

## Catalogue of American Amphibians and Reptiles.

McCranie, J.R. 2010. *Plectrohyla dasypus*.

***Plectrohyla dasypus* McCranie and Wilson  
*Rana Trepadora Cusucoense***

*Plectrohyla dasypus* McCranie and Wilson 1981:1.  
Type locality, "along the Quebrada Cusuco at El Cusuco (15°30'N, 88°13'W), a finca located 5.6 km WSW Buenos Aires (the latter locality about 19 km N Cofradía), 1580 m, Sierra de Omoa, Departamento de Cortés, Honduras." Holotype, University of Kansas Museum of Natural History (KU) 186025, an adult male, collected by J.R. McCranie and L.D. Wilson, 14 April 1979 (examined by author).

*Plectrohyla guatemalensis*: McCranie and Wilson 1981:6 (misidentified tadpoles of *P. dasypus*).

*Plectrohyla teuchestes*: Duellman and Campbell 1992:32 (part).

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

• **DEFINITION.** *Plectrohyla dasypus* is a moderately large hylid (SVL 38.8–44.0 mm, mean = 40.6 ± 1.7 mm in 10 adult males, 43.4–48.3 mm, mean = 45.4 ± 2.2 mm in 4 adult females) with a moderately long, broad head (head length/SVL 0.278–0.318 in adult males, 0.276–0.302 in adult females; head width/SVL 0.317–0.365 in adult males, 0.290–0.341 in adult females). The snout is nearly rounded in dorsal aspect and nearly vertical in lateral profile. A vertical rostral keel is absent. The top of the head is flat with the internarial area slightly depressed near the point of convergence of the canthal ridges. The canthus is rounded to nearly angular and is distinct. The loreal region is concave. The nostrils are directed laterally and are situated at a point about two-thirds the distance between the anterior border of the prominent eye (interorbital distance/eye length 0.933–1.125 in males, 0.962–1.083 in females) and the tip of the snout. The supratympanic fold is well developed and obscures the upper edge of the otherwise distinct to prominent (most often distinct) and large tympanum (tympanum length/eye length 0.408–0.533 in males, 0.409–0.538 in females). The tympanum is located posteroventral to the eye and is separated from the eye by a distance slightly exceeding the tympanum length. The upper eyelids are large and prominent (upper eyelid width/interorbital distance 0.800–1.000 in males, 0.769–0.978 in females). The pupils are horizontally elliptical and the palpebral membrane is translucent and unpatterned.

The arms are robust in males with the forearms slightly more so than the upper arms. In females, the upper arms are more slender than the moderately robust forearms. A distinct transverse dermal fold is present on the upper surface of each wrist. There is no vertical dermal fold on the elbows. A row of tubercles forms a distinct dermal ridge along the posterior ventrolateral edge of each forearm. The axillary membrane is absent to abbreviate, and extends no



FIGURE 1. Adult male (KU 186025 above and USNM 514415 below) of *Plectrohyla dasypus* (photographs by the author).

more than one-half the distance towards each elbow when present. The finger discs are broadly expanded (third finger disc width/tympanum length 1.000–1.263 in males, 0.962–1.000 in females), with the disc covers rounded (even) and the disc pads broadened. The subarticular tubercles on the fingers are round and globular, and supernumerary tubercles are absent. The palmar tubercle is elevated and ovoid, and either bifid or divided. The accessory palmar tubercles are small and round, and vary from barely raised to globular. The prepollex is distinctly enlarged, especially in the males, and is short and flat, and with a blunt distal end. The prepollex bears tiny nuptial excrescences in breeding males. The relative length of the fingers is I<II<IV<III. The webbing is basal between Fingers I–II, the remaining webbing formula is II 2–3 III 2–2+IV. Lateral keels are present on the unwebbed portions of the fingers.

The hind limbs are long (shank length/SVL 0.489–0.538 in males, 0.463–0.511 in females; foot length/SVL 0.413–0.485 in males, 0.410–0.440 in females).

