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# LIZARDS OF THE GENUS GERRHONOTUS FROM CHIAPAS, MEXICO

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So far as we are aware, the meager material on which this report is based comprises all the specimens of the genus *Gerrhonotus* which have been collected in the state of Chiapas. Fifteen of the nineteen available specimens are in the collections of the Museum of Zoology, University of Michigan, and four in the Instituto de Biologia of México. Four of the five forms herein recognized are regarded as new to science. In allocating these forms to species groups we have followed Smith (1942: 363-69).

# THE deppii GROUP

# Gerrhonotus ochoterenai Martín del Campo

This form was described by Martín del Campo (1939: 357–59) on the basis of two adults, a male and a female. Another adult female from the same locality (Santa Rosa, Comitán, Chiapas) was referred to the species fimbriatus (1939: 359). In addition to these three specimens we have been permitted to examine another, also from the Instituto de Biologia. These four specimens appear to be conspecific and to deserve specific ranking, and we designate the male cotype of the original

description as the lectotype of Gerrhonotus ochoterenai Martín del Campo.

This species differs from both auritus and fimbriatus in the following respects: parietal separated from supraorbital series or only very narrowly in contact, supranasals normally present (absent on one side in the female cotype of ochoterenai), twelve (in the three adults) or fourteen (in the juvenile) ventral scale rows, an unpaired postmental, three temporal elements in contact with supralabials.

All the above characters, except the condition of the postmental and the presence of supranasals also serve to distinguish ochoterenai from vasconcelosii. In color pattern all specimens of ochoterenai except the female cotype differ from vasconcelosii, but resemble the auritus-fimbriatus complex in the nearly uniform dorsum. In the female cotype dark, moderately conspicuous, individual transverse bands are present on the back, but those of the neck are joined into a single, large, dark marking, such as is shown in Bocourt's figure of fimbriatus (1879: Pl. 21, Fig. 2). The condition of the supra-auricular scales, long and slender in the three adults and flat and rounded in the juvenile, is probably a matter of age variation. The number of transverse dorsals in ochoterenai (30–33) seems somewhat higher than in the other forms.

The specimen referred to fimbriatus by Martín del Campo (1939: 359) differs from the other three Santa Rosa specimens only in the absence of an azygous prefrontal and in the presence of obtusely rather than prominently keeled scales. Since we believe that these differences are better interpreted as individual variations than taxonomic significants, we refer the specimen to ochoterenai.

All four examples have three suboculars, not extending to the lowest anterior temporal; six superciliaries; postmental followed by three large and one smaller chin shield on each side, the anterior pair in contact medially; labiomentals four or five, the anterior extending to the first chin shield and second infralabial except on one side of the female cotype, in which it extends only to the third infralabial; azygous prefrontal absent in one specimen, present in three and in contact with frontal except in the juvenile. The latter specimen is also peculiar in having an anomalous azygous scale between the prefrontal and the rostral, as well as having another anomalous scale between the medial and lateral supraorbital series. Scutellation characteristics and measurements are summarized in Table I.

TABLE I

MEASUREMENTS AND CERTAIN SCALE CHARACTERS OF

Gerrhonotus ochoterenai

	Female Cotype	Male Lectotype	Female Topotype	Juvenile Topotype
Scale characters				
Transverse rows of dorsals	33	31	30	30
Minimum number of scales	Ì			
across nape	6	6	6	6
Ventrals between first pair of	1	1		
chin shields and preanals	53	52	49	54
Caudal whorls	97	92	94	94
Postoculars	3-3	3-2	4-3	4-4
Supralabials	11-11	9-10	10-11	9-9
Infralabials	7–8	7-8	8-7	8-8
Measurements (in mm.)				
Snout to vent length	97	98	99	36
Tail length	153	157	166	54
Distance from snout to pos-				
terior border of ear	20.0	22.3	21.8	9.7
Head width	14.5	16.8	16.1	6.0
Head depth	9.4	11.4	9.8	3.9
Distance from axilla to groin	52	50	53	17
Length of fore limb	24.5	25.5	25.5	9.5
Length of hind limb	28.0	30.5	31.0	12.0
Length of fourth finger	7.8	8.5	8.4	3.4
Length of fourth toe	13.1	13.4	12.5	5.0

