



**Natural Heritage
& Endangered Species
Program**

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Massachusetts Division of Fisheries & Wildlife

**Unexpected Cynnia
*Cynnia inopinatus***

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Unexpected Cynnia (*Cynnia inopinatus*) is an erebid moth with a wingspan of 28-36 mm (Covell 1984). The forewing and hind wing are concolorous and without pattern, ranging from solid white with a hint of gray, to solid gray (as in the individual figured at right). There is a bright yellow streak along the costa of the forewing, which does not fully extend to the wing apex, as it does in the similar Delicate Cynnia (*Cynnia tenera*). The head of the Unexpected Cynnia is the same bright yellow as the costa of the forewing, the thorax is concolorous with the white or gray wings, and the abdomen is bright yellow with a dorsal line of black dots. The caterpillar is bright orange in color, with tufts of gray setae (hairs) evenly distributed over the thorax and abdomen; it reaches a length of about 32 mm.

HABITAT: In Massachusetts, the Unexpected Cynnia inhabits sandplain grasslands and heathlands.

LIFE HISTORY: In Massachusetts, the Unexpected Cynnia has two broods, the first flying in late May and early June, and the second flying in late July and early August. Eggs are laid on milkweeds (*Asclepias*); in Massachusetts, the preferred host plant is orange milkweed (*Asclepias tuberosa*). The bright orange color



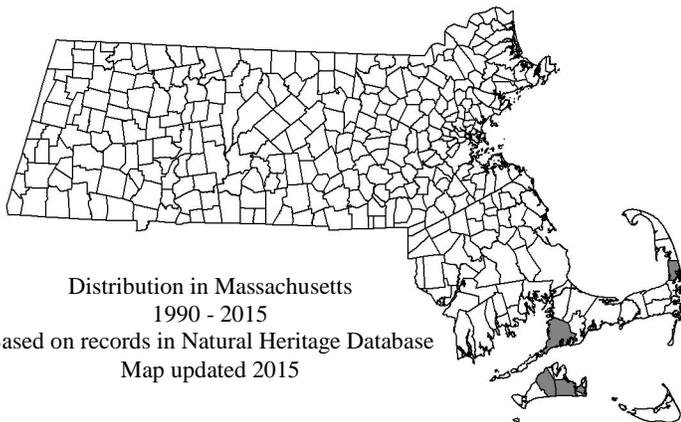
Cynnia inopinatus ▪ Specimen from MA: Barnstable Co., Falmouth, larva collected 10 Sep 2008 by M.W. Nelson and J. Garrett, adult emerged 25 May 2009

Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

of the caterpillar matches the flowers of orange milkweed, providing crypsis when it is on the flowers. When the caterpillar is on the foliage or stem of its host plant, the bright orange color provides a warning to potential predators, as the larva's tissues sequester distasteful and poisonous cardenolides acquired from the host plant (Nishio 1981). The pupa overwinters in a cocoon made from setae plucked from the caterpillar's own body, woven together with silk.

GEOGRAPHIC RANGE: The Unexpected Cynnia occurs from Massachusetts south to Florida, and west to South Dakota and Texas (Covell 1984). In Massachusetts, this species is restricted to Cape Cod and Martha's Vineyard.



A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

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STATUS AND THREATS: The Unexpected *Cycnia* is threatened by habitat loss and suppression of fire, which is needed to maintain the open vegetation structure of its habitat and promote growth of its host plants. Other potential threats include invasion by exotic plants, introduced generalist parasitoids, aerial insecticide spraying, non-target herbiciding, off-road vehicles, and light pollution.

Literature Cited

- Covell, C.V. 1984. *A Field Guide to Moths of Eastern North America*. Peterson Field Guide Series. Houghton Mifflin, Boston, Massachusetts. 496 pp.
- Nishio, S. 1981. The fates and adaptive significance of cardenolides sequestered by larvae of *Danaus plexippus* (L.) and *Cycnia inopinatus* (Hy. Edwards). *Dissertation Abstracts International* 41(10): 3681-B.

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