

## PERIODICAL LITERATURE

EDITED BY HERBERT W. KALE II

### ANATOMY AND EMBRYOLOGY

- DUNKER, H.-R. 1972. Structure of avian lungs. *Resp. Physiol.*, 14: 44-63.—Detailed description based on 155 species of 47 families (11 passerine). All birds contain a "paleopulmo" arrangement, while "systematically higher" birds [evidently including all but ratites and penguins] have additional parabronchial connections between the primary bronchus and posterior air sacs. "This 'neopulmo' is best developed in fowl-like birds and song birds." Exchange surface of the air capillaries, 10 times greater than for comparable mammalian lungs, was determined in 8 species.—A.S.G.
- KENNEDY, R. J. 1972. The probable function of flexules. *Ibis*, 114: 265-266.—Water repellency.—R.W.S.
- RAWLS, M. E. 1972. Tract specificity in the structure of down feathers of the newly-hatched chick. *Proc. Nat. Acad. Sci.*, 69: 1136-1140.—In down feathers from seven major tracts in Silver Campine chicks two classes of barbs can be distinguished by overall length: (a) those of a first group of 9-11 barb ridges that arise in order around the circumference of the epidermal cylinder, and (b) those added later, either by the formation of newly organized ridges, or by splitting of one or more of the original complement. Through measurements of total barb-length and length of the barbule-free tips, differences between feathers of the tracts examined can be distinguished statistically. Tract-specificity is present in the papillae from the beginning of their organization.
- SCHEID, P., H. SLAMA, AND J. PIIPER. 1972. Mechanisms of unidirectional flow in parabronchi of avian lungs: measurements in duck lung preparations. *Resp. Physiol.*, 14: 83-95.—Openings of the secondary bronchi into the mesobronchus provide a direction-dependent resistance to flow. Thus, the pathway is affected by aerodynamic values.—A.S.G.
- STUART, E. S., B. GARBER, AND A. A. MOSCONA. 1972. An analysis of feather germ formation in the embryo and *in vitro*, in normal development and in skin treated with hydrocortisone. *J. Exp. Zool.*, 179: 97-118.—A fibrous (probably collagenous) grid-like lattice was found in embryonic chick dermis. Intersections of the lattice are sites of future dermal papillae, apparently formed by migration of cells along the fibrous tracts. Hydrocortisone prevents formation of the grid and subsequent development of feathers.—A.S.G.
- SUMMERS, D. D. B. 1972. Pterylography, plumage development and moult of Japanese Quail *Coturnix c. japonica* in captivity. *Ibis*, 114: 79-88.—Description does not include feather counts for rows in dorsal and ventral pterylae. Arrangement of feathers in the ventral and cervical tracts appears to differ from that in some North American quail. Discusses the effects of laboratory conditions on moult.—R.W.S.
- TAYLOR, W. K. 1972. Plumage anomaly in the Verdin. *Southwestern Naturalist*, 17: 100.—An immature bird in heavy postjuvencal moult with a new contour feather, apparently a remex, protruding from the side of the body.—J.J.D.
- VITTUR, F., M. C. PUGLIARELLO, L. ROVIS, AND B. DE BERNARD. 1972. Chick embryo development: chemical variations of cartilage. *J. Exp. Zool.*, 179: 325-330.—Maximum variation in collagen, mucopolysaccharides, and noncollagenous protein occurs between days 14 and 16 of incubation and appears to be related more to general developmental changes than to preparation for calcification.—A.S.G.

- WAGENSTEEN, O. D. 1972. Gas exchange in a bird's embryo. *Resp. Physiol.*, 14: 64-74.—The exchange pathway has two barriers. Ambient air and air cell gas are separated by the shell and outer shell membrane. This barrier is crossed by diffusion and, as it is constant, must be adapted from the outset for maximum metabolic demands. The second barrier is the inner shell membrane and a thin tissue layer separating air cell gas and allantoic capillary blood. Less is known about this barrier, but measurements indicate it may be significant for O<sub>2</sub>.—A.S.G.
- WARNER, R. W. 1972. The syrinx in family Columbidae. *J. Zool.*, 166: 385-390.—Describes the syringeal anatomy of *Columba* (2 spp.), *Streptopelia*, *Columbigallina*, and *Geopelia*, with literature review of other pigeons. The columbid syrinx is markedly different from that of most other birds, basically simple but with several unique modifications. Discussion but no conclusions on significance, function of modifications.—M.H.C.

## BEHAVIOR

- BAPTISTA, L. F. 1972. Wild House Finch sings White-crowned Sparrow song. *Z. Tierpsychol.* 30: 266-270.
- BERGMANN, H.-H. 1972. Eine vergleichende Untersuchung von Alarmrufen vier mediterraner Grasmückenarten (*Sylvia cantillans*, *S. conspicillata*, *S. undata*, *S. melanocephala*). *Z. Tierpsychol.* 30: 113-131.—A comparison of the alarm calls of four largely sympatric warblers: the Subalpine, Spectacled, Dartford, and Sardinian. Explores similarities and differences with the aid of sonograms. (English summary.)—H.C.M.
- BOAG, D. A. 1972. Effect of radio packages on behavior of captive red grouse. *J. Wildl. Mgmt.*, 36: 511-518.—Activity of *Lagopus l. scoticus* with radios was significantly lower than controls. Females with radios consumed less food than controls.—L.H.F.
- BROSSET, A. 1971. L' "imprinting," chez les Columbides—Etude des modifications comportementales au cours du vieillissement. *Z. Tierpsychol.* 29: 279-300.—Cross-fostering experiments with *Streptopelia risoria*, *S. senegalensis*, *Zenaida macroura*, and *Nesopelia galapagoensis*. All species oriented early courtship behavior to the foster-parent species; at least some effects of imprinting persisted for 5 years. Orientation of aggressive behavior was to the genetic, not the foster-parent species. (English summary.)—H.C.M.
- CHEKIN, A. 1972. Retrograde amnesia in the chick: resistance to the reminder effect. *Physiol. Behav.*, 8: 949-955.
- CUKIO, E. 1971. Die akustische Wirkung von Feindalarmen auf einige Singvögel. *J. Ornithol.*, 112: 365-372.—Taped mobbing calls of various species of passerines attract only some other species. Only some of the species attracted show mobbing behavior in response to a given species call. Mobbing elicited by a taped call is similar to mobbing of a predator; birds first inspect the source closely and then tend to move to more distant perches. (English summary.)—H.C.M.
- DANIEL, M. J. 1971. Female Blackbird attacking mirror reflection. *Notornis*, 18: 50-51.—Describes unusually intense and prolonged territorial behavior by a female *Turdus merula*.—G.D.S.
- DAVIES, S. J. J. F. 1972. Results of 40 hours' continuous watch at five waterpoints in an Australian desert. *Emu*, 72: 8-12.—Drinking habits of 24 species recorded in cool weather in arid region of Western Australia.—C.F.S.
- DESFORGES, M. F. 1972. Observations on the influence of social displays on ovarian development in captive Mallards *Anas platyrhynchos*. *Ibis*, 114: 256-257.—Social displays do not have a significant effect on ovarian growth.—R.W.S.

- KAHL, M. P. 1972. Comparative Ethology of the Ciconiidae. The Wood-storks (Genera *Mycteria* and *Ibis*). *Ibis*, 114: 15-29.—The third in a fine series on the comparative behavior of the 17 species of storks. Includes descriptions of external morphology of the species, behavior of adults and young, and a discussion of taxonomic relations based on behavior and morphology. The monotypic genus *Mycteria americana* is unjustified and Kahl suggests combining all four Wood-storks in the genus *Mycteria* (priority over *Ibis*) in the tribe Mycteriini, thus abolishing the sub-family Mycteriinae. *Mycteria* thus includes *americana*, *cinerea*, *ibis*, and *leucocephala*. Excellent B&W photos illustrate the species and many behavior postures.—R.W.S.
- KAHL, M. P. 1972. Comparative Ethology of the Ciconiidae, Part 4. The "typical" storks (Genera *Ciconia*, *Sphenorhynchus*, *Dissoura*, and *Euxenura*). *Z. Tierpsychol.*, 30: 225-252.—The "typical" storks show some unique displays; on the basis of these and morphological considerations, the author recommends lumping the group into *Ciconia*, a genus sufficiently unique to be placed into its own tribe.—H.C.M.
- KALTENHÄUSER, D. 1971. Über Evolutionsvorgänge in der Schwimmentenbalz. *Z. Tierpsychol.*, 29: 481-540.—Discusses the evolution of courtship behavior in dabbling ducks, based on much observation, ontogenetic studies, and investigations of hybrids. All species-groups appear to have developed from a common ancestral form except the blue-wings. Juveniles show patterns not seen in adults, and hybrids show patterns not seen in either parent species. Argues that the "loss" of well-marked breeding plumage in the male of such species as the Hawaiian Duck is due to prolonged breeding and associated behaviors and the concomitant high sex hormone levels, producing a "second eclipse" instead of a breeding plumage. States proof is lacking that differences in courtship behavior arise as isolating mechanisms, which may be true, but the author offers essentially no documentation against the concept. Some data presented suggest that differences in ecology give rise to differences in courtship patterns. (English summary.)—H.C.M.
- KAMMERAAD, J. W. 1972. Bird behavior and depredations in Michigan blueberry fields. *Jack-Pine Warbler*, 50: 34-43.
- LOWE, V. P. W. 1972. Distraction display by a Woodcock with chicks. *Ibis*, 114: 106-107.—*Scolopax rusticola* in labored flight with abdomen and legs "dangling" and tail depressed has deceived many observers into thinking the bird carries young in flight.—R.W.S.
- MARCHANT, S. 1972. Destruction of nest-contents by cuckoos. *Emu*, 72: 29-31.—Relates an incident of destruction by *Cuculus carnorus* of a nestling Pied Wagtail, *Motacilla alba*. The significance of such destruction may be the stimulation of replacement layings available for parasitizing.—C.F.S.
- MUELLER, H. C. 1972. Sunbathing in birds. *Z. Tierpsychol.*, 30: 253-258.—Naive, hand-reared hawks were tested in the laboratory. Sunbathing was shown in response to increase in illumination, not heat. In review, there appear to be at least three distinct types of sunbathing behavior, two of which probably function in heat conservation but the rationale for the third remains obscure.—H.C.M.
- NOTTEBOHM, F. 1972. Neural lateralization of vocal control in a passerine bird. II. Subsong, calls, and a theory of vocal learning. *J. Exp. Zool.*, 179: 35-50.—Section of the normally dominant left hypoglossal nerve of *Fringilla coelebs* after song crystallization effects gross changes in all vocalizations tested. Section of the right hypoglossal nerve results in lesser modification. The changes are irreversible in adult chaffinches, but in young birds the right hypoglossal can assume the dominant role if the left is severed. The asymmetry of roles is developed through a series of

- (apparently) sequentially dependent vocal stages. Presents a theory for the development of full song through an interplay between learning and hypoglossal dominance. This series seems destined to become a classic study.—A.S.G.
- PYNNÖNEN, A. 1971. On the interspecific aggressiveness of the Black-throated Diver *Gavia arctica*. *Ornis Fennica*, 48: 133-134.—Describes the attacking and killing of a Red-breasted Merganser chick.—M.D.F.U.
- SCHERZINGER, W. 1971. Zum Feindverhalten einiger Eulen (*Strigidae*). *Z. Tierpsychol.*, 29: 165-174.—Displays and other reactions to predators of 10 species of owls. (English summary.)—H.C.M.
- SPARROWE, R. D. 1972. Prey-catching behavior in the Sparrow Hawk. *J. Wildl. Mgmt.*, 36: 297-308.—*Falco sparverius* were trained by a reward system to catch a mouse-like model. Capture attempts and successes were measured in relation to duration of exposure to the model, contrast of the model with the background, and cover density. Young and adults differed little in physical ability to capture prey. Attacks were initiated and completed only if prey were exposed sufficiently to the hawk.—L.H.F.
- THIEL, V., D. S. BARNES, AND N. MROSOVSKY. 1972. A simple method for recording activity patterns of small animals. *Physiol. Behav.*, 8: 549-551.—Uses phonograph-type crystal pick-up to sense vibrations from cage resting on foam rubber.—J.A.J.
- VON HELVERSEN, D., AND W. WICKLER. 1971. Über den Duettgesang des afrikanischen Drongo *Dicurus adsimilis* Bechstein. *Z. Tierpsychol.*, 29: 301-321.—African Drongos sing duets of 4 to 5 minutes duration. Birds alternate in producing phrases, each with a length of only 25 to 300 ms. Phrases do not occur randomly but depend on the preceding element of the partner's song and that of the bird's own song. (English summary.)—H.C.M.
- WATSON, A. 1972. The behaviour of the Ptarmigan. *Brit. Birds*, 65: 6-26, 93-117.—Descriptions of sexual, agonistic, and distraction behavior, maintenance activities with particular attention to snow roosting, voice, and associated behavior, are especial features of this broad study of *Lagopus mutus*, made chiefly in Scotland. Many drawings and photos of postures.—H.B.

