostomum*) and Acanthocephala. Acta Parasitol. Polonica, **10:** 277–319.—An illustrated account of the morphology of 17 species of nematodes and 3 acanthocephalans; systematics of various genera and species is discussed. (From Helminthol. Abstr., **32:** No. 3073, 1963.)—J. S. M.

GUPTA, R. 1962. On *Ignavia breviovarica* sp. nov., from the purple heron, *Ardea purpurea* (Linnaeus), with a note on the validity of *Brijicola caballeroi* Pande, 1960 (Trematoda: Echinostomatidae). Rev. Biol. Trop. Univ. Costa Rica., **10:** 99–109.—From the ureters and kidney of the host in India. (Spanish summary; from Helminthol. Abstr., **32:** No. 3037, 1963.)—J. S. M.

HAIG, D. A., AND A. MCDIARMID. 1963. Occurrence of ornithosis in the wood pigeon. Nature, **200:** 381–382.

PENNER, L. R., AND B. FRIED. 1963. *Philopthalmus regeneri* sp. n., an ocular trematode from birds. J. Parasitol., **49:** 974–977.—Natural hosts are: Royal Tern, Yellow-crowned Night Heron, Laughing Gull, and Willet; experimental hosts are: Domestic Fowl and Pigeon, Mute Swan, Western Gull, and southern [?] Chachalaca. —J. S. M.

ZAKHRYALOV, Y. N., AND L. N. SAVINKOVA. 1962. [The helminth fauna of ducks and geese in the Amur region.] Trudi Dalnevostochnogo Nauchno-Issledovalelskogo Veterinarnogo Institita, **4:** 120–124.—Twelve trematode, 7 cestode, and 7 nematode species were recorded from autopsies or fecal examinations of 1,023 ducks and 869 geese. (In Russian; from Helminthol. Abstr., **32:** No. 2743, 1963.)—J. S. M.

DISTRIBUTION AND ANNOTATED LISTS

BENSON, C. W., M. P. S. IRWIN, AND C. M. N. WHITE. 1962. The significance of valleys as avian zoogeographical barriers. Ann. Cape Prov. Mus., **2:** 155–189.—"From a study of avian distribution, it is demonstrated that the Limpopo and Zambesi Valleys, and the Luangwa, Nyasa/Shire, Albertine and Kenya Rifts are all significant barriers to dispersal of species, due to the sharply different ecological conditions in the hot, low-lying bottoms, compared to the higher ground on either

side." (Authors' synopsis.) An important paper for the understanding of African zoogeography.—M. A. T.

CLANCEY, P. A. 1963. On the range of *Lamprotornis chalybeus nordmanni* (Hartert and Neumann). Ostrich, **34:** 168.—Extends to the eastern littoral in Suldo Save and Zululand.—M. A. T.

HERMANSON, W., AND L. OTTERHAG. 1963. [The Barn Owl (*Tyto alba guttata* Brehm) in Scania, 1951–1961.] Vår Fågelvärld, **22:** 123–130.—Population fluctuations from the early 1800's are traced, and the recent increase in southern Sweden is documented. The increase is correlated with abundance of small mammals. (In Swedish; English summary.)—M. D. F. U.

MARKUS, M. B. 1963. The Birds of the Pretoria district. Biologica, Univ. Pretoria, **1:** 19–29.—A bare list of the birds of the Pretoria district, and a discussion of the problem of the bulbuls *Pycnonotus capensis*, *barbatus*, and *nigricans*. Several species rare in Pretoria are mentioned.—M. A. T.

NAKAMURA, T. 1963. Distribution of the Black-footed Albatross (*Diomedea nigripes*) in the north Pacific Ocean. Misc. Repts. Yamashina's Inst. Ornith. and Zool., **3:** 239–246.—Counts of this species and *D. immutabilis* made during Pacific crossings (over different routes) in August, 1959, and March, 1961. In general, non-breeding albatrosses appeared to be almost evenly distributed throughout the north Pacific. No correlation could be demonstrated between numbers of albatrosses and water or air temperatures, or other meteorological data. (In English; Japanese summary.)—K. C. P.

