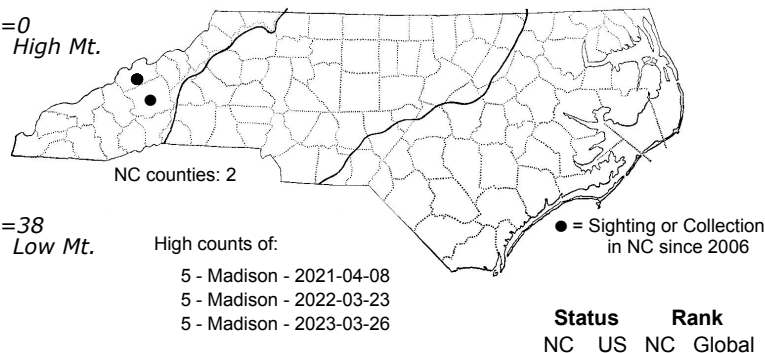
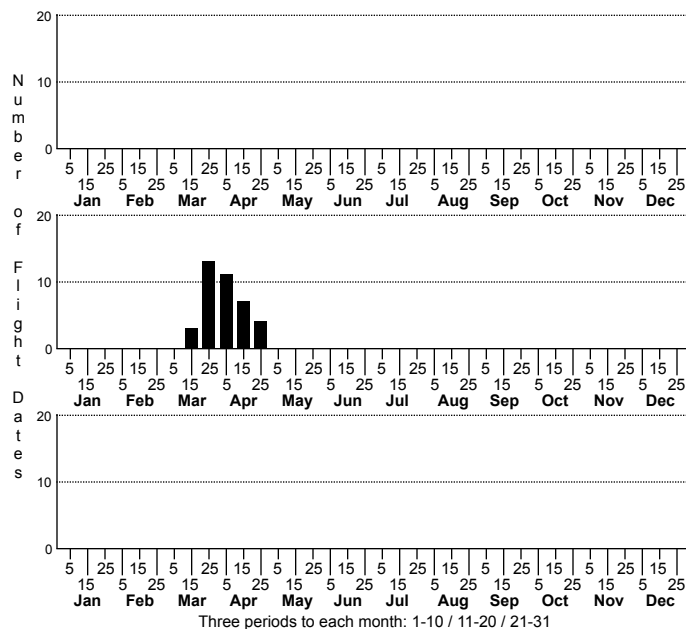


## *Argyrotaenia occultana* Fall Spruce Needle Moth



FAMILY: Tortricidae SUBFAMILY: Tortricinae TRIBE: Archipini

TAXONOMIC COMMENTS: The genus *Argyrotaenia* contains approximately 100 described species, with most occurring in Nearctic and Neotropical regions. Thirty-six species are currently recognized in North America.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Freeman (1942)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Brown and McGuffin (1942)

ID COMMENTS: The following is based in part on the original description by Freeman (1942). The head, thorax, antenna, and outer side of the palps are fuscous. The ground color of the forewing is white and is overlain to varying degrees with fine reticulations of light to dark-brown. There are three conspicuous dark brown to blackish regions on the forewing that include the basal fourth to third of the wing, a median band, and a costal spot. The basal area is dark brown, with its outer margin defined by a darker line that starts either at the costa, or near the costal one-quarter, and extends obliquely outward to the median vein where a small tooth projects posteriorly. From there it angles obliquely inward to terminate on the posterior margin.

The median band is dark brown to blackish and is broad and distinct. It starts at the costa just before the basal half and extends obliquely outward to the outer third of the posterior margin. In North Carolina specimens and those from elsewhere, the dorsal half is often noticeably lighter than the costal half. The anterior margin typically has a conspicuous hook and associated notch at the costal one-third, and the region between the hook and the costa is narrower than the remaining dorsal two-thirds of the band. The final mark is a conspicuous dark brown to blackish, sub-triangular, costal spot on the apical third of the wing that tends to be faintly connected to a lighter colored sub-tornal spot. The fringe is fuscous and tends to become lighter in the tornal region. The hindwing is uniformly shining smoky and the fringe is light with a dark basal line.

This species is most easily confused with *A. velutinana*, but in the latter the dark basal region is largely confined to the dorsal half and lacks a darker line on the outer margin. The overall coloration of the markings are dark brown to blackish on *A. occultana* versus having a more reddish-brown caste for *A. velutinana*. In North Carolina *A. occultana* flies during March and April versus a far more extensive flight season for *A. velutinana*.

DISTRIBUTION: *Argyrotaenia occultana* has northern affinities and occurs in a wide swath from Alaska eastward through much of southern Canada to Nova Scotia and vicinity. In the US it occurs from the New England states westward to Minnesota, then southward mostly through the Appalachian region where scattered populations are found to as far south as eastern Tennessee and western North Carolina. As of 2023, our only records are from a single site in Madison County.

FLIGHT COMMENT: Maier et al. (2011) noted that in southern New England there are two generations per year, with the pupae from the second generation overwintering. Our limited records for North Carolina suggest a single brood per year, with the adults flying in March and April.

HABITAT: This species is generally associated with cool conifer or mixed conifer forests. In North Carolina this species is associated with Eastern Hemlock stands.

FOOD: The larvae feed on a variety of conifers and occasionally on birches, but spruce trees appear to be the most important hosts at northern latitudes (Brown et al., 2008; Brown and McGuffin, 1942). The known hosts include birches (*Betula* spp.), firs (*Abies* spp., including *A. balsamea*), larches (*Larix* spp.), spruces (*Picea* spp., including *P. engelmannii*, *P. glauca*, *P. mariana*, and *P. rubens*), Lodgepole Pine (*Pinus contorta*), Douglas Fir (*Pseudotsuga menziesii*) and hemlocks (*Tsuga* spp.). In North Carolina our only site record as of 2022 is a low-elevation site in Madison County where Eastern Hemlock (*T. canadensis*) is the presumed host.

OBSERVATION\_METHODS: The adults are attracted to lights.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S4

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: This species is only known from a single site as of 2023. We currently do not have sufficient information to assess its conservation status within the state.