The heels broadly overlap when the hind limbs are held at right angles to the body. A vertical dermal fold is present on the outer lateral edge of each heel. There is no dermal ridge along the posterior ventrolateral edge of each tarsus. There is a distinct inner tarsal fold that extends the full length of each tarsus. The subarticular toe tubercles are round and globular and supernumerary tubercles are absent. The plantar tubercles are small and round, and are barely raised. The inner metatarsal tubercle is ovoid and elevated, and is visible from above. The outer metatarsal tubercle is small and round, and is barely raised. Relative toe length is  $I < II < V < III < IV$ . The toe discs are broadly expanded, but are slightly smaller than the finger discs. The disc covers are rounded (even) and the disc pads are broadened. The webbing formula of the feet is  $I \ 2-2 \ II \ 1-2 \ 1/3 \ III \ 1-2 \ + \ IV \ 2 \ + \ 1-V$ . Lateral keels are present on the unwebbed portions of the toes.

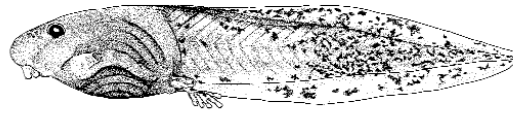
The vent opening is directed posteroventrally near the midlevel of the thighs with the skin surrounding the vent coarsely areolate. The skin of all dorsal surfaces is smooth to weakly granular, and usually has scattered tubercles. The skin of the throat, chest, belly, and the ventral surfaces of the thighs is coarsely areolate.

The tongue is ovoid, is slightly notched or not posteriorly, and is slightly free posteriorly. The vomerine tooth patches are on elevated, medial, and nearly transverse ridges located posterior to the level of, or at the posterior level of the ovoid to elliptical choanae. A distance nearly equal to the width of each patch separates the vomerine tooth patches medially. The maxillary teeth are spatulate. Adult males have paired vocal slits and a single, median, and slightly distensible subgular vocal sac.

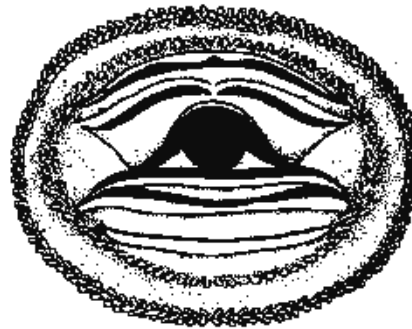
Color in life of the male holotype (KU 186025) is as follows: the dorsum was bronze with small, scattered black spots. A black stripe extends along the canthus and above the tympanum to above the arm. A mottled bronze and black subocular blotch was present. The venter and the hidden leg areas were dark gray. The toe webbing was gray. The iris was copper with black reticulations. The chin was gray with a bronze patina. The dorsal surfaces of 2 females (KU 186028 and 186033) were bronze with small, scattered black spots that were outlined by lime green.

Color in alcohol: the dorsal surfaces and flanks are brown, gray, dark gray, or nearly black. Scattered black spots are present dorsally and dorsolaterally, except in the darkest specimens. The ventral surfaces and the anterior and posterior surfaces of the thighs are heavily flecked with brown or gray, or are nearly uniformly brown, grayish brown, gray, or nearly black.

A typical tadpole (in USNM lot 513859) in stage 40 (Gosner 1960) has a body length of 15.6 mm, a tail length of 33.2 mm, and a total length of 48.8 mm. The body is slightly depressed and slightly wider than high. The snout is semicircular in dorsal aspect and is rounded in lateral profile. The eyes are moderately large (eye length/body length about 0.12) and are directed dorsolaterally. The interorbital distance is



**FIGURE 2.** Lateral view of the tadpole of *Plectrohyla dasyopus* (in USNM lot 513859), in Gosner (1960) stage 40. Scale bar = 5 mm. Drawing by Randy Nutt.



