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### Notes on the Natural History of the Milksnake *Lampropeltis triangulum andesiana* Williams, 1978 in Venezuela

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The Milksnake *Lampropeltis triangulum* is a very colorful species. Twenty-five subspecies are known from the snake's geographical range (Canada to Ecuador and Venezuela), all with slight color variations (Roth and Smith, 1990). The only subspecies known from Venezuela (Barrio and Navarrete, 1999) is *L. triangulum andesiana*, and not *L. triangulum micropholis* (Roze, 1966; Lancini, 1979; Perez Santos and Moreno, 1988; Kornacker, 1999). The purpose of this work was to increase the existing information on the natural history, morphometry, lepidosis, phenotypic characteristics, and geographical distribution of the specimens found in Venezuelan herpetology collections in order to confirm their identity and the geographical distribution of *L. triangulum andesiana*.

The data was obtained from eight snakes kept in the following collections: MHNLS (Museo de Historia Natural La Salle, Caracas), MBUCV (Museo de Biología de la Uni-

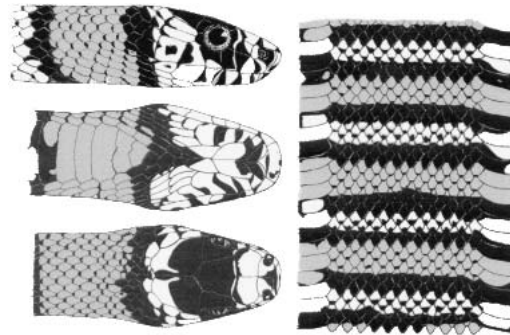


FIG. 1. Midbody pattern and head of *Lampropeltis triangulum andesiana* (MCNC-6843) from Betania, Junin district, Táchira state, Venezuela.

versidad Central de Venezuela, Caracas), CVULA (Colección de Vertebrados de la Universidad de Los Andes, Mérida), MCNC (Fundación Museo de Ciencias, Caracas).

The distribution of *L. triangulum andesiana* comprises Colombia and high areas (1500 to 2150 m) of Western Venezuela including Táchira, Mérida and Zulia states (Table 1). This subspecies has a white nose white with thin black margins at the posterior edge of the scales (Fig. 1). The supralabials are white with black posterior margins; the rest of the head has black pigments in most of the frontal scales, supraoculars, and anterior half of the parietals. The first black ring starts in the posterior parietal region. The red scales are immaculate or with light black spots; the white scales are considerably black-spotted (Fig. 1). The number of red body rings varies from 24 to 37. The temporary formula of

TABLE 1. Data obtained from eight specimens in Venezuelan collections.

Herpetological collection	Catalog number	Sex	State in Venezuela	Altitude (m)	Number of eggs	Snout-vent length (mm)	Digestive remains
MCNC	6843	F	TACHIRA	2150	6	920	Small mammal
MCNC	6864	M	TACHIRA	2150	–	655	–
MCNC	6630	F	TACHIRA	2150	8	870	Small mammal
MCNC	6868	F	TACHIRA	2150	–	920	Small mammal
MBUCV	1654	M	MERIDA	–	–	530	–
MHNLS	1344	F	ZULIA	1500	–	355	–
CVULA	3150	F	MERIDA	2000	14	–	–
CVULA	5635	F	MERIDA	1850	–	900	–

Dashes = unavailable data.

TABLE 2. *Lampropeltis triangulum andesiana* Lepidosis and Phenolosis (n = 8).

	Ventral scales	Subcaudal scales	Black rings	White rings	Red rings	Black scale numbers	White scale numbers	Red scale numbers	Red scale numbers on neck
Mean	221.3	47.6	61.9	31.1	31.1	2.9	2.4	3.3	11.8
Standard deviation	5.0	2.0	7.0	3.6	3.80	0.22	0.24	0.45	1.52
Maximum/minimum ranges	214-227	44-50	52-69	26-35	26-35	2-5	2-4	2-8	9-15

TABLE 3. *Lampropeltis triangulum andesiana* lepidosis (n = 8).

Supralabial scales	Infralabial scales	Temporal formula	Dorsal scales
7 (3,4) 71.4%	8 (4,5) 28.6%	8 (4) 28.6%	9 (4) 71.4%
		2 + 3 100%	19-17 28.6%
			21-17 71.4%

the scales is usually 2+3 and occasionally 1+2 or 2+2; there are 19 dorsal scale rows in the mid region of the body. Maximum snout-vent-length reported was 1.4 m.

Lepidosis ventral scales presented a 214-227 range variation and  $\bar{X} = 221.3 (\pm 5)$ . The subcaudal scales were divided with a 44-50 range variation and  $\bar{X} = 47.6 (\pm 2)$  (Table 2). In supralabial scales, 28.6 % of the specimens had 8 (4,5) and 71.4 % had 7 (3,4). In infralabial scales 28.6 % of the specimens showed a number of 8 (4) and 71.4 % had 9 (4). All the snakes had a 2+3 temporary formula. In the dorsal scale rows with reduction, 28.6 % of the specimens showed 19-17 and 71.4 % revealed 21-17 (Table 3).

Phenolosis characteristics showed that body ring numbers were black with a 52-69 range and  $\bar{X} = 61.9 (\pm 7)$ , white with a 26-35 range and  $\bar{X} = 31.1 (\pm 3.6)$ , and red with a 26-35 range and  $\bar{X} = 31.1 (\pm 3.8)$ . The number of dorsal scales occupying each ring was: black with a 2-5 range and  $\bar{X} = 2.9 (\pm 0.22)$ , white with a 2-4 range and  $\bar{X} = 2.4 (\pm 0.24)$ , red with a 2-8 range and  $\bar{X} = 3.3 (\pm 0.45)$ , and red dorsal scales at neck location with a 9-15 range and  $\bar{X} = 11.8 (\pm 1.52)$  (Table 2).

Our data confirm that the only subspecies of *L. triangulum* present in Venezuela is *L. triangulum andesiana*. This snake has only been found in Tachira, Merida and Zulia states. Williams (1978) described this subspecies from Colombia.

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