PERIODICAL LITERATURE

EDITED BY HERBERT W. KALE II

A RENAMED JOURNAL

WESTERN BIRDS (formerly CALIFORNIA BIRDS).—With the name change, effective with Volume 4, No. 1 (1973), geographic coverage has been expanded to encompass all states and provinces from the Rocky Mountains westward (including Alaska and Hawaii), western Texas, and adjacent portions of Mexico and the Pacific Ocean. General content and objectives continue to be restricted to field studies. Photographic essays are a new feature.—L.C.B.

ANATOMY AND EMBRYOLOGY


NICHOLS, H. A. J., AND T. D. NICHOLS. 1973. St. Vincent Parrot: plumage polymorphism, juvenile plumage and nidification. Bull. Brit. Ornithol. Club 93: 120–123.—Within a wide variety of plumage polymorphism, two major morphs are identified that have previously been considered as the immature and adult plumages. The juvenile and adult plumages of any individual are identical.—F.B.G.

PARSONS, F. E. 1968. Pterylography. Libraries Board of South Australia, Occ. Paps. Zool. 1: 60 pp.—An atlas containing fairly detailed annotated drawings of the wing and body pteryloses of 35 Australian species, 26 passerines; also notes (especially on wing-loading) on others. The drawings were made mostly in the late 1920s and were not edited before publication (obsolete common, scientific names, no index) but are nevertheless a useful reference.—M.H.C.


BEHAVIOR

BAKER, M. C. 1974. Foraging behavior of Black-bellied Plovers (Pluvialis squatarola). Ecology 55: 162–167.—Feeding strategy during fall and spring migration is more stereotyped in this species than in other shorebirds previously studied, and may be correlated with specialization on polychaetes as principal prey. Search
Time decreases with increased diversity of prey, but time required to capture and eat items varies widely with prey type.—C.R.B.

**Biechert, D. R., and D. E. Samuel. 1973.** Sonographic analysis of the American Woodcock’s peent call. J. Wildl. Mgmt. 37: 470–475.—Analysis of calls of 36 male *Philohela minor*, 18 from both West Virginia and Canada, indicated that variation between birds was greater than intraindividual variation. Gives recommendations for recording methods that will allow further study of singing ground fidelity, local movements, and singing male census.—L.H.F.


**Bollinger, R. C., and E. Bowes. 1973.** Another chapter in the “Ornithological Mystery Story.” Amer. Birds 27: 741–742.—Further confirmation of “kicker” song given by Virginia Rail (*Rallus limicola*). Authors suggest that this rare vocalization might also be uttered by some other rail.—E.E.

**Broekhuysen, G. J. 1973.** Behavioural responses of Dabchicks *Podiceps ruifocollis* to disturbances while incubating. Ostrich 44: 111–117.—Disturbed birds almost always cover their eggs when they leave the nest. Behavior is interpreted as derived from displacement nest-building.—R.B.P.


**Cowan, P. J. 1973.** Parental calls and the approach behavior of young Canada Geese: a laboratory study. Canadian J. Zool. 51: 647–650.—*Branta canadensis* goslings selectively approached an individual parental call that was paired in training with a familiar visual stimulus.—R.M.E.

**Cutright, N. J. 1973.** Three bird species use same nest during one breeding season. Kingbird 23: 192.—*Turdus migratorius*, *Hirundo rustica*, and *Trogodytes aedon*, in that sequence.—M.C.B.


**Dean, W. R. J. 1973.** Notes on the juvenile behaviour of *Bubo africanus*. Ostrich 44: 134–136.—Feeding behavior of a captive young Spotted Eagle Owl includes “killing” actions on dead prey.—R.B.P.

**Doane, L. A. 1972.** Behavior of Black Terns on their nesting grounds. IBB News 44: 136–144.—Notes on nesting, courtship, incubation, and parental behavior of *Chlidonias niger* from 1966 through 1972 at a nesting colony near Crivitz, Wisconsin.—D.M.F.

**Dunford, R. D., and R. B. Owen, Jr. 1973.** Summer behavior of immature radio-equipped Woodcock in central Maine. J. Wildl. Mgmt. 37: 462–469.—Fifteen immature *Philohela minor* used old fields more than any other cover type. Immature males and females had similar activity patterns. Little nocturnal activity was recorded.—L.H.F.

**Evans, R. M. 1973.** Differential responsiveness of young Ring-billed Gulls and Herring Gulls to adult vocalizations of their own and other species. Canadian J. Zool. 51: 759–770.—Young of both species responded preferentially to calls of the Ring-billed Gull.—R.M.E.
GOODWIN, D. 1973. Some calls and behavior patterns of the Plumbeous and Rufous Pigeons. Bull. Brit. Ornithol. Club 93: 103-108.—Both species utter a call similar to a probably homologous call of the Picazuro Pigeon. The flight intention movements of these three species are also very similar. The Rufous Pigeon's wing ruffling movements are similar to those of the Picazuro and White-crowned Pigeons. (From author's summary.)—F.B.G.

HARRINGTON, B. A. 1973. Aggression in winter resident and spring migrant White-throated Sparrows in Massachusetts. Bird-Banding 44: 314-315.—Wintering Zonotrichia albicollis were dominant over newly arrived spring migrants at a feeder. After a few days the pattern of dominance changed to one in which White-throats with brightly colored crowns were dominant over those with dull crowns.—B.A.H.


KILHAM, L. 1973. Colonial-type nesting in Yellow-shafted Flickers as related to staggering of nesting times. Bird-Banding 44: 317-318.—Because Colaptes auritus becomes progressively less aggressive after nest excavation begins, other flickers may intrude territories and establish nearby nest sites.—B.A.H.

KREBS, J. R. 1973. Social learning and the significance of mixed-species flocks of chickadees (Parus spp.). Canadian J. Zool. 51: 1275-1288.—When individuals of one species in an aviary found food, individuals of the other species tended to search for food near the site of the find.—R.M.E.

KURATA, A., AND Y. HIGUCHI. 1973. Roosting behavior of two species of crows in Mie Prefecture. Misc. Repts. Yamashina Inst. Ornithol. 6: 489-506.—A comparison between Corvus macrorhynchos (mountains to hills) and C. corone (hills to plains). Describes four stages in formation of daily roosting flocks, and locations, seasonal fluctuation, population composition (especially breeding vs. nonbreeding individuals), and numbers of roosts. (In Japanese; short summary and all captions and tables in English.)—K.C.P.


MUNDY, P. J. 1973. Vocal mimicry of their hosts by nestlings of the Great Spotted Cuckoo and Striped Crested Cuckoo. Ibis 115: 602-604.—Clamator glandarius similar to Corvus albicollis and Clamator levalliantii similar to Turdoides jardinei.—R.W.S.