PUSANOW, I. I., AND L. F. NASARENKO. 1962. Neue Angaben über einige seltene Vogel des Nordwestlichen Schwarzmeergebietes. Acta Ornithologica, **6:** 108–115.—Important distributional changes are documented for the coastal area from Odessa to the delta of the Danube. (In Russian; German and Polish summaries.)—M. D. F. U.

RAND, R. W. 1963. Seabirds in the southern Indian Ocean. Ostrich, **34:** 121–128.—Various seabirds were observed on an oceanic cruise to Marion and the Crozet Islands. The large Wandering Albatross was relatively common, but other species were seldom seen. Most of the small petrels normally in these latitudes were seen. Penguins were noted only once.—M. A. T.

TAKANO, S. 1963. [A note on the dowitcher of Japan.] Tori, **18:** 1–8.—Excellent photographs of two dowitchers which visited Urayasu, on Tokyo Bay, in the fall of 1962. All Japanese dowitcher records (except one undeterminable bird) are considered to refer to *Limnodromus scolopaceus*. (In Japanese; English summary.)—K. C. P.

ULFSTRAND, S. 1963. The Kite (*Milvus milvus*) wintering in Scania, southern Sweden. Vår Fågelvält, **22:** 182–195.—The species is increasing in numbers and is wintering here for the first time since the early 19th century.—M. D. F. U.

WINTERBOTTOM, J. M. 1963. Notes from Namaqualand and Bushmanland. Ostrich, **34:** 156–159.—Lists of the species seen during a two-week visit, including range extensions for 30 species. The main breeding season was over by mid-November.—M. A. T.

YAMAMOTO, H. 1963. [Observation of a male Bufflehead in Miyako, Iwate.] Tori, **18:** 12–14.—The fifth record of *Bucephala albeola* from Japan, observed and photographed in March, 1963, in northeastern Honshu. The bird, a male, was constantly

accompanied by the same female from a flock of about 20 female and young Common Goldeneyes (*B. clangula*). (In Japanese; English summary.)—K. C. P.

Ecology and Populations

Bailey, K. D., and A. H. Kelley. 1963. Habitat preference of Lincoln's Sparrows in fall migration. Jack-pine Warbler, **41:** 113–114.—Weedy fields.—R. B.

Curtis, R. D. 1963. Observations on the nesting of the Saw-whet Owl at the Rose Lake Wildlife Research Center. Jack-pine Warbler, **41:** 110–112.

Enemar, A. 1962. A comparison between the bird census results of different ornithologists. Vår Fågelwärld, **21:** 109–120.—A census of a forest plot by six experienced ornithologists resulted in very different estimates of the density of the various species and even of species listed as being present. Four main points of error have been recognized: the path of the observers was not exactly the same within the plot; the observers did not always focus their auditory and visual attention toward exactly the same sectors of the plot; the frequency of double entries was different for each observer; and the human factors causing errors differ from person to person. As a consequence, each observer discovered only between one-half and two-thirds of the breeding passerine birds of the census plot, and many species were not recorded by a given observer. While one of the main sources of error proved to be the temporary silence of vocalizing males, the comparative analysis pointed out that "a census taker is not normally able to become aware of all possible visible and audible phenomena originating from the bird population of a study area."—M. D. F. U.

Eyer, L. E. 1963. Observations on Golden-winged Warblers at Itasca State Park, Minnesota. Jack-pine Warbler, **41:** 96–109.—A valuable study of nesting biology. Territorial males occurred in edge situations both in upland and lowland; however, only 4 of 37 were mated and these were all in upland. General pattern of incubation, brooding, etc., typical of Parulidae. Anticipatory food-bringing occurred. —R. B.

Fleming, R. L., and R. H. Baker. 1963. Notes on the birds of Durango, Mexico. Michigan State Univ., Publ. Mus., Biol. Ser., **2:** 273–304.—A list of 117 species seen or collected, 1957–1961. Notes for some species on weights, community distribution, nesting.—R. B.

