A Geometrid Moth

Euchlaena madusaria

Photo credits: *Hugh D. McGuinness*

Scientific Name	*Euchlaena madusaria* (Walker, 1860)
Family Name	Geometridae Loopers, Span Worms, Inch Worms, Geometer Moths

Did you know?
Euchlaena madusaria is not an extremely strong flier. It is thought to fly approximately 1 meter/second, or approximately 2.2 mi/hr (NatureServe 2010).

Summary

Protection Not listed in New York State, not listed federally.

This level of state protection means: The species is not listed or protected by New York State.

Rarity G4, S1

A global rarity rank of G4 means: Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
A state rarity rank of S1 means: Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology makes it especially vulnerable in New York State.

Conservation Status in New York

Euchlaena madusaria has not been found at many locations despite substantial trapping effort on Long Island. Three populations have been documented in Suffolk County since 1997. This moth is found locally in dry woodlands and adjacent scrublands, mostly in sandy or barrens areas. Additional surveys are needed to better understand its status and distribution in New York State.

Short-term Trends

The short-term trend for Euchlaena madusaria in New York State appears to be stable. At one of three populations documented in the state, moths were captured in 1997 and 2005, resulting in seven adults captured over the course of the two survey years. This indicates that the population is viable and reproducing. The other two populations were first

documented in 1997 or 2007, respectively, and have not been surveyed since. Most of the populations are on protected land.

Long-term Trends

The long-term trend for Euchlaena madusaria in New York State is unknown. There are historical records from Yaphank. Surveys should be conducted in Yaphank to determine if a population still exists at that location.

Conservation and Management

Threats

Elimination and fragmentation of habitat by commercial and residential development are probably the most significant threats to Euchlaena madusaria. In addition, fire suppression and allowing succession to a more closed canopy may eliminate some suitable habitat in the Dwarf Pine Barrens.

Conservation Strategies and Management Practices

Periodic controlled burns or mechanical removal of vegetation are needed to maintain the natural community at the Dwarf Pine Barrens. In addition, restricting ATV use and minimizing lighting to maintain dark sky conditions in occupied areas would be beneficial.

Research Needs

Additional research is needed to document larval foodplants and more precise habitat needs of Euchlaena madusaria. Additional inventory and monitoring is also needed. The species is best captured at blacklight or bait at night in dry woodlands and adjacent scrublands in sandy or barrens areas that contain larval foodplants, which are reported to include various trees (including oaks) and blueberry. In New York State, it has been captured flying most often in June, and also in late May and in early September. There are historical records of Euchlaena madusaria from Yaphank, and surveys should be conducted in Yaphank to determine if a population still exists at that location.

Habitat

Euchlaena madusaria inhabits dry woodlands and adjacent scrublands in sandy or barrens areas that contain larval host plants, which are reported to include various trees (including oaks) and blueberry. In New York State, it has been found in several habitats including pitch pine-oak-heath woodlands, maritime heathlands, and dwarf pine plains.

Associated Ecological Communities

Dwarf Pine Plains
A woodland community dominated by dwarf individuals of pitch pine and scrub oak that occurs on nearly level outwash sand and gravel plains in eastern Long Island. The soils are infertile, coarse textured sands that are excessively well-drained.

Maritime Heathland
A dwarf shrubland community that occurs on rolling outwash plains and moraine of the

glaciated portion of the Atlantic coastal plain, near the ocean and within the influence of onshore winds and salt spray.

Pitch Pine-oak-heath Woodland
A pine barrens community that occurs on well-drained, infertile, sandy soils. The structure of this community is intermediate between a shrub-savanna and a woodland. Pitch pine and white oak are the most abundant trees.

Identification Comments

Identifying Characteristics

This is a yellow-tan moth with thin, distinct antemedial, postmedial, and subterminal lines. The outer third of the forewing is darker with a pale mark at the tip. The edge of the forewing is smooth (Schmidt 2003). The wingspan is approximately 28 mm. The larvae are grey-brown and striped, and look like twigs (McGuffin 1981).

Best Life Stage for Identifying This Species

The adult is the best life stage for identification. It is recommended that larvae be reared to the adult stage for positive identification.

Behavior

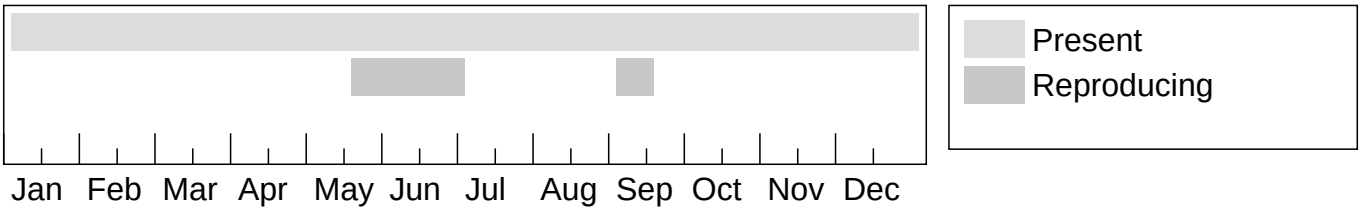
Adults are nocturnal and lay up to 225 eggs. Eggs hatch in approximately ten days. Larvae overwinter when they are almost mature (McGuffin 1981).

Diet

Larvae are reported to feed on various trees (including oaks) and blueberry.

The Best Time to See

The best time to see Euchlaena madusaria is during its flight season. In New York State, it has been captured flying most often in June, and also in late May and in early September.



The time of year you would expect to find A Geometrid Moth in New York.

Conservation Comments

Forbes (1948) called this species Duchlaena astylusaria.

Taxonomy

Kingdom Animalia
└─ **Phylum** Mandibulates (Mandibulata)
  └─ **Class** Insects (Insecta)
    └─ **Order** Butterflies, Skippers, and Moths (Lepidoptera)
      └─ **Family** Geometridae (Loopers, Span Worms, Inch Worms, Geometer Moths)

Additional Resources

Links

BugGuide
http://bugguide.net/node/view/7662
Canadian Biodiversity Information Facility
http://www.cbif.gc.ca/spp_pages/geometroidea/jpgs/image_e.php?image%5B%5D=106731a.jpg%2CEuchlaena+madusaria
NatureServe Explorer
http://natureserve.org/explorer/servlet/NatureServe?searchName=EUCHLAENA+MADUSARIA
Butterflies and Moths of North America
http://www.butterfliesandmoths.org/species/Euchlaena-madusaria
Moth Photographers Group
http://mothphotographersgroup.msstate.edu/species.php?hodges=6731
University of Alberta E.H. Strickland Entomological Museum
http://www.entomology.ualberta.ca/searching_species_details.php?s=4200
Google Images
http://images.google.com/images?q=EUCHLAENA+MADUSARIA

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