STEWART, P. A. 1973. Basis for pre-roost gatherings of Starlings and Brown-headed Cowbirds. Bird-Banding 44: 315-316.—Sturnus vulgaris and Molothrus ater in North Carolina form preroosting flocks in which they remain until a night roosting site has been selected and settled by Common Grackles (Quiscalus quiscula).—B.A.H.


SWANSON, G. E., AND A. B. SARAGANT. 1972. Observation of nighttime feeding behavior of ducks. J. Wildl. Mgmt. 36: 959-961.—A night vision scope was used to watch ducks feeding at night. Emergence pattern of insects appeared to be a major factor influencing feeding activity.—L.H.F.

TESTER, J. R., AND A. WATSON. 1973. Spacing and territoriality of Woodcock Scelopax rusticola based on roding behaviour. Ibis 115: 135-138.—[The Oxford dictionary defines roding “to perform a regular evening flight during the breeding season” (woodcock) and “to fly landward in the evening” (wildfowl).]—H.W.K.


TORBJORN, D. D. 1973. Diving duck movements on Keokuk Pool, Mississippi River. J. Wildl. Mgmt. 37: 382-389.—Within a week of arrival, diving ducks established a diurnal rhythm of movement related to disturbance and food. Human disturbance caused mass movements. Most feeding was at night.—L.H.F.


WARD, P., AND A. ZAHLI. 1973. The importance of certain assemblages of birds as “information-centres” for food-finding. Ibis 115: 517-534.—Excellent review of function of certain assemblages. Predation-pressure is regarded as primary factor shaping assemblages as means of efficient exploitation of unevenly distributed food sources.—R.W.S.

DISTRIBUTION AND ANNOTATED LISTS


CAIN, B. W., AND K. A. ARNOLD. 1974. Black-bellied Tree Duck (Dendrocygna autumnalis) nesting in the Central Brazos Valley of Texas. Southwestern Naturalist 18: 474-475.—An inland range extension for this species.—J.J.D.


Geroudet, P. 1973. Notes sur le Pouillot de Bonelli oriental, sa distribution et sa voix. Oiseau 43: 75-79.—First record of PHYLLOSCOPEUS BONELLI ORIENTALIS in four localities of Bulgaria, Greece, and Turkey. P. b. orientalis differs from P. b. bonelli mostly by its song and call. It is also less abundant and more sparsely distributed than P. b. bonelli. Its call, briefly described, seems to have been overlooked by previous workers.—A.C.


—First records for Sula NEBOUSSI and S. leucogaster and additional sightings of PELECANUS OCCIDENTALIS and FREGATA MAGNIFICENS.—L.C.B.

Manolis, T. 1973. The Eastern Kingbird in California. Western Birds 4: 33-44.—First nest of Tyranthus tyrannus, with a listing and analysis of all records.—L.C.B.


myia melanogenys inornata, and Basileuterus signatus flavovirens. Describes Catharus dryas blakei subsp. nov. from Orán, extreme northern Salta, and southeastern July (dedicated to E. R. Blake). (English summary.)—E.E.


THIBAULT, B., AND J. C. THIBAULT. 1973. Liste préliminaire des oiseaux de Polynésie orientale. Oiseau 43: 55–74.—Systematic and annotated list of 88 species, some of which are extinct, in eastern Polynesia, 12 species were introduced.—A.C.

WEBSTER, F. S., JR. 1974. Resident birds of the Gomez Farias region, Tamaulipas, Mexico. Amer. Birds 28: 3–10.—This area includes the northernmost cloud forest in Middle America. Lists the vegetation zone occupied by each species.—E.E.


ECOLOGY AND POPULATIONS

BEAUDON, J. C., AND J. P. CORMIER. 1973. La migration des Barges à queue noire, Limosa limosa L., dans la région d’Angers (Maine-et-Loire) au printemps 1971. Oiseau 43: 16–31.—Describes daily cycles and movements of the Black-tailed Godwit and its feeding niche. During spring up to 15,000 individuals were censused on one feeding ground.—A.C.


CAMPBELL, H. 1972. A population study of Lesser Prairie Chickens in New Mexico. J. Wildl. Mgmt. 36: 689–699.—A total of 285 Tymanuchus pallidicinctus were mist-netted on 16 booming grounds. Life tables for males based on capture-recapture data from three booming grounds indicated a mean annual mortality of 65%. Female mortality was higher. Hunters took 1100 birds per year with no harmful effect on the population. Males were faithful to the same booming ground throughout life but moved several miles to feed in fall and winter.—L.H.F.

CAMPBELL, H., D. K. MARTIN, P. E. FERKOVIČ, AND B. K. HARRIS. 1973. Effects of hunting and some other environmental factors on Scaled Quail in New Mexico. Wildl. Monogr. 34: 1–49.—Callipepla squamata pallida were studied for 9 years on two closely comparable tracts, one with heavy hunting and the other with no hunting. Breeding success was correlated with spring-summer rainfall and density of food-producing forbs. Both populations underwent a complete turnover every 6 years. Mean annual mortality averaged 83%, and mortality rates for young and adult females were higher than those of corresponding categories of males. During
some years, quail dispersed an average of 18 miles, some as far as 60 miles. Hunting had no important effect on the hunted population.—L.H.F.


DAVIS, J. R., AND R. J. STOLL, JR. 1973. Ruffed Grouse age and sex ratios in Ohio. J. Wildl. Mgmt. 37: 133-141.—An average of 735 Bonasa umbellus monticola wing and tail samples were collected from hunters for 9 consecutive years to obtain fall sex and age ratios. The mean age composition was 53% juveniles in the southern hill counties and 3.7 young-per-adult hen in northeastern Ohio. Juvenile sex ratios were nearly 50:50, but adult sex ratios were unbalanced favoring males.—L.H.F.

EWASCHUK, E., AND D. A. BOAG. 1972. Factors affecting hatching success of densely nesting Canada Geese. J. Wildl. Mgmt. 36: 1097-1106.—Branta canadensis nesting in densities of 8.0, 10.7, and 9.2 had nesting successes of 60, 27, and 69% respectively. Desertion was the major cause in nest losses. Pairs winning interactions with neighboring pairs and nonterritorial geese were more successful. The presence of the gander was a key factor in successful interactions.—L.H.F.

FRANCIS, W. J. 1973. Accuracy of census methods of territorial Red-winged Blackbirds. J. Wildl. Mgmt. 37: 98-102.—Male Agelaius phoeniceus were watched during 55 1-hour periods on 2 ha in an old-field community in Ohio. The probability of sighting a given male was variable for all techniques. The Hewitt roadside-count method gave the best accuracy, but underestimated the population.—L.H.F.


JACKSON, H. D. 1972. Comment on Telophorus zeylonus restrictus Irwin, the Chimanimani Mountains race of the Bokmakierie (Aves: Laniidae). Arnoldia (Rhodesia) 6 (2): 1-5.—Notes on additional specimens, behavior, and duetting. Total adult population is estimated to be no more than 400. Type locality is corrected to “Mussape River at 1,400 m, Chimanimani Mountains, Mozambique.”—R.B.P.


