

STATE  
ENDANGERED

## Ringed Boghaunter

(*Williamsonia lintneri*)



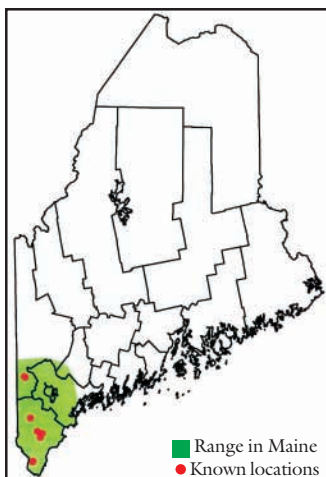
Mark McCollough

### Description

This small dragonfly, only 1⅓ inches in length, is identified by a distinct orange ring on each black abdominal segment. It has a straw-yellow face, bright yellow mouthparts, and bluish-green eyes.

### Range and Habitat

The ringed boghaunter is one of the rarest dragonflies in North America. It is found in acidic fens, bogs, and small wetlands dominated by *Sphagnum*, and is sometimes associated with forests of Atlantic white cedar, black spruce, or larch. Fewer than 60 populations are known, primarily in the Northeast (Maine, Rhode Island, Connecticut, Massachusetts, New Jersey, and New Hampshire), but it has recently been discovered in Michigan and Wisconsin. It is currently believed to be at the northern extent of its range in southwestern Maine, where it has been found at only six sites in York and southern Oxford Counties.



### Life History and Ecology

Ringed boghaunters are among the first dragonflies to emerge in early spring. The flight period begins in late April to early May and extends to mid-June. Adults are typically observed in forested areas up to ⅓ mile from breeding wetlands. Here they

forage on small insects and mature for a week or two before returning to the wetlands to breed. Adults bask near the ground in warm, sunny openings in the forest, along road edges, and on tree trunks or rocks. They are docile and easily approached, sometimes landing on observers. Adults at breeding wetlands are not territorial. Mating occurs in forested areas associated with breeding sites to avoid harassment and predation from birds and other dragonflies. Oviposition (egg laying) occurs in open, sedge-dominated wetlands, where eggs are deposited in small pools overlaying mats of *Sphagnum*. The eggs hatch in summer and the larvae mature over a one-year period. Emerging larvae crawl out of the water onto plants, split their larval skins (exuvia), and fly away as immature adults (called teneral).

### Threats

Loss and degradation of breeding wetlands and surrounding forests from development, roads, utility rights-of-way, and water level manipulations have resulted in the extirpation or declining populations in the Northeast. Direct and nonpoint sources of pollution (e.g., agricultural and residential lawn fertilizers and chemicals), siltation, and filling of small wetlands degrade water quality and boghaunter habitat. Use of broad-spectrum pesticides (e.g., for gypsy moth or mosquito control) directly affects boghaunters and their insect food supply. Vehicle mortality, especially of basking adults on cool spring days, reduces populations.

### Conservation and Management

The ringed boghaunter was listed as state endangered in Maine in 1997 because of its extreme rarity

and the vulnerability of its habitat to development. This species was also a former candidate for federal listing and is listed as vulnerable by the International Union for the Conservation of Nature.

Conservation of the ringed boghaunter requires protecting both breeding wetlands and adjacent forested uplands, especially those areas within 600 feet of breeding wetlands. Many breeding wetlands are less than an acre in size and may be overlooked during routine municipal or state environmental permit review. Data on known locations are available from MDIFW. State wetland laws do little to protect adjacent forested upland. Boghaunters are strictly protected from take (possession, collecting, or killing) by the MESA without a scientific collecting permit.

Some boghaunter populations are comprised of individuals from multiple breeding wetlands located near each other, while others persist only as isolated populations. These isolated populations are at greatest risk from habitat loss and degradation. In many instances, boghaunters share their habitat with Blanding's turtles (endangered), spotted turtles (threatened), and ebony boghaunters, a closely related Species of Special Concern. Some boghaunter breeding wetlands are vernal pools. Boghaunter habitat is best protected by preserving wetlands and adjacent forested upland buffer by acquisition and easement, landowner outreach, and land use regulations. Techniques for population enhancement or augmentation are unknown at this time.

### Recommendations:

- ✓ Prior to land development or forest harvesting, consult with a biologist from MDIFW to assist with planning.
- ✓ Municipalities should strive to maintain ringed boghaunter wetlands in a low-density, rural setting and identify these areas in comprehensive plans. Consider protecting breeding wetlands and a 250-foot upland buffer as Resource Protection Districts.
- ✓ Use voluntary agreements, conservation easements, conservation tax abatements and incentives, and acquisition to protect important habitat for threatened and endangered species.
- ✓ To preserve adult feeding and maturation habitat for threatened and endangered dragonflies and mayflies, maintain forested buffers and wetlands up to 600 feet from wetlands where they occur.
- ✓ Permit no activities that could lead to the loss or degradation of wetlands, including filling, dredging, sedimentation, or changing hydrology, unless approved by MDIFW.

- ✓ When projects are proposed within 250 feet of wetlands providing habitat for endangered or threatened species, adhere to forestry Best Management Practices (handbook available from the Maine Forest Service, SHS #22, Augusta, ME 04333) and Maine Erosion and Sediment Control Recommendations (available from the Maine Department of Environmental Protection, SHS #17, Augusta, ME 04333).
- ✓ Avoid intensive development within 600 feet of boghaunter wetlands. Minimize the footprint of yards, buildings, and roads within this area to minimize loss of upland habitat and sources of mortality.
- ✓ Low intensity timber harvesting (single tree, group selection, small patch cuts) is compatible as long as operators avoid wetlands. Employ *Forestry Habitat Management Guidelines for Vernal Pool Wildlife in Maine* for timber harvesting around vernal pools and pocket swamps (handbook available from MDIFW, SHS #41, Augusta, ME 04333). 🐝

*Small wetlands and vernal pools are home to the ringed boghaunter in southern Maine.*



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