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TEIID LIZARDS OF THE GENUS *PLACOSOMA*

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THE genus *Placosoma* was erected by Tschudi (1847) to receive the species *Placosoma cordylinum*, which he described on the basis of a single specimen collected by Johann Natterer in Brazil. In the following 100 years, only once were additional specimens reported as belonging to the genus. The paucity of literature records and specimens in North American and European collections indicate that these lizards are very rare. In surveying the original descriptions of "microteiids" I found that several of them should be referred to *Placosoma*. In all, I now know of 24 specimens which fit my concept of the genus. Eight of these 24 specimens have served as the types of no less than six specific names in combination with six different generic names. Of the 24 specimens, I have been able to examine 20, including type material of three names; two holotypes apparently no longer exist. The varied taxonomic treatment of these specimens indicates that a reassessment of the generic characters of *Placosoma* is needed. The following definition will, I hope, allow identification of members of the genus.

Placosoma Tschudi

Placosoma Tschudi, 1847, Archiv für Naturgeschichte, 13 (1): 50.

Urosaura Peters, 1870, Monatsb. Königl. Akad. Wiss. Berlin, 1870: 641.

Elaphrosaura Amaral, 1932, Mem. do Instituto Butantan, 7: 67.

DEFINITION.—Tongue with imbricate scalelike papillae. Snout long and pointed. Head scales without striations or rugosities; single fronto-nasal, frontal, and interparietal; paired prefrontals, parietals, occipitals, and postoccipitals; nostril pierced in a single nasal; nasals not in contact; loreal and frenooocular present; first superciliary not expanded onto dorsal surface of head; prefrontals in contact with loreal; supraoculars four.¹ Eyelids developed, lower with a translucent disc com-

¹ A small dorsolaterally placed scale, posterior to the supraocular and superciliary scales, is considered to be a fifth supraocular by some authors. Regardless of terminology, all of the specimens examined are uniform in number and relationships of these scales.

posed of several scales. Ear opening large. Gular crease absent or extremely weak; collar fold well developed. Gular scales flat, rectangular, the two median rows of scales on the posterior part of the throat slightly widened, tending to form a double longitudinal series; collar scales six to eight, longer than wide. Limbs pentadactyl; digits clawed. Forefoot without enlarged platelike scales along inner margin of palm between thumb and wrist. Underside of third and fourth toes with paired scales on proximal part, the inner scale not strikingly tuberculate. Dorsal scales in transverse rows only; lateral scales reduced in size, forming a wide band between dorsals and ventrals; ventral scales in transverse and longitudinal rows, smooth. Femoral pore series in males continuous from one thigh to the other anterior to the two rows of preanal scales. Preanal scales typically three in anterior row, the median large, the laterals small; five in posterior row, the paramedian scales large, the median and laterals small. Limbs with yellow flecks; a dark temporal stripe bordered below by a light area from eye to shoulder.

REMARKS.—The genus *Elaphrosaura* was thought to be related to *Euspondylus* and *Placosoma* (Amaral, 1932). It was described as differing from *Euspondylus* by not having a collar fold, and from *Placosoma* by the disposition of the ventrals, the two median rows of which are unusual in being narrower than the others. Amaral's figure of his type shows at least a distinguishable row of collar scales. *Elaphrosaura* does, however, differ from the type of *Euspondylus*, *E. maculatus*, a species which I have examined, in having a long snout, a large ear opening, a large median anterior and large paramedian posterior preanal scales, large paired occipitals and postoccipitals, and a dark temporal stripe bordered below by a light area.

The anterior scales in the two midventral rows are narrower than the other anterior ventral scales in all specimens of *Placosoma* that I have examined. The ventrals vary posteriorly, but the scales of the two median rows are usually wider than the other ventrals in this area. Amaral's figure of the ventral scales of his holotype shows that the scales of the two median rows are all longer than wide and that they are narrower than the scales of the other rows of ventrals. Though this condition is not matched by any of the specimens I have examined, I cannot consider it of sufficient importance to warrant a distinct genus.

Among the characters given in the original description of *Elaphrosaura*, and which do agree with my concept of *Placosoma*, are: 1) tongue papillate; 2) large, paired occipitals and postoccipitals; 3) snout long, pointed; 4) large ear opening; 5) supraoculars four; 6) gular scales flat; 7) limbs pentadactyl, digits clawed; 8) dorsal scales in transverse rows,

ventrals in transverse and longitudinal rows; 9) preanal scales in two rows, the anterior median and the posterior paramedian large; 10) a dark temporal stripe bordered below by white between eye and shoulder; 11) limbs with yellow flecks. On the basis of these characters, and the absence of significant differences, I consider *Elaphrosaura* a synonym of *Placosoma*.