**Pedioecetes phasianellus** declined from 166 males to 57. Hay lands did not support either species, and pasture lands were of no apparent value to Prairie Chickens and of only limited value for Sharp-tailed Grouse.—L.H.F.


**Kuroda, N. H.** 1972. A bird census in the Imperial Palace for 1971. Misc. Repts. Yamashina Inst. Ornithol. 6: 410–423.—The seventh annual such census, taken monthly (except August) between April 1971 and March 1972. Two species, *Acrocephalus arundinaceus* and *Bubulcus ibis*, were added to the palace list, which is now 81 species (49 in 1971). The avifauna in general has been rather stable over the years, but egrets and ducks are decreasing, possibly as a result of local use of pesticides. The heron colony suffers from predation by *Corvus macrorhynchos*. (Text in Japanese, as, unfortunately, are the many tables which, if bilingual, would have made the data of the paper accessible. Short English summary.)—K.C.P.

**Kuroda, N. H.** 1973. Spring bird census in the Ryū Kyū Is. (1972). Misc. Repts. Yamashina Inst. Ornithol. 6: 551–568.—Census taken on Okinawa 24–28 May, Ishigaki 31 May and 5 June, and Iriomote 1–4 June. In total, 51 species were recorded (30 land birds, 16 water birds, 5 sea birds). The small number of resident land birds is thought to be attributable to the position of the Ryū Kyū group, in that it is peripheral to both tropical and palearctic species’ ranges. The most abundant species were *Hypsipetes amaurotis*, *Streptopelia orientalis*, and *Zosterops palpebrosa* (the Ryū Kyū population is assigned to *Z. japonica* in recent revisions). On Okinawa *Cettia diphone* was the most abundant species, but it was not found on the other islands. Most coastal and marsh birds were uncommon, and some of those recorded were migrants. The decline of *Alcedo atthis* may be attributable to insecticides. (In Japanese; summary, picture captions and two summarizing tables in English.)—K.C.P.


**Lee, F. B., and A. D. Kruse.** 1973. High survival and homing rate of hand-reared wild-strain Mallards. J. Wildl. Mgmt. 37: 154–159.—A total of 648 flightless *Anas platyrhynchos* were held 25 to 45 days in an enclosed pond in North Dakota before their release. Of the 627 ducklings that reached flight stage, 68 were shot in 15 states. Migration patterns were similar to wild-reared birds. Of 270 females, 89 returned to the release area and had nesting and brooding success similar to wild birds.—L.H.F.


NAKAMURA, T. 1972. Home range structure of a population of *Aegithalos caudatus*. 2. Home range and territorialism in breeding season. Misc. Repts. Yamashina Inst. Ornithol. 6: 424-488.—A major paper on a species that had been said by Lack and others to be “non-territorial.” Discusses fully and carefully the data in the context of various definitions of territoriality and comparisons with other species. Author proposes a “classification of bird social structure based on family flock unit.” (In English and Japanese.)—K.C.P.

NETTLESHIP, D. N. 1973. Breeding ecology of Turnstones *Arenaria interpres* at Hazen Camp, Ellesmere Island, N.W.T. Ibis 115: 202-217.—Describes breeding habitat, aspects of breeding cycle, food sources and availability, and summer diet, and discusses the importance of food to the breeding schedule.—R.W.S.


NOVAES, F. C. 1973. Aves de uma vegetação secundária na foz do Amazonas. Publ. Avulsas Mus. Goeldi 21: 1-88.—An ecological study of the avifauna in a second growth area near Belém, Pará, Brazil. Each species was analyzed as to ecological preference, vertical stratification, abundance, and method of procuring food. Includes useful tables, photographs, and ecological drawings. Novaes agrees with Klopfer and MacArthur (1960) that non-Passeriformes have narrower niches and are less plastic than Passeriformes, and with Slud (1960) that in South America the suboscines are not being replaced by the oscines, are well-adapted to their original habitat, the humid tropical forests, and the two groups are essentially complementary. A useful and well-organized paper. (In Portuguese; English summary.)—E.E.

OWEN, M. 1973. The winter feeding ecology of wigeon at Bridgwater Bay, Somerset. Ibis 115: 227-243.—A study of behavior and food items indicates that *Anas penelope* are flexible in feeding habit and able to modify their behavior in response to food supply and population disturbances.—R.W.S.

OWENS, R. A., AND M. T. MYRES. 1973. Effects of agriculture upon populations of native passerine birds of an Alberta fescue grassland. Canadian J. Zool. 51: 697-713.—Farm operations were detrimental to all five species that occupied native grasslands, but permitted ingress of two additional species.—R.M.E.
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**Periodical Literature**


PURROY, F. J. 1973. La répartition des deux Grimpereaux dans les Pyrénées. Oiseau 43: 205-211.—Compares results of censuses of *Certhia familiaris* and *C. brachydactyla* using the strip survey technique in five forest types. (Spanish summary.)—A.C.


ROBERTSON, R. J. 1973. Optimal space of the Red-winged Blackbird: spatial and temporal patterns of nesting activity and success. Ecology 54: 1085-1093.—Nesting colonies in marshes are larger and more synchronous than upland colonies and are subject to a reduced predation rate. Variations in timing are probably correlated with phenology of vegetation in nesting habitat. Colony size in uplands is probably limited by resource abundance. Predation rates on different sized colonies are interpreted by means of the Holling predation model (Canadian Entomol. 91: 293-320).—C.R.B.

ROUX, F. 1973. Recensement d'oiseaux aquatiques dans le delta du Sénégal. Oiseau 43: 2-15.—Areal wildfowl censuses reveal 200,000 palearctic ducks, mostly *Anas querquedula* and *A. acuta*, but only 40,000 endemic species, of which *Dendrocygna viduata* is the most abundant.—A.C.

RUCNER, D., AND R. RUCNER. 1971. Beitrag zur Kenntnis der Tierwelt einiger Waldgesellschaften in Kroatien. Larus 23: 129-201.—A study of sample plots of 23 types of biotic communities in 17 localities along a NE-SW transect of Croatia. Records occurrence and frequency of birds, reptiles, amphibians, arachnoids, Myriopods, isopods, gastropods, and annelids in each community. This study, along with
others, proves that plant associations, so well-known in Central Europe, can serve as habitat indicators for animal synecological studies. Birds, the most mobile of the animal groups, show narrow attachment to vegetation types. This important paper shows the advanced state of field synecological work in Central Europe, in which ornithologists often take a leading role. (In Serbo-Croatian with German summary.)—M.D.F.U.

RUDY, C. 1971. Age ratios in fall warblers. IBB News 43: 97-101.—Fall age ratios for six warbler species for 1966-70 at Summit Lake, Wisconsin. Tennessee and Nashville warblers were about 1.5% AHY; Yellow-rumped (Myrtle), Black-throated Green and Palm Warblers, about 8.3%; and Blackpoll about 35% AHY. —D.M.F.


SCHNEEBEL, G. 1972. Die Ökologie der Baumläufer (Certhia brachydactyla) und (Certhia familiaris) in Ostniedersachsen. Vogelwelt 93: 201-215.—On 31 study areas in eastern Lower Saxony, varying in size from 3 to 80 ha, the Brown Creeper occurs in all types of forest but appears to prefer conifers. The short-toed Tree Creeper shows a strong preference for oaks. The breeding density of the Brown Creeper is constant between 0.8 and 1.1 pairs/10 ha regardless of forest type, that of the Short-toed Treecreeper between 0.4 and 6.7 pairs/10 ha. Replacement of oak forest by conifers threatens the continued existence of the Short-toed Tree Creeper. (In German; English summary.)—N.A.M.V.


SKAGGS, M. B. 1972. White-crowned Sparrow gambelii race ratio in Northern Ohio. IBB News 44: 44-47.—During 1941-72, 1197 Zonotrichia leucophrys were examined in spring and fall migration in northeastern Ohio. The majority were Z. l. leucophrys, but 1.3% were Z. l. gambelii. The 16 gambelii handled were equally distributed between spring and fall. Several intermediates between the two races were found.—D.M.F.


STEWART, R. E., AND H. A. KANTRUD. 1973. Ecological distribution of breeding waterfowl populations in North Dakota. J. Wildl. Mgmt. 37: 39-50.—Distribution of breeding waterfowl on various wetland types in North Dakota was determined during 1967-69. About 77% of the 3.2 million acres of wetlands are natural basins and are utilized by 76% of the state’s breeding duck population. The majority of duck use occurred in the Prairie Pothole Region.—L.H.F.

STOTT, R. S., AND D. P. OLSON. 1972. Differential vulnerability patterns among three species of sea ducks. J. Wildl. Mgmt. 36: 775-783.—Observations on 1530 scoters of all three Nearctic species indicated that Melanitta deglandi was least vulnerable, M. perspicillata was intermediate, and Oidemia nigra was extremely vulnerable to hunting.—L.H.F.

STURGES, F. W., R. T. HOLMES, AND G. E. LIKENS. 1974. The role of birds in nutrient cycling in a northern hardwoods ecosystem. Ecology 55: 149-155.—Birds inhabiting the Hubbard Brook Experimental Forest, New Hampshire, contain a small percentage of available nutrients as determined from measurements of 11 elements. Their major impact upon nutrient flux occurs through removal of nutrients in population losses during migration.—C.R.B.


TARBORNE, D. 1973. Feeding ecology of diving ducks on Keokuk Pool, Mississippi River. J. Wildl. Mgmt. 37: 367-381.—The relationship between diving ducks and their food resources was investigated to obtain baseline information to measure the impact of channelization. Nearly 20 million diving duck days were recorded annually. Night dispersal and feeding seemed important because daytime disturbance concentrated 90% of the ducks on 28% of the area. Species of diving ducks harvest about 25% of the benthic standing crop each fall. Fingernail clams were the single most important food.—L.H.F.

TUREC, F. J. 1972. Birds and mammals in successions of terrestrial ecosystems. Misc. Repts. Yamashina Inst. Ornithol. 6: 401-409.—More than 50 ecosystems that have been described in print are grouped into 16 seres. The birds and mammals of these are divided into three dynamically defined groups: "1) progressive species entering populations, 2) regressive, disappearing species and 3) conservative constant species populations, called in the present paper the core of series." Gives only summary figures, not lists of species. Core group species for successions in certain European ecosystems are identified by name. These tend to be mostly predators (carnivores or insectivores).—K.C.P.

VERNON, C. J. 1973. Avian biomass in a suburb of Pietermaritzburg. Ostrich 44: 142-143.—100 kg/km², mainly doves.—R.B.P.


WALLACE, D. I. M. 1973. Sea-birds at Lagos and in the Gulf of Guinea. Ibis 115: 559-571.—Observations between September 1967 and June 1971 recorded high diversity of species in the inshore waters. Chlidonias niger was most common bird. Presents seasonal abundance of several species and a valuable discussion.—R.W.S.

WILBUR, S. R. 1973. The Red-shouldered Hawk in the western United States. Western Birds 4: 15-22.—Recent records, listed in an appendix, indicate no population decline in Buteo lineatus elegans during the past 50 years.—L.C.B.

WITTENBERG, J. 1972. Der Brutbestand von Mäusebussard (Buteo buteo), Rotmilan (Milvus milvus) und Habicht (Accipiter gentilis) 1958 und 1970 bei Braunschweig und das Problem der Vergleichbarkeit. Vogelwelt 93: 227-235.—The breeding density of the Buzzard, Red Kite, and Goshawk on four study tracts in northern Germany in 1958 were reexamined in 1970. The Buzzard population remained almost stable, the kite breeding population declined to half, and the Goshawk was present in the same remnant population of 1958. Optimal breeding habitat for the Buzzard consists of a mozaic of woods (for nesting) and surrounding fields (for feeding). The wooded area plus edge area is the "habitation area." The ratio of edge area to wood area provides an idea of favorability, and only areas with about
the same index are comparable with respect to population density. (English summary.)—N.A.M.V.


ZANG, H. 1972. Über Zweit- und Drittbruten der Tannenmeise (Parus ater). Vogelwelt 93: 180-192.—The occurrence of third clutches in the Coal Tit in The Netherlands and Germany. Factors favoring a third clutch are an early start of the breeding season, a good food supply, age of the female, experience and loyalty to the breeding territory, and a short period between clutches. (English summary.)—N.A.M.V.

ZWICXEL, F. C. 1972. Removal and repopulation of Blue Grouse in an increasing population. J. Wildl. Mgmt. 36: 1141-1152.—Behavioral interactions between resident adults and yearling Dendragapus obscurus in spring regulate the numbers of breeding birds.—L.H.F.

GENERAL BIOLOGY


Andersen-Harild, P. 1971. [Molting grounds of the Mute Swan (Cygnus olor) in Denmark.] Dansk Ornithol. Foren. Tids. 65: 89-97.—In 1968, 36,813 molting Mute Swans were counted in Denmark and southwest Sweden. (In Danish; German summary.)—H.A.J.

Anderson, B. W., and R. L. Timken. 1972. Sex and age ratios and weights of Common Mergansers. J. Wildl. Mgmt. 36: 1127-1133.—As winter temperatures decreased in Minnesota and South Dakota in November and in Oklahoma in December, average weights and the proportion of adult male Mergus merganser increased in both regions.—L.H.F.


Benson, C. W., and M. P. Stuart Irwin. 1972. The Thick-billed Cuckoo Pachyccocyx auduberti (Schlegel) (Aves: Cuculidae). Arnoldia (Rhodesia) 5 (33): 1-24.—Summarizes all data known for this uncommon cuckoo. Only known host is Pronops retzii, whose eggs the cuckoo’s eggs mimic. Its hosts in Madagascar is unknown (a vangid?). Closest relatives appear to be Clamator cuckoos.—R.B.P.


