

## PERIODICAL LITERATURE

EDITED BY HERBERT W. KALE II

### ANATOMY AND EMBRYOLOGY

- BOCK, W. J., AND L. L. SHORT, JR. 1971. "Resin secretion" in *Hemicircus* (Picidae). *Ibis*, 113: 224-236.—Secretion probably produced by "fat-quills," modified powder feathers, and not by a skin gland. Function unknown.—R.W.S.
- BURTON, P. J. K. 1971. Comparative anatomy of head and neck in the Spoon-billed Sandpiper, *Eurynorhynchus pygmeus* and its allies. *J. Zool.*, 163: 145-163. —A study of the histology, epidermal papillae, tongue, musculature, skeleton, and feeding behavior of *E. pygmeus*, *Calidris ruficollis*, and *Limicola falcinellus*. *E. pygmeus* closely resembles *C. ruficollis* in most aspects other than bill form. The expanded bill of *E. pygmeus* functions chiefly to increase its capacity for tactile detection of prey. The suggestion of close relationship between *E. pygmeus* and *L. falcinellus* is rejected. A brief comparison is made between *Eurynorhynchus* and the spoonbills *Platalea* and *Ajaia*.—M.H.C.
- CAMPBELL, E., AND M. A. GIBSON. 1970. A histological and histochemical study of the development of the pineal gland in the chick, *Gallus domesticus*. *Canadian J. Zool.*, 48: 1321-1328.—This gland in birds until now has never been studied intensively. Includes 23 photomicrographs.—H.W.K.
- DURRER, H., AND W. VILLIGER. 1970. Schillerfarben der Stare (*Sturnidae*). *J. Ornithol.*, 111: 133-153.—Presents details on seven types of iridescence found in starlings. Melanin distribution and microstructure of keratin vary. The information is used to explain the relationships between genera and an evolutionary scheme is proposed. Five pages of photomicrographs. (English summary).—H.C.M.
- GREENBERG, J., AND Q. N. LAHAM. 1970. Reversal of malathion-induced teratisms and its biochemical implications in the developing chick. *Canadian J. Zool.*, 48: 1047-1053.—Various metabolites were injected together with malathion into fertile chicken eggs. Tryptophan prevented malformations and growth retardation. Nicotinamide, nicotinic acids, and quinolinic acid prevented malformations only. Other tryptophane-related compounds enhanced malathion-induced teratisms.—H.W.K.
- KENNEDY, R. J. 1971. Preen gland weights. *Ibis*, 113: 369-372.—Waterbird glands are larger than those of land birds, but the relationship is not that simple.—R.W.S.
- RISSE, A. C., JR. 1971. A technique for performing laparotomy on small birds. *Condor*, 73: 376-379.
- WARD, J. G., AND A. L. A. MIDDLETON. 1971. Weight and histological studies of growth and regression in the bursa of Fabricius in the Mallard, *Anas platyrhynchos*. *Canadian J. Zool.*, 49: 11-14.—Presents a classification of captive and wild mallard bursae on the basis of histological condition.—H.W.K.
- WARNER, R. W. 1971. The structural basis of the organ of voice in the genera *Anas* and *Aythya* (Aves). *J. Zool.*, 164: 197-207.—Describes the structure of the syrinx in *Anas* spp. and *Aythya* spp., and discusses the possible functions of such components as the bulla, internal tympaniform membranes, and pessulus. The syrinx in *Anas* differs greatly from that in *Aythya*, and possibly involves a different vocal mechanism. (From author's abstract).—M.H.C.

## BEHAVIOR

- BALGOOYEN, T. G. 1971. Pellet regurgitation by captive Sparrow Hawks (*Falco sparverius*). *Condor*, 73: 382-385.
- BALTIN, S. 1969. Zur Biologie und Ethologie des Talegalla-Huhns (*Alectura lathami* Gray) unter besonderer Berücksichtigung des Verhaltens während der Brutperiode. *Z. Tierpsychol.*, 26: 524-572.—Describes the breeding of two pairs of megapodes in the Frankfurt Zoological Garden. The birds build mounds of mixed earth and leaves 3 feet high by 12 feet wide. Females were attracted by mound-building activity and displays by the male on the mound. Presents data suggesting that the reworking of the mound functions in O<sub>2</sub> and CO<sub>2</sub> regulation and not in temperature control. (English summary.)—H.C.M.
- BELCHER, J. W., AND W. L. THOMPSON. 1969. Territorial defense and individual song recognition in the Indigo Bunting. *Jack-Pine Warbler*, 47: 76-83.—No significant difference was found in the reaction of *Passerina cyanea* to playback of recorded song types (self, neighbor, and stranger). Spectrograms and an analysis of song structure are given.—W.T.V.
- BROWN, L. H. 1971. The relations of the Crowned Eagle *Stephanoaetus coronatus* and some of its prey animals. *Ibis*, 113: 240-243.—Additional notes to author's 1966 article in *Ibis*, 108: 531-571. Interesting data on relations with the Sykes' monkey, the eagles' ability to kill large prey, and the amounts of food eaten in the wild state.—R.W.S.
- BUCKLEY, P. A. 1969. Disruption of species-typical behavior patterns in F<sub>1</sub> hybrid *Agapornis* parrots. *Z. Tierpsychol.*, 26: 737-743.—Some hybrids showed patterns not found in either parent species, others lost behaviors found in one or both parent species. Virtually all of the behavioral disruptions are potential inter-specific isolating mechanisms and would keep the species apart if the apparent sterility of hybrids should break down.—H.C.M.
- BYLIN, K. 1971. [Courtship and calls of the Red-throated Loon *Gavia stellata*.] *Vår Fågelvärld*, 30: 79-83.—Eight calls are described. The female is dominant during courtship. The main displays include initiation, dipping, diving, rearing, and surfing. (In Swedish, English summary.)—L.D.E.K.L.
- CATCHPOLE, C. K. 1971. Polygamy in Reed Warblers. *Brit. Birds*, 64: 232-233.
- CLARK, G. A., JR. 1971. The occurrence of bill-sweeping in the terrestrial foraging of birds. *Wilson Bull.*, 83: 66-73.
- CROZE, H. 1970. Searching image in Carrion Crows. *Z. Tierpsychol.*, Beiheft 5, 86 pp.—An ingenious series of field experiments testing various aspects of the specific searching image concept of predation. Crows rapidly learn to search for given types of prey in a given locality. Response to a given food situation varies slowly in the absence of reinforcement and can rapidly be reestablished with reinforcement. Polymorphic prey populations suffer lower overall mortality than monomorphic populations. Experiments utilized artificial larvae, made of dough, and food hidden under variously painted mollusc shells placed on various substrates in varying density. One of the interesting sidelights is that the study offers a rationale for the nesting of the Sandwich Tern in colonies of other species and the peculiar habit of the tern of defecating in the vicinity of the nest. The terns gain protection from the mobbing of predators by the gulls and tern eggs are camouflaged on the feces-stained substratum which is a considerably different pattern and color than the cryptic eggs of gulls. A predator, searching for gull eggs and harried by gulls, does not search for the quite different tern eggs. Another excellent study from Tinbergen's group.—H.C.M.

