

Incomplete first prebasic molt in the Chukar Partridge.—In the Chukar Partridge (*Alectoris chukar*) it is usual for all the remiges and greater covert series, except the outer two primaries and their coverts, to be replaced during the first prebasic (or postjuvinal) molt (for nomenclature of molts used here see Humphrey and Parkes, *Auk*, 76: 1–31, 1959; for discussion of the use of the specific name *A. chukar* in preference to *A. graeca*, of the 1957 A. O. U. Check-list, see Watson, *Ibis*, 104: 353–367, 1962). This is certainly the case in the Old World, where in more than 100 wild-collected specimens from the Aegean islands, Turkey, the Middle East, and India, which I have examined, not one apparently deviated from this wing molt pattern. This was also true of most of the 25 first-year Chukars of both Himalayan (*A. c. chukar*) and Aegean (*A. c. cypriotes*) origin that I have reared in captivity.

During the fall and winter of 1960–61, I kept four captive Chukars outside in an open wire aviary. These were presumably of the nominate race and Himalayan stock, and were hatched in Connecticut in 1960. Two of the three hens showed evidence of an incomplete first prebasic molt. The 10 offspring of these birds, however, which were hatched in April, 1961, and were reared indoors until September, went through the normal molt sequence and replaced the eight juvenal primaries and all the secondaries and their coverts.

One of the two aberrant hens retained both outermost juvenal secondaries (1, or axial, and 2) on both wings. In the juvenal feather generation, these are the final two secondaries to grow and are consequently sturdier and more “basic” in appearance than the next proximal ones in the juvenal series, which are already in growth in the follicles at hatching. They are, however, brownish and mottled with pale buff and, therefore, differ markedly from the gray-brown definitive secondaries (Figure 1, A, shows the mottled pattern on the juvenal secondaries). As is the case in the majority of short-winged galliformes, these are the last two secondaries to be replaced in later prebasic (or postnuptial) molts. Miller (*Condor*, 43: 113–115, 1941) has attributed this order of secondary replacement to feather crowding near the carpal joint.

The other hen bilaterally retained its eighth juvenal greater primary coverts. These feathers are also mottled with pale buff and, therefore, differ from those of the first basic generation (compare Figure 1, B with Figure 1, A). The eighth primary and its covert are the last of the primary series to be replaced in a normal first prebasic molt. Extreme wear rendered it impossible to differentiate without doubt the nature of the eighth primaries in this hen, but they appear to be basic rather than juvenal. Both of these birds were examined, and the second one photographed, in October, after they had laid and before they had completed the second prebasic molt.

The presence of mottled juvenal secondaries has been used as a character for aging young introduced Chukars in the early fall of the year of hatching by Smith (*Jour. Wildl. Man.*, 25: 84–86, 1961). Irregularities of molt such as these two examples, however, may interfere with accurate age determination in some populations of this species.

Retention of juvenal feathers by captive birds in southern New England may be related to the later spring, colder fall and winter, and greater precipitation here than in the southern Palearctic, where the species occurs naturally, and in the western United States, where it has been successfully introduced. Smith (*op. cit.*) reported no example of arrested molt in 94 captive specimens of Chukar (either *A. c. chukar* or *cypriotes*) raised in Utah, but 6 of 18 early-hatched released birds had extended the first prebasic molt to include the ninth primary. On the other hand, parallel examples of incomplete molt have been presented by Thompson and Kabat (*Wilson*

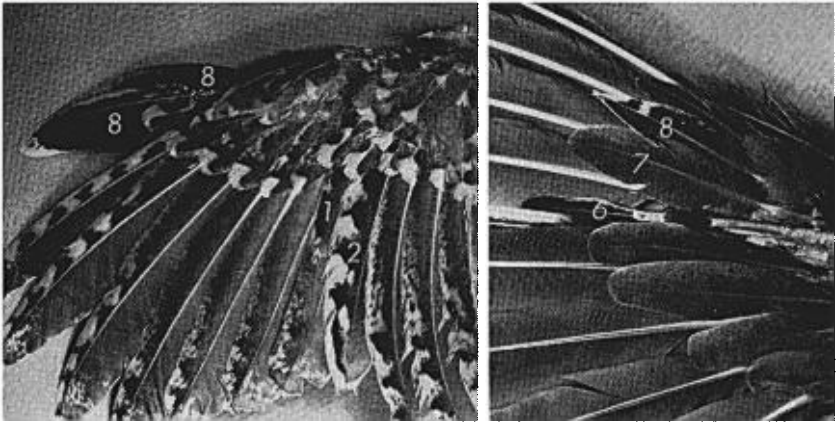


Figure 1, A (left). Left wing of a young Chukar Partridge from Aegean Greece in the process of growing juvenal secondaries 2 and 1 and primary 8 and its covert; note that the covert differs from the rest of the juvenal covert series. The white spots on the covert are egg cases, apparently of Mallophaga. 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