Bowman, M. C. 1973. Mourning Warbler nest in marginal habitat. Kingbird 23: 141-142.—In the Catskill Mountains, New York Oporornis philadelphia used atypical nest material in climax forest.—M.C.B.


BROOKE, R. K., AND J. H. GROBLER. 1973. Notes on the foraging, food and relationships of Corvus albus (Aves: Corvidae). Arnoldia (Rhodesia) 6 (10): 1-13.—Pied Crows are largely vegetarians but also scavenge and kill slow animals. “Soap was usually nibbled and dropped: it may well be that it is not very palatable to Pied Crows.” The authors suggest vegetarian leaning may have aided the spread of this crow from the Palearctic by lessening competition with scavengers and predators.—R.B.P.


BURTON, P. J. K. 1973. Composite nest of Short-crested Flycatcher Myiarchus ferox. Bull. Brit. Ornithol. Club 93: 114-115.—Three nest cups, one with four eggs, one with one egg, and one under construction were found together in a crevice of a low cliff. The whole structure was composed of mammal fur with snakeskin along the edges of the cup. Apparently only one bird was visiting it.—F.B.G.


CROSBY, R. S., O. H. SOULE, R. G. WEBB, AND R. H. BAKER. 1973. Biotic relationships in the Canon del Rio Mezquital, Durango, Mexico. Southwestern Naturalist 18: 187-200.—Describes the vegetation of the cañon and the vertebrate fauna in each area. A total of 85 bird species were recorded and some collected.—J. J. D.


DEVILLERS, P. 1972. The juvénal plumage of Kittlitz’s Murrelet. California Birds 3: 33-38.—First detailed description (with photos) of juvénal Brachyramphus brevirostre; taken from the only California specimen, collected 16 August 1969.—L.C.B.
DWERNychuk, L. W., and D. A. Boag. 1972. How vegetative cover protects duck nests from egg-eating birds. J. Wildl. Mgmt. 36: 955–958.—Avian predators apparently use disturbed vegetation as a cue in locating well-hidden nests.—L.H.F.


Grosz, T., and C. F. Yocom. 1972. Food habits of the White-winged Scoter in northwestern California. J. Wildl. Mgmt. 36: 1279–1282.—Mollusks were found in 85% of the stomachs of 106 Melanitta fusca dixoni.—L.H.F.


Hanson, L. E., and D. R. Progulske. 1973. Movements and cover preferences of pheasants in South Dakota. J. Wildl. Mgmt. 37: 454–461.—Thirteen Phasianus colchicus hens had an average home range of 90 acres and used alfalfa more than any other cover type.—L.H.F.


Inman, D. L. 1973. Cellulose digestion in Ruffed Grouse, Chukar Partridge, and Bobwhite Quail. J. Wildl. Mgmt. 37: 114–121.—Two diets of 15.4 and 9.6% alpha-cellulose were fed to Alectoris chukar, Bonasa umbellus, and Colinus virginianus. The higher cellulose diet seemed to inhibit the digestion of other foods. Grouse and Chukars digested cellulose with greater efficiency than Bobwhites.—L.H.F.

Jackson, H. D. 1972. Avifaunal survey of the Umtali Municipal Area. I. The Muneni River collection: a comparison of samples from riparian forest and miombo woodland. Arnoldia (Rhodesia) 6 (1): 1–10.—Netting records for two habitats include weights and breeding condition. Unfortunately, author did not save the ovary from Indicator variegatus!—R.B.P.

Jones, R. E., and K. E. Hungerford. 1972. Evaluation of nesting cover as protection from magpie predation. J. Wildl. Mgmt. 36: 727–732.—During a 10-day test period, Pica pica hudsonia destroyed 81 of 529 simulated nests placed in nine vegetative types. Vegetative cover that decreased the visibility of eggs provided the greatest protection.—L.H.F.

has a larger role in feeding the young than do females in other *Tockus* species, and the clutch size is large (5). The interval between laying of successive eggs in a clutch increases as the clutch proceeds; the same intervals occur in hatching.—R.B.P.


**MASTHASSON, S.** 1973. Molt ing grounds of Mute Swans (*Cygnus olor*) in Sweden, their origin and relation to the population dynamics of Mute Swans in the Baltic area. Viltrevy 8: 392–452.—Immature and adult nonbreeding Mute Swans spend the molt period mainly in shallow marine offshore waters, rich in food, and where the helpless birds are safe from predators. About one-fifth of the total Baltic population—up to 12,000 birds—molt at a few Swedish localities where the great concentrations of birds have been studied since the 1950s. The gradual increase in numbers that reached an apparent peak in the late 1960s reflects the increase of the Baltic breeding population. Several of the molting grounds have reached their capacity, so far as food is concerned, and their molting population is declining. Generally philopatry to the molting grounds is high; banding and marking data indicate that the same birds use the grounds year after year, until they start to breed at the age of 3 years when they stay to molt with their young. Nonbreeding adults are faithful to their molting grounds.—M.D.F.U.

**MAURITZ, M.** 1971. Weasel kill. IBB News 43: 65.—*Mustela frenata* and *Parus atricapillus*.—D.M.F.


**PARKFEE, D. F., AND R. B. PAVNE.** 1973. On multiple broods and the breeding strategy of Arctic Sanderlings. Ibis 115: 218–226.—Examination of two ovaries of *Calidris alba* indicates that some females lay two clutches in a season, one incubated by the male and the other by the female. Discusses ecological conditions selecting for the mating systems involved.—R.W.S.

PENNICYUCK, C. J. 1973. The soaring flight of vultures. Sci. Amer. 229 (6): 102-109.—“The six common vultures of East Africa can make a round trip of as much as 200 kilometers by skillfully riding updrafts. How they do so is examined with the aid of a powered glider.” Contains many diagrams.—J.T.D.


POTTER, E. F. 1973. Breeding behavior of the Summer Tanager. Chat 37: 35-39.—Discusses nest site selection, construction, courtship feeding, incubation, care and feeding of nestlings, song, territory and nest defense, and maintenance activities. Study of five nests indicates that males do not incubate eggs or brood young. Describes an all-red female whose mate was unusually attentive with frequent courtship feedings, feeding of nestlings, and nest defense.—E.F.P.


RENOUFF, R. N. 1972. Waterfowl utilization of beaver ponds in New Brunswick. J. Wildl. Mgmt 36: 740-744.—Brood use by five species of ducks was higher on active than on inactive beaver ponds.—L.H.F.

RUSCHI, A. 1973. Beija-flores (hummingbirds). Mus. Biol. “Prof. Mello-Leitão.” 172 pp.—English accounts of the biology of 37 forms (36 species) of hummingbirds (chiefly Brazilian), all but two of which are illustrated in color in C. H. Greenwalt’s hummingbird book. While the information included has appeared in Ruschi’s papers published in Portuguese, it is a convenience to have these somewhat summarized versions.—E.E.

