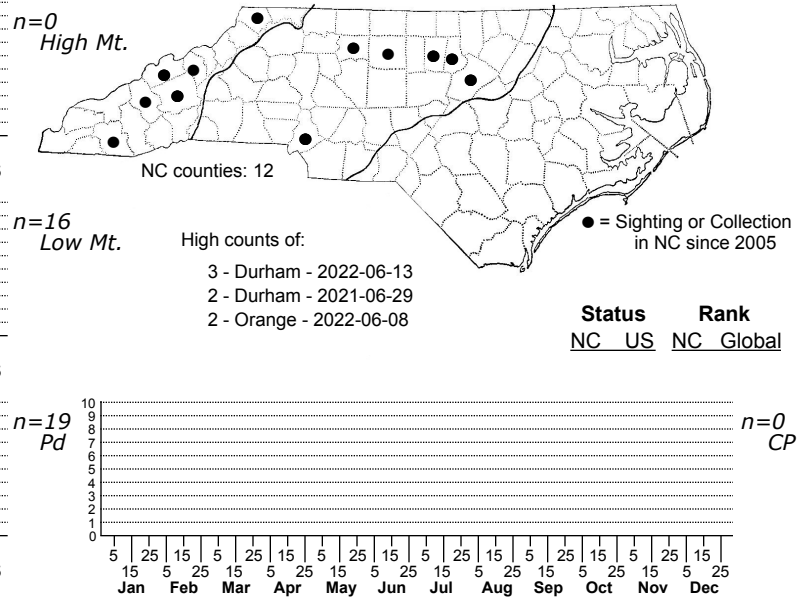
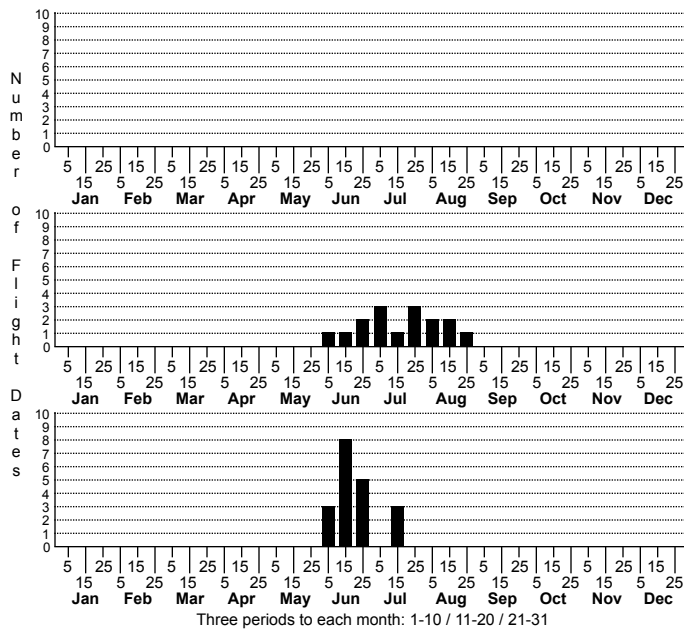


Carmenta bassiformis Ironweed Clearwing



FAMILY: Sesiidae SUBFAMILY: Sesiinae TRIBE: Synanthedonini

TAXONOMIC COMMENTS: Of the 136 or more members of the Sesiidae that occur in North American north of Mexico, 37 have been recorded in North Carolina. Some sesiids, known broadly as clearwing borers, are significant pests of commercial crops. The great majority are mimics of wasps and hornets.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Eichlin and Duckworth (1988)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The following description is based primarily on that of Forbes (1923) and Engelhardt (1946). In the males, the antenna is black with bluish reflections and often has a short area of buff shading near the tip. The palp is pale yellow with a blackish tip, while the head is black and the collar yellow. The thorax varies from black to bluish-black or coppery and has a long, thin, yellow stripe along the sides, along with tufts of yellow scales that extend from the metathorax. The black to violaceous-black abdomen is long and slender, and has fine yellow stripes on segments 1 to 4 and typically on 6 and 7. The large, fan-shaped, anal tuft is mostly lustrous black with yellow along the sides and through the center on the undersides. The forewing is transparent, with a narrow, metallic bronzy border, while the outer margin is rounded inwardly with dull, yellowish rays between the veins. The oblong discal mark is purplish-black and relatively straight. The hindtibia is yellow below, often mostly black above, while the tarsi are mostly yellow, with darker scaling often present on the joints. Females are generally similar, but the antenna has a more conspicuous buff to yellowish or whitish area before the tip, and the discal mark on the forewing is bronzy-brown instead of black. The abdomen is broader than that of the male, and there are two or three broad yellow bands that contrast with the remaining bands that are much narrower (segment 5 lacks banding altogether). The anal tuft is short and blunt relative to that of the male, and has black at the base, with orange to yellowish scales at the tip.

Carmenta bassiformis is most easily confused with *C. ithacae*. The latter tends to have the light mark on the antenna, the bands on the abdomen, and the lateral fringe on the anal tuft more whitish or yellowish-white, although the antennal mark on female *C. bassiformis* is often whitish. Female *C. ithacae* lack the prominent yellowish tip of the anal brush as seen in female *C. bassiformis*, and the whitish region below the tip of the antenna is generally shorter than that of female *C. bassiformis*. Both sexes of *C. ithacae* have hind tarsi with long black bands that alternate with shorter yellowish or whitish bands. In *C. bassiformis*, males have yellow hind tarsi while the females have alternating dark and yellowish bands on the tarsi, with the dark bands less prominent and boldly contrasting than those of *C. ithacae*. Size differences for a given sex are also useful, with *C. bassiformis* being larger and having minimal size overlap with *C. ithacae*.

DISTRIBUTION: *Carmenta bassiformis* is primarily restricted to the eastern US and in fringing areas of southern Ontario. In the US, the range extends from Connecticut and New York southwestward through the Piedmont and Appalachian region to Georgia and Alabama, and westward to eastern Texas, Arkansas, Missouri, Iowa and southern Wisconsin. This species is absent from most of the southeastern Coastal Plain. As of 2024, all of our records are from the Piedmont and lower elevations in the mountains.

FLIGHT COMMENT: The adults have been observed from May through September in different areas of the range. As of 2024, our records extend from early-June to late-August, with Blue Ridge populations having a longer flight period compared to those in the Piedmont.

HABITAT: Local populations are generally associated with mesic edge habitats, old fields, openings in bottomland sites and similar habitats that support rank weedy perennials.

FOOD: The larvae feed on species of ironweed (*Vernonia*) and possibly Joe-Pye-weeds (*Eutrochium*) (Forbes, 1923; Engelhardt, 1946; Covell, 1984). The reported hosts include Sweet Joe-pye-weed (*Eutrochium purpureum*), Arkansas Ironweed (*V. arkansana*), and New York Ironweed (*V. noveboracensis*). Surprising little work has been done to document the host plants since Engelhardt's (1946) work in New York. Engelhardt (1946) was unable to locate any larvae that were feeding on Joe-pye-weed, and questioned whether members of this genus are used as hosts. We do not have any feeding records in North Carolina.

OBSERVATION_METHODS: The adults are not attracted to lights. They are diurnal and can be found on flowers or resting on the upper surfaces of vegetation during the day. They are most active during the warmer hours of the day when they nectar on flowers, and can be found resting on foliage in the morning and late in the afternoon. The males are attracted to pheromone traps.

NATURAL HERITAGE PROGRAM RANKS:

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

COMMENTS:
March 2025

The Moths of North Carolina - Early Draft

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