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Abstract

Twelve species of the colubrid snake genus *Tantilla* are known to occur in South America. The name *Tantilla annulata* Boettger, 1892, is placed in the synonymy of *Tantilla supracincta* (Peters), 1863. A new species of *Tantilla* from Ecuador is described. The key for identification is based on color and pattern. Most species have restricted geographic and ecological ranges. The genus as a whole has been recorded from all countries of South America save Chile and French Guiana. The largest number of species (7) is known from Ecuador, occurs at low elevations (9 species), and in the Tropical Rainforest formation (6 species). *Tantilla melanocephala* is the widest-ranging species ecogeographically.

Introduction

This is the second in a series of three papers that discuss the taxonomy and distribution of the species of the colubrid snake genus *Tantilla* occurring in Latin America. The first treated the seventeen species known to occur in Central America (Wilson, 1982). A subsequent paper will deal with those species inhabiting México. In this paper, the twelve species of *Tantilla* now known to be distributed in South America are discussed.

Prior to the initiation of my work on *Tantilla* in the South American continent (1976), eight species were recognized (Peters and Orejas-Miranda, 1970). Two of these nominal species (*fraseri* and *longifrontalis*) proved to be synonyms of *Tantilla melanocephala*, the most geographically and ecologically broadly-distributed member of the genus (Wilson and Mena, 1980). This species was also the first member of the currently-conceived genus to be named. In addition to the revision of the *T. melanocephala* group, in which three new South American species were described (Wilson and Mena, 1980), I also reviewed the pattern dimorphic *Tantilla semicincta* (Wilson, 1976) and named another new species from Ecuador (Wilson, 1979). Finally, a new species of the *melanocephala* group is described herein. Other papers mentioned below provide additional data on other South American taxa. Another nominal taxon, *T. supracincta* Peters, 1863, based only on the holotype, is synonymized herein with *T. annulata* Boettger, 1892, with the former name assuming priority.

My intent in this paper is to provide a résumé of knowledge about South American *Tantilla*, drawing together the diverse data to provide a coherent treatment of the South American forms, and to provide a description of a new species from Ecuador. Also, I include data that have accrued since the above-cited papers were published. It also provides additional information for the study of the inter- and intrageneric relationships of the genus *Tantilla* to follow the review of the species of Mexican *Tantilla*.

I suspect the full story on *Tantilla* in South America is not told herein. Continued field work in the Andes of Ecuador, Perú and, perhaps, Colombia will probably demonstrate the existence of other species. The question is whether the *mataculebras* or the *macheteros* will reach them first.

Methods and Materials

In the past decade, I have examined most of the specimens of *Tantilla* from South America. I have also been fortunate to have available data on the holotypes of *Tantilla nigra* and *T. supracincta*, neither of which has been examined by a modern

herpetologist. In total, I have examined approximately 398 specimens of the 12 species of *Tantilla* occurring in South America, including type material of ten of these 12 species (type material not examined or not available for *nigra* and *reticulata*).

Since I have described, reviewed, or revised 11 of the 12 species discussed herein, I have departed somewhat from the format used in my survey of the Central American species of *Tantilla*. Abbreviated synonymies are provided for all species, except for that of *T. nigra*, which is complete. Definitions are provided for all species, with those of the four species common to both Central America and South America being quoted from Wilson (1982). In most cases, reference is made to the most complete description available, except for *T. nigra* for which a description is presented. I have not repeated information regarding geographic variation, ecological observations, or specimens examined that has appeared elsewhere.

The species accounts cover the following sequence of topics: abbreviated synonymy; type material; type-locality; definition; description; distribution; remarks (if pertinent); additional locality records (if pertinent).

I have used the elevational categories of Stuart (1963), as follows: low elevations, 0-600 m; moderate, 600-1500 m; intermediate, 1500-2700; high, 2700 m and above.

Scale counts were made according to the standard methods, including the Dowling method for counting ventrals.

The Status of the Holotype of *Homalocranion supracinctum* Peters

In 1863 Peters described *Homalocranion supracinctum* from a single specimen (ZMB 4791) from "Guayaquil" (Prov. Guayas, Ecuador). Boulenger (1896a) synonymized this nominal taxon with *Homalocranium semicinctum* (= *Tantilla semicincta*). The former taxon, however, was resurrected from synonymy by Peters (1960) who considered *Tantilla supracincta* a valid lowland species of the western coast of Ecuador. No supporting data were offered by Peters (1960) except those provided in a key to the species of *Tantilla* occurring in Ecuador. Dr. Peters' research notes, however, graciously supplied to me after his death by George R. Zug, provide additional insight to the decision for resurrection. Dr. Peters stated, "I think the only reason Blgr. [Boulenger] sank Peters' [1863] *supracincta* in *semicinctum* [sic] DBD [Duméril, Bibron, and Duméril] was because of Peters' remarks in the type description that his type might be an unusual individual of *semicinctum* in which the black of *semicinctum* had failed to cover the entire scale in yellow areas, but only tipped the scale. That this is unlikely is shown by the segmental counts, viz., 175-185 ventrals and 66 subcaudals for *supracinctum* and 143 ventrals and 38 subcaudals for *supracinctum*. I cannot follow Blgr. in this synonymy at all, and will recognize *supracinctum* [sic] as a probable name for a valid lowland species on the west coast [of Ecuador]."

Dr. Peters probably did not examine the holotype of *Homalocranion supracinctum*, as there is no such indication in his research notes and he used Peters (1863) slightly inaccurate ventral and subcaudal counts.

Given that Peters' (1863) description of the color pattern is susceptible to misinterpretation, I borrowed the holotype through the courtesy of Günther Peters. The specimen is a *Tantilla annulata* Boettger, 1892, which was originally reported by Wilson et al. (1977) from Ecuador and reviewed by Wilson (1982). Table 1 compares data from these two sources with that for ZMB 4791. The pattern details of ZMB 4791 are entirely consistent with those known for other specimens of *T. annulata*.

The tail is incomplete (37 subcaudals remaining) but the other scutellational data are in accord with those for the other material. ZMB 4791 is a female and its ventral count is one scale lower than the lower edge of the range for Central American material and one scale higher than the count for the other Ecuadoran specimen (USNM 198714), a male. On the basis of the scanty data on the two South American specimens of *T. annulata*, the trend demonstrated by Wilson (1982) toward increasing ventral counts southward in lower Central America appears to be reversed in Ecuador. Additional data are necessary before significant statistical comparisons can be made.

On the basis of the agreement in color pattern and scutellational data between ZMB 4791 and the available material of *Tantilla annulata*, I hereby place the name *Tantilla annulata* Boettger, 1892, in the synonymy of *Homalocranium supracinctum* Peters, 1863. The Law of Priority requires substitution of the name *supracincta* for *annulata*.

Species Accounts

Tantilla alticola (Boulenger)

Homalocranium jani Günther, 1895: 148 (part).

Homalocranium fuscum: Boulenger, 1896a: 220 (part — in error).

Homalocranium alticola Boulenger, 1903: 353.

Homalocranium coralliventre Boulenger, 1913: 1035.

Tantilla alticola: Amaral, 1929a: 46; Wilson, 1986: 400.1.

Tantilla costaricensis Taylor, 1954: 766.

Tantilla schistosa costaricensis: Smith, 1962: 16.

Syntypes. — BMNH 1946.1.8.63-65, first two males, third apparently a female.

Type-locality. — Santa Rita, north of Medellín, 9000 ft. (2743 m), Depto. Antioquia, Colombia.

Definition (Table 2). — "A species of *Tantilla* with a brown to dark brown dorsum, with or without a slight paling of color on the middorsal scale row and rows 3 and 4 or 4 and 5. The head pattern consists of a pale snout to the level of the posterior portion of the prefrontals, a dark head cap followed by a pale nuchal band beginning on the posterior portion of the parietals and extending one to one and one-half middorsal scales posterior to the parietals. Pre- and postocular pale spots are present. The venter is cream to bright coral red. Ventrals and subcaudals range from 128 to 1[4]5 and 32 to 60, respectively" (Wilson, 1982).

Description. — See Wilson (1982).

Distribution (Fig. 1). — "Low to intermediate elevations (91-2743 m) of Nicaragua, Costa Rica, and northwestern Colombia" (Wilson, 1982).

Tantilla andinista Wilson and Mena

Tantilla andinista Wilson and Mena, 1980: 21; Wilson, 1985a: 378.1.

Holotype. — KU 135209, adult female.

Type-locality. — 5 km E Alausí, Prov. Chimborazo, Ecuador, elevation 2600-2750 m.

Definition (Table 2). — A species of *Tantilla* with a tan dorsal ground color with a narrow dark middorsal stripe confined to the middorsal scale row and a narrow pale lateral stripe confined to the upper half of row 3. The head pattern consists of

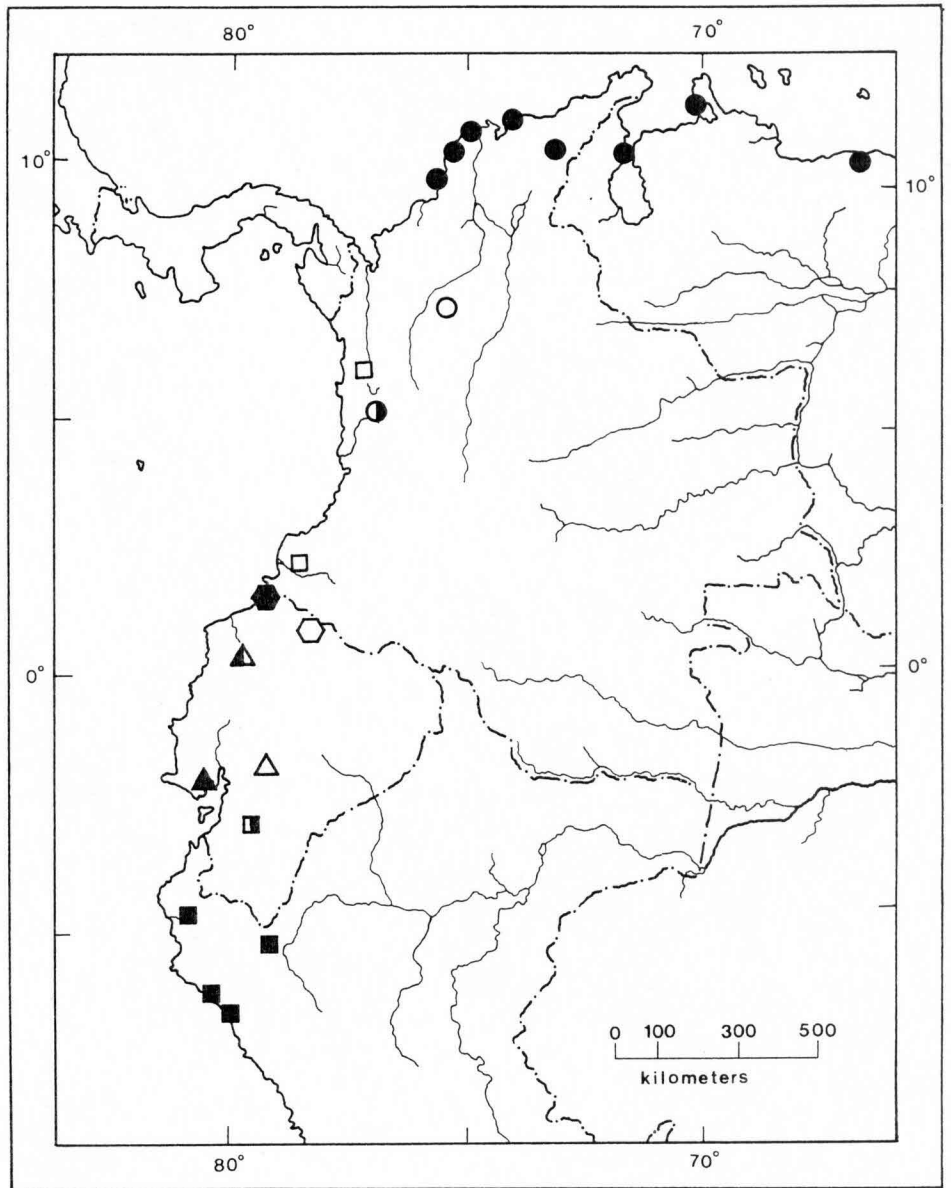


Figure 1. Distribution of eleven species of South American *Tantilla*. The symbols are as follows: open circle — *T. alticola*; open triangle — *T. andinista*; closed square — *T. capistrata*; closed hexagon — zone of sympatry of *T. equatoriana* and *T. supracincta*; half-open square — *T. insulamontana*; half-open triangle — *T. miyatai*; half-open circle — zone of sympatry of *T. alticola* and *T. nigra*; open hexagon — *T. petersi*; open square — *T. reticulata*; closed circle — *T. semicincta*; closed triangle — *T. supracincta*.

