

Catalogue of American Amphibians and Reptiles.

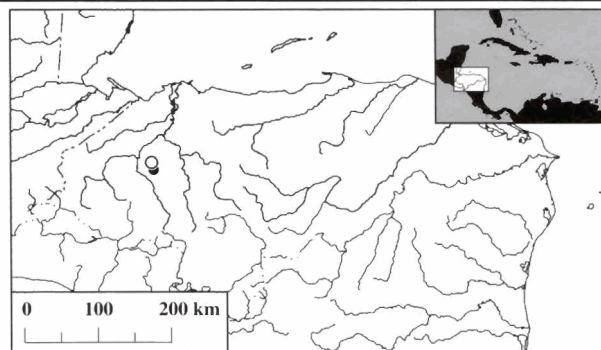
McCranie, J.R. and L.D. Wilson. 2003. *Nototriton limnospectator*.

Nototriton limnospectator McCranie, Wilson, Polisar

Nototriton limnospectator McCranie, Wilson, and Polisar 1998: 455. Type locality, "the northwestern side of Montaña de Santa Bárbara southwest of San Luís de los Planes (14°56'N, 88°08'W), 1910 m elevation, Departamento de Santa Bárbara, Honduras." Holotype, Florida Museum of Natural History (UF) 98460, an adult female, collected by J. Polisar, 23 May 1995 (examined by authors).

• **CONTENT.** No subspecies are recognized.

• **DEFINITION.** *Nototriton limnospectator* is a diminutive salamander (SVL 33.0–38.2 mm, $\bar{x} = 36.3 \pm 2.0$ mm in five males; 33.6–37.8 mm, $\bar{x} = 35.7$ mm in two females) with a short and narrow head (head length/SVL 0.164–0.188, $\bar{x} = 0.180 \pm 0.009$ in males; 0.159–0.161, $\bar{x} = 0.160$ in females; head width/SVL 0.110–0.118, $\bar{x} = 0.114 \pm 0.003$ in males; 0.095–0.098, $\bar{x} = 0.097$ in females). The snout is broadly rounded in dorsal aspect and broadly rounded to rounded in lateral profile. The nostril openings are small (nostril length/SVL 0.003 in all seven specimens). The labial protuberances are well developed in males and weakly developed in females. Males in breeding condition have a rather indistinct, oval-shaped mental gland cluster. The eyes are protuberant and narrowly visible beyond the margin of the jaw when viewed from below. A shallow postorbital groove extends posteriorly from the eye before turning sharply ventrally to connect with the gular fold, and another groove proceeds sharply ventrally just posterior to the lower jaw. A sublingual fold is present. The maxillary teeth number 42–55 ($\bar{x} = 49.8 \pm 4.8$) in males, 49–52 ($\bar{x} = 50.5$) in females, and extend posteriorly to a level beyond the center of the orbit. The vomerine teeth number 16–17 ($\bar{x} = 16.2 \pm 0.4$) in males, 22–26 ($\bar{x} = 24.0$) in females, and are in a long, single arched series that extends laterally to a level varying from the medial edge of the choanae to slightly beyond the outer edge of the choanae. The premaxillary teeth number 2–3 ($\bar{x} = 2.4 \pm 0.5$) in males and 5 in both females. The premaxillary teeth are enlarged and located just posterior to the lip and are slightly offset from the maxillary series in males. The premaxillary teeth are not enlarged and are located posterior to the lip and in line with the maxillary series in females. The costal grooves number 13. The tail is long (tail length/SVL 1.253–1.297, $\bar{x} = 1.271 \pm 0.023$, N = 3 in males; 1.027–1.056, $\bar{x} = 1.042$ in females) and is nearly rectangular in cross section anteriorly, but becomes ovoid for the distal one-third of its length. The tail is slightly constricted basally. The limbs are slender and short (forelimb length/SVL 0.165–0.183, $\bar{x} = 0.173 \pm 0.007$ in males; 0.156–0.158, $\bar{x} = 0.157$ in females; hind limb length/SVL 0.183–0.211, $\bar{x} = 0.195 \pm 0.011$ in males; 0.164–0.182, $\bar{x} = 0.173$ in females). The adpressed limb interval ranges from 3–4 costal folds in males and from 4.5–5 costal folds in females. The feet are tiny (hind foot width/SVL 0.055–0.061, $\bar{x} = 0.058 \pm 0.022$ in males; 0.048–0.050, $\bar{x} = 0.049$ in females). The digits are differentiated, with about 1.5 segments of Toe III between Toes II–III on the forelimbs free of webbing and about two segments of Toe III between Toes III–IV on the hind limbs free of webbing. The toe tips are bluntly rounded and have well-developed subdigital pads. The relative length of the toes on the forelimbs is I<IV<II<III, whereas that on the hind limbs is I<V<II<IV<III. The postiliac gland cluster is fairly



MAP. Distribution of *Nototriton limnospectator*: the circle denotes the type locality and the dot represents a second locality.