- CURIO, E. 1969. Funktionsweise und Stammesgeschichte des Flugfeinderkennens einiger Darwinfinken (*Geospizinae*). Z. Tierpsychol., 26: 394-487.—Some islands of the Galapagos have both the Galapagos Hawk and the Short-eared Owl, others only one, and still others none. All Galapagos finches show some fear of these avian predators, but those exposed to them frequently show more fear than those that lack exposure. Level of response to a sitting avian predator is directly dependent upon its rarity; apparently finches habituate to perched hawks or owls if they are seen frequently. The finches show little fear of the Galapagos Mockingbird, although it hunts after them viciously. (Two-page English summary.) H.C.M.
- DELIUS, J. D., AND G. THOMPSON. 1970. Brightness dependence of colour preferences in Herring Gull chicks. Z. Tierpsychol., 27: 842-849.—Chicks of *Larus argentatus* and *L. fuscus* were attracted to lighted panels of various colors. Variations in response to light intensity were shown for white and green, but not for red. Involved explanation of the results.—H.C.M.
- ELLISON, L. N. 1971. Spruce Grouse attacked by a Northern Shrike. Wilson Bull., 83: 99-100.
- FINLAY, J. C. 1971. Post-breeding nest cavity defense in Purple Martins. Condor, 73: 381-382.
- FRISCH, O. v. 1969. Die Entwicklung des Häherkuckucks (*Clamator glandarius*) im Nest der Wirtsvögel und seine Nachzucht in Gefangenschaft. Z. Tierpsychol., 26: 641-650.—Field observations and data from breeding the Great Spotted Cuckoo in captivity. Eggs hatch in 13.5 days, 5 days less than the eggs of its host, a magpie. A monogamous pairbond was shown by captive, hand-reared birds and eggs were layed in a magpie's nest. One egg was placed in a blackbird's nest, hatched, and hand-reared. (English summary.)—H. C. M.
- FRISCH, O. 1970. Zur Brutbiologie und Zucht des Spiessflughuhns (*Pterocles alchata*) in Gefangenschaft. J. Ornithol., 111: 189-195.—Two pairs of hand-reared sandgrouse bred in captivity. Each pair laid three clutches of eggs; one pair reared young for about 2 weeks, permitting close observation of feeding and watering techniques. The male brought water to the young in the breast feathers and the young were directed to food by the adults. (English summary.)—H.C.M.
- GILL, F. B., AND C. C. STOKES. 1971. Predation on a netted bird by Smooth-billed Ani. Wilson Bull., 83: 101-102.
- GINEVAN, M. E. 1971. Chipmunk predations on Bank Swallow. Wilson Bull., 83: 102.
- GRAMZA, A. F. 1970. Vocal mimicry in captive Budgerigars (*Melopsittacus undulatus*). Z. Tierpsychol., 27: 971-983.—Individuals kept in impoverished environments mimicked more than those kept in enriched environments. Birds showed a tendency to mimic the more complex of the sound patterns presented.—H.C.M.
- GÜTTINGER, H. R. 1970. Zur Evolution von Verhaltensweisen und Lautäusserungen bei Prachtfinken (Estrildidae). Z. Tierpsychol., 27: 1011-1075.—Over 250 individuals of 16 species were studied in captivity and their behavior and vocalizations analyzed. The data suggest a number of taxonomic revisions in the group. (English summary.)—H.C.M.
- HAGEN, H. -O. v. 1969. Stärlinge und Kärpflinge als Eiräuber bei der Winkerkrabbe *Uca vocator* (Herbst). Z. Tierpsychol., 26: 1-6.—*Quiscalus lugubris* preys upon female fiddler crabs in Trinidad, stealing and eating the eggs. (English summary.)—H.C.M.
- HARJU, H. J. 1971. Spruce Grouse copulation. Condor, 73: 380-381.

- HÖHN, E. O. 1971. Observations on the breeding behaviour of Grey and Red-backed Phalaropes. *Ibis*, 113: 335-348.—Based on observations of *Phalaropus fulicarius* and *P. lobatus* during one breeding season at Chesterfield Inlet, N.W.T., Canada.—R. W. S.
- IMMELMANN, K. 1969. Über den Einfluss frühkindlicher Erfahrungen auf die geschlechtliche Objektfixierung bei Estrildiden. *Z. Tierpsychol.*, 26: 677-691.—A summary of experiments involving cross-fostering between three species of Estrildine finches. At maturity, cross-fostered males preferred the foster parent species for courtship and all social activities, even if kept in isolation for prolonged periods after 33 days of age, when the young are just able to care for themselves. One of very few studies establishing sexual imprinting in altricial birds. (English summary.)—H.C.M.
- KNEUTGEN, J. 1970. Ein kranker Vogel gelangt durch ein Missverständnis an die Spitze der Rangordnung. *Z. Tierpsychol.*, 27: 840-841.—A hand-reared *Phylloscopus collybita* reached the top in the peck order in a group of captives because permanent postural defects, which were a result of defective nutrition during rearing, resembled aggressive postures in the species. (English summary.)—H.C.M.
- KOK, O. B. 1971. Vocal behavior of the Great-tailed Grackle (*Quiscalus mexicanus prosopidicola*). *Condor*, 73: 348-363.
- KROODSMA, D. E. 1971. Song variations and singing behavior in the Rufous-sided Towhee, *Pipilo erythrophthalmus oregonus*. *Condor*, 73: 303-308.
- KUNKEL, P. 1969. Zur Rückwirkung der Nestform auf Verhalten und Auslöserausbildung bei den Prachtfinken (*Estrildidae*). *Z. Tierpsychol.*, 26: 277-283.—Estrildid finches build a domed nest with a low entrance. The structures and postures associated with the behavior of feed begging in the nestlings appear to be adapted to this peculiar nest type. Nestlings beg with the head turned downwards, do not flutter wings, and have prominent markings in the gape. (English summary.)—H.C.M.
- LEMKE-PITSCHKE, H. 1970. Die Auswirkung verschieden langer Andressurzeiten auf das Generalisationsvermögen bei Wellensittichen. *Z. Tierpsychol.*, 27: 850-872.—Budgerigars with extensive and varied training in recognition performed better, and showed a better ability to generalize, than those trained for a briefer period and only to a single pair discrimination. (English summary.)—H.C.M.
- LEMON, R. E. 1971. Differentiation of song dialects in Cardinals. *Ibis*, 113: 373-377.—*Richmondia cardinalis* individual variation arises through positive processes during song development and not just through limitations in copying.—R.W.S.
- LUDWIG, J. 1971. Pheasant chases fox. *Wilson Bull.*, 83: 101.
- MADDEN, A. B. 1968. Kingbirds kill Purple Martins. *Jack-Pine Warbler*, 46: 137.
- MILLER, R. S., AND R. E. MILLER. 1971. Feeding activity and color preference of Ruby-throated Hummingbirds. *Condor*, 73: 309-313.
- ONIKI, Y. 1971. Wandering interspecific flocks in relation to ant-following birds at Belém, Brazil. *Condor*, 73: 372-374.
- SCHUBERT, G., AND M. SCHUBERT. 1969. Lautformen und verwandtschaftliche Beziehungen einiger Laubsänger (*Phylloscopus*). *Z. Tierpsychol.*, 26: 7-22.—Analysis of sound spectrograms of nine species of *Phylloscopus*. Six broods of the Willow Warbler and one of the Wood Warbler were hand-reared and the ontogeny of vocalizations was studied. Phyletic comparisons of calls and songs are presented. Several vocalizations appear to be innate. (English summary.)—H.C.M.
- SCHULTE, E.-H. 1970. Unterschiede im Lern- und Abstraktionsvermögen von binokular und monokular sehenden Hühnern. *Z. Tierpsychol.*, 27: 946-970.—

- Monocular domestic hens learned various pattern and color discriminations better than binocular birds. (English summary.)—H.C.M.
- SMITH, F. V., AND K. H. NOTT. 1970. The "critical period" in relation to the strength of the stimulus. *Z. Tierpsychol.*, 27: 108-115.—Using particular combinations of auditory and visual stimuli, it was possible to "imprint" domestic chicks as late as the age of 10 days. Discrimination between a novel and familiar imprinting stimulus was better for domestic chicks than for young Mallards, suggesting that wild birds may be inhibited from responding to some stimuli by some innate restriction.—H.C.M.
- SMITH, W. J. 1971. Behavioral characteristics of Serpophaginine tyrannids. *Condor*, 73: 259-286.
- SNOW, D. W. 1971. Social organization of the Blue-backed Manakin. *Wilson Bull.*, 83: 35-38.
- STEWART, P. A. 1971. Egg turning by an incubating Wood Duck. *Wilson Bull.*, 83: 97-99.
- TATE, J., JR. 1969. Red-breasted Nuthatch forages on Deer's back. *Jack-Pine Warbler*, 47: 32.
- THIELCKE, G., AND H. THIELCKE. 1970. Die sozialen Funktionen verschiedener Gesangsformen des Sonnenvogels (*Leiothrix lutea*). *Z. Tierpsychol.*, 27: 177-185.—Male Pekin Robins have three distinct song types: (1) long and highly variable, probably functioning in territorial defense; (2) short and relatively constant, probably functioning in facilitating contact between the pair; (3) a song used in courtship. Includes descriptions of behavior, female responses to song, and phyletic analysis. (English summary.)—H.C.M.
- THOMPSON, W. L., AND P. L. JANE. 1969. An analysis of Catbird song. *Jack-Pine Warbler*, 47: 115-125.—Sound spectrograms show individual 5-minute *Dumetella carolinensis* songs with 170 syllable patterns.—W.T.V.
- THOMPSON, W. L., AND J. O. RICE. 1970. Calls of the Indigo Bunting, *Passerina cyanea*. *Z. Tierpsychol.*, 27: 35-46.—Describes the development of calls. The first vocalization to appear is the "peep," which is gradually replaced by the "cheep"! At fledging a variety of other calls appears.—H.C.M.
- TURNER, D. A., AND J. GEBHART. 1971. "Food-wetting" by incubating African Skimmers *Rynchops flavirostris*. *Ibis*, 113: 244.
- VESELOVSKY, Z. 1970. Zur Ethologie der Hühnergans (*Cereopsis novaehollandiae* Lath.). *Z. Tierpsychol.*, 27: 915-945.—A detailed analysis of the behavior of the Cape Barren Goose leads the author to suggest that it should be placed in its own tribe, Cereospini, and not in Anserini or Tadornini. (English summary.)—H.C.M.
- WEMMER, C. 1969. Impaling behaviour of the Loggerhead Shrike, *Lanius ludovicianus* Linnaeus. *Z. Tierpsychol.*, 26: 208-224.—Studies of eight hand-reared birds; includes ontogeny, techniques, preferences for given types of impaling implements.—H.C.M.
- WICKLER, W., AND D. UHRIG. 1969. Bettelrufe, Antwoztzeit und Rassenunterschiede im Begrüssungsduett des Schmuckbartvogels *Trachyphonus d'arnaudi*. *Z. Tierpsychol.*, 26: 651-661.—The male's portion of the duet song of this barbet is very similar to the begging call of the young. Spectrographic analyses of vocalizations and descriptions of courtship behavior. (English summary.)—H.C.M.
- WINKEL, W. 1969. Experimentelle Untersuchungen an Zuckervögeln (Coerebidae) im Funktionskreis der Nahrungssuche: Über die Bedeutung von Farben, Formen und Zuckerkonzentrationen. *Z. Tierpsychol.*, 26: 573-608.—Experiments with *Cyanerpes cyaneus*, *Coereba flaccola*, and *Dacnis egregia* reveal that these honey-

