

Figure 1, A (left). Left wing of a young Chukar Partridge from Aegean Greece in the process of growing juvenal secondaries 2 and 1 and primary 8 and its covert; note that the covert differs from the rest of the juvenal covert series. The white spots on the covert are egg cases, apparently of Mallophaga. B (right). Primaries and coverts on the left wing of a living captive Chukar hen showing juvenal nature of primary covert 8; second basic primary and primary covert 6 have just broken their sheaths. In a bird which has undergone the normal first prebasic molt, primary covert 8 is identical in shape and color with primary covert 7.

Bull., 62: 20–31, 1950), who correlated its occurrence in the Bobwhite (*Colinus virginianus*) with late hatching and cold winters in Wisconsin at the northern limit of the species' range, and by Bendell (*Condor*, 57: 354–361, 1955) for the Blue Grouse (*Dendragapus obscurus*) in British Columbia.

This inhibition of the normal molt pattern, although not extreme, suggests a factor possibly contributing to the lack of successful Chukar introductions into the north-east United States where the birds nevertheless breed successfully in captivity. It may be that environmentally controlled late breeding and hatching, considerable summer precipitation and early fall cold create a combination of factors which renders continual survival of Chukars in the wild impossible in New England.—GEORGE E. WATSON, *Peabody Museum and Department of Zoology, Yale University, New Haven, Connecticut*. Present address: *U. S. National Museum, Washington 25, D. C.*

Nesting and nest visitors of the Vaux's swift in Montana.—Information concerning the status of the Vaux's Swift (*Chaetura vauxi vauxi*) in Montana has heretofore been incomplete (A. O. U. Check-list, 1957: 298). The discovery of a nest at Yellow Bay on the Flathead Lake on 16 July 1961 establishes this swift definitely as a breeding species. This easternmost nesting record for the race defines the tip of an eastward tongue of its breeding range extending from Washington into north-western Montana nearly to the continental divide.

Sight records of adult Vaux's Swifts were obtained at two other localities in the same summer. Two birds were seen flying low over Rogers Lake, 1,200 meters in elevation, west of Kalispell on 15 July. Several Vaux's Swifts were watched foraging over the entry of Avalanche Creek into Macdonald Creek in Glacier National

Park on 29 July, and a few days earlier J. Koplin saw six to eight adults milling around a tall stub there.

The environment at Yellow Bay consists of mixed coniferous and deciduous forest (Douglas fir, yellow pine, lowland fir, western larch, yellow birch, aspen, and cottonwood). Large dead yellow pine snags with old Pileated Woodpecker holes and other hollows occur, but swifts were not observed there. The elevation at Yellow Bay is 950 meters, but Grinnell and Miller (*Pacific Coast Avif.*, no. 27, p. 214, 1944), in characterizing the nesting environment of this swift in California, state that "altitudes of nesting, so far as now known, [are] all below 1,000 feet [305 meters]."

TABLE 1
GROWTH OF NESTLING VAUX'S SWIFTS

	Number of birds	Body weight, gm		Mean length, mm	
		Mean	Range	9th primary	Rectrices
17 July	4	—	—	1	—
19 July	4	—	—	3	—
24 July	4	20.0	18.0–21.0	23	—
27 July	4	20.1	19.4–21.5	33.5	—
28 July	4	17.9	16.7–20.0	38.5	22
31 July	3	19.6	18.5–21.0	50	28
2 Aug.	3	18.9	17.5–19.1	58	33
4 Aug.	3	16.0	15.5–16.5	64	35
11 Aug.	3	14.1	13.3–14.5	76	40.5

From 23 June through the first two weeks of July, we saw Vaux's Swifts at Yellow Bay regularly foraging over the water, shore, forest, and near the buildings of the Montana State University Biological Station. An inspection of seven chimneys resulted in the discovery of one nest. Six of the chimneys were in use for heating purposes at least part of each year while the seventh, which contained the nest, had been idle since 1947.

The dimensions of the interior of the nesting chimney are 23 × 23 cm by 3.7 m deep, and the inner walls are quite uneven and roughly textured with cement. The nest was in a corner 3.6 m below the top and 25 cm above debris at the bottom of the shaft (Figure 1, D). It was constructed of coniferous twigs glued together and to the wall with glistening saliva. Remnants of a second nest were still fastened to an adjacent corner about 10 cm below the active nest. General lack of twigs in the duff at the bottom of the chimney, as well as absence of old droppings, indicated no recent use of this chimney by swifts, other than for these two nests. A flue at the bottom of the chimney could be opened for access to the nest and the duff below.

Four young were in the nest on 16 July, together with one undeveloped and partly desiccated egg. A few days later a second partially dried egg was discovered in the duff below the nest. Each of these eggs had a tiny puncture in the side. The egg measurements were 16.4 × 12.0 and 17.8 × 12.0 mm. The former is shorter than the minimum of 16.8 mm given by Bent (*U. S. Natl. Mus., Bull.* 176, p. 298, 1940).

