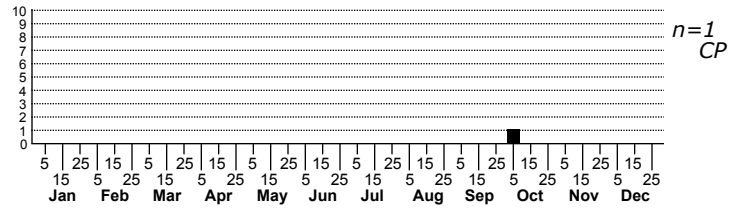
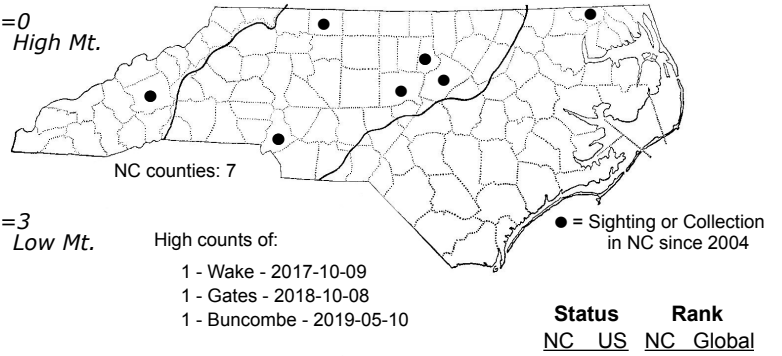
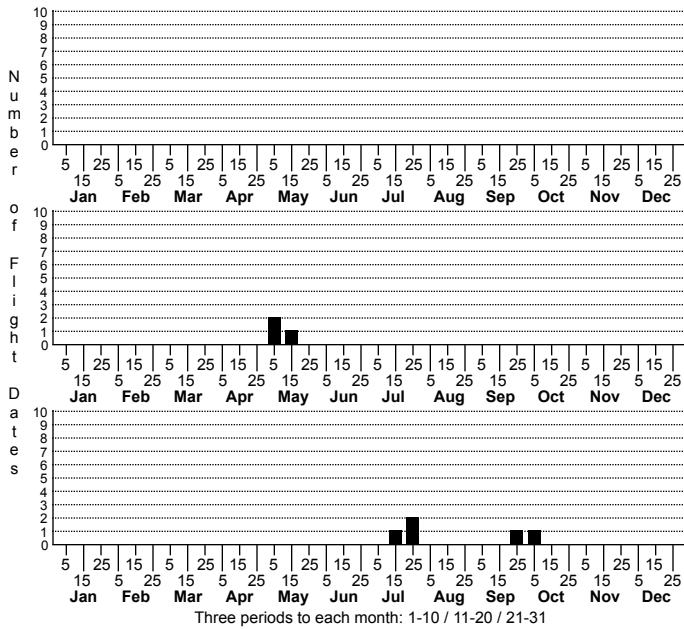


Stigmella nigriverticella No common name



FAMILY: Nepticulidae SUBFAMILY: TRIBE:

TAXONOMIC COMMENTS: *Stigmella macrocarpae* and *S. nigriverticella* are two closely related species that appear to be members of a species complex that may contain one or more undescribed species. Chambers (1878) originally described a form with a broad fascia near the middle of the forewings as *Nepticula latifasciella* (= *Stigmella latifasciella*), and later *S. macrocarpae*. He also described a second form (Chambers, 1875) with an even broader, less well-defined, and more diffuse band as *N. nigriverticella* (= *S. nigriverticella*). North American experts have traditionally treated the narrow-banded form as *S. macrocarpae* (e.g., Newton and Wilkinson 1982), and most specimens from North Carolina appear to be this form. However, a recent revision of the Nepticulidae (Van Nieuwerkerken et al. 2016) reinterpreted the narrow-banded form as being *S. nigriverticella* rather than *S. macrocarpae*. The genitalia appear to be identical for *S. macrocarpae* and *S. nigriverticella* (Newton and Wilkinson 1982) and DNA analyzes reveal at least seven major lineages (BINS) within the two recognized species. Both *S. macrocarpae* and *S. nigriverticella*; sensu Van Nieuwerkerken et al. 2016) are recognized in the latest North American checklist (Pohl and Nanz, 2023), and we recognize both with the caveat that additional taxonomic changes may occur in the future.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS:

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: *Stigmella nigriverticella* is a distinctive species that is mostly creamy white with a contrasting dark sub-basal band on the forewing, along with a slightly wider dark band on the apical third of the wing. The scale tuft on the face is ochereous to dull-white, while the tuft on the vertex is dark-brown or blackish. The collar, eye-cap, thorax, and extreme base of the forewing are creamy white to buff-white. The remainder of the forewing is dark-brown to blackish, except for a broad buff-white band near the middle that is about as wide as the sub-basal dark band that adjoins it. The cilia along the terminal margin are creamy-white, but often fade to light gray around the inner margin and costa. Both the hindwing and cilia are light gray. This species is generally similar to *S. macrocarpae*, but has a relatively narrow white band near the middle of the wing that is about the same width as the blackish sub-basal band that adjoins it. In *S. macrocarpae*, the white band is about twice as wide as the blackish sub-basal band.

DISTRIBUTION: *Stigmella nigriverticella* is found in eastern North America, including southern Canada (Ontario; Quebec; Nova Scotia), and in the U.S. from New Hampshire and Massachusetts southward mostly through the Appalachian and Piedmont regions to northern Georgia, northern Alabama and northern Mississippi, then westward to central Texas, central Oklahoma, southern Colorado, and Arkansas. The range also extends westward farther north from the New England states through Ohio to Illinois. As of 2024, we have records from the central Blue Ridge, Piedmont and northern Coastal Plain.

FLIGHT COMMENT: local populations appear to produce 1-3 broods per year depending on the latitude and local climatic conditions. Specimens have been documented from April through September in different areas of the range. As of 2024, our records extend from early-May through early-October.

HABITAT: Local populations are generally associated with hardwood forests with oaks, including semi-wooded residential neighborhoods.

FOOD: The larva feed on oaks (Eiseman, 2022), with the known hosts including Bear Oak (*Q. ilicifolia*), Northern Red Oak (*Q. rubra*) and Black Oak (*Q. velutina*). Tracy Feldman found a mine on Cherrybark Oak (*Q. pagoda*) in Durham County. Erik van Nieuwerkerken (see Eiseman, 2022) has also found mines that appear to be this species on White Oak (*Q. alba*) and Chestnut Oak (*Q. montana*), but these have not been confirmed based on DNA barcoding.

OBSERVATION_METHODS: The adults are attracted to lights and the mine can be found on oak leaves.

NATURAL HERITAGE PROGRAM RANKS: GNR[S3S4]

STATE PROTECTION:

COMMENTS: This species appears to be fairly common in many areas of the state, but more information is needed on its distribution and abundance before we can accurately assess its conservation status.