- creepers prefer a one-fourth molar sucrose solution to more concentrated ones. Sucrose, glucose, fructose, and maltose solutions are preferred to water, but a number of other sugars are not. *Dacnis* shows a spontaneous preference for green; red and green of high saturation are spontaneously preferred to those of low saturation. It is easier to condition the birds to feed at objects colored yellow or orange than other colors. Color was more important than brightness, size, or shape in establishing conditioned preferences. Conditioned preferences were retained for 6 to 9 months without reinforcement. (English summary.)—H.C.M.
- WÜRDINGER, I. 1970. Erzeugung, Ontogenie und Funktion der Lautäusserungen bei vier Gänsearten (*Anser indicus*, *A. caerulescens*, *A. albifrons* und *Branta canadensis*). Z. Tierpsychol., 27: 257-302.—The production, development, and function of vocalizations of four species of geese. An involved, anatomical, developmental, and behavioral study. Many sound spectrograms. (English summary.)—H.C.M.
- YOUNG, A. M. 1971. Roosting of a Spotted Antbird (Formicariidae: *Hylophylax naevioides*) in Costa Rica. Condor, 73: 367-368.
- ZAHAVI, A. 1971. The social behaviour of the White Wagtail *Motacilla alba alba* wintering in Israel. Ibis, 113: 203-211.—Food distribution may be the proximate factor regulating the birds' behavior.—R.W.S.
- ZIEGLER, H., AND K. AKERT. 1969. Einfluss von Läsionen und elektrischer Reizung im Telencephalon der Taube auf Optimierungsverhalten und Umlernen. Z. Tierpsychol., 26: 866-876.—The effect of lesions in the telencephalon of the domestic pigeon on operant and reversal learning. The results suggest that the dorsal telencephalic structures in birds have functions analogous to those of the association cortex of mammals. (English summary.)—H.C.M.

## DISEASES AND PARASITES

- DICK, T. A., AND M. D. B. BURT. 1971. The life cycle and seasonal variation of *Davainea tetraoensis* Fuhrmann 1919, a cestode parasite of Ruffed Grouse, *Bonasa umbellus* (L.). Canadian J. Zool., 49: 109-119.—Two morphological variations of the cestode were found—fully developed mature worms in summer and poorly developed winter forms with no mature proglottids. Cysticeroids are described and compared.—H.W.K.
- GRESS, F., R. W. RISEBROUGH, AND F. C. SIBLEY. 1971. Shell thinning in eggs of the Common Murre, *Uria aalge*, from the Farallon Islands, California. Condor, 73: 368-369.
- HAIR, J. D., AND J. C. HOLMES. 1970. Helminths of Bonaparte's Gulls, *Larus philadelphia*, from Cooking Lake, Alberta. Canadian J. Zool., 48: 1129-1131.—Seven species of helminths—all new host records—were found in 33 Bonaparte's Gulls collected in the fall of 1969.—H.W.K.
- HILTON, D. F. J. 1970. A technique for collecting ectoparasites from small birds and mammals. Canadian J. Zool., 48: 1445-1446.—A solution of potassium hydroxide dissolves the host's hair or feathers and a zinc sulfate solution concentrates the ectoparasites. An efficient method if you do not need to preserve the skins.—H. W. K.
- MCLAUGHLIN, J. D., AND M. D. B. BURT. 1970. Observations on the morphology and life cycle of *Hymenolepsis hopkinsi* Schiller 1951 (Cestoda: Cyclophyllidae), a parasite of Black Ducks (*Anas rubripes* Brewster). Canadian J. Zool., 48: 1043-1046.—The life cycle of this cestode is described along with a brief description of the adult, egg string, and cysticeroid.—H.W.K.

## DISTRIBUTION AND ANNOTATED LISTS

- BARLOW, J. C., AND N. WILLIAMS. 1970. The Hutton Vireo (*Vireo huttoni stephensi* Brewster) in the Bradshaw Mountains, Arizona. Canadian J. Zool., 48: 1447-1448.—Recorded for the first time as occurring and breeding in central Arizona. (Authors' abstract.)—H.W.K.
- BONHAM, P. F. 1971. A Spotted Sandpiper in autumn plumage. Brit. Birds, 64: 124-125.—Near St. Ives, Cornwall, 17-29 August 1970.—H. B.
- BOOTH, W. M. 1969. Birds of the Benton Harbor-St. Joseph Waterfront. Jack-Pine Warbler, 47: 44-54.—A summary of rarities and large aggregations of migrating birds recorded along the eastern shore of Lake Michigan between 1962 and 1968.—W.T.V.
- BRITTON, P. L., AND L. H. BROWN. 1971. Breeding sea-birds at the Kiunga Islands, Kenya. Ibis, 113: 364-366.
- BROWN, W. H. 1971. An annotated list of the birds of Iowa. Iowa State J. Sci., 45: 387-469.—Accounts of 369 species reported from Iowa include a statement on status, extreme dates of occurrence, usually a reference to a published record, and perhaps a comment on where the bird is found. Includes a rather extensive bibliography on Iowa birds.—J.J.D.
- COX, G. 1968. Black-headed Gull at Ft. Macon, N. C. Chat, 32: 28.—First sight record for North Carolina.—E.F.P.
- CRAMP, S. 1971. The Dead Sea Sparrow: further breeding places in Iran and Turkey. Ibis, 113: 224-245.
- DICKERMAN, R. W. 1971. Notes on various rails in Mexico. Wilson Bull., 83: 49-56.
- ENLOE, M. 1970. Goshawk at Franklin, N. C. Chat, 34: 79-80.—First sight record of *Accipiter gentilis* for the state.—E.F.P.
- FORSYTHE, D. M. 1969. An annotated list of the birds of Woodlawn Cemetery, Toledo, Ohio. Jack-Pine Warbler, 47: 84-90.—The 150 species recorded represents 52 percent of those that occur in the county.—W.T.V.
- FRIEDMANN, H., AND J. G. WILLIAMS. 1971. The birds of the lowlands of Bwamba, Toro Province, Uganda. Contrib. Sci., Los Angeles County Mus., No. 211: 1-70.—The avifauna recorded from the lowlands (below 5,000 feet) of Bwamba includes 380 species, 81 of which are additional to the only previous local catalog, that by the van Somerens in 1949. Of these, 52 are true forest birds; the other 20 inhabit open country. Many of the forest species constitute additions to the known ornithology of Uganda, and while most have been reported in earlier papers by the authors, two here are listed for the first time: *Himantornis haematopus* and *Glaucidium castaneum*. One other, *Urotrochis macrourus*, was previously reported only on the basis of sight records, which are now corroborated by a specimen of record.—H.F.
- GRANT, G. S. 1970. Decline of the Double-crested Cormorant as a breeding bird in North Carolina. Chat, 34: 34-36.—*Phalacrocorax auritus* no longer breeds at Great Lake or Lake Ellis. Because its decline began before pesticides became an environmental problem, abandonment of the nest colony is attributed to Fish Crow depredations and the long distance to feeding sites.—E.F.P.
- HOLGERSEN, N. E. 1971. Black-necked Stilt nesting in Delaware. Wilson Bull., 83: 100.
- HOLMES, R. P., III. 1969. Prairie Falcon in Carteret County, N. C. Chat, 33: 26.—First sight record of *Falco mexicanus* for state.—E.F.P.
- ILNICKY, N. J. 1969. Sighting of a King Rail in the upper peninsula. Jack-Pine

