CHELODESMID STUDIES. XVII. SYNOPSIS OF THE TRIBE PLATINODESMINI, WITH THE PROPOSAL OF TWO NEW GENERA[1]

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RESUMEN

Estudios sobre Quelodésmidos. XVII. Sinopsis de la tribu Platinodesmini, con proposición de dos nuevos géneros.- Se forma la nueva tribu Platinodesmini (fam. Chelodesmidae, Diplopoda), con aquellos géneros que tienen en común, además de otros caracteres, la modificación de las coxas del primer par de patas en el macho. Se discuten e ilustran las dos especies de *Platinodesmus (P. argentineus* y *P. cordobensis)*; de las especies de *Stachyproctus (S. cameranii* y *S. codicillus)* se proporcionan diagnosis y figuras basadas en el tipo. Attems identificó erróneamente *S. codicillus* y todas sus indicaciones pertenecen a *S. cameranii. Astrophogonus* está basado en *Polydesmus henselii* Karsch; éste es redescrito sobre la base del holotipo original.

INTRODUCTION

In contrast with that of more northern and tropical Brasil, the chelodesmid fauna of Argentina is somewhat depauperate. It is, however, composed of a number of disjunct and highly interesting species of considerable importance in working out the cassification and phylogeny of the Chelodesmidae.

Quite some years ago it was my good fortune to receive from the Instituto Miguel Lillo, through the interest of Dr. Abraham Willink, an extensive material of north Argentine diplopods. Many of these species could be readily enough identified, but the questions of their correct generic position, and the status of such genera vis-a-vis other chelodesmids remained extremely troublesome. Only after the slow accretion of pertinent material from Brasil, Paraguay, and Bolivia, and the study of critical type specimens in European museums, has it been possible to achieve a comprehension of the taxonomy and nomenclature that appears to have some promise of credibility and stability.

I must adknowledge at the beginning my gratitude to Dr. Willink for placing the material from the Fundación Miguel Lillo in my hands for study. Such specimens are signified in the following discussions by the abbreviation FML. The examination of type material in European museums was made posible by the kind cooperation of Dr. Gerhard Pretzmann, Naturhistorisches Museum Wien (NMW); Dr. Prof. Enrico Tortonese, Museo Civico di Storia Naturale, Genova (MCSNG); Dr. Manfred Moritz, Zoologisches Museum der Humboldt Universität, Berlin (ZMB); and Mr. Keith H. Hyatt, British Museum (Natural History), London (BMNH).

Family *Chelodesmidae* Cook

Present indications are that this family will prove to be the largest within the Diplopoda, a reflection of the exuberant speciation carried on by a great variety of lineages parti-

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cularly in southeastern Brasil, in the northern Andes, the Antillean region, and tropical Africa. Only during the past decade was the family defined in such a way as to exclude numerous alien components that had been included in Graf Attems' very broadly conceived "Leptodesmidae". Attems, and following him, Schubart, maintained a tradition of exeptionally heterogeneous genera distinguished mostly by random combination of highly arbitrary "key characters" derived from both gonopods and body form. The inevitable result was an utterly meaningless roster of supposed genera which nobody could possibly classify or arrange in a way indicative of phylogeny. The only solution to this problema that seemed to have any hope of success entailed discarding all existing published information except that required by the imperatives of nomenclature and typification, and making a new beginning by redefining genera on the basis of overall similarities in both gonopodal and peripheral structure of the better-described species and those of which material could be studied. Such genera as have been "revised" so far seem to be reasonably homogeneous and confined to compact, geographically logical areas. They can in turn be grouped to form provisional tribes.

The shortcoming of this methodology is that it is both slow and timeconsuming; furthermore, being opportunistic as regards availability of specimens, tends to produce very spotty and as yet uncorrelated results. Of course, as time passes the completed tribal "pieces" will become more numerous and inevitably fit together in a satisfactory way.

The following treatment of the new tribe Platinodesmini follows the pattern of its predecessors in attempting to establish the correct identity of enigmatic names from the study of their type specimens, to organize species into coherent groups, and to establish the oldest applicable names for what appear to be recognizable taxa. In the complete lack of any previous attempts at synthesis, such studies naturally are liable to all of the deficiencies that may afflict any initial effort. It is only hoped that they will serve a useful purpose in facilitating eventual detailed monographs, ideally by local taxonomists having abundant material and personal knowledge of the animals in the context of their environment.

