

Thyroid activity of Vesper Sparrows appears highest in the period of most rapid post-hatching growth and of feather development. This activity should contribute to these processes in this species, for thyroid deficiency is known to result in plumage abnormalities and arrest of growth in young birds (Hohn, Ibis, 92, 1950:464-473). It is clear that the establishment of homeothermy in the Vesper Sparrow is not limited by the functional state of the thyroid glands. Indeed, the condition of these endocrine organs through most of the nestling period may be regarded as permissive to the development of temperature regulation, not only through the overall influence of their secretory products on growth and feather development, but also through the immediate action of these products in elevating heat production through stimulation of oxidative metabolism. The fact that thyroid activity in newly hatched Vesper Sparrows appears relatively high suggests that the anterior pituitary synthesizes and releases thyrotrophic hormone in effective amounts while the birds are still in the egg.—WILLIAM R. DAWSON and JOHN M. ALLEN, *Department of Zoology, The University of Michigan, Ann Arbor, Michigan, April 5, 1960.*

Black Rail in San Joaquin Valley of California.—On August 26, 1959, an adult male Black Rail (*Laterallus jamaicensis coturniculus*) was found dead near Fourteen Mile Slough, approximately four miles northwest of Stockton, San Joaquin County, California, by Mr. Paul Jorgensen. The bird was given to Dr. Kenneth Stocking of the College of the Pacific and the specimen was prepared as a skin by me (J. R. Arnold no. 881). Mr. Jorgensen reported to Dr. Stocking that a fence and other wires were present near where the bird was found. A broken wing was found at the time the skin was prepared. The only other record in this area known to me is that of Belding (Proc. U.S. Nat. Mus., 1, 1879:443).—JOHN R. ARNOLD, *Stockton College, Stockton, California, February 4, 1960.*

Insects Available for a Mockingbird Wing-flashing in February.—One of the prevalent theories concerning the enigmatic "wing-flashing" behavior of the Mockingbird (*Mimus polyglottos*) is that the wing motions flush insects to feed upon (see Hailman, Auk, 76, 1959:236-238 and references therein). It is known that wing-flashing occurs commonly in southern states but rarely in northern states during the winter (Sutton, Wilson Bull., 48, 1946:206-209; Tomkins, Wilson Bull., 62, 1950:41-42; Brackbill, Wilson Bull., 63, 1951:204-205; and Hailman, MS). It could be postulated that this is due to the unavailability of insects in the north during winter.

On February 28, 1960, my wife and I watched a Mockingbird wing-flashing on a grass roadway ten miles southeast of Norfolk, Virginia. Usually, wing-flashing is not seen in the Norfolk area until June. Many times after wing-flashing this bird pecked into the grass. It is of considerable interest to know whether or not moving insects were present where the bird was foraging and wing-flashing. A cursory search of a small area (six inches square) produced a small flea-like insect, an unidentified larva, a small burrowing insect, and a beetle. Thus, the association of wing-flashing with availability of potential prey is upheld.—JACK P. HAILMAN, *Bethesda, Maryland, February 29, 1960.*

Additional Data on the Establishment of the Chestnut-backed Chickadee at Berkeley, California.—A matter of interest concerned with the extension of geographic range of any species is the pattern of establishment after the initial invasion. The colonization of the Berkeley Hills of Alameda County, California, by the Chestnut-backed Chickadee (*Parus rufescens*) provides some information bearing on this point. In an earlier report (Condor, 56, 1954:113-124) I brought together available records outlining the progress of the colonization from 1938 through 1952. It appears that vegetational discontinuity in the area southeast of San Francisco Bay, acting as a barrier to the dispersal of an arboreal species, was bridged by the planting of orchards and shade trees, and, presumably following population build-up, the chickadees spread to occupy an area of favorable climate opposite the Golden Gate in the early 1940's. A number of reports indicate that the area occupied by this chickadee in the East Bay region has continued to expand: for example, Cogswell (Gull, 37, 1955:22) reported nesting at Mills College in Oakland in April, 1955, and Stallcup (Gull, 39, 1957:10-13) listed the species from Alameda in December, 1956.