extensive pale markings on the dorsal and lateral portions of the snout, supraoculars, anterolateral corner of the parietals, and behind the eye, reducing the dark head cap to the frontal and the peripheries of contiguous scales, the area around the eye, and the middle of the parietals then laterad to the oral rictus. The dark head cap is followed in sequence by a long, middorsally-divided pale nuchal band, a dark nape band, and a pale neck band. Ventral and subcaudal counts are 157 and 50, respectively.

Description (Fig. 2). — See Wilson and Mena (1980).

Distribution (Fig. 1). — Known only from the type locality.

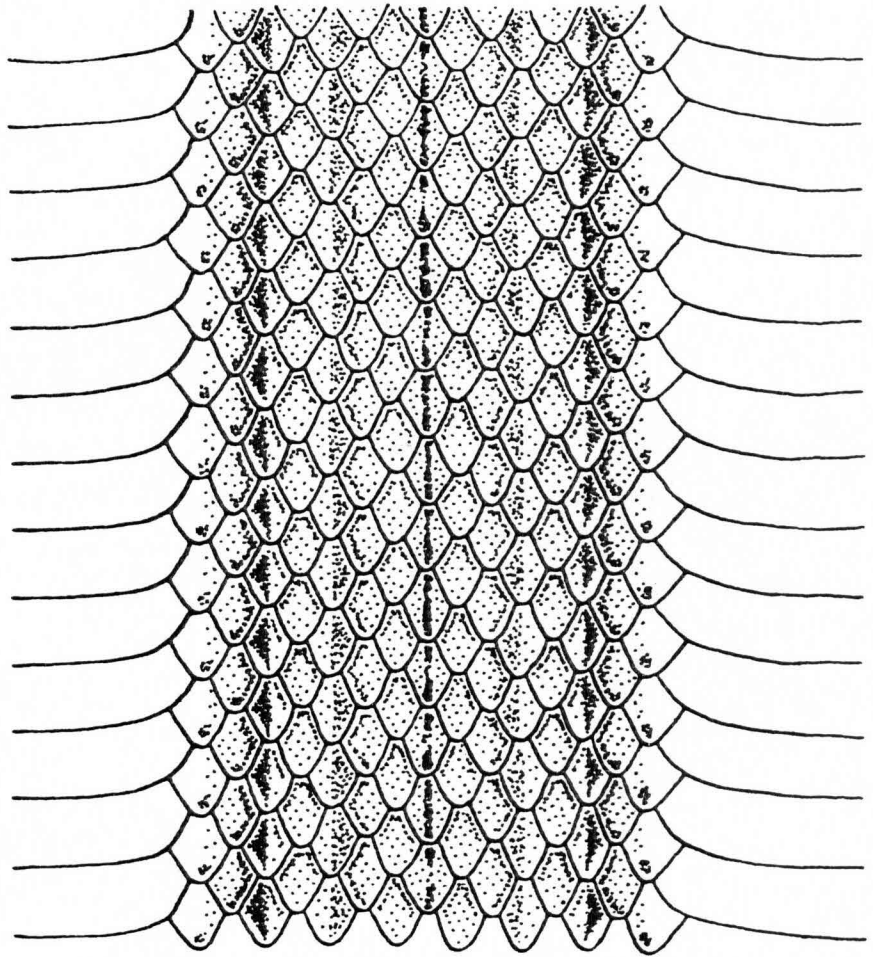


Figure 2. Dorsal color pattern of *Tantilla andinista* (KU 135209 from 5 km E Alausí, Prov. Chimborazo, Ecuador).

***Tantilla capistrata* Cope**

Tantilla capistrata Cope, 1876b: 181.

Homalocranium melanocephalum : Boulenger, 1896a: 215 (part).

Tantilla melanocephala : Dunn, 1923: 186.

Tantilla melanocephala capistrata : Schmidt and Walker, 1943: 318.

Holotype. — ANSP 11581, juvenile female.

Type-locality. — Valley of Jequetepeque, Depto. La Libertad, Perú.

Definition (Table 2). — A species of *Tantilla* with a tan dorsal ground color with or without a narrow, diffuse dark brown middorsal stripe confined to the middorsal scale row. There is no pale lateral stripe. The head pattern consists of a pale to dark brown head cap separated from a dark brown nape band by a well-defined complete or medially divided pale nuchal band. An extensive pale marking on the snout covers all of the internasals and the anterior one-half to three-quarters of the prefrontals, as well as the lateral portion of the snout. A prominent pale postocular spot is present. Ventrals and subcaudals range from 130 to 156 and 46 to 71, respectively.

Description. — See Wilson and Mena (1980).

Distribution (Fig. 1). — Low to intermediate elevations (from near sea level to approximately 1830 m of northwestern coastal Perú and the valleys of the upper Río Marañón, Río Chinchipe, and Río Chamaya.

***Tantilla equatoriana* Wilson and Mena**

Tantilla equatoriana Wilson and Mena, 1980: 23.

Holotype. — USNM 198530, male.

Type-locality. — San Lorenzo, Prov. Esmeraldas, Ecuador.

Definition (Table 2). — A species of *Tantilla* with a tan dorsal ground color with bold dark stripes located on the middle of row 1, from the upper half of row 2 to the lower half of row 3, upper edge of row 4 to lower middle portion of row 5, middle of row 6, and the middle of the middorsal scale row. The head pattern consists of a dark brown head cap grading into a dark nape band, punctuated by pale spots situated near the posterior end of the parietals and extending onto the posterior temporal and 1 or 2 adjacent postparietal scales. A preocular pale spot is present and continues posterodorsally onto the preocular scale to contact the eye. A postocular pale spot is also present and it continues across the penultimate and ultimate supralabial to contact the pale pigment on the lateral gulars at a point opposite the pale nuchal spots. No pale neck band is present posterior to the dark nape band. Ventral and subcaudals range from 142 to 147 and 77 to 79, respectively.

Description (Fig. 3). — See Wilson and Mena (1980).

Distribution (Fig. 1). — Known only from the type locality.

***Tantilla insulamontana* Wilson and Mena**

Tantilla insulamontana Wilson and Mena, 1980: 24.

Holotype. — KU 152207, male.

Type-locality. — Río Minas, 15.1 km W Santa Isabel, Prov. Azuay, Ecuador, elevation ca. 1250 m.

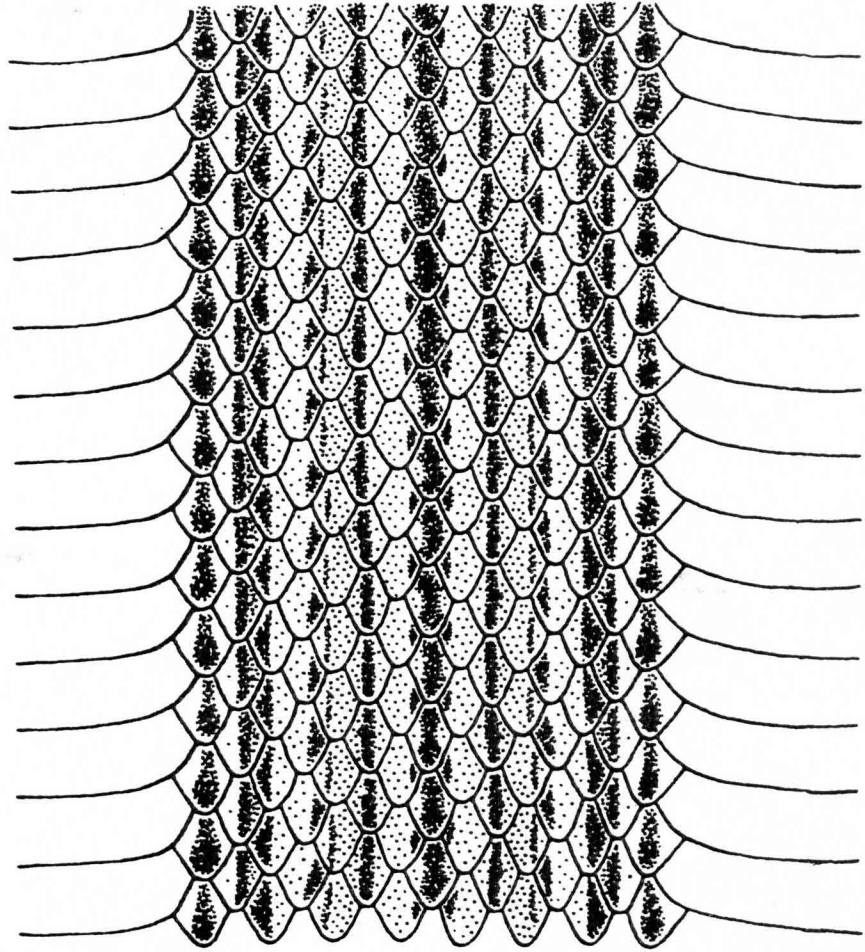


Figure 3. Dorsal color pattern of *Tantilla equatoriana* (USNM 198530 from San Lorenzo, Prov. Esmeraldas, Ecuador).

Definition (Table 2). — A species of *Tantilla* with a tan dorsal ground color with diffuse dark stripes through the middle of scale row 1, on the upper half of row 2 and lower half of row 3, through the middle of row 4, on the upper half of row 5 and lower half of row 6. A relatively well-defined dark stripe courses down the middle of the middorsal row and is connected to dark markings along the medial edges of the scales of the paravertebral rows. The head pattern consists of a brown head cap with two corniform anterior extensions, followed by two pale nuchal spots beginning on the posterior tips of the parietals and grading posteriorly into the dorsal ground color. There is no dark nape band. Ventrals and subcaudals range from 144 to 157 and 59 to 65, respectively.

Description (Fig. 4). — See Wilson and Mena (1980).

Distribution (Fig. 1). — "Intermediate elevations of the Hoya de Jubones (Pacific drainage) in southern Ecuador" (Wilson and Mena, 1980).

