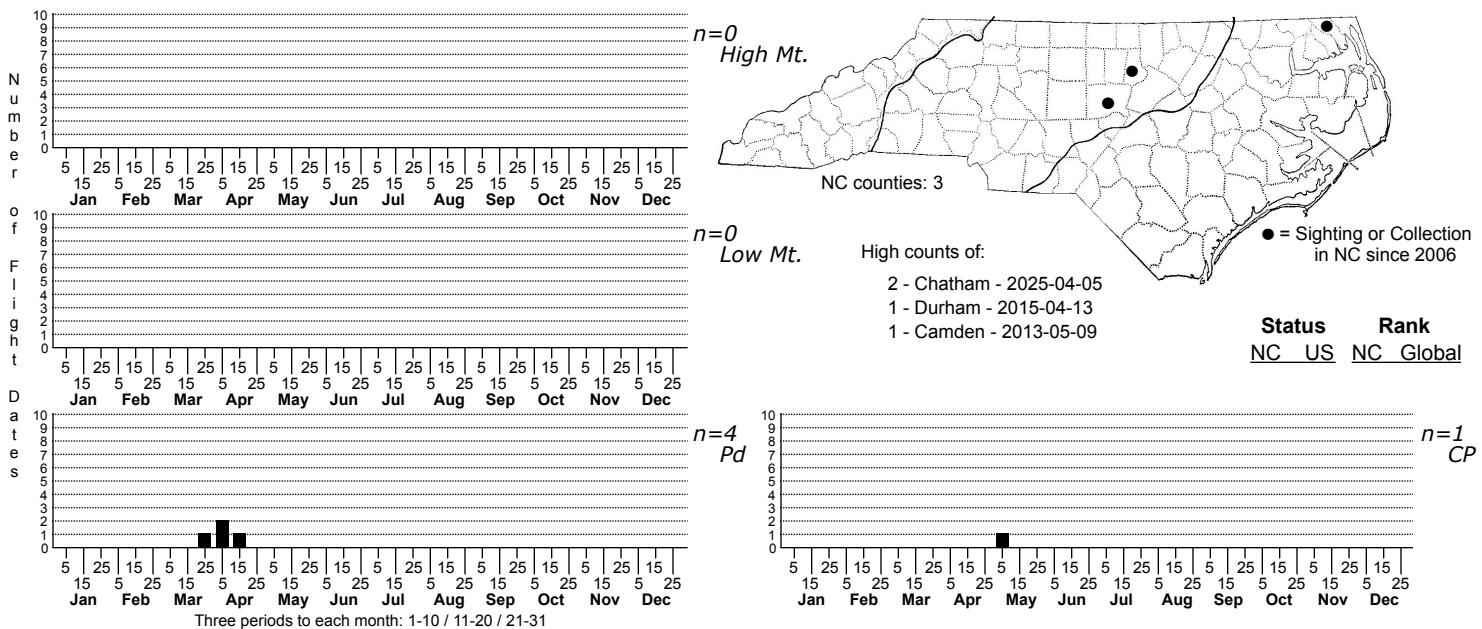


Heliozelaeaesella None



FAMILY: Heliozelidae SUBFAMILY: [Heliozelinae] TRIBE: [Heliozelini]

TAXONOMIC COMMENTS: The Heliozelidae is a family of minute moths that are found worldwide except for Antarctica. Most are diurnally active, and many have iridescent, metallic shining scales, including shiny, overlapping, lamellar head scales that help define the group. The larvae of most mine the leaves, stems, and petioles of plants. There are only two described species of *Heliozelaea* in North America, and only one in North Carolina.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Chambers, 1877

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The head, thorax, antennae, and upper abdomen have a rich brown ground color with a bronze metallic sheen. There are two conspicuous white marks on the forewing that originate on the inner margin. From there, they narrow as they extend inward to about the middle of the wing. The first is near the base of the wing, projects slightly rearward, and tends to be more elongated and less triangular than the second. The second occurs near the anal angle, is triangular-shaped, and also projects slightly rearward with the basal edge sometimes noticeably curved. The hindwing is pale fuscous and the cilia grayish fuscous (Chambers, 1877).

DISTRIBUTION: *Heliozelaeaesella* has been found in Ontario, Canada and in portions of the eastern United States. It appears to be widespread and relatively common along a broad swath that extends from Iowa, Minnesota, Wisconsin, Illinois, and Ohio eastward to the New England states. From there, populations occurs sporadically south and southwestward to Virginia and North Carolina, with isolated populations in Georgia, Alabama and east Texas. As of 2019, we have one record from the Coastal Plain and one from the eastern Piedmont.

FLIGHT COMMENT: Local populations are univoltine and the adults are active after the spring leaf-out of grapes, typically in April and May. As of 2019, our records are from April and May.

HABITAT: This species is strongly affiliated with native grapes, which occupy a variety of forest, forest-edge, and disturbed habitats. Grapes do not reproduce well in heavy shade and generally require forest gaps, or disturbance from fire, logging, or storm damage for seed germination. Representative habitats include roadsides, fence rows, forest edges, and river banks, as well as hardwood and mixed pine-hardwood forests.

FOOD: Native grapes (*Vitis* spp.) are the primary hosts, including Frost Grape (*V. vulpina*), Eiseman (2019) noted that the galls are sometimes formed in the shoots, petioles, and peduncles of Virginia Creeper (*Parthenocissus quinquefolia*), although there appear to be very few documented records of *H. aesella* using Virginia Creeper. In North Carolina, there is an iNaturalist record (Evan Raskin) for an unidentified species of grape.

OBSERVATION METHODS: The adults are attracted to lights, and are often seen in woodland habitats where they fly low to the ground during the day. The raised galls are conspicuous on the lower surface of grape leaves, and provide an easy way to document local populations.

NATURAL HERITAGE PROGRAM RANKS: GNR S1S3

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 data to assess the status of this species within the state.