



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Puritan Tiger Beetle *Cicindela puritana*

State Status: **Endangered**
Federal Status: **Threatened**

DESCRIPTION: Tiger beetles are so named because of their “tiger-like” behavior of chasing down and capturing prey with their long mandibles. The Puritan Tiger Beetle (*Cicindela puritana*) is 12-14 mm in length (Pearson et al. 2006), bronze in color, the elytra (wing covers) marked with transverse and marginal white bands, and long, slender legs. The grub-like larva of the Puritan Tiger Beetle has a shiny, iridescent black head, a pronotum (“neck”) covered with setae (hairs), and a long, segmented, white abdomen. The Bronzed Tiger Beetle (*Cicindela repanda*) resembles the Puritan Tiger Beetle, although it is more stout. The Puritan Tiger Beetle is longer and thinner, with more setae on the underside of the abdomen. Unlike the Bronzed Tiger Beetle, the white markings around the outer edge of the elytra of the Puritan Tiger Beetle are continuous (unbroken).



Cicindela puritana • MA: Hampshire Co. • 2 Jul 2008 • Photo by M.W. Nelson

HABITAT: The Puritan Tiger Beetle inhabits sparsely vegetated sand beaches and silt banks along the shoreline of large rivers. Inhabited beaches are typically dry, wide, and located at river bends. Beetle larvae live in burrows along the upper margin of the beach, or in silt banks.

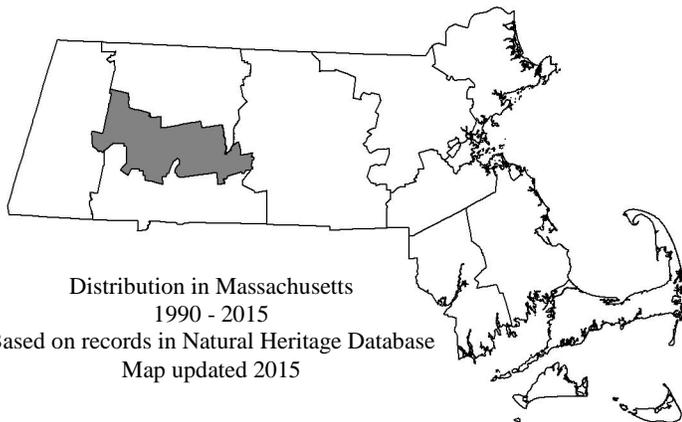
LIFE HISTORY: Adult Puritan Tiger Beetles emerge from the late June through early August, usually peaking

Adult Activity Period in Massachusetts

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

in mid-July. They are most active on hot, sunny days, foraging near the water and preying on small invertebrates. Mating and egg laying occur until mid-August. Females lay their eggs along the upper margin of the beach. By late August most, if not all, of the adult beetles have died. The Puritan Tiger Beetle has a two-year life cycle. Eggs hatch in late August or early September. Larvae inhabit burrows along the upper margin of the beach, where they capture small invertebrate prey. Larvae are small when they enter diapause for the first winter; they continue to feed through the following summer, and are fully grown by autumn. The larvae overwinter again, and pupate in late May or early June, the adults emerging several weeks later.

GEOGRAPHIC RANGE: Historically, the Puritan Tiger Beetle inhabited scattered localities along rivers in New Hampshire, Massachusetts, and Connecticut, as well as the



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

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shores of Chesapeake Bay in Maryland. It is now found at only a few locations along rivers in Massachusetts and Connecticut, a 26 mile stretch of the Chesapeake Bay shoreline, and one additional site in Kent County, Maryland.

STATUS AND THREATS: The Puritan Tiger Beetle is federally listed as Threatened, and is an Endangered species in Massachusetts. Development of riparian areas and river bank stabilization have significantly reduced the amount of suitable habitat for this species. The Puritan Tiger Beetle is threatened by hydrologic alteration that disrupts natural seasonal flooding and deposition of sand and silt in its habitat. Off-road vehicle traffic and recreational use cause degradation of beach habitat and crushing of larval burrows. Young larvae are most vulnerable to these activities, as their burrows are shallow. Adult beetles may be adversely impacted by insecticide spraying, including drift from adjacent agricultural areas. Other potential threats include invasion by exotic plants and eutrophication or other water pollution.

Literature Cited

Pearson, D.L., C.B. Knisley, and C.J. Kazilek. 2006. *A Field Guide to the Tiger Beetles of the United States and Canada*. Oxford University Press, New York, New York. 227 pp.

Updated by M.W. Nelson, NHESP Invertebrate Zoologist, May 2015

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