## PERIODICAL LITERATURE

## EDITED BY HERBERT W. KALE II

## A NEW JOURNAL

TCHEBEC. A quarterly journal of ornithology published by the Province of Quebec Society for the Protection of Birds, Inc., P. O. Box 43, Station B, Montreal 110, Quebec, Canada. The PQSPB, founded in 1917, is devoted to the study of birds and their habits. "Tchebec" is the verbal rendition of the call of the Least Flycatcher, a common species in the Montreal area. The journal summarizes observations of birds in the Province of Quebec, especially in the Montreal area, and publishes original papers on birds.—A.C.

## A RENAMED JOURNAL

AMERICAN BIRDS. National Audubon Society. Annual subscription \$6.00.—With the first issue of 1971, Volume 25, Audubon Field Notes, under its new editor, Robert S. Arbib, Jr., and a new name, became a periodical of broader interest and deeper ornithological significance. It will appeal to a wider spectrum of serious amateurs and professional ornithologists. Contents include distributional and population data of the Christmas, breeding, and winter bird counts, the "Changing Seasons," articles of conservation or ornithological importance, brief reviews of contents of the major journals, accounts of ornithological centers of learning, descriptions of bird-watching sites, bird photography, and a "salon" of photographs. It also solicits letters on controversial subjects and requests for information.—E.E.

### ANATOMY AND EMBRYOLOGY

- Barlow, J. C., and N. Williams. 1971. Colorimetric analysis of the dorsal plumage of the Red-eyed Vireo (Aves: Vireonidae) in Canada. Canadian J. Zool., 49: 417–419.—Dominant wavelength and brightness of *Vireo olivaceus* males differed between seven localities, but no east-west cline was present. An inverse relationship between precipitation and feather brightness, although not significant, was in the direction predicted by the ecogeographic rule of Gloger.—R.M.E.
- Burton, P. J. K. 1971. The splenius capitis muscle of swifts. Bull. Brit. Ornithol. Club, 91: 94-95.—Refutes claim that this muscle complex can be used to separate the Cypseloidinae from the Apodinae.—F.B.G.
- Burton, P. J. K. 1971. Sexual size dimorphism in *Alauda razae*. Bull. Brit. Ornithol. Club, 91: 108-109.—Calls attention to striking sexual difference in bill length (about 21 percent) in this island lark.—E.B.G.
- CALDER, D. R. 1971. A Green-backed Heron with red soft parts. Bull. Brit. Ornithol. Club, 91: 108.—Temporary breeding color.—F.B.G.
- McNeil, R., J. R. Rodriguez S., and D. M. Figuera B. 1971. Handedness in the Brown-throated Parakeet *Aratinga pertinax* in relation with skeletal asymmetry. Ibis, 113: 494-499.—Of 56 specimens caught in the wild in northeastern Venezuela and maintained in captivity for observation, half were right-handed and half left-handed. Biometric analysis of the hind limb bones indicated a slight departure from bilateral symmetry, with increased length of the total limb on the "handed" side.—R.W.S.
- OUELLET, H. 1971. Contribution a l'étude de la ptérylose chez *Perisoreus canadensis* (Linnaeus), (Aves: Corvidae). Canadian J. Zool., 49: 147-158.—Describes and

illustrates feather tracts and apteria of the Gray Jay in detail, with particular attention to terminology and classification adapted from the system proposed by C. L. Nitzsch in 1840. (In French; English summary.)—R.M.E.

#### BEHAVIOR

- Bengston, S.-A. 1971. Hunting methods and choice of prey of Gyrfalcons Falco rusticolus at Myvatn in Northeast Iceland. Ibis, 113: 468-476.—A 10-year study. Gyrfalcons hunt low to the ground and surprise and flush potential prey. Ducks and ptarmigan were major food items. Suggests that ptarmigan are the preferred prey.—R.W.S.
- Berndt, R., and H. Sternberg. 1971. Paarbildung und Partneralter beim Trauerschnäpper (Ficedula hypoleuca). Vogelwarte, 26: 136-142.—An analysis of pair formation in the Pied Flycatcher based on 130 pairs in which both partners were banded and of known age. Of the 1-year-old birds, 62 percent of the males and 54 percent of the females had partners of the same age. Of the 2-year-old birds about 40 percent of the males and females paired with birds of the same age. In total, 40 percent of both sexes were paired with birds of the same age, while 35 percent of the males and 26 percent of the females were older than their partners. (English summary.)—H.C.M.
- Collias, N. E., and E. C. Collias. 1971. Comparative behavior of West African and South African subspecies of *Ploceus cucullatus*. Ostrich, Suppl. 9: 41-52.—The basic behavior of the races of Village Weaver is very similar, and most differences were quantitative and possibly due to local differences in predation pressure.—M.A.T.
- DOUTHWAITE, R. J. 1971. Treatment of fish by the Pied Kingfisher Ceryle rudis. Ibis, 113: 526-529.—Bigger fish are battered more than smaller ones prior to swallowing and the amount of battering is related to the cross section area of the fish.— R.W.S.
- HOFFMAN, D. M. 1968. Roosting sites and habits of Merriam's Turkeys in Colorado. J. Wildl. Mgmt., 32: 859-866.—Meleagris gallopavo merriami preferred overmature ponderosa pine for both summer and winter roosting sites. Arrival time at the roost depended on weather, but turkeys always left the roost before sunrise.—L.H.F.
- Kahl, M. P. 1971. Food and feeding behavior of Openbill Storks. J. Ornithol., 112: 21–35.—Anastomus lamelligerus and A. oscitans feed primarily on molluscs, mostly snails (Pila). The tip of the lower mandible is inserted into the shell to extract the body. The bill is not used as a "nutcracker."—H.C.M.
- Lemon, R. E. 1971. Analysis of song of Red-eyed Vireos. Canadian J. Zool., 49: 847-854.—The warbles of *Vireo obivaceus* contained up to 54 elements that occurred singly or in combinations of up to 5 elements. Analyzes the organization of sequences within combinations and discusses their possible functions.—R.M.E.
- LOCKNER, F. R., D. D. DONALDSON, AND J. L. TARTAGLIA. 1971. Mallards resting in trees. California Birds, 2: 102.—First observation of *Anas platyrhynchos* using small branches.—L.C.B.
- Mueller, H. C. 1971. Sunflower seed carrying by Red-bellied Woodpeckers (*Centurus carolinus*). Bird-Banding, 42: 46-47.—Carried up to seven seeds with the long axis perpendicular to bill.—B.G.M.
- Parsons, J. 1971. Cannibalism in Herring Gulls. Brit. Birds, 64: 528-536.—Of 1,415 chicks ringed at hatching in an Isle of May colony, 23.3 percent were eaten by adults. The cannibalism selects against isolated breeding and for nesting synchronization.—H.B.

- PAYNE, R. B. 1971. Duetting and chorus singing in African birds. Ostrich, Suppl. 9: 125-146.—The duetting of 16 species was recorded and analyzed. In most species, the sexes called asynchronously, each with its own autochthonous rhythm, but several had visual displays that may have been involved in timing. The most important function of duetting is the maintenance of the pair bond outside the breeding season.—M.A.T.
- PINKOWSKI, B. C. 1971. Some observations on the vocalizations of the Eastern Bluebird. Bird-Banding, 42: 20-27.—Describes the form and function of *Sialia sialis* vocalizations.—B.G.M.
- Schladweller, P. 1968. Feeding behavior of incubating Ruffed Grouse females. J. Wildl. Mgmt., 32: 426-428.
- SHORT, L. L. 1971. Notes on South African woodpeckers. Ostrich, 42: 89-98.— Habits of six of the seven South African species, with notes on displays, vocalization, and foraging.—M.A.T.
- SIEGFRIED, R., AND G. BROEKHUYSEN. 1971. Zum Verhalten des Falkenbussards (Buteo buteo vulpinus) in der südwestlichen Kap-Provinz. Vogelwarte, 26: 78-86.— During the austral summers of 1967-1968 and 1969-1970, 68 Common Buzzards of the race from the Soviet steppes were trapped in the Cape Province of South Africa. Describes perching and hunting habits, but mainly presents data on the buzzards' reaction to mice enclosed in a trap, the bal-chatri. Juvenals were easier to trap than adults; both age groups were easiest to trap in the morning. (English summary.)— HCM
- SIMONS, S., AND J. ALCOCK. 1971. Learning and the foraging persistence of White-crowned Sparrows Zonotrichia leucophrys. Ibis, 113: 477-482.—Laboratory experiments indicate that sparrows are capable of learning to adjust the time spent foraging on the basis of results of their initial pecks.—R.W.S.
- WOOD, J. S., AND R. L. SMOES. 1968. Patterns of responses to natural stimulation and reproductive suppression in Mallards. J. Wildl. Mgmt., 32: 934-942.

# DISEASES AND PARASITES

- JENSEN, D. N. 1971. Eucotyle castanea n. sp. and other trematodes of the family Eucotylidae from birds in British Columbia. Canadian J. Zool., 49: 1053-1058.— Hosts included Podiceps grisegena, P. auritus, Bucephala clangula, B. islandica, Melanitta deglandi, and Charadrius vociferus.—R.M.E.
- Kellogg, F. E., and A. K. Prestwood. 1968. Gastrointestinal helminths from wild and pen-raised Bobwhites. J. Wildl. Mgmt., 32: 468-475.—Colinus virginianus from high density areas had a greater number and diversity of helminths.—L.H.F.
- KHAN, R. A., AND S. S. DESSER. 1971. Avian Lankesterella infections in Algonquin Park, Ontario. Canadian J. Zool., 49: 1105-1110.—High summer mortality rates, especially in late June and July, were noted in heavily infected adult Evening Grosbeaks (Hesperiphona vespertina). Describes parasite fine structure (4 plates) and transmission experiments.—R.M.E.
- KHAN, R. A., AND A. M. FALLIS. 1971. Speciation, transmission, and schizogony of *Leucocytozoon* in corvid birds. Canadian J. Zool., 49: 1363-1367.—Experiments to assess host specificity and data on schizogony indicate *Leucocytozoon* species carried by *Corvus corax* and *C. brachyrhynchos* differ from species carried by *Cyanocitta cristata*.—R.M.E.
- MAIN, A. J., AND K. S. ANDERSON. 1970. The genera Ornithoica, Ornithomya, and Ornithoctona in Massachusetts (Diptera: Hippoboscidae). Bird-Banding, 41: 300-

- 306.—Includes host range, seasonal abundance, sex ratios, phoresy, and hyperparasitism.—B.G.M.
- McDougle, H. C., and P. W. Vaught. 1968. An epizootic of aspergillosis in Canada Geese. J. Wildl. Mgmt., 32: 415-417.
- Prescott, K. W. 1971. Recovery of foot-pox diseased Red-winged Blackbird. Bird-Banding, 42: 47-48.
- THRELFALL, W. 1971. Helminth parasites of alcids in the northwestern North Atlantic. Canadian J. Zool., 49: 461-466.—Twelve genera of helminths were found in a sample of 1,001 alcids of six species (Alca torda, Uria aalge, U. lomvia, Plautus alle, Cepphus grylle, and Fratercula arctica).—R.M.E.
- Woods, J. G. 1971. Insects parasitic on the Saw-whet Owl, Aegolius acadicus (Gmelin) (Aves: Strigidae). Canadian J. Zool., 49: 959-960.—Records three species each of Mallophaga, Siphonaptera, and Diptera, including two new records, from live hosts.—R.M.E.

#### DISTRIBUTION AND ANNOTATED LISTS

- APPERT, O. 1971. Die Taucher (Podicepidae) der Mangokygegend in Südwest-Madagaskar. J. Ornithol., 112: 61-69.—The distribution of *Podiceps pelzelnii* and *P. ruficollis* in southwestern Madagascar. (French résumé.)—H.C.M.
- ARMISTEAD, H. T. 1971. First Maryland breeding of Green-winged Teal. Maryland Birdlife, 27: 111-114.
- BARLOW, J. C., AND R. H. WAUER. 1971. The Gray Vireo (Vireo vicinior Coues; Aves: Vireonidae) wintering in the Big Bend region, west Texas. Canadian J. Zool., 49: 953-955.—Sight records and specimen taken 450 miles east of previously known wintering range.—R.M.E.
- Benson, C. W., and M. J. Penny. 1971. The land birds of Aldabra. Phil. Trans. Royal Soc. London, Ser. B, 260: 417-527.—Rather detailed accounts of the status, ecology, behavior, breeding, and systematics of 21 species. These include 7 Ciconii-formes and 14 true land birds, one of which (Tyto alba) is now extinct. As two of the species are endemic to Aldabra and eight more are endemic subspecies, this is a valuable contribution to our knowledge of the atoll. The accounts of Nectarinia sovimanga and Foudia eminentissima are especially detailed. Briefly mentions an additional 20 migratory species.—J.J.D.
- BINFORD, L. C. 1971. Northern and Louisiana Waterthrushes in California. California Birds, 2: 77-92.—Status of Seiurus noveboracensis (124 records listed) and S. motacilla (1 record), with theories on a desert migration route, vagrancy, and the barrier effect of the Sierra Nevada.—L.C.B.
- BINFORD, L. C., AND M. PERRONE, JR. 1971. First record for the Ruff in Washington state. California Birds, 2: 103-104.
- BLACKBURN, A. 1970. Birds of Little Ohena Island. Notornis, 17: 297-299.—Brief description of avifauna of this island in the Mercury Group, New Zealand.—G.D.S.
- BLAKER, D. 1971. Range expansion of the Cattle Egret. Ostrich, Suppl. 9: 27-30.— Ecological habitat suitable for *Ardeola ibis* has always existed in the New World, and the increase in cattle farming has been the critical factor in facilitating its establishment in South America.—M.A.T.
- Boswall, J. 1971. Notes from coastal Eritrea on selected species. Bull. Brit. Ornithol. Club, 91: 81-84.—Notes on 8 species including a first probable observation and certain nesting of *Corvus corax edithae* as far north as Massawa in Eritrea. (From author's summary.)—F.B.G.