### Gerrhonotus matudai, new species

HOLOTYPE.—U.M.M.Z. (= University of Michigan Museum of Zoology) No. 88331; a young adult female collected by Eizi Matuda, at 2000 meters above sea level on Volcán de Tacaná, Chiapas.

DIAGNOSIS.—A Gerrhonotus of the deppii group with a single postmental; supra-auricular scales scarcely protuberant, supranasals present; parietal broadly in contact with supraorbital

series; transverse brown bands of dorsum very prominent, those of neck discrete, not combining to form a single large dark marking; dorsals in about thirty-nine rows between occipital and posterior border of thigh; three temporal elements in contact with supralabials; an azygous prefrontal.

Description of holotype.—Nasal separated from rostral by internasals; supranasals present, slightly expanded, but not meeting in mid-line; anterior prefrontal split into anterior and posterior (canthal) elements on right side but not on left; azygous prefrontal separated from frontal by posterior prefrontals; frontal narrowly in contact with interparietal, which touches occipital; five medial and two lateral supraorbitals; two small superposed postnasals; two loreals, the posterior larger; one preocular; two suboculars, extending to postoculars and penultimate or antepenultimate supralabial, but not reaching lowest anterior temporal; three postoculars; four supraciliaries, anterior relatively large, but not expanded to meet posterior prefrontals; anterior temporals two on left side, three on right, lowest in contact with orbit; four secondary temporals; parietals broadly in contact with fourth and fifth members of medial supraorbital series; supralabials 10/11, two following orbit on left side, three on right; three temporal elements in contact with supralabials; eight infralabials; five labiomentals, the anterior reaching first pair of chin shields and second infralabial; postmental single, followed by three large and one smaller chin shield on each side, the anterior pair in contact medially.

Dorsals in thirty-nine transverse and sixteen longitudinal rows; a minimum of six scales across nape; ventrals in twelve longitudinal and fifty-four transverse rows between first pair of chin shields and preanals; osteoderms thin, but developed over entire dorsum; medial six rows of dorsal scales weakly keeled; lateral fold weakly developed; sides of neck coarsely granular; supra-auricular scales broad, rounded, not differing greatly from larger granules of side of neck.

Dorsal ground color (in alcohol) blue gray, with prominent, irregular, transverse brown bands, roughly V-shaped and in-

distinctly bordered with black, of which two are on neck, nine on body, and at least eleven on tail; dorsum of head spotted with brown; a particularly prominent brown marking above posterior part of orbit and a prominent streak extending posteriorly from eye; supralabials sparsely spotted with brown; venter light bluish gray with scattered black specks.

Snout to vent, 77 mm.; tail (tip regenerated), 98 mm.; snout to posterior border of ear, 17.5 mm.; head width, 10.8 mm.; head depth, 8.0 mm.; axilla to groin, 38 mm.; forelimb, 19 mm.; hind limb, 24 mm.; fourth finger, 6.6 mm.; fourth toe, 10.5 mm.

RELATIONSHIPS.—G. matudai resembles vasconcelosii in color pattern, in the relation of the parietals to the supraorbitals, and in the slight development of the supra-auricular scales. The last, however, are much better developed in the type of vasconcelosii (54 mm.) than in this larger specimen (77 mm.) of matudai. In other respects matudai differs rather widely from all known members of the deppii group, the most prominent characteristic being, perhaps, the exceptionally high number of dorsal scales. That its relationships are with the southern (auritus) rather than with the northern (deppii) section of the deppii group is indicated by its possession of a single postmental and by the arrangement of the temporal series.