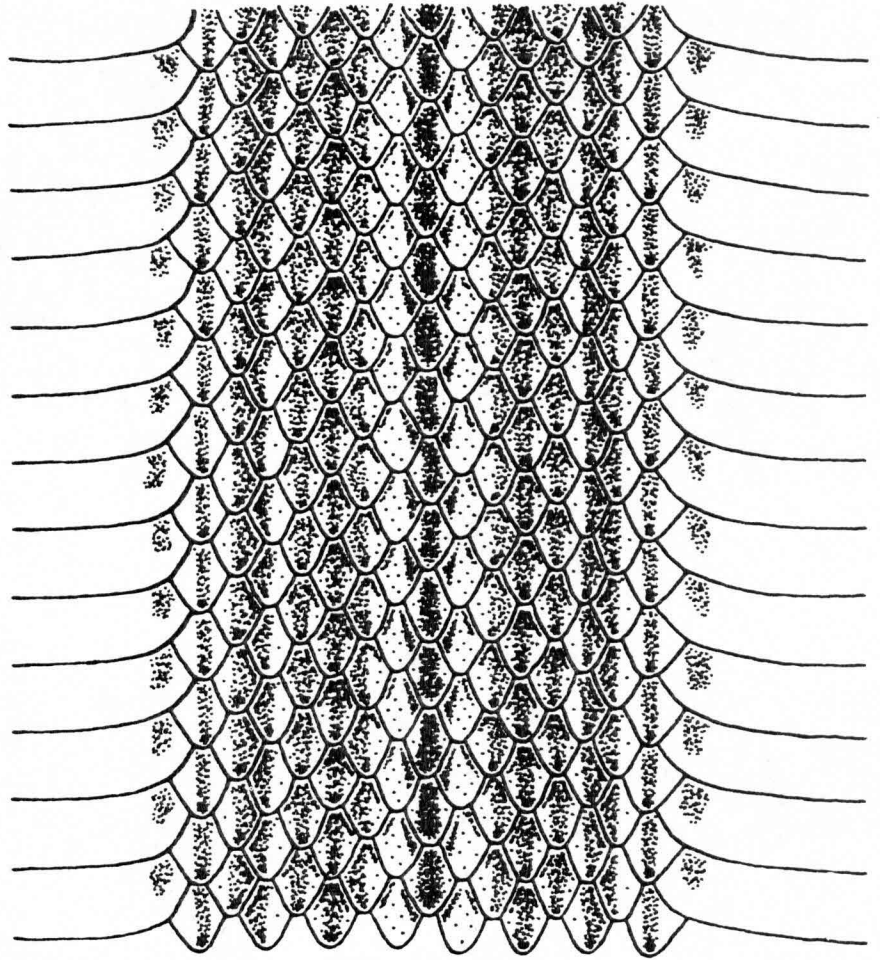


Figure 4. Dorsal color pattern of *Tantilla insulamontana* (KU 152207 from Río Minas, 15.1 km W Santa Isabel, Prov. Azuay, Ecuador).

Tantilla melanocephala (Linnaeus)

- Coluber melanocephalus* Linnaeus, 1758: 218.
Natrix melanocephalus : Merrem, 1820: 110.
Elaps melanocephalus :Wagler, 1824: 8.
Duberria melanocephala : Fitzinger, 1826: 55.
Lycodon melanocephalum : Boie, 1827: 526.
Cloelia melanocephala : Wagler, 1830: 187.
Calamaria melanocephala : Schlegel, 1837: 38.
Homalocranion melanocephalum : Duméril, Bibron, and Duméril, 1854: 855.
Tantilla melanocephala : Cope, 1861: 74.
Elapomorphus mexicanus Günther, 1862: 57.
Homalocranium melanocephalum : Müller, 1865: 606.

Tantilla armillata Cope, 1876a: 143.
Homalocranium melanocephalum var. *fuscum* Bocourt, 1883: 589.
Tantilla pallida Cope, 1887b: 56.
Pogonaspis ruficeps Cope, 1894: 204.
Homalocranium armillatum : Günther, 1895: 149.
Homalocranium melanocephalum var. *fraseri* Günther, 1895: 148.
Homalocranium melanocephalum [var. *melanocephalum*]: Günther, 1895: 147 (by inference).
Homalocranium melanocephalum var. *pernambucense* Günther, 1895: 148.
Homalocranium mexicanum : Günther, 1895: 153.
Homalocranium fuscum : Boulenger, 1896a: 220 (part).
Homalocranium ruficeps : Boulenger, 1896a: 223.
Homalocranium longifrontale Boulenger, 1896b: 17.
Homalocranium hoffmanni Werner, 1909: 239.
Elapomorphus nuchalis Barbour, 1914: 199.
Tantilla longifrontale : Ruthven, 1922: 68.
Tantilla longifrontalis : Amaral, 1929b: 220.
Tantilla fusca : Amaral, 1929b: 220 (part).
Tantilla ruficeps : Amaral, 1929b: 221.
Tantilla mexicana : Smith, 1942: 37.
Tantilla melanocephalus : Shreve, 1947: 315.
Tantilla melanocephalum : Wehekind, 1955: 12.
Tantilla fraseri : Peters, 1960: 539.
Tantilla melanocephala melanocephala : Peters, 1960: 539.

Holotype. — None designated.

Type-locality. — "America."

Definition (Table 2). — A species of *Tantilla* with a tan to brown dorsal ground color and a dark middorsal stripe confined to the middorsal scale row (middorsal stripe absent in members of pattern type C). A pale lateral stripe is present (in members of pattern types A, B, E, and F) or absent (some members of pattern type A; members of pattern types C and D). Additional dark stripes may be present on the dorsum, especially bounding the pale lateral stripe. The head pattern consists of a usually pale brown to dark brown head cap with or without relatively small pale markings on the snout. The dark head cap is delimited posteriorly usually by pale nuchal markings ranging from a complete pale nuchal band to a small pair of pale nuchal spots (pale nuchal markings absent in some members of pattern type B). A brown to dark brown nape band is present and is usually bounded posteriorly by a pale neck band (not so in members of pattern type B). Pale pre- and postocular spots are present, the latter usually separated from the pale gular color by a lateral extension of the dark head cap (not so in members of pattern type B). Ventrals and subcaudals range from 125 to 177 and 41 to 92, respectively.

Description (Fig. 5). — See Wilson and Mena (1980).

Distribution (Fig. 6). — From near sea level to high elevations (ca. 0-3080 m) "along both versants from Guatemala throughout the length of Central America into South America as far south as southern Perú, Bolivia, northern Argentina, and Uruguay; also on the islands of Trinidad and Tobago" (Wilson and Mena, 1980).

Remarks. — *Tantilla melanocephala* is the oldest described species in the genus and the most broadly distributed. It also exhibits the greatest degree of morphological

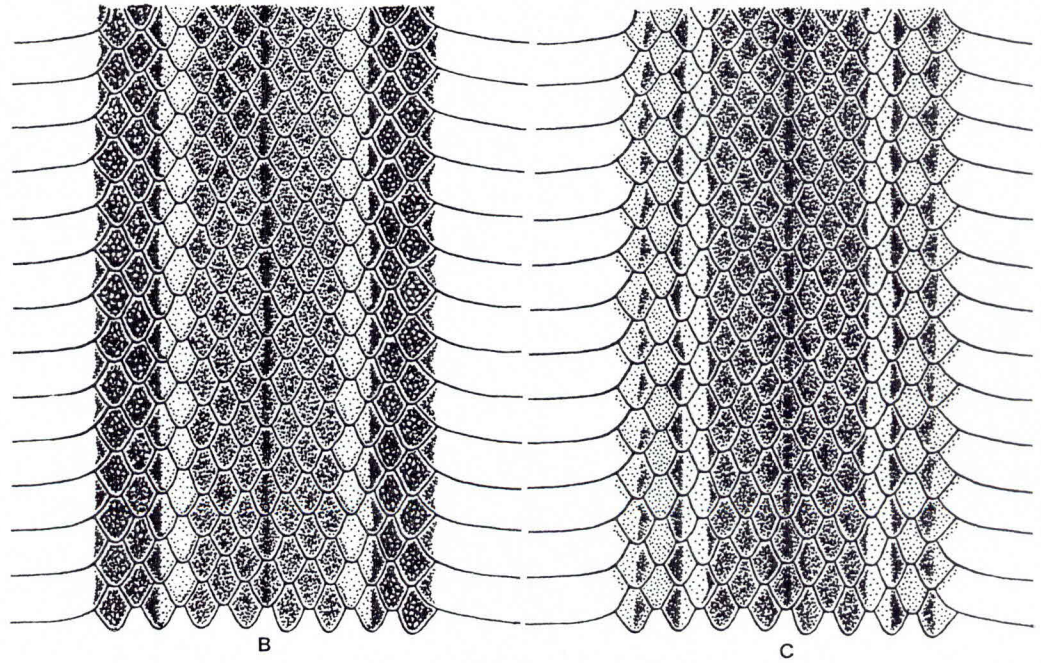
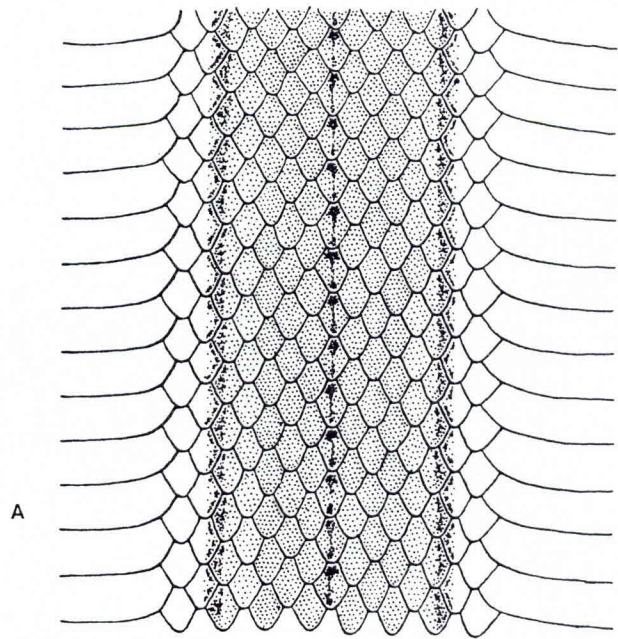


Figure 5. Dorsal color pattern of members of three pattern groups of *Tantilla melanocephala*: (A) pattern D (MBUCV III-1825 from Guri, Est. Bolívar, Venezuela); (B) pattern E (TCWC 38209 from Centro Unión, Depto. Loreto, Perú); (C) pattern F (NMW 20366:1 from Santo Domingo de los Colorados, Prov. Pichincha, Ecuador). See text for explanation of pattern groups.

