Catalogue of American Amphibians and Reptiles.

McCranie, J.R. 2006. *Cryptotriton nasalis.*

Cryptotriton nasalis (Dunn)

Oedipus nasalis Dunn 1924:97. Type-locality, "mountains west of San Pedro [San Pedro Sula, Cortés], Honduras, at 4500 feet altitude" (see Remarks). Holotype, Field Museum of Natural History (FMNH) 4568, an adult male, collected by K.P. Schmidt and L.L. Walters, 1 April 1923 (examined by author).
Oedipus [sp.]: Schmidt 1942:27 (part).
Chiropterotriton nasalis: Taylor 1944b:214.
Nototriton nasalis: Wake and Elias 1983:11 (part).
Cryptotriton nasalis: García-París and Wake 2000: 58. First use of combination.

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

• **DEFINITION**. *Cryptotriton nasalis* is a diminutive salamander (SVL 24.0–32.0 [28.2 ± 2.4] mm in 14 males, 28.0–35.2 [32.0 ± 2.8] mm in 6 females) with a moderately long and moderately broad head (head length/SVL 0.180–0.207 in 13 males, 0.176–0.196 in 6 females; head width/SVL 0.125–0.141 in 13 males, 0.126–0.141 in 6 females). The snout is truncate to broadly rounded in dorsal aspect and broadly rounded to rounded in lateral profile. The nostril openings are large (nostril length/SVL 0.021–0.031 in 13 males 0.020–0.027 in 6 females). The labial protuberances are well developed in both sexes and pronounced in adult males. Males in breeding condition have a somewhat distinct, 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 almost always proceeds sharply ventrally just posterior to the lower jaw. A sublingual fold is present. The maxillary teeth number 40–60 (52.0 ± 7.0) in 11 males, 52–68 (57.5 ± 6.1) in 6 females, and extend posteriorly to a level beyond the center of the orbit, and increase in number with increasing adult size. The vomerine teeth number 10–18 (13.3 ± 2.8) in 12 males, 10–16 (14.7 ± 2.3) in 6 females, and are in a long, usually single (occasionally in slightly irregular rows) arched series that extends laterally to the level of the inner edge of the choanae. The premaxillary teeth number 2–5 (3.7 ± 1.1) in 13 males and 5–9 (7.0 ± 1.7) in 6 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 1.138–1.352 in 10 males, 0.797–1.270 in five 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 relatively long (forelimb length/SVL 0.203–0.237 in 12 males, 0.195–0.215 in 6 females; hind limb length/SVL 0.238–0.261 in 12 males, 0.225–0.238 in 6 females; combined fore- and hind limb length/SVL 0.450–0.498 in 12 males, 0.429–0.449 in 6 females). The adpressed limb interval ranges from 1.5 to 3.0 costal folds in males and from 2.5 to 3.5 costal folds in females. The feet are tiny (hind foot width/SVL 0.058–0.091 in 13 males, 0.057–0.091 in 6 females). The digits are differentiated, with about one and one-half to two segments of toe III between toes II–III on the forelimbs free of webbing and about two to two and one-half 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 distinct to not evident. Males have cloacal papillae and females have shallow cloacal folds (the above data by the author, most of which was published in McCranie and Wilson 2002).

McCranie and Wilson (2002), based on a color slide of an adult male (KU 194185), described the color in life as follows: "dorsal surfaces of head and body dark brown with paler brown mottling on head posterior to eyelids and along middorsal line to base of tail; dorsal surfaces of limbs paler brown than dorsal ground color; dorsal surface of tail darker brown than ground color of body."

Color in alcohol was described as follows by McCranie and Wilson (2002): "all dorsal surfaces pale brown to dark brown, usually with paler brown mottling or suffusion along middorsal region to at least base of tail; lateral surface of body occasionally slightly paler brown than dorsal ground color; ventral and subcaudal surfaces usually somewhat paler brown than dorsal ground color, those specimens with palest ventral and subcaudal surfaces have dense brown flecking."

Figure 1. Adult male of *Cryptotriton nasalis* (KU 194185). Photograph by the author.

• **DIAGNOSIS**. *Cryptotriton nasalis* can be distinguished from the other five described species placed in the genus by García-París and Wake (2000) as follows: *Cryptotriton adelos* (all data from Papenfuss and Wake 1987) has smaller nostril openings (nostril length/SVL 0.016–0.019), shorter limbs (combined

fore-and hind limb length/SVL 0.40–0.45), and a cream dorsolateral stripe on each side of the body; *Cryptotriton alvarezdeltoroi* has shorter limbs (combined fore-and hind limb length/SVL 0.44–0.45; data from Papenfuss and Wake, 1987) and sequence differences in mitochondrial cytochrome *b* (see García-París and Wake 2000); *Cryptotriton monzoni* (all data from Campbell and Smith, 1998, based on the holotype female and only known specimen of that species) has "somewhat" pointed digit tips, slightly shorter limbs (combined fore-and hind limb length/SVL 0.42), and "moderately extensive" webbing; and *Cryptotriton veraepacis* has a different sequence of mitochondrial cytochrome *b* (García-París and Wake 2000) and a smaller nostril opening (nostril length/SVL 0.017 according to Papenfuss and Wake 1987). None of the characters given by Campbell and Smith (1998) in their description of *Cryptotriton wakei* support recognition of that nominal form as a species distinct from *C. nasalis* (see McCranie and Wilson 2002, and **Remarks**).