## DISTRIBUTION AND ANNOTATED LISTS

- ALLSOPP, E. M. P. 1972. Veery in Cornwall: a species new to Britain and Ireland. *Brit. Birds*, 65: 45-49.
- BENSON, C. W. 1971. The occurrence of the Madagascar Pratincole in the South-African subregion. *Bull. Brit. Ornithol. Club*, 91: 162-163.—An apparently mislabelled specimen is responsible for the oft-quoted record of *Glareola ocularis* from the Zambezi.—F.B.G.
- BENSON, C. W. 1972. Skins of extinct or near extinct birds in Cambridge. *Bull. Brit. Ornithol. Club*, 92: 59-68.—On the basis of J. C. Greenway's (1958) book, the author lists 104 forms, of which 31 are from the Hawaii Islands, 19 from the Malagasy region, 16 from New Zealand and outlying islands, and 13 from the West Indies. Two skins of *Psittacula exsul* are unique. There is one of *Chaetoptila angustipluma*, of which only three other specimens are known. (From author's summary.)—F.B.G.
- BERETZK, P., AND A. KEVE. 1970. Die Schwarzkopfmöwe, *Larus m. melanocephalus* Temm., in Ungarn. *Lounais-Hämeen Luonto*, 37: 3-18.—First breeding of the Mediterranean gull in the Danubian Basin was recorded in 1894, and small numbers have bred quite regularly in Hungary since 1953. Briefly summarizes habitat, breeding biology, and ecology in Hungary. Single pairs breed within larger *L. ridibundus* colonies. (Finnish summary.)—M.F.D.U.

- BROADBENT, J. A. 1971. Additions to the avifaunas of Waza (Cameroun) and Lake Natu (Sokoto). *Nigerian Ornithol. Soc. Bull.*, 8: 58-61.—Includes field observations of seven species apparently new to Cameroun.—M.H.C.
- BROOKE, R. K., I. C. CANNELL, AND R. D. JEFFERY. 1971. New distributional records of raptors in western Angola. *Bull. Brit. Ornithol. Club*, 91: 165-167.—F.B.G.
- CARLETON, G. 1972. Unusual larids in Volusia County [Florida]. *Florida Naturalist*, 45: 94.—Sightings of Glaucous Gull, Little Gull, and Bridled Tern during winter 1971-72.—E.E.
- COLEBROOK-ROBJENT, J. F. R. 1971. Breeding of the Bat Hawk *Macheiramphus alcinus* in Zambia. *Bull. Brit. Ornithol. Club*, 91: 151.—First nest in Zambia. Egg-white to Yale!—F.B.G.
- CORCHRAN, C. E. 1971. Black-capped Vireo in Arizona. *Western Bird Bander*, 46: 42.—First state record for *Vireo atricapilla*; adult male banded near Tucson, 8 April 1970.—M.H.C.
- DUPONT, J. E. 1972. Notes on Philippine Birds (No. 2). Birds of Ticao. *Nemouria*, 6: 1-13.—Lists all species known from this rarely visited island, including nine new records from a recent expedition.—F.B.G.
- DUPONT, J. E. 1972. Notes on Philippine Birds (No. 3). Birds of Marinduque. *Nemouria*, 7: 1-14.—Summarizes the 96 species known from this island, 16 of them new records from a recent expedition, and describes *Coracina coerulescens deschauensei* subsp. nov., and *Cyornis rufigaster mariduquensis* subsp. nov.—F.B.G.
- EISENMANN, E., AND H. LOFTIN. 1971. Field Checklist of birds of the Panama Canal Zone area. Second ed. 38 pp. 60 cents. Florida Audubon Soc.. (This and the following checklist are available from Flying Carpet Tours, Box Q, Kissimmee, Fla. 32741.)—Scientific and English names, status, and bibliography.—E.E.
- EISENMANN, E., AND H. LOFTIN. 1972. Field Checklist of birds of western Chiriqui highlands, Panama. Second ed. 34 pp. 60 cents. Florida Audubon Soc.—Volcán de Chiriquí massif above 3,000 ft. in western Panamá; altitudinal status and bibliography.—E.E.
- FORRESTER, M. F. 1971. The birds of Ikoyi, Lagos. *Nigerian Ornithol. Soc. Bull.*, 8: 13-21.—Annotated list based on 2½ years experience on an island in Nigeria; nearby Victoria Island has a very different avifauna.—M.H.C.
- FRY, C. H. 1970. Birds in Waza National Park, Cameroun. *Nigerian Ornithol. Soc. Bull.*, 7: 1-5.—Annotated list of 160 species seen during 3-day visit in November, 1969. Palearctic migrants and raptors were particularly abundant.—M.H.C.
- FRY, C. H. 1970. Bird distribution on west/central African great rivers at high water. *Nigerian Ornithol. Soc. Bull.*, 7: 6-23.—Annotated list of riparian birds seen during a November-December, 1969, trip by hovercraft on major rivers of Nigeria, Cameroun, Tchad, and Central African Republic. Species distribution depends more on occurrence of suitable substrate (exposed sand bars, resting places) than of food availability.—M.H.C.
- GEE, J. P., AND J. B. HEIGHAM. 1971. A species new to Nigeria; Red-backed Shrike *Lanius collaris* at Lagos. *Nigerian Ornithol. Soc. Bull.*, 8: 9-10.
- GRAY, H. H. 1971. Turacos in the Benue Valley. *Nigerian Ornithol. Soc. Bull.*, 8: 29-30.—Distributional and field notes on six species in Nigeria.—M.H.C.
- GRIMES, L. 1971. Notes on some birds seen at Buea and on Mount Cameroun. 30 December 1970-January 1971. *Nigerian Ornithol. Soc. Bull.*, 8: 35-41.—Field notes from montane forest, Cameroun; 70 species, including breeding data for some.—M.H.C.

- HARDING, B. D. 1972. Scarlet Tanager in the Isles of Scilly: a species new to Britain and Ireland. *Brit. Birds*, 65: 155-158.
- HARRISON, J. M., AND J. G. HARRISON. 1971. North American Knot and North American Ruddy Turnstone in Britain. *Bull. Brit. Ornithol. Club*, 91: 167-171.—Describes the occurrence of *Calidris canutus rufus* and *Arenaria interpres morinella* in the British Isles. Ringing recoveries of the knot strongly suggest a regular migration route for this species between North America and western Europe and the possibility of a similar movement by North American Ruddy Turnstones.—F.B.G.
- HARVEY, W. G., AND I. D. HARRISON. 1970. The birds of the Mole Game Reserve. *Nigerian Ornithol. Soc. Bull.*, 7: 43-52, 63-75.—Detailed list of birds seen during July-September, 1968, in a 900 square mile area in northern Ghana (10° N, 1° W). Several range extensions, new species for Ghana; 223 species recorded, specimens taken for about 100. Strong critique of this paper by L. Grimes and F. Walsh in *N.O.S. Bull.*, 8: 11-12.—M.H.C.
- JEFFREY, S. M. 1970. Yellow-legged Owlet from western Ghana. *Nigerian Ornithol. Soc. Bull.*, 7: 61-62.—*Glaucidium tephronotum* caught during daylight in a banana-baited mammal trap 12 miles from the Ivory Coast border, a possible range extension.—M.H.C.
- MORIARTY, T. K. 1972. Birds of Wanjarri, WA (27° 25' S, 120° 40' E). *Emu*, 72: 1-7.—Annotated list for this arid area. Rich avifauna present results from overlapping ranges of predominantly southern, eastern, or northern species. In appendix G. Chapman analyzes nest records made during 1970 RAOU Field-Outing.—C.F.S.
- NAVAS, J. R. 1970. Nuevos registros de aves para la Patagonica. *Neotropica*, 16: 11-16.—Reports range extensions southward of Argentina for eight species and the breeding of Guanay Cormorant, *Phalacrocorax bougainvillii*, a Humboldt Current endemic, at Punta Tombo, in Chubut on the Atlantic coast.—E.E.
- NAVAS, J. R. 1970. La identidad de los cormoranes del lago Nahuel Huapi (Aves, Phalacrocoracidae). *Neotropica*, 16: 140-144.—Contrary to what Olog (1959, 1963) reported and Meyer de Schauensee (1966) repeated, the cormorant breeding on isla Victoria, in Lake Nahuel Huapi, Neuquén, Argentina, is *Phalacrocorax a. atriceps*, not *albiventer*.—E.E.
- NAVAS, J. R. 1971. Notas sobre aves del Parque Nacional Nahuel Huapi. *Neotropica*, 17: 153-156.—On Lake Nahuel Huapi, Neuquén, Argentina, young *Phalacrocorax a. atriceps* probably hatched early in January. The introduced California Quail, *Lophortyx californica*, is abundant in the Argentine provinces of Neuquén and Río Negro, but seems to have disappeared from Mendoza and San Luis, where formerly present (Olog's mention of San Juan may be a pen-slip for San Luis).—E.E.
- PARKER, R. H. 1971. Fernando Poo Black Swift *Apus barbatus sladeniae* (Ogilvie-Grant) recorded from Nigeria. *Bull. Brit. Ornithol. Club*, 91: 152-153.—First record from Nigeria and fourth authenticated record from mainland Africa. Suggests that *sladeniae* is specifically distinct from *barbatus* and that these together with *bradfieldi* and *berliozii* form a superspecies group.—F.B.G.
- PEARSON, D. J. 1971. The occurrence of a Great Black-headed Gull *Larus ichthyaetus* in Uganda. *Bull. Brit. Ornithol. Club*, 91: 171-172.—Sight record (with photo) is first of this species in East Africa, over 1,000 miles from nearest regular wintering area.—F.B.G.
- SHARROCK, J. T. R. 1972. White-throated Sparrow in County Cork. *Brit. Birds*, 65: 222-223.—On 3 April 1967; first record for Ireland.—H.B.
- STEVENSON, H. M. 1972. Recent breeding of the Sandwich Tern (*Thalasseus sand-*

- vicensis*) in Florida. Florida Naturalist, 45: 94-95.—With Royal Terns on a small island off Port St. Joe in July 1971.—E.E.
- STODDART, D. R. 1971. White-throated Rail *Dryolimnas cuvieri* on Astove Atoll. Bull. Brit. Ornithol. Club, 91: 145-147.—Reports an early description of this rail population prior to its extinction in the early 1900's.—F.B.G.
- SUMMERS-SMITH, D., AND J. D. R. VERNON. 1972. The distribution of *Passer* in northwest Africa. Ibis, 114: 259-262.
- SUTTON, R. W. W. 1970. Bird records from Niger and Mali: July-August 1969. Nigerian Ornithol. Soc. Bull., 7: 56-59.—Annotated list of birds seen during overland trip from Ghana to Algeria; large numbers of birds on the southern edge of the Sahara Desert.—M.H.C.
- SUTTON, R. W. W. 1970. Bird records from Ghana in 1967 and 1968/69. Nigerian Ornithol. Soc. Bull., 7: 53-56, 76-93.—Annotated lists from southern Ghana (July-September, 1967) and Tumu, northern Ghana (September-July, 1968-69).—M.H.C.
- WALSH, F. 1971. Further notes on Borgu birds. Nigerian Ornithol. Soc. Bull., 8: 25-27.—Supplements the report on this part of Nigeria published by D. Wells and F. Walsh in N.O.S. Bull., 6: 1-25, 63-93.—M.H.C.
- WALSH, F. 1971. Early Palaearctic waders at Kainji and New Busa in 1969. Nigerian Ornithol. Soc. Bull., 8: 32-34.—From records kept between April and September, western Nigeria. The earliest fall migrants appeared in mid-July and a few individuals were still in breeding plumage.—M.H.C.
- WATSON, G. E. 1971. Slender-billed Gull *Larus genei* at Lake Manyara, Tanzania. Bull. Brit. Ornithol. Club, 91: 167.—Sight record is first of this species in East Africa.—F.B.G.