We name this species in honor of the collector, Señor Eizi Matuda, who has so often demonstrated his profound interest in the fauna and flora of Chiapas.

#### THE liocephalus GROUP

This group is represented by a single juvenile specimen from Cerro Malé, Chiapas. It appears to be more closely related to typical liocephalus than to the ophiurus—infernalis complex, but exhibits certain characters not found in any of the other members of the group. Since only one specimen is available, and since it is a juvenile, it is rather difficult to ascertain which differences are due to individual and which to geographic variation. In consideration of locality, however, it seems unlikely that this specimen is to be identified with any of the known subspecies, none of these having been previously re-

ported from south of the Isthmus of Tehuantepec. It is preferable, therefore, to propose a new name for the population which this specimen represents.

#### Gerrhonotus liocephalus austrinus, new subspecies

HOLOTYPE.—U.M.M.Z. No. 94921, a juvenile, collected by Eizi Matuda, on June 10, 1941, at 3200 meters elevation above sea level on Cerro Malé, Porvenir, Chiapas.

DIAGNOSIS.—A Gerrhonotus of the liocephalus group with two loreals and a single (anterior) canthal; no independent supranasals; frontal not in contact with interparietal; all but lowest anterior temporal in contact with fifth medial supraorbital; azygous prefrontal longer than broad; no definite transverse bands; belly not mottled.

Description of holotype.—Nasal separated from rostrals by internasals; postrostral present; supranasals absent; anterior prefrontals separated from postrostral by azygous prefrontal; azygous prefrontal large, much longer than broad; not in contact with frontal or posterior loreals; frontal separated from interparietal by frontoparietals; two superposed postnasals; two loreals; one canthal; five medial supraorbitals; two lateral supraorbitals on right, three on left; six superciliaries, anterior one expanded and touching posterior prefrontal on left, very narrowly separated on right; one preocular; subocular series composed of one (left) or two (right) elements extending posteriorly to postoculars and antepenultimate labial, but not to lower anterior temporal; four or five postoculars; four anterior and four secondary temporals, uppermost anterior in contact with upper secondary, and lowermost anterior in contact with the two lower secondaries; three temporal elements in contact with supralabials; the three upper anterior temporals in contact with fifth medial supraorbital; supralabials ten on left side, twelve on right, three following orbit; infralabials ten; labiomentals four or five, the anterior extending to first (postmental) pair of chin shields and second infralabial; mental single; six chin shields on each side, the first large, the ultimate small, the anterior two pairs in contact along mid-ventral line.

Dorsals in fifty-one transverse and sixteen longitudinal rows; a minimum of ten scales across nape; ventrals in twelve (thirteen or fourteen in a few rows on anterior half of body) longitudinal and sixty-seven transverse rows between second pair of chin shields and preanals; median six rows of dorsals keeled.

Tan above; middorsal line indistinct, somewhat darker; indistinct darker irregular bands along sides; supralabials, suboculars, and lower part of loreals whitish, bordered above by a thin dark line which is very distinct below and behind orbit, but less prominent anterior to eye; venter with numerous, indistinct, diffuse gray specks along middle of scales, often forming ill-defined longitudinal lines.

Snout to vent, 48 mm.; tail incomplete; snout to posterior border of ear, 11.3 mm.; head width, 6.3 mm.; head depth, 4.4 mm.; axilla to groin, 26 mm.; fore limb, 9.0 mm.; hind limb, 12 mm.; fourth finger, 3.6 mm.; fourth toe, 4.8 mm.

