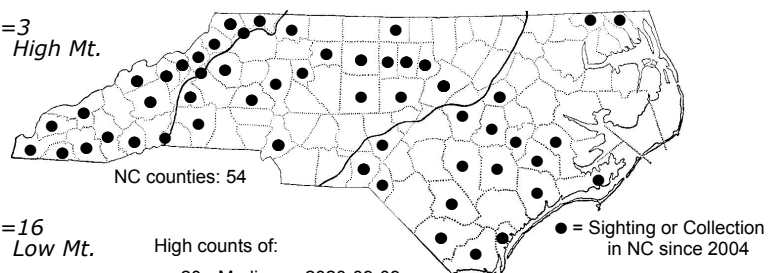
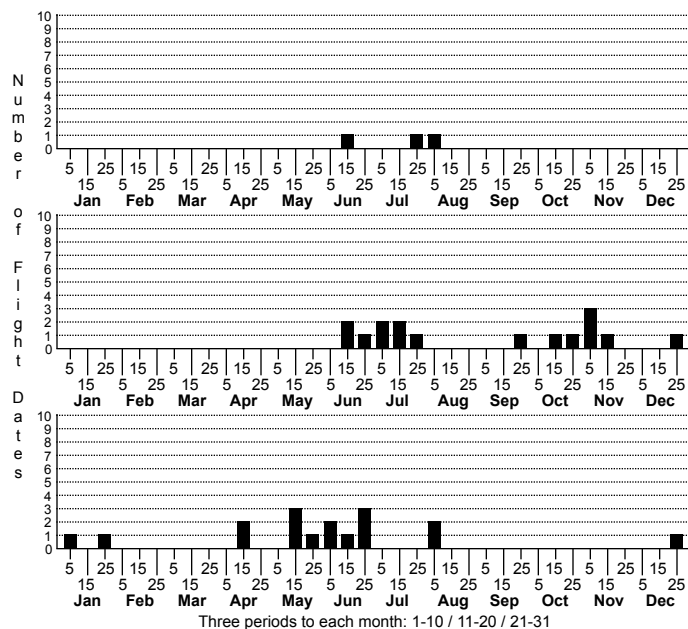
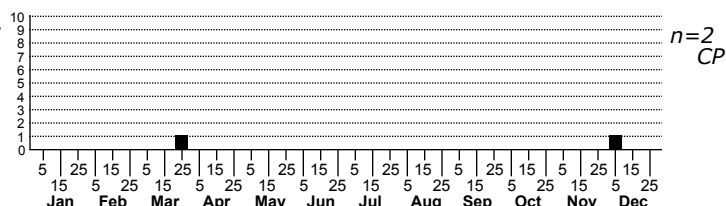


Phyllocnistis liriodendronella Tulip-tree Leafminer



High counts of:
 20 - Madison - 2020-09-09
 20 - Graham - 2021-07-21
 20 - Jackson - 2021-09-09

Status	Rank
NC	US
NC	Global



FAMILY: Gracillariidae SUBFAMILY: Phyllocnistinae TRIBE: [Phyllocnistini]

TAXONOMIC COMMENTS: *Phyllocnistis* is a large genus with more than 125 described species worldwide, with 16 species currently recognized in North America. Davis and Wagner (2011) surmised that there may be hundreds of undescribed species in the neotropics. The adults of some species are very similar, and knowledge of the host plant and mine characteristics is helpful in identifying morphologically similar species (Eiseman, 2019).

Phyllocnistis liriodendronella and *P. magnoliella* are two previously recognized species that have a longitudinal golden streak from the base to the middle of the forewing. According to Forbes (1923), brown edging occurs along the golden streak in *P. liriodendronella*, but is absent in *P. magnoliella*. Forbes also noted that *P. liriodendronella* is a specialist on the Tuliptree (*Liriodendron tulipifera*), while *P. magnoliella* specializes on several species of native magnolias (*Magnolia*). Eiseman (2019) raised specimens from both *Liriodendron* and *Magnolia* in Massachusetts and found that the adults of both conformed to Forbes's description of *P. liriodendronella*. A colleague of Eiseman also found just one species on *Liriodendron* and *Magnolia*. Jim Petranks reared specimens from *Liriodendron* and *Magnolia* mines from Madison County that also were indistinguishable and conform to *P. liriodendronella* as described by Forbes (1923). In the latest North American checklist (Pohl and Nanz, 2023), *P. magnoliella* was synonymized with *P. liriodendronella*.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1923), Eiseman (2021).

TECHNICAL DESCRIPTION, IMMATURE STAGES: Eiseman (2021).

ID COMMENTS: In this species, the base color of the forewing is silvery white with golden yellowish patches and streaks on the apical third. About midway, there is a matching pair of oblique costal and dorsal streaks that converge near the middle to form either a complete and incomplete posteriorly angled fascia. The streaks are golden-yellow and have well-defined dark margins. A broad, golden-yellow longitudinal streak, often with less prominent dark margins on both sides, extends from the wing base to near the apex of the fascia. This streak may sometimes fused with the fascia. A smaller broad golden-yellow costal streak occurs just posterior to the apex of the fascia. This streak runs nearly perpendicular to the costa, has a faint dark margin on the posterior edge, and often extends to the apex of the fascia. Beyond this streak, there are three short subapical dark lines with surrounding golden-yellowish wash, and a conspicuous apical spot. The dark lines run roughly perpendicular to the costa and into the fringe. In addition to these, two or three rather poorly defined dark lines are often evident in the apical fringe, along with a dark line that begins at the apical spot and arches anteriorly. *Phyllocnistis liriodendronella* is the only species of *Phyllocnistis* in our area that has a longitudinal golden streak from the base to the middle of the forewing.

DISTRIBUTION: *Phyllocnistis liriodendronella* is widely distributed in eastern North America, including portions of southern Canada (Ontario; Quebec) and much of the eastern U.S. where the range extends from southern Maine to southern Florida, and westward to eastern Texas, Arkansas, western Kentucky, Indiana, Wisconsin and southern Minnesota. This species is common at low to mid-elevations in the mountains, but less so in the Piedmont and Coastal Plain.

FLIGHT COMMENT: The flight period in NC extends from late March through early November. We also have records from December and January that reflect overwintering adults. Many populations in North Carolina appear to be bivoltine.

HABITAT: Generally found in forest communities that support *Liriodendron* and native magnolias, particularly Mesic Mixed Hardwood Forests and Rich Cove Forests.

FOOD: The larvae specialize on members of the Magnoliaceae, with the native hosts including Tuliptree (*Liriodendron tulipifera*) and native magnolias. As of 2023, we have records of leaf mines on five of our six native magnolias: Cucumber Magnolia (*M. acuminata*), Fraser's Magnolia (*M. fraseri*), Southern Magnolia (*M. grandiflora*), Umbrella Magnolia (*M. tripetala*), and Sweetbay Magnolia (*M. virginiana*).

OBSERVATION METHODS: The easiest way to document local populations is by searching for the distinctive mines on the host plants. Adults can be collected by holding leaves with mature mines until eclosion. The adults also occasionally come to lights at night.

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 was previously thought to be uncommon in the state, but increased effort to document leafminers have yielded numerous new records. The host plants are common forest and successional species in North Carolina and populations of *P. liriodendronella* appears to be secure.