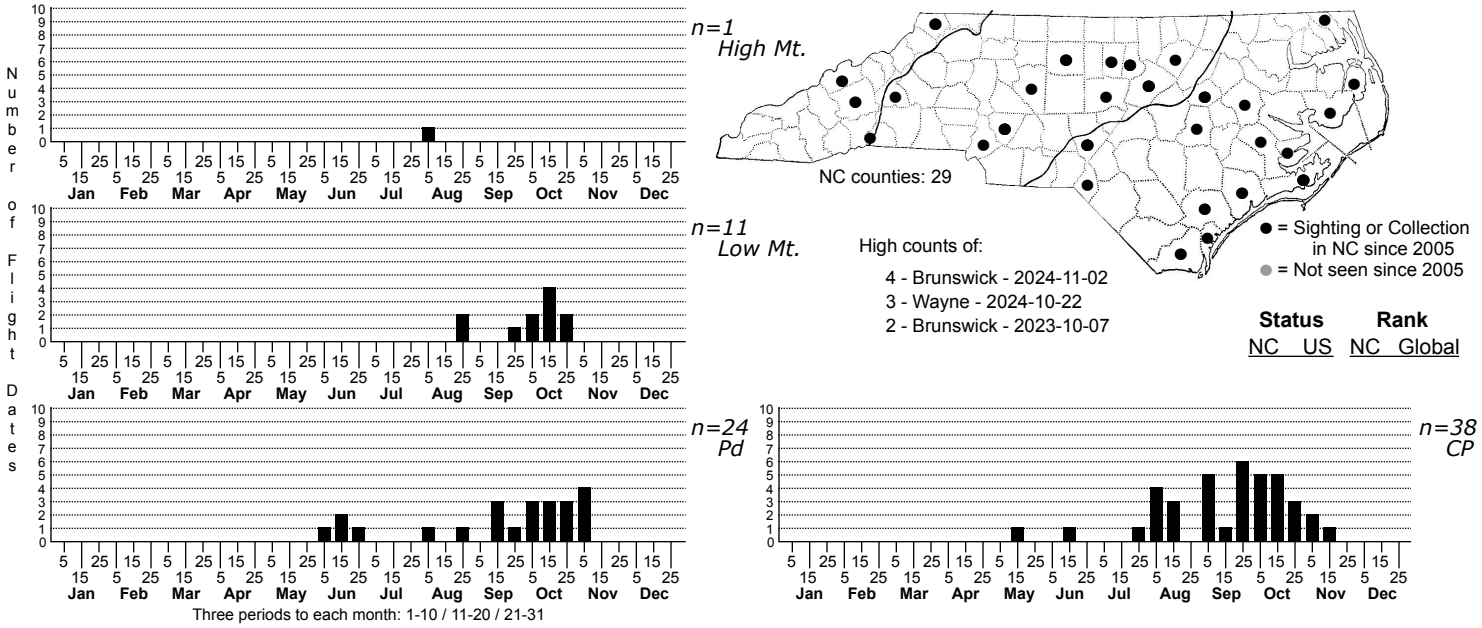
Herpetogramma bipunctalis Southern Beet Webworm Moth



FAMILY: Crambidae SUBFAMILY: Pyraustinae TRIBE: Spilomelini
TAXONOMIC_COMMENTS: Over 20 species of Herpetogramma have been described from North America that are based mostly on external morphology. The most recent treatment consolidates these into only nine species (Solis, 2010) and all nine occur in North Carolina.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Solis (2010)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Allyson (1984)

ID COMMENTS: In this species the head, thorax, abdomen and ground color of the wings are all concolorous and are typically tan or dull yellowish-brown. The markings on the forewing are either dark brown or blackish. They include a small, solid, black orbicular spot, a slightly larger and black reniform spot, and a slightly irregular antemedial line at around one-fourth the wing length that angles basally just before reaching the costa. The area between the orbicular and reniform spots is not noticeably white as seen in some Herpetogramma species. The postmedial has a straight portion that projects from the costa inward and meets a rectangular toothed portion that projects outward. From there the line runs a short distance basally and roughly parallel to the inner margin before sharply angling away from the reniform spot and running to the inner margin. A heavy dark brown shade occurs along the costa to the apex, then continues as a broad subterminal band that narrows towards the tornus. A gap of lighter ground color is present between the band and the postmedial line. The hindwing is similar, but lacks the antemedial line and reniform spot. A discocellular dot is present and the postmedial line is similar to that of the forewing. Both the forewing and hindwing have a pale fringe with a narrow dark basal line that may be either complete or dashed.

This species is best separated from our other Herpetogramma species by the absence of a noticeably white area between the orbicular and reniform spots, and in having a light-colored gap between the postmedial line and the darker subterminal shading. Herpetogramma fluctuosalis is very similar but lacks the two prominent dark brown spots on sternite 2 of the abdomen.

DISTRIBUTION: Herpetogramma bipunctalis is found in eastern and south-central North America, including southern Canada (Ontario; Quebec; Nova Scotia) and the U.S. from Maine southward to southern Florida, and westward to New Mexico, southern Arizona, Texas, Oklahoma, Kansas, Nebraska, Iowa and Minnesota. The natural range also extends southward through Central America and the Caribbean to southern South America. Herpetogramma bipunctalis has been introduced to other areas of the world, including sub-Saharan Africa, India, southeastern Asia and Malaysia where it is often a major agricultural pest. This species occurs statewide in North Carolina.

FLIGHT COMMENT: The adults fly year-round in Florida and from May through December elsewhere, with a peak in activity from July through October. As of 2023, our records extend from mid-May through mid-November. Local populations in North Carolina appear to have two or more overlapping generations per year.

HABITAT: Local populations are often found in farmland, disturbed sites, and fragmented landscapes, including residential neighborhoods. We also have records from more natural habitats such as xeric pinelands in the Sandhills and mesic sites in the Blue Ridge.

FOOD: The larvae are highly polyphagous and feed on a taxonomically diverse array of plant hosts, including many crop species around the world. Subramoniam et al. (2018) surveyed the literature and reported 47 species from 16 families, with the Solanaceae (18 species), Chenopodaceae (15 species) and Amaranthaceae (15 species) having the most host species. Representative hosts that are more relevant to North Carolina include crops such as beets, cauliflower, cabbage, eggplant, soybean, alfalfa, corn, and cotton. Many of the other reported hosts are weedy and often found in or around agricultural fields or in waste places (Heppner, 2007; Allyson 1984; Robinson et al. 2010; Handfield and Handfield, 2021). Examples include Redroot Amaranth (Amaranthus retroflexus), Spiny Amaranth (A. spinosus), and Smooth Pigweed (A. hybridus). Other genera that are used include Ambrosia, Chionanthus, Fragaria, Hydrocotyle, Mikania, Schisandra and Solanum. The larvae began exploiting Alligator-weed (Alternanthera philoxeroides) soon after this invasive, aquatic species was introduced to the Southeast. Local populations of H. bipunctalis can reach high densities at aquatic sites where Alligator-weed prevails and cause significant defoliation of leaves that are above the water line.

OBSERVATION_METHODS: The adults are attracted to lights.

NATURAL HERITAGE PROGRAM RANKS: GNR S4S5

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

COMMENTS: This species is high polyphagous and thrives in disturbed habitats. It appears to be secure in North Carolina.