

A New Species of Leptodactylid Frog (*Ischnocnema*)
from the Cordillera Del Condor in Ecuador

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ABSTRACT—*Ischnocnema simmonsii* sp. nov. (Leptodactylidae, Telmatobiinae, Eleutherodactylini) is named from the Río Piuntza, Cordillera del Condor, Morona-Santiago Prov., Ecuador, 1830 m; it differs from *I. quixensis* and *I. verrucosa* in skin texture, color pattern, and limb length and presumably occurs at higher elevations than do its congeners.

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The Cordillera del Condor is situated just east of the eastern Andean Cordillera in southern Ecuador. Few herpetological collections have been made on the Condor-Cutucu piedmont. In January, 1972, John E. Simmons and Bruce MacBryde attempted to climb the northern end of the Cordillera; they followed a stream, the Río Piuntza, flowing west off the Condor at approximately 3°15'S, 78°20'W and emptying into the Río Zamora some 30 km SSW of Yuquianza. Their collection yielded a number of unusual leptodactylid frogs, chiefly specimens of *Eleutherodactylus*, but also contained 2 immature specimens of the genus *Ischnocnema*, previously known from a species found in southeastern Brazil (*I. verrucosa*) and one in the upper Amazon basin (*I. quixensis*).

Ischnocnema simmonsii sp. nov.

Holotype.—KU 147068, a young female, collected at the Río Piuntza, Cordillera del Condor, Morona-Santiago Prov., Ecuador, 1830 m, 4 January 1972 by John E. Simmons and Bruce MacBryde.

Paratype.—KU 147069, a juvenile topotype, 5 January 1972, by John E. Simmons.

Diagnosis.—A species of *Ischnocnema* differing from *I. quixensis* and *I. verrucosa* in having the skin of the dorsum and limbs covered with uniform-sized spinule-like warts, in having longer fingers and toes (Fig. 1), and in having a dark venter with scattered white spots.

Description of the holotype.—Measurements in mm: snout-vent length (SVL) 25.3, shank 13.8, head width 10.4, head length 10.2, eyelid width 2.7, interorbital distance (IOD) 2.1, tympanum length 1.9, eye length 3.5, and eye-nostril distance 3.2; head as wide as body, slightly wider than long; head width 41.1 per cent SVL; head subacuminate in dorsal view; snout truncate in dorsal view,

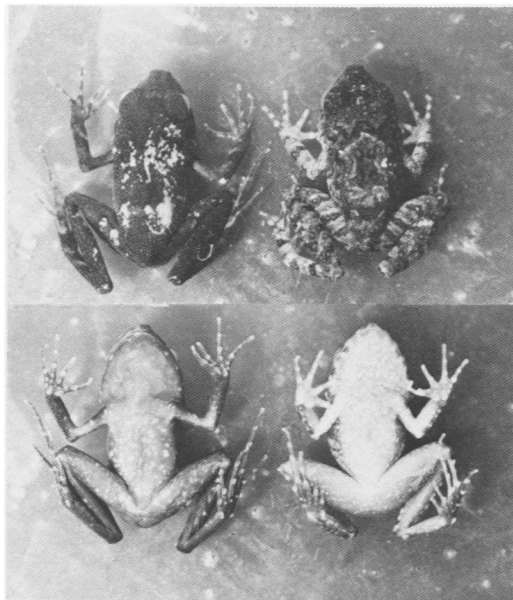


FIGURE 1. Dorsal and ventral views of *Ischnocnema simmonsii* (left, holotype, KU 147068) and *I. quixensis* (right, KU 126226).

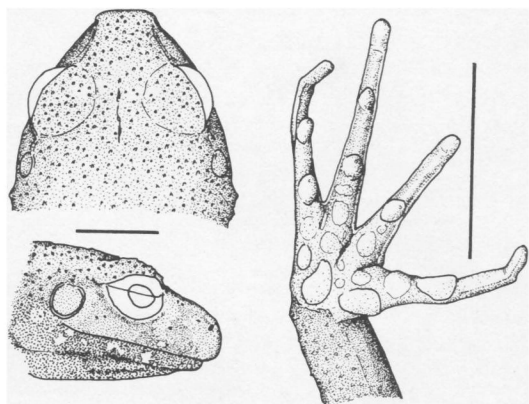


FIGURE 2. *Ischnocnema simmonsii*: dorsal and lateral views of head and palmar view of right hand. Lines equal 5 mm.

nearly truncate in lateral profile, canthus rostralis moderately sharp, concave; loreal region concave; lips not flared; nostrils lateral, weakly protuberant; snout short, eye length greater than eye-nostril distance; upper eyelid width 124 per cent IOD; interorbital space flat, no cranial ridges; temporal region sloping (not vertical); supratympanic fold lacking; tympanum prominent, round, its length 54.3 per cent that of eye, separated from eye by one-half tympanic diameter; tongue as wide as long, weakly notched posteriorly, posterior one-fourth not adherent to floor of mouth; prevomerine denticigerous processes present, round, elevated, each bearing 3 teeth; processes separated by distance equal to one-half width of a process; processes slightly larger than choanae

which lie anterior and lateral; choanae round, not concealed by edge of jaw when roof of mouth is viewed from directly above.

Skin of dorsum and upper surfaces of forearm and shank uniformly covered with fine spinule-like warts; warts sparse on skin of face; a short sagittal interocular ridge present; skin on upper arm and thigh smooth; skin of venter smooth; no discoidal folds.