Relationships.—That this form is closely related to Gerrhonotus liocephalus liocephalus is indicated by the presence of two loreals, one canthal, one preocular, the absence of mottling on the belly, and the absence of prominent transverse bands on the dorsum. The two forms differ in several respects. In G. l. austrinus the supranasals are absent, the azygous prefrontal is much longer than broad; the frontal is widely separated from the interparietal; all except the lowermost anterior temporal touch the fifth medial supraorbital. In G. l. liocephalus supranasals are always present and somewhat expanded to meet the postrostral between the internasals and the anterior prefrontal; the azygous prefrontal is about as broad as or broader than long; the frontal is in contact with, or very narrowly separated from, the interparietal; only the two uppermost anterior temporals are in contact with the fifth supraorbital. The number of transverse dorsals, fifty-one, in G. l. austrinus is very near the lower limits of the range of variation (fifty to fifty-nine) in G. l. liocephalus.

#### THE antauges GROUP

This group is represented in Chiapas by two forms, both closely related to the Guatemalan *Gerrhonotus moreleti moreleti*, and both described herein as new.

### Gerrhonotus moreleti rafaeli, new subspecies

HOLOTYPE.—U.M.M.Z. No. 88228; a young female collected by Eizi Matuda, on August 9, 1937, at 2300 meters above sea level, 16 kilometers south of Siltepec, Chiapas.

Paratypes.—U.M.M.Z. Nos. 88227, 2300 meters above sea level, 16 kilometers south of Siltepee; No. 88226, 1500 meters above sea level, Cerro Paxtal; No. 88384, 2500 meters above sea level, Chiquihuite, Volcán de Tacaná; No. 94920, Cerro Malé. The type series was collected by Eizi Matuda, with the exception of No. 88384, which was secured by Pierce Brodkorb.

RANGE.—The high mountains of southern Chiapas.

DIAGNOSIS.—Similar to Gerrhonotus m. moreleti, except upper and lower postnasals separated from each other by a projection of the anterior loreal, which comes in contact with the nasal; posterior loreal in contact with labials; posterior prefrontals present; light V-shaped marking on postmentals indistinct.

Description.—Nasal normally separated from rostral by internasals; azygous prefrontal large, in contact with canthal (anterior) element on each side and usually with frontal posteriorly; frontal rather broadly in contact with interparietal, which is in contact with occipital; supranasals present, unexpanded; upper and lower postnasals separated from each other by anterior loreal, which is in contact with nasal; anterior loreal and one (anterior) canthal element in contact with upper postnasal; posterior loreal in contact with upper labials; one preocular; two suboculars, the posterior extending to lower-most anterior temporal; three postoculars; superciliaries four to six, anterior one rather widely separated from posterior prefrontal; five medial and three lateral supraorbitals; normally four anterior temporals, the lowest usually in contact with only

the lowermost of the secondary temporals; the upper in contact with the uppermost secondary; four temporal elements in contact with supralabials; supralabials nine to eleven, normally ten, of which three follow orbit; eight to nine infralabials; four labiomentals, the first extending to first pair of chin shields and second infralabials; postmental single, normally followed by three large and one smaller chin shield.

Dorsals in twenty longitudinal rows at mid-body, the most lateral more or less reduced in size; fifty to fifty-five transverse rows between occipital and posterior border of thigh; ventrals in twelve longitudinal and fifty-four to fifty-seven transverse rows between first pair of chin shields and preanals; dorsal scales of body as well as scales of side of tail keeled.

Median six rows and adjacent half of bordering scale rows dark olive brown, with an indistinct and interrupted darker middorsal stripe; dorsal band bordered laterally by an interrupted dark brown line; many scales ventrolaterad to this line with a dark brown spot frequently accompanied by a whitish spot on same scale; a slight tendency toward transverse bands in scales so marked. A more or less obscure whitish line from preocular across suboculars on posterior supralabials and lower part of temporals. Venter dark gray, somewhat darker laterally than medially, mottled with black along sides; very young with small, distinct black specks scattered over ventral surface; mental and usually postmental definitely lighter than rest of venter.

