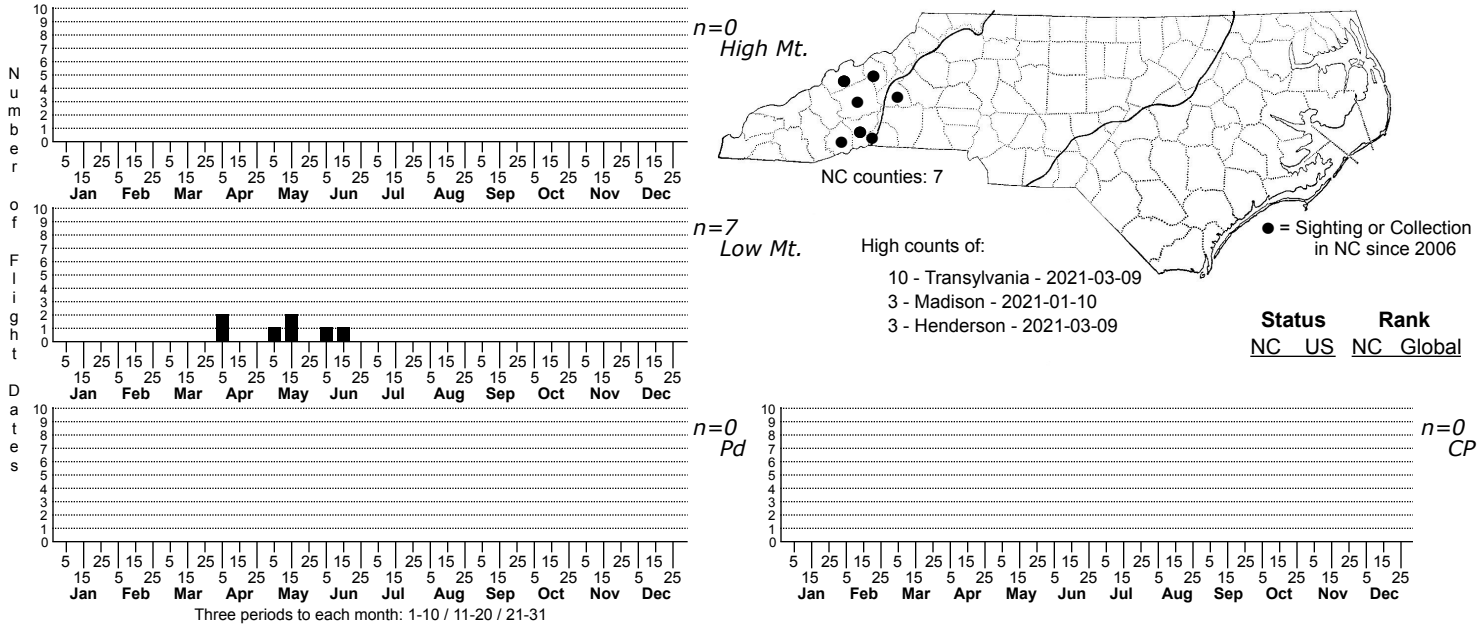
Coleotechnites apicitripunctella Green Hemlock Needleminer Moth



FAMILY: Gelechiidae SUBFAMILY: Gelechiinae TRIBE:
TAXONOMIC_COMMENTS: The genus Coleotechnites includes 49 very small species that occur in North America. Most species are specialists on conifers and tend to feed on a single genus of host plant. Many of the Coleotechnites species have almost identical genitalia that are not very useful in delineating closely related forms (Freeman, 1960; 1965). Freeman (1960) noted that host plants and the mining characteristics often provide the most reliable way to identify closely related species.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS:
TECHNICAL DESCRIPTION, IMMATURE STAGES: Freeman, 1965; Maier et al., 2011

ID COMMENTS: The following description is based in part on the original description by Clemens (1860b). The head, face and thorax are ocherous, and the thorax usually has two or three dark dots near the posterior margin. The labial palp is ocherous internally and dark fuscous externally. The terminal joint has a dark ring at the base and tip, and the extreme tip is ocherous. The antenna is dark fuscous and indistinctly annulated with ocherous. The forewing is brownish ocherous, with three oblique dark streaks from the costa to the middle of the wing, bordered behind with very pale ocherous. The first is near the base, the second at about the middle of the costa, and the third at about three-fourths, with its pale ocherous to whitish margin extended across the wing as a narrow angulated fascia. Three black dots of raised scales are present just below the inner margin at about one-third, one-half, and three-fourths the wing length, and a parallel row of smaller dots is present inwardly near the middle of the wing. One or more of these is often missing or obscured by the darker streaks. A series of five or six small dark spots are present along the base of the wing tip. The cilia of the tip is somewhat dusted with fuscous, and the inner margin ocherous. The hindwing is rather dark ocherous, and the cilia the same. In North Carolina populations, the costal streaks are short. They terminate well before reaching the middle of the wing, and usually just beyond the costal margin.

DISTRIBUTION: Coleotechnites apicitripunctella is found in eastern North America. The range extends from southern Canada (Ontario; Quebec; New Brunswick) and adjoining areas of the northeastern US, westward to Illinois, and southward along the Appalachian region to North Carolina and Tennessee. As of 2021, we have records from seven counties that are mostly from lower-elevation sites in the Blue Ridge.

FLIGHT COMMENT: The larvae overwinter and adults emerge in May through July in the northern areas of the range. Our rearing records suggest that the adults begin emerging in April in north Carolina.

HABITAT: This species is a specialist on Eastern Hemlock, which is most commonly found in cool, moist ravines and similar forested sites.

FOOD: Eastern Hemlock (Tsuga canadensis) is the only known host (Forbes, 1923; Schaffner, 1959; Prentice, 1966), but Carolina Hemlock (Tsuga caroliniana) could potentially be a host for southern Appalachian populations. Robinson et al. (2010) reported this species to use Bald Cypress (Taxodium distichum), which is highly suspect given that C. apicitripunctella is generally found outside of the range of T. distichum.

OBSERVATION_METHODS: We recommend searching for the webbed leaves during winter and spring. The color of the caterpillars should be checked to verify that they are green with dark heads and prothoracic shields. Coleotechnites macleodi builds similar webs, but has brown larvae with amber-colored heads and thoracic shields.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S3

STATE PROTECTION:

COMMENTS: This species was only recently discovered in North Carolina, and more information is needed on its distribution and abundance before we can assess its conservation status. This and other species that are hemlock specialists are being severely impacted by the widespread loss of Eastern Hemlock due to infestations of the hemlock woolly adelgid.