#### ECOLOGY AND POPULATION

- ASCHOFF, J. 1969. [Phasing of diurnal rhythms as a function of season and latitude.] Oecologia, 3: 125-165.—The light-dark ratio and the duration of twilight as phase determinators. Theoretical considerations are largely supported by field and laboratory observations. (In German; English summary).—R.K.F.
- BJÄRVALL, A., AND A. SAMUELSSON. 1970. [A study of grazing by Barnacle geese (*Branta leucopsis*) on the island of Gotland.] Zool. Revy, 32: 26-33.—A substantial portion of the world population of this rare arctic species uses grassy isles around the Swedish Baltic island of Gotland during their spring migration. These islands are pastured by sheep, food competitors of the geese. Grazing keeps the short grass habitat open for the geese. Discusses protective measures. (In Swedish with English summary).—M.D.F.U.
- BOECKER, E. L. 1972. A survey of White Pelican nesting colonies in 1971. Amer. Birds, 26: 24, 125.—Number of nests in recent years seem higher in Canada and smaller in the United States.—E.E.
- CATCHPOLE, C. K. 1972. A comparative study of territory in the Reed Warbler (*Acrocephalus scirpaceus*) and Sedge Warbler (*A. schoenobaenus*). J. Zool., 166: 213-231.—Includes general discussion of the functions of territories, the significance of interspecific territorialism, and factors affecting territory size and nesting dispersion.—M.H.C.
- DONNELLY, B. G., AND M. P. STUART IRWIN. 1972. Clinal size variation in the Palm-nut Vulture. Bull. Brit. Ornithol. Club, 92: 11-15.—Wing length increases with increasing aridity.—F.B.G.
- DOW, D. D. 1972. Effect of a catastrophic hailstorm on bird populations. Emu, 72: 22-23.—A severe evening thunderstorm with heavy rain and hail (15 to 40 mm

- diameter) killed an estimated 20 percent of a population of about 200 Black-winged Stilts *Himantopus himantopus*.—C.F.S.
- FRY, C. H. 1972. The social organization of Bee-eaters (Meropidae) and co-operative breeding in hot-climate birds. *Ibis*, 114: 1-14.—*Merops bulocki* nesting colonially on the savannas of Africa pair-bond for life and have helpers at the nest. Up to three helpers may occur at one nest and they may be siblings of the previous year's brood. Initial breeding occurs at varying ages. males predominate females 1.5 to 1 in the population, and adults of both sexes and all age classes assist breeding pairs in nest excavation, incubation, and feeding nestlings and fledglings. Notes similarities and differences with bee-eaters nesting in other habitats. Briefly reviews comparable social organization in other birds and discusses the evolutionary value of co-operative breeding.—R.W.S.
- GRÖNLUND, S., AND H. MIKKOLA. 1969. [The ecology of *Asio flammeus* at Alajoki, Finland in 1969.] *Suomenselän Linnut*, 4: 68-76.—An area of about 70 square km contained over 50 territories; and, in half of them the nest was also found. Spring settling, breeding biology, breeding success, and population density, food ecology, and phenology are parts of this detailed study of the marsh owl. (In Finnish.)—M.D.F.U.
- HAARTMAN, L. VON. 1971. A bird census in a Finnish park. *Ornis Fenn.*, 48: 93-100.—In the 4.8 ha Lemsjöhölm park in SW. Finland the bird density in the 1969 breeding season was 19.4 pairs/ha, a very high figure, comparable with those of deciduous forests and parks in more southern latitudes in holarctic censuses. Edge effect and a large colony of Fieldfares (*Turdus pilaris*) contributed to these densities. Discusses the four species of *Turdus*, which have largely overlapping territories and a high degree of interspecific tolerance, but "character displacement" with respect to habitats, nest sites, nests, and eggs.—M.D.F.U.
- HAKALA, T., AND M. JOKINEN. 1971. [A population of Common Terns nesting on the roof of a factory.] *Ornis Fennica*, 48: 135-137.—(In Finnish with English summary.)—M.D.F.U.
- HAPPOLD, D. C. D. 1970. The Blue Plantain Eater at Abuja. *Nigerian Ornithol. Soc. Bull.*, 7: 37.—*Corythaëola cristata*, a forest species, can survive in small patches of relict forest surrounded by savannah.—M.H.C.
- HOFFMANN, K. 1969. [The relative effectiveness of Zeitgebers.] *Oecologia*, 3: 184-206.—The synchronization of the circadian cycle is called a Zeitgeber effect. Effects depend on the strength of the Zeitgeber as well as on the synchronization of its oscillation with the spontaneous circadian rhythm. Intraspecific and interspecific differences exist. A review, not restricted to birds. (In German; English summary.)—R.K.F.
- IMBER, M. J. 1971. Seabirds found dead in New Zealand in 1969. *Notornis*, 18: 305-309.—For 1,665 miles of coast patrolled 2,534 dead seabirds were found. Relative to other years there were proportionately more albatrosses.—G.D.S.
- IMBODEN, C. 1971. Der Biotop des Kiebitz *Vanellus vanellus* in der Schweiz. *Rev. Suisse Zool.*, 78: 586-597.—The habitat of the Lapwing in Switzerland was formerly boggy marshland, but because of drainage it is now chiefly flat areas of cultivated land, with a high level of ground-water and with exposed dry soil or only short vegetation in the spring. (English and French summaries.)—E.E.
- IMMELMANN, K. 1969. [Host synchronization in African brood parasites.] *Oecologia*, 3: 401-408.—Hosts and parasites are exposed to different environmental conditions in the nonreproductive period. Parasites have developed a waiting period with fully developed gonads to assure synchrony. Discusses the differences between these



- tropical-subtropical examples and a temperate (European) counterpart. (In German; English summary.)—R.K.F.
- KOPLIN, J. R. 1972. Measuring predator impact of woodpeckers on spruce beetles. *J. Wildl. Mgmt.*, 36: 308-320.—The impact of three species of woodpeckers (*Picoides tridactylus*, *Dendrocopus villosus*, and *D. pubescens*) on endemic, epidemic, and pandemic populations of *Dendroctonus obesus* was predicted by a deterministic model. Predatory impact was most effective on epidemic beetle populations; *P. tridactylus* was the most effective and *D. pubescens* the least effective predator.—L.H.F.
- KORSCHGEN, L. J., AND H. B. STUART. 1972. Twenty years of avian predator-small mammal relationships in Missouri. *J. Wildl. Mgmt.*, 36: 269-282.—Pellets from *Bubo virginianus*, *Strix varia*, *Otus asio*, and *Buteo jamaicensis* were examined over a 20-year period to ascertain foods and predator-prey relationships. Small rodents and cottontail rabbits were common prey of all species. High populations of small rodents were detected but measures of average prey populations were inaccurate.—L.H.F.
- LAPERRIERE, A. J., AND A. O. HAUGEN. 1972. Trends of Mourning Dove populations in Boone County, Iowa farm groves. *Iowa State J. Sci.*, 46: 417-424.—Call counts made in 1963, 1969, and 1970 indicate a significant decline in Mourning Dove populations. Habitat destruction and bad weather may account for some of this decline.—J.J.D.
- MACINNES, C. D., AND R. K. MISRA. 1972. Predation on Canada goose nests at McConnell River, Northwest Territories. *J. Wildl. Mgmt.*, 36: 414-422.—Human activity within a colony of small *Branta canadensis* caused increased egg losses. Of all eggs lost, partial clutch losses comprised 55 percent. Clutches of six lost fewer eggs per visit than all other clutch sizes.—L.H.F.
- MALLETTE, R. D., S. WILBUR, W. D. CARRIER, AND J. C. BORNEMAN. 1972. California Condor survey, 1970. *California Fish and Game*, 58: 67-68.—Only 15 and 28 condors were seen on two observation days. Poor weather and visibility prevent comparison with other years.—J.J.D.
- MERTZ, D. B. 1971. The mathematical demography of the California Condor population. *Amer. Naturalist*, 105: 437-453.—Demographic methods devised by Leslie (1966) are applied to the *Gymnogyps californianus* population. The potential for growth must always remain low for condors unless the frequency of reproduction is increased. "Any degree of exploitation would pose a threat to the population's persistence, which must have been marginal, even in the Recent prehistoric and Plistocene."—G.D.S.
- MURTON, R. K., A. J. ISAACSON, AND N. J. WESTWOOD. 1971. The significance of gregarious feeding behaviour and adrenal stress in a population of Wood-pigeons *Columba palumbus*. *J. Zool.*, 165: 53-84.—"Because a solitarily feeding Wood-pigeon cannot exploit clover efficiently, social feeding behavior improves the survival chances of the individual and in turn enables population size to be increased; social behaviour does not limit numbers before environmental resources become limiting and any apparent self-regulatory processes are shown to be artifacts." (From authors' abstract.)—M.H.C.
- NICHOLLS, T. H., AND D. W. WARNER. 1972. Barred owl habitat use as determined by radiotelemetry. *J. Wildl. Mgmt.*, 36: 213-224.—Habitat use by nine *Strix varia* in Minnesota was determined by telemetry. Owls consistently preferred oak woods over other habitats despite changes in season, phenology, weather conditions, or years.—L.H.F.