Among the 20 specimens of *Placosoma* examined, I am able to distinguish three forms. They may be separated by the following key:

- 1a. Total femoral pores 27–32 in males, 0–6 in females; 28–30 scales around the midbody region; ventral scales angular at posterior corners; anterior margin of tympanum not recessed2
- 1b. Total femoral pores 19–22 in both males and females; 21–25 scales around midbody region; ventral scales rounded at posterior corners; anterior margin of tympanum slightly recessed*Placosoma glabellum*
- 2a. Dorsal scales of two median rows mostly wider than long; six or fewer enlarged dorsals between granular areas of arm insertions; light eye-shoulder line separated from tympanum by at least one row of dark granules
.....*Placosoma cordylinum cordylinum*
- 2b. Dorsal scales of two median rows mostly longer than wide; eight or more enlarged dorsals between granular areas of arm insertions; light eye-shoulder line not separated from tympanum*Placosoma cordylinum champsonotus*

Placosoma cordylinum cordylinum Tschudi

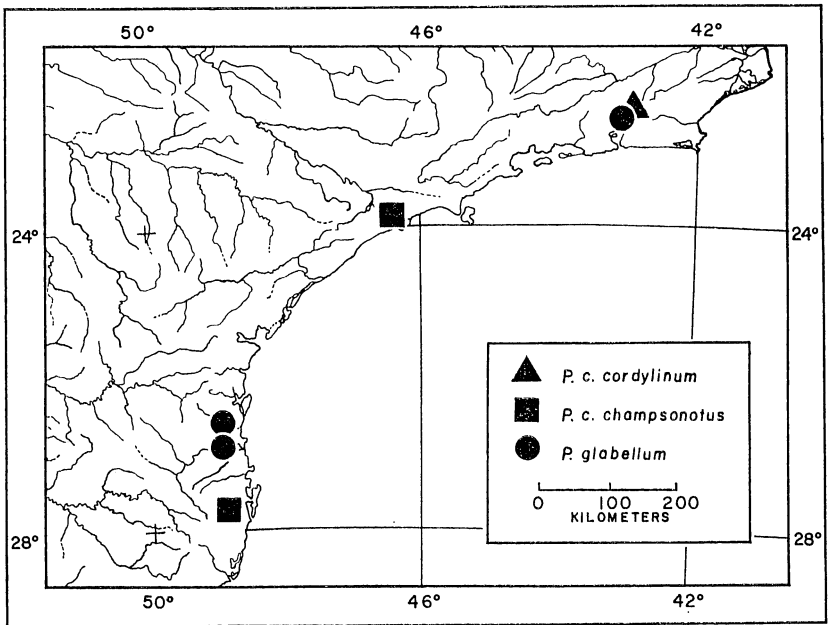
Placosoma cordylinum Tschudi, 1847, Archiv für Naturgeschichte, 13 (1): 51.
Echleopus lutzae Loveridge, 1944, Proc. Biol. Soc. Washington, 57: 97.

The type of *Placosoma cordylinum* was collected by Johann Natterer somewhere in Brazil. At the time of description, it was in the Naturhistorisches Museum in Vienna. In 1862, Peters reported that the type was lost, and I have recently been informed by Josef Eiselt of the Vienna Museum that it still has not been located. The identity of the species which Tschudi had before him must, therefore, be determined from the description and the locality whence the specimen came.

Natterer, in his travels through Brazil, visited places as far north as Venezuela and the Guianas (Pelzeln, 1871). The type locality given by Tschudi, northern Brazil, is therefore of little help in determining the point of origin of Natterer's specimen. Compared with the data available for the birds and mammals collected by Natterer (Pelzeln, *op. cit.*, 1883), the locality data for the holotype of *P. cordylinum* are extremely vague. Apparently neither the date of collection nor the name of the state in Brazil in which the specimen was taken was available to Tschudi; Dr. Eiselt, at least, has been unable to find such information in the records of the Vienna Museum. On the basis of present

knowledge about the range of *Placosoma*, I suggest that northern Brazil is incorrect as the type locality of *P. cordylinum*.

With the 24 specimens of *Placosoma* known to me, there are ten independent records which indicate at least the Brazilian state from which the specimens came. All ten collections are from the states of Rio de Janeiro, São Paulo, and Santa Catarina. The eight for which locality data are given more completely are from the coastal drainages of those states. These records suggest that *Placosoma* is restricted to the selva-covered southeastern slopes of the Brazilian Highlands.



MAP 1. Coastal southeastern Brazil from Santa Catarina to Rio de Janeiro, showing locality records for lizards of the genus *Placosoma*. The records for *P. c. championotus* are from the literature.

If *Placosoma* is thus restricted geographically, northern Brazil in the sense of north of the Amazon is incorrect for the type locality of *P. cordylinum*. The occurrence near Rio de Janeiro of a form of *Placosoma* which fits Tschudi's description of *P. cordylinum* suggests that the holotype was collected on one of Natterer's trips in that area. My concept of the species *P. cordylinum*, therefore, is at present based on certain specimens from the environs of Rio de Janeiro, the northernmost area of Brazil from which I have records of *Placosoma*.

