TAXONOMIC REVISION OF THE MEXICAN PLETHODONTID SALAMANDERS OF THE GENUS *LINEATRITON*, WITH THE DESCRIPTION OF TWO NEW SPECIES

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ABSTRACT: We describe two new species of salamanders of the genus *Lineatriton*, which occur as allopatric populations in the Sierra de Juárez, Oaxaca, and the Sierra de Los Tuxtlas, Veracruz, Mexico. The name *Lineatriton lineolus* (Cope) is restricted to populations in the Sierra Madre Oriental of Veracruz. The population in the Sierra de Los Tuxtlas, previously allocated to *L. lineolus*, is here described as *Lineatriton orchimelas*. The population from the Sierra de Juárez is reported here for the first time and is described as yet another new species of *Lineatriton*. These new species differ from *L. lineolus* in aspects of body size, body proportions, and pigmentation of the male reproductive organs.

**Key words:** Systematics; New species; *Lineatriton orchimelas*; *Lineatriton lineolus*; *Lineatriton orchileucos*; Plethodontidae; Mexico; Veracruz; Oaxaca

The distinctive, elongate salamanders of the genus *Lineatriton* Tanner have always been assigned to a single species, *L. lineolus*, which has been thought to occur in two allopatric populations—one in the Sierra Madre Oriental and the other in the Sierra de Los Tuxtlas, Veracruz, Mexico (Wake and Elias, 1983). These salamanders were included in several general works and distributional transect studies (Wake and Lynch, 1976; Wake et al., 1992), but their natural history has not been studied in detail. The phylogenetic position of *Lineatriton* with respect to other plethodontid salamanders is poorly understood (Wake and Elias, 1983), but there is no evidence suggesting that it is most closely related to the other elongate genera *Oedipina* and *Batrachoseps* (García-París and Wake, 2000; Tanner, 1952; Wake and Elias, 1983).

While browsing the herpetological collections at The University of Kansas (KU), one of us (E. D. Brodie, Jr.) noticed two specimens referred to *Lineatriton lineolus* from the Sierra de Juárez, Oaxaca. Despite having been collected over 35 years ago, this new material had remained unstudied and the locality unreported in the literature. Based on our re-discovery of these specimens, we have taken the opportunity to review the taxonomic status of the three allopatric populations of *Lineatriton*, which we allocate to three morphologically distinct species.

**MATERIALS AND METHODS**

Basic terminology, format, and measurements follow Campbell and Smith (1998). Measurements were made using a dissecting scope fitted with an ocular micrometer, digital calipers, and a metal rule; all measurements were rounded to 0.1 mm. We determined sex and sexual maturity of specimens by direct examination of the gonads. The following measurements were taken from each specimen: standard length from snout to posterior margin of vent (SL); tail length from posterior margin of vent to tip of tail (TL); distance between axilla and groin (AG); head length from anterior end of snout to middle of gular fold (HL); head width between angle of jaws (HW); eye–nostril distance (END); length of eye (EYE); interocular distance between eyelids, measured between medial margins of eyelids (IOD); and distance between medial borders of nares (IND). Additionally, we recorded the numbers of maxillary–premaxillary and vomerine teeth. Tail length was not measured on specimens with obviously damaged or re-