Platinodesmini, trib. n.

Components: *Platinodesmus* Schubart, 1954; *Stachyproctus* gen. n.; and *Astrophogonus* gen. n.

Diagnosis: moderate sized chelodesmids (length to about 40 mm) of rather broad and compact body form, widest near anterior end; paranota relatively large, slightly depressed laterally, those of anterior segments broadly overlapping, those at midbody distinctly separated; posterior corners of all paranota acute, anterior and lateral edges smooth, posterior edges finely denticulate. Pore formula normal, pores opening almost laterally in elongate, narrow peritremata which do not attain posterior corner of paranota (fig. 7). Metaterga relatively smooth, without transverse sulcus or rows of tubercules; stricture moderately well-defined; limbus distinct but its edge not modified. Epiproct large, conical, nearly straight, without enlarged tubercules; paraprocts convex, smooth, medial margin thickened, set off by poorly defined groove except at dorsal third; hypoproct variable in form. Sides of segments nearly smooth. Stigmata small, elongate ellipsoidal, in the usual position. Legs of moderate length, without tibial soles or prefemoral knobs; prefemora of anterior legs of males with tendency to form ventroapical spines, base of femora slightly lobed ventrally. Tarsal claws long, slender, flattened and blade-like. Coxae of first pair of legs produced beyond base of prefemora, densely setose (fig. 20). Gonopore flush on ventral surface of coxae of second legs. Sternum of segments 5 in the male sex with two large conical medially contiguous processes between 4th pair of legs, and two small conical subco-

xal processes between 5th pair; sternum of segment 6 broad and somewhat concave especially between 7th pair of legs.

Gonopod aperture large, oval, edges not raised or modified. Gonopods with small, elongate, slender median sternal remnant (figs. 3); coxae massive, subglobose, wider than long in dorsal aspect, with small blunt marginal apophysis subtended by two dorsal macrosetae; tracheal apodeme moderate, slightly curved dorsolateral. Base of cannula membranous, merging imperceptably into intersegmental membrane.

Distribution: Northern Argentina; Paraguay; suoutheastern Brasil.

Comments: The members of this group are remarkably similar in body form and share the singular modification of the first coxae of the males. This character is sufficiently unusual in the Chelodesmidae to warrant taxonomic emphasis, and its localization in a fairly small geographical area reinforces the idea that it was derived from an ancestral form common to the three recognized genera. There are moreover shared similarities in form of the gonopod coxae and sternum.

However, the genera have indulged in individual self-expression as well: *Stachyproctus* is singular in both the hypertrophy of the hypoproct and development of prefemoral spines. *Platinodesmus* is unquestionably the "hairiest" of known chelodesmids. *Astrophogonus* differs from both its relatives in lacking the specializations just mentioned and in overall simplicity of its gonopod structure. The species *A. hènselii* (Karsch) appears to be the nearest approach to other chelodesmid tribes although classification of the family has not yet revealed a plausible close relative ("sister-group") of the Platinodesmini. I suspect it will be whichever tribe is defined in such a way as to include the genus *Euthydesmus*.

Key to genera of the tribe *Platinodesmini*

1. Gonopod without trace of torsion, prostatic groove visible up entire median surface of the broad acropodite, terminanting on a prominent subterminal lobe (fig. 24) . *Astrophogonus*
– Gonopod prominently torsate, prostatic groove running directly to ventral side of femur, then mesad again and visible in mesal aspect for a short distance, then carried into a dorsal position by rotation of distal half of acropodite, terminating on a small, digitiform solenomerite 2
2. Acropodite of gonopod broad, apical half or third recurved mesad, terminating in a terminal acute lobe and a subterminal solenomerite of similar size and shape (fig. 16, A), dorsal macrosetae of coxa approximate at base; hypoproct prolonged medially (fig. 8); legs with hairs of normal length . . . . . *Stachyproctus*
– Acropodite slender, torsate about 180° but not curved mesad (fig. 1), apically attenuated; dorsal macrosetae of coxa widely separated; legs and sterna with extremely long (more than thickness of podomeres) and profuse setation; hypoproct not greatly prolonged medially . . . . . *Platinodesmus*

Platinodesmus

(*Platino-* NL comb. form < Sp. *plata*, silver + *-desmus;* a neologism derived from the cognate of Lat. *argentineus*)

Platinodesmus Schubart, 1954. Notas del Museo de La Plata, *17* (Zool., 150): 120. Proposed with two species, one of them new. Type species, *Odontopeltis argentineus* Silvestri, 1895, by original designation.

