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## NOTES ON NORTH AMERICAN LEPTODEIRA

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A study of the herpetological fauna of Nicaragua, Costa Rica and Panamá, begun under a John Simon Guggenheim Memorial Fellowship in 1928, was further advanced by a grant-in-aid from the National Research Council in 1933. At that time it was found necessary to examine a number of Leptodeira from other countries in order to settle the status of those in lower Central America. Thus there has accumulated a mass of data which I have been urged to summarize for the benefit of other workers.

The genus *Leptodeira* (including *Hypsiglena*) consists of: Colubrine snakes of moderate to small dimensions; body cylindrical or laterally compressed; head somewhat to very distinct from neck; eye with vertical pupil, small to rather large; vertebrae without posterior hypapophyses; hemipenis single, with single sulcus, proximal hooks and distal calyces, the areas so furnished about equal, calyculate area with free proximal edge ("capitate"); maxillary teeth 10-16, subequal or increasing posteriorly, followed after a gap by two enlarged fangs, which may or may not be grooved; head scalation normal; dorsal scales in 17-25 rows, smooth, with two apical pits, vertebral and paravertebrals sometimes enlarged; ventrals normal; anal nearly always double; subcaudals paired; United States to Argentina.

Save for the genus *Trimorphodon*, which occurs with *Leptodeira* from the southern United States to Costa Rica, there are no close American allies. *Trimorphodon* have enlarged anterior teeth, more than one loreal and are larger snakes. I regard them as derivatives of *Leptodeira*.

The African genus *Crotaphopeltis* is stated to be a close ally of *Leptodeira*, differing in having a single anal.

Leptodeiras without grooved fangs are usually considered a different genus (*Hypsiglena*), and by some authors placed in a different subfamily. "Hypsiglena" consists of the spotted *lorquata*, closely similar to *Leptodeira pacifica*; the broad banded *latifasciata*, closely similar to *Leptodeira mystacina* and to *L. nigrofasciata*, and specifically identical with *Leptodeira guilleni*; the narrow banded *discolor*, rather similar to *L. maculata*.

Thus I do not believe that the grooveless snakes form a natural group. Furthermore there is no difference save presence or absence of grooves between *Comastes ornata* Bocourt described from Panamá, and Panamanian specimens of *Leptodeira annulata*, nor between the Mexican *Hypsiglena latifasciata* and *Leptodeira guillemi*, so that I scarcely consider grooving of specific value in this group. The three so-called Hypsiglenas are far more different from each other than they are from various Leptodeiras. In these cases I consider the grooving of the maxillary teeth to have been lost.

In South America *annulata* is the only form in the southern and eastern regions. In Panamá *annulata* occurs with a more abundant (ratio of 1 to 6) form *rhombifera*, which enters South America, but which is replaced in the area from Peru to Venezuela by other species or races which occur with *annulata*. These forms I have not yet been able to work out. A third species, *bakeri*, of a quite different group, allied to *nigrofasciata* and *mystacina*, occurs on the island of Aruba.

North of Panamá the number of forms in any given area increases to a maximum on the west coast of Mexico, whence eight different forms have been examined (five occur in the adjacent states of Colima and Sinaloa). Here they are accompanied by *Trimorphodon*. On the Mexican plateau and north into the United States the number diminishes, *Trimorphodon* just crosses the border and the only form of *Leptodeira* widespread in the north is *ochrorhyncha*.

I shall not here detail the institutions whose lower Central American material has been examined. The list is long and will appear elsewhere. I have seen the entire collection of the Museum of Comparative Zoölogy at Harvard, and of the Academy of Natural Sciences in Philadelphia. I have examined all the North American material in the United States National Museum and in the American Museum of Natural History. I have seen a number of specimens from the Museum of Zoölogy of the University of Michigan and been provided with data on others. I wish to express my gratitude to these institutions and to the foundations which have enabled me to examine the material. The North American material of this group which I have been able to see amounts to 704 specimens from lower Central America, 250 from further north and 3 with no data; 957 in all. Of one form, *rhombifera*, I have seen 606 specimens. I am compelled to regard as valid three forms of which I have seen no examples. In the field I have met with the common forms *annulata*, *rhombifera* and *maculata*.

