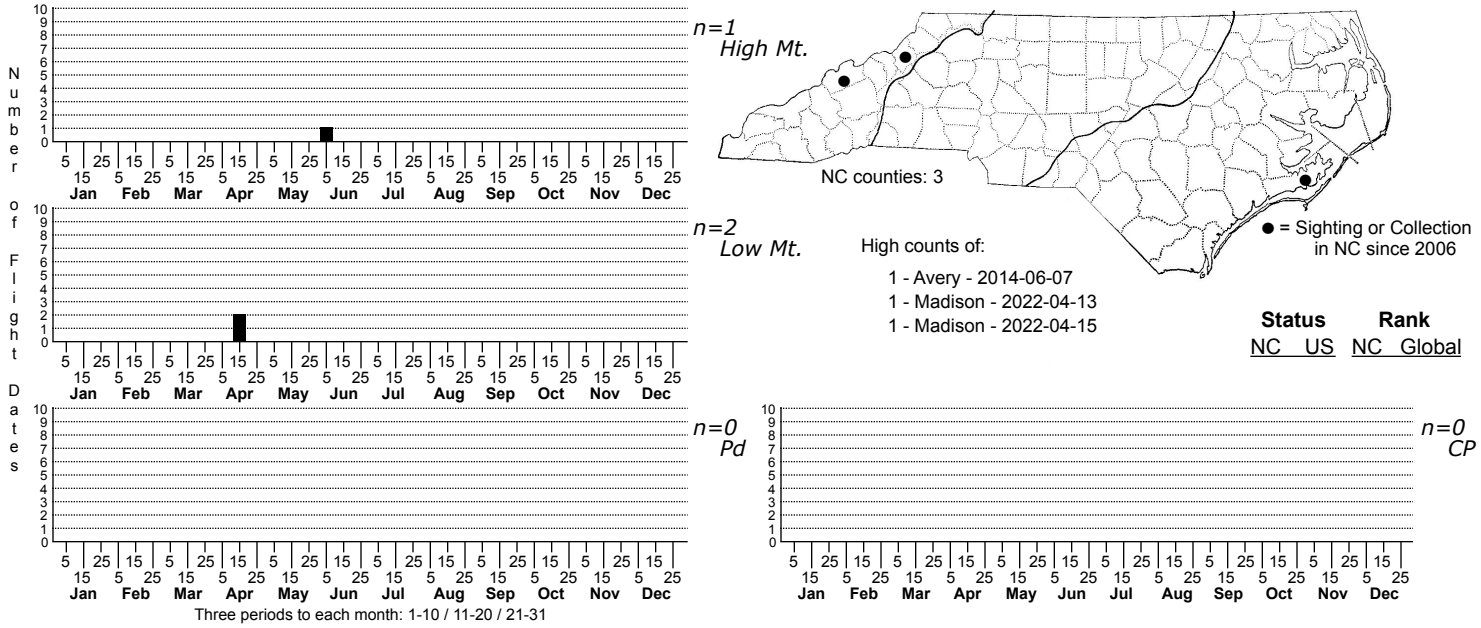
Stigmella rhamnicola None



FAMILY: Nepticulidae SUBFAMILY: TRIBE:
TAXONOMIC_COMMENTS: Members of the genus Stigmella are a group of small leaf-mining moths that typically create linear mines, although a few species form linear-blotch or blotch mines. Newton and Wilkinson (1982) recognized 51 species in their revision on the North American fauna, and new discoveries have since raised the total to around 57 species. Almost all species are specialists and rarely use more than one genus of host plants. Host-specificity, mine characteristics, and genitalic differences are helpful in recognizing closely related forms that are externally similar.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Braun, 1917; Newton and Wilkinson, 1982.
TECHNICAL DESCRIPTION, IMMATURE STAGES: Braun, 1917; Newton and Wilkinson, 1982; Eiseman, 2019.

ID COMMENTS: The following is based on the description provided by Braun (1917) and Newton and Wilkinson (1982). This species has two seasonal morphs that are associated with the summer and overwintering generations. These morphs are similar in overall coloration and patterning, except that the tuft and collar are off-white in the summer generation versus dark-brown to blackish in the overwintering generation. The antenna is black and narrowly ringed with pale gray, while the eye-caps are creamy buff. The thorax is creamy buff, and the patagia dark brown. The forewing is brown, with the tips of the scales blackish. At the basal third of the wing there is a cream colored to buff fascia with its edges often indented by dark scales. At two-thirds of the wing length there is a somewhat shiny silvery fascia. The cilia are pale gray and whitish around the apex. The hindwings and cilia are gray. The front and middle legs are ocherous and somewhat shaded with gray, while the hind legs are predominantly gray. The abdomen is brown above and paler beneath. The off-white thorax is distinctive and helps to separate this species from all other Stigmella with two fasciae, except S. gossypii, which is restricted to southern Florida.

DISTRIBUTION: Stigmella rhamnicola is found in southeastern and south-central Canada (Saskatchewan, Manitoba, Ontario, Quebec) and the eastern US, including Vermont, Massachusetts, Connecticut, Wisconsin, Ohio and North Carolina (Eiseman, 2019). This species uses buckthorns (Rhamnus spp.) as a host and its range appears to have expanded since the introduction and spread of several species of non-native Rhamnus in the US and Canada. There are now many records for mines on R. cathartica, which is widespread and invasive in many areas of the northern US and southern Canada.

FLIGHT COMMENT: Adults are in flight from early summer through the fall. Local populations have two or three broods per year depending on the latitude. Braun (1917) observed three generations per year in Ohio, and the mines were most abundant in October. As of 2020, we have a single record of this species, an adult observed in early June in the Blue Ridge.

HABITAT: Populations in North Carolina probably rely strongly on Carolina Buckthorn as a host. This species is uncommon to rare in Piedmont and Blue Ridge and is generally associated with forested habitats with soils that are not strongly acidic.

FOOD: Outside of North Carolina, Lanceleaf Buckthorn (Rhamnus lanceolata) appears to be one of the most important native host. However, S. rhamnicola is increasingly using Common Buckthorn (Rhamnus cathartica), which is an invasive species. Eiseman (2019) also lists Frangula spp. as hosts. Carolina Buckthorn (Frangula caroliniana) is the likely host in North Carolina given that Rhamnus species are very rare in the state. As of 2022 we have only two site records. At one of these in Madison County (F. caroliniana) is present on site.

OBSERVATION_METHODS: The adults occasionally visit lights. We also recommend searching for the leaf mines on Frangula caroliniana.

NATURAL HERITAGE PROGRAM RANKS: GNR S1S3

STATE PROTECTION:

COMMENTS: We currently do not have sufficient information on the distribution and abundance of this species within the state to assess its conservation status.