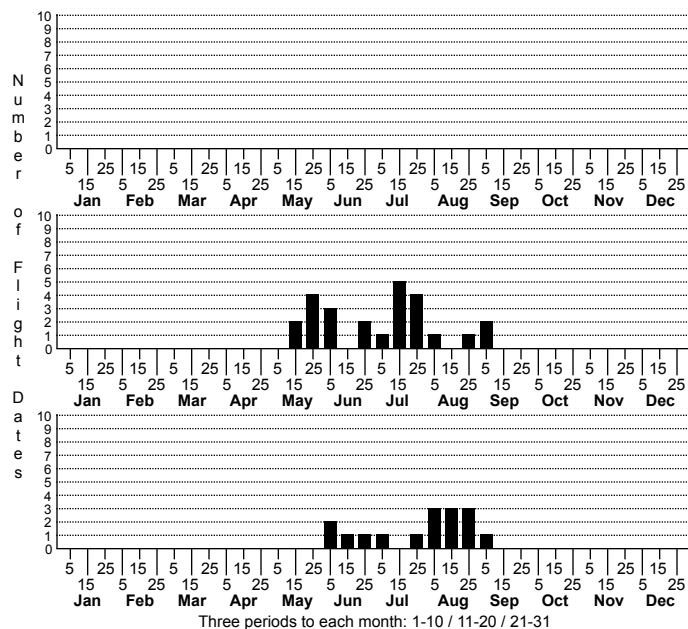


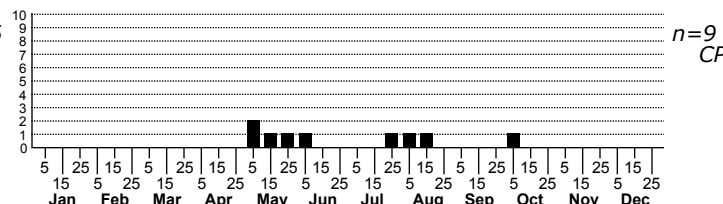
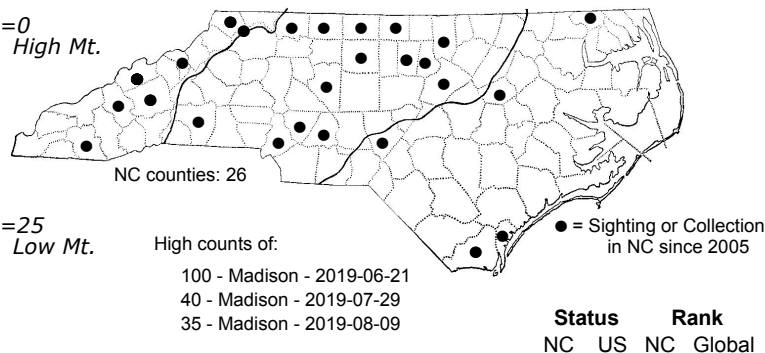
Synanthedon exitiosa Peachtree Borer Moth



n=0
High Mt.

n=25
Low Mt.

n=16
Pd



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: Snapp and Thomson (1943)

ID COMMENTS: *Synanthedon exitiosa* is both strongly sexually dimorphic and polymorphic, with several color forms that vary in frequency across its broad geographic range. The females are distinct in being almost entirely violaceous-black except for a broad orange band that encircled the fourth, and sometimes fifth, abdominal segment. The males have palps that are black above and yellow below and a head tuft that is yellowish. The abdomen is black with variable numbers of fine yellow stripes. The hindleg is black with narrow yellow rings at the spurs and on the segments of the tarsi. The anal tuft is black and lanceolate-shaped, with the scales narrowly white-tipped. The following description of the male is based mostly on the descriptions by Engelhardt (1946) and Eichlin and Duckworth (1988) and applies to the typical form that is present in the eastern US. Engelhardt (1946) described some other forms that are either rare or found mostly in the West.

