



**Natural Heritage  
& Endangered Species  
Program**

[www.mass.gov/nhesp](http://www.mass.gov/nhesp)

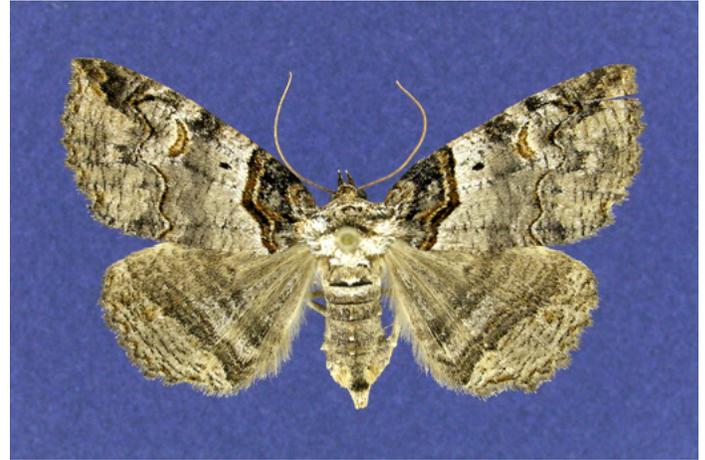
*Massachusetts Division of Fisheries & Wildlife*

**Pine Barrens Zale  
*Zale lunifera***

State Status: **Special Concern**  
Federal Status: **None**

**DESCRIPTION:** The Pine Barrens Zale (*Zale lunifera*) is an erebid moth with a wingspan of 30-34 mm. The forewing is mottled with pale and dark grays, paler in the subterminal area and between the median area and the antemedial line, darker between the subterminal area and the median area and in the basal area. The brownish-black postmedial line is relatively thin and waved; the brown to brownish-black antemedial line is thicker, also waved. A brownish-black apical dash may be present. The yellowish-brown reniform spot is narrow and elongate, the black orbicular spot small and round. The hind wing is banded with pale and dark brownish-grays; a faint discal spot may be present. The head and thorax is mottled with shades of gray and brown matching those on the forewing, and the abdomen is brownish-gray, similar in color to the hind wing. The very similar Intent Zale (*Zale intenta*) is slightly larger than the Pine Barrens Zale, often with a more striate wing pattern; the forewing antemedial line is less wavy, and the orbicular spot faint or absent (Schmidt 2010). Genitalic dissection may be necessary for definitive identification.

**HABITAT:** In Massachusetts, the Pine Barrens Zale inhabits sandplain pitch pine-scrub oak barrens, especially scrub oak thickets.



*Zale lunifera* • Specimen from MA: Plymouth Co., Plymouth, collected 10 Jun 2003 by M.W. Nelson

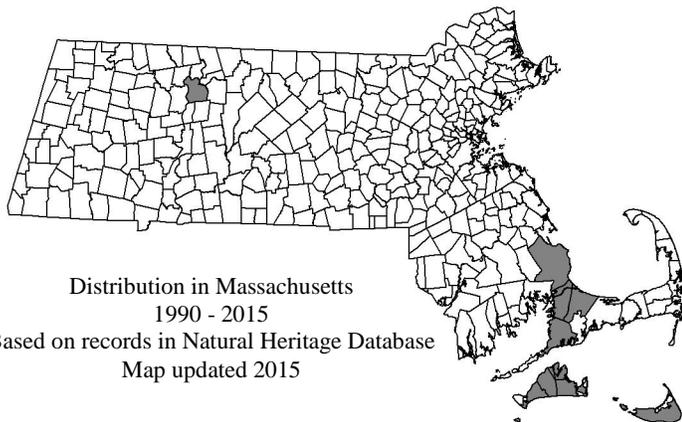
**Adult Flight Period in Massachusetts**

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

**LIFE HISTORY:** In Massachusetts, adult Pine Barrens Zale moths fly from mid-May to late June. Eggs hatch soon after they are laid, and the larvae feed on new growth of scrub oak (*Quercus ilicifolia*). Larvae pupate by late July, and pupae overwinter.

**GEOGRAPHIC RANGE:** The Pine Barrens Zale is locally distributed along the Atlantic and Gulf Coastal Plains from southern Maine south to Florida and west to Mississippi (Schmidt 2010). In Massachusetts, this species occurs in the southeastern part of the state and in the Connecticut River Valley.

**STATUS AND THREATS:** The Pine Barrens Zale is threatened by habitat loss and suppression of fire, which is needed to maintain the open structure of its habitat and promote growth of its host plant. Other potential threats include introduced generalist parasitoids, aerial insecticide



**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](http://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](http://www.mass.gov/nhesp)

spraying, non-target herbiciding, off-road vehicles, and light pollution.

**Literature Cited**

Schmidt, B.C. 2010. Taxonomic reassessment of *Zale lunifera* (Hübner) (Erebidae, Erebininae). *ZooKeys* 39: 99-106.

*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](http://www.mass.gov/nhesp)