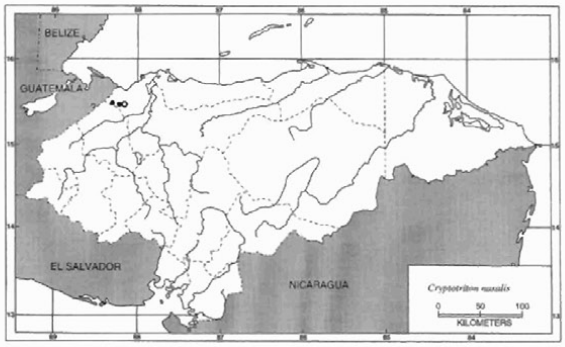
• **DESCRIPTIONS**. Besides the original description in Dunn (1924), the only other detailed descriptions of external morphology are in Dunn (1926) and McCranie and Wilson (2002). Lynch and Wake (1978) and Wake (1966, 1998) described some osteological characters and Tanner (1952) described aspects of throat musculature.

• **ILLUSTRATIONS**. A color photograph of an adult is in McCranie and Wilson (2002). Taylor (1944b) included drawings of the fore-and hind feet. Line drawings showing the osteology of the nasal capsule region and the hind foot are in Lynch and Wake (1978); the latter drawing also shows the toe shape and an outline of the webbing. McCranie and Wilson (2002) included a habitat photograph taken in the vicinity of one of the collecting sites for this species.

• **DISTRIBUTION**. *Cryptotriton nasalis* is known from the Sierra de Omoa west of San Pedro Sula, Cortés, in northwestern Honduras. It also might occur in the Sierra de Caral, in the department of Izabal, in northeastern Guatemala (see **Remarks**). The known elevational range is ca. 1220—2200 m in lightly disturbed to primary forest in the Lower Montane Wet Forest and Premontane Wet Forest formations (slightly modified from Holdridge 1967). The forests in the area of the type-locality of this species have been destroyed and it almost certainly no longer occurs in that area. Populations of this species in Honduras now appear to be restricted to forested regions in Parque Nacional El Cusuco, where the species has proven difficult to encounter, but appears to have stable populations.

• **FOSSIL RECORD**. None.

• **PERTINENT LITERATURE**. References are listed by topic (all references marked with an asterisk in this section included *Dendrotriton sanctibarbarus* in *Cryptotriton nasalis*): **biochemical genetics** (García-París and Wake 2000 and Maxon and Wake 1981); **morphological statements and comparisons to new species** (Campbell and Smith 1998, Lynch and Wake 1978*, McCranie and Wilson 1997a,b, McCranie et al. 1998, Papenfuss and Wake 1987*, Rabb 1960); **conservation** (McCranie and Wilson 2002, and Wilson and McCranie 2003, 2004a); **distribution and ecology** (Campbell 1999*, Campbell and Vannini 1989, Duellman 2001, Dunn 1926, McCranie and Wilson 1993, 1995, 2002, Meyer and Wilson 1971*, Schmidt 1936, 1942, Stuart 1943, Wake 1987, Wake and Lynch 1976*, Wilson and McCranie 2003, 2004b-c, and Wilson et al. 2001).



Map. Distribution of *Cryptotriton nasalis*. The circle denotes the type locality. Dots represent other localities. The question mark in Guatemala represents a possible locality for this species (see **Remarks**).

The species is mentioned in the following **checklists and similar compendia**: (Anonymous 1994, Barbour and Loveridge 1929, Brame 1967, Cochran 1961, Duellman and Schlager 2003, Frost 1985*, Gorham 1974, Harding 1983, Kluge 1983, Larson et al. 2003, Marx 1958, McCoy and Richmond 1966, Meyer 1969*, Meyer and Wilson 1971*, Peters 1952, Smith et al. 1964, Sokolov 1988, Taylor 1944a, Villa et al. 1988*, Wilson 1983*, and Wilson and McCranie 1994*, 2004c). **Maps** are in Dunn (1926, Lynch and Wake 1975*, McCranie and Wilson 2002, and Papenfuss and Wake 1987*, and confused with that of *Nototriton barbouri* in Wake and Campbell (2000) and Wake and Lynch (1976*).

• **REMARKS**. By using the information in Schmidt (1942), copies of Schmidt's field notes on the collecting trip, and the topographical map of the mountains west of San Pedro Sula (Instituto Geográfico Nacional 1975), I believe that I have been able to pinpoint the precise locality of Schmidt's collecting station and type-locality for this species (see McCranie and Wilson 2002). It is apparently "along the Quebrada del Infierno on the eastern slopes of Cerro de la Virtúd, 1370 m elevation, 15°32'N, 88°06'W."

Campbell and Smith (1998) described *Cryptotriton wakei* (as *Nototriton wakei*) based on a single adult female collected at 1150 m elevation in the Sierra de Caral, Izabal, Guatemala, along the border with Honduras. McCranie and Wilson (2002) presented morphological data on a large series of *C. nasalis* that demonstrated overlap between both nominal forms in all

but one of the diagnostic characters used by Campbell and Smith (1998) to separate these two forms (the "shorter toes" in *C. wakei* could not be quantified because Campbell and Smith did not provide these measurements). The type-locality of *C. wakei* is in the same mountain complex where *C. nasalis* occurs and is only about 50 km SW of the nearest known *C. nasalis* locality. The intervening area is also dotted with numerous peaks of sufficient elevation to support populations of *C. nasalis*-like salamanders. I believe, therefore, that recognition of *C. wakei* as a distinct species is problematical. Hopefully, tissues of the Sierra de Caral salamanders can be obtained for biochemical comparisons of these morphologically similar nominal forms.

• **ETYMOLOGY**. The name *nasalis* is formed from the Latin *nasus* (nose) and *-alis* (pertaining to), and presumably refers to the enlarged external nostril openings of this species.

• **COMMENT**. Frank and Ramus (1995) used the English common name Cortes Salamander for this species. Museum acronyms follow Leviton et al. (1985).

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Primary editor for this account, Brian T. Miller.

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