The four young on 17 July had naked skin, except for gray follicles of contour feathers which were beginning to emerge on the wings but had not yet emerged on the body. In the closely related Chimney Swift (*Chaetura pelagica*) a comparable stage of development is attained at three days after hatching (Dexter, *Bird-Banding*, 21: 99–104, 1950). The rate of growth of the nestlings may be seen from Table 1.

The weights showed up to a 30 per cent variation from the highest average value, and they underwent a general downward trend late in nestling life. One nestling that fell out of the nest onto the soft duff on 28 July or later died of starvation as it was in a side pocket where it could not be reached by adults.

The claws of the young were very sharp and the toes strong. On being examined out of the nest, the young soon took to scrambling upward rapidly on any surface to which they were allowed to cling, the claws effectively securing a purchase on any roughness. By contrast the claws of Black Swifts (*Cypseloides niger borealis*) seemed dull and the toes weak at an early stage of nestling development (Hunter and Baldwin, MS). The feet of the Vaux's Swift nestlings were normal when first

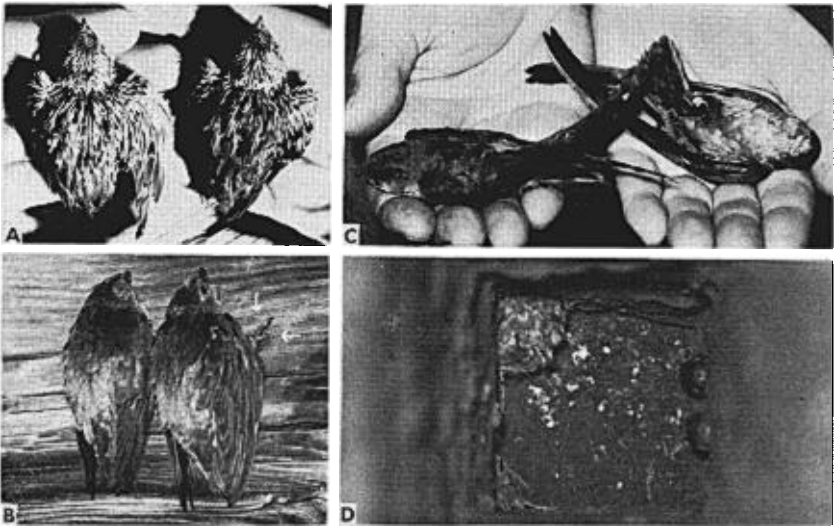


Figure 1. A. Two young Vaux's Swifts with feathers beginning to unsheathe, 27 July 1961. B. Two young four days later. Bird on right shows spiny rectrices and right foot with two claws missing (arrows), 31 July. C. Two adults removed from chimney for banding. Spines of rectrices show much wear, 27 July. D. Three young on nest and two adults in chimney, 27 July.

observed, but by 31 July one nestling had lost a claw from one toe, a second nestling showed the loss of two claws (Figure 1, B), and a third nestling lacked three claws. The cause of these injuries to the toes is undetermined.

Through 2 August the young were always in the nest together when the chimney was opened. On 3 August and all times thereafter the young were found clinging to the walls of the chimney, so they actually left the nest beginning with this date. On 4 August the young produced much whirring of the wings when the flue was opened. The sound was almost continuous while the observer reached in, whereas before it was heard only intermittently. This indicated considerable development of the wings.

Through 10 August the young swifts apparently remained constantly in the chimney, since they were heard clamoring (when fed) by persons at the building each

day. The following two days the young left the nest and chimney in the early morning for daytime flight but returned to the chimney early in the evening for nocturnal roosting.

Adults were captured in the chimney along with the juvenal birds and examined on four nights, and each of these nights all adults in the chimney at the time of inspection were caught. On 27 July at 2145 hours, two adults were in the chimney (Figure 1, C) and given bands "99" and "00." On 4 August, at 2000, again two adults were in the chimney; one was "99," and the other was unbanded and given band "01." On 11 August at 2110, three adults were in the chimney, "99," "01," and an unbanded bird given band "37." On 12 August at 2030, just one adult was present, "01." Six additional inspections made from the top of the chimney between 16 July and 11 August showed one to three adults present. These records indicate the occurrence of nest visitors in the Vaux's Swift, such as are known to occur in the Chimney Swift (Dexter, *Wilson Bull.*, 64: 133-139, 1952) and in the South American *Chaetura andrei* (Sick, *Auk*, 76: 473, 1959).

There is no proof as to which of the four banded adults were parents, nor would a guess as to the sex of any of the four be safe (see Johnston, *Condor*, 60: 73-84, 1958, for a discussion of the difficulty of determining sex of adult Chimney Swifts). The ranges of wing lengths and weights of the four banded adults suggest the probability that both sexes were represented, however: adult "99"—wing length, 117 mm; body weight, 17.0 gm; "00"—wing 114, wt. 16.4; "01"—wing 114, wt. 16.5; "37"—wt. 19.0.