**FIGURE 3.** Oral disc of the tadpole of *Plectrohyla dasyopus* (in USNM lot 513859), in Gosner (1960) stage 40. Scale bar = 3 mm. Drawing by Randy Nutt.

about 3.8 mm. The nostrils are situated at a point slightly closer to the eyes than to the tip of the snout and are directed anterolaterally. The spiracle is sinistral and directed posteriorly, and is located near the midline and at about the midbody. The vent tube is dextral. The tail musculature is robust and extends nearly to the tip of the rounded tail. The height of the tail musculature is much greater than the height of either the dorsal or ventral fins at the midlength of the tail. The dorsal fin terminates at the posterior end of the body. The oral disc is very large (oral disc width/snout width about 0.83) and ventral, and is continuously bordered by 2–3 rows of large marginal papillae (about 10 per mm). A single row of larger submarginal papillae is present dorsally and ventrally just inside the marginal papillae. A few additional submarginal papillae are present laterally. The oral disc is not emarginated. The keratinized jaw sheaths are medium-sized and bear short, somewhat pointed to blunt serrations. The upper jaw sheath is widely arched and has long and slender lateral processes. The lower jaw sheath is widely V-shaped. The labial tooth rows are  $2/3$ , with row A-2 narrowly interrupted medially. The anterior tooth rows are long and subequal, and extend to the lateral portions of the oral disc. The posterior tooth rows are slightly shorter than the anterior rows, with the P-1 and P-3 rows subequal. The P-2 row is slightly longer than the P-1 and P-3 rows. The P-3 row occasionally has shorter teeth than do the P-1 and P-2 rows.

Color in life of the tadpoles (in USNM lot 513859) in

Gosner (1960) stage 40: the dorsum of the head and body was Citrine (color 51 in Smithe 1975–1981). The tail musculature was Olive-Yellow (52) with Citrine spots. The tail fins were transparent with Citrine spots. The iris was coppery red. Color in life of another tadpole (in USNM lot 513861) in stage 41: the dorsum of the head and body was Citrine (51) with heavy Greenish Olive (49) mottling. The dorsal surfaces of the limbs were Greenish Olive with Olive-Yellow (52) mottling. The tail musculature was Olive-Yellow with Citrine spotting. The iris was coppery red.

Color in formalin of preserved tadpoles: the body is dark brown to dark grayish brown. The tail musculature is pale brown with brown flecking and spotting. The tail fins are translucent and flecked and/or spotted with brown, especially on the dorsal fin.

Color in life for two nearly metamorphosed froglets (USNM lot 513862) in stage 44: the dorsal surfaces of the head body and limbs were bronze with Greenish Olive (49) spots. The iris was coppery red. Color in life for a nearly completely metamorphosed frog (SVL 16.3 mm; USNM lot 513862): the dorsal surfaces of the head, body, and limbs were bronze with Greenish Olive (49) spots. The iris was coppery red (all of the above descriptions, except color in life, are based on data taken by McCranie and published in McCranie and Wilson 2002; the color in life notes were taken from Wilson's field notes).

• **DIAGNOSIS.** The short and flat prepollex with a blunt distal end will distinguish *Plectrohyla dasypus* from all other species of *Plectrohyla* (*sensu* Duellman 2001; see **Remarks**), except for *P. chrysopleura*, *P. glandulosa*, *P. lacertosa*, *P. psiloderma*, *P. pycnochila*, and *P. tecunumani*. *Plectrohyla chrysopleura* has bright yellow in the axillary, groin, and hidden leg areas in life and those areas are dirty white with some gray flecking in preservative, and is a larger species with adults reaching 66 mm SVL. *Plectrohyla glandulosa* and *P. psiloderma* have pointed maxillary teeth and adult males lack vocal slits. *Plectrohyla lacertosa* has pointed maxillary teeth. *Plectrohyla pycnochila* and *P. tecunumani* lack vocal slits in adult males and are larger species that reach 61 mm SVL in *P. pycnochila* and 62 mm SVL in *P. tecunumani*.

• **DESCRIPTIONS.** Detailed descriptions of external morphology of the adult are in McCranie and Wilson (1981, 2002), Duellman (2001), McCranie and Castañeda (2007), and Townsend and Wilson (2008). Detailed descriptions of the tadpole are in McCranie and Wilson (1997a, 2002), Duellman (2001), and McCranie and Castañeda (2007). The tadpole description in McCranie and Wilson (1981) contains some erroneous information because of the poorly preserved condition of the larvae.