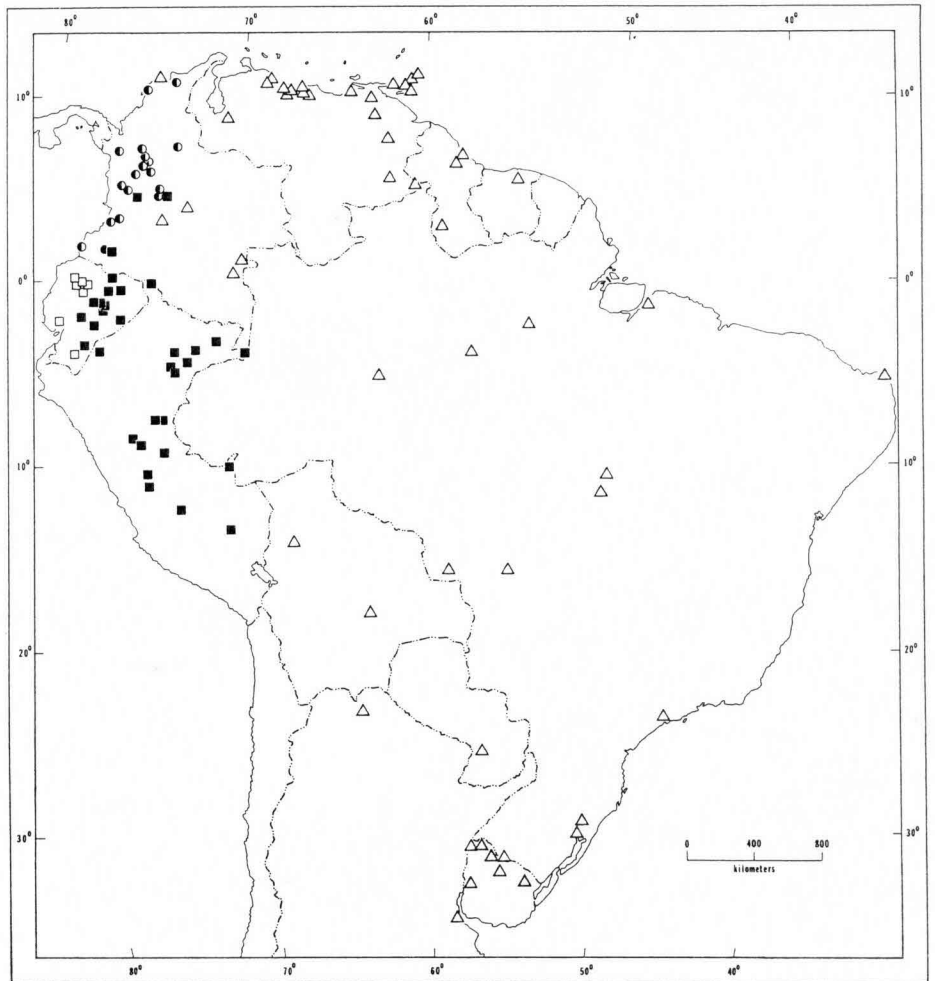


Figure 6. Distribution of *Tantilla melanocephala* in South America. The symbols are as follows: triangle — patterns C and D; closed square — pattern E; open square — pattern F; half-open circle — intermediates.

variability of any member of the genus. These characteristics have combined to give *T. melanocephala* an impressive synonymy (12.2% of all names in the genus; the average for the genus is 1.8%).

Wilson and Mena (1980) examined variation in external morphological characters and identified six color pattern types, two of which (C and D) are sympatric. Four of the six occur in South America (Fig. 6), as follows:

1. Pattern types C and D — southeastern Colombia, Venezuela, Bolivia, Brazil, British West Indies, Surinam, Guyana, Paraguay, Uruguay, and Argentina
2. Pattern type E — Amazonian drainage of Ecuador and Perú
3. Pattern type F — western slopes of Andes in Ecuador

See Wilson and Meyer (1980) for an extended discussion of these pattern types.

Additional locality records. — BOLIVIA: Depto. Cochabamba, Villa Tunari (KU 183488). BRAZIL: Est. Ceara, Fortaleza (CAS 49306). COLOMBIA: in southern jungle along Putumayo River (LACM 103719). ECUADOR: Prov. Pichincha, Puerto Quito (MCZ 164419, 164503, 166542), Tinalandia, 15.5 km SE Santo Domingo de los Colorados (KU 202954). HONDURAS: Depto. Comayagua, S of Villa de San Antonio (TU 19749). VENEZUELA: Est. Managas, 42 km SE Maturín (LACM 31493).

Tantilla miyatai Wilson and Knight¹, new species

Holotype. — Museum of Comparative Zoology (MCZ) 166541, adult male.

Type-locality. — Puerto Quito (0°10'N, 79°16'W), Prov. Pichincha, Ecuador, collected in September of 1983 by Giovanni Onore.

Definition. — A member of the *Tantilla melanocephala* groups (*sensu* Wilson and Mena, 1980) with a head pattern consisting of a brown head cap separated from a very dark brown nape band by a medially-divided pale nuchal band. Pale markings on the internasals and anterior prefrontals are very distinct. Dark subocular pigment around the ventral edge of the eye; preocular and postocular spots are confluent. The dorsal color pattern consists of numerous dark stripes of varying intensity on a dorsal ground color of tan on rows 1 through the lower half of row 5 and brown on the remainder of the dorsum. There is a broad, diffuse dark brown stripe on the adjacent halves of rows 2 and 3. Narrow diffuse dark brown stripes course down the middles of each of rows 5 and 6. A relatively well-defined very dark brown stripe occupies most of the middorsal scale row. An irregular narrow very dark brown line is present the length of the midventer. Ventral and subcaudal numbers are relatively high for the group, numbering 165 and 86, respectively (Table 2).

Description of the holotype (Fig. 7). — An adult (?) male with 15 smooth dorsal scales throughout, 165 ventrals, divided anal plate, 86 subcaudals, total length 375 mm, tail length 104 mm, tail length/total length 0.277.

Nasal scale completely divided, the posterior section widely separated from the single preocular on both sides of the head; two postoculars, subequal in size; one anterior and one posterior temporal; supralabials 7-7, with the 3rd and 4th entering the orbit, last one largest; infralabials 6-6, four in contact with the anterior chin shields,

¹The codescriber of this species is James L. Knight, Savannah River Ecology Lab, Aiken SC 29801.

4th largest, first pair in broad medial contact; anterior chin shields larger than posterior pair.

A relatively well-defined, but still diffuse very dark brown stripe is present on the middorsal scale row, occupying most of each scale in that row. The dark pigment on each scale becomes gradually denser toward the posterior portion of the scale. The dense concentration of dark pigment at the apex of each middorsal scale overlaps slightly onto the lateral angle of the scales of the paravertebral rows. Anteriorly the dark middorsal stripe is confluent with the dark nape band and extends posteriorly to about the midlength of the tail. The dorsal ground color is brown medially (to the upper half of row 5) and tan laterally. The lateral stripe pattern consists: a broad, diffuse dark brown stripe on the adjacent halves of rows 2 and 3; a narrow diffuse stripe on the middle of each of rows 5 and 6. There is a vague sprinkling of brown pigment on the medial portion of scale row 1, concentrated into a dark dot at the base of each of the scales of that row. The venter is cream with a narrow, irregular very dark brown line coursing down its middle. This line is confluent with a narrow irregular edging of dark pigment along the anterior portion of each ventral scale. This pattern begins on about ventral 26 and continues the remainder of the length of the body. It is followed by an irregular very dark brown line that zigzags along the common subcaudal scale suture extending in a gradually diminished form to almost the end to the tail.

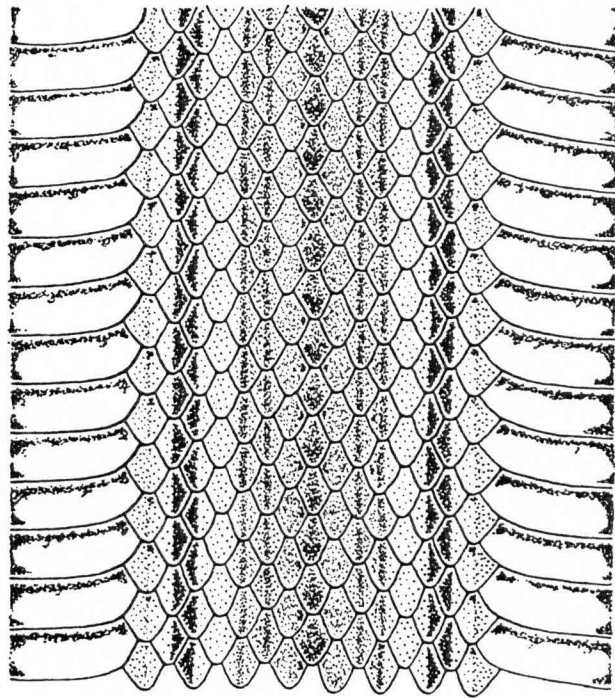


Figure 7. Dorsal color pattern of *Tantilla miyatai* (MCZ 166541 from Puerto Quito, Prov. Pichincha, Ecuador).

The head is brown above with a poorly-defined pale brown spot covering the upper portion of the rostral, all of the internasals, and the antero-medial half of the prefrontals. The periphery of the dark head cap is of a deeper color than the interior. The dark head cap extends laterally to encompass the pre- and postnasals, the upper edges of supralabials 2 through 4, the upper edge of the lower postocular, the posterior two-thirds of the anterior temporal, and the anterior half of the posterior temporal. There is a lateral extension of the dark head cap on adjacent portions of supralabials 6 and 7 but it does not reach the lip. The dark head cap extends posteriorly to the posterior portion of the parietals and posterior temporal, where it grades into the middorsally-divided pale nuchal band. The pale nuchal band, which grades in color from tan anteriorly to cream posteriorly, extends about one scale posterior to the parietals and laterally to grade into the cream color of the gular scales. The very dark brown nape band extends four scales posterior to the parietals and laterally to the third dorsal scale row. The middorsal dark stripe issues from the posterior edge of the dark nape band. There is no pale band posterior to the dark nape band.

The chin is immaculate cream except for a rim of dark pigment along the anterior edge of the mental.

Distribution. — Known only from the type locality (Fig. 1).

Etymology. — We name this snake in posthumous honor of Dr. Kenneth Miyata who died tragically while on a trout-fishing trip in Montana. Ken was an accomplished trout fisherman as well as a rising star in the field of herpetology. His promising career was cut short after only a few years but he was an indomitable field worker and South American herpetological research for years to come will be based in part on Ken's collections, publications, and his unsurpassed animal photographs. Ken is going to be sorely missed.

Comparisons and relationships. — *Tantilla miyatai* is a member of the *melanocephala* group, as defined by Wilson and Mena (1980). They listed a series of color pattern features diagnostic of the group, as follows: (1) dark middorsal stripe generally confined to the middorsal scale row; (2) dark head cap separated from a dark nape band by a pair of variously-sized nuchal spots or a complete or medially-divided nuchal band; (3) pale pre- and postocular spots separated by a dark subocular blotch; (4) 7 supralabials; (5) 2 postoculars; (6) pale lateral stripe usually present.

With the inclusion of *T. miyatai* in the *melanocephala* group, it now contains seven members. The other members are *T. andinista*, *T. capistrata*, *T. equatoriana*, *T. insulamontana*, *T. lempira*, and *T. melanocephala*.

Not all members possess the entire suite of characteristics listed above. Some specimens of *T. capistrata* and *T. melanocephala* have no dark middorsal stripe. A dark nape band is absent in *T. insulamontana*. All *T. capistrata* and some *T. melanocephala* have no pale lateral stripe. *Tantilla miyatai* agrees in all the diagnostic features listed, except that it has a poorly-developed dark subocular blotch.

Tantilla miyatai most closely resembles *T. equatoriana* Wilson and Mena, 1980. They agree in having a multilineate pattern consisting of bold dark stripes on a paler background, a dark nape band slightly darker than the dark head cap, and relatively high subcaudals (see Table 2). The two taxa are similar in details of the striping of the dorsal pattern, differing principally in degrees of intensity of certain stripes (those on rows 1, 5, and 6) and in the lack of dark pigmentation of the upper half of the scales of row 4 in *T. miyatai*. They differ conspicuously from one another, however, in the

nature of the pale nuchal marking (medially divided band in *T. miyatai*, reduced to pale spots in *T. equatoriana*), pale snout markings (subdued in *T. miyatai*, prominent in *T. equatoriana*), dark subocular blotch (much reduced in *T. miyatai*, well-developed in *T. equatoriana*), and ventral pattern (narrow irregular median dark line in *T. miyatai*, immaculate in *T. equatoriana*). They also differ in ventral number (165 in male holotype of *T. miyatai*, 142-147 in two male *T. equatoriana*).