- NILSSON, L. 1972. [Population fluctuations among ducks resting during migration at Hullsjön in west-central Sweden 1958-1968.] *Vår Fågelvärld*, 31: 20-27.—Environmental changes, variations in the food supply, and general population trends, influenced these fluctuations markedly or in part. (In Swedish, English summary.)—L. DE K. L.
- OLSSON, V. 1972. [Territory, habitat and nest site choice of Swedish White-tailed Eagles, *Haliaeetus albicilla*.] *Vår Fågelvärld*, 31: 89-95.—Of 61 nests studied on the Baltic coast, 68% were on islands. Almost all nests were built in the crowns of tall pines surrounded by other tall trees. The nesting areas were located within extensive hunting territories and covered no less than 3 to 4 kilometers in diameter. Human disturbance was not tolerated within these areas. During 24 reproductive seasons two pairs produced only one flying juvenile. Immediate and adequate protection of all known nesting territories, at least during the prolonged reproductive season, is imperative for the survival of this species. (In Swedish with a too abbreviated English summary for this important paper.)—L. DE K. L.
- PRANGE, H. D., AND K. SCHMIDT-NIELSEN. 1970. The metabolic cost of swimming in ducks. *J. Exp. Biol.*, 53: 763-777.—Cost of transport (metabolic rate/speed) is minimal (5.77 Kcal/KgKm) at 0.50 m/sec, the speed observed for ducks swimming freely on a pond. Maximum sustainable speed coincides with that predicted from hydrodynamic study of a model. Oxygen consumption at this speed is 4.1 times the resting rate. Although ducks compare poorly with ships in maximum overall efficiency (5 vs. 20-30 percent), their performance excels most ships when the more appropriate speed/length ratio is used as the criterion.—A. S. G.
- RAPPORT, D. J. 1971. An optimization model of food selection. *Amer. Naturalist*, 105: 575-587.—Develops an optimization model for the analysis of food selection behavior by predators, which determines the numbers and types of prey species consumed, given predator preferences and prey availability. Hypothesizes conditions for "predator switching." Of possible application to birds.—G. D. S.
- REESE, J. G. 1972. Osprey nesting success along the Choptank River, Maryland. *Chesapeake Sci.*, 13: 233-235.—The 86 nests studied 1968-71 fledged 80 young. This 0.93 young per nest average is slightly below that estimated for population stability. Details known causes for loss of nests, eggs and young.—H. B.
- REMMERT, H. 1969. Circadian interdependence of different organisms. *Oecologia*, 3: 214-226.—Discusses competitors, relationships between prey and predator, between host and parasite, between flowers and pollinator, etc. Synchrony exists between groups of species rather than between pairs of species. (In German; English summary.)—R. K. F.
- ROBEL, R. J., F. R. HENDERSON, AND W. JACKSON. 1972. Some Sharp-tailed Grouse populations statistics from South Dakota. *J. Wildl. Mgmt.*, 36: 87-98.—*Pedioecetes phasinellus* population densities were 0.7 to 1.8 and 0.9 to 1.8 birds per square mile on two areas in South Dakota. Annual mortality, determined by recapture of marked birds, was 71.5 and 70.4 percent respectively.—L. H. F.
- ROBINS, J. D. 1971. Differential niche utilization in a grassland sparrow. *Ecology*, 52: 1065-1070.—Henslow's Sparrow, *Ammospiza henslowii*, is sexually monomorphic and exhibits no intersexual difference in prey selection. Males defend territories alone and forage at greater distances and in different directions than the females. All brooding of young is done by females.—C. R. B.
- RUSCH, D. M., E. C. MESLOW, P. H. DOERR, AND L. B. KEITH. 1972. Responses of Great Horned Owl populations to changing prey densities. *J. Wildl. Mgmt.*, 36: 282-296.—Numbers, productivity, and food habits of *Bubo virginianus* were measured

- for 4 years in Alberta. Owls selected adult snowshoe hares and male Ruffed and Sharp-tailed Grouse in spring. Diet was related to vegetative cover surrounding the nest and to composition of prey base. As snowshoe hares increased in numbers, predation rates on other prey decreased.—L.H.F.
- STOLT, B. O. 1972. [The occurrence of the Nightjar, *Caprimulgus europaeus*, in Sweden 1970.] *Vår Fågelvärld*, 31: 111–116.—A nation-wide census revealed a total count of 458 Nightjars. The highest counts were on the west coast and the islands of Oland and Gotland. Isolated records came from as far north as Skelleftea (64° 30' N). (In Swedish with English summary.)—L.DEK.L.
- STOTT, R. S., AND D. P. OLSON. 1972. An evaluation of waterfowl surveys on the New Hampshire coastline. *J. Wildl. Mgmt.*, 36: 468–477.—Censuses of sea ducks from aircraft were unreliable. Recommends an ecologically stratified ground census.—L.H.F.
- TULLOCK, G. 1971. The Coal Tit as a careful shopper. *Amer. Naturalist*, 105: 77–80.—Discusses relevance of economics theory to data assembled on the Coal Tit feeding on larvae of an eucosmid moth, *Ernarmonia conicolana*.—G.D.S.
- WINNER, R. W. 1972. Activity of Black and Mallard Ducks in a controlled environment. *J. Wildl. Mgmt.*, 36: 187–191.—Decreasing light intensity during the final hour of the photoperiod caused a bimodal activity pattern in both species. Under constant light intensity, the second activity peak persisted in *Anas platyrhynchos* but disappeared in *A. rubripes*.—L.H.F.
- WOLF, L. L., AND F. R. HAINSWORTH. 1971. Time and energy budgets of territorial hummingbirds. *Ecology*, 52: 980–988.—Energy budgets estimated from laboratory metabolic data and field data on time budgets indicate the tropical hummingbird *Eulampis jugularis* expends little time or energy in territorial defense, flycatching, hovering, or perch changes. Relative costs of territorial defense, foraging, and sitting varied in territories with different species of flowers. Optimizing energy may be selectively more important to a territorial hummingbird than optimizing time budgets.—C.R.B.
- YEATES, G. W. 1971. Diurnal activity in the Adelie Penguin (*Pygoscelis adeliae*) at Cape Royds, Antarctica. *J. Nat. Hist.*, 5: 103–112.—Diurnal variation in the number of birds in the colony and in the birds' activities were evident mainly when the adults had chicks to feed. Weather was important in controlling activities at other times.—J.J.D.

## EVOLUTION AND GENETICS

- DAVIES, C., H. FISCHER, AND E. GWINNER. 1969. [Differences in breeding times between certain species of geese and their hybrids under identical conditions.] *Oecologia*, 3: 266–276.—Species specific differences are at least in part genetic in origin. (In German; English summary.)—R.K.F.
- JÄRBÄCK, A., AND N. JÄRBÄCK. 1972. [Female Collared Flycatcher, *Ficedula albicollis*, interbreeding with male Pied Flycatcher, *F. hypoleuca*.] *Vår Fågelvärld*, 31: 129.—Six hybrids successfully reared from 6 eggs. (In Swedish, English summary.)—L.DEK.L.
- MARCHANT, S. 1972. Evolution of the genus *Chrysococcyx*. *Ibis*, 114: 219–233.—Reinterpretation of Friedmann's work in the light of modern geological ideas on ocean-floor spreading.—R.W.S.
- MAYR, E. 1972. Continental drift and the history of the Australian bird fauna. *Emu*, 72: 26–28.—The bird groups most likely to have achieved their distribution in Australia and other southern continents when these continents were formerly in close

proximity include (1) the ratites, which Mayr considers questionable as he believes the possibility of convergence within the group has not been eliminated; (2) the *Forpus* (*Amaropsitta*) parrots of South America, which appear to be related to Australian platycercines and may have reached S. America when the water gap was narrower; and (2) the flamingos, which formerly existed in Australia and are diversified in the southern continents, but could have dispersed easily through colonizing flights. Mayr concludes that the longstanding thesis that Australia received nearly all its birds from southeast Asia through island hopping is still valid.—C.F.S.

## GENERAL BIOLOGY

- ALVAREZ DEL TORO, M. 1971. On the biology of the American Finfoot in southern Mexico. *Living Bird*, 10: 79–88.—*Heliornis fulica* in southern Mexico lives solitarily in sluggish waters with densely vegetated margins. Males appear to defend permanent territories by means of a circling swimming display. Courtship occurs in late February, and after pairing both sexes participate in territorial defense and nest building. The nest, a leaf-lined platform of sticks, is built in low, dense vegetation over the water. Both sexes incubate the two eggs, which hatch in a remarkably short 10.5 to 11 days. The male places each of the naked helpless chicks in one of his two pockets formed by a skin fold posterior to the shoulder joint.—G.E.W.
- BENGTSON, S.-A. 1971. Food and feeding of diving ducks breeding at Lake Myvatn, Iceland. *Ornis Fenn.*, 48: 77–92.—Analysis of oesophageal contents of about 1,280 fishing-net casualties of *Aythya marila*, *A. fuligula*, *Bucephala islandica*, *Clangula hyemalis*, *Melanitta nigra*, and *Mergus serrator*. The merganser fed almost exclusively on sticklebacks; the food of the other spp. was largely chironomid larvae which dominated the benthic biomass of the lake. The secondary food items were different for each of the five chironomid feeders, possibly because of differences in preferred feeding areas and habitats. These species showed a significant diet difference between the sexes and between adults and ducklings.—M.D.F.U.
- BEZZEL, E., AND E. VON KROSGK. 1971. Zum Ablauf des Brutgeschäftes bei Enten. *J. Ornithol.*, 112: 411–437.—A study of the phenology of breeding in the Mallard, Gadwall, Pochard, and Tufted Duck. Late nesting species exhibit less individual variation in the timing of the cycle and often desert young before they are fully grown. Early nesting Mallards have larger clutches but greater egg and early duckling mortality than later birds. The amount of variation in the onset of various stages of the breeding cycle varies with weather conditions. (English summary).—H.C.M.
- BRACKBILL, H. 1972. Fowl that don't befoul. *Maryland Conserv.*, 48: 4–7.—Adds the Herring Gull to the list of birds that rather consistently avoid defecating into water where they forage. Gulls defecated 17 times into a piedmont stream they were fishing in, but 15 times they veered sharply over land, defecated, and then resumed an overwater course. Also seen 4 times to swim ashore, defecate, and at once reenter the stream.—H.B.
- BROOKE, R. K., AND R. D. JEFFERY. 1972. Observations on the biology of *Gypohierax angolensis* in western Angola. *Bull. Brit. Ornithol. Club*, 92: 15–21.—Detailed observations of feeding habits and breeding in an area with a dense population. In addition to its specialized preference for palm nut husks, it is a versatile scavenger of river products and may compete with fish eagles, brown kites, etc.—F.B.G.
- BROWN, J. C., AND G. I. TWIGG. 1971. Mammalian prey of the Barn Owl (*Tyto alba*) on Skomer Island, Pembrokeshire. *J. Zool.*, 165: 527–530.—A practical test of a new technique, supplementing the use of skulls and mandibles in owl pellet analysis.