• **ILLUSTRATIONS.** Color illustrations of adults are in Duellman (2001), McCranie and Wilson (2002), Wilson and McCranie (2004a,c), McCranie and Castañeda (2007), and Townsend and Wilson (2008). A black-and-white photograph of an adult is in McCranie and Wilson (1981). Line drawings of the tadpole

are in Duellman (2001), McCranie and Wilson (1997a), and Townsend and Wilson (2008), and a color illustration of the tadpole is in Townsend and Wilson (2008).



**MAP.** Distribution of *Plectrohyla dasypus*. All known localities are in the vicinity of the type-locality (open circle).

• **DISTRIBUTION.** *Plectrohyla dasypus* is known to occur from 1300 to 1990 m elevation in the Premontane Wet Forest (peripherally) and Lower Montane Wet Forest Formations (Holdridge 1967) in the vicinity of Cerro Cusuco in the Sierra de Omoa in the Departamento de Cortés, Honduras. Adults are usually found perched at night on vegetation above streams. Daytime retreats include bromeliads. One male was recently recorded as it was calling from a bromeliad growing on a tree next to the Río Cusuco during September. Adults were active during each month in which my field parties visited the area (April to September). Metamorphosing froglets were found clinging to rocks or vegetation just above the Río Cusuco and some of its small tributaries from May to August. Tadpoles were seen in the Río Cusuco and small tributaries during May, July, and September. Females with large ovarian eggs were collected during May and from July to September.

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** The sparse natural history information on this species was summarized in McCranie and Wilson (1981, 1997a, 2002), McCranie and Castañeda (2007), and Townsend and Wilson (2008). Wilson and McCranie (2004a,b) and McCranie and Wilson (2006) thought the species to have declining populations because of tadpole abnormalities found at the species' type-locality (see McCranie and Wilson 2002). Kolby and Padgett-Flohr (2009) documented *Batrachochytrium dendrobatidis* in tadpoles in Cusuco National Park. However, the species remains common in the this area, but was classified as one of "medium vulnerability" by Wilson and McCranie (2004a) because of its limited distribution. Townsend and Wilson (2008) also classified the species as critically endangered. The tadpole keys in Campbell and Kubin (1990), Duellman and Campbell

(1992), and Wilson and McCranie (1993) contain erroneous data for *P. dasypus* and thus will not key out correctly. The species forms a trichotomy with two clades representing all other species of *Plectrohyla* (*sensu* Duellman and Campbell 1992) with the exception of *P. chrysopleura* in the phylogenetic analyses in Wilson et al. (1994) and Duellman (2001). The species is mentioned in the diagnoses of new species of *Plectrohyla* in Duellman and Campbell (1984) and McCranie and Wilson (1999).

The species is mentioned to various degrees in the following faunal lists, checklists, and similar compendia (only references not previously mentioned in this account are included here): Anonymous 1994; Campbell 1999; Campbell and Vannini 1989; Duellman 1993; Faivovich et al. 2005; Frank and Ramus 1995; Frost 1985; McCranie 2006, 2007; McCranie and Wilson 1997b; da Silva 1998; Sokolov 1988; Townsend 2006; Townsend et al. 2006; Villa et al. 1988; Wilson 1983; Wilson and McCranie 1994; Wilson et al. 2001; Wrobel 2004.

• **REMARKS.** Faivovich et al. (2005) greatly expanded the generic content of *Plectrohyla* by adding the *Hyla bistincta* group and 3 other species from 2 other species groups as recognized by Duellman (2001). However, those additional species placed in *Plectrohyla* by Faivovich et al. (2005) are all distributed in Mexico, and thus need not be compared to *P. dasypus* in the diagnosis herein.

• **ETYMOLOGY.** The name *dasypus* is the generic name of the Nine-Banded Armadillo, *Dasypus novemcinctus*. The name refers to the type-locality of El Cusuco. Cusuco is the local name for armadillo.

• **COMMENT.** The vernacular name used herein is from McCranie and Castañeda (2007). Frank and Ramus (1995) and Wrobel (2004) used the English vernacular name Honduras Spikethumb Frog for *Plectrohyla dasypus*. That name is a poor choice since there are 7 species of Spikethumb Frogs (the vernacular name for the genus *Plectrohyla* used by those authors) known to occur in Honduras, four of which are endemic to the country.

Museum acronyms follow Leviton et al. (1985).

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