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Conserving South Carolina's At-Risk Species:

Species facing threats to their survival

Edmund's snaketail

(*Ophiogomphus edmundo*)



Female Edmund's snaketail

Description

The Edmund's snaketail is a rare, green snaketail of the southern Blue Ridge. Adults are typically 44 - 48 mm (1¾ - 1⅞ inches) in total length with a bright green thorax and two lateral brown stripes. The eyes are blue-green to green, and the face is green. The legs are mostly black, but often have a very small yellow or pale area near the base of the thigh. The abdomen is very dark brown, with yellow dorsal markings on all segments that shorten posteriorly and are usually only represented as a spot on segments 8 - 9. Lateral yellow markings of the male are present on segments 1 - 3, absent on segments 4 - 6, small on segment 7, becoming large spots on the edge of segments 8 - 9, and most of segment 10. The female is similar but the abdomen is thicker, with yellow lateral markings on every segment, but smaller on segments 7 - 9 than on male. The club-shaped tip on the abdomen is virtually absent in females.

Range

This species is restricted to the southern Blue Ridge of North Carolina, Tennessee, South Carolina, and Georgia, where it is known from only eight counties. Two of the adjacent county pairs (Murray in Georgia and Polk in Tennessee; and Ra-

bun in Georgia and Oconee in South Carolina) really only represent single populations. This species was thought extinct in the 1970s and 1980s, but was rediscovered in North Carolina in 1994. Surveys during 2006-2008 documented healthy populations occurring within long stretches of both the upper Conasauga and upper Chattooga Rivers. The Chattooga, a designated National Wild and Scenic River, supports a healthy population of Edmund's snaketail and other rare Odonate species.

Habitat

Larvae are found in medium- to large-sized, clear streams and rivers with moderately fast currents. Adult males are found mostly on rocks in riffles or rapids while territorial, but appear to spend much of their lives in the treetops.

Status

Currently known from four rivers and streams in eastern Tennessee, adjacent areas of North Carolina, and Georgia, the Edmund's snaketail is considered critically imperiled in those states but is not ranked in South Carolina. The U.S. Fish and Wildlife Service was petitioned to list the species in April 2010 and published a substantial 90-day finding in September 2011 indicating listing may be warranted.

Threats

Dragonflies are closely tied to aquatic environments. Depending on species, an individual dragonfly may spend months to years in the aquatic larval, or nymph, stage, and only a few weeks as a flying adult. Many of the 154 species of dragonflies found in South Carolina have specific habitat requirements, and changes in the condition of rivers, streams, ponds and swamps will likely affect the assemblages. In that way, dragonflies can indicate the

integrity of freshwater habitats. Threats to the integrity of those habitats include alterations associated with agricultural practices, commercial and residential development that result in sedimentation, bank destabilization and potential degradation of water quality from pesticide and fertilizer runoff.

Management/Protection Needs

Incentive programs to help farmers implement best-management practices could improve instream habitat by decreasing sedimentation and runoff and increasing riparian forest cover. Forestry operations should follow best-management practices for water quality. Outreach and education to developers and local governments will assist with sharing information about minimizing the impacts from new home construction and commercial developments. There is also a need for additional surveys to document new populations and for periodic monitoring of known populations.

References

- Beaton, G. 2007. Dragonflies and damselflies of Georgia and the southeast. University of Georgia Press, Athens. 368 pp.
- NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>.

South Carolina Department of Natural Resources—State Wildlife Action Plan: 2010-2015.

Contact

U.S. Fish & Wildlife Service
South Carolina Field Office
843/727-4707
christopher_hernandez@fws.gov