Molting was variable among the swifts at Yellow Bay. On 24 July, one early-molting swift of a group of nine circling over the station grounds showed a conspicuous notch about midway along the rear margin of each wing, while the others had unbroken margins. On 27 July, "99" and "00" showed no evidence of molt in the wings. By 4 August, "01" had replaced the first three primaries in each wing and had dropped its greater secondary coverts. By 11 August, "37" had replaced the first five primaries and the three outer rectrices.

In the numerous inspections of the nest chimney, no snapping or clapping such as described for *Chaetura andrei* by Sick (*op. cit.*: 475) was detected, but always the adults produced a loud roaring sound with the wings, as did the juvenals in the late part of the nestling period.

Adult foraging flights were a daily occurrence over the Biological Station grounds, yet during many hours of the day no swifts would be seen. Assuming that frequent brief visits to the chimney by adults indicated feeding of the young, as corroborated by clamoring of the young in some instances, the feeding occurred most conspicuously in early morning, midmorning, late afternoon, and evening. On one occasion from 1605 to 1654, 25 July, the time between visits averaged approximately 23 minutes and the time spent in the chimney each visit about 2.8 minutes. Late evening foraging over the bay by 9 or 10 adults was under way at 1930, 11 August, but the swifts went elsewhere when the air over the bay came into shadow as the sun dropped behind the peninsula. Three adults returned a few minutes later (1952) and entered the chimney to roost, and three more swifts appeared in circling flight (2003) but disappeared as dusk gathered.

During late June, July, and through 11 August, up to 10 Vaux's Swifts were frequently seen flying in large, loose groups. The constancy of this upper limit strongly suggested that about 10 adults were summer residents of the Yellow Bay area. On 13 August, for the first time, larger numbers were seen flying around simultaneously. From 0815 to 0900, 25 Vaux's Swifts were watched milling over

the station grounds in an excited, noisy manner. We checked the chimney and found the young had taken wing. Neither from the manner of flight nor plumage, however, could individual swifts in the group of 25 be recognized as adult or immature, except for those adults that showed emarginated wings in molt. Perhaps the Yellow Bay swifts had been joined by a small group of swifts in post-breeding dispersal or early migration. In Willamette Valley, Oregon, flocks of Vaux's Swifts were seen in migration by mid-August (Gullion, *Condor*, 53: 140, 1951). Or perhaps the young from all nests in the Yellow Bay vicinity emerged from their nesting cavities the same morning and flocked, possibly in response to communicated excitement, thus swelling the resident group to over twice its former size. Four broods of four young could do this.—PAUL H. BALDWIN, *Montana State University Biological Station, Bigfork, Montana*, and *Department of Zoology, Colorado State University, Fort Collins, Colorado* and WILLIAM F. HUNTER, *Biology Department, Chelsea High School, Chelsea, Michigan*.

Fork-tailed Flycatcher (*Muscivora tyrannus tyrannus*) taken in Texas.—On 4 February 1961, David Blankinship and I discovered a Fork-tailed Flycatcher approximately 18 miles north-northeast of Edinburg, Texas, along an unpaved road. We first noticed the bird at a distance when it flew out in typical flycatcher fashion from a dead weed stalk in a water-filled roadside ditch. Expanses of grass and weeds were the only cover in the immediate area except the narrow strips of woody vegetation along the roadside and an occasional small plot of brush.

I secured the bird, which proved to be a female. The feathers, especially those of the tail, showed considerable wear. Thomas D. Burleigh of the U. S. National Museum identified the specimen as an example of the nominate race. It has been deposited in the Museum of Zoology of Louisiana State University, Baton Rouge, Louisiana.

Although there have been several sight records in the state, the Fifth Edition of the A. O. U. *Check-list of North American birds* (1957) does not list Texas among the states where the Fork-tailed Flycatcher has been recorded. The bird reported here is evidently the first specimen to have been taken in Texas and, as far as I can ascertain, the first taken anywhere in the United States in more than half a century (see Bond, J., *Auk*, 57: 418, 1940).—PAULINE JAMES, *Department of Biology, Pan American College, Edinburg, Texas*.

An observation of tolerance of disturbance by a male American Woodcock on his singing ground.—On 25 May 1962, at about 2030 hours (8:30 P.M.) an automobile turned over in a ditch killing two of its occupants at Rear Maugerville, Sunbury County, New Brunswick, Canada. I passed the scene of the accident at 2050 on my way to count singing male American Woodcocks (*Philohela minor*). A crowd had already collected. The woodcocks started *peenting* at 2125 and I finished my count at 2200. I arrived at the scene of the accident again at 2205.

A woodcock was *peenting* vigorously about 30 meters from the wrecked car and the crowd. If he started *peenting* at the same time as the others I had counted about a kilometer away, he began an hour after the accident, when the crowd had gathered and the police were searching the area with strong lights looking for bodies and pieces of the car within 30 meters of him. When I left the scene at 2220 he was still *peenting* strongly with a coroner's jury at work within 30 meters.—BRUCE S. WRIGHT, *Northeastern Wildlife Station, University of New Brunswick, Fredericton, N. B., Canada*.