- Pelvic characters (os coxae) of voles, shrews, and mice enable specific identification and age and sex determination of prey.—M.H.C.
- BROWN, L. 1972. Natural longevity in wild Crowned Eagles *Stephanoaetus coronatus*. Ibis, 114: 263–265.—Twelve to 16 years, with mean breeding life of 10–11 years. Each year 0.4 young per pair is reared to first flight, enough to maintain surplus of unmated adults for replacement of dead mates.—R.W.S.
- COLLINS, C. T., AND D. R. THOMPSON. 1971. Comments on the juvenile plumage of the Rufous-thighed Falconet. Bull. Brit. Ornithol. Club, 91: 149–150.—It is distinctive and not like that of the adult male.—F.B.G.
- COULSON, J. C., AND J. M. HOROBIN. 1972. The annual re-occupation of breeding sites by the Fulmar. Ibis, 114: 30–42.—Reoccupation of the cliff breeding colony sites begins in early November. The birds spend increasing amounts of diurnal time on the site during the pre-egg stage with most activity in the morning. The sites are deserted each night. Birds remain on the site regularly just prior to egg-laying. Many prebreeders are present prior to nesting but their numbers decline as laying occurs. Wind speeds over a 3-day period influence the daily variation in numbers of birds. The authors suggest that the synchronized departures are feeding trips, with the birds using the wind to reach feeding areas. Kittiwakes usurp nest sites by occupying them during the Fulmars' night feeding absences.—R.W.S.
- COWLING, S. J., AND D. M. WHITE. 1972. Breeding of the Magpie Goose at the Serendip Wildlife Research Station. Emu, 72: 28–29.—First record of a pair of *Anseranas semipalmata* breeding in a captive flock. The female parent died and the male deserted. Two goslings were raised successfully in a brooder. The female gosling had fully developed wings and could fly by the 7th week, the male by the 8th week.—C.F.S.
- CUNNINGHAM-VAN SOMEREN, C. R. 1971. Breeding of *Ploceus badius* (Cassin) in the Sudan. Bull. Brit. Ornithol. Club, 91: 150–151.—Breeding occurs in dense colonies in tall Sorghum grass. Species is apparently monogamous. Nest structure is similar to that of *Quelea cardinalis*.—F.B.G.
- DOUTHWAITE, R. J. 1972. Wing molt in the Pied Kingfisher *Ceryle rudis* (Linn.). Bull. Brit. Ornithol. Club, 91: 147–149.—Molt is regular starting with primary #5 and proceeds both ascendently and descendently. Successive molts are initiated regularly and completed irrespective of preceding and succeeding molts. The breeding season interrupts the molt, and the rate at which each molt proceeds depends on the number of other molts also in progress. Regular initiation, but prolonged interruption and slow molt lead to an overlap of successive wing molts, giving the appearance of irregular molt at any instant of time.—F.B.G.
- ELGOOD, J. H. 1972. The breeding season of *Caprimulgus tristigma* in Nigeria. Bull. Brit. Ornithol. Club, 92: 33–34.—Reports a nest in the middle of the dry season.—F.B.G.
- FIELD, G. D. 1971. Breeding behaviour of a pair of Black and White Flycatchers *Bias musicus* at Freetown. Nigerian Ornithol. Soc. Bull., 8: 3–6.—Exceptionally long period (15–18 weeks) from nest building to complete independence of the brood.—M.H.C.
- FISHER, H. I. 1971. The Laysan Albatross: its incubation, hatching, and associated behaviors. Living Bird, 10: 19–78.—A carefully documented, profusely illustrated report on what really happens during breeding for one of the many long-lived seabirds. It is now clear that the only way to learn about birds that live a long time is to study them a long time, and that premature guesses are wrong as often as they

are right. Fisher studied marked *Diomedea immutabilis* on Midway Atoll from 1961 to 1969.

A few of the facts now known about the species: All currently breeding individuals develop an incubation "pouch" before the single egg is laid. The time of development of the pouch varies with sex and age. The incubation period for all birds averages 65 days. It varies with age (inexperienced birds require only 63.8 days) and season (later eggs take less time), but these two factors are related. Both members of the pair share in incubation. The female starts the incubating, but the male averages more time on the egg. Hatching occurs before the sixth stint 95 percent of the time. Pipping averages 2 to 4 days, but may last 6 days. Colony-wide hatching success averages 70 percent for eggs laid early or by more experienced females less subject to loss. The age of the pair-bond and the birds determines the number and type of precopulatory signals. Far more information is given than can be reported here. Especially well-documented are data on chronology of breeding and on reproductive success and the underlying causes.—G.E.W.

- FRITH, C. B. 1971. Nidification of some New Guinea birds. *Bull. Brit. Ornithol. Club*, 91: 164-165.—Describes eggs of five species.—F.B.G.
- FRITH, H. J. 1972. Nesting of the Black-banded Pigeon and the Australian rock pigeons. *Emu*, 72: 13-16.—First description of the nest, eggs, and juvenile plumage of *Ptilinopus cinctus alligator*; first nest and eggs of the Chestnut-quilled Rock Pigeon *Petrophassa rufipennis*; and further nest records for the White-quilled Rock Pigeon *Petrophassa albipennis*. The meager data available suggest early dry season is principal breeding period for the Black-banded Pigeon but not for the Chestnut-quilled Rock Pigeon.—C.F.S.
- FRY, C. H. 1970. Request for information and comment. *Nigerian Ornithol. Soc. Bull.*, 7: 33-35.—Annotated list of over 40 west African species pairs that may show character convergence, social mimicry. (A poor title for an interesting paper.)—M.H.C.
- GOCHFELD, M. 1972. The proposed registry for nesting data on neotropical birds. *Amer. Birds*, 26: 18-20.
- HAUKIOJA, E. 1971. Flightlessness in some moulting passerines in Northern Europe. *Ornis Fenn.*, 48: 101-116.—Evaluates wing and tail molt in *Luscinia svecica*, *Sylvia communis*, *Phylloscopus trochilus*, *Motacilla alba*, and *M. flava*. The postnuptial molt is short and at its peak birds are unable or unwilling to fly, and therefore mist-net samples are biased. Correlation between primary and secondary scores (sample size 39 to 131 specimens per species) and netting efficiency, "raggedness" indices of wing molt, and other considerations lead to a discussion of adaptive advantages and disadvantages of flightlessness and accompanying skulking behavior.—M.D.F.U.
- HAVERSCHMIDT, F. 1972. Further evidence of the 'portlandica' plumage phase of terns. *Brit. Birds*, 65: 117-119.—Adds *Sterna albifrons* and *S. sandvicensis eurynatha* to the forms showing this phase, from specimens collected in Surinam.—H.B.
- MACROBERTS, M. H., AND B. R. MACROBERTS. 1972. The relationship between laying date and incubation period in Herring and Lesser Black-backed Gulls. *Ibis*, 114: 93-97.—Complicated. Study done on Walney Island, Lancashire.—R.W.S.
- MUNDY, P. J., AND A. E. COOK. 1971. Sokoto Province. (In three parts.) 1. Sokoto town and environs. 2. Wurno (13° 15' N, 05° 25' E). 3. Kotorkoshi (12° 07' N, 06° 48' E). *Nigerian Ornithol. Soc. Bull.*, 8: 21-24, 42-45, 46-47.—Field notes, particularly on nesting activities, from northwestern Nigeria.—M.H.C.
- NAVAS, J. R. 1970. Desarrollo y secuencias de plumajes en "*Fulica armillata*" Vieillot (Aves, Rallidae). *Rev. Mus. Argentine Cien. Nat.* "Bernardino Rivadavia," 10:

- 65-85.—Development and sequence of plumages in the Red-gartered Coot. (Brief English summary.)—E.E.
- ROBINSON, N. 1970. The nesting of the Senegal Kingfisher *Halcyon senegalensis*. Nigerian Ornithol. Soc. Bull., 7: 31-33.
- RUGE, K. 1971. Zur Biologie des Dreizenspechtes *Picoïdes trydactylus* L. Ornithol. Beob., 68: 256-271.—Breeding biology of the Three-toed Woodpecker in Switzerland; excellent photos. Describes some conflicts with Great Spotted Woodpeckers, *Dendrocopos major* and experiments with dummies. (English summary.)—E.E.
- SNOW, B. K. 1972. A field study of the Calfbird *Perissocephalus tricolor*. Ibis, 114: 139-162.—Males of this Cotingid assemble in leks where individuals own and defend neighboring perches, and perform a co-operative advertising call, the "moo call." Describes other displays and behavior at the lek and food preferences. Compares nesting and lek behavior with other species of Cotingidae.—R.W.S.
- SNOW, D. W. 1971. Observations on the Purple-throated Fruit-Crow in Guyana. Living Bird, 10: 5-17, and color frontis.—*Querula purpurata* lives in groups of three or four birds with strong social bonds and almost no aggressiveness. It feeds on insects and fruit taken on the wing. Two nests, one successful, were open cups in isolated trees. The nest was not concealed, but was defended vigorously by mobbing by all members of the group. Only the female that laid the single egg at one nest incubated, but all four members of the group fed insects, almost exclusively, to the nestling. Incubation lasted 25 days; fledging occurred 32 or 33 days later.—G.E.W.
- STRESEMANN, E., AND V. STRESEMANN. 1971. Die postnuptiale und die praenuptiale Vollmauser der asiatischen Würger *Lanius tigrinus* und *L. cristatus*. J. Ornithol., 112: 373-395.—Adult *L. tigrinus* and *L. cristatus* have two complete molts each year. Subspecies with longer migration routes interrupt the postnuptial molt. In all subspecies of *L. cristatus* the primary molt frequently begins with primary 3, 4, or 5 and proceeds in both directions. Winter and summer plumages are identical. (English summary.)—H.C.M.
- VERNON, C. J. 1971. Observations on *Egretta vinaceigula*. Bull. Brit. Ornithol. Club, 91: 157-159.—This is a good species. It appears to occupy a niche in marshes and flood plains and this helps explain its limited distribution. Both in habits and behavior it more closely resembles *E. garzetta*, rather than *E. ardesiaca*, with which it has often been confused in the past. (Author's summary.)—F.B.G.
- WHITE, C. M., AND T. J. CADE. 1971. Cliff-nesting raptors and ravens along the Colville River in Arctic Alaska. Living Bird, 10: 107-150.—Discusses ecological relationships of *Buteo lagopus*, *Falco rusticolus*, *F. peregrinus*, and *Corvus corax* during breeding, based on data from several years and about 350 nestings. Emphasizes habitat partitioning and differential use of prey species. Gyrfalcons are resident and ptarmigan their staple food. Peregrines are migrants and feed on a variety of birds, especially passerines, shorebirds, and ducks. The migrant Rough-legged Hawks specialize on microtines, but will shift to ground squirrels and birds. Ravens are resident and feed on carrion as well as live prey. In arctic Alaska all four species breed only on cliffs. The two permanent residents require a snow-protected nest site, but are little affected by the presence of other raptors. The number of breeding Peregrines and Ravens always has been below the number of supposedly acceptable sites. Size and wing loading differences between the four species and between the sexes of each species are considered in relation to prey. The habits of the two falcons probably differ enough to keep competition low. The Peregrin shows the greatest differences in prey selection between the sexes. Concluding remarks include infor-

mation on pesticides and predictions regarding changes in habitat and populations.—G.E.W.

YUNICK, R. P. 1971. A study of a tree swallow colony over water. *Kingbird*, 21: 47-56.—A 5-year nest-box study. Compares clutch size and productivity data with those of five similar earlier studies.—O.L.A., JR.

#### MANAGEMENT AND CONSERVATION

BERGERUD, A. T. 1972. Changes in the vulnerability of ptarmigan to hunting in Newfoundland. *J. Wildl. Mgmt.*, 36: 104-109.—Percentage of harvest of *L. lagopus* was correlated with number of young raised per hen but not with bird densities, hunting pressure, hunting success, hatching chronology, or days of precipitation during the hunting season.—L.H.F.

BEST, L. B. 1972. First-year effects of sagebrush control on two sparrows. *J. Wildl. Mgmt.*, 36: 534-544.—Breeding pairs of *Spizella breweri* were reduced in the total kill spray plot but no change occurred in pairs of *Poocetes gramineus*. Following spraying, major plant and animal foods differed in amounts but not in variety consumed.—L.H.F.

BOLEN, E. G. 1971. Some views on exotic waterfowl. *Wilson Bull.*, 83: 430-434.

BURGER, G. V., AND R. C. OLDENBURG. 1972. Using pheasant band recoveries to evaluate habitat on shooting preserves. *J. Wildl. Mgmt.*, 36: 146-149.

CURRY-LINDAHL, K. 1971. The influence of man on the African avifauna: Introduction to symposium. *Ostrich, Suppl.* 8: 429-444.

DOTY, H. A., AND A. D. KRUSE. 1972. Techniques for establishing local breeding populations of Wood Ducks. *J. Wildl. Mgmt.*, 36: 428-435.—About 76 percent of 253 *Aix sponsa* survived until late September after being released in a 0.5-acre enclosure when 9 to 16 days old. One year later 16 hens produced 175 ducklings and in 2 years 34 hens produced 311 ducklings.—L.H.F.

HOPPER, R. M. 1972. Waterfowl uses in relation to size and cost of potholes. *J. Wildl. Mgmt.*, 36: 459-468.

JARVIS, M. J. F. 1971. Interactions between man and the South African Gannet *Sula capensis*. *Ostrich, Suppl.* 8: 497-513.

