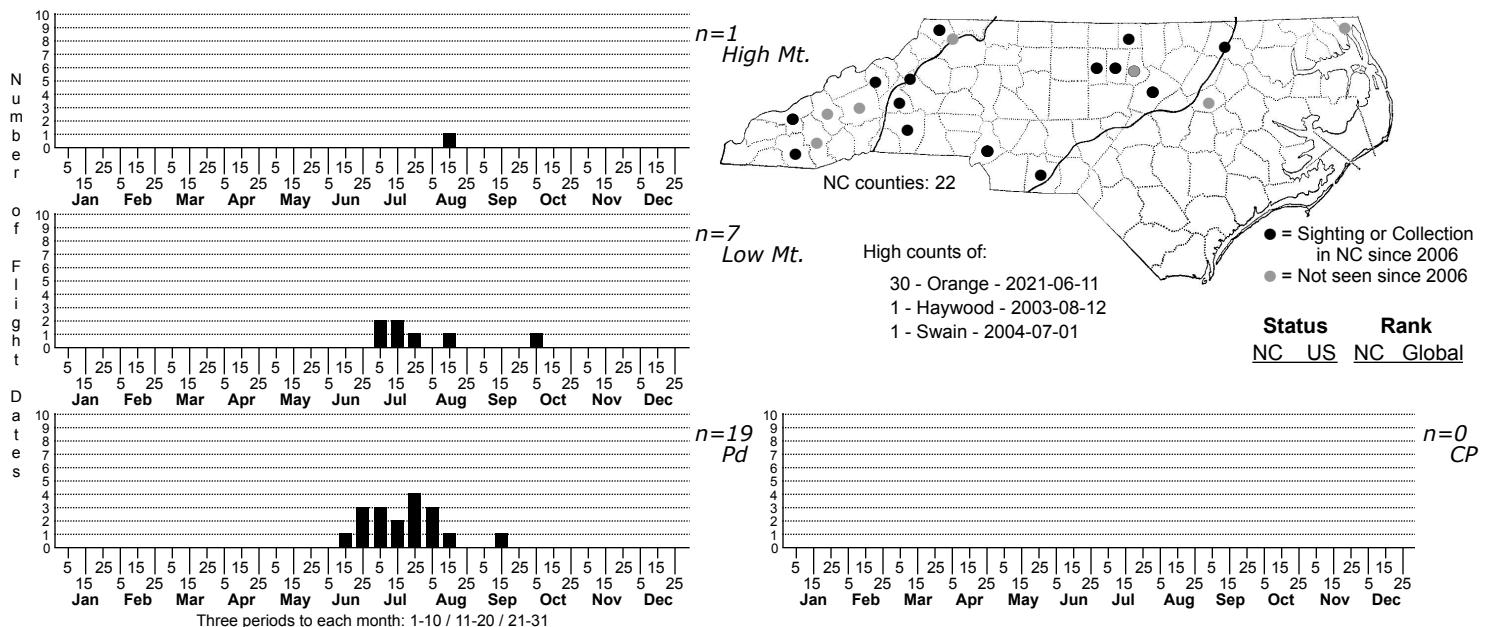


# *Synanthedon rileyana* Riley's Clearwing



FAMILY: Sesiidae SUBFAMILY: Sesiinae TRIBE: Synanthedonini

TAXONOMIC COMMENTS: North America has 136 or more species in the family Sesiidae, and the large genus *Synanthedon* constitutes around half of the 37 species found in North Carolina, many being similar in appearance to one another. Some sesiids, known broadly as clearwing borers, are significant pests of commercial crops. Almost all are mimics of wasps and hornets.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2018)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Eichlin and Duckworth (1988)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Engelhardt (1946)

ID COMMENTS: *Synanthedon rileyana* appears to be a Batesian mimic of the Eastern Yellowjacket (*Vespula maculifrons*), with a black abdomen that is boldly marked with yellow crossbands. The antenna is black above and the discal mark on the forewing is bright red. The following detailed description of the male is based on those of Engelhardt (1946) and Eichlin and Duckworth (1988).

The antenna is robust and black above, with strong, even pectinations. The labial palp has a rough brush and is bright yellow with black on the sides. The head is black above, with a pale-yellow face and a yellow collar. The thorax is black with long yellow tufts posteriorly, and with the posterior margin edged with golden yellow. A yellow mark is present at the base of forewing and there is a yellow patch beneath at the sides. The forewing is mostly hyaline with an oblong, distinctly red discal mark, along with narrow brownish margins that are variously powdered with orangish-red, particularly on the basal margins. The legs are rough and largely yellow to yellow-orange with some blackish shading. The hindwing is also hyaline, with very narrow margins and a small orange-red discal spot. The abdomen is cylindrical in shape, black, and ringed with yellow on the posterior edge of segments 2-7. The anal tuft is short, with a mixture of yellow and black longitudinal bands, and with lateral tufts that are short and flared.

The females are very similar to the males, but differ in being longer on average, in having the costa and margins of the forewing that are broader, and in having an anal tuft that is narrower, black, and only slightly intermixed with yellow.

DISTRIBUTION: *Synanthedon rileyana* is broadly distributed in the eastern US, except in the southeastern Coastal Plain where it is absent or rare in most areas. The range extends from New Hampshire, Vermont and New York southward to northern Georgia and southern Alabama, and westward to eastern Texas, Oklahoma, eastern Kansas, Missouri and Iowa. As of 2024, we have records from all three physiographic regions of the state, but with no records for the central and southern portions of the Coastal Plain.

FLIGHT COMMENT: The adults have been observed from June through November in different regions of the US, with a seasonal peak in activity typically during July and August. As of 2024, our records extend from mid-June through early-October, with populations being univoltine.

HABITAT: Local populations are generally found in open, disturbed habitats such as waste areas, roadsides, fields, and sand prairies where the host plant grows.

FOOD: This is the only clearwing moth in North America that feeds on members of the Solanaceae. The only known host as of 2024 is Carolina Horsenettle (*Solanum carolinense*) (Somes, 1916; Engelhardt, 1946; Eichlin and Duckworth, 1988; Taft et al., 2004; Wise, 2007).

OBSERVATION METHODS: The adults are diurnally active and are often seen perched on vegetation during the day. They are not attracted to lights or bait, but can be lured to traps using synthetic sex attractants (Taft et al., 2004).

NATURAL HERITAGE PROGRAM RANKS: GNR [S4S5]

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: *Synanthedon rileyana* appears to be common and widespread in North Carolina, but is only occasionally encountered in natural settings since it is not attracted to lights. It appears to be secure within the state.