An 880 mm. long specimen of *L. rhombifera*, now in the Museo Nacional de Costa Rica, from Alajuela, C. R., bit a boy on the hand and caused marked, but not very serious, symptoms of poisoning.

*Leptodeira rhombifera* is the form which, in my opinion, is the most primitive. It is one of the largest species, has as many rows of dorsal

scales as any and more than most, is a spotted form, is certainly closer to *Trimorphodon* than any other, is very widely distributed and occupies a central position in any scheme of relationships. I should regard the banded forms, the smaller spotted forms and the arboreal forms as necessarily connected, one with another, by way of some such form as *rhom bifera*.

## KEY TO NORTH AMERICAN LEPTODEIRA

- A. Vertebral (or vertebral and paravertebrals) scale row enlarged (no dark nape stripe; dorsal and lateral spots; body compressed; scales 19-23, usually 21, in South America occasionally 17; ventrals 186-199; caudals 81-84 ♀, 94-97 ♂; fangs grooved; Nicaragua, Costa Rica, Panamá, into South America). . . . . *annulata annulata*.
- AA. Vertebral scale row not enlarged.
- B. Spotted snakes, the dorsal spots or rhombs not reaching scale row 1; lateral spots usually well marked.
- C. A dark nape stripe; caudals more than 60; snakes fairly large; scales 21-25.
- D. Ventrals 193-211 (dorsal spots usually small; body compressed; scales 21-23, usually 23; caudals 75-102; fangs grooved; Vera Cruz and Colima to Honduras). . . . . *annulata polysticta*.
- DD. Ventrals 158-178 (dorsal spots large; body cylindrical; scales 21-25; caudals 64-84; fangs grooved; Sinaloa and Vera Cruz south through Central America—except for Yucatan, Peten and British Honduras—and into South America). . . . . *rhom bifera*.
- CC. No dark nape stripe or caudals not more than 55; small snakes; scales 19-21; body cylindrical.
- D. Caudals 61-70; fangs grooved (a black collar; tiny spots in numerous rows; scales 19; ventrals 152-164; Sinaloa and Jalisco). . . . . *pacificae*
- DD. Caudals 43-55; fangs not grooved.
- E. A black collar with forward extensions to nape and eye; scales 21.
- F. Ventrals 178-186; Lower California. . . . . *torquata venusta*.
- FF. Ventrals 167-175; Lower California, California, Texas, Idaho, Sonora, Michoacan, San Luis Potosi. . . . . *torquata ochrorrhyncha*.
- EE. A yellow collar followed by a black one; scales 19-21, usually 21 (ventrals 162-174, caudals 43-53; Sinaloa, Durango, Colima, Tepic, Zacatecas, Nicaragua, Costa Rica). . . . . *torquata torquata*.
- BB. Banded snakes, the bands or rhombs reaching the first scale row or the ventrals; lateral spots absent or as darkening of the lateral spaces between the rhombs; body cylindrical.
- CC. Scales 21-25; bands or rhombs.
- D. Head markings present; dark mark from eye continuous or nearly so with first dorsal rhomb or band.
- E. Rhombs; fangs grooved.
- F. 18-23 rhombs reaching ventrals; no definite nape stripe (scales 21-23, usually 21; ventrals 181-187; caudals 66-81; end of Yucatan peninsula). . . . . *yucatanensis yucatanensis*.
- FF. 25-39 rhombs reaching first scale row; nape stripe usually present (ventrals 174-191; caudals 64-81; scales 21; Campeche, Peten, Belize). . . . . *yucatanensis malleisi*.

