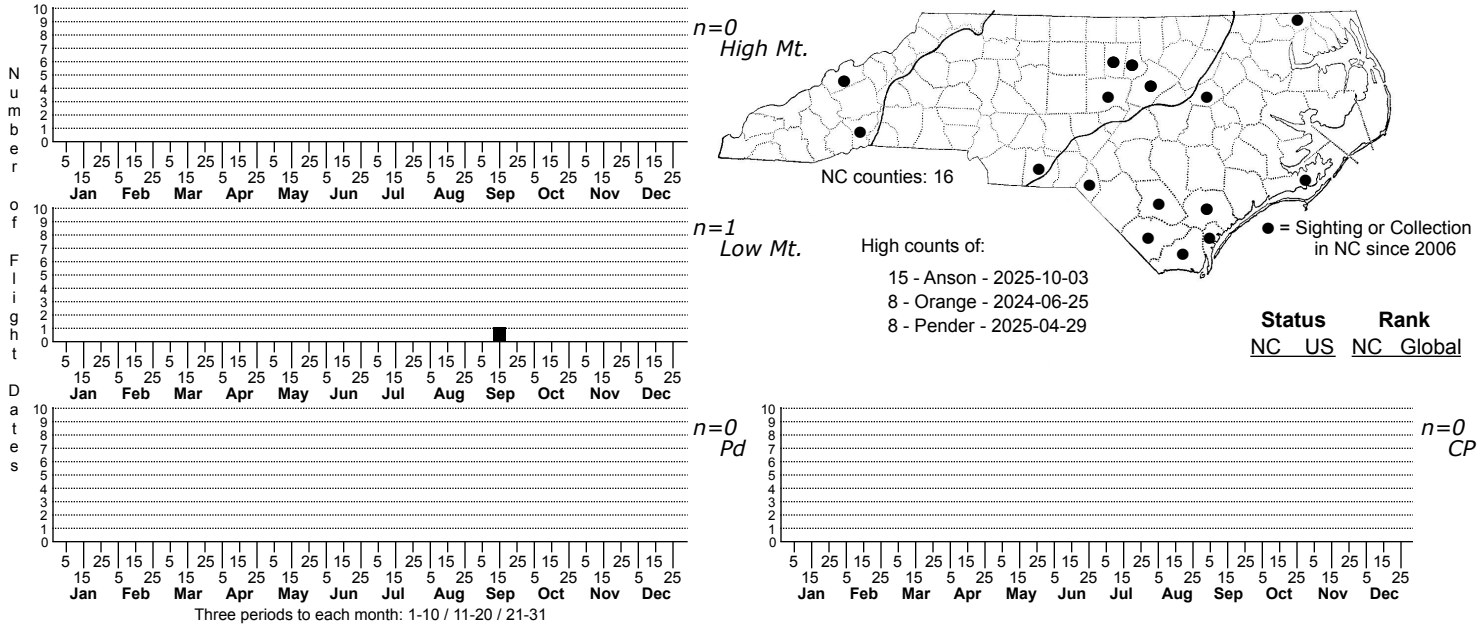
Micrurapteryx salicifoliella Willow Leafblotch Miner Moth



FAMILY: Gracillariidae SUBFAMILY: Gracillariinae TRIBE: [Gracillariini]
TAXONOMIC_COMMENTS: The genus Micrurapteryx contains 12 recognized species that are all restricted to the Holarctic Region. Most occurring in the Palearctic Region and only two in North America. The larvae mine the leaves of legumes and willows.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Chambers (1872); Forbes (1923).
TECHNICAL DESCRIPTION, IMMATURE STAGES: Eiseman (2019); Furniss et al. (2001)

ID COMMENTS: The following is primarily based on descriptions in Chambers (1872) and Forbes (1923). The face is white and the maxillary palp blackish. The labial palp is white with the second joint mostly suffused with black, and the third joint with black rings at the base, middle, and apex. The vertex is mostly white, but suffused with brown in the front, and with a blackish patch at the base of the dark brown antennae. The thorax and dorsal portion of the forewing is white, while the costal portion is blackish brown. The line of demarcation between the white dorsal portion and dark costal portion is scalloped, with three or four bulges. There are usually five white costal streaks or strigulae. The first is a long thin streak that begins on the costa at about one-fourth and curves posteriorly towards the inner margin. The second often begins confluent with the first and extends along the costa a short distance before broadening near its terminus. This is followed by three short strigulae that tend to converge towards a common point near the middle of the wing. Individuals are variable, and some may lack one or more of the streaks or strigulae. There is a rather indistinct brown apical spot at the base of the cilia. The cilia are whitish with a well defined dark marginal line at the base. A second dark line is often evident just below the apex of the cilia, and there are usually two extended dark fingers of fringe that produce tail-like features. The legs have black and white barring. Micrurapteryx occulta closely resembles M. salicifoliella, but tends to have more white strigulae along the costal margin that are more pronounced. These species also differ in their mine morphology and host plants (legumes versus willows).

DISTRIBUTION: Micrurapteryx salicifoliella is broadly distributed across North America from Alaska to Quebec. In the eastern US, it occurs in the northeastern states southwestward to at least Tennessee and North Carolina. In the West, populations occur as far south as California and Arizona.

FLIGHT COMMENT: Populations appear to be univoltine at northern latitudes, and possibly bivoltine farther south. In Alaska, oviposition occurs in late May and the adults emerge in late July and August. The phenology is similar in Illinois, but with adults of a possible second generation emerging in October (Eiseman, 2019). As of 2020, we have records of leaf mines and a reared adult that extend from July through mid-September.

HABITAT: This species requires willows as hosts, which are found in a variety of moist to wet habitats that are not heavily shaded. Silky Willow and Black Willow appear to be the most important hosts in North Carolina. Look for these in open, sunny habitats such as wet ditches, and along the margins of streams, ponds, and marshes.

FOOD: The larvae feed on willows, including at least 16 native and introduced species (Furniss et al., 2001; Eiseman, 2022). Several of the known hosts occur in North Carolina, including White Willow (Salix alba), Weeping Willow (S. babylonica), Black Willow (S. nigra) and Silky Willow (S. sericea). In North Carolina, we have mine records from Coastal Plain Willow (S. caroliniana), Silky Willow and Black Willow.

OBSERVATION_METHODS: The adults occasionally visit lights and the mines are conspicuous on willow leaves.

NATURAL HERITAGE PROGRAM RANKS: G5 S2S4

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

COMMENTS: As of 2020, we have only a few scattered records for this species in the state, where it appears to be near the limit of its southern range in the eastern US. Additional information on the distribution and abundance of this species is needed before we can assess its conservation status.