



**Natural Heritage  
& Endangered Species  
Program**

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*Massachusetts Division of Fisheries & Wildlife*

**Barrens Dagger Moth  
*Acronicta albarufa***

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

**DESCRIPTION:** The Barrens Dagger (*Acronicta albarufa*) is a noctuid moth with a wingspan of 30-35 mm (Forbes 1954). The forewing is gray, mottled with black and white. The postmedial line is black, margined with white proximally, descending in a jagged line from the costa, then curving abruptly inward toward the median area, then again curving abruptly to descend in a straight line from just below the reniform spot to the inner margin. A black anal dash and prominent, black basal dash are present, the latter curving toward the costa. The reniform spot is rusty brown in color, and the orbicular spot round, often white with a gray center. The hind wing of the male is white with a grayish-brown margin and (often obscure) discal spot; the hind wing of the female is grayish-brown, darker at the margin and with an obscure discal spot. The head and thorax are concolorous with the gray of the forewings; the abdomen is lighter, grayish-brown. In Massachusetts, the Barrens Dagger is most often confused with the Ovate Dagger (*Acronicta ovata*) and Southern Oak Dagger (*Acronicta increta*). Compared to the Barrens Dagger, the forewing of the former is typically lighter gray, and the forewing of both less evenly gray overall, with lighter gray in the median area and more dark shading in the basal and anal areas. Both the Ovate and Southern Oak Dagger have a basal dash that splits distally,



*Acronicta albarufa*, male ▪ Specimen from MA: Plymouth Co., Plymouth, collected 27 Jul 2002 by M.W. Nelson

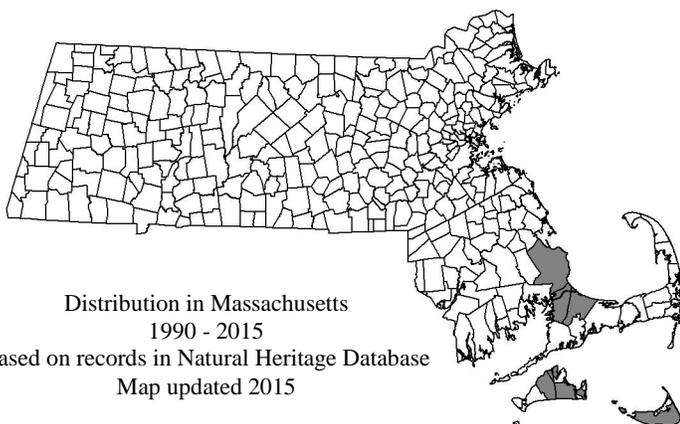
**Adult Flight Period in Massachusetts**

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

forming a ‘Y’ with one branch curving toward the costa and another toward the inner margin. Compared to the distinct, rusty brown reniform spot of the Barrens Dagger, that of the Ovate Dagger is typically more yellow, and that of the Southern Oak Dagger typically more pale, or altogether lacking pigment other than gray. Unlike the white hind wing of the male Barrens Dagger, the hind wing of the male Ovate and male Southern Oak Dagger is grayish-brown, only slightly lighter in color than the female of each species, respectively.

**HABITAT:** In Massachusetts, the Barrens Dagger Moth inhabits xeric, open pitch pine-scrub oak barrens and scrub oak thickets on sandy soil.

**LIFE HISTORY:** In Massachusetts, the Barrens Dagger Moth flies from mid-June through mid-August. Larvae feed from summer into early fall, and pupae overwinter. In



**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)

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years with an early, warm spring, this species may have a facultative second brood. In Massachusetts the primary host plant is scrub oak (*Quercus ilicifolia*), though other oak species may occasionally be used.

**GEOGRAPHIC RANGE:** The Barrens Dagger Moth is found from southeastern Massachusetts south to North Carolina, and west to southern Manitoba and Arkansas (Wagner et al. 2011). Populations occur in restricted, disjunct areas within this range, with major populations in the Ozark Mountains of Missouri and Arkansas and the pine barrens of southern New Jersey and southeastern Massachusetts (Schweitzer et al. 2011).

**STATUS AND THREATS:** The Barrens Dagger Moth is threatened by habitat loss and fire suppression. Other potential threats include introduced generalist parasitoids, aerial insecticide spraying, non-target herbiciding, off-road vehicles, and light pollution.

#### **Literature Cited**

- Forbes, W.T.M. 1954. *Lepidoptera of New York and Neighboring States*. Part III. Memoir 329, Cornell University Agricultural Experiment Station, Ithaca, New York. 433 pp.
- 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.
- Wagner, D.L., D.F. Schweitzer, J.B. Sullivan, and R.C. Reardon. 2011. *Owlet Caterpillars of Eastern North America*. Princeton University Press, Princeton, New Jersey. 576 pp.

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

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