



Common Name: PATCH-NOSED SALAMANDER

Scientific Name: *Urspelerpes brucei* Camp, Peterman, Milanovich, Lamb, Maerz, and Wake

Other Commonly Used Names: None

Previously Used Names: none

Family: Plethodontidae

Rarity Ranks: G1/S1

State Legal Status: none

Federal Legal Status: none

Description: This is the smallest salamander in North America, with both males and females averaging only about 5 cm (2 in) in total length. The tail is approximately equal to the length of the body. Although not differing in size, males and females exhibit stark contrast in color and pattern, a feature unique to salamanders of the United States. Males are yellow and have a pair of dark, distinct stripes on the sides of the back, as well as a faint series of spots or blotches down the center of the back and along the lower sides near the belly. Females lack stripes or any other dark markings and are more brownish-yellow overall. Both sexes have a narrow yellow line along the top of the tail, a bright yellow belly, and a light yellow patch on the snout. Larvae

have external gills and are generally brownish, except for a white line along the top of the tail and a white patch on the snout.

Similar Species: Only male patch-nosed salamanders could be confused with two-lined salamanders (*Eurycea cirrigera* and *E. wilderae*), the latter being much larger as adults and lacking the light-colored snout patch. Similarly, males could be confused with Chamberlain's dwarf salamanders (*Eurycea chamberlaini*), but in addition to lacking the snout patch, Chamberlain's dwarf salamanders only have four toes on each hind foot (patch-nosed salamanders have five).

Habitat: Very little is known about this newly discovered species, including its habitat needs. All adult individuals captured to this point have been found in leaf litter or under rocks within or along the banks of the non-inundated part of first-order streambeds. Whether or not they occupy moist areas within the adjacent hardwood forests is unknown at this time. Larvae have been caught in submerged leaf packs.

Diet: Based on features of their jaw, teeth, and tongue, it is assumed that adult patch-nosed salamanders feed on small, terrestrial invertebrates.

Life History: Again, so little is known about this novel species (and genus) at this point. Adult males and females collected in spring both showed evidence of reproductive activity. Males exhibited pronounced nasal cirri (a pair of thin fleshy projections on the upper snout) and mental glands (swollen area on chin), while females were gravid, containing 6-14 eggs each. Based on maximum larval size, which is similar to adult size, sexual maturity is probably achieved during or shortly after metamorphosis.

Survey Recommendations: All adult specimens collected to date have been found by flipping rocks or sorting through leaf litter along the banks of small seepage streams. Larvae can be caught from stream pools by agitating the water and sweeping an aquarium net through, or by setting and checking leaf-litter bags or traps.

Range: This species is currently known from only a handful of small streams of the upper Piedmont Province, near the base of the Blue Ridge Escarpment. All known Georgia sites are within Stephens and Habersham counties near Lake Tugaloo. Only one site outside of Georgia, from Oconee County, South Carolina, is known to exist at this time.

Threats: The apparent restricted range of this species makes it vulnerable to habitat impacts, drought, disease, overcollection, and a variety of other dangers. Too little else is known to confidently express what may threaten this species.

Georgia Conservation Status: The entire known Georgia range of this salamander is contained within the Chattahoochee National Forest.

Conservation and Management Recommendations: Until more is known about the range and life history of the patch-nosed salamander, the streams they occur in, as well as the surrounding hardwood forests, should be left unaltered and their exact locations unpublished and

unannounced. Because of the novelty and uniqueness of this new species, indeed new genus, it could be vulnerable to overcollection if the exact sites where it occurs are revealed. Certainly, surveys for new sites and research focused on the salamander's natural history are warranted.

Selected References:

Camp, C. D., W. E. Peterman, J. R. Milanovich, T. Lamb, J. C. Maerz, and 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* 2009:1-9.

Author of Account: John B. Jensen

Date Compiled or Updated:

John B. Jensen, 2009: Original account

John B. Jensen, April 2011: Added rarity ranks and Habersham County record.

Brett Albanese, April 2011: Added pictures and completed web-formatting.



Larval patch-nosed salamander