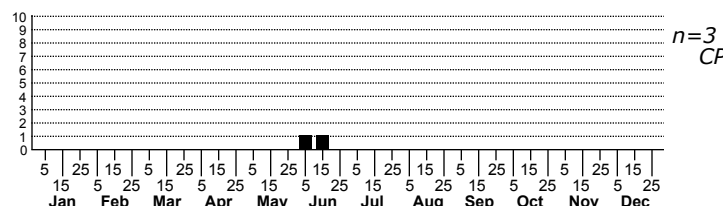
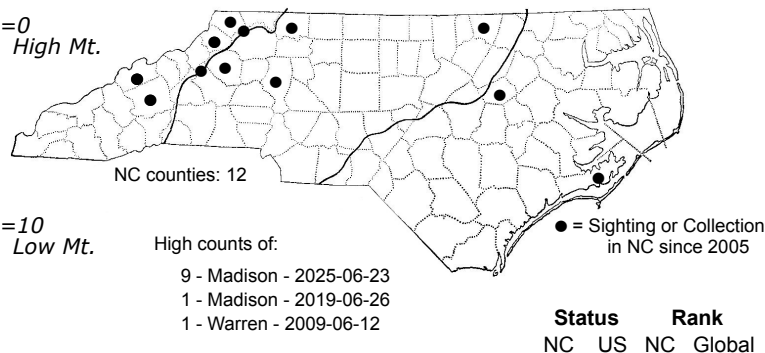
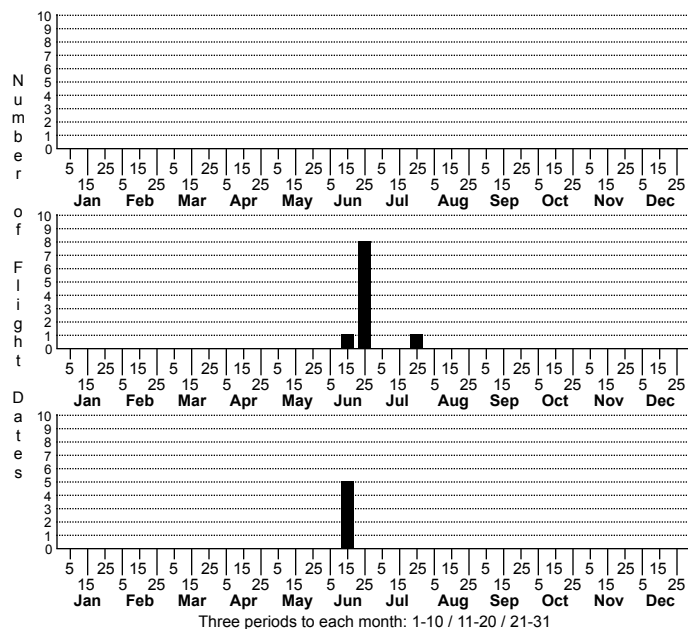


# *Synanthedon kathyae* Holly Borer Moth



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: Eichlin and Duckworth (1988)

ID COMMENTS: The adults of *Synanthedon kathyae* are bluish-black overall with clear wings, yellow body markings, and prominent yellow bands on abdominal segments four and five. The following description of the male is based on the original description of this species by Duckworth and Eichlin (1977).

The antenna is bluish-black, clavate, and tufted with scales apically, while the labial palp is yellow. The head is bluish-black above and in the front, except for white lateroventrally and a yellow occipital fringe. The thorax is bluish-black, with subdorsal yellow stripes, and mostly yellow laterally beneath the wings. The abdomen is bluish-black, with two broad yellow bands on segments 4 and 5, along with an all-yellow venter except for segments 2 and 3 that are bluish-black. The anal tuft is elongate and bluish-black. The legs are predominantly yellow. The tibia of the hindleg is yellow, with bluish-black at the base and on the apical third, while the tarsi are yellow. The forewing is mostly hyaline, with the margins, veins and discal spot bluish-black. The costal and anal margins are often lightly dusted with yellow above, and more strongly so below on the margins and between the veins apically. The hindwing is also hyaline, with narrow bluish-black margins and a yellowish costa. The fringe is bluish-black and becomes yellow at the wing base. The females are generally similar, but lack ventral cilia on the antenna, have a slightly broader apical margin on the forewing and have an anal tuft that is brush-like.

DISTRIBUTION: *Synanthedon kathyae* is endemic to eastern North America where it occurs from southern Nova Scotia and Maine southwestward mostly through the Appalachian region and Piedmont to Virginia, eastern Tennessee, western North Carolina, northern Georgia and northeastern Alabama. A disjunct group is present in Louisiana and southeastern Texas, and scattered records also occur for the Atlantic Coastal Plain to as far south as North Carolina. As of 2024, our records are heavily concentrated in the western Piedmont and at lower-elevations sites in the Blue Ridge. We have two additional records from the eastern Piedmont and coast.

FLIGHT COMMENT: The adults have been observed from April through August in different areas of the range, with the peak seasonal flight typically in June and July. Local populations in North Carolina have a short flight period, with all of our records as of 2024 from June, except for one late-season record from late-July.

HABITAT: Local populations are generally found in mesic or bottomland forests with hollies, as well as in residential neighborhoods with the host plants.

FOOD: The hosts in the wild are poorly documented. Ghidui et al. (1987) reported that there were heavy infestations of nursery grown holly cultivars and hybrid varieties at a nursery in New Jersey. American Holly (*Ilex opaca*) is thought to be an important native host based on its presence where specimens have been taken, but this has yet to be verified.

OBSERVATION\_METHODS: The diurnally-active adults are occasionally seen resting on vegetation or nectaring on flowers, but are rarely attracted to lights or bait. The adults have been successfully collected using artificial pheromone traps.

NATURAL HERITAGE PROGRAM RANKS: GNR [S2S3]

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

COMMENTS: This species appears to be uncommon in North Carolina, but may have been under collected due to its short flight period. Additional information is needed on its host plants, distribution and abundance before we can accurately assess its conservation status within the state.