Few points in Tschudi's description are useful in identifying his species with one of the three forms I recognize. Tschudi said that the type of *P. cordylinum* has the scales of the two median dorsal rows wider than the other dorsals, and that the scales of the other dorsal rows are very weakly keeled. He further stated that the ventral scales are regularly quadrangular. Perhaps the most important character, however, concerns a detail of pattern. Tschudi said that there is a narrow white band between the angle of the mouth and the shoulder, bordered above by a dark temporal stripe. A comparison of these and certain other characters of the six named forms is given in Table I.

Two specifically distinct forms of *Placosoma* have widened mid-dorsal scales; both of them occur near Rio de Janeiro. Only one, however, has regularly quadrangular ventrals (Fig. 1, A) and the light area under the dark temporal stripe restricted to a thin line. This is the form which I consider to be *Placosoma cordylinum cordylinum* (*Placosoma cordylinum* Tschudi); the other form with widened middorsals I consider to be *Placosoma glabellum*.

Several important characters of *P. c. cordylinum* should be added to

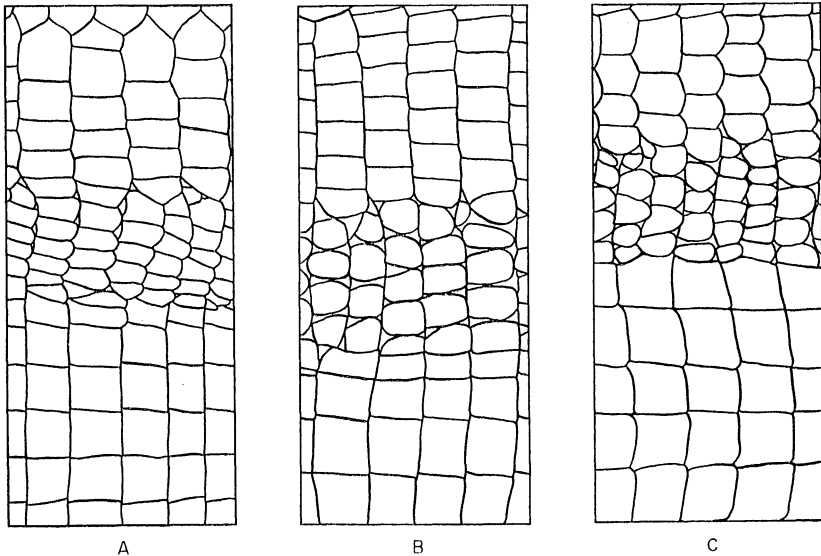


FIG. 1. Lateral view of scutellation of the midbody region of three forms of *Placosoma*: A, *Placosoma cordylinum cordylinum* (MCZ 47884); B, *P. c. champsonotus* (GM 1393, male syntype of *Euspondylus cupreus*); C, *P. glabellum* (ZMB 6946, holotype). The uppermost row of complete scales is the paramedian row on the side illustrated; anterior is to the left.

TABLE I
 A COMPARISON OF CERTAIN CHARACTERS OF THE TYPE SPECIMENS IN THE GENUS *Placosoma*
 Data for *Ecpleopus lutzae* from one syntype; *Euspondylus cupreus* from both syntypes;
Cercosaura glabella from holotype. Other data from descriptions.

Character	<i>Placosoma cordylinum</i>	<i>Ecpleopus lutzae</i>	<i>Prionodactylus champsonotus</i>	<i>Euspondylus cupreus</i>	<i>Elaphrosaura spitzzi</i>	<i>Cercosaura glabella</i>
Sex of types	? ♂, 1	♀, 2	♀, 1	♂, 1 ♀, 1	♀, 1	♂, 1
Total femoral pores	....	4	0	32 2	0	22
Ventral scales						
longitudinal	....	8	6	8 8	8	8
transverse	....	25	....	25 25	24	21
Rows of dorsals	....	35	37	37 37	36	33
Rows around middle of body	....	30	....	28 30	30	22
Median dorsals	wider than other dorsals	mostly wider than long	longer than wide	mostly longer than wide	longer than wide	wider than long
Ventrals	"regelmässig viereckig"	angularly truncate	rectangular	angularly truncate	angularly truncate	rounded
Light area under dark temporal stripe	"eine schmale weisse Binde"	a narrow white line	present	a white line, wider than in <i>Ecpleopus lutzae</i>	present	continuous with white throat

those given by Tschudi. The keels on the dorsal scales, though weak, are always present. The length of the keel itself is usually about two-thirds that of the scale, but may be as little as one-third. The dorsal scales are angular posteriorly, not rounded. Across the back, between the arm insertions, there are usually six enlarged scales, though one individual has four and another eight.

