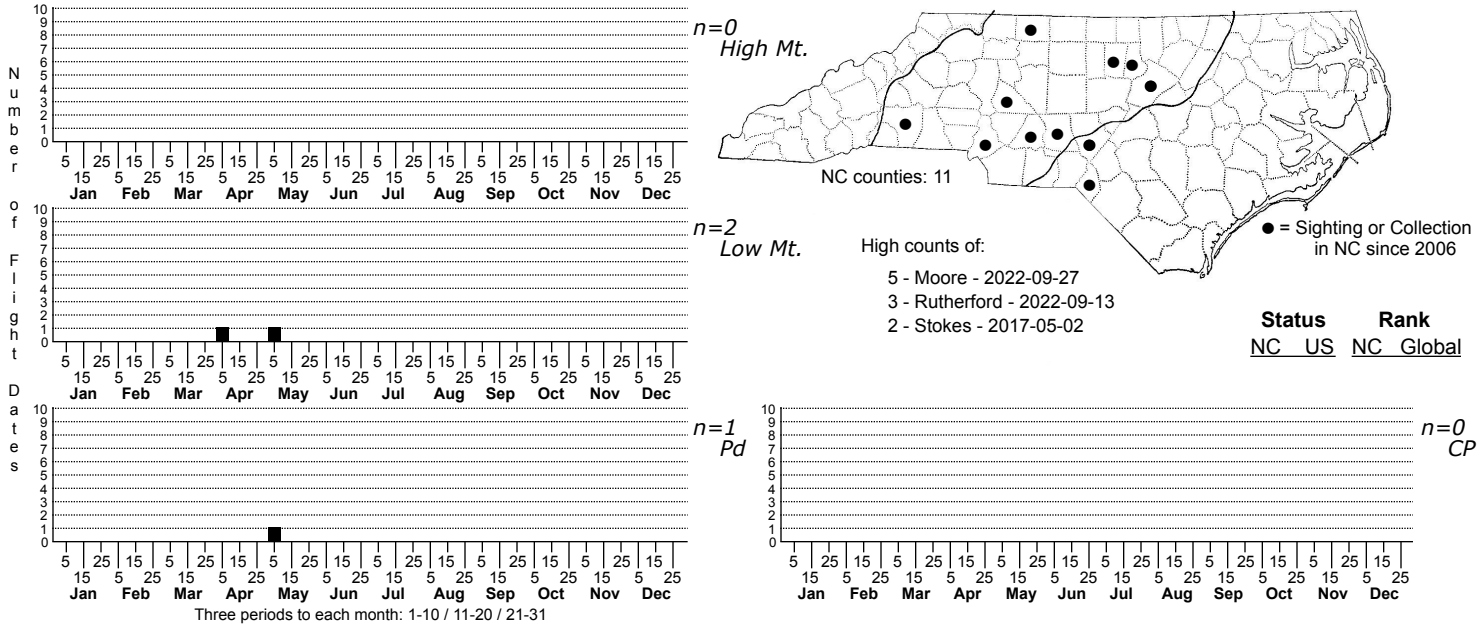
Antispila nysaefoliella Tupelo Leafminer Moth



FAMILY: Heliozelidae SUBFAMILY: TRIBE:
TAXONOMIC_COMMENTS: Antispila is one of the largest genera within the Heliozelidae, and there are 12 described species in North America. A recent molecular analysis of the family revealed that the genus is polyphyletic with three genetically distinct groups that do not cluster together (Milla et al., 2018). About half of the currently recognized species will likely be assigned to other genera in the future.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Clemens (1860a)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Clemens (1860a)

ID COMMENTS: The following description of the adults is based on Clemens (1860a) and LaFontaine (1973). The dorsum of the head is dark brown, while the face and labial palps are yellowish ochreous. The antenna is dark brown, with a basal joint that is yellowish ochreous. The forewing is dark brown with bright coppery reflections. Near the base is a rather broad, bright golden to silvery fascia that is broadest on the inner margin, where it is nearer the base relative to the costal end. The fascia is constricted at the fold of the wing and widest on both ends. A triangular-shaped costal spot of the same hue is present at the apical third of the wing. A matching and slightly larger triangular spot occurs on the inner margin, and is nearly midway between the costal spot and the basal fascia. This spot often extends over half way to the costa. The gray basal half of the fringe contrasts strongly with the bright coppery reflections of the wing and with the light buff hue of the outer half of the fringe. The hindwing is purplish brown with grayish ochreous cilia. The tuft of bristles on the underside of the forewings of the male is a light lemon yellow. Antispila nysaefoliella is difficult to distinguish from several closely related species (e.g., A. isabella, A. freemani, A. cornifoliella, and A. viticordifoliella) based on photographic images. LaFontaine (1973) noted that this species can be distinguished from the dogwood-feeding species by the absence of a light tip on the antenna, and by their golden thorax. This species is best identified by using DNA markers, genitalia, or host plants (Nieukerken et al. 2012).

DISTRIBUTION: Antispila nysaefoliella is primarily found in the eastern US, but the range extends into southern Ontario. Populations occur locally where the host plants (Nyssa) are found, and occur from the lower New England states south and southwestward to Florida and the gulf Coast states. Populations have been found as far west as eastern Texas and Arkansas. As of 2019, our records are from the western Coastal Plain and eastern Piedmont. This species likely occurs throughout much of the state, but has been undercollected.

FLIGHT COMMENT: The flight season in North Carolina is poorly documented. Low (2008) reported a peak larval period in northern Virginia from late August-early Sept. Records from elsewhere in the eastern US are from April-October.

HABITAT: Local populations are strongly affiliated with forest habitats that have Black Gum and Swamp Tupelo. Black Gum is most prevalent in dry to mesic forests, but also occurs in bottomlands, pine flatwoods, and savannas. Swamp Tupelo occurs in a variety of wet habitats in the Coastal Plain, including blackwater floodplains, swamps, pocosins and bays.

FOOD: Black Gum (Nyssa sylvatica) appears to be the primary host (Eiseman, 2022), but leaf mines have also been found on Swamp Tupelo (N. biflora) in North Carolina.

OBSERVATION_METHODS: The adults occasionally visit lights. The leaf mines with their characteristic oval cut-outs can be readily observed during the late summer and fall months and are a useful way to document the distribution of this species within the state. Clemens (1860a) noted that the mines are often abundant on Black Gum.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S3

STATE PROTECTION:

COMMENTS: As of 2019, we have only a few records for North Carolina. This likely reflects that lack of effort to document leaf-mining moths in the state.