

Winter molt in the Acadian Flycatcher, *Empidonax virescens*.—The most recent study of the molts and plumages of the Acadian Flycatcher, *Empidonax virescens*, is that of Mengel (Auk, 69: 273–283, 1952). Mengel determined that young birds have a partial postjuvencal molt in their first summer in which the body feathers but not the wings and tail are replaced, and that the adult birds have a complete postnuptial molt on the breeding grounds before migration. He assumed that there must be some prenuptial molt on the wintering grounds, but he lacked sufficient winter material to determine if it was partial or complete.

Thanks to generous loans from R. M. de Schauensee of the Academy of Natural Sciences and Alexander Wetmore and Richard Zusi of the U. S. National Museum, I have been able to examine 69 wintering specimens of the Acadian Flycatcher from Panama, Colombia, and Ecuador, taken between 27 October and 9 April. Study of this fine series shows that both first year and adult birds undergo a prolonged, incomplete prenuptial molt on their wintering grounds. The feathers of the crown, throat, and upper breast appear to be renewed invariably. The molt of the remainder of the contour feathers is certainly complete in some individuals but not necessarily in others; the problem here is that the body feathers show so little wear that the feather generations are difficult to distinguish. None of the specimens examined showed any wing or tail molt.

The prenuptial molt, for the species as a whole at least, is prolonged from December (3 out of 8 specimens) to early April (4 out of 6). None of 8 October and November specimens show molt. The individual molt also appears prolonged, for except on the throat and upper breast seldom are more than one or two feathers growing in any tract. Of the 61 specimens taken December–April, 31 show active molt, but several others have a mixture of fresh and worn feathers on the crown showing that they have already undergone some molt. The only areas in which specimens show heavy molt, comparable to the postnuptial molt of summer, are the throat and upper breast; 27 of the 31 molting birds show some molt in this region, and in 4 it is heavy. These latter were all taken in March and early April; the period late February to April seems to be the peak of activity, with well over half the specimens showing molt.

No difference in the pattern of prenuptial molt is evident between first year and adult birds. Young birds may be distinguished from adults in autumn by a yellow wash over the belly and sometimes even over the throat, by their more buffy wing bars, and by their slenderer and more pointed rectrices. However, none of these characters is absolute, and by midwinter wear, fading, and partial molt have obscured the color differences, leaving only the rectrices as a valid character. Using the latter as a criterion in distinguishing the age groups, both young and adult birds are found in molt from December to April, and the peak period in late winter is the same. The molt of the underparts in young birds must be complete, because the age groups cannot be distinguished on arrival on the breeding grounds.

The pattern of molt shown by *E. virescens*, with the complete postnuptial molt taking place on the breeding grounds, is unique among the eastern *Empidonaces*, but Johnson (Univ. California Publ. Zool., 66: 125–130, 1963) has shown that it also occurs in the western *E. hammondi*. In *hammondi*, however, the prenuptial molt is less regular, for spring specimens in an obviously mixed worn and fresh plumage are common.

I would like to thank Prof. Erwin Stresemann for bringing this problem to my attention, and stimulating this study.—MELVIN A. TRAYLOR, *Field Museum of Natural History, Chicago, Illinois 60605*.