- Warbler, 47: 104.—First positive record of *Rallus elegans* for Michigan's upper peninsula.
- JEHL, J. R., JR. 1971. The status of *Carpodacus mcgregori*. *Condor*, 73: 375-376.
- JOHNSON, R. R., AND J. M. SIMPSON. 1971. Important birds from Blue Point Cottonwoods, Maricopa County, Arizona. *Condor*, 73: 379-380.
- JONES, H. L. 1968. Western Meadowlark at Raleigh, N. C. *Chat*, 32: 104.—Second sight record for North Carolina; identification based on song.—E.F.P.
- JONES, H. L. 1969. A review of the Pine Grosbeak records from the Carolinas. *Chat*, 33: 1-2. Occurrences correlated with major southward flights of Evening Grosbeaks, Purple Finches, and Pine Siskins.—E.F.P.
- KAELLGREN, A. K. 1968. Cattle Egrets in Algoma District, Ontario. *Jack-Pine Warbler*, 46: 96.
- MCCASKIE, G. 1971. Rusty Blackbirds in California and western North America. *California Birds*, 2: 55-68.—Fifty records of *Euphagus carolinensis* in the western states fall between October and March, with the majority (82%) in late autumn. Most occurrences are from interior regions and their timing coincides with the migration period of eastern populations. This situation contrasts with that shown by most vagrant eastern warblers in California.—J.R.J.
- MCCASKIE, G., AND S. SUFFEL. 1971. Black Skimmers at the Salton Sea, California. *California Birds*, 2: 69-71.—Records from July 1968, July 1969, and May 1970 may indicate a range expansion.—J.R.J.
- NEEDHAM, F. 1968. Immature Red-breasted Merganser at Wrightsville Beach, N. C. *Chat*, 32: 27.—Flightless downy young bird is first evidence of breeding in state.—E.F.P.
- OHLENDORF, H. M., AND R. F. PATTON. 1971. Nesting record of Mexican Duck (*Anas diazi*) in Texas. *Wilson Bull.*, 83: 97.
- PAYNE, R. B. 1969. Band-tailed Pigeon in southwestern Michigan. *Jack-Pine Warbler*, 47: 54-55.—With photograph.—W.T.V.
- PICOZZI, N. 1971. Evening Grosbeak on St. Kilda: a species new to Britain and Ireland. *Brit. Birds*, 64: 189-194.—On 26 March 1969.—H. B.
- POST, W. 1970. Range expansion of the Cattle Egret into interior South Carolina. *Chat*, 34: 31-33.—Springfield heronry, about 90 miles from the coast, had about 120 *Bubulcus ibis* nests in June 1968. Adults probably flew up to 13 miles to feed.—E.F.P.
- POST, W., AND M. M. BROWNE. 1971. Seaside Sparrow hits a TV tower near Raleigh, North Carolina. *Wilson Bull.*, 83: 102-103.
- PRATT, H. D. 1971. Additional notes on the birds of the Great Smoky Mountains National Park in North Carolina. *Chat*, 35: 1-4.—Second sight record of Goshawk from North Carolina.—E.F.P.
- ROBERT, H. 1971. First record of Field Sparrow in California. *California Birds*, 2: 72.—Farallon Islands, 17 June 1969.—J.R.J.
- SCHROEDER, A. B. 1969. Some notes on the occurrence of the Harris' Sparrow in Michigan. *Jack-Pine Warbler*, 47: 2-9.—Details of 85 records of *Zonotrichia querula* for 15 counties from 1957 to 1968.—W.T.V.
- SCHROEDER, A. B., AND T. B. DEBLAEY. 1968. The birds of Ottawa County, Michigan. *Jack-Pine Warbler*, 46: 98-130.—An annotated list of 265 species recorded mainly from 1963 to 1968, including a seasonal distribution chart with nesting dates.—W.T.V.
- SEALY, S. G., F. H. FAY, J. BEDARD, AND M. D. F. UDVARDY. 1971. New records and zoogeographical notes on the birds of St. Lawrence Island, Bering Sea. *Condor*, 73: 322-336.



- SHALLENBERGER, R. J., AND J. P. MYERS. 1971. First nesting record for the Frigatebird (*Fregata minor*) in the main Hawaiian Islands. *Condor*, 73: 385-386.
- SHARROCK, J. T. R. 1971. Scarce migrants in Britain and Ireland during 1958-67. *Brit. Birds*, 64: 93-113.—Includes Pectoral Sandpiper, Sabine's Gull, and American land birds.—H.B.
- SHAW, H. G. 1971. Record of Mearns' Quail, *Cyrtonyx montezumae* (Vigors) near Flagstaff, Arizona. *Southwestern Naturalist*, 16: 125.
- SHULER, J. 1968. Removal of Harris' Sparrow from the hypothetical list for South Carolina. *Chat*, 32: 78.—Sight record confirmed by published photograph.—E.F.P.
- SIMPSON, M. B., JR. 1968. The Saw-whet Owl: breeding distribution in North Carolina. *Chat*, 32: 83-89.—Literature summary plus 13 calling records from 11 sites in the Great Balsam Mountains, Plott Balsams, and Roan Mountain. April through August these owls are uncommon residents of Canadian zone spruce-fir forests.—E.F.P.
- SIMPSON, M. B., JR. 1968. High altitude occurrences of the American Woodcock in western North Carolina. *Chat*, 32: 35-39.—Although displaying males are present in spring at elevations from 4,900 feet to 6,200 feet along the Blue Ridge Parkway, no females or nests have been found.—E.F.P.
- SIMPSON, M. B., JR. 1969. The Prothonotary Warbler in the Carolina piedmont. *Chat*, 33: 31-37.—*Protonotaria citrea* is locally common in the Yadkin River basin. Scattered records from piedmont North and South Carolina suggest widespread nesting wherever suitable habitat is available.—E.F.P.
- SIMPSON, M. B., JR., AND D. PRATT. 1968. Clay-colored Sparrow at Columbia, S. C. *Chat*, 32: 78.—Second record for state.—E.F.P.
- TRAPP, J. L. 1969. Southwest Berrien County phoebe survey. Jack-Pine Warbler, 47: 133-134.—Although biased by sample size difference and date checked, a comparison of 1967-1968 data suggests successful breeding status for *Sayornis phoebe*.—W.T.V.
- WAHL, T. R., AND H. E. WILSON. 1971. Nesting record of European Skylark in Washington State. *Condor*, 73: 254.
- WESTERNHAGEN, W. VON. 1970. Über die Brutvögel der Banc d'Arguin (Mauretania). *J. Ornithol.*, 111: 206-225.—Observations on breeding birds, migrants, and visitors on the islands near Mauretania off the coast of West Africa. Notes changes in bird populations since earlier reports. (English summary.)—H.C.M.
- WILBUR, S. R., W. D. CARRIER, AND G. McCASKIE. 1971. The Lark Bunting in California. *California Birds*, 2: 73-76.—A rare and irregular visitor, principally in fall migration.—J.R.J.

#### ECOLOGY AND POPULATION

- ANDERSON, W. 1970. A preliminary study of the relationship of saltponds and wildlife—South San Francisco Bay. *California Fish and Game*, 56: 240-252.—Fifty-five species of birds used five study ponds. Relates the occurrence of some species to the salinity of the various ponds and lists stomach contents of a number of birds collected.—J.J.D.
- ANDERSSON, G. K. A., AND A. LARSSON. 1971. [The Marsh Harrier *Circus aeruginosus* in Sweden.] *Vår Fågelvärld*, 30: 99-105.—The national census recorded about 200 breeding pairs. (In Swedish, English summary.)—L.DEK.L.
- ASCHOFF, J., E. GWINNER, A. KURECK, AND K. MÜLLER. 1970. Diel rhythms of