Tantilla miyatai possesses a greater spectrum of differences from the remainder of the members of the *melanocephala* group than with *T. equatoriana* (see Table 2). Its next closest relative, however, appears to be *T. insulamontana*. In fact, in certain respects, *T. miyatai* seems to represent a step in a morphocline of pattern development leading toward greater complexity of dorsal color pattern and departure from the typical *melanocephala* group condition. *Tantilla miyatai*, *T. equatoriana*, and *T. insulamontana* share a pattern consisting of a greater number of dark stripes than in the other members of the group. Furthermore, these taxa appear to represent stages in the reduction of the extent of the pale nuchal marking and the loss of the dark nape band. *Tantilla miyatai* has both a dark nape band and a well-developed pale nuchal band. *Tantilla equatoriana* has a dark nape band but has the nuchal band reduced to a pair of spots. *Tantilla insulamontana* lacks a dark nape band and also has only a pair of nuchal spots.

These three taxa all occur in Ecuador (Fig. 1). *Tantilla equatoriana* and *T. miyatai* both occur at relatively low elevations (*T. equatoriana* near sea level, *T. miyatai* at about 750 m) on the Pacific versant of northwestern Ecuador in rainforest vegetation. *Tantilla insulamontana* is known only from elevations of 1200 to 2100 m in the semi-desertic Jubones basin, one of the southernmost intermontane basins in Ecuador.

Tantilla nigra (Boulenger)

Homalocranium nigrum Boulenger, 1914: 816.

Tantilla nigra: Amaral, 1929b: 221; Peters and Crejas-Miranda, 1970: 296; Wilson, 1984: 9.

Holotype. — BMNH 1946.1.8.69, female (?).

Type-locality. — Near Peña Lisa, Condoto (5°06'N, 76°37'W), Depto. Chocó, Colombia, elevation ca. 91 m.

Definition (Table 2). — A species of *Tantilla* with a black dorsum and venter. The head pattern consists of a pair of yellow pale nuchal spots on either side of the dorsal midline just posterior to the parietals narrowly separated laterally from a larger yellow spot located just behind the oral rictus and small pre- and postocular pale spots. The postocular is single. Ventral and subcaudal counts are 137 and 64, respectively (see Wilson, 1984).

Description (Fig. 8). — *Tantilla nigra* has a black dorsum and venter (chocolate brown in preservative). The head is black above and below (chocolate brown in preservative). A yellowish pale nuchal band (yellowish cream in preservative) is present and is divided medially and laterally, segregating two nuchal spots from a pair of larger obliquely-oriented lateral spots or blotches. The nuchal spots begin on the tips of the parietals and extend posteriorly to cover three postparietal scales each. The lateral spots begin on the posterior temporal, extending ventrally to cover

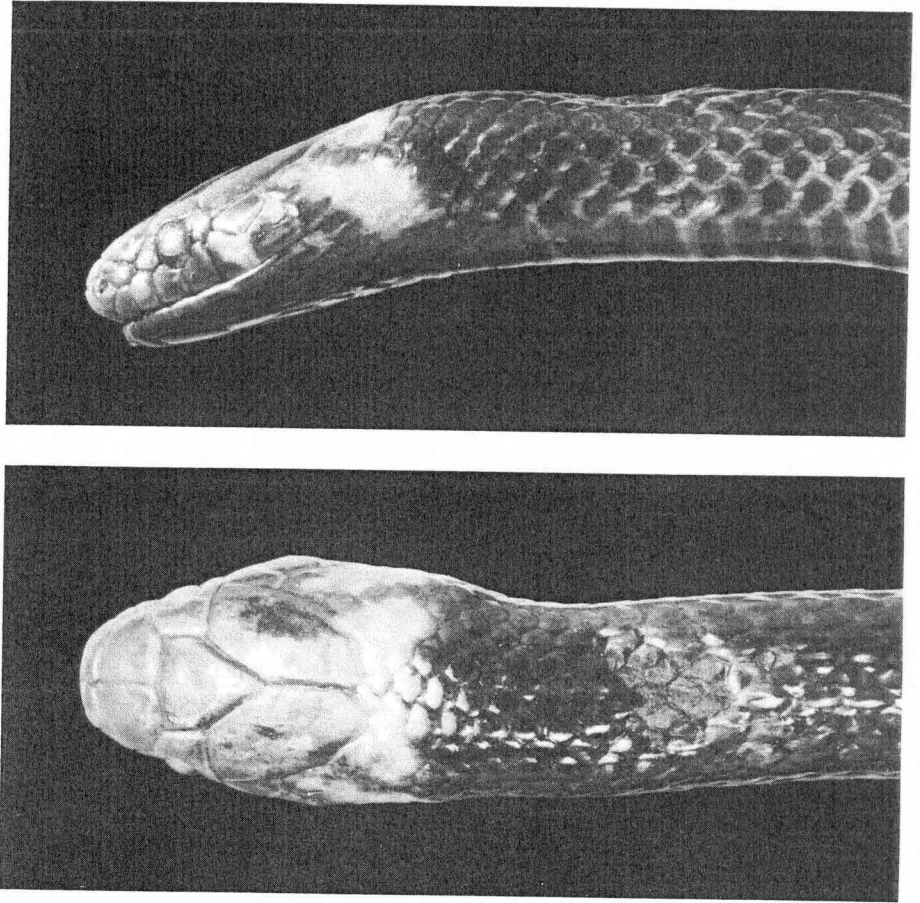


Figure 8. Lateral (upper) and dorsal (lower) views of the head of the holotype of *Tantilla nigra* (BMNH 1946.1.8.69 from nr. Peña Lisa, Condoto, Depto. Chocó, Colombia).

the posterior portion of the ultimate supralabial and a few lateral gulars and posteriorly to cover the first several scales of dorsal scale rows 2 through 4. A small yellow preocular spot is present on the second supralabial. A narrow yellow postocular spot is present on the posterior edge of the fifth supralabial and the anterior edge of the sixth supralabial.

The scutellation of the presumed female holotype is as follows: postnasal and single preocular in contact on both sides; supralabials 7, with 3rd and 4th entering orbit; infralabials 6, with first four in contact with anterior chinshields, 4th largest, first pair in medial contact behind mental; postocular single; temporals 1 + 1; dorsal scale rows 15 throughout; ventrals, 137 (Boulenger's, 1914, count was 143); anal plate divided; subcaudals, 64 (Boulenger's, 1914, count was 63); ventrals + subcaudals, 207.

The total length is 170.5 mm and the tail length is 47.5 mm. Relative tail length is 0.279.

Distribution (Fig. 1). — Known only from the type locality.

Ecological observations. — No original ecological data accompany the holotype. Based on the location of the type-locality, the holotype of *Tantilla nigra* came from an area occupied by the Tropical Wet Forest formation (Holdridge, 1967).

Remarks. — The holotype and only known specimen of *Tantilla nigra* was examined for me by Donald E. Hahn at the British Museum in 1977.

Tantilla petersi Wilson

Tantilla petersi Wilson, 1979: 274.

Holotype. — UMMZ 92074, adult female.

Type-locality. — San Nicolás, Pimampiro [= Pimampiro, 0°26'N, 77°58'W], Prov. Imbabura, Ecuador.

Definition (Table 2). — A species of *Tantilla* with a pale grayish tan dorsal ground color (in preservative) upon which is superimposed a pattern of dark pigment concentrated at the base of the dorsal scales, more heavily so laterally than dorsally. There is no head pattern, the head being uniform pale grayish tan dorsally. Ventral and subcaudal counts are 172 and 59, respectively.

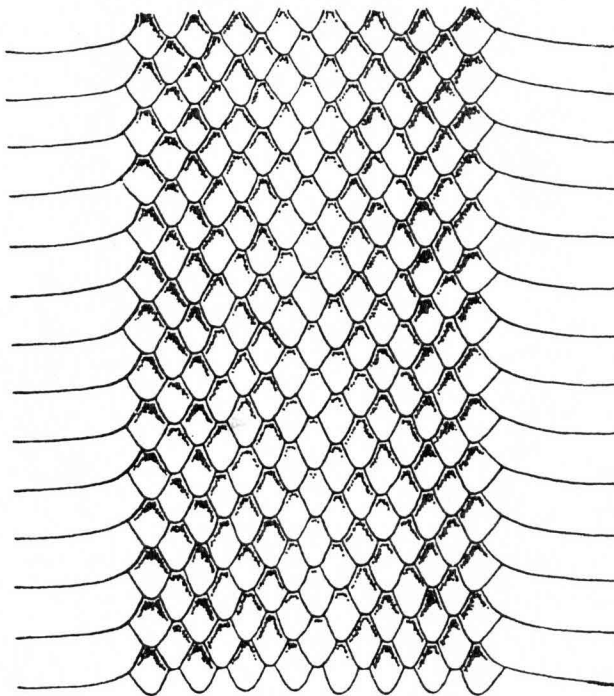


Figure 9. Dorsal color pattern of *Tantilla petersi* (UMMZ 92074 from San Nicolás, Pimampiro, Prov. Imbabura, Ecuador).

Description (Fig. 9). — See Wilson (1979).

Distribution (Fig. 1). — Known only from the type locality.

Remarks. — The holotype came from a locality named San Nicolás, which, as noted by Wilson (1979), is probably one of several haciendas which occur in the vicinity of the town of Pimampiro. Pimampiro lies near a tributary of the Río Mira approximately 20 airline kilometers ENE of Ibarra, Ecuador. The tributary flows out of the Cordillera de Pimampiro to the east of Pimampiro. The approximate elevation of Pimampiro is 2100 m.

Tantilla reticulata Cope

T[antilla]. reticulata Cope, 1860: 77; Wilson, 1985: 370.1.

Microdromus virgatus Günther, 1873: 17.

Homalocranium sexfasciatum Fischer, 1882: 225.

Homalocranium virgatum : Bocourt, 1883: 585.

Tantilla sexfasciata : Cope, 1887: 83.

Tantilla virgata : Cope, 1887: 83.

Homalocranium reticulatum : Günther, 1895: 152.

Holotype. — ANSP 3361 (lost; E. Malnate, pers. comm.).

Type-Locality. — "Cocuyas de Veraguas, New Granada" (= Cocuyas, Prov. Veraguas, Panamá).

Definition (Table 2). — "A species of *Tantilla* with a multilineate dorsal pattern. A pale middorsal stripe is present, occupying the middorsal scale row and adjacent halves of the paravertebral rows. This stripe is bordered by a dark stripe on either side of the lower halves of the paravertebral rows (row 7). Scale row 6 is brown and is bounded below by a dark stripe on the upper half of row 5. A pale brown field is present on row 4 and adjacent halves of rows 3 and 5 and is bounded below by a dark stripe on adjacent halves of rows 2 and 3. The lower half of scale row 2 is cream and row 1 is pale brown. Dark pigment is present on the anterolateral portions of each scale in the pale areas, presenting a reticulate appearance. A dark brown stripe extends the length of the lateral areas of the ventrals. The head pattern consists of an incomplete [i.e., middorsally divided] pale nuchal collar outlined with dark pigment on all sides. Ventrals and subcaudals range from 158 to 173 and 58 to 79, respectively" (Wilson, 1982).

Description (Fig. 10). — See Wilson and Meyer (1971).

Distribution (Fig. 1). — "Low and moderate elevations of the Caribbean versant of Central America from southeastern Nicaragua to Panamá and the Caribbean and Pacific versant of northwestern Colombia" (Wilson, 1982).