## EE. Bands.

- F. 21-31 dark bands "at distances of from six to nine scales narrow cross-bands of one scale in width rise . . . . and meet or terminate in alternating positions, on or near the middle line of the back"; scales 23; ventrals 188; caudals 69; Vera Cruz . . . . . *frenata*.  
 FF. 8-11 dark bands; scales 21-23; ventrals 186-189; caudals 66-80; fangs grooved or not; Guerrero and Puebla . . . . . *latifasciata*.

## DD. No head markings; rhombs on body.

- E. Scales 21-23; ventrals 187-197; caudals 63-79; fangs grooved; Texas and Mexican Plateau to Tampico, San Luis Potosi and Zacualtipan . . . . . *septentrionalis septentrionalis*.

- EE. Scales 21-25; ventrals 160-186; caudals 55-74; fangs grooved; Vera Cruz, Zacualtipan, Sinaloa, Colima, Tepic, Guerrero, Oaxaca, Costa Rica . . . . . *septentrionalis maculata*.

## CC. Scales 19; bands.

- D. 51-54 bands; fangs not grooved (ventrals 173-180; caudals 85-89; Oaxaca) . . . . . *discolor*.

## DD. 10-18 bands; fangs grooved.

- E. 15-18 bands; ventrals 168-172; Nicaragua and Costa Rica . . . . . *nigrofasciata*.

- EE. 10-12 bands; ventrals 187-196; Guerrero and Oaxaca . . . . . *mystacina*.

This key should be used with some care and attention, especially in distinguishing between *rhombifera* and *maculata*, *rhombifera* and *malleisi*, *rhombifera* and *polysticta*, *polysticta* and *septentrionalis*. No sound color characters separate *rhombifera* from *polysticta* or *maculata* from *septentrionalis*. Contrariwise *rhombifera* and *maculata* cannot well be separated on scalation, and neither can *polysticta* be told from *septentrionalis* on this basis.

*Leptodeira* Fitzinger

- 1843 *Leptodeira* Fitzinger, *Syst. Rept.*, p. 27 (type *annulata*).  
 1860 *Hypsiglena* Cope, *Proc. Acad. Nat. Sci. Philadelphia*, 12, p. 246 (type *ochrorhyncha*).  
 1860 *Pseudodipsas* Peters, *Mon. Ak. Berlin*, p. 521 (type *torquata*).  
 1861 *Megalops* Hallowell, *Proc. Acad. Nat. Sci. Philadelphia*, 12, p. 488 (type *maculata*).  
 1863 *Comastes* Jan, *Elenco Sist. Ofid.*, p. 102 (type *quincunciatus*).  
 1866 *Leptodira* Cope, *Proc. Acad. Nat. Sci. Philadelphia*, p. 127 (emendation).

*Leptodeira annulata annulata* (Linné)

- 1758 *Coluber annulatus* Linné, *Syst. Nat.* (10), 1, p. 224.  
 1884 *Comastes ornata* Bocourt, *Bull. Soc. Philom.* (7), 8, p. 141 (Darlen).  
 1895 *Leptodira affinis* Günther, *Biol. Centr. Amer. Rept.*, p. 170 (Cent. Amer.).  
 1895 *Leptodira polysticta* Günther, loc. cit., p. 172 (in part, cotype BMNH 70-5-12, 6, Panamá).

Type: Existence questionable.

Type locality: America.

Range: South America to Nicaragua, giving place further north to the race *polysticta*.

Material: I have examined 101 (6 Nicaraguan, 17 Costa Rican and 78 Panamanian) specimens of this snake. Of the Panamanian specimens 57 were heads. I also have information on two Panamanian specimens in the Museum of the University of Michigan, and the published information on the two types of *ornata*. I have taken it on Barro Colorado Island, Panamá. It is a tree snake and is nocturnal. The northernmost record is from Cape Gracias, Nicaragua (USNM 15308-9). It reaches an elevation of 2000 meters at Tierra Blanca, Costa Rica (Coll. S. Luis Gonzaga). It occurs at sea level on both coasts.

