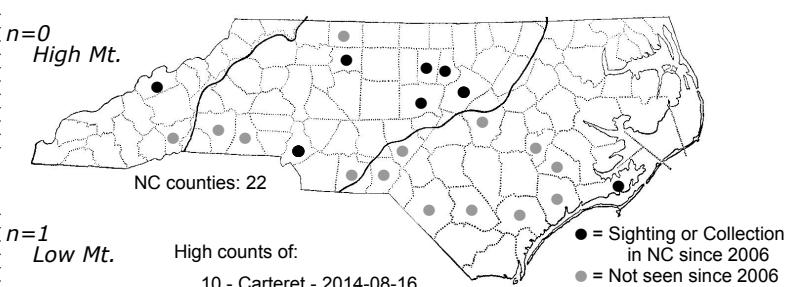
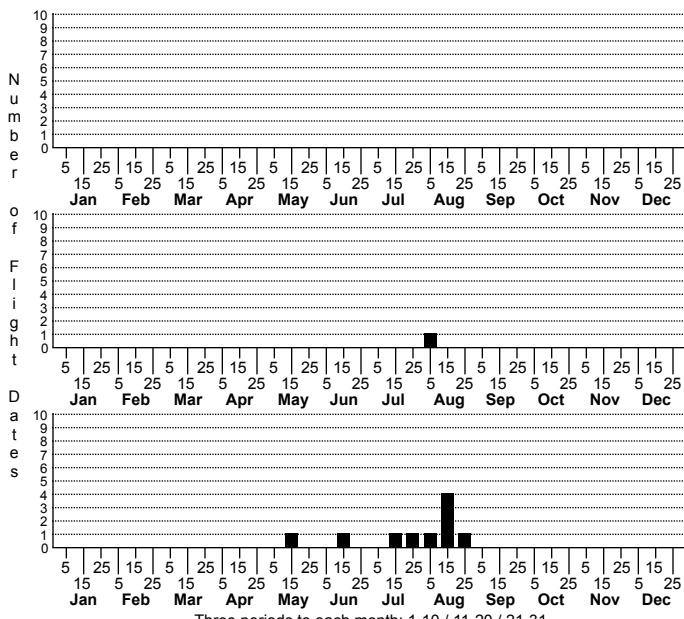


Vitacea polistiformis Grape Root Borer Moth



High counts of:
 10 - Carteret - 2014-08-16
 1 - Madison - 2019-08-09
 1 - Durham - 2020-08-14

Status Rank
 NC US NC Global

n=1
CP

FAMILY: Sesiidae SUBFAMILY: Sesiinae TRIBE: Paranthrenini

TAXONOMIC COMMENTS: North America has 136 or more species in the family Sesiidae, with 37 species found in North Carolina. Many are similar in appearance to one another, and some are significant pests of commercial crops. Almost all of our species are mimics of wasps and hornets.

FIELD GUIDE DESCRIPTIONS: Covell (1984)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Eichlin and Duckworth (1988)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: *Vitacea polistiformis* is a mimic of two rust-colored paper wasps (*Polistes carolina*; *P. perplexus*) that occur in the eastern US. This species has dark forewings and an overall rusty-brown appearance. The abdomen has two thin yellowish bands, and the males have four prominent pencils that extend from the tip of the abdomen. The following detailed description of the male is based on that of Engelhardt (1946) and Eichlin and Duckworth (1988).

The antennae is bipectinate and orange with varying amounts of brownish-black scaling dorsally. The labial palp is red-brown, with brown or black at the base and along the sides. The head is brown above and the face shiny whitish to pale, with the occipital fringe deep orange. The collar is black with pale yellow at the sides. The thorax is brownish-black above, with rufous coloration along the sides and yellowish to yellowish-orange scaling near the anterior margin, in front and beneath the wing bases, and on the posterior margin. The forewing is opaque and brownish-black except for a small hyaline area near the wing base and rust-red scaling along the base of the inner margin. The hindwing is mostly hyaline with brownish-black scaling along the veins and wing margin that widens at the anal angle. The abdomen varies from brown to brownish-black and often has lighter brown on segments 5-7. A very narrow yellow band is on the posterior margin of segments 2 and 4, and often as a slightly visible one on segment 6. The anal tuft is short, blunt, and brownish-black. It has four orange-brown pencils, with the dorsal two longer than those on the sides. The tibia and tarsi are uniformly orangish. The female is generally similar to the male, but has a simple blue-black antenna with a rufous tip, a thorax with yellow stripes laterally and transversely on the metathorax, and a dark chestnut-brown abdomen that is much larger than that of the male.

Vitacea scepsiformis is very similar to *V. polistiformis* but has an elongated, triangular, dark streak on the hindwing that extends inward from the middle of the outer margin (missing on *V. polistiformis*), brownish-black scaling on the hind tibia (versus pure orange for *V. polistiformis*), and a single yellowish abdominal stripe on segment 2.

DISTRIBUTION: *Vitacea polistiformis* is widely distributed across the eastern US where the range extends from Massachusetts and southern New York southward to southern Florida, and westward to central Texas, central Oklahoma, central Kansas, central Nebraska, Wisconsin and southern Minnesota. There are also records from adjoining areas of Ontario. This species appears to occur statewide in North Carolina, but records are lacking for the northern Coastal Plain and much of the Blue Ridge as of 2024.

FLIGHT COMMENT: The adults mostly fly from May through September, but the flight season varies substantially with latitude. In Florida, adults have been observed from early-May through December, while in the northern part of the range the flight season may only last two months. In Virginia, the adults emerge from late-June until about early-September, with peak emergence between late-July and early-August. As of 2024, our records range from mid-May through late-August.

HABITAT: Local populations are commonly found in vineyards and in natural communities where native grapes abound. Engelhardt (1946) noted that low-growing vines in open country are preferred over climbing vines in woodlands.

FOOD: The larvae feed on numerous types of cultivated grapes, but information on the use of native grapes is sparse. Engelhardt (1946) reared the adults from Fox Grape (*Vitis labrusca*), and this species attacks Muscadine (*Muscadina rotundifolia*) and bunch grapes in vineyards in North Carolina (Poling et al., 2003). Although undocumented, other native grapes are undoubtedly used in North Carolina and elsewhere.

OBSERVATION METHODS: The adults are occasionally spotted resting on vegetation in or near grapes and can be readily attracted using pheromone traps.

NATURAL HERITAGE PROGRAM RANKS: GNR [S3S4]

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

COMMENTS: This species is very likely more widespread and abundant than our records suggest; it can be locally abundant in grape vineyards throughout the state.