In the spring of 1959 I took advantage of limited opportunities to assess the current population levels of this chickadee along Strawberry Creek on the campus of the University of California in Berkeley, a locality at which this species was not known to nest prior to 1950. An equally important

objective was to determine the relative numbers and spatial relations of the chickadees and Plain Titmice (*Parus inornatus*) in view of the conclusion reached earlier (Dixon, *op. cit.*) that their breeding territories at this locality were mutually exclusive.

Even though the titmouse and chickadee share certain methods of food-seeking, one would expect them to be isolated ecologically since they differ in body size and bill form and the sites in the same trees where they concentrate their attention in foraging differ (Dixon, *op. cit.*). The conclusion that the chickadee takes numerous, smaller prey items is supported by the examination of the stomach contents of several titmice and a single adult chickadee taken on the same hillside, 3 miles east of

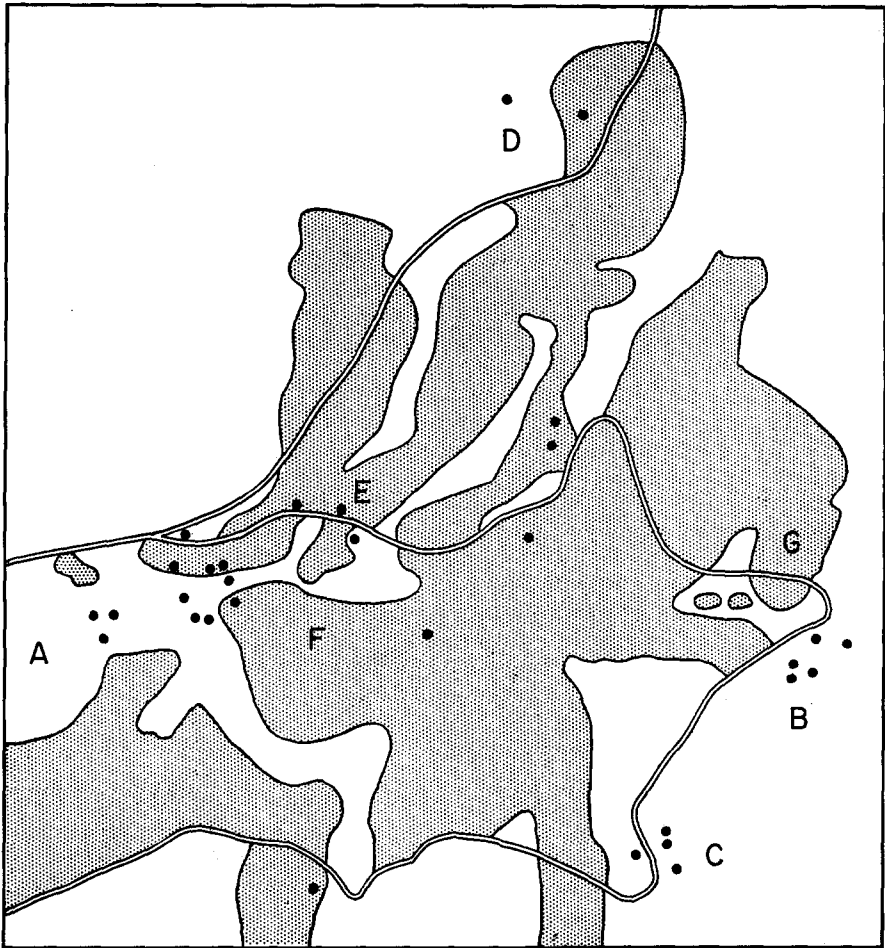


Fig. 1. Map showing where chickadees (A-D) were seen in 1959 in relation to distribution of live oak woodland (shaded). Plain Titmice centered at E, F, and G.

Jamesburg, Monterey County, California. The chickadee was obtained on May 29, 1959, while feeding fledglings in a mixed stand of oaks (*Quercus chrysolepis*, *Q. agrifolia* and *Q. lobata*) from which the titmice had been thinned earlier. The chickadee's stomach contained many aphids and other items smaller than those taken in any numbers by the larger congener. Conceivably this adult may have been feeding larger prey items to her offspring, but the fact that her stomach held approximately 100 aphids indicates that food items of this size are important in the diet.

