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Conserving South Carolina's At-Risk Species:

Species facing threats to their survival

Patch-nosed salamander

(*Urspelerpes brucei*)



Patch-nosed salamander / Todd Pierson

Description

This newly described species, assigned to the genus of *Plethodontid* salamanders, was first described from populations in Georgia and subsequently documented to occur in South Carolina in 2009.

The patch-nosed salamander is a miniature species, with adults reaching a length of only 25 to 26 mms (0.98-1.0 in.). Unlike other dwarf salamanders in the related genus *Eurycea* which have four toes on their hind limbs, the patch-nosed salamander has five toes on its hind limbs. The patch-nosed salamander is sexually dimorphic with regard to coloration and pattern: adult males have a bright yellow dorsum with two darker pigmented dorsolateral stripes; adult females have a more muted brownish yellow coloration and the dorsolateral stripes are absent. Adults have a distinctive saffron yellow patch on the snout; in larvae this patch is white. A thin dorsal stripe stretches down the center of the tail; this stripe is yellow in adults and white in larvae. The venter is yellow and without markings.

Range

This species is known from one stream in Stephens County, Georgia and at one location in western Oconee County, South

Carolina. Other streams in the Oconee County location and nearby locations have been surveyed unsuccessfully to date. There have been less than five adults observed at the known South Carolina site and approximately 12 larvae. As such, it appears that this species is relatively uncommon. Additionally, its particular life history makes it difficult to survey for.



Habitat

The patch-nosed salamander has been found in or in association with headwater streams. Adults have been observed typically in the leaf litter adjacent to these streams. The aquatic larvae have been observed in portions of these streams lacking a steep gradient, with a bottom of mixed sand and cobble and ample rocks or woody debris to use as refugia.

Status

Since the patch-nosed salamander has been recently documented to occur in South Carolina, it has no official status. The U.S. Fish and Wildlife Service (Service) was petitioned in April 2010 to list the species. A 90-day finding by the Service found that listing may be warranted. Currently the species is undergoing a status review.

Threats

The patch-nosed salamander is very vulnerable to habitat loss and degradation due to its extremely limited range. Because

this salamander is associated with headwater streams in steep, mesic ravines, it is highly vulnerable to logging operations which result in increased sedimentation, increased water temperature, and decreased water quality. Draining of ephemeral wetlands, mining, and certain development activities on private lands are also of concern. Collection of salamanders for the unregulated bait industry can limit populations or cause declines as collectors often do not discriminate among species.

Management/Protection Needs

Actions needed to manage and protect existing populations of patch-nosed salamanders consist of: maintaining current regulations/statutes protecting wetlands and streams; protection of known populations; supporting survey efforts; education.

References

Camp, C. D., W. E. Peterman, J. R. Milanovich, T. Lamb, J. C. Maerz & D. B. Wake. 2009. A new genus and species of lungless salamander (family Plethodontidae) from the Appalachian highlands of the south-eastern United States. *Journal of Zoology* 279: 86-94.

Center for Biological Diversity—Southeast Aquatic Species Petition, April 2010.

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

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