RUSCHI, A. 1973. [Some observations on Phaethornis, Heliactin, Colibri, Lophornis, Glaucis, Campylopterus, Chrysolampis, Topaza, Chlorostilbon, Stephanozis, Melanotrichius, Eutoxeres, Heliothrix, Popelairia, Discosura, Oreotrichius, Ensifera, Oxyypogon, Boissonneaua, Aglaeactis, Ramphomicron, Aglaeactis, Augastes, Amazilia, Anthracothorax, Heliomaster, Hylocharis, Calliphlox, Clytolaema, Thalurania spp.] Bol. Mus. Biol. “Prof. Mello-Leitão,” Ser. Zool., Nos. 38-73.—Each of these 48 papers, 2 to 4 pages long, deals with a species of South American hummingbird, mostly a Brazilian subspecies; nos. 38 and 40 each deal with two species. Summarizes for each form the geographic range, habitat, total length, bill length, body weight, temperature, weight and measurements of eggs, number of wingbeats per second, nest structure, incubation and nestling periods, courtship display, voice, bathing and roosting habits, feeding methods and favored food plants, field recognition, and in some cases other biological information, including migration. Lists Brazilian, Spanish, and English names with the latter based on Meyer de Schauensee (1966), but sometimes with a subspecific name unidiomatically inserted between the specific modifier and the group name. Where pictured in Greenwalt’s “Hummingbirds” (1960), the number of the plate is given. Although much of the data have been published in earlier papers by Ruschi, this is a very convenient compendium. (In Portuguese; brief English summary.)—E.E.

volume work on the hummingbirds of Brazil. This part includes an introduction (with map showing the zoogeographic provinces of Brazil), maintenance and reproduction in captivity, role in nature, topography of hummingbirds, systematic characters, key for the classification of nests (with diagrams), key for the identification of Brazilian genera (with diagrams). (In Portuguese.)—E.E.


SEALY, S. G. 1973. Breeding biology of the Horned Puffin on St. Lawrence Island, Bering Sea, with zoogeographical notes on the North Pacific puffins. Pacific Sci. 27: 99–119.—This study compares considerable information on both Fratercula corniculata and Lunda cirrhata. Although based on small sample sizes, the descriptions from arrival on the nesting grounds to departure are thorough and include such items as body weight, sex ratios, body and brood patch temperatures, and growth of the young along with the usual nesting parameters.—J.J.D.


SNOW, B. K. 1973. Social organization of the Hairy Hermit Glaucis hirsuta. Ardea 61: 94–105.—The male of this hummingbird attracts two, rarely three females, to his territory and helps to defend their nests. In contrast to all other hummers so far studied, the male stays with the females throughout the breeding season and his main role appears to be that of nest defense. The pair is very vocal around the nest. The unusual social organization is probably the result of a restricted nest site selection that concentrates nests along rivers and roads and leads to easy detection of nests by enemies.—N.A.M.V.

SNOW, D. W., AND B. K. SNOW. 1973. The breeding of the Hairy Hermit Glaucis hirsuta in Trinidad. Ardea 61: 106–122.—A 5-year study based on several hundred nests of a forest hummingbird. Of 223 nests, 13% had more than two eggs, probably because females laid in each other's nest. This is considered the result of this species' unusual social organization. The discussion deals with the timing of the breeding season, adaptations of the nest and nestling, and nesting success in comparison with that of other humming species in tropical forests.—N.A.M.V.


SPEECH, S., AND M. A. SPEECH. 1972. Floating and swimming in passerines. California Birds 3: 65–68.—Suggests that the spreading of remiges and rectrices has survival value in buoyancy and is not merely part of the swimming movement.—L.C.B.


MANAGEMENT AND CONSERVATION


ANDERSON, W. L., AND P. L. STEWART. 1973. Chemical elements and the distribution of pheasants in Illinois. J. Wildl. Mgmt. 37: 142–153.—Juvenile Phasianus colchicus hens were collected from good and poor range. Elemental makeups of calcitic grit from the two areas were almost identical. Birds on poor range were possibly suffering from deficiencies of Cu and Mo and from excesses of Ba, Sr, Al, Ti, Zr, Na, K, Mg, and Cr. Ba was the only element that was relatively high in both pheasants and grit on poor range and might complicate the problem because Ca levels are low.—L.H.F.

ANON. 1974. The plight of the pelicans. Sea Secrets 18 (1): 8–9.—Studies conducted by R. Schreiber and Seabird Research Inc. show that plastic rings from six-packs and discarded hooks and fishing lines pose serious problems for South Florida populations of Brown Pelicans (Pelecanus occidentalis).—J.T.D.

ARDT, R. 1974. The Ibis of Birecik. Aramco World Mag. 25 (1): 27–28.—The Bald Ibis, Geronticus eremita, widespread in Bavaria, Austria, and Switzerland up
until the 17th century now nests only on a 60-foot limestone cliff in the south-eastern Turkish town of Birecik. Pesticides, human disturbance, and extremely narrow cliff ledges are the chief cause of mortality of eggs and young. Widening of nesting ledges has reduced mortality from eggs and young falling off, but human interference from increasingly closer and higher buildings is responsible for 75% of losses. Unless the Bireciklis help protect these birds, the Bald Ibis will be extinct within a few years.—H.W.K.


BRAUN, C. E., R. K. SCHMIDT, JR., AND G. E. ROGERS. 1973. Census of Colorado White-tailed Ptarmigan with tape-recorded calls. J. Wildl. Mgmt. 37: 90-93.—Male challenge calls were used to locate and capture male Lagopus leucurus in Colorado. Chick distress calls were effective in locating and capturing broody hens.—L.H.F.


GREENBERG, R. E., S. L. ETTER, AND W. L. ANDERSON. 1972. Evaluation of proximal primary feather criteria for aging wild pheasants. J. Wildl. Mgmt. 36: 700-705.—The proximal primary shaft diameters (PPSP) of 307 wild Illinois Phasianus colchicus cocks were used to separate juvenile and adult age classes with 92% reliability. The 285 hens captured in fall were separated into age classes with 90% reliability. The reliability of the technique increased in winter. Oven drying of primaries was essential to obtain repeatable measurements.—L.H.F.

GREENWOOD, R. J., AND A. B. SARGEANT. 1973. Influence of radio packs on captive Mallards and Blue-winged Teal. J. Wildl. Mgmt. 37: 3-9.—Back-mounted radio packs that were attached to 30 captive Anas platyrhynchos and A. discors caused increased weight loss, skin irritation in axillary region and on back, and a partial aversion to swimming.—L.H.F.

