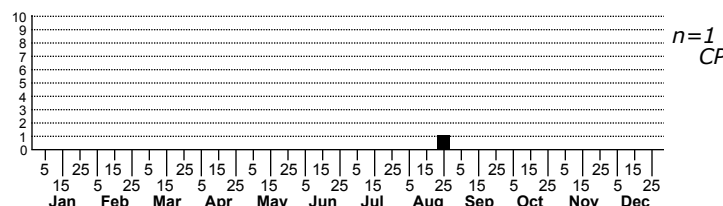
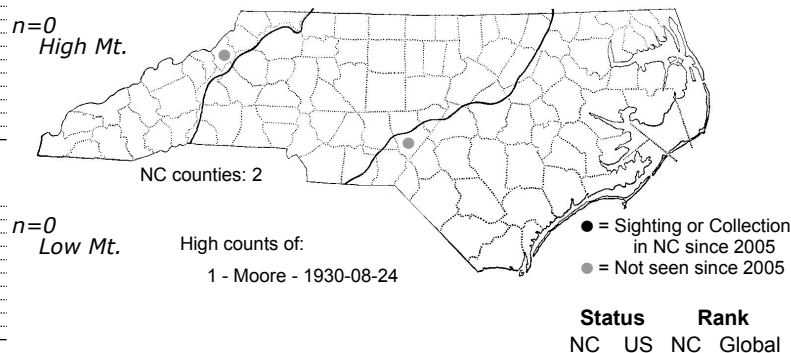


Synanthedon refulgens Red-Lined Clearwing



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:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Eichlin and Duckworth (1988)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: *Synanthedon refulgens* is best identified by a combination of traits that include a black antenna, a yellow collar, a discal spot that has orangish to reddish scaling distally and black proximally, an entirely black anal tuft, and yellowish banding on abdominal segments 2, 4, 6, and 7 (2, 4, and 7 on females). The following detailed description of the male is based on those of Engelhardt (1946) and Eichlin and Duckworth (1988).

The antenna is black and strongly pectinate, and the labial palp is yellowish to yellowish-orange. The vertex of the head is black, while the front of the head is grayish-black with white laterally below the eye. The occipital fringe (collar) is yellow and makes a complete circle. The thorax is shiny-black with a narrow, subdorsal, yellow stripe along the sides, and a prominent yellow band on the posterior margin due to the yellow metathorax and lateral tufts. The abdomen is shiny black with yellow bands on segments 2, 4, 6, and 7, both above and below. Specimens are occasionally encountered that also have faint yellow banding on segments 3 and 5. The anal tuft is black above with yellow beneath at the tip, and is short, rounded, and not wedge-shaped. The forewing is transparent and is marked with variable amounts of brownish to orangish-brown dusting between the veins below the outer margin. The discal mark is black towards the base and orange to reddish towards the apex, while the lower costa is often streaked with orange. The fringe is coppery and the underside has orange shadings that is more pronounced. The hindwing is transparent, narrowly margined, and fringed with coppery black. The foreleg is mostly yellowish-orange; while the coxa and femora of the mid- and hindlegs are brownish-black. The tibia of the hindleg is roughened and yellowish-orange, except for black before the anterior spurs and as a black band at the posterior spurs.

The females are generally similar to the male but are much more heavily shaded with orange along the costa and between the veins at the outer margin, which gives a deep golden luster to all shaded portions of the wing, both above and below. Yellow bands are only present on abdominal segments 2, 4, and 6, and the anal tuft is short and black, with yellow along the sides.

Synanthedon refulgens superficially resembles *S. arkansasensis* and can be distinguished from the latter by the relatively narrow discal spot that has orangish to reddish scaling distally (broader and entirely black in *S. arkansasensis*), an abdomen without well-defined yellow banding on segments 3 and 5 as seen in *S. arkansasensis*, an anal tuft on males that lacks a yellow margin (yellow margin present in *S. arkansasensis*), and a forewing that is not heavily dusted or streaked with orangish or reddish scales.

DISTRIBUTION: *Synanthedon refulgens* is found primarily in the southeastern US, and mostly in the Gulf Coast states from eastern Texas, southern Oklahoma and Missouri eastward to Florida. Isolated records are also known from southeastern Georgia, coastal South Carolina, North Carolina, southern Michigan and Minnesota. As of 2024, we have two historical records for this species, including one from the Sandhills.

FLIGHT COMMENT: The adults have been observed from March through December in different areas of the range, with most from April through July. As of 2024, our one dated record is from late-August.

HABITAT: This species is commonly found in sandy, xeric habitats.

FOOD: The host plants are unknown.

OBSERVATION METHODS: The adults have occasionally been seen resting on vegetation during the day.

NATURAL HERITAGE PROGRAM RANKS: GNR SH

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

COMMENTS: As of 2024, we have only two records for the state and both are historical.