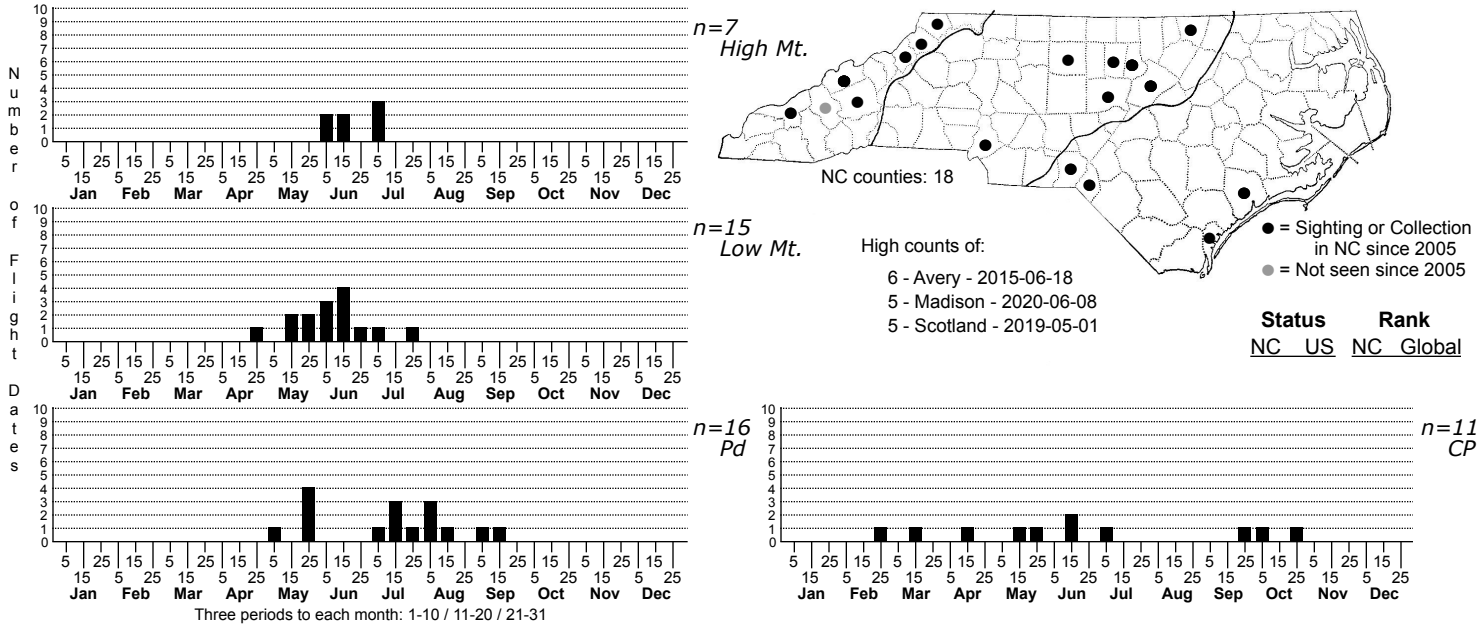
Neurobathra strigifinitella Finite-channeled Leafminer Moth



FAMILY: Gracillariidae SUBFAMILY: Gracillariinae TRIBE: [Gracillariini]
TAXONOMIC_COMMENTS: Neurobathra is a small genus of leaf-mining moths with only three described species in North America. Of these, N. strigifinitella is the only species that occurs in North Carolina.

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Heinrich and DeGryse, 1915; Forbes, 1923
TECHNICAL DESCRIPTION, IMMATURE STAGES: Heinrich and DeGryse, 1915

ID COMMENTS: The following description is primarily based on Heinrich and DeGryse (1915) and Forbes (1923). The palps are smoothly scaled and are yellowish white with brown barring. The maxillary palps are very small and less than a fifth as long as the upturned labial palps. The head and antenna are dull brown, and the antenna slightly exceeds the length of the body. The forewing is long and narrow and has complex patterning. The ground color varies from light brown to grayish brown and is striated obliquely from both margins with white striae that are edged with black. These tend to alternate with heavier solid black streaks or blotches. The three or four white streaks that originate from the dorsal margin are generally larger and more prominent that those from the costal margin. There is a conspicuous dark eyespot near the apex. Adjoining this dorsally, there is a short, fine, white longitudinal streak that in turn adjoins a prominent dark bar in the cilia. Beyond this, a thinner dark line is usually evident in the cilia. The hindwing is brownish gray, and the legs show varying levels of white and blackish banding. Despite the complex patterning, this species is easy to identify given its elongated, narrow wings, long antennae, recurved palps, apical eyespot, and the dark bar in the cilia.

DISTRIBUTION: Neurobathra strigifinitella is found in eastern North America, including Ontario, Quebec, and much of the eastern US. Populations are common and widespread east of the Mississippi River, with only a few scattered populations in Oklahoma and Texas. This species occurs statewide in North Carolina, but populations appear to be more common in the mountains and Piedmont where deciduous forests predominate.

FLIGHT COMMENT: Many local populations are multivoltine. The adults are most active between May and September, with each brood requiring about a month to complete (Heinrich and DeGryse, 1915). Populations in the mountains appear to have a more restricted breeding season relative to those farther east. The adults of the final brood overwinter and are sometimes active during the late winter in warm climates. As of 2020, we have records from February through October.

HABITAT: Local populations are associated with deciduous forests or urban landscapes with chestnuts, oaks, and beech. American Chestnut appeared to be an important host species prior to its decline (Heinrich and DeGryse, 1915). Populations today rely more on oaks as hosts.

FOOD: Larvae feed on members of the Fagaceae, including American Beech (Fagus grandifolia), American Chestnut (Castanea dentata), Allegheny Chinquapin (C. pumila), and several species of oaks (Robinson et al., 2008). As of 2024, the documented hosts in North Carolina include Northern Red Oak (Quercus rubra), Southern Red Oak (Q. falcata), Turkey Oak (Q. laevis), Blackjack Oak (Q. marilandica), Water Oak (Q. nigra), Pin Oak (Q. palustris), Willow Oak (Q. phellos), Black Oak (Q. velutina), and Live Oak (Q. virginiana). We also have one record for Allegheny Chinquapin.

OBSERVATION_METHODS: The adults regularly visit lights and the leaf mines are often common on oaks and other hosts.

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 seemingly common and widespread across much of the state where oaks and other hosts are present.