Gibb, J. A., and M. M. Betts. 1963. Food and food supply of nestling tits (Paridae) in Breckland pine. J. Anim. Ecol., **32:** 489–533.—Caterpillars make up 50 per cent of food. In pine, caterpillars are low in numbers in April–May, increase slightly in June, and reach a peak in late summer. In broad-leaved forests, caterpillars are at peak abundance in May–June. Coal tits (*P. ater*), adapted to conifers, were much the commonest species; great tits (*P. major*) and blue tits (*P. caeruleus*), adapted to broad-leaved trees, nested in pine only where nest-boxes were provided; willow tits (*P. montanus*) were scarce. Time of nesting of species varied with abundance of food in natural habitats. Amount of food given young not necessarily correlated with number of trips to nest. Number of caterpillars eaten represents only a small per cent of those present.—S. C. K.

Jenkins, D., A. Watson, and G. R. Miller. 1963. Population studies on Red Grouse, *Lagopus lagopus scoticus* (Lath.) in northeast Scotland. J. Anim. Ecol., **32:** 317–376.—Analysis is made of 5 years of population fluctuations, chiefly on two areas of 460 and 405 hectares. Breeding populations varied from 1 pr/2 ha in 1957 and

1958 to 1 pr/6 ha in 1960 and back to a peak again in 1961. Maximum breeding populations depended on size of territories. Surplus birds were forced into marginal habitats, became transients, or died. Annual changes in breeding populations and breeding success were correlated with abundance of food during the previous winter. —S. C. K.

NORRIS, R. A. 1963. Birds of the AEC Savannah River Plant area. Contrib. Charleston Mus. [South Carolina], No. 14: 78 pp.—Report of part of an ecological survey conducted prior to the exclusion of the public from the area and the exclusive use of the grounds by the Atomic Energy Commission. An annotated list with many data on ecology, behavior, and status of the species known to occur there. A map and habitat photos included.—J. W. H.

PERFILIEV, V. J. 1963. [New data on the ecology of the White Crane.] Bjull. Mo. Obsch. I sp. Prirody, otd. Biol., **68:** 25–28.—Deals with *Grus leucogeranus* Pall., endemic in the USSR. Contains the first description of complete clutches and downy young, data on density of the population, food habits, measurements of eggs, and nesting. Incubation is by the female. Based on field studies at Allaykhovrayon, Yakutia, in 1961. (In Russian.)—F. J. T.

POTAPOW, R. L. 1962. [Nidification of the Kestrel, *Falco t. tinnunculus* L., in the Pamirs.] Zool. Zhurnal, **41:** 1265–1266.—Nests of Kestrels were found by the author in 1960 and 1961 in central Pamirs at an altitude of 4,100 to 4,250 m. In July, there were young in the nests, thus the nesting is delayed by about 2.5 months compared with nesting in the Tadjikistan lowlands. The hawks fed mainly on small birds and *Ochotona macrotis*. (In Russian; English summary.)—F. J. T.

PÖYHÖNEN, O. 1962. [The bird fauna from some lakes in central Finland.] Ornis Fennica, **39:** 67–77.—A group of 16 lakes was censused. The breeding avifauna depends upon certain limnological characteristics of the lakes, in particular the extent of the littoral zone, the productivity of the lake, and the availability of nest sites in emergent vegetation. Physiognomic factors that might influence habitat selection of the birds are macrovegetation, structure of the beach and the bottom, and color of the water. (In Finnish; German summary.)—M. D. F. U.

SPEIRS, J. M. 1963. Survival and population dynamics with particular reference to Black-capped Chickadees. Bird-Banding, **34:** 87–93.—Survivorship data based on clutch sizes in 21 nests and observed survival of 13 color-banded adults in Southern Ontario roughly agree with theoretical survivorship values assuming a 78 per cent mortality during the first year and 40 per cent during each successive year.—G. W. C.

WESKE, J. S., AND H. FESSENDEN. 1963. Glossy Ibis nesting in tidewater Maryland away from the ocean. Bird-Banding, **34:** 161.

WILLIAMS, G. R. 1963. A four-year population cycle in California Quail, *Lophortyx californicus* (Shaw), in the south island of New Zealand. J. Anim. Ecol., **32:** 441–459.—A regular population cycle of 4 years reported occurring synchronously in several independent populations between 1948 and 1961.—S. C. K.

GENERAL BIOLOGY

BROEKHUYSEN, G. J., AND J. MARTIN. 1963. Birds making use of artificial objects for nesting purposes. Bokmakierie, **14:** 36–37.—South African species listed are *Bubo africanus* (regularly nesting on ledges of buildings), *Cerchneis* [*Falco*] *rupicolus, Cossypha caffra, Erythropygia coryphaea, Spreo bicolor*, and *Streptopelia senegalensis*.—E. E.

