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Tail Molt of the Saw-whet Owl.—The sequence of tail molt of birds, especially owls, is not well known. Since Mayr and Mayr in their study of the tail molt of small owls (*Auk,* 71: 172-178, 1954) did not examine a molting specimen of either *Aegolius* or *Micrathene,* the following observations of the molt of a captive Saw-whet Owl *(Aegolius acadicus)* seem relevant.

The bird, an adult female, was caught by hand on 12 November 1960 near Ann Arbor, Washtenaw County, Michigan, and was maintained indoors at The University of Michigan Museum of Zoology until late spring 1961. During this time studies of metabolism and molt were conducted. The Saw-whet Owl is recorded as having one full molt in the fall (Bent, U.S. Nat. Mus. Bull., 170: 233, 1938), but my bird began its molt in late February and finished in early May. This unusual timing is probably a result of captivity and long artificial day lengths. The tail was lost in one week about halfway through the period of molt. The bird appeared tailless for about three weeks, after which time the new tail feathers were as long as the unmolted under tail coverts. Examination of the feathers that were lost and the incoming feathers indicated that the tail molt proceeded inward, with the two innermost rectrices being lost last. The rest of the body molt closely followed the sequence outlined for young Screech Owls *(Otus asio)* by Kelso (Biological Leaflet 50, 1950).

This essentially simultaneous molt of the tail in *Aegolius* was predicted by Mayr and Mayr *(loc. cit.)* because tail molt "tends to be simultaneous in all small [owls]." They suggest that simultaneous tail molt may be the result of "relaxation of selection" for gradual tail molt, which "is presumably based on a more complex physiological mechanism." Presumably the disadvantages of loss of maneuverability caused by taillessness are more than offset by the selective advantages of a decrease in the duration of tail molt.—CHARLES T. COLLINS, *The University of Michigan Museum of Zoology, Ann Arbor, Michigan.*

A Curtailed Postjuvenal Molt in the Steller Jay.—A first-year male of the Steller Jay *(Cyanocitta stelleri)* obtained by Ward C. Russell near Santa Cruz, California, on 26 April 1961, is of interest because it shows retention of juvenal feathers to a degree unlike that of first-year birds of the local population and

comparable to that shown by low-latitude races. In additional respects, it is more extreme than southern populations of this and other species of American jays examined to date, with the exception of *Cyanolyca mirabilis* of Guerrero (Pitelka, MS; 1945, *Condor,* 47: 229-261, and 1958, *ibid.,* 60: 38-49).

Normally, first-year Steller Jays of central California retain juvenal remiges, rectrices, alula, all greater primary coverts, and some greater secondary coverts. Additional juvenal feathers present on the specimen reported here are as follows: (1) some of the under tail coverts, including the two longest ones; (2) some of the upper tail coverts, again including the two longest ones; (3) a greater proportion of the greater secondary coverts (only the two innermost ones are new); (4) some middle secondary coverts (normally all are replaced); (5) some nasal bristles (a few retained only occasionally in the local population); (6) a group of feathers at the outer margin of the sternal region of the ventral tract, evident superficially behind the bend of the wing; (7) scattered feathers at the sides of the dorsal (saddle) region of the spinal tract; (8) an occasional feather in the malar region on the head and at the sides of the cervical region ventrally; (9) some distal feathers of the crural tract over the tarsal joint.

In addition, while the specimen is of normal coloration superficially, the body feathers basally are a very light gray and thus lacking the usual amounts of melanin. In slight disarray of body plumage, the subsurface whiteness becomes conspicuous whereas such contrast is lacking in normal specimens. The body plumage ventrally is also distinctly sparser than normal. Feathers of the femoral tract are excessively worn, except distally, so that the muscular portion of the leg is almost naked. Here, also, the plumage may have been sparser, or both sparser and weaker; in any event, it is exceptionally worn. Still, it is worth emphasizing that the superficial blues and blacks of the plumage are normal. The black bars on inner remiges and central rectrices are bold and of a spacing indicating rates of growth near average for the local population, but these of course are juvenal feathers whose growth was completed before the onset of the postjuvenal molt and therefore completed before or in spite of circumstances resulting in the curtailed molt. Fledglings are fed by parents for three or four weeks and occasionally longer after leaving the nest, and in any event until after the remiges and retrices are grown. These and retained juvenal coverts are dark basally. It appears likely that events leading to curtailment of molt occurred after the jay was fully grown.