The antenna is black and finely ciliate on the inner sides, while the palp is yellow beneath and black above. The head is mostly black, with a black vertex that has varying amounts of intersperse yellow scales (often predominantly yellowish). The occipital fringe at the back of the head is black laterally and yellowish dorsally. The thorax is black and has two longitudinal yellow stripes at the base of the wing. The wings are mostly hyaline with very narrow black margins and veins, and often with an amber tinge. The hindleg is black with narrow yellow rings at the spurs and on the segments of the tarsi. The abdomen is black above, with narrow pale-yellow banding on the posterior margin of some or all of the segments. The markings on the basal and fourth segments are usually the best expressed, but some individuals may lack yellow banding altogether. The anal tuft is conspicuously wedge-shaped and edged with pale yellow or yellowish-white laterally.

The females are markedly different in being almost entirely violaceous-black except for a broad orange band that encircled the fourth, and sometimes the fifth, abdominal segment. The antennae, palps, head, thorax, and legs are all violaceous-black, and the forewing is entirely opalescent, and violaceous-black. The hindwing is transparent and heavily scaled at the costal margin, while the outer margin and fringes are violaceous-black.

Synanthedon exitiosa is easily confused with the Lesser Peachtree Borer (*S. pictipes*), but the later is smaller on average and has a difference color pattern on the head (see comparison above).

DISTRIBUTION: *Synanthedon exitiosa* is broadly distributed across much of southern Canada and the US where mesic habitats are present. It occurs in Canada in British Columbia, and from Manitoba eastward to New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland. In the US the range extends from Maine southward to northern Florida and westward to southern California, Oregon and Washington. This species is generally uncommon in the southeastern Coastal Plain and in arid regions in the West. It occurs in all three physiographic provinces in North Carolina, but is far less common in the Coastal Plain compared to elsewhere in the state.

FLIGHT COMMENT: The adults have been documented from January through October in different areas of the range, with a seasonal peak typically in July and August. Specimens have been found in Florida from January through October, while the most northern populations fly from June through August. As of 2024, our records extend from early-May through late-October. Populations in North Carolina appear to have more than one brood per year.

HABITAT: Local populations are commonly found in mesic forest and forest-edge habitats, and in orchards, nurseries and residential neighborhoods where the host plants are found.

FOOD: This species is an economically important pest of Peach (*Prunus persica*), but also uses other *Prunus* species that are cultivated or used as ornamentals (Covell, 1984; Eichlin and Duckworth, 1988; Heppner, 2007). These include Almond (*P. amygdalus*), Apricot (*P. armeniaca*), Sweet Cherry (*P. avium*), Sour Cherry (*P. cerasus*), European Plum (*P. domestica*), Hortulan Plum (*P. hortulana*), Nectarine (*P. persica* var. *nectarina*), Japanese Flowering Cherry (*P. serrulata*) and Western Chokecherry (*P. virginiana* var. *demissa*). The larvae undoubtedly used native *Prunus* species and perhaps other members of the Rosaceae prior to the introduction of cultivated orchard species into North America, but these are rather poorly documented. Native species in the eastern US that have been reported as hosts include Downy Serviceberry (*Amelanchier arborea*), American Plum (*P. americana*), Carolina Laurel Cherry (*P. caroliniana*), Chokecherry (*P. virginiana*) and Black Cherry (*P. serotina*). Heppner (2007) reported American Persimmon (*Diospyros virginiana*) as a host, which seems unlikely.

OBSERVATION_METHODS: The diurnally-active adults are not attracted to lights or bait, but females may be seen around food plants and nectaring on flowers. Males are unlikely to be seen in the wild, but readily come to pheromone traps using synthetic sex attractants (Taft et al., 2004).

NATURAL HERITAGE PROGRAM RANKS: G5 [S4S5]

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

COMMENTS: Given its economic importance, this is among the most-studied of sesiids. It is a common and widespread species in North Carolina and is easily attracted to pheromone lures. While sample size has been small, DNA barcoding points to *S. exitiosa* probably being a complex of about three species, with two of these found in the western US.