HAMERSTROM, F., F. N. HAMERSTROM, AND J. HART. 1973. Nest boxes: An effective management tool for [American] Kestrels. J. Wildl. Mgmt. 37: 400-403.—During a 5-year period, 8 to 12 broods of Falco sparverius were produced on a 50,000-acre tract in Wisconsin where only three pairs were found in the previous 20 years.—L.H.F.

PEREGRINE FUND NEWSLETTER. Lab. Ornithol. Cornell Univ., Ithaca, New York 14850.—The Peregrine Fund was established for the study and preservation of falcons and other birds of prey. Periodically reports on research activities will be published in the newsletter. Issue No. 1 (August 1973) reports on the 1973 captive breeding season (20 Peregrines, 7 Prairies, and 6 Lanners were reared from eggs produced by captive adults), describes efforts to save the world’s most endangered bird of prey, Falco punctatus, on the island of Mauritius, and tells about the return of several Peregrines and Lanner Falcons to the wild in their respective native habitats. Presumably the newsletter is sent to those who contribute annually to the Peregrine Fund.—H.W.K.

RHODES, L. I. 1972. Success of Osprey nest structures at Martin National Wildlife Refuge. J. Wildl. Mgmt. 36: 1296-1299.—Pandion haliaetus adapted to artificial nest structures the first year and produce 1.4 young/nest.—L.H.F.
SCHLADWEILER, J. L., AND J. R. TESTER. 1972. Survival and behavior of hand-reared Mallards released in the wild. J. Wildl. Mgmt. 36: 1118–1127.—Of 179 hand-reared Anas platyrhynchos of two genetic strains released, 80 carried radio transmitters and 99 were banded. Of 56 radio-marked birds, 40 died within 21 days of release. Mink predation was the primary cause of death. No differences were noted in genetic strain or in tagging methods. Low survival was related to lack of wariness, tendency of birds to gather in large groups, and releases in habitat of poor quality.—L.H.F.

SELLERS, R. A. 1973. Mallard releases in under-stocked prairie pothole habitat. J. Wildl. Mgmt. 37: 10–22.—Female Anas platyrhynchos ducklings released near Minnedosa, Manitoba, increased breeding pairs from 12 to 66, but only 9 and 12% of the hens produced broods during the 2-year study.—L.H.F.


SNOW, C. 1972. Habitat management series for endangered species. Rept. No. 1: American Peregrine Falcon, Falco peregrinus anatum, and Arctic Peregrine Falcon, F. p. tundris. U.S. Dept. Interior Bur. Land Mgmt. Tech. Note. 35 pp.—A literature review and summary of current knowledge regarding the Peregrine Falcon. Succinctly reviews description, distribution, status and population trends, life history, reproduction, habitat requirements, protective measures instituted, limiting factors, and management techniques for the two subspecies. Also lists current research projects, authorities on the Peregrine, governmental and private organizations currently involved with this bird, and a selected bibliography. The series is designed to provide basic wildlife information for land-use planners but should also prove a useful general reference document on each species covered.—W.D.C.


WILLIAMS, L. E., JR., AND R. W. PHILLIPS. 1973. Capturing Sandhill Cranes with alpha-chloralose. J. Wildl. Mgmt. 37: 94–97.—Thirty-nine of 266 Grus canadensis captured with alpha-chloralose died. Dosages of 0.45 to 0.50 g per cup of bait were most effective.—L.H.F.

WUNZ, J. 1974. What’s happened to game refuges? Pennsylvania Game News 45 (5): 29–31.—“The keys to a successful turkey restoration or recovery program are wild-trapped breeding stock, assiduous Game Law enforcement, a conservation-educated public, and a regional harvest management policy.”—J.T.D.

MIGRATION AND ORIENTATION

ABLE, K. P. 1973. The role of weather variables and flight direction in determining the magnitude of nocturnal bird migration. Ecology 54: 1031–1041.—Radar investigations at two sites in southeastern U.S. indicate land birds selectively fly with the wind during autumnal migration, and as a result frequently migrated in inappropriate directions. Volume of southward flight averaged about five times
larger than those in other directions, implying selection of proper weather conditions. Multivariate analyses show that wind direction, 24-h change in temperature, and an index of the synoptic weather situation account for most of the variability in magnitude of migration.—C.R.B.

ABLE, K. W. 1974. The changing seasons. [The fall migration 1 August–30 November 1973.] Amer. Birds 28: 22–121.—Discussions of weather conditions and migration patterns, population trends in some species, especially predators, unprecedented numbers of western shorebirds in the East, irruptions of Fulvous Tree Ducks, Goshawks, Rough-legged Hawks, Red Crossbills, and Pine Siskins. As always includes reports of accidentals, casuals, and extreme rarities.—E.E.


FUCKINGER, E. L., K. A. KING, AND O. HEYLAND. 1973. Pen-reared Fulvous Tree Ducks used in movement studies of wild populations. J. Wildl. Mgmt. 37: 171–175.—Pen-reared Dendrocygna bicolor were color-marked and released in southeast Texas. Of the 165 immature birds released, six birds were recovered over 50 miles from the release site, five were still in Texas, but the sixth was recovered in Veracruz, Mexico.—L.H.F.

HENNY, C. J. 1973. Drought displaced movement of North American Pintails into Siberia. J. Wildl. Mgmt. 37: 23–29.—Most of 230 Anas acuta recovered in eastern Asia from 1954 to 1970 were shot on the breeding grounds in May. The movement was correlated with overflight of the southern portion of the North American breeding range.—L.H.F.

HENNY, C. J., AND W. T. VAN VELEN. 1972. Migration patterns and wintering localities of American Ospreys. J. Wildl. Mgmt. 36: 1133–1141.—Pandion haliaetus carolinensis banded in the Middle Atlantic States and in New England apparently migrate on a broad front to their wintering grounds in the West Indies and South America. One-year-old Ospreys do not return to the United States. From 28 to 55% of the 2-year-olds return to their natal areas but are nonbreeding and represent 5 to 10% of the summer population.—L.H.F.


KENNEDY, D., AND G. ARTHUR. 1974. Subflocks in Canada Geese of the Mississippi Valley population. Wildl. Soc. Bull. 2: 8–12.—About one-third of the wintering population of Branta canadensis migrate into southern Illinois refuges in October and early November. Other population segments remain in Wisconsin until severe weather forces their exodus primarily to Horseshoe Lake and Union County state refuges. Although most of the early migrating birds winter on Crab Orchard Natl. Wildl. Refuge, small subflocks of the early migrants are associated with each concentration point.—L.H.F.

LARMUTH, J. 1973. Migration of Motacilla alba alba. Bull. Brit. Ornithol. 93: 97–98.—White Wagtails were seen at night flying low over the water off the Egyptian coast. Many were lost in the waves.—F.B.G.

MISCELLANEOUS


BOAG, D. A., A. WATSON, AND R. PARR. 1973. Radio-marking versus back-tabbing Red Grouse. J. Wildl. Mgmt. 37: 410-412.—The effect of radio packages fitted to Lagopus l. scoticus was no different than when back-tabs were used.—L.H.F.