Variation.—On the right side of No. 88226 the nasal is in narrow contact with the rostral; in this same specimen the azygous prefrontal is separated from the frontal by the posterior prefrontals. In No. 88384 the upper and lower postnasals are separated by a tiny anomalous scale (which may represent part of the anterior loreal) interposed between the postnasals, the nasal, and the anterior loreal. In one specimen a posterior as well as an anterior canthal element is present. The posterior loreal reaches the upper postnasal between the anterior loreal and canthal only in the holotype (No. 88228). One specimen has three subocular elements on one side. The

holotype has five superciliaries on each side; in two the superciliary series is composed of four elements on each side and in one there are six superciliaries on one side. The holotype has five anterior temporals on the right side. In one specimen the upper anterior temporal does not touch the upper secondary, and in the one from Cerro Malé (No. 94920) the lowest anterior is in contact with the two lowermost secondaries. One specimen has only nine supralabials on one side, and another has eleven; one has nine infralabials. Chin shields consist of

 $\begin{tabular}{ll} TABLE & II \\ Measurements & of $Gerrhonotus moreleti \ rafaeli \ in \ mm. \\ \end{tabular}$ 

U.M.M.Z. No.	Snout to Vent	Tail Length	Snout to Posterior Border of Ear	Head Width	Head Depth	Axilla to Groin	Fore Limb	Hind Limb	Fourth Finger	Fourth Toe
88227 88226 88228 88384 94920	27 39 52 59 65	47  90 	8.2 9.0 11.9 13.2 12.6	4.6 5.5 7.5 8.8 8.0	3.7 4.2 6.1 6.0 6.1	19 28 31 35	9 11 13 13	$egin{array}{c} 111 \\ 16 \\ 17 \\ 18 \\ \end{array}$	3.8 5.0 4.6	6.0 7.7 7.6

three large plus one smaller element on each side except in two specimens, in one of which there are only two large elements on one side, and in the other, the holotype, there are four large and one smaller element on one side. The measurements of the type series are given in Table II.

We take great pleasure in naming this form in honor of Señor Rafael Martín del Campo, M. en C., our co-operative and generous colleague.

## Gerrhonotus moreleti temporalis, new subspecies

HOLOTYPE.—U.M.M.Z. No. 94910; an adult male collected by Norman Hartweg, on April 11, 1941, at 2300 meters above sea level about 11 kilometers southeast of Ciudad de las Casas, Chiapas.

Paratypes.—U.M.M.Z. Nos. 94909, 94911–15, 94922; collected April 11 to 18, 1941, by Norman Hartweg, between 2200 and 2400 meters above sea level within 16 kilometers of Ciudad de las Casas.

RANGE.—Known only from the vicinity of Ciudad de las Casas, Chiapas.

DIAGNOSIS.—A subspecies closely related to *G. m. moreleti* and *G. m. rafaeli*; differs from *moreleti* by possessing posterior prefrontals, by the frequent contact of lowest anterior temporal with the two lowermost secondaries, and by the frequent contact of posterior loreal with supralabials; differs from *rafaeli* in that postnasals are in mutual contact, and in that the lowest anterior temporal is frequently in contact with the two lowermost secondaries.

Description.—Nasal separated from rostral by internasals; azygous prefrontal large, in contact with one or two canthal elements laterally, and in contact with, or more or less narrowly separated from, frontal posteriorly; supranasals present; two superposed postnasals which are broadly in contact with each other; loreals normally two, the posterior larger; canthals one or two, variously fused with adjoining scales; five medial and two or three lateral supraorbitals; frontal in contact with interparietal, which is in contact with occipital; one preocular; usually two suboculars, the posterior extending to postoculars and lower anterior temporal; three postoculars; five or six superciliaries, the most anterior frequently in broad contact with posterior prefrontal; four anterior and four secondary temporals; upper anterior temporal often in contact with upper secondary; lowest anterior temporal usually in contact with the two lowermost secondaries; four temporal elements in contact with supralabials; nine to eleven supralabials; eight or nine infralabials; normally four labiomentals, the most anterior one extending to first pair of chin shields and second infralabial; postmental single, followed by three large chin shields and one smaller chin shield on each side, the first pair in contact medially.