JOSELYN, G. B., AND G. I. TATE. 1972. Practical aspects of managing roadside cover for nesting pheasants. *J. Wildl. Mgmt.*, 36: 1-11.—Production of *Phasianus colchicus* was substantially increased in east-central Illinois by replacing existing bluegrass sods with grass-legume mixture and by delaying roadside mowing until 31 July.—L.H.F.

KURODA, N. H. 1969. Recovery of Japanese *Streptopelia decaocto* from a reduced small population. *Misc. Repts. Yamashina Inst. Ornithol.*, 5: 563-574.—Introduced into Japan in the late 18th or early 19th Century, the Collared Turtle-Dove was shot to near extinction in the early postwar years. A 1948 census estimated a population of ca. 60 birds, and numbers may have diminished to less than 20 after that. The species was then protected as a "natural monument" and it steadily increased. By 1968 the population may have reached 700. Figures are given for population area, local densities, and population growth rate. (In Japanese with English summary and some English figure captions.)—K.C.P.

LYNCH, G. M. 1972. Effect of strychnine control on nest predators of dabbling ducks. *J. Wildl. Mgmt.*, 36: 436-440.—Skunk predation on waterfowl nests can be reduced by strychnine poisoning.—L.H.F.

McLACHLAN, G. R. 1971. The effect of man's activities on the Anatidae in Southern Africa. *Ostrich, Suppl.* 8: 471-474.



- MOSS, R. 1972. Effects of captivity on gut lengths in Red Grouse. *J. Wildl. Mgmt.*, 36: 99-104.—Caeca and small intestine of *Lagopus lagopus scoticus* decreased by 52 and 72 percent, respectively, over several generations when placed on an artificial diet supplemented with heather.—L.H.F.
- SANGER, G. A. 1972. The recent pelagic status of the Short-tailed Albatross (*Diomedea albairus*). *Biol. Conserv.*, 4: 189-193.—Counts of birds at the lone breeding colony on Torishima and pelagic sightings suggest that the world population of this rare species has inched up to perhaps 75 to 100 individuals.—J.J.D.
- SCHRANCK, B. W. 1972. Waterfowl nest cover and some predation relationships. *J. Wildl. Mgmt.*, 36: 182-186.—Duck nests had higher success in cover types presenting the greatest barrier to predation and in areas with predator control.—L.H.F.
- STICKLEY, A. R., JR., AND J. L. GUARINO. 1972. A repellent for protecting corn from blackbirds and crows. *J. Wildl. Mgmt.*, 36: 150-152.—Sprout damage was reduced from 44 to 0.3 percent in fields treated with methiocarb [4-(methylthio)-3,5-xylyl N-methylcarbamate].—L.H.F.
- STONE, C. P., D. F. MOTT, J. F. BESSER, AND J. W. DE GRAZIO. 1972. Bird damage to corn in the United States in 1970. *Wilson Bull.*, 84: 101-105.
- THOMAS, G. J. 1972. A review of gull damage and management methods at nature reserves. *Biol. Conserv.*, 4: 117-127.—Various methods of killing or scaring away adult gulls and of removing the eggs or killing the embryos are described. No effective method has yet been found of reducing gull populations over large areas.—J.J.D.
- WALKINSHAW, L. H. 1972. Kirtland's Warbler—endangered. *Amer. Birds*, 26: 3-9.—Despite much seemingly suitable habitat, the number of singing males dropped in 1971 to 201 (502 in 1961). Includes suggestions to increase chances of survival.—E.E.

## MIGRATION AND ORIENTATION

- ABLE, K. W., *et al.* 1972. The changing seasons: The fall migration. 1971. *Amer. Birds*, 26: 25-124.—A surprising number of vagrants are mentioned in the regional reports. The situation on 17-19 September is illustrated by weather maps. The reviewing editor asks the question whether the apparent increase in disoriented insectivorous migrants might result from DDT accumulations in brain tissue.—E.E.
- ARNOLD, K. A. 1972. Recaptures and recoveries of Common Snipe wintering in Texas. *Western Bird Bander*, 47: 17-19.
- ASHFORD, R. W. 1970. Yellow Wagtails *Motacilla flava* at a Nigerian winter roost: analysis of ringing data. *Nigerian Ornithol. Soc. Bull.*, 7: 24-26.—Based on over 11,000 bandings, annual mortality is 50 percent; "on their first migration the birds are guided by a general directional impulse and become dispersed over a wide winter range. Subsequent migrations must be truly navigated, using past experience and the birds 'home' accurately on their previous winter quarters."—M.H.C.
- BERTHOLD, P., E. GWINNER, H. KLEIN, AND P. WESTRICH. 1972. Beziehungen zwischen Zugunruhe und Zugablauf bei Garten- und Mönchsgrasmücke (*Sylvia borin* und *S. atricapilla*). *Z. Tierpsychol.*, 30: 26-35.—There is a good correlation between the migratory restlessness (Zugunruhe) of caged Blackcaps and Garden Warblers and the fall migration patterns of free-living conspecifics. The Garden Warbler, a long-distance migrant, shows more Zugunruhe than the Blackcap, which migrates shorter distances. (English summary.)—H.C.M.
- COLLINS, C. T., AND R. A. BRADLEY. 1971. Analysis of body weights of spring migrants in southern California. (In two parts.) *Western Bird Bander*, 46: 38-40, 48-51.—Data from 1,184 birds of 38 species banded between 2 and 10 May 1970 in Morongo Valley. Weights taken by Pesola spring balances and *estimated* to the

- nearest 10th of a gram. Statistical analyses carried to *100ths* of a gram, leaving doubts to validity. Females of Yellow, Townsend's and Wilson's warblers weighed significantly less than males. Wilson's Warblers and Warbling Vireos showed a significant weight increase between early morning and late afternoon. Migrant Yellow Warblers and Swainson's Thrushes, and resident Lesser Goldfinches did not change weight significantly during the day. "Recapture data for Swainson's Thrushes indicated a temporary weight loss immediately after capture, followed by a recovery and subsequent weight gain . . ." but no mention of how often individual birds were handled, an important factor.—M.H.C.
- DEBENEDICTIS, P. 1971. Wood warblers and vireos in California: the nature of the accidental. *California Birds*, 2: 111-128.—Variation in abundance between vagrant species is related to commonness in breeding range, angle of deviation from the normal migration route, and topography.—L.C.B.
- ETCHÉCOPAR, R. D. 1971. Bird migration in relation to Africa: Opening address by the discussion leader. *Ostrich*, Suppl. 8: 205-208.
- FLOCK, W. L. 1972. Radar observations of bird migration at Cape Prince of Wales. *Arctic*, 25: 83-98.—Migration of Sandhill Cranes, anatids, and charadriiforms across the Bering Strait.—J.A.J.
- HEBRARD, J. J. 1972. Fall nocturnal migration during two successive overcast days. *Condor*, 74: 106-107.
- HUBER, L. N. 1971. Notes on the migration of the Wilson's Storm Petrel *Oceanites oceanicus* near Eniwetok Atoll Western Pacific Ocean. *Notornis*, 18: 38-42.—Observation on Eniwetok from 7 August 1968 to 30 May 1969 indicate a northern migration through the area in April and May.—G.D.S.
- LOCKLEY, R. M. 1971. Non-stop flight and migration in the Common Swift *Apus apus*. *Ostrich*, Suppl. 8: 265-269.
- NOWICKI, T. 1971. 1971 spring migration of shorebirds at two small study areas in central Michigan. *Jack-Pine Warbler*, 49: 107-114.
- PEAKALL, D. B. 1969. Highlights of the winter season December 1-March 31 (1968-69). *Kingbird*, 19: 97.—Major invasion of Bohemian Waxwings (*Bombycilla garrulus*) in New York peaked with a record 500 near Watertown. Cedar Waxwings (*B. cedrorum*) were scarce. Heavy flights of Evening Grosbeaks (*Hesperiphona vespertina*) were over by late December.—M.C.B.
- PEARSON, D. J. 1972. The wintering and migration of palaeartic passerines at Kampala, Southern Uganda. *Ibis*, 114: 43-60.—Summarizes three seasons data on passage migration and wintering. Only 11 species were encountered frequently. Autumn passage continued from late September to December but most spring movements occurred during a few weeks in April. Banding showed that most wintering *Acrocephalus* warblers were highly sedentary and 12.5 percent of 220 birds banded in 1966-67 were retrapped the following season. Measurements and plumage data indicate that most migrants were of Asian origin. Compares migration times with other areas of the Middle East and northeast Africa.—R.W.S.
- PERDECK, A. C. 1971. Homing tendencies of Black-headed Gulls in the Kramer-cage. *Netherlands J. Zool.*, 21: 172-179.—Adult gulls taken from breeding colonies did not orient correctly in a Kramer-cage.—J.J.D.
- PURDUE, J. R., C. C. CARPENTER, D. L. MARCELLINI, AND R. F. CLARK. 1972. Spring migration of Swainson's Hawk and Turkey Vulture through Veracruz, Mexico. *Wilson Bull.*, 84: 92-93.
- RABOL, J. 1972. Displacement experiments with night-migrating passerines (1970). *Z. Tierpsychol.*, 30: 14-25.—Fresh-caught migrants were transported south in fall

- and north in spring and tested in Emlen cages over a period of days. The results are interpreted to indicate that (1) either birds orient to a given locality on the migration route at a given time, the goal moving northward or southward as migration progresses or (2) displaced birds orient in a direction between the migratory direction and the locality from which they were displaced. The limited sample and the enormous variance in the data would make this reviewer blush in coming to any conclusion, albeit tentative.—H.C.M.
- RICHARDSON, W. J. 1972. Autumn migration and weather in eastern Canada: a radar study. *Amer. Birds*, 26: 10–17.—Studies made in Nova Scotia and New Brunswick indicate that autumnal migration both day and night was predominantly SSW–WSW, and that nocturnal migrants did not appear to follow coast-lines. New data on patterns and timing, differences in responses to weather of offshore and coastal migrants, “reverse” migration, effects of a hurricane in September 1971.—E.E.
- RYDER, R. A., AND G. G. W. ROBINSON. 1972. Results from banding waterbirds in Colorado and Utah. *Western Bird Bander*, 47: 10–12.—Particularly interesting for winter recoveries in Mexico of White Pelicans, Snowy Egrets, and White-faced Ibis.—M.H.C.
- SHARROCK, J. T. R. 1972. Scarce migrants in Britain and Ireland during 1958–67. *Brit. Birds*, 65: 187–202.—Analyzes occurrences of Mediterranean Gull, White-winged Black Tern, and Gull-billed Tern.—H.B.
- SOUTHERN, W. E. 1972. Influence of disturbances in the earth’s magnetic field on Ring-billed Gull orientation. *Condor*, 74: 102–105.
- STEWART, R. M. 1971. Application of an analysis of wing length in Swainson’s Thrushes. *Western Bird Bander*, 46: 52–53.—Concludes that males migrate before females in California during May.—M.H.C.
- WALLRAFF, H. 1971. Kurzzeitige Schwankungen bei der Richtungswahl abfliegender Brieftauben. *J. Ornithol.*, 112: 396–410.—The departure of pigeons in experimental homing releases show short runs of similar directions, suggesting that fluctuating environmental factors influence orientation. (English summary.)—H.C.M.
- WARD, F. P., AND R. B. BERRY. 1972. Autumn migrations of Peregrine Falcons on Assateague Island, 1970–71. *J. Wildl. Mgmt.*, 36: 484–492.—Counts and age ratios of *Falco peregrinus tundrius* were similar to data from recent years. Recent counts indicate a major population decline after 1947.—L.H.F.
- WILTSCHKO, W., H. HÖCK, AND F. W. MERKEL. 1971. Outdoor experiments with migrating European robins in artificial magnetic fields. *Z. Tierpsychol.*, 29: 409–415.—Birds were tested under natural skies and with or without artificial magnetic fields. Data seem to show that birds orient by the earth’s magnetic field, especially under overcast skies. However this moss-backed reviewer remains skeptical of the methods of analysis. The mean direction of activity of each bird for each night was determined by a computer and this was used as a single measurement. These measures, when analyzed statistically, give significant results, but an eyeball-test makes one wonder what would happen to the one-third or more birds that show mean directions in the half of circle away from the migratory direction.—H.C.M.
- WOO, P. O., K. W. HAM, AND M. Z. CHUN. 1969. Seasonal distribution and ecology of migrant bird populations studied by mist netting and banding in Korea. *Misc. Repts. Yamashina Inst. Ornithol.*, 5: 534–546.—During January–November 1968, 6,245 birds of 60 species were banded, chiefly at Kyonggi-do. Analyzes recoveries and returns, especially of *Hirundo rustica*. Korean heronries were censused, and herons have been banded since 1964. A shrike new to Korea (*Lanius excubitor bianchii*)

was captured. (In Japanese with English summary, tables, and figure captions).—K.C.P.

