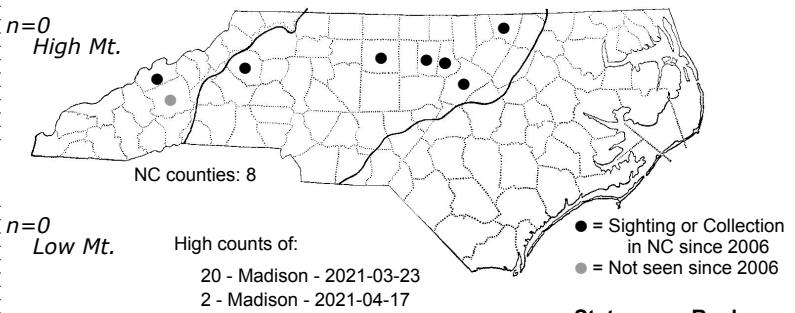
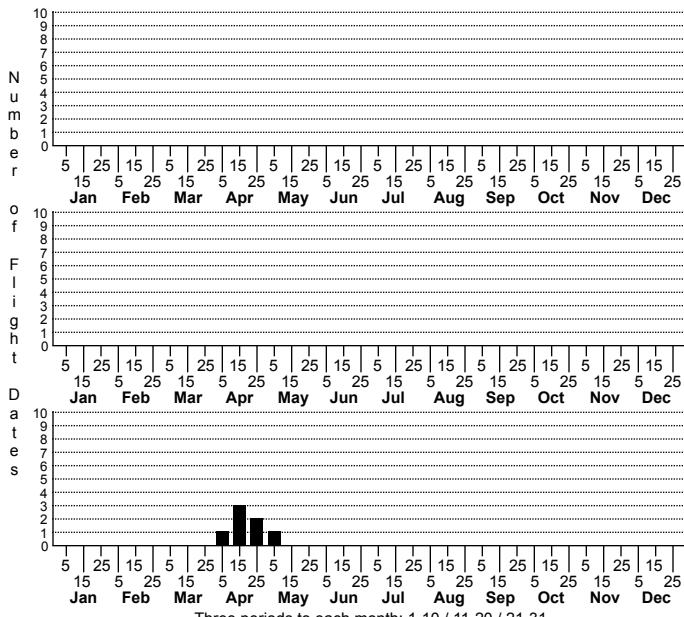


Argyresthia thuiella Arborvitae Leafminer Moth



High counts of:
 20 - Madison - 2021-03-23
 2 - Madison - 2021-04-17
 2 - Orange - 2024-04-14

Status Rank
 NC US NC Global

n=0
CP

FAMILY: Argyresthiidae SUBFAMILY: TRIBE:
 TAXONOMIC COMMENTS:

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Busck (1907a)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Eiseman (2022)

ID COMMENTS: *Argyresthia thuiella* is a small moth that has white forewings with varying amounts of brown speckling, along with larger brown marks on the costa and inner margin. The following description is based in part on that of Busck (1907a). The labial palp, face, head and thorax are all white, while the antenna is white with brown annulations. The forewing is white with brown markings, except for the base of the costal edge that has a light golden-brown wash. The inner (dorsal) margin has three large marks that are evenly spaced. These are 1) a very short dorsal streak on the basal third, 2) a relatively large transverse band at one-half the wing length that sometimes reaches nearly to an opposite, small, brown costal spot, but generally is diffused and interrupted before then, and 3) a smaller transverse streak at the tornus, along with an opposing costal spot that is slightly more basal, with the area between the two heavily peppered with dark-brown scales. In addition to the larger marks, the apical half of the wing is peppered to varying degrees with dark-brown scales, with far fewer on the basal half. The outer margin often has a row of three or four dark spots on the costal half, along with a dark <-shaped mark or spot below the apex. The terminal fringe is golden-brown to light-brown, and often with a rather faint darker band near the base and on the outer margin. The lanceolate hindwing and fringe vary from light smoky-brown to grayish-brown, and the outer portions of the legs are whitish with varying amounts of yellowish-golden dusting. Individuals vary substantially, so expect deviations from the general description above.

DISTRIBUTION: *Argyresthia thuiella* is primarily found in eastern North America and appears to have expanded its range with the widespread planting of ornamental arborvitae. Its original range most likely corresponded to that of the native range of *Thuja occidentalis*, which is the primary host. The current range includes portions of southern Canada from Ontario eastward to Nova Scotia and Prince Edward Island. The range in the US extends from Maine and other New England states southwestward to Virginia, North Carolina, and Tennessee, and westward to western Kentucky, Missouri, Illinois, Wisconsin and Minnesota. Scattered records are also known from northwestern South Carolina, north-central Georgia, and northwestern Arkansas. This species also occurs in the Pacific Northwest, California and the central and southern Rockies where it is presumably has been introduced. As of 2025, we have several records from both the Blue Ridge and Piedmont that most likely reflect introductions from the planting of ornamental *Thuja*.

FLIGHT COMMENT: The adults have been observed from April through August in different areas of the range, with a seasonal peak typically in May and June. As of 2025, our records are from early-April to early-May. Local populations in North Carolina are univoltine.

HABITAT: Local populations in North Carolina are most often found in residential areas where ornamental arborvitae are present.

FOOD: Larvae feed on Northern White Cedar (*Thuja occidentalis*) (Eiseman, 2022). This species probably never occurred in North Carolina as a native species. If so, it would have been restricted to the Blue Ridge. At least some of our records come from cultivated *Thuja* or their hybrids. Robinson et al. (2023) also list *Chamaecyparis*, which likely refers to ornamental forms.

OBSERVATION METHODS: The adults are attracted to lights and the larvae can be found in the branchlets of arborvitae.

NATURAL HERITAGE PROGRAM RANKS: GNR SNR [SNA?]

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

COMMENTS: This species may not be native to North Carolina and may be present here solely in association with cultivated specimens of Northern White Cedar to its hybrids.