Limbs long and slender; shank 54.5 per cent SVL; forearm lacking ulnar tubercles; 3 palmar tubercles, inner largest; subarticular tubercles of fingers conical; fingers bearing narrow, keel-like lateral fringes (Fig. 2); palmar supernumerary tubercles round, prominent, not conical; thumb longer than second finger; fingers lacking pads; tarsus lacking tubercles of folds; metatarsal tubercles large, subconical, inner nearly twice as large as outer; plantar supernumerary tubercles round, not conical; subarticular tubercles conical; toes bearing narrow, keel-like lateral fringes, no webs; digit tips weakly swollen, lacking pads.

Color in preservative.—Upper surfaces brownish-black with diffuse brown areas (interocular bar, blotches on back); face dark with indefinite labial bars and white spots along margins of lips; venter brown with small white spots; undersides of limbs and throat colored as venter but fewer spots on throat; limbs with faint cross bars; posterior surface of thighs uniform dark brown.

In life *I. simmonsii* was described as follows: KU 147068 "Dorsum dark gray, venter gray with white spots"; KU 147069 "mottled tan and gray above; dark gray with white flecks below" (J.E. Simmons, field notes, 4 January and 5 January 1972).

The paratype, KU 147069, is a juvenile 13.8 mm SVL and aside from size, is structurally identical with the holotype. The color of 147069 differs slightly in that the dorsum is more evidently bicolored, brown and black, and the limbs are barred.

Etymology.—This species is named for John E. Simmons who during a one year tenure in Amazonian Ecuador collected extensive ecologic material on amphibians as well as made an important collection on the Cordillera del Condor.

Remarks.—With only 2 specimens available, little knowledge of the natural history of *I. simmonsii* is available. Both specimens were taken by day on the forest floor. *I. quixensis* and *I. verrucosa* differ from *I. simmonsii* in having large and small warts on the skin. Although both specimens of *simmonsii* have 3 palmar tubercles and the other species usually only 2, some specimens of *quixensis* have 3 (complete separation of the lateral portion of the median tubercle). The fingers and toes of *simmonsii* are longer than in comparable-sized *quixensis* (Fig. 1). The ventral coloration of *I. quixensis* varies from white or cream with numerous pale brown flecks and reticulation to pale brown with white or cream vermiculations; the edge of the chin

is usually blotched with darker brown. Ventral coloration coupled with the skin texture are considered the best discrimination characteristics.

No *I. quixensis* were found by Simmons on the Condor but *I. quixensis* is never abundant even at localities where it is known. The Río Piuntza locality (1830 m) is considerably higher than any other localities at which *Ischnocnema* has been found (*I. quixensis* has been taken at 700 m in Colombia and 1000 m in central Peru). Thus it appears that *I. quixensis* and *I. simmonsii* are allopatric.

I have examined specimens of *I. quixensis* from the following localities:

COLOMBIA: *Depto. Putumayo*: 7 km SE Mocoa, nr Río Pepino, 700 m, AMNH 84849-50.

ECUADOR, *Prov. Morona-Santiago*: Río Llushín, N of Arapicos, BM 1970.41, USNM 194787; Macuma, UIMNH 59630-35. *Napo*: Dureno, KU 104462; Lago Agrio, 330 m, KU 126231-37; Límon Cocha, KU 99010, LACM 72150-60, UIMNH 53641, 53893, 53918, 54140-41, 54292-95, 59636-51; Loreto, USNM 194788-90; Puerto Libre, Río Aquarico, 570 m, KU 123240-48; Puerto Napo, 560 m, UIMNH 55795; Puerto Ore, Río Aquarico, 420 m, KU 123249; Río Cotopino, USNM 194791-92; Santa Cacia, 340 m, KU 104388 (skel.), 104461, 104463-83, 104832, 109139, 111395-99, 123226-39, 125939, 126226-30; Tena, UIMNH 59652-53. *Pastaza*: Arajuno, 537 m, USNM 194793-94; Canelos, BM 80.12.5.190, Chichirota, USNM 194795-801; just below Montalvo, USNM 194802; Río Bobonaza, 2 km downstream from headwaters, 650 m, USNM 194803; Río Capahuari, headwaters, USNM 194804-06; Río Conambo, USNM 194807, BM 1970.54-56, Río Conambo, nr mouth Río Romarizo, USNM 194808; Río Oglan, upper reach, USNM 194809-11; Río Pindo nr town of Río Tigre, USNM 194812-14; Río Puniyacu, USNM 194815-16; Río Rutuno, trib Bobonaza, USNM 194817-18; Río Solis, headwaters of Río Bobonaza, USNM 194819; Río Villano, USNM 194820; Sarayacu, BM 80.12.5.241-42.

PERU: *Depto. Junín*: Perené, 1000 m, BM 1900.11.27.46. *Loreto*: Balta, Río Curanja, 300 m, LSUMZ 26065-69; vicinity of Iquitos, TCWC 38151, 41492, 41506, 41606; Pebas, BM 1915.3.9.14. *Pasco*: Santa Isabella, 460 m, USNM 166762.

In addition to those listed above, I have seen the following specimens which I am certain represent erroneous locality data: ECUADOR, *Prov. Esmeraldas*: Parraquia Carondelet, Río Bogota, UIMNH 53557; Sector de Lagartera, vic. Río Caoni, UIMNH 53415-18. *Pichincha*: Nanegalito, USNM 194821.

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