NOTE: *Caluber albofuscus* Lacépède 1789 (*Hist. Nat. Serp.*, 2, p. 94, 312) was considered by the describer to be the same as *annulata*, and stated to have the same ventral (100) and caudal (96) counts as Linné's species. Thus it is an absolute synonym of *annulata*, and was probably intended as a substitute name.

*Leptodeira annulata polysticta* Günther

1895 *Leptodeira polysticta* Günther (in part), *Biol. Cent. Amer. Rept.*, p. 172, pl. 55, f. A.  
Types: In Brit. Mus.

Type locality: Jalapa, Yucatan, Honduras, Belize, Panamá (Panamá type = *annulata annulata*).

Range: From Colima (one spec. in Mus. Mich.) and Tuxpan (USNM 25206-7, 25209-11) through Yucatan and Peten to eastern Honduras.

Material: I have seen 31 specimens (15 from Mexico, 1 from British Honduras, 5 from Guatemala, 10 from Honduras). The Colima specimen is the only one from the Pacific coast. I have information on the six cotypes in the BMNH and on 9 Peten specimens in the Michigan Museum.

Remarks: It is quite possible that specimens from Colima and Vera Cruz may represent a recognizable race, as they do not show the fine dotting which characterizes Yucatan specimens, and which is shown in Günther's figure. No local differences in scalation are evident. This race differs from *annulata* in that the dorsals are not enlarged, that a nape stripe is present, that the dorsal scales are usually 23 instead of 21 and that the ventrals range somewhat higher in count. The southernmost specimens come from the banana plantations around Tela and Lancetilla.

*Leptodeira rhombifera* Günther

1872 *Leptodeira rhombifera* Günther, *Ann. Mag. Nat. Hist.* (4), 9, p. 32.

1893 *Sibon septentrionale rubricatum* Cope, *Proc. Amer. Phil. Soc.*, 31, p. 347 (Boca Mala, Costa Rica, type AMNH 17367).

1895 *Leptodeira splendida* Günther, *Biol. Cent. Amer. Rept.*, p. 171, pl. 53, f. B (Izucar, Puebla, Mexico, types in Brit. Mus.).

1895 *Leptodeira ocellata* Günther, loc. cit., p. 172, pl. 55, f. B (Chontales Mines, Nic., Cartago, Costa Rica. Types BMNH 94-10-1, 32 Chontales; BMNH 71-11-33, 11-13 Cartago).

Type: In Brit. Mus.

Type locality: Rio Chisoy, near Cubulco, Guatemala.

Range: From Plumas, Sinaloa (USNM 46459) and Puebla (Mexico) into South America, apparently avoiding Yucatan and Peten. It occurs at Cartago, Costa Rica, at 4700 feet.

Material: 606 specimens. I have seen two Mexican specimens and have the information on the types of *splendida*. Twelve Guatemalan, two Salvadorian, fifteen

Honduranian, 28 Nicaraguan, 54 Costa Rican and 493 Panamanian specimens have been examined. Of the Panamanian specimens 342 were heads. Wettstein has reported on 5 from Bebedero, Costa Rica.

The type of *rubricata* (178 ventrals) is at one extreme of the range of variation, while a type of *ocellata* from Cartago (158 ventrals) is at the other. USNM 60027 from Empire, Canal Zone, also has 178, but aside from the above three the range of ventrals in counted specimens is 163-175. Of 78 specimens sixteen have 21, fifty-five have 23 and seven have 25 scale rows. Twenty-one scale rows seem more frequent in Mexico and in Panamá, whence no specimens with twenty-five rows are known.

Remarks: This is the form for which Boulenger resurrected the name *albofusca*, in my opinion incorrectly.

This species may eventually be divided into a northern form with large rhomboid spots (*rhombifera*) and a southern form with smaller squarish spots (*rubricata*). Honduranian specimens seem intermediate. I cannot, at present, divide the two accurately, as Mexican specimens seem identical with Costa Rican ones.