ZINK, G. 1971. The Migrations of European Swallows *Hirundo rustica* to Africa from data obtained through ringing in Europe. Ostrich, Suppl. 8: 211-222.

## MISCELLANEOUS

- ARNOLD, K. A., AND D. W. COON. 1972. Modifications of the cannon net for use with cowbird studies. J. Wildl. Mgmt., 36: 153-155.—Capture rates for small flocks of *Molothrus ater* averaged 80 percent without noticeable injuries.—L.H.F.
- AUSTIN, G. T., AND A. M. REA. 1971. Key to age and sex determination of Verdins. Western Bird Bander, 46: 41.—Uses color and molt differences to distinguish age and sex classes of *Auriparus flaviceps*.—M.H.C.
- BRAY, O. E., AND G. W. CORNER. 1972. A tail clip for attaching transmitters to birds. J. Wildl. Mgmt., 36: 640-642.
- CHRISTENSEN, S., B. P. NIELSEN, R. F. PORTER, AND I. WILLIS. 1972. Flight identification of European raptors. Brit. Birds, 65: 52-78.—This third article of the series deals with *Aquila* and *Haliaeetus*. Many drawings and photos.—H.B.
- CHRISTENSEN, C., B. P. NIELSEN, R. F. PORTER, AND I. WILLIS. 1972. Flight identification of European raptors. Brit. Birds, 65: 233-247.—The fourth part of the series deals with the harriers.—H.B.
- COLLINS, C. T. 1971. A new technique for capturing White-throated Swifts. Western Bird Bander, 46: 6-7.—Details of a small mist-net rig on a long pole that can be held up in front of nesting/roosting holes. It works well until the birds learn to avoid it (several months).—M.H.C.
- HARRISON, J. M., AND J. G. HARRISON. 1971. Ten colour varieties of the Eurasian Widgeon. Bull. Brit. Ornithol. Club, 91: 154-157.—Also describes four additional aberrantly colored individuals.—F.B.G.
- HICKS, E. A. 1971. Check-list and bibliography on the occurrence of insects in birds' nests. Supplement II. Iowa State J. Sci., 46: 123-338.—This supplement to the author's already voluminous work on this topic has all entries listed by both insect and bird orders. The alphabetical listing of orders will confuse some workers.—J.J.D.
- HILDEN, O. 1971. Activities of Finnish bird stations in 1969. Ornis Fennica, 48: 125-130.—A total of 34,750 birds were banded in 1969, and all nine stations were manned for at least some migration weeks. A large-scale irruption of Willow Tits (*Parus montanus*) was of interest. Rarities included the first Finnish record of Pallas' Sandgrouse (*Syrhaptes paradoxus*) since 1888 and the second Finnish record of *Phylloscopus fuscatus*.—M.D.F.U.
- LILJA, I., AND M. SOIKKELI. 1972. A Dunlin *Calidris alpina* scorched by an H-bomb explosion? Ibis, 114: 273-274.—Probably.—R.W.S.
- LOVARI, S. 1971. [Observations on some birds with abnormal bills.] Atti Acc. Fisio-critici Siena, Ser. 14, Vol. 3.—Describes and illustrates several rare abnormalities in passerine bills and suggests probable causes. (In Italian, English summary.—O.L.A., Jr.
- MILLS, J. A. 1972. A difference in band loss from male and female Red-billed Gulls *Larus novaehollandiae scopulinus*. Ibis, 114: 252-255.—Females lose bands faster than males. Discusses possible reasons why and implications to population dynamics studies.—R.W.S.

- OLSSON, V. 1972. [The 1971 action against egg collectors in Sweden.] *Vår Fågelvärld*, 31: 32-44.—The sad story of inveterate collectors' disastrous impact upon a shrinking avifauna. (In Swedish, detailed English summary.)—L. DE K. L.
- REA, A. M. 1971. A proposed age-sex manual for western birds. *Western Bird Bander*, 46: 36-37.—Project will issue "banding worksheets" for all western U.S. species containing keys to identification, age and sex characters, weight data, etc., to be inserted into WBB as available, with eventual compilation into a manual. The first two in the series, by J. M. Sheppard and C. T. Collins and dealing with the Black-headed Grosbeak and Western Tanager, are included in WBB, 46(3). The sheets should also prove useful outside banding.—M.H.C.
- SHARLAND, R. E. 1970. Ringing in Nigeria, 1969; twelfth annual report. *Nigerian Ornithol. Soc. Bull.*, 7: 94-98.—Lists 2,289 birds banded during year plus cumulative totals and details of recoveries.—M.H.C.
- WOODALL, P. F. 1971. A non-eumelanic Red-eyed Dove *Streptopelia semitorquata*. *Bull. Brit. Ornithol. Club*, 91: 153-154.—First record of noncumelanism in this species.—F.B.G.

#### PESTICIDES AND POLLUTION

- DAHLGREN, R. B., R. J. BURY, R. L. LINDER, AND R. F. REIDINGER. 1972. Residue levels and histopathology in pheasants given polychlorinated biphenyls. *J. Wildl. Mgmt.*, 36: 524-533.—*Phasianus colchicus* were given 10, 20, or 210 mg PCB per day when 11 weeks old. Birds 6 to 9 months old received 50 or 100 mg PCB every 3.5 days for 5 weeks. Birds were killed by PCB at all levels. These birds had smaller hearts and very small shrunken spleens.—L.H.F.
- FABER, R. A., R. W. RISEBROUGH, AND H. M. PRATT. 1972. Organochlorines and mercury in Common Egrets and Great Blue Herons. *Environmental Pollution*, 3: 111-122.—At a colony in California Common Egret nesting success declined while Great Blue Heron nesting success remained stable. The egret eggshells show a 15.2 percent thinning and the herons 10.4 percent thinning. Adult egret's brains have enough dieldrin to suggest dieldrin poisoning.—J.J.D.
- HAYNES, R. J. 1972. Effects of DDT on glycogen and lipid levels in Bobwhites. *J. Wildl. Mgmt.*, 36: 518-523.—*Colinus virginianus* fed 100 ppm DDT for 10 weeks had significantly greater quantities of liver lipids than controls, but no significant differences were noted in liver glycogen or carcass lipids.—L.H.F.
- HILL, E. F. 1972. Avoidance of lethal dietary concentrations of insecticide by house sparrows. *J. Wildl. Mgmt.*, 36: 635-639.—*Passer domesticus* were aware of Abate, Bromophos, Garclona, and DDT at concentrations of 1,500 ppm in their diet and selected nontreated feed when available.—L.H.F.
- JEFFERIES, D. J. 1972. Organochlorine insecticide residues in British bats and their significance. *J. Zool.*, 166: 245-263.—Includes laboratory feeding experiments on Bengalese finches (*Lonchura striata*). Bats are more sensitive to DDT than other mammals and the rate of metabolism of pp'-DDT to pp'-DDE by Pipistrelles (*P. pipistrellus*) is slower than that by *Lonchura*. Bats are also more heavily contaminated with residues of DDT-type material than either insectivorous or carnivorous birds.—M.H.C.
- JEFFERIES, D. J., AND M. C. FRENCH. 1972. Changes induced in the pigeon thyroid by p,p'-DDE and dieldrin. *J. Wildl. Mgmt.*, 36: 24-30.—Thyroids of *Columbia livia* that were fed dieldrin and p,p'-DDE at three dose rates for 56 days increased in weight and showed considerable colloid loss from follicles associated with hyperplastic

- epithelis. Birds fed DDE had increased liver and adrenal weights and decreased heart weights.—L.H.F.
- RAND, R. W. 1971. Some hazards to seabirds. *Ostrich*, Suppl. 8: 515-520.
- SEIDENSTICKER, J. C., IV, AND H. V. REYNOLDS III. 1971. The nesting, reproductive performance, and chlorinated hydrocarbon residues in the Red-tailed Hawk and Great Horned Owl in south-central Montana. *Wilson Bull.*, 83: 408-418.
- TEMPLE, S. A. 1972. Chlorinated hydrocarbon residues and reproductive success in eastern North American Merlins. *Condor*, 74: 105-106.
- VERMEER, K., AND F. A. J. ARMSTRONG. 1972. Mercury in Canadian prairie ducks. *J. Wildl. Mgmt.*, 36: 179-182.—Analyses of liver, breast muscle, and primary feathers from 190 ducks showed the fish-eating species had the highest mercury residues.—L.H.F.
- WESTPHAL, A., AND M. K. ROWAN. 1971. Some observations on the effects of oil pollution on the Jackass Penguin. *Ostrich*, Suppl. 8: 521-526.

## PHYSIOLOGY

- BARFIELD, R. J. 1971. Activity of sexual aggressive behavior by androgen implantation into the male Ring Dove brain. *Endocrinol.*, 89: 1470-1476.—Testosterone propionate activates the preoptic area of the brain for copulatory, courtship, and aggressive behavior in the dove. In contrast, in chickens only the neuroendocrine mechanism for activating copulatory behavior is located in the preoptic area.—S.L.L.G.
- BRACKENBURY, J. H. 1971. Airflow dynamics in the avian lung as determined by direct and indirect methods. *Resp. Physiol.*, 13: 319-329.—A flowmeter in the posterior dorsal secondary bronchi and measurement of the CO<sub>2</sub> contents of various air sacs indicate flow in a goose is unidirectional in voluntary breathing, but bidirectional if experimentally induced. Discusses the role of anterior air sacs, aerodynamic factors and topology.—A.S.G.
- BOUVEROT, P., AND P. DEJOURS. 1971. Pathway of respired gas in the air sacs-lung apparatus of fowl and ducks. *Resp. Physiol.*, 13: 330-342.—CO<sub>2</sub> is used as a tracer. Results support a unidirectional, caudal to cephalad flow pattern in the parenchymal parabronchi.—A.S.G.
- CHAN, M. Y., E. L. BRADLEY, AND W. N. HOLMES. 1972. The effects of hypophysectomy on the metabolism of adrenal steroids in the pigeon (*Columbia livia*). *J. Endocrinol.*, 52: 435-450.—Previous studies on adrenocortical functions in intact and hypophysectomized pigeons have led to the postulate that the avian adrenal cortex may be largely independent of pituitary control. This study re-evaluates that hypothesis using metabolic clearance rates of labeled adrenal hormone after chronic hypophysectomy. Results indicate that chronic hypophysectomy is accompanied by a corticosterone decline commensurate with the reduction in the plasma corticosterone concentration.—S.L.L.G.
- CONGREVE, P. 1972. Torpidity in the White-backed Swallow. *Emu*, 72: 32-33.—Second record for *Cheramoeca leucosternum*.—C.F.S.
- DAWES, C. M., AND K. SIMKISS. 1971. The effects of respiratory acidosis in the chick embryo. *J. Exp. Biol.*, 55: 77-84.—Avian embryos compensate for increased CO<sub>2</sub> tension late in incubation by increasing plasma bicarbonate levels. The extra bicarbonate seems to be obtained by resorption of eggshell minerals rather than from renal activity.—A.S.G.

