

Catalogue of American Amphibians and Reptiles.

Highton, Richard. 1988. *Plethodon punctatus*.

***Plethodon punctatus* Highton
White-spotted Salamander**

Plethodon punctatus Highton, "1971" (1972):176. Type-locality, "between 0.1 and 0.2 mile north-northwest of the top of Cow Knob, Pendleton County, West Virginia." Holotype, National Museum of Natural History (USNM) 190224, an adult male, collected on 22 September 1970 by Rudolph T. Danstedt, Douglas F. Fraser and Richard Highton.

• **Content.** No subspecies have been recognized.

• **Definition and Diagnosis.** *Plethodon punctatus* is a member of the *P. wehrlei* group of eastern *Plethodon* as defined morphologically by Highton (1962) and biochemically by Highton and Larson (1979). *P. punctatus* has much larger dorsal white spots than the only other species in the group, *P. wehrlei*. It also lacks the dorsal brassy flecking and red spotting often present in *P. wehrlei*. Adults range from 46-81 mm (body) and 100-171 (total) length. The number of trunk vertebrae in *P. wehrlei* is usually 18 (range 17-19), but more than half of *P. punctatus* have 19 (range 18-19). *P. punctatus* is very similar in appearance to the sympatric white-spotted form of *P. glutinosus*, but the latter usually has 17 trunk vertebrae and less webbing between the toes.

• **Descriptions.** Highton (1971) described the type specimen. Martof et al. (1980) gave a description that is incorrect in stating that *P. punctatus* has more webbing on the toes than *P. wehrlei*. Other descriptions are in Conant (1975), Behler and King (1979), and Green and Pauley (1987).

• **Illustrations.** Conant (1975) has a drawing showing the dorsal pigmentation. Color photographs are in Behler and King (1979), Martof et al. (1980) and Green and Pauley (1987); unfortunately, the photographs in Behler and King (1979) and Martof et al. (1980) are of an unusual individual with very few dorsal white spots that closely resembles *P. wehrlei*.

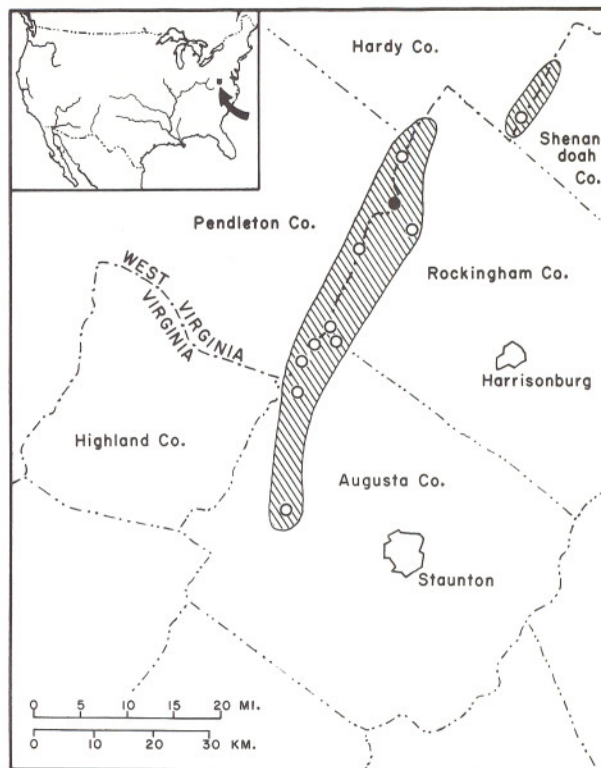
• **Distribution.** *Plethodon punctatus* is known only from higher elevations on Shenandoah and Great North Mountains, George Washington National Forest, Virginia and West Virginia.

• **Fossil Record.** None.

• **Pertinent Literature.** Highton (1971) described variation in the original series, and discussed the relationship of *P. punctatus* to other species and its altitudinal distribution relative to that of *P. glutinosus*. Highton and Larson (1979) compared electrophoretic variation in 29 proteins of *P. punctatus* with that in all 25 other species of the genus *Plethodon* recognized at that time. Its albumin was compared immunologically to several other species of *Plethodon* by Maxson et al. (1979) and Maxson et al. (1984). Chromosomal morphology, genome size and DNA sequence homologies to eastern and western species of *Plethodon* were studied by Mizuno and Macgregor (1974). Coss (1974) made a comparative electron microscopic study of maxillary and premaxillary dentition. Fraser (1974, 1976) studied seasonal activity, foraging activity, stomach contents, habitat use, and behavioral interactions with a congener on Shenandoah Mountain, Virginia.

• **Etymology.** The name *punctatus* refers to the large white dorsal spots.

• **Comment.** The ranges of *P. punctatus* and *P. wehrlei* were believed by Highton (1971) to be separated by 45 km of uninhabited territory, but *P. wehrlei* has recently been taken about midway between the closest records of the two species. It should be sought



Map. The solid symbol marks the type locality. Open circles indicate other records.

at lower elevations on the western slopes of Shenandoah Mountain to determine whether the ranges of the two forms contact or overlap.

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Literature Cited

- Behler, John L., and F. Wayne King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York. 720 p.
- Conant, Roger. 1975. A field guide to reptiles and amphibians of eastern and central North America. Second edition. Houghton Mifflin Co., Boston. xviii + 429 p.
- Coss, Howard Thomas. 1974. Maxillary and premaxillary dentition of salamanders of the tribe Plethodontini (family Plethodontidae). Ph.D. dissertation, Clemson University, ix + 70 p.
- Fraser, Douglas F. 1974. Interactions between salamanders of the genus *Plethodon* in the central Appalachians: studies on coexistence and competition. Ph.D. dissertation, University of Maryland, x + 153 p.
- . 1976. Coexistence of salamanders of the genus *Plethodon*: a variation of the Santa Rosalia theme. *Ecology* 57(2):238-251.
- Green, N. Bayard, and Thomas K. Pauley. 1987. Amphibians and Reptiles in West Virginia. Univ. Pittsburgh Press, Pittsburgh. xi+241p.
- Highton, Richard. 1962. Revision of North American salamanders of the genus *Plethodon*. *Bull. Florida State Mus.* 6(3):235-367.
- . "1971" (1972). Distributional interactions among eastern North American salamanders of the genus *Plethodon*. In: The distributional history of the biota of the southern Appalachians. Part III: Vertebrates: 139-188. Res. Div. Mono. (4), Virginia Polytechnic Inst., Blacksburg.
- , and Allan Larson. 1979. The genetic relationships of the salamanders of the genus *Plethodon*. *Syst. Zool.* 28(4):579-599.

Martof, Bernard S., William M. Palmer, Joseph R. Bailey, and Julian R. Harrison III. 1980. Amphibians and reptiles of the Carolinas and Virginia. University of North Carolina Press, Chapel Hill. 264 p.

Maxson, Linda R., Richard Highton, and David B. Wake. 1979. Albumin evolution and its phylogenetic implications in the plethodontid salamander genera *Plethodon* and *Ensatina*. *Copeia* 1979(3):502-508.

_____, _____, and David Ondrula. 1984. Immunological evidence on genetic relationships of *Plethodon dorsalis*. *J. Herpetol.* 18(3): 341-344.

Mizuno, Shigeki, and Herbert C. MacGregor. 1974. Chromosomes,

DNA sequences, and evolution in salamanders of the genus *Plethodon*. *Chromosoma* 48: 239-296.

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