- chaffinches, *Fringilla coelebs* L., tree shrews, *Tupaia glis* L., and hamsters, *Mesocricetus auratus* L., as a function of season at the Arctic Circle, *Oikos* Suppl., 13: 91-100.—Gives data from five chaffinches exposed to natural light but indoor temperatures for about a year. Phase differences were most positive in mid-summer and minimal at the equinoxes. During the breeding months, daily onset of activity was earlier than predicted by the remainder of the yearly pattern.—S.C.W.
- BENGTSON, S. A. 1970. Location of nest-sites of ducks in Lake Mývatn area, north-east Iceland. *Oikos*, 21: 218-229.—Gives nest site distribution and relation to vegetation and water for species of *Anas* (5), *Aythya* (2), *Mergus*, *Bucephala*, *Clangula*, and *Melanitta*. Discusses selection for nest site preference by predators and competitors.—S.C.W.
- BENGTSON, S. A. 1971. [A survey of the Water Rail, *Rallus aquaticus*, populations at Hammarsjön and Krankesjön in southern Sweden 1967-1969.] *Vår Fågelvärld*, 30: 29-32.—Three survey methods are appraised. One case of polygyny, first record for the species, was found. (In Swedish, English summary.)—L.DEK.L.
- BERGERUD, A. T. 1970. Population dynamics of the willow ptarmigan *Lagopus lagopus alleni*. L. in Newfoundland 1955-1965. *Oikos*, 21: 299-325.—A detailed study of population density, age structure, nesting success, and mortality. Observations cover a full cycle of abundance and are consistent with a self-regulatory process operating by variation of parental quality with the stage of population growth.—S.C.W.
- BROBERG, L. 1971. [The Bittern *Botaurus stellaris* in Sweden 1969.] *Vår Fågelvärld*, 30: 91-98.—The national census revealed 150 males on territory at 44 lakes. (In Swedish, English summary.)—L.DEK.L.
- CALDER, W. A. 1971. Temperature relationships and nesting of the Calliope Hummingbird. *Condor*, 73: 314-321.
- DOERR, P. D., L. B. KEITH, AND D. H. RUSCH. 1971. Effects of fire on a Ruffed Grouse population. *Proc. Ann. Tall Timbers Fire Ecol. Conf.*, 10: 25-46.—Evaluates the effect of a 25 May wildfire on a *Bonasa umbellus* population in central Alberta. Two years of demographic information prior to the fire and 2 years postfire study enabled comparison of various population parameters before and after the fire on burned versus unburned areas. A late spring wildfire is disastrous to nests and causes adults to emigrate. Spring populations for the 2 postfire years were 50 percent of the prefire level.—H.W.K.
- FITTER, R. S. R. 1971. Black Redstarts breeding in Britain in 1964-68. *Brit. Birds*, 64: 117-124.—Fluctuations in numbers reported are believed to be real. The population in 1968 was very low.—H.B.
- GEORGE, U. 1970. Beobachtungen an *Pterocles senegallus* und *Pterocles coronatus* in der nordwest-Sahara. *J. Ornithol.*, 111: 175-188.—Observations on two species of sandgrouse in the spring of 1969. *P. senegallus* is found in semidesert and islands of vegetation in the desert, and only a small percentage of the population bred during this very dry year. *P. coronatus* inhabits barren desert and breeding was apparently unaffected by the dry conditions. (English summary.)—H.C.M.
- GILES, R. H., JR. 1970. The ecology of a small forested watershed treated with the insecticide malathion S<sup>85</sup>. *Wildlife Monogr.*, No. 24. 81 pp.—Birds seemed to react to the insecticide for 2 days after spraying, but no lasting effects were noted.—H.W.K.
- HAVERSCHMIDT, F. 1971. Large number of birds exploiting a fruit tree in Surinam. *Wilson Bull.*, 83: 104-105.
- JEHL, J. R., JR. 1971. Patterns of hatching success in subarctic birds. *Ecology*,

- 52: 169-173.—Data collected at Churchill, Manitoba support Ricklef's contention that hatching success among arctic passerines exceeds that of temperate zone passerines. Little difference was found between hatching success of ground nesting species having altricial young and those with precocial young. During this study predation was an important source of nesting failure, but not in a density-dependent manner.—C.R.B.
- JOHANSSON, H. 1971. [Breeding bird census in a planted seashore forest and an elm forest in southern Sweden.] *Vår Fågelvärld*, 30: 23-28.—The population densities are compared with those in similar habitats elsewhere in Sweden. Changes wrought upon the environment by a devastating hurricane and the birds' reactions are discussed. (In Swedish, English summary.)—L.DEK.L.
- KREBS, J. R. 1970. Regulation of numbers in the Great Tit (Aves: Passeriformes). *J. Zool.*, 162: 317-333.—Mathematical analyses of *Parus major* data from Marley Wood near Oxford. The tit population is regulated by clutch size, hatching success, and, to a lesser degree, territorial behavior; the first two factors are shown to be density-dependent. Territorial behavior determines breeding density and outside the breeding season it may produce a density-dependent effect.—M.H.C.
- KREBS, J. R. 1971. Territory and breeding density in the Great Tit, *Parus Major* L. *Ecology*, 52: 2-22.—Territorial pairs of Great Tits removed from a woodland populations were rapidly replaced by newcomers from surrounding hedgerow territories which remained vacant. Because the reproductive success of this species is suboptimal in hedgerows as compared to woodland, it seems that territory limits breeding density in the optimal habitat. Artificially increased winter food supply had no effect on breeding Great Tit populations, but was correlated with greater Blue Tit (*P. caeruleus*) populations. The author contends that yearly variations in territory size are the result of interactions between the birds and are not adjustments to environmental fluctuations, and concludes that territory is not an important density-dependent factor in regulating Great Tit populations.—C.R.B.
- MICHAEL, E. D., AND P. I. THORNBURGH. 1971. Immediate effects of hardwood removal and prescribed burning on bird populations. *Southwestern Naturalist*, 15: 359-370.—Pine forests with hardwoods removed had more birds than pine-hardwood stands. Burned pine-hardwood stands have a more open canopy and more birds than unburned stands.—J.J.D.
- MORSE, D. H. 1971. Effects of the arrival of a new species upon habitat utilization by two forest thrushes in Maine. *Wilson Bull.*, 83: 57-65.
- MORSE, D. H. 1971. The foraging of warblers isolated on small islands. *Ecology*, 52: 216-228.—A 3-year study of the avifauna of seven small islands off the coast of Maine reveals the presence of one to three species of wood warblers (Parulidae) per island. The Parula Warbler (*Parula americana*) is always present on islands having only a single species. If two species are present, they are always the Parula and Myrtle Warblers (*Dendroica coronata*). The Black-throated Green Warbler (*D. virens*) only occurs in the presence of the latter two species. The foraging behavior of insular Parula and Myrtle Warblers, in comparison to mainland populations, is more variable than that of the Black-throated Green. Black-throated Green Warblers dominate the other two species socially, but experienced lower nesting success. Plasticity of foraging in Parula and Myrtle Warblers may be associated with their subordination, while stereotyped foraging behavior in the Black-throated Green may be an adaptation to the high population densities it normally experiences.—C.R.B.
- NILSSON, L. 1970. Food-seeking activity of south Swedish diving ducks in the

- non-breeding season. *Oikos*, 21: 145-154.—Gives daily patterns of activity for *Aythya marila*, *A. fuligula*, *A. ferina*, *Bucephala clangula*, *Clangula hyemalis*, *Somateria mollissima*, *Mergus merganser*, *M. serrator*, and *M. albellus* on lakes and coastal waters of Sweden. Discusses effect of temperature on food-seeking intensity.—S.C.W.
- OHLENDORF, H. M. 1971. Arthropod diet of a Western Horned Owl. *Southwestern Naturalist*, 16: 124-125.—The stomach of a *Bubo virginianus pallescens* contained spiders, centipedes, and orthopterous insects.—J.J.D.
- PERSSON, B. 1971. [A survey of the breeding bird populations in an open formerly agricultural landscape, southern Sweden.] *Vår Fågelvärld*, 30: 19-22.—Discusses general problems connected with censuses in open areas. (In Swedish, English summary.)—L.DEK.L.
- REDFIELD, J. A., F. C. ZWICKEL, AND J. F. BENDELL. 1971. Effects of fire on numbers of Blue Grouse. *Proc. Ann. Tall Timbers Fire Ecol. Conf.* 10: 63-83.—Studies of several *Dendragapus obscurus* populations on Vancouver Is., B. C. after wildfires suggest that the immediate effect of wildfire may be inconsequential to Blue Grouse populations. Areas that are logged and slash-burned support no more grouse than areas that are only logged. Authors caution that the long-term effects of repeated burning in Pacific coast regions may be harmful to the ecosystem.—H.W.K.
- ROBINSON, W. L., AND D. E. MAXWELL. 1968. Ecological study of the Spruce Grouse on the Yellow Dog Plains. *Jack-Pine Warbler*, 46: 74-83.—An examination of factors influencing populations of *Canachites canadensis* in Marquette County, Michigan from 1965-1967, discusses courtship, nesting, incubation, hatching, brood rearing, predation and blood parasites.—W.T.V.
- SHARP, W. M. 1971. The role of fire in Ruffed Grouse habitat management. *Proc. Ann. Tall Timbers Fire Ecol. Conf.*, 10: 47-61.—*Bonasa umbellus* populations in the oak-hickory association in central Pennsylvania reach densities of 1 grouse per 10 or more acres in areas subject to agricultural or forestry practices with the absence of controlled burning. Under fire management habitat will produce and carry one bird per each 2 to 4 acres. The author hypothesizes that the Ruffed Grouse is a fire climax species or one that benefits from recurring fires in its habitat.—H.W.K.
- SIEGFRIED, W. R. 1971. Feeding association between *Podiceps ruficollis* and *Anas smithii*. *Ibis*, 113: 236-238.—Cape Dadchicks feeding commensally with Cape Shovellers on farm dam near Stellenbosch, South Africa. Discusses reasons for association.—R.W.S.
- SNOW, D. W. 1971. Evolutionary aspects of fruit-eating by birds. *Ibis*, 113: 194-202.—Good theoretical discussion of bird-plant interactions, especially relative to plant dispersion.—R.W.S.
- STOLT, B. O., AND J. W. MASKER. 1971. [Wintering Siskins *Carduelis spinus* in Scandinavia and Finland 1960-61 and 1961-62.] *Vår Fågelvärld*, 30: 84-90.—Discusses food supplies and population densities in relation to wintering and migration. (In Swedish, English summary.)—L. DEK.L.
- SVENSSON, S. 1971. [On breeding bird censuses and surveys.] *Vår Fågelvärld*, 30: 6-14.—Plan for a 10-year national breeding bird survey in Sweden to start 1972. (In Swedish, English summary.)—L.DEK.L.
- SVENSSON, S. 1971. [Work load as related to effectivity of square kilometer censuses in Scania.] *Vår Fågelvärld*, 30: 15-18.—Within one square kilometer an observation time of 6 hours is required to record 90 percent of the diurnal bird populations. (In Swedish, English summary.)—L.DEK.L.