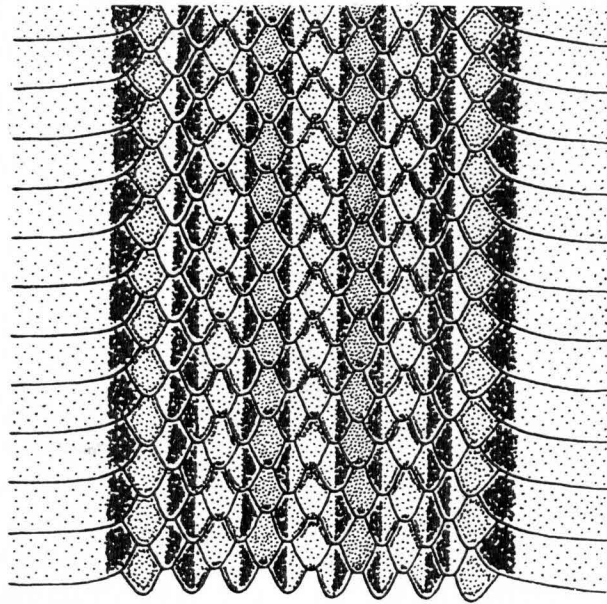


Figure 10. Dorsal color pattern of *Tantilla reticulata* (MCZ 110414 from 10 km N Puerto Viejo, Prov. Heredia, Costa Rica).

***Tantilla semicineta* (Duméril, Bibron, and Duméril)**

Homalocranion semi-cinctum Duméril, Bibron, and Duméril, 1854: 862.

Homalocranium laticeps Günther, 1860: 240.

Tantilla semicineta : Cope, 1861: 74; Wilson, 1976: 44, 1984: 9.

Homalocranion lineatum Fischer, 1883: 6.

Homalocranium semicinctum : Boulenger, 1896a: 219.

Tantilla semicinctum : Ruthven, 1922: 68.

Holotype. — MNHP 3695, adult female.

Type-locality. — "Martinique," in error. Listed as "Colombia" by Peters and Orejas-Miranda (1970), without justification.

Definition (Table 2). — A species of *Tantilla* with bimodal color pattern variation. One pattern type consists of 12 to 26 black crossbands on a pale ground color. The other pattern type consists of a pair of dark dorsolateral fields three and two half-scales in width flanking a pale middorsal stripe occupying the middorsal scale row and adjacent halves of the paravertebral rows on an otherwise pale ground color. The head pattern consists of a dark head cap extending from the middle of the prefrontals to the middle or posterior third of the parietals. The snout is pale in color and a pale postocular spot is present. The dark head cap is followed by a pale nuchal band, medially divided or not. Ventrals and subcaudals range from 161 to 176 and 54 to 71, respectively.

Description (Fig. 11). — See Wilson (1976).

Distribution (Fig. 1). — Low elevations of the Caribbean coastal regions of Colombia and Venezuela.

Additional locality records. — COLOMBIA: Depto. Magdalena, Santa Marta AMNH 109843-44). VENEZUELA: Est. Falcón, Punta Cardón (UF/FSM 42350).

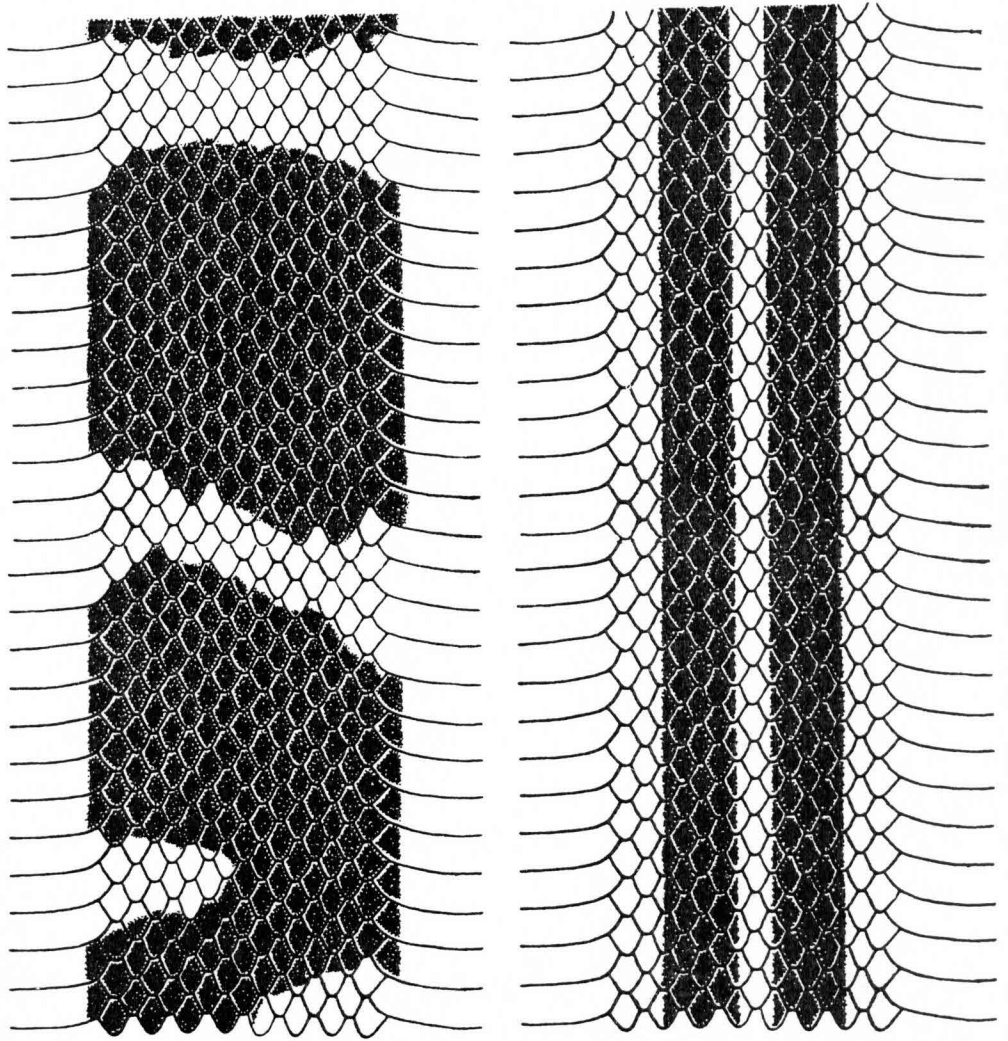


Figure 11. Dorsal color pattern of banded (A) and striped (B) phases of *Tantilla semicineta*. A. BMNH 1902.5.15.11 from the Magdalena Valley, Colombia. B. BMNH 85.5.15.16 from "Colombia."

Tantilla supracincta (Peters)

Homalocranion supracinctum Peters, 1863: 272.

Tantilla annulata Boettger, 1892: 419; Wilson, 1985b: 379.1.

Homalocranium annulatum : Günther, 1895: 150.

Tantilla semicincta : Barbour and Amaral, 1928: 100 (in error).

Tantilla supracincta : Peters, 1960: 539.

Holotype. — ZMB 4791, adult female.

Type-locality. — "Guayaquil," Prov. Guayas, Ecuador.

Definition (Table 2). — "A species of *Tantilla* with black-bordered pale crossbars on a dark red ground color. The right and left portions of the pale crossbars are frequently separated and displaced from one another along the long axis of the body. The head pattern consists of a black head cap, covering all of the dorsum of the head except for the internasals and a portion of the prefrontals, with a complete or medially divided pale nuchal collar barely extending onto the posterior portion of the parietals and crossing the last supralabial. The dark head cap extends for a variable distance posterior to the pale nuchal band and may join or not with the black border of the first crossbar on the body to obliterate the first red body blotch. Ventrals and subcaudals range from 138 to 151 and 52 to 65, respectively" (Wilson, 1982 — placed under the *T. annulata* account).

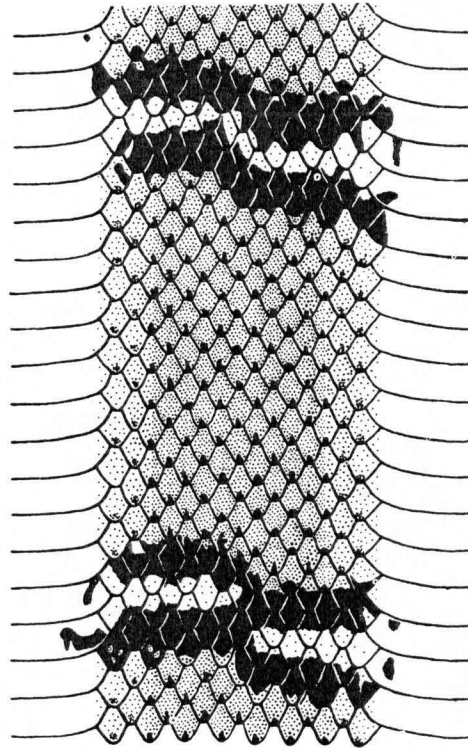


Figure 12. Dorsal color pattern of *Tantilla supracincta* (ZMB 4791 from Guayaquil, Prov. Guayas, Ecuador).

Description (Fig. 12). — See Wilson (1982).

Distribution (Fig. 1). — “Low and moderate elevations of the Caribbean versant from extreme southeastern Nicaragua to central Panamá; also on the Pacific versant in Costa Rica, Panamá, and Ecuador” (Wilson, 1982).

Remarks. — Wilson (1984) reported two specimens of this species from the Península de Osa of southwestern Costa Rica (under the name *T. annulata*), which exhibit ventral and subcaudal counts intermediate between those for Panamá and the remainder of Costa Rica (see Wilson, 1982, for a discussion of geographic variation in this species under the name *T. annulata*).

The synonymization of *Tantilla annulata* with *Homalocranion supracinctum* is discussed in an earlier section of this paper.

Additional locality records. — ECUADOR: Prov. Guayas, Guayaquil (ZMB 4791).

Key to the Species of *Tantilla* Occurring in South America

1. Middorsal stripe present 2
Middorsal stripe absent 9
2. Pale middorsal stripe present 3
Dark middorsal stripe present 4
3. Dorsal pattern of many dark lines or stripes on a paler background . *T. reticulata*
Dorsal pattern of two broad dark bands (3 and two half scales wide)
flanking a pale middorsal stripe *T. semicineta* (part)
4. Dark nape band absent, pale nuchal spots confluent with dorsal ground
color *T. insulamontana*
Dark nape band present, pale nuchal spots separated from dorsal ground
color 5
5. Dorsal pattern multilineate, consisting of many dark stripes on a paler
ground color, including dark stripes on the dorsolateral field 6
Color pattern not as above; no dark striping on the dorsolateral field 7
6. Nuchal collar divided middorsally (but not laterally); length of venter
with median irregular narrow dark line *T. miyatai*
Nuchal collar reduced to two parietal spots; venter immaculate
..... *T. equatoriana*
7. Dorsum of head with extensive pale pigment on a dark background,
including a large pale marking on snout, confluent with pale markings
on the supraoculars and anterolateral portion of the parietals, the
latter in contact with postocular pale spot; dorsal dark middorsal stripe
confined to middorsal scale row; pale lateral stripe confined to upper
half of scale row 3 *T. andinista*
Pale markings on head confined to markings on snout (if present) and
pale pre- and postocular spots; pale lateral band, if present, frequently
occupying both scale rows 3 and 4 8
8. Dorsal ground color tan with a narrow, diffuse, poorly-defined dark mid-
dorsal stripe and no pale lateral stripe; pale nuchal band complete or
medially divided; head cap same color as dark nape band . *T. capistrata* (part)
Dorsal pattern not as above *T. melanocephala* (part)

- 9. Dorsal pattern of transverse bands contrasting in color with ground color . 10
Dorsal pattern not as above 11
- 10. Dorsal pattern of black-bordered pale crossbars on dark red ground color
. *T. supracincta*
Dorsal pattern of dark crossbands on pale ground color *T. semicincta* (part)
- 11. No dark head cap nor pale nuchal band present *T. petersi*
Dark head cap and pale nuchal band (or spots) present 12
- 12. Dorsum and venter black *T. nigra*
Dorsum tan to dark brown, venter much paler 13
- 13. Dark nape band and pale neck band absent *T. alticola*
Dark nape band and pale neck band present 14
- 14. Pale nuchal band usually complete or only divided medially; dark head
cap usually same color as dark nape band; extensive, prominent pale
marking on snout *T. capistrata* (part)
Pale nuchal band usually divided both medially and laterally; dark head
cap usually somewhat paler than dark nape band; pale marking on
snout usually subdued and confined to the internasals and prefrontals
. *T. melanocephala* (part)

Distributional Patterns

The majority of the South American species of *Tantilla* have restricted ranges ecogeographically, as now understood (5 of 12 species are known only from their respective type localities). Inasmuch as our knowledge of the distribution of most of these snakes is still limited, the following discussion must be considered provisional.