Diagnosis: With the characters of the tribe, especially distinguished by the basal torsion of the long and slender gonopod acropodite, the wide separation of the dorsal coxal setae, and the long and profuse hairs of the legs and sterna. Prefemoral process of gonopod large, infolded, with large dorsally directed projection on dorsal side and slender laminate apical process; acropodite slender, bisinuately curved.

Distribution: Norther Argentina, from Prov. San Luis to border of Bolivia, doubtless occurring also in that country.

Key to the species of *Platinodesmus*

Telopodite with a prominent denticulate projection at about its midlength (figs. 4, 5, X); distal coxal lobe of 1st pair of legs acutely pointed . . . . . *cordobensis* (Schubart)

Telopodite simple, without denticulate lobe near midlength, at most with angular shoulder on ventral surface as seen in mesal aspect; coxal lobe of 1st legs broadly rounded . . . . . *argentineus* (Silvestri)

Platinodesmus argentineus (Silvestri)

(Figures 1-3)

Odontopeltis argentineus Silvestri, 1895, Boll. Mus. Torino, *10*, 203: 4, fig. 5. ♂ holotype ? (MC SNG) from Tucuman, Argentina, A. Borelli leg. See comment following.

Leiodesmus argentineus: Silvestri, 1897, Boll. Mus. Torino, *12*, 283: 6.

Camptomorpha argentineus: Attems, 1938, Tierreich, *69*: 60.

Platinodesmus argentineus: Schubart, 1954. Notas del Museo de La Plata, zool., *17*, 150: 122, figs. 3-6.

The type material of this species should be in the collection at Torino, but the name *argentineus* is not included in a list of the myriapod types of that institution furnished to me by Prof. U. Parenti some years hence. Nor does it figure in a catalogue of Silvestrian types at present in the Laboratorio di Entomologia Agraria di Portici (Viggiani, 1973). Unless material can be located at Torino, the male specimen at Genova may reasonably be regarded as the holotype, as Silvestri did not specify how many individuals he had before him.

The species has been adequately redescribed by Schubart, and I confine myself here to a few observations about variation in gonopod structure.

Material: Aside from the type specimen at Genova, I have seen the following specimens, all FML.:

Prov. Santiago del Estero: Dept. Guayasan, El Cevilar, 1 ♂, S. Pierotti leg. 15 March 1944. Prov. Catamarca: El Rodeo, 1 ♂ , R. Golbach leg. 10 January 1959. Prov. Tucumán:

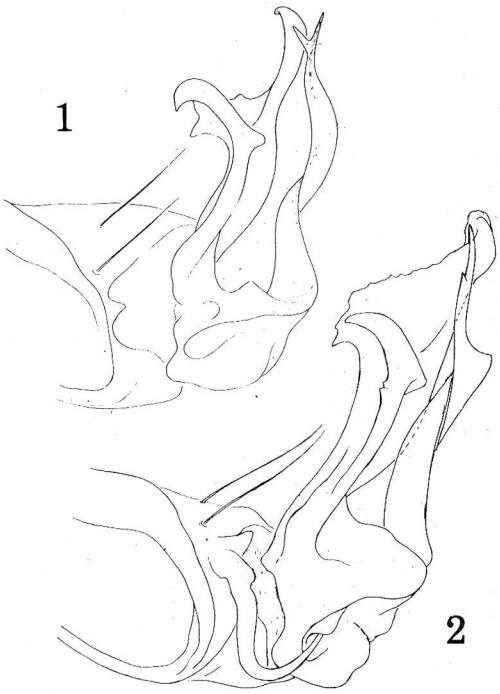

Fig. 1.- *Platinodesmus argentineus* (Silvestri), left gonopod of type, mesal aspect (cannula removed prior to my examination, presumably by Silvestri). Fig. 2.- *P. argentineus*, left gonopod of specimen from Tartagal, Argentina, showing differences in prefemoral process and telopodite. Both drawings to same scale.