I have taken it at Las Canas, Costa Rica. It is a ground snake and nocturnal.

*Leptodeira pacifica* Cope

1866 ?? *Crotaphopeltis punctata* Peters, *Mon. Ak. Berlin*, p. 93 (?South Africa, type in Berlin Museum).

1869 *Leptodeira pacifica* Cope, *Proc. Acad. Nat. Sci. Philadelphia*, 20, p. 310.

Type: USNM 6833.

Type locality: Mazatlan, Mexico.

Range: Sinaloa and Jalisco, Mexico.

Material: USNM 6833, AMNH 19853 from Sinaloa, AMNH 19854 from Lerma river mouth, Lake Chapala, Jalisco and Boulenger's report on a specimen from Presidio, Sinaloa.

Remarks: I prefer to use Cope's name for this remarkably distinct little species rather than Peters', as I am not sure they are the same. Peters' locality adds to the uncertainty. His specimen had 19 scale rows, 151 ventrals, a divided anal and 65 caudals.

*Leptodeira torquata torquata* Günther

1860 *Leptodeira torquata* Günther, *Ann. Mag. Nat. Hist.* (3), 5, p. 170, pl. 10, f. A.

1860 *Pseudodipsas fallax* Peters, *Mon. Ak. Berlin*, p. 521 (in synonymy of *L. torquata*).

1871 *Comastes quincunciatius* Jan, *Icon. Ofid.*, 38, pl. 1, f. 1 (Mazatlan, Hamburg Mus.; Costa Rica, Vienna Mus.; Caracas, Heidelberg Mus.; Mexico, Vienna Mus., Westphalia Mus.; no locality, Milan Mus.).

1894 *Hypsiglena affinis* Boulenger, *Cat. Snakes Brit. Mus.* (2), p. 210, pl. 8, f. 1 (Zacatecas and Jalisco, types in Brit. Mus.).

Type: BMNH 61-12-30, 97.

Type locality: Laguna I., Nicaragua.

Range: From Costa Rica to Mazatlan, Sinaloa, and Ventanas, Durango.

Material: I have seen four specimens; the type in the British Museum, one from Colima (USNM 31285), one from San Blas, Tepic (USNM 51479) and one from Costa Rica (Museo Nacional).

Remarks: This is apparently a Pacific coast form. I consider Jan's Caracas locality erroneous. Boulenger's three types of *affinis* have a yellow collar and 19 scale rows, according to him. Günther says the Jalisco specimen has no yellow collar and the Zactecas specimens have 19 and 20 scale rows. I follow Günther in regarding the types of *affinis* as intermediates in color between *torquata* and *ochrorhyncha*.

*Leptodeira torquata venusta* (Moquard)

1899 *Hypsigena venusta* Moquard, *Nouv. Arch. Mus. Paris* (4), 1, p. 327.

Types: Six, in the Paris Museum.

Type locality: Santa Rosalia and San Ignacio, Baja California.

Range: Known only from type locality.

Material: None seen.

Remarks: The types were said to have from 178 to 186 ventrals. Moquard gives at the same time a range of 157-178 for *ochrorhyncha* from Baja California. Definite records and specimens I have seen indicate a range of 162 (a type of *affinis*) to 175 (type of *texana*) in the other forms of this species. Van Denburgh, however, without any details, says 160-191 for *ochrorhyncha*. As matters stand I prefer to maintain Moquard's species as a race of *torquata* although it seems to be surrounded by *ochrorhyncha*.

*Leptodeira torquata ochrorhyncha* (Cope)

1860 *Hypsigena ochrorhynchus* Cope, *Proc. Acad. Nat. Sci. Philadelphia*, 12, p. 246.

1860 *Hypsigena chlorophaea* Cope, loc. cit., p. 247 (Cape San Lucas, Baja California).

Types USNM 5283 and ANS 3537-8.

