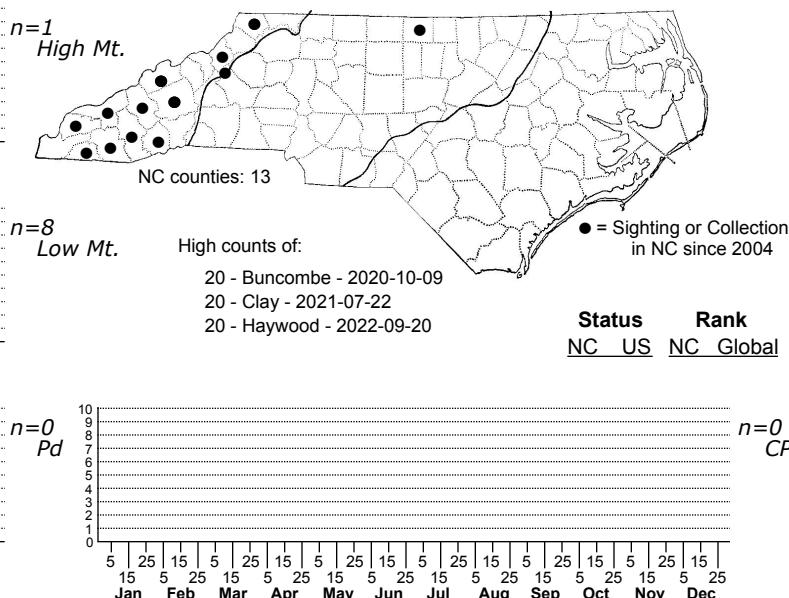
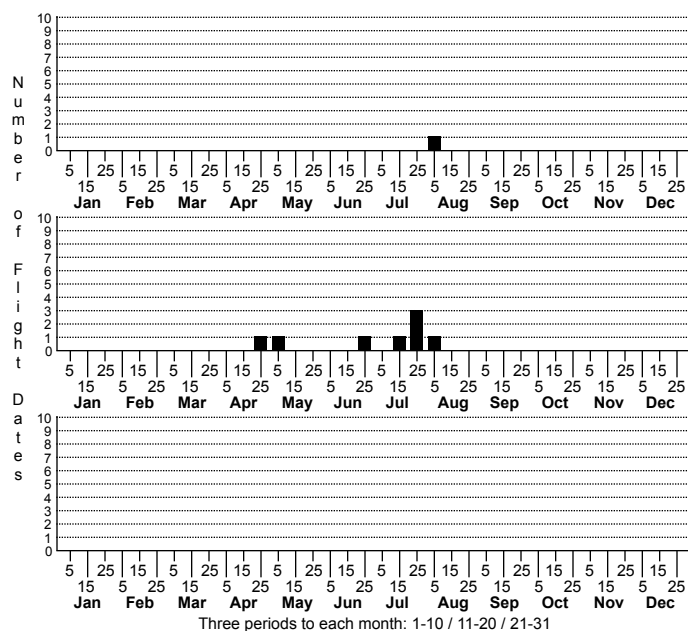


## *Phyllonorycter lucetiella* Basswood Miner Moth



FAMILY: Gracillariidae SUBFAMILY: TRIBE:

TAXONOMIC\_COMMENTS: *Phyllonorycter* is a genus of small and often colorful moths, with 79 described species in North America. The larvae of most form underside tentiform mines on woody plants and pupate within the mines.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS:

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The following is primarily based on the descriptions in Clemens (1859) and Forbes (1923). The antenna, head, tufts, thorax, and basal half of the forewing are white to silvery white, while the apical half of the forewing is suffused with golden. A faint, narrow, golden costal streak extends from the base to about one-third the forewing length. At about the middle, there is a white fascia that is bordered on the anterior margin by a thin line of black scales (sometimes missing or faintly present). These terminate on the costa, where they are more prominent and usually form a small black spot. At the beginning of cilia there is a pair of white streaks that are black-margined anteriorly. The dorsal streak is oblique and prominently marked with blackish scales on the anterior margin. The costal streak is much shorter and margined anteriorly with blackish scales that form a well-developed spot. The golden ground color extends from just anterior to the median fascia to the paired streaks, then as a small region of golden scales that occurs just posterior to the gap between the dorsal and costal streaks. The cilia and remaining area posterior to the streaks is mostly white, or white with suffused golden coloration. The legs are white to silvery white and lack any conspicuous dark markings.

DISTRIBUTION: *Phyllonorycter lucetiella* is found in eastern North America, including southern Canada (Ontario; Quebec) and through many areas of the eastern US. This species tends to have northern affinities, with most records occurring from Minnesota eastward to the northeastern states, and then south or southwestward to Pennsylvania, eastern Kentucky, eastern Tennessee, and western North Carolina. Populations in the Florida panhandle appear to be disjuncts. As of 2023, our records are mostly from the Blue Ridge, with two additional records from the Piedmont.

FLIGHT COMMENT: Local populations appear to be bivoltine, with a peak in the initial brood in July, and a second peak in September-October.

HABITAT: *Phyllonorycter lucetiella* is monophagous on American Basswood, which is typically found at forested sites with rich, circumneutral soils. Typical habitats include rich cove forests and forest slopes in the mountains and Piedmont. In the Coastal Plain, American Basswood is mostly found in forests that grow over marl, shell middens, or bluffs with circumneutral soils.

FOOD: American Basswood (*Tilia americana*) is the only native host. Eiseman (2019) also reported this species using an ornamental hybrid Tilia (*T. × europaea*).

OBSERVATION\_METHODS: The adults occasionally visit lights, but many records are based on the leaf mines that are rather conspicuous on *Tilia* leaves. We encourage naturalists to search for the leaf mines during the summer and early autumn months. Backlit images are helpful in distinguishing this species from *P. tiliacella*.

NATURAL HERITAGE PROGRAM RANKS: GNR [S4]

STATE PROTECTION:

COMMENTS: This species seems to be primarily restricted to the mountains in North Carolina given its northern affinities. The mines are rather common on American Basswood at mid-elevational sites in the mountains.