El Cadillal, 1 ♀, A. Willink leg. 3 November 1947; Trancas, Las Mesadas, 1 ♂, S. Pierotti leg. March 1958. Prov. Salta: Tartagal, 1 ♂, Vellard leg., without date; Anta, Rio del Valle, 1 ♂, Pierotti leg. 10 December 1955; San Ignacio, 1 ♂, Pierotti leg. 10 December 1953; Las Viboras, 1 ♂, Tomsic leg. 20 March 1957.

Schubart (1954: 124) recorded specimens in the Museo de La Plata and his own collection from El Naranjo, Prov. Salta; Cochuna, El Cadillal, Quebrada del Cainzo, and Tafí del Valle, Prov. Tucumán; Andalgalá and Manantiales, Prov. Catamarca. This species is unquestionably the most abundant chelodesmid in northern Argentina. Schubart has shown the localities known to him on a mapa that de-

monstrated the virtual restriction of *argentineus* to the Provincia Subtropical Occidental in Tucumán and Salta. This vegetational zone is interrupted north of Tucumán, and Schubart had no material from the northern segment. This deficiency can be abated here with the record of a male taken at Tartagal (FML 43). There can be little doubt that *argentineus* extends well into southeastern Bolivia.

Variation: I have seen only single males from each locality represented, and it is thus impossible to establish whether observed variability in gonopod structure is geographically correlated or not. This subject could be investigated by a local student having access to more extensive series. For the present I give only drawings made from the type specimen (Tucuman) and from the far-northern specimen taken at Tartagal. These obviously differ from each other in numerous ways including relative size and shape of the prefemoral region and would suggest the possiblity of at least subspecific differentiation. However, both drawings differ in details from that published by Schubart (1954: fig. 5) for a specimen from Andalgala, Catamarca, and a conservative treatment seems appropriate for our present state of information.

Platinodesmus cordobensis Schubart

(Figures 4, 5)

Platinodesmus cordobensis Schubart, 1954. Notas del Museo de La Plata, *17*, 150: 126, figs. 7-10. Holotype ♂ (MLP 557) from Alta Gracia, Prov. Córdoba, Argentina, Bruch leg. January 1939.

Schubart's description of this species was based on material from 14 localities in central Argentina, mostly concentrated in Prov. Córdoba. I have examined a single male specimen (FML 244) from Cortaderas, Prov. San Luis, A. Willink leg. 29 January 1945. The gonopods of this specimen agree closely with the drawings published by Schubart and the locality adds nothing to the known picture of distribution. Cortaderas is only 100 km southwest of the type locality.

Stachyproctus, gen. n.

(Gk. *stachys* [by extension], sharp, acute + Gk. *proctos*, anus).

Type species: *Polydesmus (Oxyurus) codicillus* Karsch, 1881. The genus also includes *Odontopeltis Camerani* and *O. discrepans* Silvestri, 1895.

Diagnosis: With the characters of the tribe, distinguished by the peripheral characters of greatly prolonged hypoproct (fig. 8) and prominent apical prefemoral spines on anterior legs of males. Gonopod coxae exactly as in the other two genera. Telopodite with characteristic form: prefemur small, but its process well developed, distally expanded and enveloping the acropodite, with a large spatulate lateral lobe (b) and three or four smaller processes (c, d, e, f) ornamenting the dorsal lobe. Acropodite broad, laminate, the apical half