As in Central America (Wilson, 1982), members of the genus *Tantilla* in South America are "inconspicuous, seemingly uncommon [i.e., occurring at low population densities], semifossorial inhabitants of the leaf litter and rotting log segment of their respective communities." As a group, they occur in a wide variety of vegetational associations at low, moderate, intermediate, and high elevations (near sea level to 3080 m). These snakes appear to be infrequently encountered in the field, most specimens having been collected incidental to other work.

Geographic distribution. — The genus *Tantilla* is broadly distributed in South America, having been recorded from all countries, except Chile and French Guiana. Most of this huge area, however, is inhabited by but one species, *Tantilla melanocephala*, which is the only member of the genus occurring in Argentina, Bolivia, Brazil, Guyana, Paraguay, Surinam, and Uruguay. The remaining species are disposed along a crescent from Venezuela to coastal Perú.

South America is extremely complex topographically but for the purposes of discussion of the physiographic distribution of *Tantilla*, it is convenient to utilize the following system:

- 1. Pacific Lowlands
 - A. Humid lowlands of Colombia and Ecuador
 - B. Arid lowlands of Perú
- 2. Andean Highlands
 - A. Pacific slopes of the principal Andean chain
 - B. Andean intermontane basins

- C. Atlantic slopes of the principal Andean chain
- D. Colombian and Venezuelan Andes and their rift valleys
- 3. Caribbean lowlands of Colombia and Venezuela
- 4. Cis-Andean South America
 - A. Central Plains
 - B. Eastern Highlands

The known distributions of South American *Tantilla* may be arranged into the above-detailed categories as follows:

1. Humid and semiarid Pacific lowlands of Colombia and Ecuador — The majority of the species (7) occur, at least in part, in this physiographic region. Only two species are, however, limited to this area, *T. nigra* in the Chocó region of Colombia and *T. equatoriana* in the Ecuadoran Pacific lowlands. *Tantilla alticola* and *T. reticulata* have been recorded from the Chocó region of Colombia, the southern terminus of the range of both species. Both also range northward to Nicaragua. *Tantilla supracincta* has the southern terminus of its range on the coastal plain of Ecuador, ranging thence north to Nicaragua. Pattern type F of *T. melanocephala* also ranges onto the coastal plain of Ecuador.
2. Arid lowlands of Perú — The inhospitable coastal desert of Perú is inhabited by one species of *Tantilla*, *T. capistrata*, otherwise distributed in the relatively low passes between the Ecuadoran and Peruvian Andes.
3. Pacific slopes of the principal Andean chain — Two species, *T. miyatai*, *T. petersi*, are known to be limited to this area in extreme northern Ecuador. Otherwise, only *T. melanocephala* has populations inhabiting this area in Ecuador.
4. Andean intermontane basins — Two species, *T. andinista* and *T. insulamontana*, are restricted to these biological "islands." The widespread *T. melanocephala* also has populations in some of these basins in Ecuador.
5. Atlantic slopes of the principal Andean chain — Only *T. melanocephala* occurs in this physiographic area, ranging upward to at least 1020 m in Ecuador and 3080 m in Perú (the highest elevation inhabited by any *Tantilla*).
6. Colombian and Venezuelan Andes and their rift valleys — No species is limited to this area and only two species, *T. alticola* and *T. melanocephala*, are known to range here, the former only in Colombia, the latter in both countries.
7. Colombian lowlands of Colombia and Venezuela — One species, *T. semicineta*, is limited to this region and the ubiquitous *T. melanocephala* also occurs there.
8. Central Plains of Cis-Andean South America — This extensive region may be divided into the: (a) *llanos* of Venezuela and Colombia; (b) *selvas* of the Amazon River basin; (c) *Gran Chaco* of Argentina and Paraguay; (d) the *Pampas* of Argentina. All of these areas are inhabited by but one species, *T. melanocephala*.
9. Eastern Highlands of Cis-Andean South America — This physiographic region is divided into three disparate areas, viz.: (a) the Guiana Highlands in the Guianas, Brazil, and Venezuela; (b) the Brazilian Highlands; (c) the Patagonian Plateau in southern Argentina. No species of *Tantilla* occurs in the last region and only *T. melanocephala* in the first two, only marginally in the Guiana Highlands.

The principal features of geographic distribution of *Tantilla* in South America may be summarized as follows:

1. Limited interchange between Central and South America. Seventeen species of *Tantilla* have been recorded from Central America (Wilson, 1982) and twelve from South America. Only four species, *T. alticola*, *T. melanocephala*, *T. reticulata*, and *T. supracincta* are shared between the two areas (Wilson, et al. 1977) with a

southern penetration only to coastal Ecuador and a northern one to Guatemala. The percentage of resemblance (i.e., number shared with other area/total species in area) for South America is 33.3% and for Central America 23.5%.

2. A significant amount of endemism for the continent as a whole and the specific physiographic regions discussed above. Eight of twelve species (66.6%) are endemic to South America. Also eight species are limited to one of these physiographic regions. Nowhere else within the range of the genus are these figures exceeded or even approached. Even in México, the most species area of occurrence with 28 species (Wilson, in prep.), only 14 (50%) are endemic to the country.

3. As in Central America, fewer species occur in highland areas (above 600 m) than in lowland areas. Of the seven species known to occur in highland areas (*T. alticola*, *T. andinista*, *T. capistrata*, *T. insulamontana*, *T. melanocephala*, *T. miyatai*, and *T. petersi*), four (*T. andinista*, *T. insulamontana*, *T. miyatai*, and *T. petersi*) are limited there. Nonetheless, nowhere else in the range of the genus does it occur at higher elevations (see below). On the other hand, of the eight species known to occur in lowland areas (*T. alticola*, *T. capistrata*, *T. equatoriana*, *T. melanocephala*, *T. nigra*, *T. reticulata*, *T. semicineta*, and *T. supracincta*), five occur only in lowlands in South America (*T. equatoriana*, *T. nigra*, *T. reticulata*, *T. semicineta*, and *T. supracincta*).

4. Countries with the greatest degree of physiographic relief possess the greatest number of species of *Tantilla* (Table 3). The crescent of area arching northward and eastward from the Andes and Pacific coastal plain to the highlands and Caribbean coastal plain of Venezuela harbor all the species known to occur in South America and only one, the extremely widespread *T. melanocephala*, occurs outside of this "fertile crescent." Ecuador and Colombia are, by far, the most speciose countries with seven and five species, respectively. The remainder of the South American countries inhabited by *Tantilla* possess only one (7 countries) or, at most two species (2 countries). Most species (10 of 12) are limited to distribution (in South America) to but a single country. At the other extreme, *T. melanocephala* occurs in eleven of the thirteen countries occupying the continent.

Altitudinal distribution. — In South America the members of the genus *Tantilla* occur from near sea level to a recorded high of 3080 m. The known altitudinal range for each species in South America (Central American range indicated parenthetically, if pertinent; data from Wilson, 1982) is as follows:

T. alticola — 91 — 2743 m (680-1200 m)

T. andinista — ca. 2600-2750 m

T. capistrata — 0-1830 m

T. equatoriana — ca. sea level

T. insulamontana — 1250-2100 m

T. melanocephala — 0-3080 m (0-1400 m)

T. miyatai — ca. 750 m

T. nigra — 91 m

T. petersi — ca. 2100 m

T. reticulata — 183 m (0-1430 m)

T. semicineta — 0-457 m

T. supracincta — ca. sea level (0-850 m)

Altitudinal data are, unfortunately, somewhat limited for many species but some patterns are evident especially if these data are simplified somewhat by use of the

elevational categories of Stuart (1963) (Table 4). Perusal of these data illustrate that most species (66.7%) are either limited to or range into low elevations. Five species occur at moderate elevations, none of which are limited to these elevations. Six species occur at intermediate elevations, with only *T. petersi* limited there. Finally, three species range into high elevations and none are restricted there.

In comparison with species in Central America, where only two species out of 17 (11.8%) range into intermediate elevations, 6 of the 12 South American species (50.0%) do so. Whereas, 1750 m is the highest elevation at which any Central American species is known to occur (in the case of *T. brevicauda*), *T. melanocephala* occurs at least to 3080 m and two other species occur near 1000 m higher than does *T. brevicauda* in Central America. It is not for want of elevations above 2700 m in Central America; Guatemala, Honduras, Costa Rica, and Panamá all have elevations above 2700 meters.

Ecological distribution. — As in the paper on Central American *Tantilla* (Wilson, 1982), I have utilized the Holdridge (1967) system of bioclimates and attendant forest formations as a framework within which to discuss the ecological (i.e., macrohabitat) distribution of *Tantilla* in South America. I have encountered the same difficulties as did Wilson and Mena (1980) in applying this system over the broad expanse of the South American continent, inasmuch as most specimens have no ecological data accompanying them, many lack elevational data, and the Holdridge system has not been broadly applied on this continent. I have attempted to use it in this paper primarily as a means of comparing ecological distributions of South American and Central American species of *Tantilla* (cf., Wilson, 1982).

Tantilla in South America, as noted above, occur from elevations at or near sea level to 3080 m. This range of elevations encompasses Holdridge's (1967) Tropical, Subtropical, and Lower Montane altitudinal zones. As best as can be determined from the data available, species of *Tantilla* occur in 12 of the forest formations within these altitudinal zones (Table 5). Perusal of this table illustrates that most of the twelve species are limited to one or two forest formations. This picture is likely to be altered somewhat as additional material accrues. The most broadly-distributed species geographically, *T. melanocephala*, is, as expected, also the most broadly-distributed ecologically.

Only a single species occurs in the Tropical Desert formation. This species, *T. capistrata* occurs in the forbidding Sechura Desert, one of the driest regions on the continent. Wilson and Mena (1980) speculated that this species would, most likely, inhabit areas of riparian vegetation adjacent to rivers of Andean origin flowing through this hostile, barren region. Two species occur in the Tropical Thorn Woodland formation. Both *T. melanocephala* and *T. semicineta* occur in the arid, sparse woodlands found in the region around the peninsulas Guajira and Paraguana bordering the Golfo de Venezuela. These same two species range into the Tropical Arid Forest formation in Caribbean coastal Colombia and Venezuela, where more abundant rainfall produces more vegetation cover than in the Tropical Thorn Woodland formation. The *caatingas* of northeastern Brazil also fall within the Tropical Arid Forest formation. This semi-arid thorny deciduous woodland is inhabited only by *T. melanocephala*. Two species, *T. melanocephala*, and *T. semicineta*, range into the Tropical Dry Forest formation. The range of *T. semicineta* encompasses the woodland savanna of the plains of Caribbean coastal Colombia. *Tantilla melanocephala* is also known from this region and also occurs in other such semi-arid regions in western Trinidad, the lower Amazonian alluvial plain, and the Guayas lowlands in Ecuador.