Despite these dissimilarities in feeding, interspecific territorialism was witnessed at Berkeley in

1950, 1951 and 1952 (Dixon, *op. cit.*:121), and is judged to be important in the interactions of the two populations. The antagonism seems to be elicited by similarities in voice. Little information on territorial relations was gathered in 1959, although counter-singing was heard on February 19, and on April 4, I noted a titmouse in live oaks on a streambank supplant a chickadee repeatedly until the latter moved on.

Details concerning population levels will be presented separately for two sections of Strawberry Creek, namely, that portion traversing the University of California campus below the Memorial Stadium, and Strawberry Canyon proper above the stadium. Conditions for arboreal birds in the former area may be less favorable than they were 10 years ago as a result of the erection of new buildings on the campus. Except for a newly completed swimming pool, Strawberry Canyon is a relatively undisturbed area in which native vegetation predominates. No pronounced changes in vegetation over the past 12 years were evident to me other than increased stature of some trees on the north-facing slope and along the stream in the western part of the Botanic Garden and the notable increase in the extent of groves of redwoods west of the road in the northeast part of the study area mapped in 1948 (Dixon, Condor, 51, 1949:111).

Observations were made on the Lower Campus on February 19, April 3, 4, 6, 20 and 21, 1959, and in Strawberry Canyon on April 4, 5, 20, 21, and May 19. By early April the titmice were incubating, and territorial responses were infrequent. For this reason boundaries could not be delineated. Chestnut-backed Chickadees were not as far advanced in their nesting cycle, courtship feeding and a probable copulation being witnessed on April 5 and 4, respectively. However, the lack of a conspicuous "advertising" song in males of this species makes enumeration of breeding pairs difficult. Greater reliance is placed on records of chickadees prior to fledging since family groups tend to wander from the vicinity of the nest. However, records for early April are judged to represent breeding.

Lower Campus.—Chickadee activity was observed repeatedly in two separated parts of the glade between the Faculty Club and Stephen's Union and one pair of chickadees was noted west of the Life Sciences building. The first nestings occurred in the two areas in 1950 and 1952, respectively. These numbers represent no appreciable increase since 1952, although the presence in addition of three presumed pairs in an arc north and northeast of the Memorial Stadium in pines and eucalyptus indicates occupation of an area seldom utilized by Plain Titmice. (These latter chickadees are excluded from subsequent totals.) The presence of one pair of titmice in the Faculty Club glade between the chickadee pairs and two in the vicinity of the Life Sciences building in 1959 compares favorably with the situation of a decade ago.

Strawberry Canyon.—One pair of chickadees was detected on the north-facing slope in the vicinity of Plain Titmouse territory 16 of 1948 (see map, Condor, 58, 1956:170), and records for the eastern part of the study area as mapped represent three, and probably five, pairs. The accompanying map (fig. 1) indicates the points where chickadees were sighted in 1959 in relation to the distribution of live oak woodland. The records are clustered along the streamcourse to the west (A), in a madrone grove (B), along a willow-lined tributary (C), and in planted redwoods (D). I judged that three pairs of titmice were present in upland live oak groves of the same area, centered at points E, F, and G. There appeared to be four pairs of titmice in that part of the canyon below the Poultry Farm, but neither titmice nor chickadees were noted in the Poultry Farm area (titmouse territory 3 of 1947), a point verified by the further observations of William L. Thompson and Alden H. Miller. This area was occupied by titmice continuously from 1946 through 1952.

In the first 10 years of its occupancy of the Strawberry Creek area from the Botanic Garden to Oxford Street, the Chestnut-backed Chickadee has increased in population density from a single pair in 1950 (probably three pairs in 1952) to at least seven, and probably nine, pairs in 1959. The last level approximates that of the Plain Titmouse. The seven pairs of titmice in Strawberry Canyon proper in 1959 were equal to the average number for the period from 1947 to 1952 (Dixon, Condor, 56, 1954:121). Thus, the increase in numbers of the chickadee has not been achieved at the expense of the titmouse. By and large the activities of the two species are centered in different areas, most of the records of chickadees being in or adjacent to streamside growth of alders, willows, and shrubby dogwoods, or in planted conifers. It appears that the chickadees tend to accept as centers of nesting activity those sites that are not utilized extensively by the permanently territorial titmice. Chickadees are known to nest in oak woodland at Stanford University, California (Price, Condor, 38, 1936:24),

and titmice and chickadees may alternate in their occupancy of the same breeding territory in successive years (Dixon, *loc. cit.*). It appears that, as in the early 1950's, the chickadees avoid areas occupied by the titmice, and that space is not shared by the two species to an appreciable degree during the breeding season.