- BROOKE, R. K. 1971. Breeding of swifts in Ethiopian Africa and adjacent islands. Ostrich, 42: 5-36.—A summary of all known breeding records, published and unpublished, for the Ethiopian Region.—M.A.T.
- Bruun, B. 1971. North American waterfowl in Europe. Brit. Birds, 64: 385-408.—
  Analyzes transatlantic flights of all species except the Canada Goose. Long-distance migrants occur more often than short-distance ones. Most species much rarer in spring than in autumn and winter.—H.B.
- Bull, P. C. 1970. Bird distribution—a new mapping scheme. Notornis 17: 231—235.—Presents a way of diagramming distributions based on the recording scheme of the Ornithological Society of New Zealand.—G.D.S.
- CARTER, J. H., III. 1971. Birds of the central sandhills of North Carolina. Chat, 35: 91-105.—Status of 230 species found in Southern Pines and vicinity.—E.F.P.
- CLANCEY, P. A. 1971. The status of the species of Amadina. Bull. Brit. Ornithol. Club, 91: 88.—A. fasciata and A. erythrocephala are sympatric in western Transvaal. A. fasciata has undergone a marked range expansion in recent times.—F.B.G.
- COOLIDGE, H. W. 1968. Extension of range of the Razorbill. Oriole, 33: 1.—First Georgia specimen taken 7 miles offshore from a flock of 12 on 19 December 1967.— E.F.P.
- COURTNEY, J. 1971. Breeding of the Rainbowbird at Swan Vale, NSW. Emu, 71: 172-174.
- COURTNEY, J. 1971. Breeding of the Red-rumped Kingfisher at Swan Vale, NSW. Emu, 71: 174-175.
- DOPSON, C. W., JR., AND R. H. PEAKE. 1967. The Cliff Swallow: a new breeding bird for Georgia. Oriole, 32: 29-31.
- Douglas, M. E. 1970. Rooks on the Waiuku Peninsula. Notornis, 17: 300-302.— First records of *Corvus frugilegus* in the Waiuku area of New Zealand.—G.D.S.
- EINHORN, C. M. 1967. Black-headed Grosbeak in Georgia. Oriole, 32: 34.
- EISENMANN, E. 1971. Range expansion and population increase in North and Middle America of the White-tailed Kite (Elanus leucurus). Amer. Birds, 25: 529-536.—
  The White-tailed Kite, believed on the verge of extirpation in its North American range during the 1920s and 1930s, has had a dramatic population increase and range expansion, and now regularly occurs, and probably breeds, throughout Middle America. Until very recently (1960s) it was totally unknown south of Guatemala. Discusses possible reasons for this extremely rapid increase and expansion and reviews the history of the southward range extension.—E.E.
- ELY, C. A. 1970. The Blackpoll Warbler in the southern great plains. Bull. Oklahoma Ornithol. Soc., 3: 20-22.
- ENLOE, M. 1971. Traill's Flycatcher near Franklin, N. C. Chat, 35: 55.
- FALLA, R. A. 1970. Grey Ternlets in the Bay of Plenty. Notornis, 17: 83-86.— Records of Procelsterna albivitta in this part of New Zealand.—G.D.S.
- FAVER, A. R. 1971. Say's Phoebe at Eastover, S. C. Chat, 35: 112.
- FISHER, W. 1971. Yellow-crowned Night Heron nests in Michigan. Jack-Pine Warbler, 49: 86.—The first state nesting record of *Nyctanassa violacea*, in Wayne County on 29 May 1971.—W.T.V.
- FORSYTHE, D. M. 1971. Winter record of American Redstart for Charleston, S. C. Chat, 35: 55.
- Fussell, J. O., III. 1971. Breeding record of a Piping Plover on Shackleford Banks in North Carolina. Chat, 35: 108-109.
- GINN, P. J. G., AND R. K. BROOKE. The American Pectoral Sandpiper in Africa. Bull.

- Brit. Ornithol. Club, 91: 125-126.—Specimen is first record from Botswana. Species may occur more regularly than is supposed.—F.B.G.
- HARRISON, J. M., AND J. G. HARRISON. 1971. Further notes on the northeastern Greenland race of Dunlin from Eire and Kent. Bull. Brit. Ornithol. Club, 91: 41.—A March record of C. a. arctica from Dublin and two additional specimens from Kent. —F.B.G.
- HJORT, C. 1971. The Yellow-browed Warbler *Phylloscopus inornatus* wintering in Iran. Bull. Brit. Ornithol. Club, 91: 95.—Sight records of wintering individuals at three localities in Iran.—F.B.G.
- Howells, W. W. 1971. Breeding of the Coppery Sunbird at Salisbury, Rhodesia. Ostrich, 42: 99-109.—Nectarinia cuprea has recently extended its range to Rhodesia. Describes the first successful nesting in detail.—M.A.T.
- JOHNSON, E. D. H. 1971. Wintering of Saxicola torquata in the Algerian Sahara. Bull. Brit. Ornithol. Club, 91: 103-107.—Describes a regular pattern of sightings along the northern limit of the Sahara and in oases surrounding the Grand Erg Occidental and to the west of the Grand Erg Oriental; representing a penetration of up to 600 km into the Sahara proper. Birds were frequently paired and holding winter territories.—F.B.G.
- LANE, J., AND D. RANDALL. 1970. Townsend's Solitaire collected at Brandon, Manitoba. Canadian Field-Naturalist, 84: 59.
- LEGRAND, H. E., JR. 1971. Red-cockaded Woodpecker nesting in Wake County, N. C. Chat, 35: 54.
- LeGrand, H. E., JR., and E. K. LeGrand. 1971. Traill's Flycatchers at Raleigh, N. C., in summer. Chat, 35: 113.
- Lewis, T. H. 1971. Field notes on the dry season birds of Nayarit. Texas J. Sci., 23: 57-66.—Brief notes on 83 species seen in this Mexican state in March 1954.—J.J.D.
- Littlefield, C. D., and E. L. McLaury. 1971. Black-throated Blue Warbler records for southeastern Oregon. California Birds, 2: 93.—Data on the only six records of *Dendroica caerulescens* for Oregon, all from Malheur National Wildlife Refuge.—L.C.B.
- Mann, C. F. 1971. Distributional notes on some Uganda birds. Bull. Brit. Ornithol. Club, 91: 111-113.—Includes four new (sight) records for Uganda, including *Larus ichthyaetus*.—F.B.G.
- McCaskie, G. 1971. A Pyrrhuloxia wanders west to California. California Birds, 2: 99-100.—Cardinalis sinuata seen 24 February 1971 in Imperial County is the first acceptable record for the state.—L.C.B.
- McDaniel, T. H., and T. A. Beckett, III. 1971. Caspian Tern nesting in South Carolina. Chat, 35: 39-41.—Nest found in colony of Black Skimmers and Gull-billed terns at Cape Romain; first documented breeding record for state.—E.F.P.
- McKenzie, H. R. 1970. A new Arctic wader for New Zealand/two White-rumped (Bonaparte's) Sandpipers at Karaka. Notornis, 17: 236-237.—Sight records in December 1969 assigned to Calidris fusicollis.—G.D.S.
- MERTON, D. V. 1970. Kermadec Islands expedition reports: a general account of birdlife. Notornis, 17: 147-199.—From November 1966 to January 1967 the Ornithological Society of New Zealand conducted detailed avian surveys of Raoul and North Meyer, plus all adjacent islets.—G.D.S.
- MORRIS, A. K. 1971. Distribution of the Black Bittern in New South Wales. Emu, 71: 175-176.
- MORRIS, A. K. 1971. The Red-chested Quail in New South Wales. Emu, 71: 178-180. NICÉFORO MARÍA, HERMANO AND A. OLIVARES. 1968. Adiciones a la avifauna Co-

- lombiana. V. (Dendrocolaptidae Cotingidae). Bol. Inst. La Salle, No. 208: 271-291.—Additions to the avifauna of Colombia, giving new locality records since R. Meyer de Schauensee's "Birds of the Republic of Colombia" (1948-1952), based on specimens in the collections of the Instituto de Ciencias Naturales and the Instituto La Salle, both in Bogotá. Lists Furnarius leucopus torridus from Leticia, Amazonas, a new subspecies for Colombia, and the second Colombian record of Xipholena punicea, from Río Arauca. (In Spanish; short English summary.)—E.E.
- NORMAN, F. I. 1971. Breeding of the Black Swan near Werribee, Victoria in 1963 and 1970. Emu, 71: 176-178.
- OLIVARES, A. 1971. Aves de la ladera oriental de los Andes Orientales, Alto Río Cusiana, Boyacá, Colombia. Caldasia, 11, No. 51: 203-226.—Notes on a collection made on the east slope of the Eastern Andes, upper Río Cusiana, Boyacá, mainly on the slope of Cerro de Comijoque between 2,000-2,600 m elevation. The subspecies Hemispingus frontalis flavidorsalis added to the Colombian avifauna. This report is especially useful for giving soft-part colors. (In Spanish; short English summary.)—E.E.
- Olson, S. L. 1971. Two vagrants to Ascension Island. Bull. Brit. Ornithol. Club, 91: 90-92.—Reports second record of *Porphyrula alleni* and a summering turnstone, *Arenaria interpres.*—F.B.G.
- Penny, M. J. 1971. Migrant waders at Aldabra, September 1967-March 1968. Phil. Trans. Royal Soc. London, Ser. B, 260: 549-559.—Of 17 species recorded, 4 are probably vagrants and the others regular visitors. Most are strictly migrants, but Arenaria interpres, Numenius phaeopus, and Dromas ardeola probably winter on the atoll.—J.J.D.
- Post, R. W. 1971. Additional observations of Sabine's Gull from coastal Peru and Chile. Ibis, 113: 517.—The first records of *Xema sabini* from Chilean waters.—R.W.S.
- PROBST, F. M. 1971. A first record for South Carolina: Black-headed Gull photographed. Chat, 35: 109-110.
- RAYNOR, G. S. 1970. An African recovery of a North American Common Tern. Bird-Banding, 41: 310-311.—A Sterna hirundo banded near Moriches Inlet, Long Island, on 28 June 1969 was captured on a trawler in the Gulf of Guinea near Abidjan, Ivory Coast, on 16 December 1969, the first transatlantic recovery.—B.G.M.
- REYNOLDS, R. T., AND E. FORSMAN. 1971. A recent occurrence of a colony of White-throated Swifts in central Oregon. Murrelet, 52: 13-14.—Observations of 20-25 Aëronautes saxatalis in Lake County, 15 June 1970, appear to be the first recorded in the state since 1930. Copulation was noted and breeding assumed.—W.T.V.
- ROBERT, H. 1971. First record of White-eyed Vireo in California. California Birds, 2: 94.
- Rosa Pinto, A. A. 1970. Um catálogo das aves do distrito da Huíla (Angola). Mem. Trab. Inst. Invest. Cién. Angola, 6: 193 pp.—A distributional checklist, based on the literature and the author's extensive field work. About 50 species, almost 10 percent, are recorded from Huíla for the first time.—M.A.T.
- San Miguel, M. 1971. A Prothonotary Warbler in Inyo County, California. California Birds, 2: 95.
- Schweizer, L. W. 1971. Sight record of the Pine Grosbeak in Georgia. Oriole, 36: 7. Shanholtzer, G. F., and S. A. Fanning. 1971. A Great White Heron on Jekyll Island, Georgia—a state record. Oriole, 36: 1.
- SIEGFRIED, W. R., AND D. M. SKEAD. 1971. Status of the Lesser Kestrel in South Africa. Ostrich, 42: 1-4.—The Palearctic Falco naumanni is the commonest falcon