The anterior edge of the tympanum of *P. c. cordylinum* is joined to the surface of the head in a relatively smooth curve; it is not marked by a reflexed ridge of granular scales such as occurs in *Placosoma glabellum*, and which to some extent overhangs the tympanum, forming a distinct but small crescentic pit. The entire tympanum of *P. c. cordylinum* forms a flat floor to a very shallow and indistinct depression.

The light eye-shoulder line curves below the tympanum, and is separated from it by at least a row of dark granules; posteriorly, the light line extends to below the arm insertion; it is not continued posteriorly by the ventrolateral light line between the limb insertions which is present in *P. glabellum*.

There is considerable variation in the dorsal color of *P. c. cordylinum*. Some individuals are more or less uniformly brown above or have small light flecks arranged linearly along a dorsolateral line. These flecks may be accompanied by adjacent darker spots in the ground color, but do not form ocelli. In other individuals, the ground color along the middorsal line is darker, and tends to form irregularly placed dark blotches in a linear pattern. In an extreme condition, the dark blotches fuse to form a brown middorsal stripe which occupies two or more of the median scale rows. This is bordered on either side by a whitish one about half the width of the middorsal stripe.

Variational data for several other characters are given in Table II.

Tschudi said that the femoral pores form an unbroken series from one thigh to the other in his type. Since females of *P. cordylinum* have a very short pore series (Table II) restricted to the preanal area, Tschudi's specimen was apparently a male.

I have examined the two specimens reported as *P. cordylinum* by Boulenger (1885); they are *P. glabellum* (Peters).

At present *P. c. cordylinum* is known only from the highlands of coastal Rio de Janeiro (Map I).

REMARKS.—*Eupleopus lutzae* was described by Loveridge (1944) on the basis of two specimens from 3500 feet, above the Rio Beija-Flor, Therezópolis, Rio de Janeiro, Brazil. Through the kindness of Ernest E. Williams, I have examined one of the syntypes (MCZ 46991); it has all of the characters in my definition of *Placosoma*. The specimen is

clearly a female, having no hemipenes and only four preanal pores. Males of the same population have a total of 27-30 femoral-preanal pores.

There are three differences between my data on the syntype of *E. lutzae* and those given by Loveridge: I count 35 dorsal scales between the occiput and the posterior surface of the hind limbs; there are four preanal pores; the lower eyelid does have a translucent disc.

TABLE II
VARIATION IN THREE FORMS OF *Placosoma*
Figures represent ranges and (in parentheses) means

	<i>P. c. cordylinum</i>		<i>P. c. champsonotus</i>		<i>P. glabellum</i>	
	♂ (5)	♀ (4)	♂ (1)	♀ (1)	♂ (4)	♀ (5)
Total Femoral Pores	27-30 (28.8)	4-6 (4.7)	32	2	20-22 (20.7)	19-22 (20.8)
Transverse rows of ventrals	24-25 (24.2)	24-25 (24.5)	25	25	21-23 (21.7)	20-22 (21.2)
Dorsal scale rows	33-36 (34.8)	33-37 (35.2)	37	37	32-34 (33.0)	31-35 (33.0)
Scale rows around midbody	28-32 (29.8)	29-30 (29.7)	28	30	21-23 (22.7)	21-25 (23.6)
Lamellae, 4th toe	18-20 (18.7)	18-21 (18.9)	17-18	17-18	19-20 (19.5)	19-23 (20.9)
Lamellae, 4th finger	13-15 (14.3)	12-16 (14.4)	13-14	13-14	14-15 (14.5)	15-17 (15.6)
Hind leg length	.333-.400	.365-.385	.400	.364	.378-.475	.333-.433
Snout-vent length	(.369)	(.376)			(.401)	(.375)
Enlarged dorsals at shoulder	6-8	4-6	9	8	4	4

I am unable to find any characters by which to separate the specimens of *E. lutzae* from the species described by Tschudi in 1847 as *Placosoma cordylinum*. I therefore consider *E. lutzae* a synonym of *P. c. cordylinum*. However, the name *lutzae* would be available for the population occurring in Rio de Janeiro in the event that a more northern, distinguishable population which also fits the description of *Placosoma cordylinum* is discovered.

Since the genus *Ecpleopus* is poorly understood, it seems worthwhile to point out certain characters in which the type of the genus differs from *Placosoma*. *Ecpleopus gaudichaudi* Duméril and Bibron (1839) has a median occipital, but no enlarged postoccipitals; the prefrontals

are separated from the loreals by the first supraocular which is in contact with the loreals and frontonasal; the dorsal, lateral, and ventral scales form complete rings around the body. Peters (1862), who examined the type of *E. gaudichaudi*, said there are three long preanal scales.