I am indebted to Paul D. Hurd, Jr., and Jack Powers for determination of the stomach contents reported here.—KEITH L. DIXON, *Hastings Natural History Reservation, University of California, Carmel Valley, California, December 30, 1959.* (Present address: Department of Zoology, Utah State University, Logan, Utah.)

Notes on Winter and Early Spring Bird Activity on the Farallon Islands, California.

—Of the numerous published accounts of the birds of the Farallon Islands, few are based on observations made in the winter. Through the courtesy of the United States Coast Guard I spent several days, January 12 to 16 and March 17 to 23, 1960, on the Southeast Farallon Islands which are situated about 28 miles west of the Golden Gate Bridge, San Francisco, California. The primary purpose of my visit was to determine the winter activity of Cassin Auklets (*Ptychoramphus aleutica*). Each evening Cassin Auklets were noted coming in from the sea in large numbers about an hour and a half after sundown. In January no eggs were found, but the birds were active cleaning out old burrows. In some instances new burrows were begun in the soft soil, and many birds were engaged in mating activity. Burrows started on January 14 were incomplete; on March 18 they were approximately 30 inches in length. Mr. Ralph Gingles and Mr. Steven Brewster, resident Coast Guard personnel, informed me that the "night birds," as they call them, were first heard under the buildings during the last week of December of 1959 and that they returned in large numbers early in January. Their return in December coincides with the first heavy rain after the dry season. The rain appears to facilitate burrowing by dampening the soil. Dry soils cave in readily.

Upon arrival at the island the auklets immediately entered their burrows and began their subterranean activity. Between 10 and 11 p.m. most of the activity ceased and the auklets returned to sea. A few remained later, but by 2 a.m. the sounds of the auklets were rarely heard. This is in contrast to the full activity observed in March when the auklets demonstrated the greatest activity between midnight and dawn. On March 22 birds incubating eggs were present in approximately one-third of the nests examined.

In addition to this early nesting activity of the auklets in January, five Ashy Petrels (*Oceanodroma homochroa*) were found feeding young. All five young were fully feathered and almost ready to leave their nests in the rock walls. The young petrels were first discovered when I saw adults fly into a rock wall at about 9 p.m. on January 13; the feeding calls of the young were subsequently heard. This observation confirms the assumption made by Orr (Condor, 46, 1944:125-126) that the nesting of this species extends into mid-winter. On March 17, Ashy Petrels were numerous, occupying nesting holes, and were actively engaged in mating. This observation extends the breeding season to approximately 10 months on the Farallon Islands, or from about the middle of March to the middle of January.

In January numerous resident Rock Wrens (*Salpinctes obsoletus*), 10 to 12 Robins (*Turdus migratorius*), 7 Western Meadowlarks (*Sturnella neglecta*), 1 Red-shafted Flicker (*Colaptes cafer*), 1 Sparrow Hawk (*Falco sparverius*), 1 Belted Kingfisher (*Megaceryle alcyon*), and 2 Killdeers (*Charadrius vociferus*) were the conspicuous land birds noted. Recorded near the islands were flocks of Red-necked Grebes (*Podiceps grisegena*).—ASA C. THORESEN, *Department of Zoology, Oregon State College, Corvallis, Oregon, April 4, 1960.*

Confirmation of Occurrence of the American Redstart in Coastal Santa Barbara County, California.—Sight records of the American Redstart (*Setophaga ruticilla*) in coastal Santa Barbara County, California, on September 8, 12 and 16, 1957, have been published by the authors (Condor, 60, 1958:408). At this time, we wish to record a substantiating specimen, an immature male, taken in the same locality on September 25, 1959. The skin is deposited in the Santa Barbara Museum of Natural History (no. 4322).—CHARLES H. RICHARDSON and ALICE I. RICHARDSON, *Santa Barbara, California, April 15, 1960.*