1893 *Hypsigena texana* Stejneger, *N. Amer. Fauna*, 7, 2, p. 205 (Laredo to Comargo, Texas. Type USNM 1782).

Type: USNM 4676, ANS 3748-9.

Type locality: Fort Buchanan, Arizona.

Range: Baja California, California, Nevada, Utah, Idaho, Arizona, New Mexico, Texas, Sonora, Chihuahua, Nuevo Leon, San Luis Potosi, Michoacan, Guanajuato.

Material: The seven types listed above; USNM 69538-40 from Cape San Lucas; USNM 46513 from Tupetaro, Michoacan; USNM 46444 from Rio Verde, San Luis Potosi; USNM 9889, 11369 from Guanajuato; USNM 14287 from Chihuahua. Fifteen in all.

Remarks: Günther's *torquata* was published in the April number of the *Ann. Mag.* which appeared, according to him, in February. Cope's *ochrorhyncha* was read in June, and had appeared by Nov. 15 according to the Index of the Academy publications. Thus *torquata* is earlier.

*Leptodeira yucatanensis yucatanensis* (Cope)

1866 *Leptodira annulata* var. Cope, *Proc. Acad. Nat. Sci. Philadelphia*, p. 127.

1887 *Sibon annulata yucatanensis* Cope, *Bull. U. S. N. M.* 32, p. 67.

Type: USNM 24887.

Type locality: Yucatan.

Range: Yucatan (only definite locality Chicheñ Itza).

Material: The type and eight specimens from Chicheñ Itza.

Remarks: Cope described, but did not name, this form in 1866. In 1887 he named, but did not describe it, merely referring to his 1866 paper. This form is a remarkably colored *Leptodeira*, but it apparently intergrades with *malleisi*, which is close to and may intergrade with *rhombifera*. Should this be proved, both *yucatanensis* and *malleisi* will become races of *rhombifera*.

*Leptodeira yucatanensis malleisi* Dunn and Stuart

1935 *Leptodeira yucatanensis malleisi* Dunn and Stuart, *Occ. Papers Mus. Zool. U. Michigan*, 313, p. 1.

Type: U. Mich. 73230.

Type locality: Tuxpena, Campeche.

Range: Campeche, Peten, British Honduras.

Material: The type and fifteen paratypes mentioned in the original description.

Remarks: Differs from *yucatanensis* only in color, and by this difference it more nearly resembles *rhombifera*.

*Leptodeira frenata* (Cope)

1886 *Sibon frenatum* Cope, *Proc. U. S. Nat. Mus.*, 9, p. 184.

Type: Not known to exist.

Type locality: Jalapa, Mexico.

Range: Known only from type locality.

Material: None seen.

Remarks: Cope based this species on a very small specimen, 305 mm. in total length. It cannot now be found. No other banded *Leptodeira* is known in which the light bands are only one scale in width, and only one other banded species is known with the dark postocular mark reaching the first dorsal band, and this, *latifasciata*, has only about half as many bands.

*Leptodeira latifasciata* (Günther)

1894 *Hypsiglena latifasciata* Günther, *Biol. Cent. Amer. Rept.*, p. 138, pl. 49, f. B.

1905 *Leptodira guilleni* Boulenger, *Proc. Zool. Soc. London*, 2, p. 247, pl. 7, f. 2 (type in Brit. Mus., Río Balsas, Guerrero).

Type: In British Museum.

Type locality: Southern Mexico.

Range: Guerrero and Puebla.

Material: USNM 46550, from Piaxtla, Puebla.

Remarks: The specimen from Puebla has no visible grooves on the fangs. The three specimens listed below seem to me conspecific despite the fact that two are apparently without grooved fangs while one has grooves.



	SCALES	VENTRALS	CAUDALS	BANDS	GROOVED FANOS
Type <i>latifasciata</i>	21	186	80	10	No
Type <i>guilleni</i>	23	189	71	11	Yes
USNM 46550	23	181	66	8	No

*Leptodeira septentrionalis septentrionalis* (Kennicott)

1859 *Dipsas septentrionalis* Kennicott in Baird, *Report Mex. Bound. Surv.*, 2, Rept., p. 16, pl. 8, f. 1.

