

**Cedar Waxwing (*Bombcycilla cedrorum*)
Cooperative Hunting of *Celithemis elisa tenerals***

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In previous Argia notes on *Celithemis* emergence we have mentioned cooperative hunting of *elisa* and other tenerals by Cedar Waxwings. While flycatcher and other avian predation of odonates are oft mentioned, we were struck by the innate intelligence and adaptive behavior we observed during our *Anax* and *Celithemis* surveys this summer.

From the cooperative hunting lens, we have noted very little single bird ode predation by waxwings although that is quite normal for Common Grackles and Red-winged Blackbirds in their solo hunts for gomphid larvae and tenerals.

The waxwings always used one of a variety of cooperative techniques to flush and capture tenerals; they seldom bothered adults. Additionally, they discerned a decent sized meal (*Celithemis*) from lesser prey such as the hordes of emerging *Enallagma* and *Ischnura*.

Typically, one or two waxwings would fly low over the pond's surrounding vegetation thereby forcing the tenerals to flush and fly. At that point, one to six waxwings would make attack passes on the larger tenerals. As opposed to other avian species that delicately remove odonate wings before ingesting head, thorax and abdomen, the waxwings swallowed their prey whole. Once sated, hunters and beaters would swap duties.

These actions in themselves are remarkable but the story goes on. These birds quickly noted our daily circumambulations of the pond as we counted emerging *elisas* and collected *Anax junius exuviae*. Within a day or two, waxwing scouts announced our approach and the flock separated into two or three hunting echelons. Obviously, we had relieved them of beater duties as we were much more efficient at the flush!

How efficient a feeding strategy is this? On two of our slower rounds, we counted both the numbers of *Celithemis elisa* emerging and those taken by waxwings. Both days showed a 75% success ratio! That's better than one has catching a restaurant waiter's attention these days.

One cannot closely observe such behavior without pondering the depths of innate intelligence in vertebrates but we'll leave that for more lofty discussions. From the ornithologists cum odonatologist view, we enjoyed a little tit for tat by mist netting and banding quite a few distracted Cedar Waxwings.