- TERBORGH, J. 1971. Distribution on environmental gradients: theory and a preliminary interpretation of distributional patterns in the avifauna of the Cordillera Vilcabamba, Peru. *Ecology*, 52: 23-40.—Uses data obtained by extensive netting at 15 stations on a uniform elevational gradient to illustrate a new approach to the study of avian distribution. Distributional limits are assigned to one of three mutually exclusive models based upon environmental conditions, competitive exclusion, or ecotones. In preliminary tests of these models, ecotones are responsible for about 20 percent of distributional limits, competitive exclusion for about 30 percent and gradually changing environmental conditions account for about 50 percent of all limits.—C.R.B.
- THOMPSON, D. Q., AND R. H. SMITH. 1971. The forest primeval in the Northeast—a great myth? *Proc. Ann. Tall Timbers Fire Ecol. Conf.*, 10: 255-265.—A historical review of descriptions of the early vegetation and wildlife in the northeast, including the use of fire, by the American Indian. The extirpation of the Heath Hen, bison and the Prairie Chicken, and reductions in populations of deer, Ruffed Grouse and Bobwhite since early colonial times is largely a result of fire suppression in the range of the oak-chestnut association in the northeast.—H.W.K.
- VERMEER, K. 1970. Distribution and size of colonies of White Pelicans, *Pelecanus erythrorhynchos*, in Canada. *Canadian J. Zool.*, 48: 1029-32.—The total breeding population of White Pelicans in Canada was censused by boat and float plane and estimated to consist of 30,000 birds for the years 1967-69. The boundaries of the breeding range were found to coincide closely with the 0°C isotherm in April, the southern boundary of the Canadian Shield, and the eastern boundary of the Rocky Mountains.—H.W.K.
- WAUER, R. H. 1971. Ecological distribution of birds of the Chisos Mountains, Texas. *Southwestern Naturalist*, 16: 1-29.—Describes six major plant associations of the area and lists the birds and other vertebrates generally found in each. Of 81 species that nest in the area, none nests in all associations and only three nest in five of them. Presents details on nests and abundance of some species.—J.J.D.
- WINKEL, W. 1970. Experimentelle Untersuchungen zur Brutbiologie von Kohl- und Blaumeise (*Parus major* und *P. caeruleus*). Über Legeperiode, Eigrösse, Brutdauer, Nestlingsentwicklung und Reaktion bei Veränderung der Eizahl. *J. Ornithol.*, 111: 154-174.—An intensive study of 53 first broods of Great Tits and 39 first broods of Blue Tits in 1969 near Brunswick. Observations on clutch size, laying dates, egg size, brood size, nestling weight, etc. An excellent, detailed study. (Detailed English summary.)—H.C.M.

## EVOLUTION AND GENETICS

- ANDERSON, B. W. 1971. Man's influence on hybridization in two avian species in South Dakota. *Condor*, 73: 342-347.
- KEAST, A. 1970. Adaptive evolution and shifts in niche occupation in island birds. *Biotropica*, 2: 61-75.—The insular avifauna of Tasmania is impoverished by comparison with similar habitats in adjacent southern Victoria, Australia. For small passerines the relative figures are 43 and 89 species, respectively. Some species on Tasmania broadened their feeding behavior and adjusted morphologically as they occupied previously vacant or underexploited niches, and created a balance within the insular avifauna whereby vacant niches are apparently eliminated. Species that invaded vacant niches on Tasmania for the most part are ones that

- already feed to a much more limited extent in these niches on the mainland. This redivision of ecological roles presumably occurred following the most recent break in land bridge to Australia approximately 12,000 years ago.—J.C.O.
- LACK, D. 1970. Island birds. *Biotropica*, 2: 29–31.—Primeval habitats on islands support relatively low numbers of bird species, more often due to ecological impoverishment than to an inability of new species to reach islands. Factors responsible for impoverished avifaunas include obvious absence of some habitats, absence of unrecognized ecological requirements for certain species, lack of permanence for certain ecological requirements, or the tendency for one species with a broad niche to replace several specialized species. More recent arrivals to islands likely face primeval habitats that are “ecologically full” and relatively stable. High frequencies of endemism may be due to faster rates of local adaptations on islands than formerly recognized, and be proportional to the degree of difference between island habitats and adjacent mainland habitats. Species content on islands may be the result of chance, whichever species or family groups arrive first and through rapid adaptations secure available habitats. Relatively uniform climatic conditions on islands result in adult birds living close to their food limits and evolving reduced clutch-size.—J.C.O.
- RISING, J. D. 1970. Morphological variation and evolution in some North American orioles. *Syst. Zool.*, 19: 315–351.—Reviews the “oriole situation” in the Great Plains and in Mexico and suggests that the various morphotypes of orioles are stable entities, correlated with different adaptive modes. Step-clines of the sort that appear in the Great Plains can arise by means other than secondary contact, such as geographic variation in the expression of “modifier gene complexes.” The writer arbitrarily prefers the recognition of three specific taxa in the complex: *Icterus galbula*, *I. bullockii*, *I. abeillei*.—J.R.
- SHAUGHNESSY, P. D. 1971. Frequency of the white phase of the Southern Giant Petrel, *Macronectes giganteus* (Gmelin). *Australian J. Zool.*, 19:77–83.—The frequency of white phase birds in breeding colonies is not related either to latitude or position relative to the Antarctic Convergence.—J.J.D.

## GENERAL BIOLOGY

- BALDA, R. P., AND G. C. BATEMAN. 1971. Flocking and annual cycle of the Piñon Jay, *Gymnorhinus cyanocephalus*. *Condor*, 73: 287–302.
- BECKING, J. H. 1971. The breeding of *Collocalia gigas*. *Ibis*, 113: 330–334.—Describes nests from West Java. Additional evidence that nests of this genus are of taxonomic value.—R.W.S.
- BROWN, L. H., AND A. ROOT. 1971. The breeding behaviour of the Lesser Flamingo *Phoeniconaias minor*. *Ibis*, 113: 147–172.—Summarizes data from 1964 to 1969, especially at Lake Magadi, Kenya and Lake Natron, Tanzania. Includes much information on breeding biology: population estimates, nesting success, moult, predation, etc., “Breeding biology” would have been a more appropriate title.—R.W.S.
- CARPENTER, J. W. 1971. Notes on the biology and behavior of captive Boat-billed Herons, *Cochlearius cochlearius*. *Southwestern Naturalist*, 16: 31–41.—A 2-month study of captive birds includes descriptions of plumage maintenance activities, some sexual and agonistic behavior patterns and measurements of the developing young.—J.J.D.