Dorsals in eighteen to twenty longitudinal rows at mid-body

and in fifty-two to fifty-eight rows between occipital and posterior border of thigh; ventrals in twelve rows at mid-body and fifty-five to fifty-seven rows between chin shields and preanals; all dorsal scales keeled, the lateral ones obtusely and the median eight or ten rows rather prominently; scales of side of tail as well as two or three rows on thigh and on tibia keeled; more or less obtuse keels on one row of upper arm.

Dorsal band somewhat lighter in this subspecies than in rafaeli, otherwise dorsal coloration about as described for that form; dorsal band usually with a few scattered dark brown spots besides those forming middorsal lines; head coloration also similar to that of rafaeli, but with a short white streak, variously developed, extending posteriorly and somewhat dorsally from the upper posterior corner of eye. Ventral surface light gray, usually prominently marked with black specks on head, body, limbs, and tail; V-shaped marking of postmental region inconspicuous.

Variation.—In five of the eight specimens the azygous prefrontal is in contact with the frontal; in all except one it is also in contact with canthal elements. The postnasals are in contact with each other in all specimens except the type, in which they are separated by a tiny anomalous scale. loreo-canthal series is variable, and no attempt will be made to describe all the conditions found. Loreals two in all except one specimen, in which there is but one. The superciliaries are equally five and six, and in two specimens the anterior superciliary fails to reach the posterior prefrontal on both sides; in another it fails to reach it on one side. There are three lateral supraorbitals on at least one side of each specimen and two on one side of five. Preoculars are consistently one: suboculars are 2-2 in six specimens, 1-2 in one, and 3-3 in another; one example has four rather than the normal three postoculars. In three specimens the upper anterior temporal and the upper secondary are in contact on both sides of the head, in two they are in contact on one side only, and in three they are separated on both sides of the head. In four specimens the lowest anterior temporal touches the two lowermost secondaries on both sides of the head, in three on one side only, and in another contact is made with only one secondary. All have four temporal elements in contact with the supralabials, but the posterior one may be small and located directly behind the ultimate labial. Three specimens have ten supralabials on each side, in three others the arrangement is 10–11, in another 9–10, and in one 9–9. The reduction in the last example is brought about, obviously, by a fusion of the penultimate and antepenultimate elements, so that only two independent labials follow the orbit. Labiomentals are usually four, but there may be five (two specimens) or three (one specimen), the anterior one in the last example extending only to the second pair of chin shields and the third infralabial.

The dorsal scales are in twenty longitudinal rows in four specimens, eighteen in three. Caudal whorls are eighty-seven, ninety-three, and ninety-five in the three examples with undamaged tails.

In some specimens there is a definite tendency for the brownspotted scales of the dorsal band to be arranged in transverse
bands, but in only one is this tendency marked enough to allow
them to be counted; this example has three bands on the neck
and about twelve on the body. Five specimens, including the
holotype, have black specks on the belly; in the other three
the belly is more or less uniform or slightly mottled gray of
varying shades. In life the chin and throat of the holotype
were white, the belly yellow-orange, and the tail copper, except
at the base where it was yellow-orange similar to the belly;
there were numerous black specks extending from the throat to
the base of the tail; the chin was immaculate. Measurements
of the type series are given in Table III.

HABITAT.—The elevation from which the type series was taken ranged between 2200 and 2400 meters above sea level. The forest types varied from nearly pure, dense growths of oak through mixed deciduous with oak predominating and more or less solid stands of pine. In places the ground was littered with pine needles and had a short, dry grass cover (habitat of the holotype, which was found under a pine slab).