CAIRNS, J. 1963. New breeding records of Malayan birds. J. Bombay Nat. Hist. Soc., **60:** 140–159.—Breeding notes on 15 Malayan species are presented, along with valuable natural history and behavioral data, some of which cover sporadic observations over the last 40 years.—G. C.

FUGGLES-COUCHMAN, N. R. 1962. Nesting of Whiskered Tern *Chlidonias hybrida sclateri* in Tanganyika. Ibis, **104:** 563–564.—Only the second breeding record of this tern in Tanganyika even though a small, resident population appears to be present. An estimated 30 pairs were breeding on Eluanta Dam in Masailand; the impoundment fills only in years of exceptional rainfall to form a shallow, swampy lake. Nests, eggs, vegetation substrate, and some breeding behavior are described. —G. C.

GOODWIN, D. 1962. Notes on the plumage of the Avadavat *Amandava amandava.* Ibis, **104:** 564–566.—Molt and plumages of this estrildine are discussed. It is unique among estrildines: males have a predominantly red breeding plumage and a dull brownish eclipse. Specimens and captive birds suggest that there is only an incomplete molt into eclipse (with some red left), followed by a return to nuptial dress. It is suggested that the species is at an evolutionary stage in which the nonbreeding plumage is either in the process of development or suppression. Egg dates indicate timing of breeding when most males are in red plumage.—G. C.

KREUGER, R. 1963. Details of three previously undescribed South American raptor eggs. Oologists' Rec., **37:** 5–6.—British Guiana eggs of *Morphnus guianensis, Busarellus nigricollis,* and *Spizastur melanoleucus.*—E. E.

LAMBA, B. S. 1963. The nidification of some common Indian birds. Part I. J. Bombay Nat. Hist. Soc., **60:** 121–133.—Useful data on breeding biology of the Common Indian House Crow (*Corvus splendens*) are presented, as well as its relations with a social parasite, the Koel (*Eudynamys scolopacea*).—G. C.

LÖHRL, H. 1962. Artkennzeichen von *Sitta krüperi.* J. f. Orn., **103:** 418–419.—Describes juvenal plumage of *Sitta krüperi* which is quite different from adult plumage; juvenal plumage separates *krüperi* sharply from all other nuthatches. Paper also contains comments on the relationships between nuthatches and titmice as illustrated by the plumage.—W. J. B.

LUBNOW, E. 1963. Melanine bei Vögeln und Säugetieren. J. f. Orn., **104:** 69–81.—The formation of melanocytes and the origin of melanin in birds and mammals are described. Pigmentation of feathers and hair is described, with comment on the genetic basis, the several melanins, and the development of different color patterns. A useful bibliography is included.—W. J. B.

NICHOL, W. 1963. Observations on the nesting of the S[outh] A[frican] Marsh Harrier. Bokmakierie, **14:** 32–34.

PIECHOCKI, R. 1963. Vorläufiges über die Mauser der Handschwingen beim Mäusebussard (*Buteo buteo*). J. f. Orn., **104:** 182–184.—Describes the irregular sequence of molt of primaries in this species. Some feathers are replaced each year, others every second year; one feather is retained for at least two years.—W. J. B.

SKEAD, S. J. 1963. Sunbirds and strelitzias. Bokmakierie, **14:** 24–26.—On the basis of field observation in South Africa, the author questions whether the flowers of *Strelitzia,* which morphologically seems to be an ornithophilous plant, are actually pollinated by birds. The sunbirds obtained nectar without perching on the pollen vessel.—E. E.

STRESEMANN, V. 1963. Zur Richtungsumkehr der Schwingen- und Schwanzmauser von *Muscicapa striata.* J. f. Orn., **104:** 101–111.—Molt of the wing and tail

feathers in *Muscicapa striata* is the reverse of all other molts known in passerines. Primaries have an ascending molt, rectrices a centripedal one. The secondaries have a descending molt for feathers 9 to 4 and an ascending molt for feathers 1–3. It is suggested that this total reversal of the molt may have been caused by a single mutation. This complete molt occurs on the African wintering grounds of the species. No suggestion as to the adaptive significance of this reversal is given.—W. J. B.