- in much of South Africa during the austral summer. Discusses its numbers and relations to the resident species.—M.A.T.
- SIMPSON, M. B., JR. 1971. Status of the Barrow's Goldeneye in North Carolina. Chat, 35: 45-49.
- SIMPSON, M. B., Jr. 1971. High altitude records of the Whip-poor-will in western North Carolina. Chat, 35: 54.
- SIMPSON, M. B., JR. 1971. High altitude records of the American Woodcock in the Great Balsam Mountains and Pisgah Ridge of North Carolina. Chat, 35: 61-63.
- SIMPSON, M. B., Jr. 1971. High altitude occurrences of the Belted Kingfisher in Haywood County, N. C. Chat, 35: 111-112.
- SKEAD, C. J. 1967. Ecology of birds in the eastern Cape Province. Ostrich, Suppl. 7: 103 pp.—Contains detailed descriptions of the various habitats of the eastern Cape, with careful consideration of the historical aspects and changes wrought by farming. Lists the birds characteristic of the various habitats and veld types, and an annotated list for the region as a whole. Unfortunately for the foreigner, there is no political map, and no illustrations at all.—M.A.T.
- SMITH, F. R., AND THE RARITIES COMMITTEE. 1971. Report on rare birds in Great Britain in 1970 (with 1960, 1966, 1968, and 1969 additions). Brit. Birds, 64: 339–371.—Includes records of 24 North American species.—H.B.
- Spofford, W. R. 1971. The breeding status of the Golden Eagle in the Appalachians. Amer. Birds, 25: 3-7.—Reviews nesting status at breeding sites over a 20-year period and numbers of migrants observed at Hawk Mountain from 1964 through 1970. The steady decline is attributed to accumulation of DDT in prev.—E.E.
- Tramer, E. J. 1968. A revised list of the birds of Athens, Georgia, and vicinity.

  Oriole, 33: 2-17.—Of 233 species listed, 94 have been recorded as breeding.—E.F.P.

  Voisin, J. F. 1971. Note sur les Manchots royaux (Aptenodytes patagonica) de l'île
- de la Possession. Oiseau, 41: 176-180. WALLACE, D. I. M. 1971. American Marsh Hawk in Norfolk. Brit. Birds, 64: 537-
- 542.—An immature, October 1957 to April 1958.—H.B.
  WODZICKI, K., AND M. LAIRD. 1970. Birds and bird lore in the Tokelau Islands.
  Notornis, 17: 247-276.—Known from these New Zealand islands are 15 seabirds, 8 shorebirds, and 3 land birds; 7 seabird species are known to nest and 3 more may breed on the islands. Discusses the affinities of this avifauna.—G.D.S.

## ECOLOGY AND POPULATION

- Austin, G. T. 1971. Roadside distribution of the Common Raven in the Mohave Desert. California Birds, 2: 98.—Roadside density of *Corvus corax* is greater in winter than in summer and twice as great along major routes as on secondary roads. Availability of water and road-killed animals, respectively, are thought to be determining factors.—L.C.B.
- Bengtson, S.-A. 1971. Variations in clutch-size in ducks in relation to the food supply. Ibis, 113: 523-526.—Data on clutch size of eight species during 9 consecutive years at Lake Myvatn in northeastern Iceland indicate that ducks are able to adapt clutch size to food supply. This is at variance with Lack's hypothesis.—R.W.S.
- BLACK, E. R., R. M. DAVIS, AND C. A. HENDERSON. 1970. The Flicker and the south-western corn borer in Mississippi. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 285-292.—"The Yellow-Shafted Flicker is a major factor in reduction of overwintering southwestern corn borer populations."—W.W.B.
- BOND, S. I. 1971. Red Phalarope mortality in southern California. California Birds,

- 2: 97.—Reduction of surface plankton causes widespread starvation in *Phalaropus fulicarius*.—L.C.B.
- Brown, W. H. 1971. Winter population trends in the Red-shouldered Hawk. Amer. Birds, 25: 813-817.—A review of annual Christmas bird counts indicates a decrease of *Buteo lineatus* throughout its range, except in California and West Virginia.—E.E.
- CAMPBELL, H. 1968. Seasonal precipitation and Scaled Quail in eastern New Mexico. J. Wildl. Mgmt., 32: 641-643.—Callipepla squamata population densities are related to spring-summer but not fall-winter rainfall.—L.H.F.
- CARBYN, L. N. 1971. Densities and biomass relationships of birds nesting in boreal forest habitats. Arctic, 24: 51-61.—Fringillidae contributed highest percent of total avian biomass, followed by Turdidae, Parulidae, Bombycillidae, Sylviidae, Paridae, and Tyrannidae.—J.A.J.
- CHEKE, R. A. 1971. Temperature rhythms in African montane sunbirds. Ibis, 113: 500-506.—Study of four species from the Cherangani mountains, Kenya, indicate a diel temperature rhythm with ranges of 5°-17°C.—R.W.S.
- CLARKE, C. M. H. 1970. Observations on population, movements and food of the Kea (Nestor notabilis). Notornis, 17: 105-114.—Of 35 Keas banded at Cupola Basin and Mt. Roberts, New Zealand, 6 were frequently recovered. Banded birds dispersed up to 12.5 miles. Most were commonly seen from 4,000-4,500 feet, and seasonal movements were related to snow and food availability. The fruits of Coprosma pseudocuneata were the commonest in the 47 food items seen being eaten. Voided seeds of five fruiting species germinated, showing that Keas disperse some alpine plants.—G.D.S.
- COPPEL, H. C., AND N. F. SLOAN. 1970. Avian predation, an important adjunct in the suppression of larch casebearer and introduced pine sawfly populations in Wisconsin forests. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 259–272.—Predation by winter resident and spring migrant birds apparently contributes to the stability of the larch casebearer population. The Black-capped Chickadee and Downy Woodpecker are the main bird predators of the introduced pine sawfly.—W.W.B.
- DIAMOND, A. W. 1971. The ecology of sea birds of Aldabra. Phil. Trans. Royal Soc. London, Ser. B, 260: 561-571.—The distribution, numbers, breeding season, and food of 11 species plus brief accounts of 6 nonbreeding species.—J.J.D.
- DIESSELHORST, G. 1971. Masse, Gewichte, Geschlechtskennzeichen und Geschlechtsdimorphismus in einer süddeutschen Dorngrasmücken-Population (Sylvia communis).
  J. Ornithol., 112: 279-301.—An exceedingly detailed analysis of measurements of wing length, tail length, weight, etc., of a south German Whitethroat population. (English summary.)—H.C.M.
- ERIKSSON, K. 1970. Wintering and autumn migration ecology of the Brambling, Fringilla montifrongilla. Sterna, 9: 77-90.—Thirteen years of Christmas censuses and spring control censuses during 1965-69 supplied data from 210 census routes in southwestern Finland, where the Brambling is usually a transient and scarce winterer. in 1951-52, 1956-57, 1962-63, and 1964-65 it wintered from December and January until March and April in exceptionally large numbers. Postulates a correlation with exceptionally good berry crops, especially rowan (mountain ash) rather than with weather factors.—M.D.F.U.
- ERIKSSON, K. 1970. The invasion of *Sitta europea asiatica* Gould into Fennoscandia in the winters of 1962/63 and 1963/64. Ann. Zool. Fennici, 7: 121-140.—This paper documents and analyzes the 1962 Siberian Nuthatch invasion, which followed the

- narrowing coniferous forest zone in a west-northwesterly direction. Correlating the reports with the density of human populations from which the observers were recruited revealed that peak nuthatch abundance was actually in northeastern Fennoscandia rather than in the south where most were reported. The invaders set up territories as wintering nuthatches usually do and remained there in the spring to pair. In many places they were also observed the following fall. As no return migration was observed, this invasion has the characteristics of an emigration caused by population pressure. High mortality and low number of breeding attempts suggest that this Siberian population does not survive well in the Fennoscandia climate with its very cold and humid winters.—M.D.F.U.
- Fankhauser, D. P. 1971. Annual adult survival rates of blackbirds and Starlings. Bird-Banding, 42: 36-42.—Between 40 and 55 percent in *Molothrus ater*, *Quiscalus quiscula*, *Agelaius phoeniceus*, and *Sturnus vulgaris*, determined by analysis of returns and recoveries of banded birds.—B.G.M.
- Fankhauser, D. P. 1971. Percentages of grackles taken in subsequent breeding seasons in a different breeding area from the area where banded. Bird-Banding, 42: 43-45.—Comparison of recoveries of *Quiscalus quiscula* shot or found dead in the same or adjacent 10-minute block where banded with recoveries from farther away. Young moved farther than adults. No difference between males and females.—B.G.M.
- FLOYD, E. H., L. MASON, AND S. PHILLIPS. 1970. Survival of overwintering south-western corn borers in corn stalks in Louisiana. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 293-303.—The Yellow-Shafted Flicker is very efficient at removing overwintering borers.—W.W.B.
- Galushin, V. M. 1971. A huge urban population of birds of prey in Delhi, India (Preliminary Note). Ibis, 113: 522.—High numbers attributed to abundant food in the city, many trees, and the Indian's traditional goodwill to all living things, including birds of prey.—R.W.S.
- Gargett, V. 1971. Some observations on Black Eagles in the Matopos, Rhodesia. Ostrich, Suppl. 9: 91–124.—Summary account of 10 years' study of a population of 53 breeding pairs of Aquila verreauxi; primarily an ecological and breeding study.—M.A.T.
- Gravatt, D. J. 1970. Honeyeater movements and the flowering cycle of vegetation on Little Barrier Island. Notornis, 17: 96-101.—Discusses relationships between local movements of honeyeaters (Meliphagidae) and the flowering cycle of plants on this New Zealand island. Regular observations were made on the numbers of each species feeding on various plant species. Tuis, Bellbirds, and Stitchbirds were observed.—G.D.S.
- HARVEY, J. M. 1971. Factors affecting Blue Goose nesting success. Canadian J. Zool., 49: 223-234.—Twenty percent of *Chen caerulescens* eggs at McConnell River, N.W.T., were lost, mainly from deserted nests subsequently scavenged by jaegers and gulls. Net heat loss by a goose model in a simulated environment indicated that energy needs during incubation are sufficient to cause high body weight losses, which in turn may contribute to subsequent nest desertion or starvation.—R.M.E.
- HERMAN, S. G. 1971. The Peregrine Falcon decline in California. II. Breeding status in 1970. Amer. Birds, 25: 818-820.—Continuation of a study by the author et al. published in 1970 (Audubon Field Notes, 24: 609-613). Probably not more than five California pairs fledged young in 1970.—E.E.
- Hurst, G. A. 1970. The effects of controlled burning on arthropod density and biomass in relation to Bobwhite Quail brood habitat on a right-of-way. Proc. Tall

- Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 173–183.—Burning increased arthropod densities and biomass. Bobwhite chicks fed on those species of arthropods that increased greatly in response to burning.—W.W.B.
- IMBER, M. J. 1968. Sex ratios in Canada Goose populations. J. Wildl. Mgmt., 32: 905-920.—Mean annual mortality rates of *Branta canadensis* in New Zealand were higher for males than females for both hunting and natural mortality.—L.H.F.
- IMBER, M. J., AND G. R. WILLIAMS. 1968. Mortality rates of a Canada Goose population in New Zealand. J. Wildl. Mgmt., 32: 256-267.—Mean annual mortality of *Branta canadensis* near Lake Ellesmere increased from 17 to 33 percent with special shooting seasons that account for 70 percent of the mortality of geese more than 1 year old.—L.H.F.
- JONAS, R. L. 1968. Adverse weather affects Merriam's Turkey reproduction in Montana. J. Wildl. Mgmt., 32: 987-989.
- KADLEC, J. A., AND W. H. DRURY. 1968. Aerial estimation of the size of gull breeding colonies. J. Wildl. Mgmt., 32: 287-293.—Annual changes of less than 25 percent are not detectable by aerial photos or visual estimates.—L.H.F.
- KARR, J. R. 1971. Structure of avian communities in selected Panama and Illinois habitats. Ecol. Monogr., 41: 207-233.—Comparisons of avian communities from structurally similar habitats in Illinois and Panama indicate that tropical and temperate avifaunas have similar energy requirements. Avian communities of tropical grasslands are no more diverse than temperate grassland, but tropical shrub and forest avifaunas have greater numbers of species and measures of diversity. Greater population sizes in tropical areas are correlated with smaller bird size and lower energy requirements. A large amount of increased diversity is attributable to extra food sources such as fruit and relatively large insects. Increased productivity is not related to greater tropical diversity. Stratal distribution indicates that avian communities partition vegetation profiles similarly throughout the world. Decreased tendency for species to defend territories may be correlated with patchy distribution of food resources in tropical habitats. Stability of food resources is indicated as the major factor related to increased diversity of tropical avifaunas. This excellent paper is must reading for students of avian communities and diversity.—C.R.B.
- LeDuc, P. 1970. The nesting ecology of some hawks and owls in southeastern Minnesota. Loon, 42: 48-62.—Data on Red-tailed Hawks, Barred Owls, and Great Horned Owls in two seasons.—R.W.N.
- MacLellan, C. R. 1970. Woodpecker ecology in the apple orchard environment. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 273-284.—Hairy and Downy Woodpeckers are efficient predators of the codling moth larva in Nova Scotia apple orchards. In some cases they reduce the pest from a "potential to a negligible threat."—W.W.B.
- Meanley, B. 1971. Blackbirds and the southern rice crop. U. S. Dept. Interior, Fish Wildl. Serv., Bur. Sport Fisheries Wildl., Res. Publ. 100. 64 pp.—A survey of blackbird depredation on rice cultivation in the southern United States. Discusses migration, breeding activity, and population dynamics of the Red-winged Blackbird, Common Grackle, Brown-headed Cowbird, and Boat-tailed Grackle. Presents the food habits of and depredations by eight species of icterids, and analyzes effectiveness of different control methods.—F.J.B.
- MEBS, T. 1971. Todesursachen und Mortalitätsraten beim Wanderfalken (Falco peregrinus) nach den Wiederfunden deutscher und finnischer Ringvögel. Vogelwarte, 26: 98-105.—An analysis of band recoveries of Finnish and German Peregrine Falcons reveals that the major cause of mortality is man. The 70 percent mortality of juve-