 $\begin{tabular}{ll} TABLE \ III \\ Measurements \ of \ Gerrhonotus \ more let i \ temporal is \ in \ mm. \\ \end{tabular}$ 

U.M.M.Z. No.	Snout to Vent	Tail Length	Snout to Posterior Border of Ear	Head Width	Head Depth	Axilla to Groin	Fore Limb	Hind Limb	Fourth Finger	Fourth Toe
94922	28	35	8.1	4.4	2.6	12	6.5	9		
94913	50	84	11.1	6.5	4.8	24	11.0	16	3.7	6.1
94911	53	82	11.5	7.3	5.8	28	12.0	16	3.8	6.4
94909	62		13.9	9.2	7.0	31	13.0	17	4.1	7.3
94914	73		14.6	9.8	7.8	41	15.0	19	4.8	8.5
94910	78	120	16.5	11.3	7.8	42	16.0	22	4.9	8.7
94915	80		17.6	12.2	9.0	42	16.0	21	5.5	9.0
94912	89		16.0	10.5	8.2	53	15.0	21	4.6	8.5

In other places dead oak leaves covered the ground to a depth of several inches; frequently in such areas there were scattered grass clumps five to ten inches in height (habitat of No. 94913). All specimens were found under fallen limbs or tree trunks or crawling about the forest floor. Bothrops godmani, Adelphicos veraepacis nigrilatus, Anolis crassulus, and a species each of Sceloporus and Leiolopisma were occupants of the same general habitat.

Discussion.—The two forms described above (G. m. rafaeli and G. m. temporalis) and G. m. moreleti are in general very similar in color pattern. The coloration of temporalis is on the whole decidedly lighter in tone than that of the other two forms, particularly ventrally, but there is some overlap in this respect; and the more or less subjective nature of this character makes it of much less value than the characteristics of scutellation. The three races have a V-shaped marking along the postmentals; in moreleti this marking is rather prominent; in temporalis it is less conspicuous due to the lighter background; in rafaeli it usually is inconspicuous because the marking itself is somewhat darker than in moreleti. Males of temporalis have numerous black specks scattered over the ventral surface; in moreleti males such specks are confined

to the lateral part of the belly and are occasionally scattered across the throat; they seem to be completely lacking in *rafaeli*. The extent of differentiation in scutellation is shown in Table IV.

We are aware that there are problems in the Gerrhonotus moreleti subspecific chain that are still unsolved, and we have made no attempt to explain the moreleti-fulvus-salvadorensis

TABLE IV

DIFFERENTIATION IN CERTAIN SCUTELLATION CHARACTERISTICS OF Gerrhonotus m. moreleti, G. m. temporalis and G. m. rafaeli\*

	moreleti	temporalis	rafaeli	
Postnasals separated by anterior lo- real	1 (2 per cent)	0 (0 per cent)	10 (100 per cent)	
Lowest anterior temporal in contact with two lowermost secondaries	11 (22 per cent)	12 (75 per cent)	2 (20 per cent)	
Posterior prefrontals present	7 (14 per cent)	16 (100 per cent)	10 (100 per cent)	
First superciliary in contact with posterior prefrontals	0 (0 per cent)	8 (50 per cent)	0 (0 per cent)	
Posterior loreal in contact with supralabials	15 (30 per cent)	14 (87.5 per cent)	10 (100 per cent)	

<sup>\*</sup>This summary is based on twenty-five specimens of *moreleti* from Alta Verapaz, Guatemala, and the eight specimens of *temporalis* and five of *rafueli* described in this paper. The figures and percentages refer to frequencies and not to the number of specimens.

inter-relationships. These are not Chiapan forms, and we—the senior author especially—did not wish to become involved with extra-limital forms any more than was absolutely necessary.

It is perhaps not out of place to mention here that none of the localities for any of the Chiapan forms discussed is less than 1500 meters above sea level. The genus *Gerrhonotus* in these latitudes is definitely an occupant of the habitats of the higher elevations. Some of the records in literature are open to question on the basis of elevation alone.

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