A Golden-winged X Blue-winged Warbler Nest in Summit County

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olden-winged warblers Vermivora chrysoptera are nearly extirpated as breeders in Ohio, with the most recent published nesting record coming from Columbiana County in 1991 (Peterjohn 2001). Historically, Wheaton (1882) described the golden-winged warbler as a rare summer resident. They have been reported breeding in the northeastern portion of Ohio before, but no confirmed records for Summit County could be found (Jones 1903, Hicks 1935, Dunn 1997, Peterjohn 2001). On 15 June 2004, a male golden-winged warbler was discovered at Horseshoe Pond in Cuyahoga Valley National Park in Summit County, Ohio. At approximately 6:00 P.M., the warbler was observed as it sang a type II song four or five times. It sang close to the top of a twelvemeter high snag near a forested edge. The territory was located in an oblong patch of early successional forest habitat with an area of two hectares, near a wooden bench that marks the halfway point of the Christmas tree farm trail (noted for its nesting purple finches). Within the entire territory, vegetation was dominated by herbaceous growth with patches of woody shrub, dead snags, isolated small trees and forested edge. This sighting represents the first confirmed breeding of golden-winged warbler in Ohio in more than a decade, although it was a hybridized nest.

Golden-winged warblers have two song types with intersexual (mate attraction) and intrasexual (territorial) meaning. Early in the breeding season, males will deliver type I song to announce a territorial boundary and its own physical presence (Highsmith 1989; Confer 1996). This song may be phonetically represented by the phrase "beebuzz-buzz-buzz." During confrontational male-to-male interactions, males will switch to type II song, which begins with a few staccato notes (typically 2-3) and ends with a lower-pitched trill. This song is also given for about a half hour before sunrise from the beginning of the breeding season until the young fledge, and it is sung at a rapid rate. After sunrise, the type I song is given, but at a lower or intermittent rate. Highsmith (1989) reported observations of evening type II song. As the breeding season progresses, type I song becomes less frequent as males switch over to type II song.

Highsmith (1989) studied the two song types of male golden-winged warblers, and he found a correlation between song type II usage and a female's presence. When a female golden-winged warbler is located on a male's territory, there is no effect on the amount of short-duration type I or type II song given by the male. However, a female's presence strongly correlates with an abrupt drop in long-duration type I singing activity (Highsmith 1989). If a male golden-winged paired with a female blue-winged warbler V. *pinus*, the same effect might be expected. The Summit county male never gave the type I song when observed during the evening of 15 June or during four mornings between 20 June and 1 July. The male was not observed before sunrise to listen for the type II song that is typically given during that time period. The fact that the observed golden-winged ZADAR

did not sing the type I song, but did sing the type II, suggested that it was nesting in the area.

At about 8:15 A.M. on 1 July, the male golden-winged warbler was observed feeding a yellowish, warbler-sized fledgling in a scotch pine in an area about 200 meters away from where it was originally discovered singing its type II song. The juvenile was yellowish in appearance, but no distinct plumage characteristics could be further detailed, since the warbler was facing forward. A few meters away, a female blue-winged warbler was seen feeding a yellowish juvenile. Again, the plumage of the juvenile could not be fully documented. Overall, both the adult and juvenal warblers were flighty and did not stay in one location very long.

Behaviorally, the male golden-winged warbler was consistent in flight direction when observed on its breeding territory (on 15, 20, 24 and 28 June). It flew away from its preferred song perch and across the trail towards a narrow section of open field wedged between a narrow stand of conifers and a wider mixed deciduous forest. That specific area, as well as contiguous ones, was exhaustively searched for a nest, but to no avail. On 20 June, the male left its preferred perch, and returned fifteen minutes later to forage about 30 meters from its song perch. This was the only time the warbler was observed foraging, and it consumed food that it collected, as opposed to carrying it away for nestlings or its mate. After foraging, it flew away in its typical flight path. The facts that the warbler consistently perched on the same dead tree on multiple days, sang type II song, and eluded detection during the last two observation days were all indications that it was a nester and not a summer visitor/wanderer. The discovery of the male feeding a fledgling confirmed these field observations.

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