These characters bring to mind lizards of the genus *Arthroseps* and to some extent the *Lepidosoma* section of *Leposoma*. This similarity is confirmed by the figure of a second specimen reported as *E. gaudichaudi* by Guichenot (1855, Pl. 7, Fig. 2). It can be seen there that the snout shape of *E. gaudichaudi* is not long and pointed as in *Placosoma*, but more like that of *Arthroseps* and *Leposoma*.

While not germane to the issue of *Ecpleopus lutzae*, it should be mentioned that most of the characters that tend to unite *E. gaudichaudi* with *Arthroseps* and its relatives, and that separate it from *Placosoma*, also serve to distinguish *E. gaudichaudi* from another form which Boulenger (1885) placed in his restricted genus *Ecpleopus*, *Ecpleopus (Aspidolaemus) affinis* Peters. I have examined specimens of this form and consider it more closely related to *Pholidobolus* and *Prionodactylus*.

Placosoma cordylinum champsonotus (Werner)

Prionodactylus champsonotus Werner, 1910, Mitt. Naturh. Mus. Hamburg, 27:31.

Euspondylus cupreus Andersson, 1916, Göteborgs Kungl. Vetenskaps- och Vitterhetssamhälles Handlingar, ser. 4, 17 (5): 6.

Elaphrosaura spitzii Amaral, 1932, Mem. do Instituto Butantan, 7:68.

Werner (1910) described *Prionodactylus champsonotus* on the basis of a single female from the valley of the Rio Itapocú, near Jaraguá, Santa Catarina, Brazil. The holotype is no longer in the Naturhistorisches Museum in Hamburg according to Erna Mohr, and was probably destroyed during World War II. No additional specimens identified by Werner as this form are known to me.

The characters which indicate that *champsonotus* is a member of the genus *Placosoma* are: 1) long snout; 2) four supraoculars; 3) large, paired occipitals and postoccipitals; 4) throat scales small and flat; 5) a dark temporal stripe bordered below by a light area from eye to shoulder; 6) large ear opening; 7) limbs with yellow flecks. Werner noted a similarity in body form to *Placosoma*; he did not, however, say how *champsonotus* differs from that genus.

Werner probably considered his form distinct from *Placosoma* because the dorsal scales are all longer than wide and have imbricate keels. Using Boulenger's (1885) key to the genera of teiid lizards, specimens with distinct keels and irregular lateral scales fall in *Prionodactylus*.

There are three other specimens of *Placosoma* which I consider the same as *championotus*. One of these was described by Amaral in 1932 as *Elaphrosaura spitzzi*, and two others as *Euspondylus cupreus* by Andersson in 1916. I have seen the two syntypes of the latter and my concept of *P. c. championotus* is based largely on them. Certain characters of these three forms are compared in Table I.

Werner reported that his specimen has a semidivided nasal scale. I have not seen this condition in *Placosoma*, but consider it an abnormality.

Placosoma c. championotus shares with *P. c. cordylinum* the following important characters: the anterior edge of the tympanum is joined smoothly to the surface of the head, there being no reflexed ridge; the ventral scales are not rounded posteriorly (Fig. 1, B); the light eye-shoulder line is bordered below by dark pigment and, at the level of the arm insertion, passes below the arm; there is no light ventrolateral line on the body continuing that below the dark temporal stripe. Other data for the two specimens examined are given in Table II. They also indicate the close relationship of *P. c. championotus* and *P. c. cordylinum*.

The differences between the two forms are slight. In *P. c. championotus* the median dorsal scales tend to be longer than wide, instead of wider than long; as a result, there are more (eight or nine) enlarged scales across the back between the arm insertions. The light eye-shoulder line is wider and is not separated from the ventral edge of the tympanum by a row of dark granules; it does not, however, pass through the tympanum.

Because of the general agreement between the specimens of *P. c. championotus* and *P. c. cordylinum* (Tables I and II), and the few differences, the two are considered to be but poorly differentiated races of a single species. Specimens of *P. c. cordylinum* are known from the environs of Rio de Janeiro; specimens here considered to be *P. c. championotus* have been reported from the coastal areas of São Paulo and Santa Catarina (Map 1).

The name *championotus* is here considered a substantive and therefore not declined.

REMARKS.—Through the kindness of Orvar Nybelin, I have examined both syntypes of *Euspondylus cupreus* Andersson (1916), a form described on the basis of a male and a female from an unknown locality in Brazil. The syntypes are Re. ex. 1393 in the Naturhistoriska Museet in Gothenburg.

These two specimens, having all the characters in my definition of

Placosoma, differ from the description of *P. c. champsonotus* in only three ways. *P. c. champsonotus* was described as having a half-divided nasal, a condition that I consider an abnormality in *Placosoma*. Werner's specimen has six longitudinal rows of ventral scales; the syntypes of *E. cupreus* have eight. I attribute this to individual variation. The holotype of *P. c. champsonotus* reportedly had no femoral pores. The female syntype of *E. cupreus* has a single very small pore on each side. I do not believe these differences are sufficient to outweigh the striking similarity between *P. c. champsonotus* and *E. cupreus*. I therefore consider the two identical, and regard the younger name, *E. cupreus*, as a synonym of *P. c. champsonotus*.