WATSON, G. E. 1963. Feather replacement in birds. Science, **139:** 50–51.—Molt in birds is a single growth process actively concerned only with the production of feathers of the new generation. The new growth causes passive loss of old feathers. Terminology of molts should be correlated with terminology of incoming plumage generations.—K. C. P.

MIGRATION AND ORIENTATION

ASHMOLE, M. J. 1962. The migration of European thrushes: A compartive study based on ringing recoveries. Ibis, **104:** 522–559.—Six species of thrushes are discussed. Extent of migration, competition among migrants and between migrants and residents, and the selective effects of variable winter conditions from year to year are considered.—G. C.

CALDWELL, L. D., AND N. L. CUTHBERT. 1963. Bird mortality at television towers near Cadillac, Michigan. Jack-pine Warbler, **41:** 80–89.

DRURY, W. H., AND J. A. KEITH. 1962. Radar studies of songbird migration in coastal New England. Ibis, **104:** 449–489.—Radar studies of the influence of weather and geography on migration (chiefly passerines, but also some gulls and waders) in southeast New England are summarized for spring and autumn passages, 1959 and 1960. Birds were found to follow characteristic air masses and weather patterns at each time of the year. Reverse migrations and influence of tropical storms from the south are discussed. Of three types of offshore movements observed, an apparently previously undescribed movement of passerines was discovered. The authors feel that this is a movement of wood warblers across the western Atlantic from Canadian maritime provinces and New England to the Antilles. Calculations of energy reserves available, and observed success, indicated the birds could readily make such a trip.—G. C.

GEYR V. SCHWEPPENBURG, H. FREIH. 1963. Zur Terminologie und Theorie der Leitlinie. J. f. Orn., **104:** 191–204.—The concept of "leading lines" is discussed in great detail. These lines are not zoogeographical barriers, but rather enable birds to evade barriers to migration. These lines are only rarely important in such evasion or valuable in acquisition of nutrition. They are of only slight importance for nocturnal migrants. A good bibliography is included.—W. J. B.

GODEL, M. 1962. La Migration d'automne du Martinet Noir (*Apus apus*) au col de Bretolet et dans le Haut Val d'Illiez. Nos Oiseaux, **26:** 273–281.—Results of observations of Black Swifts over a 5-year period in fall migration are given for several Swiss localities. The majority of birds migrate between 20 July and 15 August; many pass at great heights and/or at night, and may be influenced by weather conditions.—M. D. A.

GRAUE, L. C. 1963. The effect of phase shifts in the day-night cycle on pigeon homing at distances of less than one mile. Ohio J. Sci., **63:** 214–217.—As long as the loft is screened from the release point by woods, the heading of the birds can

be shifted by altering the day-night cycle, even at points within their home territory; if direct view of the loft is available, the shifting has no effect.—H. C. S.

LABITTE, A. 1962. Considérations sur la migration et la reproduction au printemps 1961. L'Ois. et la Rev. Fran. d'Orn., **32:** 211–217.—Observations in the northern part of the department of Eure et Loir indicate that compared with previous years both migration and nesting were earlier in 1961, being correlated with higher temperatures and a less rigorous preceding winter.—M. D. A.

MIKHEEW, A. V. 1962. [On the regularities in the distribution of the hibernation places and the migration routes in bird populations.] Zool. Zhurnal, **41:** 210–219.—Fundamentally, each bird species and each species-population has its own relatively constant wintering ground. New migration routes (in the broad sense) are due to variations in habitats visited in the post-breeding season (*zwischenzug*), to changes in ecological factors of the areas of the route, and to habitat selection (genetically fixed) of the species and its populations. All of these influence the wintering areas, too, which might change accordingly. The major diversity in these are in the mixed micro-populations (overlapping ones), although some apparently homogeneous micro-populations show a rather broad and varied wintering area, sometimes several thousand kilometers wide. The work is based mainly on Russian banding results. (In Russian; English summary.)—F. J. T.