The postjuvenal molt of Steller Jays in central coastal California normally ends in September or October. From color and wear characteristics of the exceptional specimen reported here, there is no suggestion that its molt stopped significantly later. Nor is there any sign that molt was protracted with replacement proceeding at a low rate through the nonbreeding months as is known to occur in some subtropical jays (for example, *Cyanocorax yncas;* Pitelka, MS). There is no evidence of adventitious replacement, even on the legs where the worn and weak feathers are evidently all of one generation.

A possible clue to curtailment of molt and the subnormal energy resources during molt suggested by this, by the reduced melanin, and by sparseness of plumage is a malformed lower mandible. It appears that a distal break of the left ramus healed, but left the mandibular symphysis broader than normal so that distally the horny sheath exceeds the width of the upper mandible. Moreover, distally the lower mandible is twisted slightly to the left. The bird could therefore neither cut nor pound effectively. Its bill is exceptionally long, measuring 25.3 mm as against

21.40 ±0.54 (range 20.2-22.0) in 10 first-year males from central coastal California taken in the months of December through April. The specimen showed no fat (weight not taken). The testis measured only 3 mm indicating nonbreeding. It was alone and quiet when collected in a redwood grove. Other Steller Jays were present in the area; the species is a common resident locally.

From studies of this and other species of American jays, it can be said that the basic geography of molt spread over the body is very similar among them notwithstanding wide-ranging differences of latitude and climate. The main differences come in timing and in extent of postjuvenal molt. It is of interest that in curtailment of molt in the Santa Cruz specimen described here, those features common to races or species of lower latitudes occur. The additional features that it shows raise the question as to whether it was under metabolic strains during molt greater than those inferred to be more usual to more southern jays and presumably responsible for the fact that their less extensive and more variable postjuvenal molt also takes longer. The Santa Cruz specimen thus gives us some suggestion of molt characteristics for individuals in populations in which factors curtailing molt could be aggravated by the more compressed schedule of the molt as a whole for that and other more northern populations.—FRANK A. PITELKA, *Museum of Vertebrate Zoology, University of California, Berkeley, California.*

Favorite Foods of Neotropical Birds: Flying Termites and *Cecropia* Catkins.—On recent visits to Panama I have noted two food sources that attract a wide variety of birds, seemingly without regard to whether they are primarily insectivorous or vegetarian.

Flying termites. Colonies of termites (Isoptera) are conspicuous in the tropics, but they seem generally well protected from bird predation. While certain trogons, puffbirds, and parrots dig nest holes in arboreal termiteria and have been reported eating the exposed termites, I have yet to see a bird opening the termite passageways that are so abundant on tree trunks in the tropics. I suspect that most birds do not seek ordinary termites as food any more than they do the worker ants. Periodically, however, broods of sexually active, winged males and females are produced, which take to the air in swarms for their nuptial flight. These termites are enormously attractive to birds. The specially nurtured brood may well be more nutritious than the worker caste fed on wood pulp or other relatively indigestible material. On 11 May 1961, near Gatun Dam, Panama Canal Zone, James E. Ambrose, Jr., and I were surprised to see a large variety of birds sallying out into the air, evidently "flycatching." The time was 1300, a time of day when there is usually a minimum of activity. We were in a cleared area, adjacent to a building, partly bordered by second growth. The attraction was a swarm of winged termites. A slight drizzle indicated the beginning of the rainy season. In the course of about 20 minutes we noted from one spot 16 species of birds catching termites in the air: Tyrannidae—Tropical Kingbird *(Tyrannus melancholicus)* 1, Piratic Flycatcher *(Legatus leucophaius)* 2, Streaked Flycatcher *(Myiodynastes maculatus)* 2, Social Flycatcher *(Myiozetetes similis)* 1, Great Kiskadee *(Pitangus sulphuratus)* 1. Hirundinidae—Brown-chested Martin *(Phaeoprogne tapera)* 3, Rough-winged Swallow *(Stelgidopteryx ruficollis)* 2. Mimidae—Tropical Mockingbird *(Mimus gilvus)* 2. Turdidae—Clay-colored Robin *(Turdus grayi)* 1. Coerebidae—Red-legged Honeycreeper *(Cyanerpes cyaneus)* 1. Thraupidae—Blue-gray Tanager *(Thraupis virens)* 1, Palm Tanager *(Thraupis palmarum)* 1. Fringillidae—Variable Seedeater *(Sporophila aurita)* 2,