- niles and the 25 percent mortality of adults is in excess of replacement by reproduction; hence the declines in populations. (English summary.)—H.C.M.
- Neave, D. J., and B. S. Wright. 1968. Ruffed Grouse adrenal weights related to population density. J. Wildl. Mgmt., 32: 633-635.—Adrenal weights of drumming male *Bonasa umbellus* increased with population density.—L.H.F.
- NISBET, I. C. T. 1971. The Laughing Gull in the northeast. Amer. Birds, 25: 677-683.—Reviews the status of breeding colonies from New England to Nova Scotia. All have been declining since about 1940, and none north of Maine was active in 1970. This decline is attributed to replacement by Herring Gulls and to destruction of the dense vegetation by grazing sheep.—E.E.
- Penny, M. J., and A. W. Diamond. 1971. The White-throated Rail *Dryolimnas cuvieri* in Aldabra. Phil. Trans. Royal Soc. London, Ser. B, 260: 529-548.—This last surviving flightless bird in the western Indian Ocean islands is estimated to number at least 1,000 individuals, mostly on one island of the Aldabra Atoll. They are omnivorous but mainly eat insects, including those disturbed by tortoises! Rats may take eggs and young but the rail population appears to be thriving, even with rats abundant. Includes some notes on their calls and behavior and the development of the young.—J.J.D.
- Power, D. M. 1971. Range expansion of Brewer's Blackbird: phenetics of a new population. Canadian J. Zool., 49: 175-183.—Statistical comparison for 37 skin and skeletal characters indicated that *Euphagus cyanocephalus* did not undergo strong directional selection or shifts in population variability on a recently occupied portion of its breeding range in Ontario.—R.M.E.
- Provost, M. W. 1969. Ecological control of salt marsh mosquitoes with side benefits to birds. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 1: 193-206.—General article discussing effects of canaling, impounding, and water manipulation on Florida mosquito populations and the consequential effects on bird usage of the area. Deals mainly with waterfowl, marsh birds, and the Dusky Seaside Sparrow.—W.W.B
- RECHER, H. F. 1971. Sharing of habitat by three congeneric honeyeaters. Emu, 71: 147-152.—The similar White-cheeked Honeyeater, *Phylidonyris nigra*, and New Holland Honeyeater, *P. novaehollandiae*, have different distributions and prefer somewhat different habitats, but in a broad zone of overlap along the central coast of New South Wales they forage on the same flowers and nest in the same habitat. Nesting peaks occur at different times; *novaehollandiae* breeds most of the year but in reduced numbers during the peak of *nigra*. Territories are mutually exclusive and during the nesting peak of *nigra*, *novaehollandiae* may be excluded from parts of the habitat by *nigra*. The tawny-crowned Honeyeater, *P. melanops*, also occurs with these but nests in different parts of the habitat.—C.F.S.
- Reid, B. 1969. Survival status of the Takahe, *Notornis mantelli*, of New Zealand. Biol. Conserv., 1: 237-240.—The population is estimated to total about 200 pairs. Captive birds, including three pairs that bred successfully in the wild, have not bred successfully in captivity although some captive birds have survived well.—J.J.D.
- RIEGEL, M., AND W. WINKEL. 1971. Über Todesursachen beim Weisstorch (C. ciconia) an Hand von Ringfundangaben. Vogelwarte, 26: 128-135.—Deaths from collisions with wires accounted for 33 percent of the recoveries, and 77 percent of the known causes of mortality of white Storks banded with Helgoland bands. Over 34 percent of foreign recoveries resulted from the hand of man. Large, "visible" bands were not recovered more frequently than smaller bands. Discusses other sources of mortality. (English summary.)—H.C.M.

- ROWLEY, I. 1971. Movements and longevity of ravens in southeastern Australia. CSIRO Wildl. Res., 16: 49-72.—Studies of Australian (*Corvus coronoides*) and Little (C. *mellori*) Ravens using extensive banding and transect counts. Attributes population fluctuations to seasonal movements of young birds to the southeast in *mellori* and in random directions in *coronoides*. Mortality, much of which is caused by human pest control, is higher in the more nomadic Little Raven and is highest in young birds of both species.—B.A.H.
- Sibson, R. B. 1970. Curlew Sandpipers in New Zealand 1969-70. Notornis, 17: 291-296.—Records exceptional numbers of *Calidris ferruginea* during the summer. Reviews history and status of this species in New Zealand.—G.D.S.
- SIEGFRIED, W. R. 1971. The status of the Bald Ibis of Southern Africa. Biol. Conserv., 3: 88-91.—Recent surveys of the range of *Geronticus calvus* revealed about 70 breeding sites and a total estimated breeding population of about 2,000 birds.— J.J.D.
- SOLOMON, J. D., AND R. C. MORRIS. 1970. Woodpeckers in the ecology of southern hardwood borers. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 309-315.—"Woodpeckers significantly reduce the populations of several insect borers in southern hardwoods."—W.W.B.
- Spellerberg, I. F. 1971. Arrival and departure of birds at McMurdo Sound, Antarctica. Emu, 71: 167–171.—During observations made from November to February or March, 1963–1966, common species recorded were Emperor and Adélie Penguins, Antarctic, Snow, and Wilson's Storm Petrels, and McCormick Skua. Three occasional visitors were Giant Petrel, Dominican Gull, and Brown Skua. Arrival and departure dates for antarctic species are of particular significance because the shorter breeding season at lower latitudes is a result of breeding synchronization, not shortening of egg or chick development.—C.F.S.
- STIRLING, I., AND D. J. GREENWOOD. 1970. The Emperor Penguin at Cape Washington in the Western Ross Sea, Antarctica. *Notornis*, 17: 277-279.—The *Aptenodytes forsteri* colony was first sighted in October 1965 and estimated at from 4,000-6,000 adults. Photographs taken in November 1968 indicated 7,600 birds (one-third to one-half chicks).—G.D.S.
- STOKES, A. W. 1968. An eight-year study of a northern Utah pheasant population. J. Wildl. Mgmt., 32: 867-874.—The fall density of *Phasianus colchicus* was related to high spring temperatures and inversely related to the spring breeding population.—L.H.F.
- Stolt, B. O., and E. L. Risberg. 1971. [Occurrence and winter behavior of the Collared Turtle Dove *Streptopelia decaoto* in Uppsala 1959–1969.] Vår Fågelvärld, 30: 194–200.—The range of this species has extended during the 20th century from the southeast across western Europe. Motor traffic, snow, and severe cold are the most serious threats to its survival. (In Swedish, English summary.)—L.DeK.L.
- SWAHN, B. E. 1971. [The Cormorants' *Phalocrocorax carbo sinensis* island in Kalmarsund Baltic coast.] Vår Fågelvärld, 30: 163–167.—Guano successively killing the nest trees suggests the approaching end of this colony. (In Swedish.)—L.DeK.L.
- ULLRICH, B. 1971. Untersuchungen zur Ethologie und Ökologie des Rotkopfwürgers (*Lanius senator*) in Südwestdeutschland im Vergleich zu Raubwürger (*L. excubitor*), Schwarzstirnwürger (*L. minor*) und Neuntöter (*L. collurio*). Vogelwarte, 26: 1-77.— Details the results of a 6-year study of a northern population of the Woodchat Shrike, with emphasis on behavior and ecology. Includes comparative observations on the Great Grey (Northern) Shrike, the Lesser Grey Shrike, and the Red-backed Shrike. An excellent life history study. (Two-page English summary.)—H.C.M.

- Veroman, H. 1970. Vom Bestand des Weisstorchs (*C. ciconia*) in Estland 1962 bis 1967. Vogelwarte, 25: 257-259.—Although censuses for the various years are incomplete, White Storks appear to be maintaining population levels in Estonia. (English summary.)—H.C.M.
- WHITCOMB, W. H. 1970. The Tufted Titmouse, *Parus bicolor*, as a predator of the Pecan Nut Casebearer, *Acrobasis caryae*. Proc. Tall Timbers Conf. Ecol. Anim. Control by Habitat Mgmt., 2: 305-308.—The Tufted Titmouse is a very effective predator on this insect in north Florida. Evidence suggests that predation reaches economically significant levels.—W.W.B.
- Williamson, P. 1971. Feeding ecology of the Red-eyed Vireo (Vireo olivaceus) and associated foliage-gleaning birds. Ecol. Monogr., 41: 129-152.—A detailed analysis of the partitioning of deciduous forest by some insectivorous birds. Sexes of the Red-eyed Vireo differ in foraging habits; males forage in the vicinity of their singing perch, while females forage at nest level. The White-eyed Vireo (V. griseus) generally selects habitat that separates it from the Red-eyed Vireo, while the Yellow-throated Vireo (V. flavifrons) has structural and behavioral differences that may be related to different prey. Summer foraging behavior of Red-eyed and White-eyed Vireos was markedly different from winter feeding patterns. The American Redstart (Setophaga ruticilla) and Acadian Flycatcher (Empidonax virescens) exhibited species-specific foraging movements.—C.R.B.
- WILLSON, M. F., R. D. St. John, R. J. Lederer, and S. J. Muzos. 1971. Clutch size in grackles. Bird-Banding, 42: 28-35.—Reports clutch size and fledging success of a small sample of Quiscalus quiscula from central Illinois.—B.G.M.

#### EVOLUTION AND GENETICS

- Darlington, P. J., Jr. 1972. Nonmathematical models for evolution of altruism, and for group selection (peck order, territoriality, ant colony, dual determinant model, tri-determinant model). Proc. Natl. Acad. Sci., 69: 293–297.—Mathematical biologists have not produced a satisfactory model for the evolution of altruism—behavior through which some individuals benefit others but not themselves. Models are proposed for evolution of negative and of positive altruism through analysis of peck orders and of territoriality in birds. For peck order, a primary factor determines sequence in which individuals at the top secure food and reproduce, while the lower group, termed self-sacrificing altruists, fail through their lesser effectiveness. For territoriality, breeding birds are dominant in occupation and control of space. Surplus individuals do not interfere seriously in this and here also may behave as self-sacrificing altruists.
- DIAMOND, J. M. 1971. Comparison of faunal equilibrium turnover rates on a tropical island and a temperate island. Proc. Natl. Acad. Sci., 68: 27-42.—Estimated rates of immigration and extinction in bird species on Karkar Island, southwest Pacific Ocean, from surveys made in 1914 and 1969, compared to Santa Cruz, an island of similar size and isolation off southern California. Karkar shows an equivalent extinction factor but a lower immigration rate because of the more sedentary habits in many tropical forest birds.
- FORD, H. A. 1971. The degree of mimetic protection gained by new partial mimics. Heredity, 27: 227-236.—This paper concentrates on the evolution of mimicry, extrapolating from studies of reactions of wild birds (several British thrushes, *Prunella modularis*, and *Passer domesticus*) to experimentally modified, tasty and distasteful, artificial "caterpillars." Results are in accord with the hypothesis that mimicry evolves gradually through stages of imperfection (presumably through selection and fixation

- of modifying genes) until the resemblance is optimal. In tests with partial mimicry the nonmimetic prey or poorer mimic was preferred over the distasteful mimic and the model.—L.L.S.
- HAMEL, J. 1970. Hybridization of Eastern and Crimson rosellas in Otago. Notornis,
   17: 126-129.—Finds no proof of interbreeding in the wild by *Platycerus eximius* and
   P. elegans in Otago, New Zealand.—G.D.S.
- HARRISON, J. M., AND J. G. HARRISON. 1971. A back-cross hybrid involving Cinnamon Teal and Northern Shoveler, and remarks on hybrid characters in the group of "Bluewinged Duck." Bull. Brit. Ornithol. Club, 91: 99-103.—Describes a back cross Northern Shoveler × Cinnamon Teal male × Northern Shoveler female, which closely resembles the Australasian Shoveler. The presence of a white neck ring also suggests a relationship with Mallards.—F.B.G.
- JACKSON, J. A. 1971. The adaptive significance of reversed sexual dimorphism in tail length of woodpeckers: an alternative hypothesis. Bird-Banding, 42: 18-20.—Supports Stolpe's theory that longer tails in female Downy Woodpeckers (Dendrocopos pubescens) and Red-cockaded Woodpeckers (Dendrocopos borealis), in comparison with males, is an adaptation to their foraging on trunks and large limbs. For another opinion see Short (Bird-Banding, 41: 85-92, 1970).—B.G.M.
- MacDonald, M. A., and J. E. Newby. 1971. A wild shot Pintail × Mallard hybrid. Bull. Brit. Ornithol. Club, 91: 92-93.—Describes a wild drake hybrid shot in Scotland.—F.B.G.
- Wentworth, B. C., B. G. Hendricks, and J. Sturtevant. 1968. Sterility induced in Japanese Quail by spray treatment of eggs with mestranol. J. Wildl. Mgmt., 32: 879-887.