SAINT PAUL, U. v. 1962. Das Nachtfliegen von Brieftauben. J. f. Orn., **103:** 337–343.—The question investigated is whether or not homing pigeons can find their way back to their loft at night when they are not able to orient by the sun. The percentage of birds that returned dropped sharply in winter trials. The role of landmarks is discussed, but no clear evaluation of their value to homing birds could be given. No solution concerning the mechanism of how pigeons find their way at night is offered, but the author emphasizes that the same problem exists in the case of pigeons homing on cloudy days when they cannot orient by the sun.—W. J. B.

SCHMIDT-KOENIG, K. 1963. Sun compass orientation in pigeons upon equatorial and trans-equatorial displacement. Biol. Bull., **124:** 311–320.—Five homing pigeons directionally trained in a twelve-sided recording and rewarding cage at Durham, North Carolina, were transported and tested in the cage at Belem, Brazil, and at Montevideo, Uruguay. The birds did not allow for the respective local sun movements at these test localities but referred to the sun as if it were the sun at Durham.—J. T. E.

THORPE, W. H., AND D. R. GRIFFIN. 1962. Lack of ultrasonic components in the flight noises of owls. Nature, **193:** 594–595.—Wingbeats of the smaller and medium-sized owls are silent at ultrasonic frequencies, although the fishing owls of Asia and Africa produce flight noise in that range.—H. C. S.

PHYSIOLOGY

BARBER, D. R. 1963. Seasonal variations of avian and human metabolic activity in relation to the daylight/darkness ratio. Nature, **197:** 776–778.—A novel approach, needing confirmation, suggesting that the rhythmic seasonal fluctuation of natural illumination exerts a control on basal metabolic activity in both man (determined by pulse rate) and birds (= *Erithacus rubecula*, based on dawn song) that is less simple than results obtained from controlled laboratory experiments.—H. C. S.

BARRY, T. W. 1962. Effect of late seasons on Atlantic brant reproduction. J. Wildl. Mgmt., **26:** 19–26.—Because of the short Arctic summer, brant have a very brief nesting season. If weather delays nesting, the gonads begin to regress, and follicular atresia reduces clutch size. The later the season, the poorer the reproductive success. The population is reduced in late seasons, but adult survival may be enhanced.—J. P. R.

BECKMAN, L., C. CONTERIO, AND D. MAINARDI. 1963. Serum protein variations in bird species and hybrids. Serological Mus. Bull., **29:** 5–8.—Serum protein patterns of 11 species hybrids and their parental species studied by starch gel electrophoresis. The variation in electrophoretic mobility of the main fast migrating serum protein is considered useful in taxonomic studies of genera, species, and putative hybrids.—E. E.

BREITENBACH, R. P., C. L. NAGRA, AND R. K. MEYER. 1963. Effect of limited food intake on cyclic annual changes in Ring-necked Pheasant hens. J. Wildl. Mgmt., **27:** 24–36.—Liver and intestine weights were lower in experimentally fed birds than in controls; body weights declined early in the reproductive season and egg laying was depressed and delayed. Changes in liver and plasma lipids are also described.—J. P. R.

HAMNER, W. M. 1963. Diurnal rhythm and photoperiodism in testicular recrudescence of the House Finch. Science, **142:** 1294–1295.—A test of the endogenous rhythm hypothesis of photoperiodic response, utilizing *Carpodacus mexicanus*. Experimental birds were exposed to standard 6-hour light periods coupled with various dark periods to produce cycles of 12, 24, 36, 48, 60, and 72 hours. Testicular enlargement and advanced spermatogenesis occurred only in those exposed to 12, 36, and 60 hour cycles. An endogenous rhythm with a periodicity of about 24 hours is postulated; light must be given at the proper phase of this rhythm if testicular recrudescence is to occur.—K. C. P.

INOUE, T. 1963. Nasal salt gland: independence of salt and water transport. Science, **142:** 1299–1300.—In normally secreting nasal glands, ionic concentrations of salt are extremely uniform and independent of variations in flow rate. Experiments were conducted with white Peking ducklings by poisoning one gland (with mercuric chloride) or treating it with carbonic anhydrase inhibitor (acetazoleamide), and injecting the other gland with sodium chloride as a control. Results suggest that ionic concentration and flow-volume of the secretion depend on separate cellular mechanisms.—K. C. P.

