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News, Notes, Comments

High Incidence of Avian Pox in Southeast Michigan, Fall 2003

Avian pox is a viral disease which occurs worldwide and has been reported in at least 20 families of birds (Friend and Franson 2001). The common, cutaneous form is characterized by warty, scabrous lesions on the bare parts of birds, particularly the feet, legs, and bill. Because other diseases may present in a similar manner, a pathologic examination is necessary to confirm infection by one of the avian pox viral strains (Van Riper et al. 2002). However, bird banders generally categorize birds with these very visible lesions as having "avian pox," as I do in this paper.

Of the 24,636 birds handled by the Rouge River Bird Observatory at the University of Michigan-Dearborn (Wayne Co., MI) from August 1992 through July 2003, only 17 (0.07%) showed evidence of avian pox. These 17 individuals represented six species: American Robin, *Turdus migratorius* (6); Yellow Warbler, *Dendroica petechia* (3); Chipping Sparrow, *Spizella passerina* (1); White-throated Sparrow, *Zonotrichia albicollis* (1); Northern Cardinal, *Cardinalis cardinalis* (2); and Red-winged Blackbird, *Agelaius phoeniceus* (4).

In fall 2003, incidence of avian pox was of greater frequency. From mid-August through early November, 44 of 2,426 birds handled (1.8%) had

avian pox. In this sample, 43 of the 44 birds were hatching-year (HY) American Robins; the other was a HY Northern Cardinal. This represented 12.3% of the robins captured this fall, and 15.8% of the HY robins.

This fall was also the first time we have observed pox lesions on bills. Of the 44 birds, 12 (27.3%) involved the bill, consisting of large, warty growths; raw, bloody patches where scabs had come off; or bill deformities such as eroded patches and missing chunks that were likely the result of healed pox lesions. Four of the 12 had pox lesions only on the bill, eight had pox on both the bill and feet or legs. Of the other 44 birds, 32 (including the cardinal) had (lesions only on the feet or legs.

Birds with pox symptoms were captured throughout the season, and thus must have included both locally nesting birds and migrants. Until 21 Sep, all growths were crusty and friable, easily falling off, shedding pieces, or bleeding. At that point, some birds were captured with growths that appeared to be healing. These growths were reduced in size and less friable: the skin was regrowing over missing toenails. By 26 Oct, birds were being captured that had no active growths, but evidence of healed lesions. The last birds with crusty, active-appearing lesions were captured on 1 Nov.

The cutaneous form of avian pox is not usually fatal unless the growths interfere with breathing, vision,

or feeding (Friend and Franson 2001; Van Riper et al. 2002). However, the growths are abraded easily, exposing raw tissue that can facilitate a secondary infection which may cause mortality (Friend and Franson 2001). We recaptured only one of the 44 birds that showed symptoms of avian pox. On 21 Sep, this robin had crusty foot growths, one of which bled profusely. On 26 Oct, the feet were scarred but healed and the bird appeared healthy. We also had the impression that the robins with avian pox appeared to be slower in completing their prebasic molt and retained their spotted plumage longer than healthy robins, but we did not record any quantitative data.

Two common methods of avian pox transmission are via mosquitoes and contact between infected birds or with contaminated surfaces. The latter is observed frequently at bird feeding stations and is responsible for the highest prevalence of infections among songbirds occurring in the winter (Friend and Franson 2001).

The high rate of infection in a migratory songbird in the autumn reported here points to mosquitoes as being a more likely transmission mode in this instance. However, the mosquito season was unremarkable in Michigan in 2003. While the precipitation measured at nearby Detroit was slightly above normal for the summer months (+2.6 cm), it was not as wet as 2000 (+17.6 cm) or 1998 (+5.1 cm), years in which we did not observe an increase in avian pox (National Weather Service 2003). Rigorous mosquito control programs implemented in southeast Michigan following 2002's West Nile virus outbreak further reduced mosquito numbers. This fall's pox upsurge did not seem to correspond with an increase in mosquito populations at this location.

Several other banding stations mentioned increased avian pox or pox-like deformities, including Braddock Bay Bird Observatory (Rochester, NY), Powdermill Nature Reserve (Rector, PA), and Kestrel Haven Avian Migration Observatory (Burdette, NY). It would be worthwhile to explore similarities in these outbreaks.

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American Robin
by George West