

SONGBIRD PREDATION ON BUTTERFLIES IS A RARE EVENT AT DELTA MARSH, MANITOBA

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Birds are among the natural enemies of butterflies¹⁻⁴, but the few observations of butterfly predation in a riparian habitat at Delta Marsh, Manitoba suggest this predation is rare. I recorded three predation attempts on butterflies during ecological studies of songbirds that nest in the dune-ridge forest⁵ that separates Lake Manitoba and Delta Marsh (50°11 N, 98°19 W)⁶, from 1975 to 1986. The anecdotal observations are backed by quantitative observations of foraging behaviour and determinations of diets of adults and young in this songbird community.⁷⁻¹²

Observations

Colias sp. (Sulphur). – At 12:00 hr (DST) on July 7, 1977, an Eastern Kingbird (*Tyrannus tyrannus*) captured on the wing and consumed whole an unidentified sulphur after a pursuit of 1-2 seconds. The kingbird was flying above a dike road, about 50 m south of the ridge forest, when it suddenly veered in pursuit of the butterfly.

Vanessa atalanta (Red Admiral; Figure 1). – I observed an adult Eastern Kingbird capture a Red Admiral in flight at 10:10 hr on June 30, 1977. The kingbird left its original perch, sallied low and captured the butterfly on the first attempt, then it returned to a different perch and ingested the insect, wings and all.

At 10:55 hr on May 20, 1983, a female Black-and-white Warbler (*Mniotilta varia*) flew out from a

stand of Sandbar Willow (*Salix interior*) and pursued a Red Admiral in flight for about two seconds, before giving up and returning to the willows. From my vantage point, I determined that the warbler missed the butterfly, which continued on its way, wings intact. Aerial pursuit of flying prey by the generally bark-foraging Black-and-white Warbler, a spring and autumn migrant at Delta Marsh, is unusual.¹³

Discussion

Based on these anecdotal observations, I conclude that predation on adult butterflies in the dune-ridge forest at Delta Marsh is opportunistic, but nevertheless extremely rare. Two lines of evidence support this conclusion. First, only three observations of predation or attempted predation on butterflies were made during hundreds of hours observing and being around the birds in and near the ridge forest during the first 14 years of our work in this habitat. This includes observations focused specifically on aspects of kingbird ecology.¹⁴⁻¹⁶ Second, and more importantly, adult butterflies were not recorded as prey in any of the quantitative studies of foraging behaviour and diets of adults and nestlings conducted throughout the breeding seasons from 1975 to 1986, although small moths and larvae were taken by most species.⁷⁻¹²

Confirmation of the rarity of songbird predation on butterflies in the ridge forest would involve a comparison of the numbers of butterflies sampled in the habitat. *i.e.*, availability, with numbers taken over the season. If butterflies were rare to begin with, the expectation would be that few would have been taken as prey, unless they

were specifically targeted. We have shown, however, that the breeding birds in this community were generally opportunistic and took prey in proportion to their abundance.¹² I did not observe Red Admirals in the ridge forest every year, although a major migration was noted in southern Manitoba in 1977¹⁷, the same year that one of the observations of predation on this species was recorded.

A final point concerns the butterflies' erratic flight, which renders them difficult for many birds to capture¹, assuming they are palatable. Eastern Kingbirds are known to take large prey¹⁸, and I occasionally observed them capturing large dragonflies on the wing, which they took back to a perch, snipped off the wings, and ingested the bodies. Some perches were identified by the piles of dragonfly wings that built up under them.¹⁹

In summary, the most plausible explanation for the rarity of butterfly predation in the ridge forest is that other more abundant and accessible prey are available¹², particularly during the successive emergences of adult midges (Diptera: Chironomidae) that occur over the course of the breeding season. This prey provides the mainstay of the diets of adult passerines and their young in the ridge forest.⁷⁻¹²

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FIGURE 1. Red Admiral, Seven Sister Falls, Manitoba. May 19, 2015. Photo credit: Peter Taylor

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