## GENERAL BIOLOGY

- Anderson, D. W., H. G. Lumsden, and J. J. Hickey. 1970. Geographical variation in the eggshells of Common Loons. Canadian Field-Naturalist, 84: 351-356.—Size, shape, form, and thickness of eggshells throughout the breeding range show geographical variation, presumably not related to pesticide effects. The trends in eggshell variation appear related to body size trends as reported by others.—R.W.N.
- BLISS, L. C. 1971. Devon Island programs. Arctic, 24: 65-67.—Observations at Snow Bunting and Lapland Longspur nests.—J.A.J.
- BROOKE, R. K., AND C. J. HODGSON. 1971. Winter food of the Secretary bird as revealed by pellets. Bull. Brit. Ornithol. Club, 91: 121-125.
- Burtt, H. E., and M. L. Giltz. 1969. Autumnal changes in sex-ratios in the Redwinged Blackbird and the Brown-headed Cowbird. EBBA News, 32: 122-127.— Fewer male than female Agelaius phoniceus and Molothrus ater were caught in decoy traps during the fall.—A.C.V.
- CARROLL, A. L. K. 1970. A note on measurements of the Harrier Circus approximans. Notornis, 17: 320-321.—Measurements of 61 males and 70 females.—G.D.S.
- CHANCE, G. 1970. Notes on a Crested Grebe's nest at Lake Mapourika. Notornis, 17: 87-91.—Describes one nest and associated young and adults with photographs. Records feather feeding of young.—G.D.S.
- Collins, C. T. 1971. A probable Swift-cactus collision. California Birds, 2: 101.— A 15-mm cactus spine imbedded in the breast of a netted, healthy Vaux's Swift probably was the result of a low-level foraging flight.—L.C.B.
- Colston, P. R. 1971. Additional non-passerine bird weights from East Africa. Bull. Brit. Ornithol. Club, 91: 110-111.—Lists 66 weights of 39 species.—F.B.G.

- CRAMP, S. 1971. Gulls nesting on buildings in Britain and Ireland. Brit. Birds, 64: 476-487.—Spread of the habit attributed to marked population increases.—H.B.
- Cunningham-van Someren, G. R. 1971. Euplectes diadematus Fischer and Reichenow, courtship, nest and eggs. Bull. Brit. Ornithol. Club, 91: 119-121.—Describes breeding of this weaver from a previously unrecorded breeding population near Nairobi.—F.B.G.
- Cunningham-van Someren, G. R. 1971. Amadina fasciata (Gmelin) as a "nest-parasite." Bull. Brit. Ornithol. Club, 91: 135-137.—Actually usurps recently completed nests of Passer emineby, Pseudonigrita arnaudi, and Ploceus spp. Never builds its own nest.—F.B.G.
- DENTON, J. F. 1967. Chuck-will's-widow hawking at bats. Oriole, 32: 25.
- DOUGLAS, M. J. W. 1970. Foods of Harriers in a high country habitat. Notornis, 17: 92-95.—Describes prey remains and pellet castings from a nest of a Circus approximans in North Canterbury, New Zealand. Mammalian materials, mostly hares, were most common food.—G.D.S.
- FRITH, C. B. 1971. Some undescribed nests and eggs of New Guinea birds. Bull. Brit. Ornithol. Club, 91: 46-49.—Includes Eupetes castanotus, Ifuta kowaldi (Timaliidae), Pachycephala hyperythia, Astrapia rothschildi, and Paradisaea quilemi (Paradisaeidae).—F.B.G.
- FRYLESTAM, B. 1971. [Immigration of the Barn Owl Tyto alba into Sweden, its range and breeding.] Vår Fågelvärld, 30: 185-193.—The Barn Owl was first recorded in southern Sweden in 1835. It now ranges into the south central provinces, sporadically farther north, but breeds only in the southern parts. Mean hatching success is 2.4, and the use of nest boxes has proved successful. Biocides affecting the supply of prey also affect the owl's ability to produce viable eggs and to raise young. (In Swedish, German summary.)—L.DEK.L.
- Gwinner, E., P. Berthold, and H. Klein. 1971. Untersuchungen zur Jahresperiodik von Laubsängern. II. Einfluss der Tageslichtdauer auf die Entwicklung des Gefieders, des Gewichts und der Zugunruhe bei *Phylloscopus trochilus* und *Ph. collybita*. J. Ornithol., 112: 253-265.—Hand-reared Willow Warblers and Chiffchaffs were kept on constant 12- or 18-hour light-days and development of plumage, body weight, and migratory restlessness were monitored. The authors conclude that these processes are controlled by endogenous mechanisms as well as photoperiod. (English summary.)—H.C.M.
- HADDEN, D. 1970. Notes on the Spotless Crake in the Waingaro District. Notornis, 17: 200-213.—From 1967-70 Porzana tabuensis plumbea was studied at Waingaro, New Zealand. Describes three nests and includes notes on habitat, territory, voice, and feeding.—G.D.S.
- HARLOW, R. A., Jr. 1971. Roseate Tern breeds during its third year. Bird-Banding, 42: 50.—A nonflying young Sterna dougallii banded on Great Gull Island, New York, later nested on Ram Island, Massachusetts.—B.G.M.
- HARRISON, M. 1970. The Orange-fronted Parakeet Cyanoramphus malherbi. Notornis, 17: 115-125.—Appraises habitat, distributional history, and status of this rare New Zealand species.—G.D.S.
- HICKMAN, G. L. 1971. Duck band found in Golden Eagle casting. Bird-Banding, 42: 50.—A band placed on a male American Widgeon Mareca americana at Salton Sea National Wildlife Refuge turned up in an Aquila chrysaetos nest at Malheur Natl. Wildl. Refuge less than 5 months later.—B.G.M.
- Holcomb, L. C., and G. Twiest. 1971. Growth and calculation of age for Redwinged Blackbird nestlings. Bird-Banding, 42: 1-17.—Reports changes in weight,

- eye opening, defecation, and the eight major feather tracts in young Agelaius phoeniceus in an upland habitat in Ohio and a marsh in Michigan. An equation estimates age to within 1 day.—B.G.M.
- HOLDSWORTH, M. 1971. Breeding biology of Buzzards at Sedbergh during 1937–1967. Brit. Birds, 64: 412–420.—One pair of Buteo buteo per 3.4 square miles found in this Yorkshire area. In most territories there was regular alternation between a series of nest sites. Mean brood size was 2.2. Excluding nests in which all eggs were lost, 75 percent of eggs fledged young.—H.B.
- JACKSON, J. A. 1970. Spotted eggs in a local population of Starlings. Bird-Banding, 41: 308-310.—Of 19 clutches of Sternus vulgaris near Lawrence, Kansas, 7 had spotted eggs. Although spotted eggs are known in European populations, apparently no previous reports from North America exist.—B.G.M.
- Kear, J., and P. J. K. Burton. 1971. The food and feeding apparatus of the Blue Duck *Hymenolaimus*. Ibis, 113: 483-493.—Preliminary study of structure of bill, skull, and muscles of head and food samples from the available specimens indicate that the lateral flaps of the bill may function protectively during foraging under stones. Aquatic insects are the primary food during the summer. Competition for food with introduced trout may be limiting the numbers of ducks.—R.W.S.
- LOCKLEY, R. M. 1971. The life history of Puffinus puffinus: A review. Oiseau, 41: 163-175.—Results of observations and experiments on many Shearwaters over a 42-year period. Echolocation is believed to play an important part of orientation in some Procellariiformes.—A.C.
- MAHER, W. J. 1971. Ecology of the Long-tailed Jaeger at Lake Hazen, Ellesmere Island. Arctic, 24: 112-129.—Breeding density, timing, chick growth, and food habits of *Stercorarius longicaudus*.—J.A.J.
- MIDDLETON, A. L. A. 1971. The gonadal cycle of the Goldfinch in south-eastern Australia. Emu, 71: 159–166.—The gonadal cycle of the introduced Carduelis carduelis is based on weight and histological examination of testes for 307 males and measurement of largest ovarian follicle for 205 females. Based on ovaries of nesting Goldfinches, follicular diameter of more than 1.0 mm indicates breeding condition. Testicular weights or dimensions are not adequate for assessing spermatogenic condition. Pigmentation of the bill (white, breeding; dark, nonbreeding) and condition of brood patch reliably indicate gonadal condition. Breeding is relatively earlier in Australia than in Europe, suggesting that although day length may be the basic timer, other environmental factors also influence timing and thus allow plasticity.—CFS
- MEYBURG, B.-U. 1971. On the question of the incubation period of the Black Kite, Milvus migrans. Ibis, 113: 530.—Lasts at least 34 days.—R.W.S.
- Nelson, J. B. 1971. The biology of Abbott's Booby Sula abbotti. Ibis, 113: 429-467.—This study is the "first and probably last" on the numbers, distribution, and behavior of this species endemic to Christmas Island and continues Nelson's fine ecological approach to the biology and behavior of the Sulidae. Color plate and many drawings.—R.W.S.
- NIETHAMMER, G. 1970. Clutch sizes of introduced European Passeriformes in New Zealand. Notornis, 17: 214-22.—Turdus philomelos, T. merula, Carduelis carduelis, Fringilla coelebs, Sturnis vulgaris, and Passer domesticus lay significantly smaller clutches in New Zealand than in Britain. Although insufficient data are available for five other species, a similar trend was found. Prunella modularis is the only species not differing between New Zealand and England. The author suggests that smaller clutches can be attributed to high population density and to the subsequent mutual

