Southward migration timing of Cooper's hawks across North America

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Presentation Description:

I analyzed southward migration by Cooper's hawks (Accipiter cooperii), a common and widespread woodland hawk in North America. The timing and geography of the migration are thought to be a key selective factor shaping the migrations of many songbird species, of which it is an important predator.

Abstract:

The evolutionary ecology of avian migration has long been assumed to be governed by seasonal variations in food and climate. Recently, studies have begun to investigate whether the danger posed by predators plays a role. This is potentially important because raptors such as falcons and accipiters have increased greatly in numbers since DDT was banned in the mid-1970s, and may play a role in the ongoing steady declines recorded for many long distance avian migrants. The presence of raptors creates a dynamic predator landscape, with times and places of high and low danger, that in turn may influence the schedule and routing of migratory prey species. Cooper's hawk (Accipiter cooperii) is an important woodland predator of small and medium-sized birds, including migratory songbirds. It is a year-round resident in many places, but northern breeding birds are migratory, and move to southern latitudes for the non-breeding period. I compiled data collected by the Hawk Migration Association of North America on the southward passage of Cooper's hawks at 32 sites across North America, from 2000 to 2019. I tallied an average annual total of 15,000 hawks, with a peak southward passage date of October 6. Peak passage progresses southward at an estimated rate of 2.3 degrees of latitude per day, and is later by two weeks at eastern sites compared to western sites. These results provide basic information on continental-scale features of the migration of North America's most important songbird predator, and will help test the hypothesis that predators influence avian migration.