Types: USNM 4267 (two, Matamoros), 2288 (Brownsville, not extant).

Type locality: Matamoros, Mex., and Brownsville, Texas.

Range: Cameron Co., Texas, to Tampico (U. Mich. 3791), San Luis Potosi (M.C.Z. 4516) and Zacualtipan (A.N.S. 11662-3, 14775).

Material: Fourteen specimens have been seen.

Remarks: Indistinguishable in color from the more southern *maculata*, but has more ventrals. Both seem to occur at Zacualtipan, but specimens labeled as from that locality may have come from very different altitudes.

*Leptodeira septentrionalis maculata* (Hallowell)

1861 *Megalops maculatus* Hallowell, *Proc. Acad. Nat. Sci. Philadelphia*, 1860, p. 488.

1869 *Leptodira personata* Cope, *Proc. Acad. Nat. Sci. Philadelphia*, 20, p. 310 (Type USNM 6836, Mazatlan, Mex.).

1913 *Leptodira dunckeri* Werner, *Mit. Nat. Mus. Hamburg*, 30, p. 28 (type in Hamburg; Mexico or Venezuela).

Type: USNM 7367, collected by Rogers Exped.

Type locality: Tabiti [in error].

Range: Cape San Lucas (USNM 11290), Mazatlan (type of *personata*), Zacualtipan (ANS 14774), Tuxpan (USNM 25208) to Oaxaca (Tepanatepec, MCZ 27732-98, and Zantepec, USNM 46497-8), Nicaragua (?), type of *maculata*), Costa Rica (six specimens in Museo Nacional).

Material: I have examined 133 specimens. In addition the descriptions of *dunckeri*, of eleven Jalapa specimens in the British Museum and of one from Vera Cruz in the University of Michigan have been used.

Remarks: The type of *maculata* agrees almost exactly with the type of *personata*. As all the Rogers material from Central America was collected in Nicaragua, it probably came from that country. Aside from six in the Museo Nacional de Costa Rica, no others are known south of Tehuantepec. As nothing similar to *dunckeri* is known from Venezuela, and as the description shows no differences from *maculata*, I regard the Mexican alternative locality as almost certain. This form seems to replace *septentrionalis* off the plateau in Mexico. I have taken it at Jalapa. It is terrestrial.

*Leptodeira discolor* Günther

1860 *Leptodeira discolor* Günther, *Proc. Zool. Soc. London*, p. 317.

Types: In Brit. Mus. (two specimens).

Type locality: Oaxaca, Mexico.

Range: Known only from type locality.

Material: None seen.

Remarks: The two cotypes are the only specimens known of this apparently very distinct form. Its nearest ally would seem to be some form like *maculata*, rather than either of the other two species with ungrooved fangs.

*Leptodeira mystacina* Cope

1870 *Leptodeira mystacina* Cope, *Proc. Amer. Phil. Soc.*, 11, p. 151.

Type: USNM 30339-40.

Type locality: Near Isthmus of Tehuantepec, Mexico.

Range: Known definitely only from Acapulco, Guerrero (USNM 46551), and Tapana-tepec, Oaxaca (MCZ 27835-8).

Material: The types and three additional specimens.

*Leptodeira nigrofasciata* Günther

1868 *Leptodeira nigrofasciata* Günther, *Ann. Mag. Nat. Hist.* (4), 1, p. 425.

Type: BMNH 66-12-65.

Type locality: Nicaragua.

Range: Nicaragua (Managua, USNM 79967-70); Costa Rica (Turrialba, Collegio San Luis Gonzaga); west coast of Central America (ANS 11313-15).

Material: 19 specimens, 13 from Nicaragua and two from Costa Rica.

\* Contribution No. 26.