- disturbance of breeding pairs, causing diminished use of available food. Populations are maintained because individual pairs lay more clutches during the extended New Zealand breeding season.—G.D.S.
- OLNEY, P. J. S. 1968. The food and feeding-habits of the Pochard, Aythya ferina. Biol. Conserv., 1: 71-76.—The digestive tracts of 45 Pochards collected in fall and winter in Britain mostly contained plant seeds, fruits, and oospores. They usually feed in water 1 to 2.5 m deep and diving times average 13-11 seconds.—J.J.D.
- Pendergast, B. A., and D. A. Boag. 1971. Nutritional aspects of the diet of Spruce Grouse in central Alberta. Condor, 73: 437-443.
- Prince, H. H. 1968. Nest sites used by Wood Ducks and Common Goldeneyes in New Brunswick. J. Wildl. Mgmt., 32: 489-500.—Both Aix sponsa and Bucephala clangula selected nesting cavities in relatively open forest areas. Competition for nest sites was minimal. Cavity diameter was important for Goldeneyes.—L.H.F.
- SAGE, B. L. 1971. A study of White-billed Divers in arctic Alaska. Brit. Birds, 64: 519-528.—Discusses habitat selection, behavior at nest with eggs and young, and pattern of postbreeding dispersal by *Gavia adamsii.*—H.B.
- Schaeffer, F. S. 1971. Tree Swallow breeding biology at a coastal and inland area. EBBA News, 34: 216-225.—Compares aspects of the breeding biology of *Iridoprocue bicolor* at sites in New York and New Jersey.—A.C.V.
- Scott, L. 1970. Great Horned Owls occupy artificial nesting site. Blue Jay, 28: 123.
  Siegfried, W. R. 1971. Plumage and molt of the Cattle Egret. Ostrich, Suppl. 9: 154-164.—Based on a population in the southwestern Cape Province, an area invaded during the past 40 years. A comparison with New World populations would be of interest.—M.A.T.
- SKEAD, D. M. 1971. A study of the Rock Pigeon Columba guinea. Ostrich, 42: 65-69.—The ecology and breeding cycle in a habitat that has become suitable for the species only through man-made changes.—M.A.T.
- Spellerberg, I. F. 1970. Body measurements and colour phases of the McCormick Skua Catharacta maccormicki. Notornis, 17: 280-285.— Over 300 skuas were trapped at Cape Royds, Ross Island, Antarctica.—G.D.S.
- STEWART, P. A. 1971. Rejection of tobacco hornworm moths by Laughing Gulls. Chat, 35: 53.
- STEYN, P. 1971. Notes on the breeding biology of the Freckled Nightjar. Ostrich, Suppl. 9: 179-188.—The first recorded nesting notes on the rare Caprimulgus tristigma.—M.A.T.
- STIEGLITZ, W. O., AND C. T. WILSON. 1968. Breeding biology of the Florida Duck. J. Wildl. Mgmt., 32: 921-934.
- Thiollay, J.-M. 1971. Les Guêpiers et Rolliers d'une zone de contact savane-forêt en Côte d'Ivoire. Oiseau, 41: 148-162.—Notes on the biology of the different species of *Coracias*, *Eurystomus* and *Merops* that occur in a savana forest ecotone.—A.C.
- Thomas, D. G., and A. J. Dartnall. 1971. Moult of the Curlew Sandpiper in relation to its annual cycle. Emu, 71: 153–158.—Caladris ferruginea molts flight feathers on its wintering grounds and requires 125 to 130 days for primary renewal. Prebasic body molt starts before arrival on the wintering grounds; the absence of active molt in one newly arrived wintering bird suggests body molt may be arrested during migration. Based on fragmentary data in the literature on breeding and migration dates for ferruginea and other Calidris, it is suggested that (1) food on the breeding grounds is limited, (2) premigratory fat must be accumulated in favorable feeding areas away from the breeding grounds, and (3) time spent on the wintering grounds

- is the only period of adequate length that is sufficiently free of physiological strain to allow molt.—C.F.S.
- Tomich, P. Q. 1971. Notes on nests and behavior of the Hawaiian Crow. Pacific Sci., 25: 465-474.—Detailed notes on the nests, eggs, nest building, and incubation behavior of the endangered *Corvus tropicus*.—J.J.D.
- Turcotte, W. H. 1972. The breeding biology and distribution of Swainson's Warbler in Mississippi. Mississippi Kite, 2: 2-13.
- VADER, W. 1971. Dippers feeding on marine invertebrates. Brit. Birds, 64: 456-458.
   WEIGAND, J. P., M. J. POLLOK, AND G. A. PETRIDES. 1968. Some aspects of reproduction of captive Canada geese. J. Wildl. Mgmt., 32: 894-905.

## MANAGEMENT AND CONSERVATION

- Bowes, A. L., and D. G. Allen. 1969. Biology and conservation of the Quetzal. Biol. Conserv., 1: 297-306.—Details on 11 nests studied during a 3-month survey in Guatemala. A shortage of nest sites and human interference apparently are the major limiting factors. Suggests management techniques for preserving this species.— J.J.D.
- Francis, W. J. 1968. Temperature and humidity conditions in potential pheasant nesting habitat. J. Wildl. Mgmt., 32: 36-46.—Success of *Phasianus colchicus* nests appears to be related to strip cover with a favorable microclimate.—L.H.F.
- GATES, J. M., AND E. E. WOEHLER. 1968. Winter loss related to subsequent weights and reproduction in penned pheasant hens. J. Wildl. Mgmt., 32: 234-247.—Captive *Phasianus colchicus* hens with below-normal body weights in late winter lay eggs later and have lower body weights during egg-laying. Maximum egg production, egg hatchability, and chick survival are maintained at the expense of the hen's body condition.—L.H.F.
- JOHNSTON, B. R. 1971. Skua numbers and conservation problems at Cape Hallett, Antarctica. Nature, 231: 468.—Local breeding populations of Catharacta maccormicki and Adélie Penguins decreased by more than half during the 1960s because of disturbance. The skua decline resulted from abandonment of the colony and from man-related mortality of adults at the colony (including birds killed by ingesting corn cobs and lead battery plates!). Man's activities in Antarctica need to be more strictly controlled.—W.B.R.
- JOSELYN, G. B., J. E. WARNOCK, AND S. L. ETTER. 1968. Manipulation of roadside cover for nesting pheasants—a preliminary report. J. Wildl. Mgmt., 32: 217-233.—Unmowed roadsides seeded to a grass-legume mixture had more *Phasianus colchicus* nests per acre than did unseeded unmowed, or unseeded and mowed roadside plots.—L.H.F.
- Lewis, J. B., J. D. McGowan, and T. S. Baskett. 1968. Evaluating Ruffed Grouse reintroduction in Missouri. J. Wildl. Mgmt., 32: 17-28.—Bonasa umbellus were reintroduced into central Missouri but densities are low and few birds moved beyond the release site.—L.H.F.
- ROCKENBAUCH, D. 1971. Die Ernährung südwestduetscher Wanderfalken (Falco peregrinus). J. Ornithol., 112: 43-60.—Peregrines in southwestern Germany prey largely on thrushes, starlings, pigeons, and jays. Presents arguments that this diet is relatively free of pesticides and that as a result populations of Peregrines have not been decimated locally. Results of recent, stringent protection—a slight increase—indicate that plundering of nests by falconers and others is of prime importance in the decline of the species. (English summary.)—H.C.M.

### MIGRATION AND ORIENTATION

- ABLE, K. P. 1970. A radar study of the altitude of nocturnal passerine migration. Bird-Banding, 41: 282-290.—Along the Gulf coast of Louisiana 90 percent of fall migrants are below 5,000 feet, 75 percent below 3,000 feet. The frequency distribution is skewed, with most migrants at lower altitudes. A negative correlation between wind velocity and altitude exists. Birds flew below overcast.—B.G.M.
- Bagg, A. M., et al. The changing seasons. The fall migration—August 15-November 30, 1970. Amer. Birds, 25: 16-112.—In this last paper written before his death, the author analyzes, with weather maps, some remarkable hawk flights and waves of other migrants in late September. Records 1,000 Cattle Egrets in the Imperial Valley, California. Regional editors reported many rarities including an Eskimo Curlew at Plymouth Beach, Massachusetts.—E.E.
- BOOTH, W. M. 1971. Migration of Blue Jays in southwestern Michigan. Jack-Pine Warbler, 49: 82-86.—Observations of seasonal movements of *Cyanocitta cristata* from 1962 through 1970, mainly in Berrien County.—W.T.V.
- Britton, P. L. 1971. On the apparent movements of Cossypha natalensis. Bull. Brit. Ornithol. Club, 91: 137-144.—Cossypha natalensis is wholly or partly migratory in several parts of its somewhat disjointed range. Movements are deduced from study of skins and temporal changes in locality records.—F.B.G.
- Broekhuysen, G. J. 1971. Third report on bird migration in southern Africa. Ostrich, 42: 41-64.—Summary of records for 1950-1966 of selected palaearctic and intra-African migrants.—M.A.T.
- Buckley, P. A., et al. 1971. The changing seasons. Winter of 1970-1971. Amer. Birds, 25: 541-664.—Widespread dispersal of Barrow's Goldeneye, Oldsquaw, Harlequin, King and Common Eiders, Roughlegged Hawk, and Great Gray Owl (to the northern tier of states). Many western birds found farther east than usual.—E.E.
- CLARK, W. S. 1971. Migration trapping of hawks [and owls] at Cape May, N. J.— Fourth year. EBBA News, 34: 160-169.
- COHEN, J. R., AND S. COHEN. 1971. Sight Record in North Carolina of House Finch banded in New York. Bird Banding, 42: 50.—A color-banded bird.—B.G.M.
- Davies, S. J. J. F., M. W. R. Beck, and J. P. Kruiskamp. 1971. The results of banding 154 Emus in Western Australia. CSIRO Wildl. Res., 16: 77-79.—Thirty recoveries confirm southerly movement in winter-spring and northerly movement in summer of inland populations. Longest distance was 335 miles.—B.A.H.
- Dow, D. D., AND D. M. Scott. 1971. Dispersal and range expansion by the Cardinal: an analysis of banding records. Canadian J. Zool., 49: 185-198.—Immature *Richmondena cardinalis* and adults banded on the periphery of their range moved most frequently; males and females moved with similar frequency, but older females moved less far. Extensive directional patterns of movement were absent.—R.M.E.
- Dowsett, R. J., and C. H. Frv. 1971. Weight losses of Trans-Saharan migrants. Ibis, 113: 531-533.
- EDELSTAM, C. 1971. [Migration and mortality in Swedish Avocets, *Curvirostra avocetta*.] Vår Fågelvärld, 30: 168-179.—Investigations into migration routes, wintering grounds, territorial fidelity, and mortality, based on banding data. (In Swedish, detailed English summary.)—L.DeK.L.
- Högstedt, G., and C. Persson. 1971. Phänologie und Überwinterung der über Falsterbo ziehenden Rotkehlchen (*Erithacus rubecula*). Vogelwarte, 26: 86-98.—An analysis of 20,162 captures of Robins at Falsterbo (southern Sweden) in the autumns of 1955-68. Populations from several different geographic regions are involved.

- Direction of recoveries, distance, and frequency of recovery change through the season. Migration peaks correlate with weather. (English summary.)—H.C.M.
- Hudson, R. 1971. Recoveries in Great Britain and Ireland of birds ringed abroad. Brit. Birds, 64: 488-501.—Includes years 1969 and 1970.—H.B.
- Hummel, D., and R. Berndt. 1971. Der Einflug der Grosstrappe (Otis tarda L.) nach West-Europa im Winter 1969/70. J. Ornithol., 112: 138-157.—Analysis of a large invasion of the Great Bustard into western Europe in the winter of 1969-1970. About 300 birds were found in northwest Germany; individuals were seen as far as France, Bavaria, and Scotland. (English summary.)—H.C.M.
- Kelley, A. H., and J. O. L. Roberts. 1971. Spring migration of owls at Whitefish Point. Jack-pine Warbler, 49: 64-70.—A 5-year banding study, in which 280 owls of 6 species were captured. Two recoveries of *Asio otus* were obtained. *Aegolius funereus* appeared to have a cyclical pattern.—W.T.V.
- Mann, C. F. 1971. Migration in the Dahlac Archipelago and the neighbouring mainland of Ethiopia, autumn 1962. Bull. Brit. Ornithol. Club, 91: 41-46.—Observations of exhausted migrants at the beginning of autumn migration. These provide food for local populations of Falco concolor.—F.B.G.
- Martens, J. 1971. Zur Kenntnis des Vogelzuges im nepalischen Himalaya. Vogelwarte, 26: 113-128.—Observations of autumnal migration in the Himalayas in Nepal. At least 23 species cross in passes 5,700 m above sea level. Presents detailed observations of altitudinal migration of several species. (English summary.)—H.C.M.
- McNeil, R. 1971. Les causes de l'estivage des oiseaux migrateurs. Tchebec, 1: 3-11.—
  Reviews migration theories and postulates a new one, that interaction of factors causes a complete or partial inhibition on the migration of birds. The physiological premigratory conditioning is delayed or does not occur in certain individuals of several species.—A.C.
- MEDWAY, L., AND R. P. LIM. 1970. Post-juvenile dispersal of night herons in Malaya. Bird-Banding, 41: 265-274.—Of 7,450 nestlings banded at Malaya's only known Nycticorax nycticorax colony, 55 were subsequently reported, all but one from the Malayan mainland. No indication of migration.—B.G.M.
- Nilsson, L. 1971. [Migration, territorial fidelity and longevity in Swedish Goldeneyes *Bucephala clangula*.] Vår Fågelvärld, 30: 180–184.—Data from banding records. (In Swedish, English summary.)—L.DeK.L.
- Paxton, R. O., et al. The changing seasons. The spring migration, April 1-May 31, 1971. Amer. Birds, 25: 700-804.—Discusses the various weather conditions causing "waves" (actually "precipitations") of migrants. Communal nests of the South American Monk Parakeet, Myiopsitta monachus, imported as a cage-bird in quantities, have been found in many localities of the New York metropolitan area. A Cave Swallow collected on Seal Island, Nova Scotia, on 16 May, an earlier specimen from Sable Island in May 1968 (identified as the West Indian race), and a sighting in May 1969 suggests a recurring spring weather phenomenon carrying West Indies birds far to the north. Additional corroboration for this was observation of a Black-cowled Oriole, Icterus dominicensis, on Sable Island on 24 May 1971.—E.E.
- RICHARDSON, W. J. 1971. Spring migration and weather in Eastern Canada: a radar study. Amer. Birds, 25: 684-690.
- TRAYLOR, M. A. 1971. Molt and migration in Cinnyricinclus leucogaster. J. Ornithol., 112: 1-20.—The Violet-backed Starling differs from most other passerines in its sequence of molt. The wing and tail molt is completed before body molt begins. Migration may occur at any point in the molt cycle.—H.C.M.
- WALCOTT, C., AND M. C. MICHENER. 1971. Sun navigation in homing pigeons—at-

tempts to shift sun coordinates. J. Exp. Biol., 54: 291-316.—Neither alteration of apparent sun altitude at the home loft nor treatments designed to disturb an internal clock (administration of a random light schedule and 30 percent D<sub>2</sub>O in drinking water) has any effect on navigation of homing pigeons. A 2-hour clock shift changes orientation as predicted by a sun compass hypothesis, but 6-hour shifts produce initial orientations too scattered to analyze. Thus the pigeon's ability to navigate probably is not based on either the sun or a knowledge of time at the home loft.—A.S.G.

