



**Natural Heritage
& Endangered Species
Program**

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

**Barrens Metarranthis
*Metarranthis apiciaria***

State Status: **Endangered**
Federal Status: **None**

DESCRIPTION: The Barrens Metarranthis (*Metarranthis apiciaria*) is a geometrid moth with a wingspan of 29-38 mm (Rupert 1943). Both the forewing and hind wing are brown proximal to the postmedial line, and paler tan distally. The wings are speckled with dark brown scales, scattered throughout. On both forewing and hind wing there may be faint patches of darker tan scales in the subterminal area, and there is a brown terminal line. On the forewing, the postmedial line is brown outlined with cream distally; it is very slightly curved, almost straight. The postmedial line on the hind wing is similar, but more curved. The brown antemedial line on the forewing is wavy, but often obscure. The reniform and discal spots are reduced to small, solid, dark brown dots. As compared to the male, the forewing of the female is elongated and more pointed at the apex (figured at bottom right). In both sexes, the head, thorax, and abdomen are concolorous with the wings. The Heath Metarranthis (*Metarranthis pilosaria*, a Species of Special Concern in Massachusetts) has a similar wing pattern, but overall it is darker brown above, and on the underside it is bright orange, which is not the case with the Barrens Metarranthis.

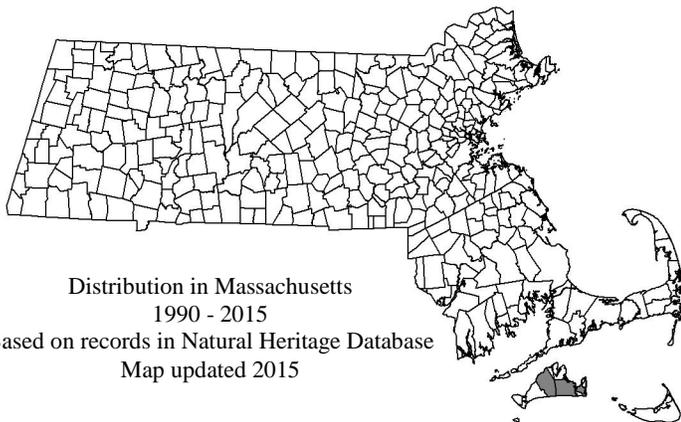
HABITAT: In Massachusetts, the Barrens Metarranthis



Metarranthis apiciaria, male • Specimen from IL: Kankakee Co., Leesville, collected 6 Jun 2006 by J. Vargo



Metarranthis apiciaria, female • Specimen from IL: Kankakee Co., Leesville, adult female collected 8 Jun 2006 by J. Vargo, reared from egg by D.L. Wagner, adult emerged 27 Apr 2007



Distribution in Massachusetts
1990 - 2015

Based on records in Natural Heritage Database
Map updated 2015

Adult Flight Period in Massachusetts

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

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

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Road, Westborough, MA 01581; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

inhabits open, shrubby areas within pitch pine-scrub oak barrens.

LIFE HISTORY: In Massachusetts, adult Barrens *Metarranthis* moths fly in June. The larval host plants of this species have not been documented. Based on the life history of other *Metarranthis* species, eggs hatch a week or two after oviposition, and larvae grow slowly, not pupating until late August or September. Pupae overwinter.

GEOGRAPHIC RANGE: Globally, there are only a few localities where this extremely rare moth is currently known to occur, including the Island of Martha's Vineyard in Massachusetts, one site in Connecticut, one county in Illinois, and two counties in Indiana (Schweitzer et al. 2011).

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

Literature Cited

- Rupert, L.R. 1943. A specific revision of the genus *Metarranthis* (Lepidoptera, Geometridae, Ennominae). *Journal of the New York Entomological Society* 51(3): 133-159.
- Schweitzer, D.F., M.C. Minno, and D.L. Wagner. 2011. *Rare, Declining, and Poorly Known Butterflies and Moths (Lepidoptera) of Forests and Woodlands in the Eastern United States*. Forest Service, U.S. Dept. of Agriculture, Washington, DC. 517 pp.

Authored by M.W. Nelson, NHESP Invertebrate Zoologist, April 2015

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

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp