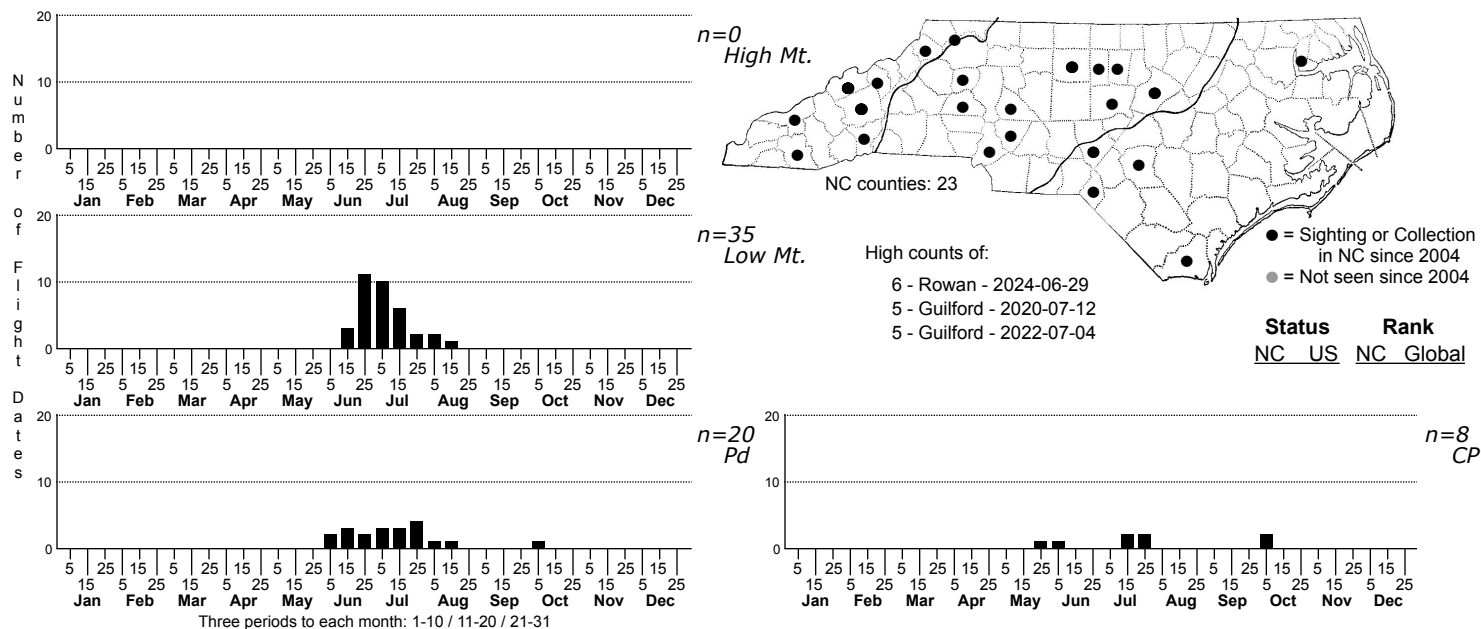


# *Acrolophus arcanela* Arcane Grass Tubeworm Moth



FAMILY: Tineidae SUBFAMILY: [Acrolophinae] TRIBE: [Acrolophini]

TAXONOMIC\_COMMENTS: The genus *Acrolophus* is a mostly neotropical taxon with over 250 described species, including 54 that are currently recognized in North America. The labial palps on the males of many species are very elongated and densely hairy. The larvae of some species live in silk-lined burrows in the ground and feed on the roots and young shoots of grasses and herbs. However, the life histories of most species remain undocumented and in need of study. Members of this genus were previously placed in their own family (Acrolophidae), but they are now treated as a subgroup within the Tineidae based on molecular phylogenetic studies.

FIELD GUIDE DESCRIPTIONS: (Leckie and Beadle, 2018)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Hasbrouck (1964)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Hasbrouck (1964)

ID COMMENTS: The following description is based in part on that in Hasbrouck (1964). The labial palp of the male is intermediate in length relative to other *Acrolophus* species and extends to the upper head region. It is brown in front and dark brown externally. The antenna is brown and slightly serrated towards the apex. The thorax is dark brown and prominently tufted anteriorly and posteriorly, the vestiture being rough, deep, and very dense like that of the head and palps. The forewing is brownish, with a mixture of finely mottled pale, brown, and blackish specks and blotches. At one-half, there is a blackish, triangular mark, with the apex extending almost to the inner margin, and the base extending to about one-third the wing depth. A pale blotch that often has a matching reverse triangular shape occurs on both the posterior and anterior sides of the dark triangular mark. A dark basal streak extends from the middle of the base to the anterior pale blotch (sometimes incomplete and represented as only a black blotch). At about four-fifths there is a central pale streak that is preceded by a darker blotch. On fresh specimens, there is a series of scattered white scales that are most prominent on the apical one-fourth where they sometimes produce radiating lines of sorts. The fringe is checkered with alternating dark brown and pale patches that extend from the anal angle to the apex, then continue onto the costal margin as a series of smaller spots. The legs are dark with lighter bands near the joints. Females are similar to males, but have short labial palps that project forward. This species is somewhat similar to *A. popeanella* in terms of coloration and patterning, but the hairy vestiture on the head, thorax, and palps is much coarser and better developed than that of *A. popeanella*, and the palps of male *A. arcanela* are shorter. Note the scattered white scales on the forewing of *A. arcanela*, which are lacking in *A. popeanella*.

DISTRIBUTION: *Acrolophus arcanela* is found throughout most of the central and eastern US (Hasbrouck, 1964). The range extends from Vermont and vicinity southwards to southern Florida, and westward to central Texas, Kansas, Illinois, and Nebraska. As of 2024, our records are mostly from the Piedmont and lower elevations in the mountains, with only a few records from the coastal plain.

FLIGHT COMMENT: Adult are on the wing from March-December in Florida, and from May through October in other areas outside of North Carolina, with a seasonal peak in June and July. As of 2020, our records are from early June through early October, with most during June and July.

HABITAT: This species is generally associated with more open, sunny habitats such as meadows, hedgerows, gardens and agricultural fields (Forbes, 1890; 1903).

FOOD: The larvae specialize on the roots of grasses and perhaps certain herbs. The reported hosts include domesticated corn, wheat and strawberries (*Fragaria* spp.) (Robinson et al., 2010).

OBSERVATION\_METHODS: The adults are attracted to lights.

NATURAL HERITAGE PROGRAM RANKS: GNR SU

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

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