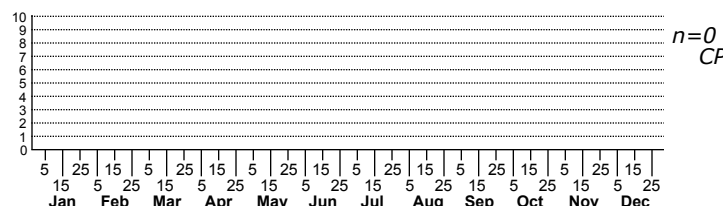
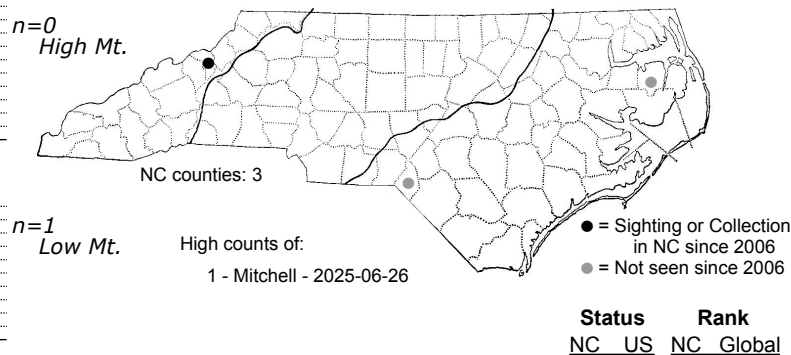
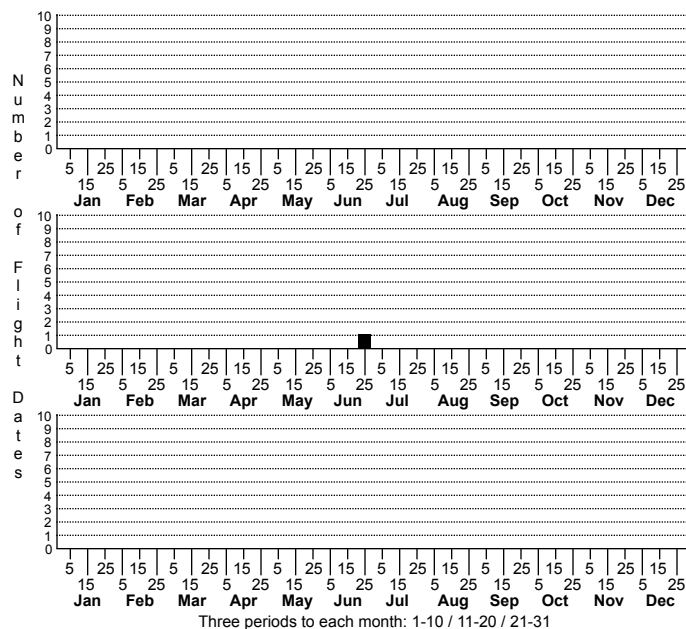


# Synanthedon pyri Apple Bark Borer Moth



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 pyri* has a violaceous-black body with yellow banding on abdominal segments 2 and 4, with the former less pronounced than the latter. The thorax is entirely black above and lacks lateral yellowish stripes. The females have a black antenna that is pale yellow on the outer third except for the black tip. The following detailed description of the male is based on those of Engelhardt (1946) and Eichlin and Duckworth (1988).

The antenna is black and sometimes slightly marked whitish before the tip, while the palp is yellow beneath and black above. The vertex is black and strongly hairy, while the front is black, with white laterally and often ventrally. The occipital fringe (collar) is black above and white laterally, with the white often extending ventrally. The thorax is lustrous bluish-black above and with yellow patches beneath the wings. The abdomen is lustrous bluish-black, with segments 2 and 4 narrowly banded with yellow on the posterior margin, and with segment 2 less developed than that of segment 4. There is occasionally some yellow on the posterior edge of segment 6, and segments 1, 2 and 4 are yellow along the sides. The underside is mostly pale yellow or white, and the anal tuft is fan-shaped, black above, with yellow beneath and at the sides. The coxa, trochanter, and femur are pale yellow, while the tibia is yellow beneath and broadly banded with bluish-black above. The tarsus is yellow beneath and black above, and narrowly ringed with yellow at the joints. The forewing is mostly transparent, with the veins, borders, and oblong discal mark black. The outer margin is broad, and there is coppery-colored powdering between the veins on the apical fifth. Yellow powdering is also present near the base of the costa and on the veins near the wing base. The underside is golden yellow at the outer margin and along the veins. The hindwing is transparent with a faint discal mark, a narrow black border, and a dull black fringe.

On females, the antenna is pale yellow on the outside for a third or more of the length, except for the black tip. Segment 4 on the abdomen is more broadly banded with yellow above than in the male. On the underside it broadens over the whole segment and connects with segment 5, which is also yellow beneath. Segments 1 and 2 are striped with yellow at the sides, with the stripe continuing as a thin band onto the dorsum of segment 2. The anal tuft is short and blunt, and is black with yellow edges.

The males of *S. pyri* are very similar to the males of *S. scitula* and are most reliably separated using the presence/absence of a lateral yellow stripe on the thorax (present in *S. scitula*), and the occipital fringe (collar) at the back of the head. The fringe of *S. pyri* is black above and white laterally, while that of *S. scitula* is yellowish above and white laterally. The yellow stripe on abdominal segment 2 also is often poorly developed on *S. pyri* males, but usually complete on *S. scitula* males. Males of live *S. scitula* typically have a more broadly rounded anal tuft versus one that is more wedge-shaped near the base in *S. pyri*. The males can be easily separated using genitalia. *Synanthedon pyri* appears to be rare in North Carolina, with only one recent records, while *S. scitula* is much more common and widespread.

DISTRIBUTION: *Synanthedon pyri* is endemic to eastern North America where it is known from southern Canada (Ontario; Quebec; Nova Scotia) and mostly from the northern states in the US. The range extends from Maine, New Hampshire and Vermont southwestward to Ohio, Illinois, Michigan and Kentucky. Isolated populations are also known from North Carolina and coastal South Carolina. As of 2024, we have only two records for North Carolina. Both are historical and are from the Coastal Plain.

FLIGHT COMMENT: The adults have been observed from May through August in different areas of the range, with a seasonal peak typically in June and July. As of 2025, we have two historical records but both are undated.

HABITAT: Local populations are most commonly associated with apple orchards.

FOOD: The larvae feed on members of the Rosaceae, including the Common Apple (*Malus domestica*), where it can be a significant pest in orchards. Brooks (1920) provided a comprehensive life history account for *S. pyri* and reported the hosts to be Canadian Serviceberry (*Amelanchier canadensis*), hawthorns (*Crataegus*), Mountain-ash (*Sorbus americana*) and wild and cultivated cherries. However, he described the range as extending to as far south as Alabama and Texas, and some of the localities that he reported are from far outside of the range of *S. pyri* (e.g., Mississippi). Brooks (1920) clearly confused *S. pyri* with other congeners (probably *S. scitula*). As such, we have little confidence in his reported hosts for *S. pyri*. Native crabapples and hawthorns were the likely hosts prior to the introduction of apples from Europe, but information on native plant use is largely lacking.

OBSERVATION\_METHODS: The diurnally active adults are attracted to pheromone traps, but not to lights.

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: We have two historical records for this species in North Carolina, but no recent records.