As a matter of record, the disc in the lower eyelid of the syntypes of *E. cupreus* is divided into three sections by vertical grooves. In other respects, Andersson provides an adequate description of this form.

The type and only recorded specimen of *Elaphrosaura spitzzi* Amaral (1932), a female from Alto da Serra in the Serra de Cubitão, São Paulo, Brazil, is in the Museu Paulista; I have not seen it. The figure and description of this form indicate that it is close to *P. c. champsonotus*. The anterior median dorsal scales are longer than wide. Since no especially wide dorsal scales are mentioned I assume that all the median dorsals are longer than wide. Amaral recorded that his type has no femoral pores.

A comparison of the description and figures of *E. spitzzi* with the female syntype of *E. cupreus* reveals no differences other than the supposed generic character, the relative narrowness of the posterior median ventrals; the posterior median dorsals may also differ. In view of the general similarity to the female syntype of *E. cupreus*, I consider *E. spitzzi*, like *E. cupreus*, a synonym of *P. c. champsonotus*.

The specimens reported as *Prionodactylus champsonatus* [sic] by Burt and Burt (1931) are *Pantodactylus schreibersi parkeri* Ruibal (1952).

Placosoma glabellum (Peters)

Cercosaura (Urosauwa) glabella Peters, 1870, Monatsb. Königl. Akad. Wiss. Berlin, 1870: 641.

Placosoma cordylinum, Boulenger, 1885, Cat. Liz. Brit. Mus. (Nat. Hist.) 2: 397.

This species was described by Peters (1870) from a single individual taken in Santa Catarina, Brazil. The species was correctly placed by Boulenger (1885) in the genus *Placosoma*. Boulenger knew only this species and therefore did not distinguish it from *P. cordylinum*. Through the kindness of Heinz Wermuth I have examined the holo-

type of *P. glabellum*, No. 6946 in the Zoologisches Museum Berlin. Since the information given by Peters on his type is extremely brief, I herewith describe it, an adult male, in detail.

Snout long, part of rostral visible from above crescent shaped, wider than long; frontonasal wider than long, widest anteriorly, almost reaching first supralabial; nasal as long as first supralabial, bordered above broadly by frontonasal, narrowly by prefrontals, in narrow contact with rostral; loreal pentagonal, in contact with nasal, second supralabial, frenoocular, first superciliary, and prefrontals; posterior corner of loreal at anterior angle of eye; prefrontals in broad contact, as long as frontonasal, longer than frontoparietals; frontal longer than interparietal; interparietal longer than parietals; occipitals and postoccipitals wider than long, of equal length; a minute azygous scale between occipitals and postoccipitals; seven superciliaries; eight or nine infraorbitals completely separating lower palpebrals from supralabials; translucent disc in lower eyelid divided by vertical grooves into four parts; seven supralabials; five-six infralabials; one unpaired and four paired chin shields, the first two pair in contact on midline, the first three pair broadly, the last narrowly, in contact with infralabials; preregulars small, flat, rounded polygons, in six rows between second pair of chin shields and a line connecting lower margins of ear openings; scales at posterior edge of preregular area smaller than remaining preregulars.

No sharp demarcation between gular and preregular scales in shape, size, or disposition; gulars in nine transverse rows including collar; gulars flat, rounded quadrangles, the median posterior scales slightly wider than long; collar scales seven. Dorsal scales large, unkeeled, rounded posteriorly, those of two median rows rectangular or wider than long, those of other rows rectangular or longer than wide (Fig. 1, C), all of same length; dorsal scales with minute ridges, the long axis parallel to long axis of body; four large scales in transverse row across shoulder between granular areas of forelimb insertions. Lateral scales reduced, rounded, convex, four to six scales in a vertical row, about eleven scales in distance subtending eight dorsal scales. Lateral scales with microornamentation like that of dorsal scales. Ventral scales quadrangular, rounded at posterior corners, in six longitudinal and 21 vertical rows, not including scales bearing preanal pores or preanal scales; small pore-bearing scales anterior to preanals; preanal scales in two rows, anterior row with very large rhomboid median scale and very small lateral scales, posterior row with large paramedian scales, much smaller median, and lateral scales slightly smaller than median; 11-11 femoral pores. Scales of tail in complete rings longer than wide, but those of two median dorsal rows wider than others; all rounded posteriorly; all dorsal and lateral scales of body and tail provided with a pitlike structure at posterior margin.