KIRKPATRICK, C. M., H. E. PARKER, AND J. C. ROGLER. 1962. Some comparisons of thyroid glands of Bobwhites and Japanese Quail. J. Wildl. Mgmt., **26:** 172–177.—The concentration of I^{131} was almost five times greater in *Coturnix* than in Bobwhite at 44 days of age, but at 99 days the concentration was nearly the same in both species.—J. P. R.

LOFTS, B., AND D. MAINARDI. 1963. [Red-cell antigens and gonads of a natural hybrid of *Fringilla coelebs* × *Fringilla montifringilla*.] Riv. Ital. Orn., **33:** 1–5.—Tests of a presumed hybrid of Chaffinch and Brambling for red-cell antigens demonstrated that the bird was F_1 hybrid. (In Italian; English summary.)—E. E.

MAINARDI, D., AND B. SCHREIBER. 1963. [First case of natural interspecific hybridization indicated by an electrocerebellographic analysis and confirmed by the use of specific red-cell antigens (*Streptopelia decaocto* and *Streptopelia risoria*).] Monitore

Zool. Ital., **60–61:** 408–415.—Finding atypic electrocerebellar patterns in domestic Ring Doves led to testing of red-cell antigens. Tests showed antigens specific to the Collared Turtle-Dove, indicative of hybridization. (In Italian; English summary.) —E. E.

PATTLE, R. E., AND D. A. W. HOPKINSON. 1963. Lung lining in bird, reptile and amphibian. Nature, **200:** 894.—A surface film of lipoprotein lines the lungs of chickens and prevents transudation from the blood capillaries.—H. C. S.

PARNES, V. A. 1963. [Methods of intracellular synthesis of viruses of avian leucosis and sarcoma.] Uspekhi Sovremennoy Biologii, **56:** 431–441.—Deals with some viruses inducing neoplasma in birds, including lymphomatosis, myeloblastosis, erythroblastosis, and Raus-sarcoma, their antigenes and pathogeneity. The ways viruses are synthesized within cells, including the RNA of myeloblastosis, are discussed. (In Russian.)—F. J. T.

REITE, O. B., J. KROG, AND K. JOHANSEN. 1963. Development of bradycardia during submersion of the duck. Nature, **200:** 684–685.

ROBINSON, T. S. 1963. Egg production by bobwhites under a fifteen hour photoperiod. J. Wildl. Mgmt., **27:** 215–220.—Second-year females laid more and heavier eggs over a longer period than first year females. Eggs of young birds increased in weight during the season. Egg production may be a greater stress on young than on old birds.—J. P. R.

SCHMIDT-NIELSON, K., A. BORUT, P. LEE, AND E. CRAWFORD, JR. 1963. Nasal salt excretion and the possible function of the cloaca in water conservation. Science, **142:** 1300–1301.—Secretion of concentrated salt solutions from the nasal region was observed in several terrestrial (i.e., non-marine) reptiles and birds (*Iguana iguana, Dipsosaurus dorsalis, Uromastyx aegyptius, Ammoperdix heyi, Struthio camelus*). It is suggested that the extrarenal excretion of salts is related to the reabsorption of water in the cloaca, that it is necessary for the production of urine with a particularly low water content, and perhaps was prerequisite for the evolution of efficient cloacal water conservation. (Adapted from authors' abstract.)—K. C. P.

TRAINER, D. O., C. S. SCHILDT, R. A. HUNT, AND L. R. JAHN. 1962. Prevalence of *Leucocytozoon simondi* among some Wisconsin waterfowl. J. Wildl. Mgmt., **26:** 137–143.—*Leucocytozoon* was found to be widespread in two of three waterfowl breeding areas where it infected Mallards, Black Ducks, Wood Ducks, and Pintails. There were no apparent effects on reproduction.—J. P. R.

TAXONOMY AND PALEONTOLOGY

PEAKALL, D. B. 1962. Electrophoresis of egg-white proteins as a taxonomic tool: A critical note. Ibis, **104:** 567–568.—Electrophoresis carried out under different pH conditions may result in shifts of the chromatographic peaks for a single species, as shown for the Osprey (*Pandion haliaetus*). A run at one pH does not establish the electrophoretic identity of the peak (most peaks are formed by more than one protein).—G. C.

