

YELLOW- RUMPED WARBLERS GORGING ON CLUSTER FLIES

Mark Gretch

P.O. Box 392, Elizabethtown NY 12932

On 15 Oct 2002, I hiked up the base of Hurricane Mountain in Essex County, Town of Elizabethtown, at an elevation of approximately 1000 - 1500 feet, sat down on a boulder to rest, and noticed a little bird perched at the edge of a roof, alternately flying to and sitting on a wire leading to the house. I didn't have my binoculars with me at the time. At first I thought it was an Eastern Phoebe since it was flicking its tail. I approached and saw that the bird had faint yellow flanks. And then it launched itself from the wire, fluttered its wings and fanned its tail as it easily caught an insect on the wing. There it was -the yellow rump patch- identification confirmed, a Yellow-Rumped Warbler (*Dendroica coronata*).

So what were the insects it was feeding on? I thought I'd need my binoculars to determine that, so I ran back down the road to retrieve them from home. Returning, I approached closer to this old wooden house, built in the 1800's, now used primarily as a summer retreat, having neither electricity nor central heating. On moving closer I detected a huge Bald-Faced Hornet nest under the eaves. Could it be intercepting wasps entering and leaving the nest? I considered that possibility only briefly. During spring and summer the nest would be a swarm of activity, but by October the wasps have dispersed. Whatever the bird was feeding on was very abundant. The warbler sallied forth and then darted under the eaves to pick off a few insects, and more were gathered from the clapboards. It briefly perched at the edge of the roof looking up and down, and from side to side before swooping down to catch its own reflection in the window, as it snapped up a few insects on the window sill. By now it was quite obvious to me it was feeding on the ubiquitous Cluster Fly (*Pollenia rudis*).

Yellow-Rumped Warbler is probably the most common warbler migrating through the Adirondacks in October. In fall, as the temperature nears and then drops below freezing, Cluster Flies seek protected places to spend the winter. Isolated houses in the country are especially prone to invasions of Cluster Flies, since they offer the only warm shelter for miles around. So as hoards of Cluster Flies seek out our homes in September and October, they meet the Yellow-Rumped Warblers moving through looking for an abundant source of food to fuel their migration.

This is a classic example of wildlife adapting to changes brought about by man. I suspect that Cluster Flies are more abundant today than in pre-colonial days. Why? Consider the life cycle of the Cluster Fly. They parasitize earthworms that inhabit grassy areas. With many of our earthworms, including the plump night-crawler, being exotics, the biomass of earthworms crawling around on our lawns today is more abundant than ever. We have provided the Cluster Fly with both the ideal breeding site such as large expanses of grass, and the ideal winter

shelter, our warm homes, and these two conditions, fortunately for the warbler, exist side by side.

A. C. Bent (1963) about the food of the Yellow-Rumped Warbler - "During spring and summer they destroy thousands of caterpillars... and also eat grasshoppers, bugs, house-flies and other flies including caddis-flies, crane-flies, and Ichneumon-flies..." This statement is a bit misleading since both caddis-flies and ichneumon-flies are not true flies, neither belonging to the order *Diptera*. Bent also says that "along the coast during the milder winters there are many flies rising from the seaweed in sheltered spots on mild days even in January..." that they feed on. From the long list of other insects preyed upon Bent reports it appears that this warbler is an opportunistic feeder, feeding on the most abundant and most readily available insects. It should be noted that not only is the Cluster Fly very abundant around our homes in fall, but it is a sluggish fly and therefore easily caught by the warbler with the minimum expenditure of energy. Martin et al. (1951) also lists flies as one of the food sources of the Yellow-Rumped Warbler as well as *Hymenoptera* which includes the wasps, bees, ants and sawflies.

On 15 Oct I watched the warbler gorge itself on Cluster Flies for about two and one-half hours. Almost all of its time was spent on the south and west facing parts of the house where it gets the most solar radiation, and to where the flies gravitate. As the sun fell below the tree line, removing the house from the direct rays of the sun, and as the temperatures started to drop quickly, the feeding frenzy came abruptly to an end.

On 20 Oct I discovered the same avian feeding frenzy happening at my own house about a mile down the road from my first observation. The details of this seasonally dependent phenomenon were almost a carbon copy of my initial observation on 15 Oct.

This warbler started to forage for flies on the illuminated south side of the house. As the sun dropped lower in the sky the warbler switched to the brighter west side of the house. I watched this bird for about three hours, and during this time it fed exclusively on Cluster Flies with the exception of two or three torpid paper wasps (Subfamily *Polistinae*) that it found tucked away in a crevice. The warbler pounded the wasps repeatedly against the roof with its beak, mangling them or killing them before swallowing them. The Cluster Flies, in contrast, were eaten alive. At one point I tried a little experiment. I went into the house swept up some dead Cluster Flies from the window sill, and caught and stunned a few more, and then threw them out on the roof to see how quickly or whether the warbler would eat them as well. The warbler first ate the ones that were still moving, and came back for the dead ones later.

This phenomenon I suspect was happening simultaneously hundreds of times across the Adirondacks, and perhaps thousands of times across the warbler's range on those days in September and October when overnight freezing temperatures sent Cluster Flies in droves to our warm homes looking for winter shelter. It's not only at our bird feeders that we get an opportunity to watch birds up close from the shelter of our homes. Be on the lookout next year at this time for Yellow-Rumped Warblers peeping into your windows looking for Cluster Flies.

The adaptive behavior of the Yellow-Rumped Warbler to anthropogenic change could quickly become deadly if the Cluster Flies were to concentrate chemical toxins in their tissues from lawns sprayed with herbicides. This feeding behavior would then become an ecological trap (Schlaepfer 2002), and instead of enhancing the species survival, it would hasten its demise. Fortunately, in the Adirondacks, application of herbicides to lawns is not a common phenomenon as it is in suburbia.

There must be many other insect hatches that occur throughout the year that provide birds with an abundant source of food. For example year after year I've watched Eastern Phoebes and *Aeschnid* dragonflies gorge on winged ants in August (Gretch 1997). I'd encourage more birders to document these interactions and report them to *The Kingbird*. I am sure there are many more gaps in our knowledge about the food preferences and feeding behavior of insectivorous birds.

LITERATURE CITED

- Bent A.C. 1963. Eastern Myrtle Warbler. In: Life Histories of North American Wood Warblers, Part one. New York: Dover. p 246-247.
- Martin A. C., H.S. Zim and A.L. Nelson 1951. Myrtle Warbler.
In: American Wildlife and Plants A Guide To Wildlife Food Habits.
New York: Dover. p 163.
- Gretch M. 1997. Interaction of Eastern Phoebe and Dragonfly.
Kingbird 47(4): 265-266.
- Schlaepfer M.A., M. C. Runge, P.W.Sherman 2002. Ecological and Evolutionary Traps. Trends, In: Ecology and Evolution 17 (10): 474-479.