- EPPLE, A., G. H. ORIANS, D. S. FARNER, AND R. A. LEWIS. 1972. The photoperiodic testicular response of a tropical finch, *Zonotrichia capensis costaricensis*. *Condor*, 74: 1-4.
- FLETCHER, R. A. 1971. Effects of vitamin A deficiency on the pituitary-gonadal axis of the California Quail, *Lophortyx californicus*. *J. Exp. Zool.*, 176: 25-34.—Presumed gonadotrophic cells of the pituitary decrease in number (males) or size (females). Gonads of deficient birds do not respond as well to gonadotropins as those of non-deficient birds. Vitamin A deficiency appears to decrease reproductive competence at both pituitary (and/or hypothalamic) and gonadal levels.—A.S.G.
- FOLLETT, B. K., C. G. SCANES, AND F. J. CUNNINGHAM. 1972. A radioimmunoassay for avian luteinizing hormone. *J. Endocrinol.*, 52: 359-378.—Describes an assay for luteinizing hormone developed specifically for the chicken and other gallinaceous birds. The radioimmunoassay is more sensitive for LH than the previously used specific bioassay.—S.L.L.G.
- GIRARD, H. 1971. Respiratory acidosis with partial metabolic compensation in chick embryo blood during normal development. *Resp. Physiol.*, 13: 343-351.—The growing chick embryo develops a relative respiratory acidosis, which is partially compensated by an increase of [HCO<sub>3</sub>-]. A stabilization at maximal degree of acidosis is reached between 15 and 19 days. Initiation of lung ventilation at 19 days with pipped shell reverses the tendency.—A.S.G.
- JACKSON, G. L. 1971. Avian luteinizing hormone-releasing factor. *Endocrinol.*, 89: 1454-1459.—LRF, isolated from extracts of chicken hypothalami, contained no arginine vasotocin and was similar to mammalian LRF in chromatograph and *in vitro* assays.—S.L.L.G.
- JACKSON, G. L. 1971. Comparison of rat and chicken luteinizing hormone-releasing factor. *Endocrinol.*, 89: 1460-1463.—Chromatographic analysis indicates rat and chicken LRF are chemically distinct.—S.L.L.G.
- JOHNSON, O. W., G. L. PHIPPS, AND J. N. MUGAAS. 1971. Injection studies of cortical and medullary organization in the avian kidney. *J. Morphol.*, 136: 181-190.—Examines 14 species from 5 orders. A cortical lobule contributed collecting ducts to several medullary lobules, while the latter may receive ducts from more than one cortical lobule. Thus a renal lobule is best described as "a group of medullary lobules which typically drains into a secondary ureteral branch plus the cortex associated with them." Homologies with mammalian condition are uncertain.—A.S.G.
- JONES, E. J. 1971. The incubation patch of birds. *Biol. Rev.*, 46: 315-339.—This thorough review covers especially the hormonal control of incubation patch formation and also discusses its occurrence in various groups, its function, and other related topics. In addition the author points out many areas for future investigations on incubation patches.—J.J.D.
- LJUNGGREN, L. 1971. [Stress propensities in Wood Pigeon *Columba palumba*.] *Vår Fågelvärld*, 30: 232-235.—Calculations of adrenal weights in relation to body weight, and mean adrenal weights of male and females in relation to the seasons, indicated that the birds experienced greatest stress during courtship, nesting, and in the winter, and least stress in the fall. An interesting study. (In Swedish, English summary).—L.DEK.L.
- MIKAMI, S. 1970. Histometric study of the avian retina. *Tori*, 20: 36-40.—Comparison of retinas of *Caprimulgus indicus jotaka*, *Otus bakkamoena semitorques*, *Garrulus glandarius japonicus*, *Cygnus cygnus*, *Uria aalge inornata*, and domestic chicken. "The layer of rods and cones and the inner plexiform layer are thicker in

the nocturnals than in the diurnals. The outer nuclear layer, the outer plexiform layer, and the layer of ganglion cells show no significant difference in thickness among these species. In all birds examined, the inner nuclear layer is constantly thicker than the outer nuclear layer. The layer of optic nerve fibers is thicker in the diurnals than the nocturnals." (From author's summary. In Japanese; table and figures not labelled in English.)—K.C.P.

- QUAY, W. B. 1972. Infrequency of pineal atrophy among birds and its relation to nocturnality. *Condor*, 74: 33-45.
- STETSON, M. H. 1971. Neuroendocrine control of photoperiodically induced fat deposition in White-crowned Sparrows. *J. Exp. Zool.*, 176: 409-414.—Electrolytic lesions in the ventral hypothalamus of adult male *Zonotrichia leucophrys* interrupted photoperiodically-induced hyperphagia and fattening. Lesions in the posterior infundibular complex or median eminence eliminated both fattening and testicular recrudescence. Lesions in the anterior median eminence or tractus hypophyseus eliminated fattening only. (Modified from author's abstract.)—A.S.G.
- TAZAWA, H., T. MIKAMI, AND C. YOSHIMOTO. 1971. Effect of reducing the shell area on the respiratory properties of chicken embryonic blood. *Resp. Physiol.*, 13: 352-360.—If about one-fourth of the total shell surface is coated with epoxy cement, either over the air space or at the narrow end, hatchability is poor and some chicks die even after pipping. No differences dependant on the end coated could be established for several respiratory parameters.—A.S.G.
- WIGGLESWORTH, V. B. 1971. Experimental biology, pure and applied. *J. Exp. Biol.*, 55: 1-12.—Superb commentary.—A.S.G.

#### TAXONOMY AND PALEONTOLOGY

- BENSON, C. W. 1971. Some further type material in Cambridge. *Bull. Brit. Ornithol. Club*, 91: 160-161.—Discusses *Hylophorba ruticilla* P. L. Sclater, *Zosterops cinerea* Swainson, and *Sylvia annulosa* Swainson.—F.B.G.
- BENSON, C. W., AND E. SCHUZ. 1971. A specimen of *Coua delalandei* (Temminck) (Cuculidae). *Bull. Brit. Ornithol. Club*, 91: 159-160.—Reports the discovery of perhaps the most recently taken specimen of this extinct species.—F.B.G.
- FORSHAW, J. F. 1971. A new parrot from the Sula Islands, Indonesia. *Bull. Brit. Ornithol. Club*, 91: 163-164.—Describes *Prioniturus platurus sinerubris* subsp. nov.—F.B.G.
- HOWARD, H. 1971. Pliocene avian remains from Baja California. *Los Angeles Co. Mus. Contrib. Sci.*, No. 217: 1-17.—Seven species of birds are represented in Early Pliocene marine deposits on Cedros Island. Predominant is a new species of flightless auk, *Mancalla cedrosensis*, represented by four incomplete skeletons plus 50 separate elements. Describes two other new species, *Puffinus tedfordi* and *Cerorhinca minor*.—H.H.
- KAHL, M. P. 1971. Social behavior and taxonomic relationships of the storks. *Living Bird*, 10: 151-170.—Based on observations, spanning 11 years, of breeding individuals of all 17 species of Ciconiidae, the author recommends a new classification recognizing three tribes but no subfamilies, and synonymizing 5 of Peters' 11 genera. Most important taxonomically of the various displays are those that precede breeding while males are establishing nest sites. The Wood Storks, *Mycteria* (including *Ibis*), are typified by display-preening in males and balancing posture in females. The Openbill Storks, *Anastomus*, the other genus in the Mycteriini give an advertising sway. The "Typical" Storks, *Ciconia* (including *Sphenorhynchus*, *Dissoura*, and *Euxenura*), of



- the Ciconiini, have a headshaking crouch. The Leptoptilini contains the Saddlebill and Black-necked Storks, *Ephippiorhynchus* (including *Xenorhynchus*) and the Jabiru, *Jabiru* which are solitary breeders, and have a flap-dash display that resembles, and may have developed from, a foraging maneuver. Also in this tribe are the Maribou and Adjutants, *Leptoptilos*, which exhibit swaying twig-grasping and are distinguished by features of the balancing posture. Certain behaviors not yet observed are predicted. Vocalizations, morphology, and numerous additional postures support the suggested classification. Eight b/w and 18 superb color photos, one of each species and one of *Balaeniceps rex*, accompany this fine paper.—G.E.W.
- KUROTKIN, E. N. 1971. [Concerning the avifauna of the Pliocene of Mongolia.] Mesozoic and Cenozoic Fauna of Western Mongolia; The Joint Soviet-Mongolian Scientific-Research Geological Expedition, Trans., 3: 58-67.—Discusses a small collection of fragmentary bird bones from Middle and Upper Pliocene localities in the Basin of Great Lakes. Describes the following new species: *Phalacrocorax mongoliensis*, *Cygnus pristinus*, *Anser devjatkini*, *Macrorhamphus finitimus*, and recognizes a duck (Tadorninae indet.) and a shorebird (Charadriiformes indet.). (In Russian.)—H.H.
- MARTENS, J. 1971. Artstatus von *Parus rufonuchalis* Blyth. J. Ornithol., 112: 451-458.—Argues that this is a valid species based on field observations of sympatric, segregated breeding with, and very different songs from, *P. rubidiventris*, with which Vaurie lumped it. (English summary.)—H.C.M.
- MAUERSBERGER, G. 1971. Über die östlichen Formen von *Prunella modularis* (L.). J. Ornithol., 112: 438-450.—Evaluates and discusses in detail the subspecies of the Dunnock, with remarks on distribution and evolution. (English summary.)—H.C.M.
- NAVAS, J. R. 1971. Estudios sobre la avifauna andinopatagonica. 1. Generos "*Upucerthia*, *Ochetorhynchus* y *Eremobius*" (Furnariidae). Rev. Mus. Argentine Cien. Nat. "Bernardino Rivadavia," 7: 267-304.—Taxonomy and Argentine distribution of *Upucerthia dumeteria*, *Ochetorhynchus ruficauda* and *Eremobius phoenicurus*, with some data on measurements, weights, and behavior.—E.E.
- PARKES, K. C. 1971. A new subspecies of *Pitta* from the Philippines. Bull. Brit. Ornithol. Club, 91: 98-99.—Describes *Pitta steeri coelestis* subsp. nov. on the basis of color shade characters.—F.B.G.
- SCHULTZ, G. A., AND R. B. CHURCH. 1972. DNA base sequence heterogeneity in the order Galliformes. J. Exp. Zool., 179: 119-128.—Competition experiments and thermal stabilities of interspecific DNA/DNA hybrids among 8 species in 5 genera and 3 families. Ribosomal RNA cistrons are conservative relative to DNA base sequences. The genus *Gallus* is no more closely related to tested members of the Phasianidae than to other species outside the family.—A.S.G.
- SHORT, L. L., AND W. J. BOCK. 1972. Possible hybrid *Jynx* is an aberrant *Jynx ruficollis*. Bull. Brit. Ornithol. Club, 92: 28-31.—Examination of a specimen reported to be a possible hybrid *Jynx ruficollis* × *J. torquilla* reveals that characters previously described as intermediate are more likely aberrant extremes of variation in *ruficollis*.—F.B.G.
- WAGSTAFFE, R. 1972. The status of *Oceanodroma tristrami* Salvin. Bull. Brit. Ornithol. Club, 92: 27-28.—Examination of the type of *Cymochorea owstoni* reveals it to be a synonym of *Oceanodroma tristrami*, which in turn is a valid race of *Oceanodroma markhami*.—F.B.G.