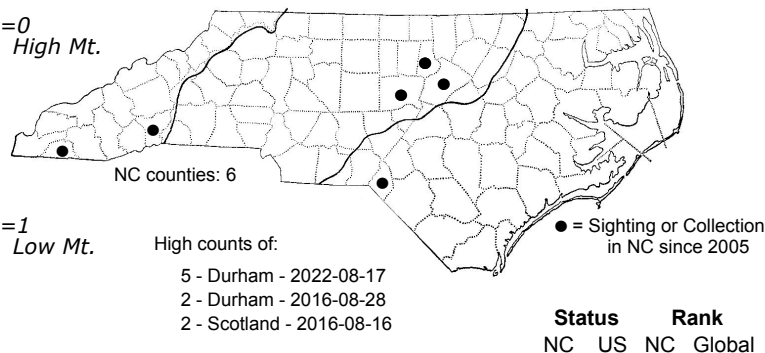
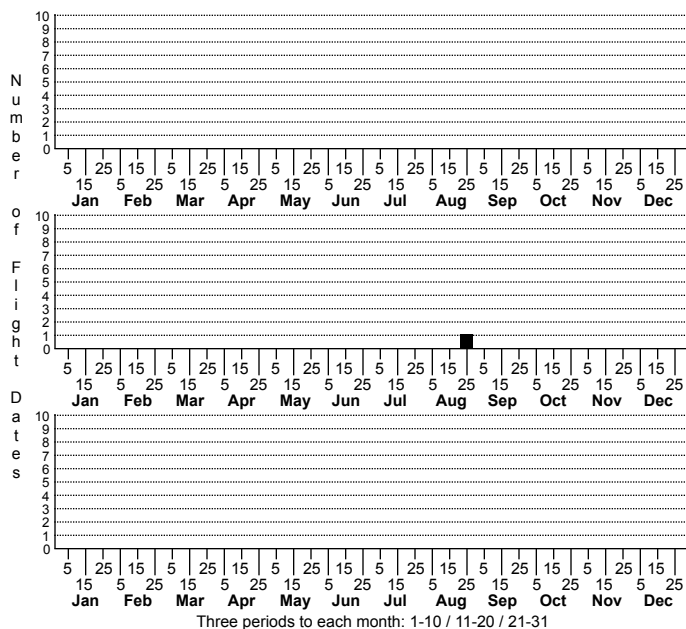


# Antispila cornifoliella None



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 head, face, and labial palps are dark brown. The antenna is dark brown with a light tip and the basal joint is somewhat ochreous. The forewing has a rather dull dark brown ground color with a coppery hue. Near the base there is a rather narrow fascia that varies from silvery white to light golden. The fascia often broadens towards the inner margin, and is closer to the base on the inner margin compared to the costal end. The fascia is not constricted at the fold of the wing as in *A. nysaeoliella*. At the apical third of the wing is a small silvery white to golden costal spot that is roughly triangular in shape. Nearly opposite to this, and slightly more basal, is a matching larger or equal-sized triangular spot on the inner margin that usually extends half way or so across the wing. The cilia are dark gray. The hindwings are purplish brown and the cilia somewhat paler, with a coppery hue. The legs are brownish, with a slightly lighter hue than the forewings. *Antispila cornifoliella* is difficult to distinguish from several closely related species (e.g., *A. isabella*, *A. fremani*, *A. nysaeoliella*, *A. viticordifoliella*) based on photographic images. These species are best identified by using DNA markers, genitalia, or a combination of host plants and/or geographic ranges (Nieukerken et al. 2012). *Antispila cornifoliella* can be distinguished from *A. nysaeoliella* by the light antenna tip, the brown thorax, and the fascia that is not constricted at the cell.

There are two *Antispila* species in North Carolina that specialize on dogwoods (*A. cornifoliella* and *A. fremani*). *Antispila cornifoliella* typically produces a linear-blotch mine that originates away from the leaf margin, while *A. fremani* produces a blotch mine that originates at the leaf margin. Based on DNA barcoding data, *A. fremani* appears to be a more northern form that is found primarily in Canada and the New England states, while *A. cornifoliella* is more widely distributed throughout the eastern US to as far south as Florida. The recent discovery of *A. fremani* in the western mountains suggests that a disjunct population occurs in the southern Appalachians. *Antispila cornifoliella* is presumed to occur more widely in the state, although all of our records as of 2021 are from the eastern Piedmont and western Coastal Plain where Tracy Feldman has surveyed for leafminers.

DISTRIBUTION: *Antispila cornifoliella* is widespread throughout eastern North America. The range extends from southeastern Canada (Ontario, Quebec, New Brunswick, Nova Scotia) and the New England states, to as far west as Kansas, and as far south as Florida. As of 2019, our records are from the Coastal Plain and eastern Piedmont.

FLIGHT COMMENT: Populations appear to be univoltine in the Northeast and there is no conclusive evidence of a second generation in the south. Empty mines have been found as early as April in Florida and July in Kansas. Active mines can be found beginning in late August in the northeastern US (Eiseman, 2019). As of 2019, our records for empty mines are all from August, which suggest that the adults are on the wing beginning in July.

HABITAT: *Antispila cornifoliella* appears to rely heavily on Flowering Dogwood in North Carolina. This species is common in a variety of hardwood and mixed pine-hardwood forests statewide. It is also widely planted as an ornamental in urban settings and along highways.

FOOD: The known hosts include a variety of dogwood species, including Alternate-leaf Dogwood (*Swida alternifolia*), Silky Dogwood (*S. amomum*), Stiff Dogwood (*S. foemina*), Gray Dogwood (*S. racemosa*), and Flowering Dogwood (*Benthamidia florida*) (Eiseman, 2022). In North Carolina, all of our records have been from Flowering Dogwood.

OBSERVATION\_METHODS: The adults are attracted to lights, and many locality records are based on leaf mines. We recommend checking dogwoods in August for the mines with their distinctive excised oval holes.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S4

STATE PROTECTION:

COMMENTS: As of 2019, we have only a few records for the state. This likely reflects the fact that relatively little effort has been put forth to document leaf-mining moths in the region.