FIGURE. Adult female *Nototriton limnospectator* (MVZ 225866).

distinct. Males have cloacal papillae and females have shallow cloacal folds (McCranie and Wilson 2002).

McCranie et al. (1998), using Smithe (1975–1981) for color names (capitalized) and color codes (in parentheses), described the color in life of an adult female (MVZ 225866) as follows: "dorsal surfaces of body and head Fawn Color (25) patterned with tiny white spots, with darker brown pigment following costal grooves; dorsal surface of tail slightly paler, with Fawn Color mottling; ventral surface of body and subcaudal surface Chestnut (32) with small white spots, spotting beneath tail becoming more of a mottled pattern; ventrolateral region of body slightly darker than venter; dorsal and ventrolateral colorations separated by irregular cream-colored lateral stripe." These authors also described color in life of an adult male (USNM 509334; now cleared and stained) as follows: "dorsal surfaces of body and tail Sepia (219), heavily flecked with silver and Amber (36) so as to give an impression of a pale rust-colored dorsum with scattered dark brown markings; dorsal surface of head same as that of body, but less heavily flecked; silver flecking concentrated at lower edge of dorsum forming narrow silver stripe, silver stripe bordered above by Amber, silver stripe bordered below by Sepia (119) band; dorsal surfaces of limbs Fuscous (21) with Amber flecking and blotching; chin pale gray with heavy dark brown flecking and silver spotting; belly darker than chin, with scattered silver and gold flecking; subcaudal surface same as for belly, except with heavier silver spotting and some gold flecking (tail incomplete); iris Chestnut (32) with black reticulations."

Color in alcohol was described as follows by McCranie et al. (1998): "All dorsal surfaces medium brown to dark brown, those with medium brown dorsal surfaces have paler brown spotting or mottling on body; ventral and subcaudal surfaces cream-colored, moderately to heavily flecked with brown, ventrolateral area of body slightly darker than venter; dorsal and ventrolateral colorations separated by narrow cream-colored irregular stripe in eight of nine specimens."

• **DIAGNOSIS.** *Nototriton limnospectator* is a member of the *N. barbouri* species group, along with *N. barbouri*, *N. brodiei*, *N. lignicola*, and *N. stuarti* (García-París and Wake 2000, Wake

and Campbell 2000). *Nototriton barbouri* can be distinguished by having larger nostril openings (mean nostril length/SVL 0.008) and wider heads (mean head width/SVL 0.121 in males, 0.117 in females) and by lacking a narrow pale lateral stripe separating the dorsal and ventral colorations. *Nototriton brodiei* differs in having a longer tail (tail length/SVL 1.42–1.44; Campbell and Smith 1998). *Nototriton lignicola* differs in having larger nostril openings (mean nostril length/SVL 0.007), a smaller size (males to 34 mm SVL, females to 33 mm SVL), shorter tails (mean tail length/SVL 0.987 in males, 0.935 in females), and by lacking a narrow pale lateral stripe separating the dorsal and ventral colorations. *Nototriton stuarti* has a broader head (head width/SVL 0.14), fewer maxillary teeth (36), and a larger nostril (nostril length/SVL 0.012; Wake and Campbell 2000). García-París and Wake (2000) presented molecular data that supported species recognition of four taxa included in the *N. barbouri* group (*N. stuarti* was described subsequently).

• **DESCRIPTIONS.** Detailed descriptions of external morphology are in McCranie et al. (1998) and McCranie and Wilson (2002). McCranie et al. (1998) described osteology.

• **ILLUSTRATIONS.** A color photograph of an adult is in McCranie and Wilson (2002) and a black and white photograph of a different adult is in McCranie et al. (1998). A line drawing showing the anterior cranial elements is in McCranie et al. (1998).

• **DISTRIBUTION.** The species is known only from the vicinity of the type locality on Montaña de Santa Bárbara in eastern Departamento de Santa Bárbara in western Honduras. The known elevational range of occurrence is 1640–1980 m in lightly disturbed to primary cloud forest (Lower Montane Wet Forest formation of Holdridge 1967).

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** What little is known about the natural history of this species was summarized by McCranie et al. (1988) and McCranie and Wilson (2002). McCranie and Wilson (2002) also discussed its distribution by physiographic and ecophysiographic regions in Honduras. Wilson and McCranie (2003b) discussed its ecological distribution in the Honduran cloud forests. Wilson and McCranie (2003c) considered the species to be an “indicator species” used to measure environmental stability in Honduras. McCranie and Wilson (2002) and Wilson and McCranie (2003a) considered the known populations to be highly vulnerable. García-París and Wake (2000) studied mtDNA and presented a phylogenetic

analysis of its relationships. The species was included in diagnoses of new species of *Nototriton* by Wake and Campbell (2000) and Köhler (2002).

• **ETYMOLOGY.** The name *limnospectator* is formed from the Greek nouns *limne* (lake) and *spectator* (observer, beholder). The name alludes to one’s ability to see Lago de Yojoa from a mountain ridge where two specimens were collected.

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