ZWICKEL, F. C., I. O. Buss, and J. H. Brigham. 1968. Autumn movements of Blue Grouse and their relevance to populations and management. J. Wildl. Mgmt., 32: 456-468.—Fifty percent of banded *Dendragapus obscura pallidus* were recovered over 5 miles from the breeding range, 30 percent over 10 miles, and one moved 31 miles. Breeding populations were higher on ungrazed range.—L.H.F.

## MISCELLANEOUS

- ARBIB, R. S., JR. 1971. A special supplement on the building of a basic ornithological library. Amer. Birds, 25: 909-924.—In four parts: "Choosing an ornithological library" (indicates the amusingly disparate views of seven noted ornithologists), "The master list of bird books," and "A selection of regional bird books," and "Some recent and forthcoming books."—E.E.
- Arnold, K. A., and D. W. Coon. 1971. A technique modification for color-marking birds. Bird-Banding, 42: 49-50.—Streamers are fastened with brass eyelets.—B.G.M.
- BAYSINGER, E. B. 1970. A hoop-net trap for passerine birds—additional comments. Bird-Banding, 41: 311.—Trapped birds should be removed promptly.—B.G.M.
- BESSER, J. F., J. W. DEGRAZIO, AND J. L. QUARINO. 1968. Costs of wintering starlings and Red-winged Blackbirds at feedlots. J. Wildl. Mgmt., 32: 179-180.
- BOSWALL, J. 1971. New Palearctic bird sound recordings. Brit. Birds, 64: 431–434.
  CHRISTENSEN, S., B. P. NIELSEN, R. F. PORTER, AND I. WILLIS. 1971. Flight identification of European raptors. Brit. Birds, 64: 435–455.—Includes sketches and photographs of Bonelli's, and Short-toed Eagles, and Osprey.—H.B.
- CRUICKSHANK, A. D., Ed. 1970. Seventieth Christmas bird count. Audubon Field Notes, 24: i-xii and 101-472.—The Audubon Christmas Counts have reached the stage of popularity where some 15,000 birders participated in 1969, and the 877 reports filled over 380 pages. Counts were made in all of the United States, the District of Columbia, and nine Canadian provinces between 20 December 1969 and 1 January 1970. The San Diego, California count listed 224 species; other counts with 150 of more species came chiefly from Florida and Texas, but New Jersey and North Carolina each had one count of 153 species. In the introduction Cruickshank provides a useful critical summary and a list of the highest species count for each state, as well as the three counts reporting fewer than ten species. B. L. Monroe, Jr. summarizes the highest counts for individual birds of each included species. R. S. Arbib, Jr., mentions some amusing discrepancies and raises doubts as to some reported data. Aside from their ornithological value the Christmas Counts are interesting as reflecting American folkways.—E.E.
- CRUICKSHANK, A. D., Ed. 1971. The seventy-first Christmas bird count. Amer. Birds, 25: 121-524.—A total of 903 reports published from the United States and Canada, 53 from Texas alone. Highest number of species were counted at Cocoa, Florida (205), Freeport, Texas (204), and three coastal localities in California (191-195).—E.E.

- Dane, C. W. 1968. Age determination of Blue-winged Teal. J. Wildl. Mgmt., 32: 267-274.—Female Anas discors are aged by markings on the greater secondary coverts and by the size of bill spots.—L. H. F.
- Devine, T., and T. J. Peterle. 1968. Possible differentiation of natal areas of North American waterfowl by neutron activation analysis. J. Wildl. Mgmt., 32: 274-279.
- Ellison, L. N. 1968. Sexing and aging Alaskan Spruce Grouse by plumage. J. Wildl. Mgmt., 32: 12-16.—Canachites canadensis osgoodi can be aged as juveniles or adults by the shape and coloration of the outer primaries and sexed by the color pattern of either breast feathers or rectrices.—L.H.F.
- Fredrickson, L. H. 1968. Measurements of coots related to sex and age. J. Wildl. Mgmt., 32: 409-411.—Fulica americana could not be sexed by length of culmenshield, metatarsus-midtoe, or wing. Bursal width and conformation were reliable for age.—L.H.F.
- Grant, G. S. 1971. Removal of cranium during preparation of study skins for later ossification studies. Bird-Banding, 42: 47.—Tied to legs.—B.G.M.
- Grant, G. S., and T. L. Quay. 1970. Sex and age criteria in the Slate-colored Junco. Bird-Banding, 41: 274-278.—Broad overlap in all criteria. Only 45 percent of this sample of *Junco hyemalis* could be sexed by wing length alone. Females tended to be browner than males.—B.G.M.
- GRUBB, T. C., Jr. 1971. Stomach oil in Procellariiformes: An extraction technique. Ibis, 113: 529.—A new collection procedure superior to former techniques in that it does not require sacrificing birds and it facilitates sampling all the oil in the stomach.

  —R.W.S.
- HAVLIN, J. 1968. Wing-tagging ducklings in pipped eggs. J. Wildl. Mgmt., 32: 172–174.
- IMBER, M. J., AND D. E. CROCKETT. 1970. Sea birds found dead in New Zealand in 1968. Notornis, 17: 223-230.—Along 1,188 miles of beach, 4,716 dead birds of 49 species were picked up. Short-tailed Shearwaters, Puffinus tenuirostris, were found in considerable numbers. Unusual occurrences were storm petrels (Oceanites oceanicus, Garrodia nereis, Fregetta tropica), a Sooty Tern (Sterna fuscata), and two Spine-tailed Swifts (Chaetura caudacuta).—G.D.S.
- James, H. W. 1970. Catalogue of the bird eggs in the collection of the National Museums of Rhodesia. Spec. Publ. Queen Victoria Museum, Salisbury, Rhodesia. 237 pp.—A very useful list of the eggs, chiefly from southern Africa, housed in the Queen Victoria Museum. Includes a description of appearance and measurements, exact locality, collector's name, and month when eggs were taken. This last is of basic biologic interest, because it provides breeding season data not supplied in the monumental "Handbuch der Oologie."—E.E.
- JONES, R. E. 1968. A board to measure cover used by prairie grouse. J. Wildl. Mgmt., 32: 28-31.
- KALCHREUTER, H. 1971. Alters- und Geschlechtsmerkmale bei der Rabenkrähe (Corvus corone corone). Vogelwarte, 26: 106-112.—Plumage and mouth color can be used to determine the age of Carrion Crows up until 28 months. Sex can be determined by shape of bill and wing length. Over 1400 specimens were examined. (English summary.)—H.C.M.
- LENSINK, C. J. 1968. Neckbands as an inhibitor of reproduction in Black Brant. J. Wildl. Mgmt., 32: 418-420.
- MARTIN, D. J. 1971. A trapping technique for Burrowing Owls. Bird-Banding, 42: 46.—A Hayahart trap is placed in the burrow of Spectyto cunicularia.—B.G.M.

- MATHISEN, J. E. 1968. Effects of human disturbance on nesting of Bald Eagles. J. Wildl. Mgmt., 32: 1-6.—Success of 182 Haliaeetus leucocephalus nests on the Chippewa National Forest were not influenced by different levels of human activity late in the nesting cycle, nor did habitat modified by timber management in the vicinity of nests affect nesting activity.—L.H.F.
- MATHISEN, J., AND J. STEWART. 1970. A band for an eagle. Loon, 42: 84-87.—Popular account of Bald Eagle banding efforts in Chippewa National Forest. Includes some nesting data for eagles and Ospreys.—R.W.N.
- NISBET, I. C. T. 1970. Banding recoveries of the Blackpoll Warbler. Bird-Banding, 41: 279-281.—Eight recoveries of *Dendroica striata*.—B.G.M.
- NISBET, I. C. T., J. BAIRD, AND D. V. HOWARD. 1970. Statistical comparison of wing-lengths measured by four observers. Bird-Banding, 41: 307-308.—Averages of a large sample (401 White-throated Sparrows *Zonotrichia albicollis*) were significantly different, with an average standard deviation of 0.93 mm. They "recommend that wing-length which may be significant in identification should be measured twice (the same wing), preferably by different observers."—B.G.M.
- OUELLET, H. 1971. Bill abnormality in the Common Raven. Tchebec, 1: 25-29.
- Prescott, K. W. 1971. A melanistic Blue Jay (Cyanocitta cristata). Bird-banding, 482: 48.
- RAVELING, D. G. 1968. Weights of Branta canadensis interior during winter. J. Wildl. Mgmt., 32: 412-414.
- Schonwetter, M. Edited and continued by W. Meise. 1970-71. Handbuch der Oologie, Lief. 18: 257-320; Lief. 19: 321-384. Berlin, Germany, Akademie-Verlag,—The Handbook of Oologie, published in parts over many years, is now approaching completion. These two parts, each containing a color plate, treat families of the Passeriformes. Lief. 18 completes the Pycnonotidae (begun in Lief. 17), treats in full the Laniidae and the Irenidae, and begins the Vangidae. Lief. 19 concludes the Vangidae, treats the Dulidae, Cinclidae, Troglodytidae, Mimidae, and Prunellidae and a good part of the Turdidae (into Enicurus). The sequence within these families (and generally the nomenclature) follows Peters' "Check-list of birds of the world." In addition to descriptions and tables of measurements, egg types of various genera and species in each family are compared, and in some cases female weight is compared with egg weight. Following the treatment in the check-list, the Ptilogonatidae are merged in the Bombycillidae, but I note that while the eggs of Phainopepla and Bombycilla are similar, those of Ptilogonys cinereus have a wholly different appearance, suggesting a different family (eggs of Ptilogonys caudatus and of Phainoptila were not available). The eggs of Hypocolis, also placed in Bombycillidae, have a slight resemblance to those of Bombycilla. (In German).-E.E.
- SILOVSKY, G. D., H. M. WIGHT, L. H. SISSON, T. L. FOX, AND S. W. HARRIS. 1968. Methods for determining age of Band-tailed Pigeons. J. Wildl. Mgmt., 32: 421-424. —Columba fasciata were aged by cloacal sex characters, glandular bursa, and wing plumage characters.—L.H.F.
- SILVY, N. J., AND R. J. ROBEL. 1968. Mist nets and cannon nets compared for capturing prairie chickens on booming grounds. J. Wildl. Mgmt., 32: 175-178.
- Thompson, M. P., and R. J. Robel. 1968. Skeletal measurements and maceration techniques for aging Bobwhite Quail. J. Wildl. Mgmt., 32: 247-255.
- Tomlinson, R. E. 1968. Reward banding to determine reporting rate of recovered Mourning Doves. J. Wildl. Mgmt., 32: 6-11.—Recoveries from immature Zenaidura macroura were 9.69 percent for reward bands and 3.83 percent for controls.—L.H.F.

- Van Velzen, W. T. 1971. Recoveries of Royal Terns banded in the Carolinas. Chat, 35: 64-66.
- Walkinshaw, L. H. 1971. Calhoun County wood warblers. Jack-Pine Warbler, 49: 71-81.—A summary of 50 years of observations of 35 warbler species. Tables contain arrival and departure dates for *Mniotilta varia*, *Protonotaria citrea*, *Dendroica petechia*, *Geothlypis trichas*, and *Setophaga ruticilla*.—W.T.V.
- Weaver, H. R., and W. L. Haskell. 1968. Age and sex determination of the Chukar Partridge. J. Wildl. Mgmt., 32: 46-50.—Alectoris graeca were sexed and aged from mid-September through December by primary and secondary feather characteristics.—L.H.F.
- WINTERBOTTOM, J. M., Ed. 1971. Tenth anniversary commemorative volume of the Percy Fitzpatrick Institute of African Ornithology. Ostrich, Suppl. 9: 189 pp.—Thirteen papers on African ornithology by the staff or associates of the institute. The more important are noticed under the appropriate headings.—M.A.T.
- Yunick, R. P. 1970. An examination of certain aging and sexing criteria for the Cedar Waxwing (Bombycilla cedrorum). Bird-Banding, 41: 291-299.—The waxy tips on secondaries and the throat coloration vary. No definitive criteria for identification.—B.G.M.