This species also occurs in the Tropical Moist Forest and Tropical Wet Forest formations in eastern Trinidad, the Guiana highlands, the coastal plain of the Guianas, the lower Amazonian alluvial plain, and the coast of southeastern Brazil. The largest number of South American species of *Tantilla* occur in the Tropical Rainforest formation. Six species, *T. alticola*, *T. equatoriana*, *T. miyatai*, *T. nigra*, *T. reticulata*, and *T. supracincta*, have been recorded from the extremely wet rainforests of the Chocó lowlands of Colombia and northern Ecuador west of the Andes. Three of these species (*T. alticola*, *T. reticulata*, and *T. supracincta*) also inhabit humid forest types in Central America (Wilson, 1982).

Only three species of *Tantilla* (*T. capistrata*, *T. insulamontana*, and *T. melanocephala*) are known to occur in the Subtropical altitudinal zone. These three species occupy the Subtropical Dry Forest formation. *Tantilla capistrata* occurs in the semi-arid scrub forest of the Huancabamba Depression of northern Perú. *Tantilla insulamontana* is restricted to the dry Hoya de Jubones or Saraguro in south-central Ecuador. *Tantilla melanocephala* is found in this forest formation in the Planalto de Mato Grosso.

Comparisons of data on forest formation occurrence of the South American species of *Tantilla* with those of the species from Central America (Wilson, 1982) must be made cautiously. Sufficient knowledge of ecological distribution to make valid comparisons is available only for, at most, four South American species (*T. alticola*, *T. capistrata*, *T. melanocephala*, and *T. semicincta*). Nonetheless, some statements can be made that are not likely to be contraindicated by additional data, viz.:

1. *Tantilla melanocephala* is the most ecologically widespread species in South America, an unsurprising fact, given its broad geographic and elevational range. This species is also widespread in Central America, equalled in distribution among forest formations only by *T. schistosa*, among 17 species found there.
2. The various formations generically referred to as "rainforest" (TMF, TWF, TR, and SWF) house the greatest number of species of *Tantilla* in both Central and South America (12 and 6 species, respectively).
3. South American *Tantilla* collectively occur in a greater array of forest formations (15) than do their Central American counterparts (8).

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Table 1

Comparison of Scutellational and Color Pattern Data on Central American *Tantilla supracincta*, Ecuadoran specimen of *T. supracincta* (USNM 198714) reported by Wilson et al. (1977), and Holotype of *Homalocranion supracinctum* Peters, 1863 (ZMB 4791). Numbers in parentheses are means.

Characters	Central American <i>T. supracincta</i> (n = 19)	USNM 198714 ♂	ZMB 4791 ♀
Ventrals in males	138-151(144.7)	140	—
Ventrals in females	142-151(145.3)	—	141
Subcaudals in males	52-65(58.6)	59	—
Subcaudals in females	52-64(57.4)	—	—
Ventrals + subcaudals in males	190-213(203.0)	199	—
Ventrals + subcaudals in females	194-215(202.9)	—	—
Total length (mm.)	150-562	224	533+
Tail length (mm.)	33-125	50	84+
Tail length/total length ratio	0.193-0.236	0.233	—
Postnasal in contact with preocular	89.5% of cases	Yes	Yes/No
First pair of infralabials separated	63.6% of cases	Yes	No
Number of crossbands on body	11-16(13.4)	12	11
Percentage of interrupted crossbands on body	7.1-92.3	85.7	63.6
Number of crossbands on tail	0-6	4	—
Percentage of interrupted crossbands on tail	0-83	75	—
Pale nuchal band interrupted medially	55.6% of cases	Yes	Yes
Red nape band present	42.1% of cases	Yes	No

Character	<i>T. alticola</i>	<i>T. andinista</i>	<i>T. capistrata</i>	<i>T. equatoriana</i>	<i>T. insulamontana</i>	<i>T. melanocephala</i>
Sample size (♂♂/♀♀)	8/3	—/1	5/3	2/—	1/3	172/180
Total length (mm.)	125-327	285	134-360	218-253	249-404	95-486
Tail length (mm.)	24-78	56	24-78	59-72	67-95	15-140
Tail length/total length ratio	0.171-0.271	0.196	0.195-0.254	0.271-0.285	0.225-0.269	0.158-0.359
Ventrals in males	128-145 (137.5)	—	130-150 (142.0)	142-147 (144.5)	144	125-174 (145.1)
Ventrals in females	132-140 (135.3)	157	135-156 (147.5)	—	152-157 (154.3)	134-177 (152.6)
Subcaudals in males	32-60 (52.6)	—	53-61 (57.0)	77-79 (78.0)	65	41-92 (60.3)
Subcaudals in females	42-57 (49.5)	50	46-71 (56.3)	—	59-61 (60.0)	41-75 (55.5)
Ventrals + subcaudals in males	160-203 (190.2)	—	184-210 (196.6)	219-226 (222.5)	209	173-250 (202.6)
Ventrals + subcaudals in females	174-197 (185.5)	207	190-227 (208.5)	—		181-239 (210.6)
Postnasal in contact with preocular	Yes or no	No	No	No	No	Yes or no
First pair of infralabials separated	Yes or no	No	Yes or No	No	Yes	Yes or no
Number of postoculars	2	2	Usually 2	2	2	2
Head pattern	Pale muzzle, dark head cap and pale nuchal band	Dark brown with extensive pale markings on dorsum and pale nuchal band and dark nape band	Usually brown to dark brown with pale snout markings and well-defined pale nape band	Brown head cap grading into dark brown nape band punctuated by 2 pale nuchal spots	Brown with pair of pale nuchal spots grading into dorsal ground color; no dark nape band	Pale to dark brown head cap and variable pale nuchal band
Dorsal body pattern	Brown to dark brown with or without slight paling on middorsal row and rows 3 + 4 or 4 + 5	Tan with narrow dark middorsal stripe and narrow pale lateral stripe on upper 1/2 of row 3	Uniform tan or with slight indication of dark middorsal stripe	Multilineate with dark middorsal stripe and stripes on rows 1, 2 + 3, 4 + 5, and 6	Multilineate with dark middorsal stripe and stripes on rows 1, 2 + 3, 4, and 5 + 6	Tan to brown with or without dark middorsal stripe and pale lateral stripe
Ventral pattern	Uniform cream to bright coral red	Immaculate cream	Immaculate cream	Immaculate cream	Cream with brown spot at edge of ventrals	Immaculate cream

Table 2 (Continued)

Character	<i>T. miyatai</i>	<i>T. nigra</i>	<i>T. petersi</i>	<i>T. reticulata</i>	<i>T. semicineta</i>	<i>T. supracincta</i>
Sample size (♂ ♂/♀ ♀)	1/-	-/1(?)	-/1	2/11	9/13	8/9
Total length (mm.)	375	170.5	443	123-312	171-600	150/562
Tail length (mm.)	104	47.5	93	27-73	37-127	33-125
Tail length/total length ratio	0.277	0.279	0.210	0.217-0.241	0.192-0.257	0.193-0.236
Ventrals in males	165	—	—	158-159 (158.5)	161-170 (165.7)	138-151 (144.1)
Ventrals in females	—	137	172	162-173 (166.6)	166-176 (172.2)	141-151 (144.8)
Subcaudals in males	85	—	—	60-67 (63.5)	59-71 (65.9)	52-65 (57.2)
Subcaudals in females	—	64	59	59-70 (63.0)	54-64 (58.3)	52-64 (57.4)
Ventrals + subcaudals in males	250	—	—	219-225 (222.0)	220-238 (231.4)	190-213 (199.2)
Ventrals + subcaudals in females	—	201	231	223-241 (229.8)	225-237 (230.5)	194-215 (202.9)
Postnasal in contact with preocular	No	Yes	No	Yes or no	No	Yes or no
First pair of infralabials separated	No	No	No	Usually	No	Yes or no
Number of postoculars	2	1	2	2	2	2
Head pattern	Brown head cap separated from dark brown nape band by medially-divided pale band	Black with pale nuchal band divided medially and laterally	Uniform pale grayish brown	Brown with cream snout marking and dark-outlined medially-divided pale nuchal band	Pale muzzle, black head cap and complete or medially-divided pale nuchal band	Pale muzzle, dark head cap and complete or medially-divided pale nuchal band
Dorsal body pattern	Multilineate with dark middorsal stripe and stripes on rows 2 + 3, 5, and 6	Uniform black	Pale grayish brown, each scale edged anteriorly with dark pigment	Multilineate with pale middorsal stripe; dark stripes on rows 2 + 3, 5, and 7	12-26 black crossbands or two broad para-vertebral stripes on pale ground color	11-16 black bordered pale crossbars on dark red ground color
Ventral pattern	Cream with narrow medial dark line	Uniform black	Immaculate cream	Cream with dark stripe along lateral edge	Immaculate cream	Immaculate pink to red

Table 3
Country Distribution of South American Species of *Tantilla*

Species	Country										
	Col	Ven	Sur	Guy	Braz	Uru	Par	Arg	Bol	Peru	Ecu
<i>T. alticola</i>	x										
<i>T. andinista</i>											x
<i>T. capistrata</i>										x	
<i>T. equatoriana</i>											x
<i>T. insulamontana</i>											x
<i>T. melanocephala</i>	x	x	x	x	x	x	x	x	x	x	x
<i>T. miyatai</i>											x
<i>T. nigra</i>	x										
<i>T. petersi</i>											x
<i>T. reticulata</i>	x										
<i>T. semicincta</i>	x	x									
<i>T. supracincta</i>											x

Table 4
Altitudinal Distribution of South American Species of *Tantilla*
According to the Categories of Stuart (1963)

Species	Low (0-600 m)	Moderate (600-1500 m)	Intermediate (1500-2700 m)	High (2700 m and above)
<i>T. alticola</i>	x	x	x	x
<i>T. andinista</i>			x	x
<i>T. capistrata</i>	x	x	x	
<i>T. equatoriana</i>	x			
<i>T. insulamontana</i>		x	x	
<i>T. melanocephala</i>	x	x	x	x
<i>T. miyatai</i>	x			
<i>T. nigra</i>	x			
<i>T. petersi</i>			x	
<i>T. reticulata</i>	x			
<i>T. semicincta</i>	x			
<i>T. supracincta</i>	x			

Table 5

Distribution of South American Members of the Genus *Tantilla*
within the Forest Formations of Holdridge (1967)

Species	Forest Formations												
	TD	TTW	TAF	TDF	TMF	TWF	TR	SDF	SMF	SWF	LMMF	LMWF	
<i>T. alticola</i>							x				x		
<i>T. andinista</i>												x	
<i>T. capistrata</i>	x							x					
<i>T. equatoriana</i>							x						
<i>T. insulamontana</i>								x					
<i>T. melanocephala</i>		x	x	x	x	x		x	x	x	x		
<i>T. miyatai</i>							x						
<i>T. nigra</i>							x						
<i>T. petersi</i>											x		
<i>T. reticulata</i>							x						
<i>T. semicincta</i>		x	x	x									
<i>T. supracincta</i>				x			x						

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