PHILLIPS, A. R. Notas sistemáticas sobre aves mexicanas. II. Anales Inst. de Biol., Univ. Nac. Aut. México, Vol. 33 (Annals for 1962): 331–372. (Stated date of publication, 6 February 1963; actual date, 1 March 1963.)—More suggested changes, some concerning species to be covered by the sixth edition of the A.O.U. Check-list. *Meleagris gallopavo onusta* is considered a synonym of *M. g. mexicana* on biogeographic grounds, and both may be synonyms of *M. g. gallopavo*. Records of *M. g.*

merriami from Sonora are probably based on mislabled specimens from farther north. *M. g. mexicana* occurs in the Chiricahua Mountains of southeastern Arizona and in the Sierra San Luis and Sierra Peloncillo of southwestern New Mexico. *M. g. silvestris* is invalid and should be replaced by *M. g. fera* (or *M. g. gallopavo*). The type of *Totanus speculiferus* Cuvier is clearly identifiable on large size alone, and the name of the western Willet is thus *Catoptrophorus semipalmatus speculiferus* (Cuvier). The characters used to separate *Otophanes* and *Nyctagreus* from *Nyctiphrynus* are not of generic value and the three should be combined under the latter name. *Otophanes mcleodii rayi* was based on a comparison of specimens in fresh plumage with worn specimens and is not separable. *Megaceryle alcyon caurina* is not recognized. *Sittasomus griseicapillus harrisoni* is considered recognizable on the basis of both size and color. *Cissilopha beecheii, san-blasiana,* and *yucatanica* are distinct species. *Dumetella carolinensis ruficrissa* is recognized. Comparing unfoxed, fresh-plumaged specimens of known age, *Toxostoma rufum longicauda* is a good subspecies on both color and size. *Toxostoma bendirei candidum* and *T. b. rubricatum* are based on seasonal variation and lack of knowledge of migrations, and are not recognizable; the species is monotypic. *T. curvirostre insularum* is a synonym of *T. c. palmeri*, and *T. curvirostre celsum* is thought to require verification. *T. dorsale* is invalid for the Crissal Thrasher; the specific name should be *T. crissale. T. c. trinitatis* was based on fresh *T. c. crissale* compared with faded *coloradense* and is invalid. The black-headed, white-tailed group of Mexican *Polioptila* comprises three apparently allopatric species (with key and synonomies), *P. nigriceps, P. albiloris*, and *P. plumbea.* With the discovery of the typical *Vireo*-like nest and eggs of *Neochloe brevipennis*, there remain no grounds to retain the genus *Neochloe* and the single species becomes *Vireo brevipennis.* The race *browni* is not separable, and the species remains monotypic.

Pendulinus californicus Lesson is unidentifiable racially, and the type could not possibly have come from California before 1844. The California population currently called *Icterus cucullatus californicus* should be combined with *I. c. nelsoni.* To settle an old problem, *Hortulanus nigricollis* [= *Emberiza americana*] is designated as the genotype of *Hortulanus*, and it is proposed that *Spiza* be retained as a *nomen conservandum. Volatinia jacarina diluta* is a valid (though improperly described) subspecies. In a detailed review of *Pipilo aberti,* including historical aspects, the type locality of *P. aberti* Baird is restricted to the region of Gila Bend, Arizona, and the eastern subspecies is renamed *P. a. vorhiesi* (type locality 10 mi. S. Tucson, Arizona). (In Spanish; brief English summary.)—R. W. D.

WOLTERS, H. E. 1963. Zur Rassengliederung von *Pytilia melba* (L.). J. f. Orn., **104**: 185–190.—Characteristics and distribution of races of *Pytilia melba* are carefully described. Thirteen races are known; one, *P. m. clanceyi*, is described as new.—W. J. B.

Note.—Because of space limitations and the many important scientific papers that deserve early publication in *The Auk,* "Recent Literature" in the immediate future will necessarily omit abstracts of several categories of papers. The readily available *Wilson Bulletin* and *Condor* will not be abstracted. Additionally, most articles in state and local journals must be excluded, except when of marked significance. Available space will be devoted to abstracts, in the main, of important papers in foreign sources, especially those in languages other than English.—J. W. H.