Scales of upper forearm smooth, rounded, and slightly imbricate above, granular below; scales of lower forearm generally large, flat, rounded, and slightly overlapping except along anterior face, posteriorly at elbow, and ventrally at wrist where scales are much smaller; hand with large smooth subimbricate scales above, with tuberculate granules below; supradigital lamellae smooth, simple; subdigital lamellae divided on proximal half of digits, simple on distal half; 14-15 lamellae under fourth finger.

Scales of thigh large, smooth, slightly imbricate on anterior half, granular on posterior half; scales of shank large, smooth, subimbricate ventrally, granular dorsally; foot with large smooth subimbricate scales above, tuberculate granules below; supradigital lamellae smooth, simple; subdigital lamellae divided on proximal two-thirds of digits, simple on distal third; 20 lamellae under fourth toe.

COLOR IN ALCOHOL.—Dorsal and lateral color generally brownish-tan, cream below. On widened dorsal scales, ground color broken by scattering of dark pigment tending to form middorsal line on two median scale rows. Second row of scales from mid-dorsal line with nine or ten spots slightly lighter than ground color of back, light spots just laterad to spots of dark brown which emphasize the light spots by contrast. Sides of body, at level of lowermost lateral scales, with line of dark brown one or two scales wide becoming irregular in midbody region; above this a whitish line one or two scales wide; above light stripe a dark stripe three or four scales wide ending on outer dorsal scales. Pitlike structures on all dorsal and lateral scales blackish brown.

On head, upper dark lateral band continuing through upper three-fourths of tympanic area to eye, the lower border at lower level of eye. Dark peppering on dorsal surface of head. Light line suggested at outer margin of occipitals and parietals; light spot on most posterior superciliary. Below dark temporal stripe and on upper lip a white area continuous with light areas of throat and chin. Light area broken by diffuse spot of dark under center of eye, and ending under anterior corner of eye. Posterior to collar, light area bordered below by short dark line continuous with dark area on upper surface of forearm. Thin light line passing over arm. Immediately above arm, light line broken, but continuing posteriorly as light ventrolateral line. Light area below temporal stripe intersecting both anterior and posterior margins of tympanic cavity. Tympanum colorless except posterior to attachment of stapes, there with sparse, brown pigment. Ventral surface of chin and throat with few dark spots, not forming dark inferior border to white pigment below temporal stripe. Ventrals usually with diffuse dark spot, occupying about one-sixteenth of area of each scale; few other dark spots scattered among these; venter generally whitish. Pattern and color of tail generally similar to body, but with lines becoming indistinct about a hind limb's length posterior to vent. Legs generally dark above, light below, the dark broken by irregularly placed light flecks about size of single scale.

REMARKS.—Certain characters by which *Placosoma glabellum* differs from *P. cordylinum* deserve emphasis. The posterior margins of the ventral scales of *P. glabellum* have rounded rather than acute corners (Fig. 1). The dorsal scales are unkeeled or have extremely short keels; in *P. cordylinum* the keels are always definitely present and are longer than those of *P. glabellum*. There are four enlarged dorsal scales between the granular areas of the arm insertions in *P. glabellum*; in *P. c. cordylinum* there are usually six, though one individual has four and another eight; in *P. c. champsonotus* the number is eight or nine.

The anterior border of the tympanum in *P. glabellum* is marked by a reflexed ridge of granules rather than being connected to the surface of the head by a relatively smooth curve. This reflexed ridge forms a distinct, though small, crescentic pit at the anterior edge of the tympanum.

In *Placosoma glabellum*, the posterior half of the upper lip is usually light, and this area is continuous with the light chin and throat. An extremely short dark bar extending forward from the arm insertion

separates from the light area a line which passes over the arm insertion, though it is often narrowly broken there. This light line is continued posteriorly between the limb insertions. In *P. cordylinum*, there is a narrow white line from the eye to the shoulder which curves below the tympanum and passes under the arm insertion, terminating there.

I have seen a single specimen of *P. glabellum* which has the usually light chin, throat, and lip heavily sprinkled with brown. In this specimen, however, the brown pigment does not delimit a narrow white line under the dark temporal stripe. Rather, the entire area which is normally white is light brown.

Several other characters which distinguish *P. glabellum* from *P. cordylinum* are given in Table II. Particularly to be noted are the counts for transverse ventral scale rows, scales around midbody region, and femoral pore number. The striking sexual dimorphism in pore counts shown by *P. cordylinum* is absent in *P. glabellum*.

Placosoma glabellum is known from the coastal areas of Santa Catarina and Rio de Janeiro (Map 1).

SPECIMENS EXAMINED.—*Placosoma cordylinum cordylinum*. Brazil, Rio de Janeiro, Serra das Orgãos, Therezópolis: BMNH 1949.1.1.78–80; MCZ 46991 (syntype of *Ecpleopus lutzae*), 47882–84; UMMZ 115640–41. *Placosoma cordylinum champsonotus*. Brazil: GM 1393 (2 syntypes of *Euspondylus cupreus*). *Placosoma glabellum*. Brazil: BMNH 52.10.19.1; VM 15748; Rio de Janeiro: BMNH 74.5.21.4; Serra das Orgãos: BMNH 1902.11.25.5; Santa Catarina: UMMZ 117744 (2); Blumenau: MCZ 25915; ZMB 6946 (holotype); Therezópolis: BMNH 88.9.21.12.