- FIELD, G. D. 1971. Juvenile plumage of the Upper Guinea race of the Collared Sunbird *Anthreptes collaris subcollaris*. Ibis, 113: 366-367.
- GRANT, G. S. 1971. Three-year study of the heronry at Alligator Bay, N. C. Chat, 35: 5-9.—Presents data on species, numbers, nests, nesting chronology, competition for nest sites, reproductive success, roosting, and bill color in young Cattle Egrets.—E.F.P.
- HARDY, J. W. 1971. Habitats and habits of the Dwarf Jay, *Aphelocoma nana*. Wilson Bull., 83: 5-30.
- HARPER, C. A. 1971. Breeding biology of a small colony of Western Gulls (*Larus Occidentalis wymani*) in California. Condor, 73: 337-341.
- JOHNSON, E. D. H. 1971. Observations on a resident population of Stonechats in Jersey. Brit. Birds, 64: 201-213, 267-279.—Nearly 1,000 birds banded, 600 with color, in this 1950-1970 study. The species breeds in its first year. Discusses winter pair formation, courtship display and vocalizations. Changes of mate, polygyny, and mother-son, brother-sister pairings were observed. Three broods are normal. The incubation period is 14 days, nestling period, 12-16 days. Hatching success was 81 percent, fledging success 79 percent, breeding success 64 percent.—H.B.
- MARCH, G. L., AND R. M. F. S. SADLEIR. 1970. Studies on the Band-tailed Pigeon (*Columbia fasciata*) in British Columbia. I. Seasonal changes in gonadal development and crop gland activity. Canadian J. Zool., 48: 1353-1357.—A 2-year investigation of the breeding biology of this species based entirely on autopsy of shot samples collected from April through September. Describes four stages of crop gland development in detail and demonstrates the usefulness of this gland to indicate breeding status.—H.W.K.
- MEANLEY, B. 1971. Natural history of the Swainson's Warbler. North Amer. Fauna, No. 69. 90 pp.—An interesting and important work on this secretive and elusive species. Major topics discussed include: historical account, distribution (breeding and winter ranges), spring and fall migration, ecological relations in the coastal plain and southern Appalachians, description, breeding biology, and various notes on behavior. The text is profusely supplied with photographs and drawings of the bird, its habitat, its distribution, and its discoverers, John Bachman and John Abbot.—W.K.T.
- MEDWAY, LORD. 1970. Untersuchungen über die Biologie der Salanganen von Südost-Asien. J. Ornithol., 111: 196-205.—A translation, by E. Stresemann, of the original (in English) "Studies on the biology of the edible-nest swiftlets of Southeast Asia," which appeared in the Malayan Nature Journal 22: 57-63.—H.C.M.
- POTTS, G. R. 1971. Molt in the Shag *Phalacrocorax aristotelis*, and the ontogeny of the "Staffelmauser". Ibis, 113: 298-305.—Good study based on aged and sexed Shags from northeast England. Intricate explanation of method of molt and adaptations of this pattern.—R.W.S.
- POWER, D. M. 1971. Statistical analysis of character correlations in Brewer's Blackbirds. Syst. Zool., 20: 186-203.—Correlations among 37 characters, from a statistically homogeneous sample, are analyzed to reveal possible structurally and functionally related character complexes. The paper is technically innovative in addition to being of factual interest.—J.R.
- ROBINS, J. D. 1971. A study of Henslow's Sparrow in Michigan. Wilson Bull., 83: 39-48.
- RUSSELL, D. N. 1971. Food habits of the Starling in Eastern Texas. Condor, 73: 369-372.
- SCHARF, W. C. 1969. The recognition of food plants in a series of Ruffed Grouse

- droppings. Jack-Pine Warbler, 47: 56-63.—Micro- and macroscopic identification of food items in *Bonasa umbellus* droppings.—W.T.V.
- SCHARF, W. C., AND E. BALFOUR. 1971. Growth and development of nestling Hen Harriers. *Ibis*, 113: 323-329.—Studied on Orkney, Scotland, in absence of mammalian predators.—R.W.S.
- SKUTCH, A. F. 1971. Life history of the Bright-rumped Attila *Attila spadiceus*. *Ibis*, 113: 316-322.
- SKUTCH, A. F. 1971. Life history of the Broad-billed Motmot, with notes on the Rufous Motmot. *Wilson Bull.*, 83: 74-94.
- SPELLERBERG, I. F. 1971. Aspects of McCormick Skua breeding biology. *Ibis*, 113: 357-363.—Continuation of study by Young (*Ibis*, 105: 203-233, 301-318) of *Catharacta maccormicki* at Cape Royds, Ross Island, Antarctica.—R.W.S.
- STEINER, H. M. 1970. Die vom Schema der Passeres abweichende Handschwingemauser des Rohrschwirls (*Locustella luscinioides*). *J. Ornithol.*, 111: 230-236.—Three out of four Savi's Warblers, captured in autumn in Austria, departed from the usual descending molting sequence of the primaries by molting in both directions from a central focus. Molt is rapid, rendering many individuals nearly flightless. Tail molt is irregular. (English summary.)—H.C.M.
- STRESEMANN, E., AND V. STRESEMANN. 1970. Über die Vollmauser des Rohrschwirls (*Locustella luscinioides*). *J. Ornithol.*, 111: 237-239.—Six specimens of the Savi's Warbler showing wing molt showed the normal descending sequence (see review of Steiner, above). Birds molt either in the breeding or wintering area. The authors conclude that the molt of this species shows great variation. (English summary.)—H.C.M.
- VERMEER, K. 1970. Breeding biology of California and Ring-billed gulls: a study of ecological adaptation to the inland habitat. *Canadian Wildl. Serv. Rept. Ser.*, No. 12. 52 pp.—This intensive study compares the breeding biology of these two species in Alberta to the coastal breeding Glaucous-winged Gull. The inland breeding gulls have a somewhat shorter pre-egg-laying period and their laying is more synchronized than in the Glaucous-winged Gull. Otherwise the breeding biology of all three species is similar. Presumably the shorter breeding season of the inland species is an antipredator adaptation. Detailed figures and tables on clutch size, incubation period, breeding success, growth of the young, nest location, egg loss, chick mortality, and food habits add greatly to this report's value.—J.J.D.
- WEYDEMEYER, W. 1971. Nesting habits of the Oregon Junco in Montana. *Wilson Bull.*, 83: 103-104.
- WOLF, L. L., AND J. S. WOLF. 1971. Nesting of the Purple-throated Carib Hummingbird. *Ibis*, 113: 306-315.—Based primarily on two nests of *Eulampis jugularis* on the island of Dominica, B.W.I.—R.W.S.
- ZIEGLER, A. P. 1971. Habitat and breeding of the Grey-headed Olive-back *Nesocharis capistrata* in Northern Uganda. *Ibis*, 113: 238-240.—Notes on habitat, breeding, and food of this rare estrildid.—R.W.S.

## MIGRATION AND ORIENTATION

- NORD, I. 1971. [The fall migration of raptors along the Baltic coast, central Sweden 1963 and 1964.] *Vår Fågelvärld*, 30: 33-44.—Buzzards, *Buteo buteo*, and Sparrow Hawks, *Accipiter nisus*, dominated in the flights, which occurred almost exclusively on prevailing westerly winds after the passage of cold fronts. The weaker the winds, the higher the migrants flew. Movements were mainly south-westerly. (In Swedish, English summary.)—L.DEK.L.



- SONNBERG, A., AND K. SCHMIDT-KOENIG. 1970. Zur Auslese qualifizierter Brieftauben durch Übungsflüge. *Z. Tierpsychol.*, 27: 622-625.—Outlines the best methods for exercising pigeons and selecting individuals for homing experiments. Greatest losses on exercise flights occurred at release distances between 20 and 70 to 130 km, offering further evidence that homing is poor at intermediate distances. (English summary.)—H.C.M.
- SOUTHERN, W. E. 1969. Gull orientation behavior: influence of experience, sex, age and group releases. *Jack-Pine Warbler*, 47: 34-43.—Experiments conducted during 1963-64 with Ring-billed Gulls *Larus delawarensis*, between 2 and 12 years old, showed little difference in homing success rates.—W.T.V.
- TRAPP, J. L. 1969. The 1968 fall warbler migration at Warren Woods, Berrien County, Michigan. *Jack-Pine Warbler*, 47: 98-99.—With table.—W.T.V.
- WALLRAFF, H. G. 1970. Über die Flugrichtungen verfrachteter Brieftauben in Abhängigkeit vom Heimort und vom Ort der Freilassung. *Z. Tierpsychol.*, 27: 303-351.—A detailed analysis of the initial flight directions of more than a thousand inexperienced homing pigeons from nine home localities and many release sites. The birds rarely departed randomly from a release site. Usually the departure directions were within at least 90° of the home direction, but rarely did the mean departure direction coincide exactly with the direction of home. Pigeons from a given loft site apparently have a preferred flight direction and the observed departure direction is apparently some combination of this and the home direction. Pigeons raised in aviaries showed no poorer initial orientation than birds allowed liberty about the home loft, but they homed much more poorly. (English summary.)—H.C.M.
- WARD, P. 1971. The migration patterns of *Quelea quelea* in Africa. *Ibis*, 113: 276-297.—Considerable fat deposits accumulate prior to "early-rains migration." Direction, distance and timing of migration are dependent on timing of the rains and directions of fronts. Breeding occurs wherever conditions are suitable for colony founding and location varies greatly year to year. Females are able to breed several times during one season. The adaptive value of this "itinerant breeding" is discussed.—R.W.S.