FJETLAND, C. A. 1973. Long-term retention of plastic collars on Canada Geese. J. Wildl. Mgmt. 37: 176-178.—After 6 years, 31% of Branta canadensis maxima retained flexible plastic collars. Retention by females was higher.—L.H.F.

HAVE, M. R. 1973. Effects of migratory waterfowl on water quality at Montezuma National Wildlife Refuge, Seneca County, New York. J. Res. U.S. Geol. Surv. 1: 725-734.—Because of concern about effluent from wildlife refuges affecting shellfish harvest, quality of water entering and leaving the refuge was monitored from August 1971 to May 1972. Water leaving the refuge had lower bacterial counts, a lower specific conductivity, and a generally higher dissolved oxygen content than influent water. Relationships between bird populations on the refuge and bacterial counts were inconsistent. The refuge improved the quality of water flowing through the marsh. Discusses reasons for this effect.—W.D.C.

HENNY, C. J., AND J. L. LUDKE. 1974. An attempt to age Mallards using eye lens proteins. J. Wildl. Mgmt. 38: 138-141.—Insoluble protein content of eye lenses was an unsatisfactory technique to separate adult year classes of Anas platyrhynchos.—L.H.F.

JOHNSON, L. L. 1972. An improved capture technique for flightless young Goldeneyes. J. Wildl. Mgmt. 36: 1277-1279.—An entanglement net was an effective means of capturing ducklings.—L.H.F.

KELSAI, J. P., AND J. R. CALAPRICE. 1972. Chemical content of waterfowl plumage as a potential diagnostic tool. J. Wildl. Mgmt. 36: 1088-1097.—Primary feathers of captive Anas platyrhynchos, A. rubripes, and Aythya affinis were analyzed for 11 chemical elements. Discriminant functional analysis showed zinc, iron, calcium, potassium, phosphorus, and copper as significant variables in separating birds by species and sex. Differences among species were highly significant. Three populations of male Mallards were chemically distinct and separable.—L.H.F.
October 1974

**Periodical Literature**


**PESTICIDES AND POLLUTION**

RAPPE, A. 1973. Influence de la pollution par le mercure sur les populations d'oiseaux. Oiseau 43: 196-204.—Reports many cases of Hg in birds. Birds should be considered as biological indicators, being at the same trophic level as man.—A.C.

SNYDER, N., AND H. SNYDER. 1974. Can the Cooper's Hawk survive? Natl. Geogr. 145: 432-442.—Reports on brooding and feeding behavior of male Cooper's Hawk (Accipiter cooperi) in rearing adopted chicks. Evidence obtained during studies of DDE concentration levels in eggs indicates that pollutants may produce abnormal reproductive behavior among Southwest populations. Also comments on destruction of hawks by hunters and robbing of nests by falconers. Includes photographs.—J.T.D.

SWITZER, B., V. LEWIN, AND F. H. WOLFE. 1973. DDE and reproductive success in some Alberta Common Terns. Canadian J. Zool. 51: 1081-1086.—Egg DDE levels correlated inversely with shell weight and thickness, but cracked or broken eggs accounted for only 13.8% of eggs that failed to hatch.—R.M.E.

**PHYSIOLOGY**

ALEKSIUK, M. 1973. Temperature-dependent enzyme kinetics during avian ontogeny: malate dehydrogenase in the Common Crow (Corvus brachyrhynchos) and the Pintail (Anas acuta). Canadian J. Zool. 51: 557-565.—Q10 values of about 1.0 between 30-40° C indicated an adaptive stabilization of reaction rates to fluctuating body temperatures.—R.M.E.

GEORGE, J. C., T. M. JOHN, E. T. MORAN, JR., P. R. SKEENY, R. G. BROWN, AND D. W. STANLEY. 1973. Selenium deficiency with the duck: changes in plasma free fatty acid level from hatching to onset of gross pathology Canadian J. Zool. 51: 383-386.—By 25 days of age, white Pekins given a selenium-free diet had lower plasma FFA than controls.—R.M.E.


weight and development were unaffected by maternal diet or laying date, but were significantly influenced by posthatch chick diet.—R.M.E.


**Taxonomy and Paleontology**


KAISER, C. E., AND J. C. GEORGE. 1973. Interrelationship amongst the avian orders Galliformes, Columbiformes, and Anseriformes as evinced by the fiber types in the pectoralis muscle. Canadian J. Zool. 51: 887-892.—Affinity was suggested by similarities in red and white fibers.—R.M.E.

KEITH, S. 1973. The voice of *Sarothrura insularis* with further notes on members of the genus. Bull. Brit. Ornithol. Club 93: 130-136.—Call of *S. insularis* is unique and unlike any voices of African species, suggesting removal of *insularis* from a superspecies with *affinis*. An unusual record of *S. elegans* from Lake Rudolf, Kenya may represent either a migrant or a local population adapted to unusual habitat.—F.B.G.


RISING, J. D. 1973. Morphological variation and status of the orioles, *Icterus* [g.] *galbula*, *I. [galbula] bullockii*, and *I. abeillei*, in the northern great plains and in Durango, Mexico. Canadian J. Zool. 51: 1267-1273.—Phenetically intermediate individuals were rare in the northern plains. The range of the Baltimore Oriole is probably extending southward at the expense of Bullock’s Oriole.—R.M.E.

the species presumably occurs in adjacent southern Bahia, in mature forest. Describes habitat, nesting, song and sunbathing. Includes a list of all hummingbirds known from the state of Espirito Santo. (In Portuguese; short English summary.)
—E.E.


Vaurie, C. 1973. Individual variation in Furnarius leucopus torridus (Furnariidae, Aves). Amer. Mus. Novitates No. 2515.—In the upper Amazon Basin, dark, pale, and intermediate individuals of F. leucopus occur together. All of the birds belong to a single variable subspecies for which F. l. torridus is the correct name.—
—K.C.P.

WINTERBOTTOM, J. M. 1973. The relationship of the avifauna of the southwest arid area of Africa. Zool. Africana 8: 83–90.—Several species are most closely related to Somali arid area birds, others are derived from nearby mesic areas, and others are of unknown history.—R.B.P.

WINTERBOTTOM, J. M. 1973. The antiquity of the African avifaunas. Ostrich 44: 139.—Analysis of endemics indicates equal differentiation or antiquity of forest and nonforest fauna. Excluding water birds, four endemic bird families are forest and four are nonforest, and 70 endemic genera are forest and 76 are nonforest. Mammals similarly show no greater differentiation in the forest.—R.B.P.

WINTERBOTTOM, J. M. 1973. Systematic notes on birds of the Cape Province. 32. Three species-pairs. Ostrich 44: 144.—Prornerops is undoubtedly two good species. Chaetops aurantius is specifically distinct from C. frenatus. Serinus totta and S. symondsii look different and so are distinct species. The last two species-pairs are allopatric.—R.B.P.