BIOLOGY OF *Placosoma*

It is not surprising, considering the paucity of specimens, that little is known concerning the biology of lizards of the genus *Placosoma*. The following notes seem worthy of mention.

HABITAT.—The two syntypes of *Ecpleopus lutzae* were collected from bromeliads (Loveridge, 1944). That these lizards might have scansorial tendencies is also suggested by the body form. The elongate, depressed body and weak limbs of *Placosoma* bring to mind such species of the teiid genus *Anadia* as *pulchella* and *metallica*. The type of *A. pulchella* was taken from a bromeliad (Ruthven, 1926). Taylor (1955) recorded two instances of specimens of *Anadia metallica* above the ground, once in a bromeliad, another time on the trunk of a tree. The scarcity of specimens of *Placosoma* in collections may result in part from arboreal habits.

ENEMIES.—Two specimens of *P. glabellum* were removed from the stomach of a specimen of *Philodryas serra* (UMMZ 67224). This snake

actually had eaten parts of at least three individuals of *P. glabellum*, but one is represented only by the tail.

REPRODUCTION.—Three of the females examined in the course of this study contained oviducal eggs. A single specimen of *P. c. cordylinum* and two specimens of *P. glabellum* each had a single leathery egg in each oviduct.

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LITERATURE CITED

- AMARAL, AFRANIO DO
 1932 Estudos sobre Lacertilios Neotropicos I. Novos generos e especies de lagartos do Brasil. Mem. do Inst. Butantan, 7: 53-74, 55 figs.
- ANDERSSON, LARS GABRIEL
 1916 Notes on the Reptiles and Batrachians in the Zoological Museum at Gothenburg with an Account of Some New Species. Göteborgs Kungl. Vetenskaps- och Vitterhetssamhälles Handlingar. Ser. 4, 17 (5): 1-41.
- BOULENGER, GEORGE ALBERT
 1885 Catalogue of the Lizards in the British Museum (Natural History), 2: 1-497, 24 pls.
- BURT, CHARLES E., AND MAY DANHEIM BURT
 1931 South American Lizards in the Collection of the American Museum of Natural History. Bull. Amer. Mus. Nat. Hist., 61: 227-395.
- DUMÉRIL, A. M. C., AND G. BIBRON
 1839 Expétologie Générale ou Histoire Naturelle complète des Reptiles. 5: 1-855.
- GUICHENOT, ALPHONSE
 1855 Expédition dans les parties centrales de l'Amérique du Sud pendant les années 1843 a 1847, sous la direction du comte Francis de Castelnau. Zoologie, Reptiles: 1-96, 18 pls.
- LOVERIDGE, ARTHUR
 1944 A New Teiid Lizard of the Genus *Eupleopus* from Brazil. Proc. Biol. Soc. Wash., 57: 97-98.

PELZELN, AUGUST VON

1871 Zur Ornithologie Brasiliens. 1-462, I-LIX, 1-18, 2 maps.

1883 Brasilische Säugethiere. Resultate von Johann Natterer's Reisen in den Jahren 1817 bis 1835. Verhandl. k. k. zool.-bot. Gessell. Wien, 33, suppl., 1-140.

PETERS, WILHELM

1862 Über *Cercosaura* und die mit dieser Gattung verwandten Eidechsen aus Südamerica. Abhandl. Akad. Wiss. Berlin, 1862, 165-225, 3 pls.

1870 Über neue Amphibien des Königlich zoologischen Museums. Monatsb. Königl. Akad. Wiss. Berlin, 1870, 641-652, 2 pls.

RUIBAL, RODOLFO

1952 Revisionary Studies of Some South American Teiidae. Bull. Mus. Comp. Zool. Harvard Coll., 106: 477-529.

RUTHVEN, ALEXANDER G.

1926 A New Species of *Anadia* from the Santa Marta Mountains, Colombia. Occ. Paps. Mus. Zool. Univ. Mich. 177: 1-3.

TAYLOR, EDWARD H.

1955 Additions to the Known Herpetological Fauna of Costa Rica with Comments on Other Species. No. 2. Univ. Kansas Sci. Bull., 37 (1): 499-575.

TSCHUDI, J. J. VON

1847 Die Familie der Eupleopoda. Archiv für Naturgeschichte, 13 (1): 41-60.

WERNER, F.

1910 Über neue oder seltene Reptilien des Naturhistorischen Museums in Hamburg. Mitt. Naturh. Mus. Hamburg, 27: 1-46.