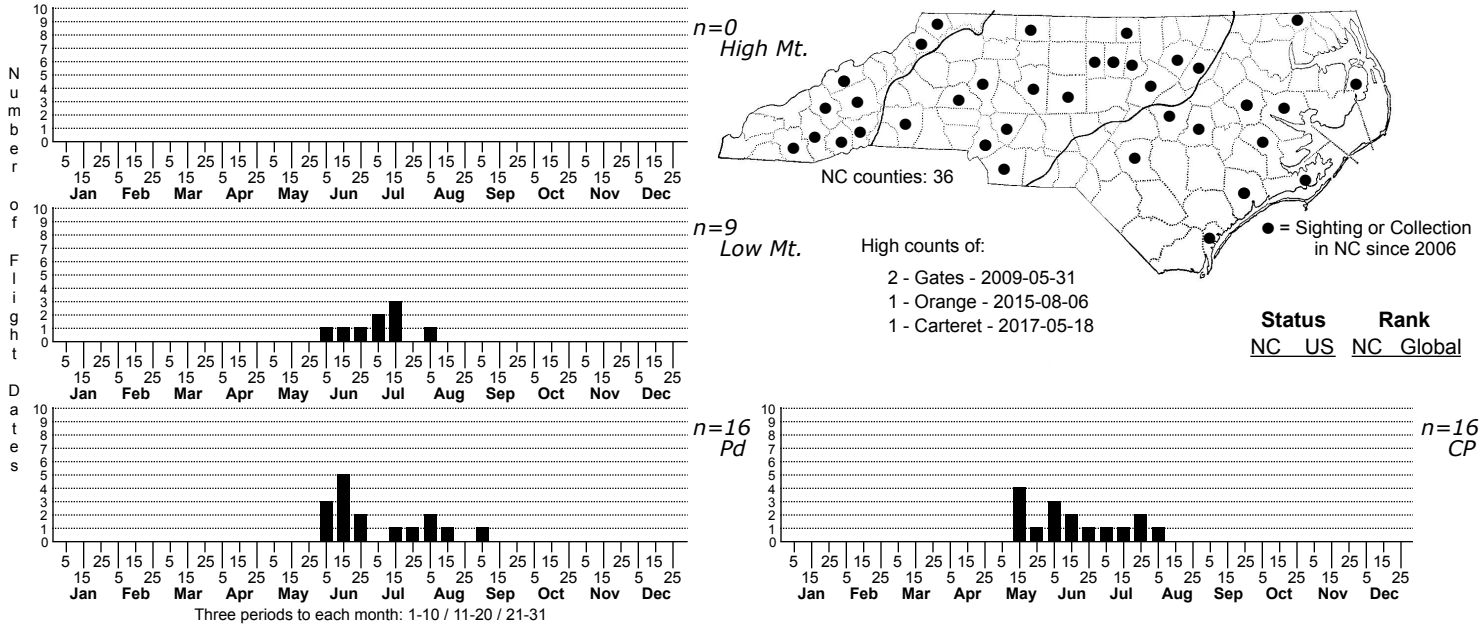
Eichlinia cucurbitae Squash Vine Borer Moth



FAMILY: Sesiidae SUBFAMILY: Sesiinae TRIBE: Melittiini
TAXONOMIC_COMMENTS: This is one of 136 or more members of the Sesiidae that occur north of Mexico, 37 of which have been recorded in North Carolina. Of six species of Eichlinia, this is the only one that is found in the eastern US. It is perhaps the most familiar member of the family, especially to those who tend vegetable gardens, where it can be a destructive pest. Members of this family closely mimic wasps or hornets in both appearance and behavior.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Engelhardt (1946); Eichlin and Duckworth (1988)
TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: This species is among the most easily identifiable members of the family due to the orange to orangish-red abdomen and upper legs that contrast sharply with the dark-gray to dark olive-green forewings and thorax. The thorax and forewings are opaque and gun-metal gray, while the hindwings are hyaline. On males, abdominal segments 1 and 2 are dark and match the color of the forewings. The remaining segments are reddish orange, with most bearing a single dark spot on the dorsum. The females closely resemble the males, but the olive-green coloration is somewhat darker and the antenna is simpler.

The following detailed description of the male is based primarily on the description by Engelhardt (1946). The antenna is black and strongly ciliate ventrally, while the palps are tawny and extend above the head. The head is dark olive-green to greenish-black dorsally, with the face whitish. Similar dark olive-green to greenish-black coloration also covers the collar, thorax, abdominal segments 1 and 2, and often segments 6 and 7. The remaining abdominal segments are orange to orangish-red above with black spots on segments 4-6. The anal tuft is short and greenish-black. The forewing is opaque and lustrous olive-green, except for a narrow hyaline space near the base. The hindwing is transparent, with the veins and wing margins greenish-black. The hindleg is largely reddish orange with black underneath. It bears long, hair-like tufts which give it a distinctive shaggy appearance. The foreleg and midleg are orangish inwardly, with the tarsi boldly marked with black and white crossbanding.

DISTRIBUTION: Eichlinia cucurbitae occurs throughout much of the eastern US, in adjoining portions of Ontario and Quebec, and in eastern Mexico. The range in the US extends from central Maine southward along the Atlantic Seaboard to central Florida, and westward to central Texas, central Oklahoma, central Kansas, Nebraska, central South Dakota and Minnesota. This species occurs statewide in North Carolina.

FLIGHT COMMENT: The adults have been observed from March through November in different areas of the range, with northern populations typically flying from June through August, and southernmost populations from April through November. As of 2024, our records extend from mid-May to early-September.

HABITAT: Local populations are commonly associated with vegetable gardens and agricultural fields where the host and nectar plants are found. We have very little information on the use of native plants.

FOOD: The larvae feed on members of the Cucurbitaceae, especially cultivated squashes, pumpkins, and gourds, but also muskmelons, cucumbers and other cucurbits. Members of the genus Cucurbita are preferred. Friend (1933) reported that Wild Cucumber (Echinocystis lobata) is a native host in New York. In North Carolina, this species is known from only a few counties in the northern Blue Ridge. More information is needed on native plant use throughout the range.

OBSERVATION_METHODS: Individuals are most likely to be observed on sunny days in and around vegetable gardens or agricultural fields, but the moths also visit flowers to take nectar. As is the case with other sesiids, the males are strongly attracted to artificial pheromone lures (Eichlin and Duckworth, 1988).

NATURAL HERITAGE PROGRAM RANKS: GNR[S5]

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

COMMENTS: This species is common across North Carolina and often does well in urban and residential settings.