## MISCELLANEOUS

- BOLLMAN, F. H., P. K. THELIN, AND R. T. FORESTER. 1970. Bimonthly bird counts at selected observation points around San Francisco Bay, February 1964 to January 1966. *California Fish and Game*, 56: 224-239.—About 3.5 million water birds were counted in 1965 and 3.8 million in 1966, shorebirds and water fowl making up about 90 percent of the total. Lists totals by month, habitat, and by group (i.e. gulls, ducks, etc.), but gives no totals for individual species.—J.J.D.
- CLARK, R. B. 1970. First annual report of the Advisory Committee on Oil Pollution of the Sea Research Unit on the Rehabilitation of Oiled seabirds. Dept. Zool., Univ. of Newcastle upon Tyne, England.—This report covers the period 1967-1970 and includes lists of staff, facilities, and summaries of surveys and research on this subject. Intensive research on the water-repellency of plumages, experimental investigation of cleaning methods, and rehabilitation of oiled birds is currently underway. Seven major oil companies have provided funding of the unit for the next 5 years. A list of current and proposed publications is included.—H.W.K.
- CLARK, R. B., AND R. J. KENNEDY. 1971. How oiled seabirds are cleaned. Advisory Committee on Oil Pollution of the Sea Research Unit on the Rehabilitation of

- Oiled Seabirds. Dept. Zool., Univ. of Newcastle upon Tyne, NE1 7RU, England. 48 pp.—This report is not a recipe book. It is a compilation of 60 responses—chiefly from the British Isles—to a long detailed questionnaire entitled “Request for information on rehabilitation of oiled seabirds”. Topics covered include buildings and facilities, cleaning agents and procedures, renewal of waterproofing of plumage, nutrition, food additives and medication, behavior, release of rehabilitated birds, success and mortality. Species covered include auks, gulls, Mute Swans, and ducks. Few conclusions or recommendations are presented. If nothing else it points up the lack of detailed scientific studies on the problem.—H.W.K.
- DAWSON, D. G. 1970. Estimation of grain loss due to sparrows (*Passer domesticus*) in New Zealand. *New Zealand J. Agr. Res.*, 13: 681-688.—Grain loss in standing crops of wheat and barley averages about 5 percent.—J.J.D.
- LINDAU, A. 1971. [Photographing birds by car in winter.] *Vår Fågelvärld*, 30: 1-5.—On the advantages of a closer approach to the subject by car and the contrasts created by the snowy landscape.—L.DEK.L.
- SPENCER, R. 1971. Report on bird-ringing for 1969. *Brit. Birds*, 64: 137-186.
- STILES, F. G. 1970. On the field identification of California hummingbirds. *California Birds*, 2: 41-54.—The cautious use of a combination of characters including distribution, plumage, behavior, habitat, hovering postures, but especially vocalizations allows the identification of most female and immature California hummingbirds. Female Allen's and Rufous hummingbirds are inseparable in the field.—J.R.J.
- WALLACE, G. J. 1969. Endangered and declining species of Michigan birds. *Jack-Pine Warbler*, 47: 70-75.—A preliminary list of common species with declining populations and those with precarious status.—W.T.V.
- WELLER, M. W. 1971. Robin mortality in relation to Dutch elm disease control programs on the Iowa State University campus. *Iowa State J. Sci.*, 45: 471-475.—DDT spraying was followed by kills of robins and other birds and fewer robin nests on campus. The substitution of Methoxychlor for DDT in 1968 and 1969 led to some increase in robin nests.—J.J.D.

## PHYSIOLOGY

- ABS, M. 1970. Über Hormonwirkungen auf Lautäusserungen von Haustauben. *J. Ornithol.*, 111: 227-229.—Changes in pitch of the vocalization of hypophysectomized *Columba livia* induced by testosterone injections. (14-word English summary.)—H.C.M.
- GREENBERG, R. E., AND P. L. HEYE. 1971. Insecticide residues in Little Blue Herons. *Wilson Bull.*, 83: 95-96.
- HINDE, R. A., E. STEEL, AND R. HUTCHISON. 1971. Control of oviduct development in ovariectomized canaries by exogenous hormones. *J. Zool.*, 163: 265-276.—A study of several parameters of oviduct development as affected by varying doses and combinations of hormones. Combinations of estrogen (0.05 mg) with progesterone (2.0 mg) or with testosterone (0.25 mg) produced oviducts more similar to normal breeding birds than did estrogen alone; thus synergy may occur early in oviduct development. Exogenous prolactin had only a small effect.—M.H.C.
- LUSTICK, S. 1970. Energetics and water regulation in the Cowbird (*Molothrus ater obscurus*). *Physiol. Zool.*, 43: 270-287.—The diurnal and nocturnal levels of basal metabolism are both considerably lower than would have been predicted on the basis of mass alone, and the thermoneutral range (35-40°C) is high—seemingly

- reflecting appropriate adaptations to high ambient temperatures. *Ad libitum* water consumption was 22 percent of body weight per day at lower temperatures (10–35°C) and nearly 100 percent at 40°C. In desert conditions populations of *M. ater* appear to depend upon surface water for drinking.—J.R.
- MARIDON, B., AND L. C. HOLCOMB. 1971. No evidence for incubation patch changes in Mourning Doves throughout reproduction. *Condor*, 73: 374–375.
- OGLIVIE, D. M. 1970. Temperature selection in day-old chickens (*Gallus domesticus*) and young Japanese Quail (*C. coturnix japonicus*). *Canadian J. Zool.*, 48: 1295–1298.—The level of selected temperature by chicks of both species decreases with age—which is similar to that observed in small mammals.—H.W.K.
- OMART, R. D., AND E. L. SMITH. 1971. Water deprivation and use of sodium chloride solutions by Vesper Sparrows (*Pooecetes gramineus*). *Condor*, 73: 364–366.
- PEARSON, D. J. 1971. Weights of some palaeartic migrants in Southern Uganda. *Ibis*, 113: 173–184.—Data on seven passerines with discussion of seasonal changes in weight and the use of weight as a measure of fat content.—R.W.S.
- POHL, H. 1971. Seasonal variation in metabolic functions of Bramblings. *Ibis*, 113: 185–193.—Measurements of resting oxygen consumption of *Fringilla montifrigilla* were lower during migratory seasons, possibly “allowing fat deposition by reducing total energy expenditure.”—R.W.S.
- SWITZER, B., AND V. LEWIN. 1971. Shell thickness, DDE levels in eggs, and reproductive success in Common Terns (*Sterna hirundo*), in Alberta. *Canadian J. Zool.*, 49: 69–73.—No statistical correlation was found with levels of DDE in eggs and their shell thickness, nor with DDT residue levels in contents of cracked versus intact eggs.—H.W.K.

## TAXONOMY AND PALEONTOLOGY

- CRACRAFT, J. 1971. A new family of Hoatzin-like birds (order Opisthocomiformes) from the Eocene of South America. *Ibis*, 113: 229–233.—*Onychopteryx simpsoni*, described from proximal end of tarsometatarsus, is placed in its own family, the Onychopterygidae.—R.W.S.
- FEDUCCIA, J. A. 1971. Variation in plasma proteins of suboscine birds. *Wilson Bull.*, 83: 31–34.
- HARRISON, C. J. O., AND C. A. WALKER. 1971. A new ibis from the Lower Eocene of Britain. *Ibis*, 113: 367–368.—*Proplegadis fisheri* described from distal end of left humerus.—R.W.S.
- PERNETTA, J. C., AND P. T. HANDFORD. 1970. Mammalian and avian remains from possible Bronze Age deposits on Nornour, Isles of Scilly. *J. Zool.*, 162: 534–540.—Eight bird species were identified by D. Bramwell from a midden excavation. All are modern species and except for *Ciconia ciconia* (White Stork) are still present on the isles.—M.H.C.
- SVENSSON, L. 1971. [Pallid Harrier *Circus macrourus* and Montagu's Harrier *C. pygarcus*—the problem of identification.] *Vår Fågelvärld*, 30: 106–122.—A thorough investigation presented with drawings and photographs. (In Swedish, English summary.)—L.DEK.L.
- YALDEN, D. W. 1971. The flying ability of *Archaeopteryx*. *Ibis*, 113: 349–356.—Data on wing loading indicate to the author that *Archaeopteryx* was capable of flapping flight, although not long sustained.—R.W.S.