### PESTICIDES AND POLLUTION

- Kreitzer, J. F., and J. W. Spann. 1968. Mortality among Bobwhites confined to a Heptachlor contaminated environment. J. Wildl. Mgmt., 32: 874-878.—Heptachlor at 1½ and 2 lb/acre caused severe mortality of *Colinus virginianus* during the first 15 days after application but declined rapidly thereafter.—L.H.F.
- RISEBOROUGH, R. W., F. C. SIBLEY, AND M. N. KIRVEN. 1971. Reproductive failure of the Brown Pelican on Anacapa Island in 1969. Amer. Birds, 25: 8-9.—Eggs in the colony on Anacapa Island off California showed a 50 percent reduction in mean shell thickness compared to pre-1943 eggs. Almost all eggs broke before hatching. This is attributed to DDT.—E.E.

### PHYSIOLOGY

- Berger, M., J. S. Hart, and O. Z. Rov. 1971. Respiratory water and heat loss of the Black Duck during flight at different ambient temperatures. Canadian J. Zool., 49: 767-774.—Anas rubripes lost more heat from expired air during flight than at rest. Respiratory water loss and evaporative heat loss both decreased at low ambient temperatures, while heat loss from the warming of inspired air increased.—R.M.E.
- Bradley, E. L., W. N. Holmes, and A. Wright. 1971. The effects of neurohypophysectomy on the pattern of renal excretion in the duck (Anas platyrhynchos). J. Endocrinol., 51: 57-65.—Neurohypophysectomy produces immediate polydipsia and polyuria that diminish during the first 2 weeks after operation and stabilize by the 14th day at levels approximately three times higher than corresponding values in sham-operated ducks. Stabilized levels persist throughout the remainder of the 60-90-day experimental period. Electrolyte excretion is higher than in sham-operated birds. Vasopressin reduces the rate of urine flow from that observed in control birds but has no effect on electrolyte excretion. Arginine vasotocin, reported to be the native antidiuretic principle in bird neurohypophyses, restores both water and ion excretion values to those observed in intact and sham-operated birds. Synthetic oxytocin has no antidiuretic effect. (Modified from authors' summary.)—S.L.L.G.

- CARDINI, F. P. 1971. Eating after intracrop preloading in the pigeon. Physiol. Behav., 7: 443-446.—If preloading was 60 percent or more of normal intake, pigeons were hyperphagic.—J.A.J.
- MAGNUS, J. G., AND E. LEE-TENG. 1971. The absence of residual memory consolidation following transcranial current. Physiol. Behav., 7: 113-115.—In chickens.— J.A.J.
- McCollom, R. E., P. B. Siegel, and H. P. Van Krey. 1971. Responses to androgen in lines of chickens selected for mating behavior. Hormones and Behav., 2: 31-42.—Significant differences among high, low, and randombred lines for courts, mounts, treads, and completed matings. Rankings along lines were not changed by hormone treatment on castarates or intact controls. Caponization reduced sexual behavior and hormone treatment returned mating to the level of intact males for the respective line.—D.L.A.
- Peterson, A. J., and R. H. Common. 1971. Progesterone concentration in peripheral plasma of laying hens as determined by competitive protein-binding assay. Canadian J. Zool., 49: 599-604.—Progesterone levels of Rhode Island Red X S.C. White Leghorn laying hens consistently increased about 4-6 hours before ovulation, and hence could act as a stimulus for ovulation.—R.M.E.
- POHL, H. 1971. Über Beziehungen zwischen circadianen Rhythmen bei Vögeln. J. Ornithol., 112: 266–278.—Experiments with Fringilla coelebs, F. montifringilla, and Carduelis spinus indicate that regular changes occur in phase relationships between diurnal and nocturnal activity and metabolic rate as well as temporary dissociation of one circadian activity from another. These changes appear to be influenced by both endogenous and environmental factors, and offer suport for the hypothesis that circadian rhythms are a system of coupled oscillators. (English summary.)—HCM
- Thompson, R. D., C. V. Grant, E. W. Pearson, and G. W. Corner. 1968. Differential heart rate response of starlings to sound stimuli of biological origin. J. Wildl. Mgmt., 32: 888-893.

### TAXONOMY AND PALEONTOLOGY

- Benson, C. W., R. K. Brooke, and M. P. S. Irwin. 1971. The Slaty Egret is a good species. Bull. Brit. Ornithol. Club, 91: 131–133.—The Slaty Egret, Egretta vinaceigula, is shown in morphological and ecological grounds to be a separate species found chiefly in the Chobe River system of northern Botswana, and not a phase of the Black Egret, E. ardesiaca, as held by some workers. (Authors' summary.)—F.B.G.
- BROOKE, R. K. 1971. Taxonomic history of Schoutedenapus schoutedeni. Bull. Brit. Ornithol. Club, 91: 93-94.—Recommends treating this swift as a full species distinct from S. myoptilus.—F.B.G.
- BROOKE, R. K. 1971. The eastern and southern populations of the Mottled Spinetail. Bull. Brit. Ornithol. Club, 91: 134-135.—Outlines ranges and characters of *Telacanthura ussheri stictalaema* and *T. u. benguellensis.*—F.B.G.
- BROOKE, R. K. 1971. Geographical variation in the Little Swift Apus affinis (Aves: Apodidae). Durban Mus. Novitates, 9: 93-103.—Ten races are recognized from the Old World tropics, of which Apus affinis furcatus, western Java, is here first described.—M.A.T.
- Curry-Lindahl, K. 1971. Systematic relationships in Herons (Ardeidae), based on comparative studies of behavior and ecology. Ostrich, Suppl. 9: 53-70.—In a prelim-

- inary classification, the herons are divided into nine genera. The genus *Hydranassa* is merged into *Egretta*, and six pairs of representative species are united into single species.—M.A.T.
- Desfayes, M. 1971. Revision générique des Carduélidés. Oiseau, 41: 130-147.— Defines the characteristics of the family and proposes a complete classification.—A.C.
- FARKAS, T. 1971. Monticola bensoni, a new species from southwestern Madagascar. Ostrich, Suppl. 9: 83-90.—A new species, closely allied to M. (Pseudocossyphus) imerinus, with notes on behavior and breeding.—M.A.T.
- HARRISON, C. J. O. 1971. Notes on the identification of eggs, egg mimicry and distributional history and the status of the form serratus, in parasitic Clamator cuckoos. Bull. Brit. Ornithol. Club, 91: 126-131.—Detailed, interesting discussion of the complexities of cuckoo egg identification. C. serratus is probably a good species.—F.B.G.
- Jehl, J. R., Jr. 1971. The color patterns of downy young ratites and tinamous. Trans. San Diego Soc. Nat. Hist., 16: 291-302.—Plumage patterns of downy young ratites indicate that the Casuariidae and Dromiceiidae are closely related, and they suggest that the Struthioniformes and Casuariiformes may be more closely related to each other than either is to any other living ratite taxon. Relationships of the Rheiformes and Apterygiformes are not clarified. The Tinamidae fall into two distinct groups of genera: 1) Tinamus, Nothocercus, and Crypturellus, and 2) Rhynochotus, Nothura, Notoprocta, and Tinamotis; chicks of Taoniscus were not examined. Chick plumages provide no evidence for close relationship between tinamous and any ratite taxon.—J.R.J.
- KINSKY, F. C. 1970. "Spotted Shags" in Westland. Notornis, 17: 102-104.—Assigns eight specimens of *Strictocarbo punctatus* from the west coast of South Island, New Zealand to the subspecies *steadi.*—G.D.S.
- Olson, S. L. 1971. Taxonomic comments on the Eurylaimidae. Ibis, 113: 507-516.—Suggests abandonment of the "Eurylaimi" and inclusion of the Eurylaimidae in the suborder Tyranni with the Cotingidae as the nearest extant relatives. Discusses relations within the family and the sequence of suboscine families.—R.W.S.
- PARKER, R. H., AND C. W. BENSON. 1971. Variation in Caprimulgus tristigma Rüppell, especially in West Africa. Bull. Brit. Ornithol. Club, 91: 113-119.—Reviews variation in this nightjar and describes Caprimulgus tristigma pallidogriseus subsp. nov.; a pale gray race. Also discusses the status of Scotoenis trimaculatus, a synonym of Caprimulgus r. ruficollis.—F.B.G.
- PARKES, K. C. 1971. Taxonomic and distributional notes on Philippine birds. Nemouria, 4: 1-67.—A gathering of information on taxonomy, nomenclature, distribution, and plumages of many species of Philippine birds. Emphasizes problems at the subspecies level. Recognizes four subspecies as full species: Cyornis lemprieri, Orthotomus derbianus, Zosterops meyeni, and Nectarinia henkei.—F.B.G.
- PARKES, K. C. 1971. Two new parrots from the Philippines. Bull. Brit. Ornithol. Club, 91: 96-98.—Describes Tanygnathus sumatranus duponti subsp. nov. and Bolbopsittacus lunulatus callainipictus subsp. nov. on the basis of color shade differences.—F.B.G.
- Scarlett, R. J. 1970. The genus Capellirallus. Notornis, 17: 303-319.—Compares Rallus hodgeni with Campellirallus karamu and proposes that both be placed in same genus.—G.D.S.
- Vaurie, C. 1971. Cranioleuca furcata Taczanowski (Furnariidae) is a valid species. Ibis, 113: 517-519.—Based on author's examination of type specimen. The genus Cranioleuca was previously merged with Certhiaxis by the author.—R.W.S.

Vaurie, C. 1971. Systematic status of Synallaxis demissa and S. poliophrys. Ibis, 113: 520-521.—S. demissa is a valid species placed in the genus Certhiaxis, whereas S. poliophrys is a synonym of S. frontalis.—R.W.S.

Voisin, J. F. 1970. On the specific status of the Kerguelen Shag and its affinities. Notornis, 17: 286-290.—Data indicate that *Phalacrocorax albiventer* and *P. atriceps* have no direct relationships with the Kerguelen Shag, *P. verrucosus*. Its closest living relative is *P. carunculatus*.—G.D.S.

### **OBITUARIES**

G. CLIFFORD CARL, long-time director of the British Columbia Provincial Museum in Victoria and a member of A.O.U. since 1941, died on 27 March 1970. While essentially a marine biologist and student of lower invertebrates (fishes, amphibians, and reptiles), he nevertheless had a strong interest in birds and promoted much interest in ornithology locally, regionally, and nationally, in the latter case as a regular participant in the Audubon Screen Tours.

Dr. Carl was born in Vancouver, British Columbia on 3 April 1908. He obtained the B.S. and M.S. degrees at the University of British Columbia and the Ph.D. from the University of Toronto. At various times in his career he served on the staffs of the Fisheries Research Board of Canada, the University of Toronto, and the University of British Columbia. He became acting Director of the British Columbia Provincial Museum in 1940, and Director in 1942. While Director he maintained continuous contact with numerous smaller museums and museum personnel throughout the province and was instrumental in the founding in 1957 of the British Columbia Museum's Association. He initiated a series of handbooks on the Flora and Fauna of British Columbia, for six of which he was author or coauthor. Indeed, he wrote about 75 scientific papers and articles all told. Another activity was the production of a variety of colored films on natural history subjects, the most notable ones featuring birds being "Birding in Haida Land," "Secrets of the sea," "Nature's feathered folk," "Sea gulls, sea birds and pelican parade." He published a natural history series in local newspapers and on radio participated in a local program entitled "Outdoors with the experts." In each of these he featured birds from time to time. In August 1968 a new museum complex called Heritage Court opened, which is a monument to his vision and endeavor. Ever active in community affairs he served as a member of the Board of Trustees of many organizations—one being the Puget Sound Museum of Natural History, another the Pacific Northwest Bird and Mammal Society. He served two terms as President of the latter.

In January 1970, looking forward to relief from museum administrative duties after 29 years, he relinquished the directorship of the Provincial Museum to assume the newly created position of Curator of Marine Biology. He was deeply involved in a proposed "Hall of the sea" when he was stricken with acute leukemia to which he succumbed after a short illness. He will long be remembered in British Columbia as a kindly and knowledgeable man. I am indebted to Charles J. Guiguet, Curator of Birds and Mammals of the Museum for the above information on Dr. Carl.—WILLIAM H. BEHLE.