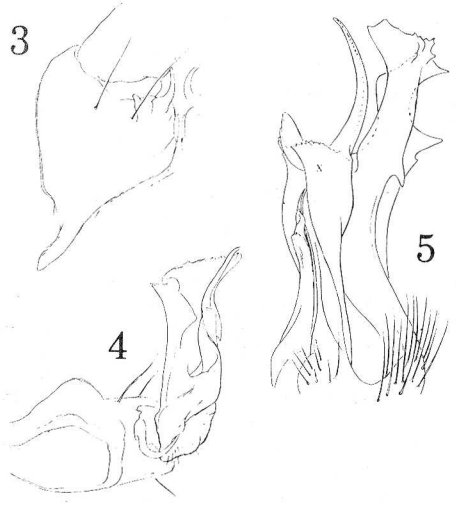

Fig. 3.- *Platinodesmus argentineus* (Silvestri), coxa and base of telopodite, dorsal aspect, showing separation of coxal macrosetae and shape of sternum. Fig. 4.- *P. cordobensis* Schubart, left gonopod of specimen (FML 244) from Cortaderas, Argentina, mesal aspect. Fig. 5.- Telopodite of same gonopod, ventral aspect, drawn to much larger scale, showing denticulate process of telopodite (X) characteristic of this species.

strongly curved mesodorsad. Prostatic groove curving to ventral side of the prominently corrugate femoral region, thence recurved mesad before entering on recurved part of acropodite which terminates in a dorsally directed apex (a) and a subterminal solenomerite (s).

Distribution: Paraguay and southeastern Brasil (Rio Grande do Sul); certainly occurring also in northern Argentina and adjacent Bolivia.

Comment: The gonopod structure of this genus is basically the same as in *Platinodesmus* except that the telopodite is much more massive and broadened, apically recurved mesad and dorsad, so that the prostatic groove is concealed in mesal aspect. Almost exactly the same formation obtains in *Platinodesmus*, where the sigmoidally curved telopodite is slender and attenuated. Corresponding letter suggest inferred homologies on the respective illustrations. The wide separation of the coxal setae in *Platinodesmus* (an unusual condition in this family) may reflect a slightly more specialized evolutionary status for that genus.

There can be little doubt that numerous additional species of *Stachyproctus* remain to be discovered.

Key to the species of *Stachyproctus* known from males

1. Apex of gonopod acropodite (a) slender and acuminate, subsimilar to solenomerite as seen in mesal aspect, with broad lobe on proximal edge (Fig. 16); sternum of segment 5 broad, flat, without paramedian ovoid swellings; sternal processes separated, each with a macroseta on posterior side . . . *cameranii* (Silvestri)

– Apex of acropodite broad, subtruncate, with small denticulation on proximal margin but no distinct lobation (Fig. 19); sternum of segment 5 elevated, with two distinct paramedian ovoid swellings (Fig. 9); sternal processes virtually in contact medially, each with a number of short setae on posterior side . . . . . *codicillus* (Karsch)

Stachyproctus codicillus (Karsch), comb. n.

(Figures 6-9, 18, 19)

Polydesmus (Oxyurus) codicillus Karsch, 1881, Arch. Naturgesch., *47:* 40, fig. 15. Holotype ♂ [ZMB 660] from "Santa Cruz" (Hensel, leg.).

[references to this species published by Attems in 1898 and 1938 are all based upon misidentified material of *S. cameranii* (Silvestri)].

Dr. M. Moritz was so kind as to loan the original holotype of this species, which had been seen at some earlier time by Attems: the vial carries the paper label *Leptodesmus codicillus* in his manuscript. The specimen is in several pieces and not measureable with accuracy, but appears to have been about 42 mm long, and is 8.0 mm wide at midbody, giving a W/L ratio of about 19 o/o. The form of the anterior and midbody segments, the hypoproct, and the sternum of the 5th segment is shown by the accompanying drawings.

It is further to be noted that the sternum of the 8th segment has a notably deep transverse groove which divides it into two halves; the anterior section bears two low paramedian cones between the anterior legs, the posterior part has two high and prominent cones.

There remains an element of doubt concerning the actual range of this species, which is still known only from the holotype. If Santa Cruz do Sul, Rio Grande do Sul, be taken as the type locality, there occurs a hiatus of 300 km between it and the nearest localities for *S. cameranii*. This is in itself not an excessive distance, except for the fact that the intervening Province Misiones, which has been fairly well sampled, has so far yielded no *Stachyproctus* of either species. Perhaps future collecting will eventually solve this mystery.

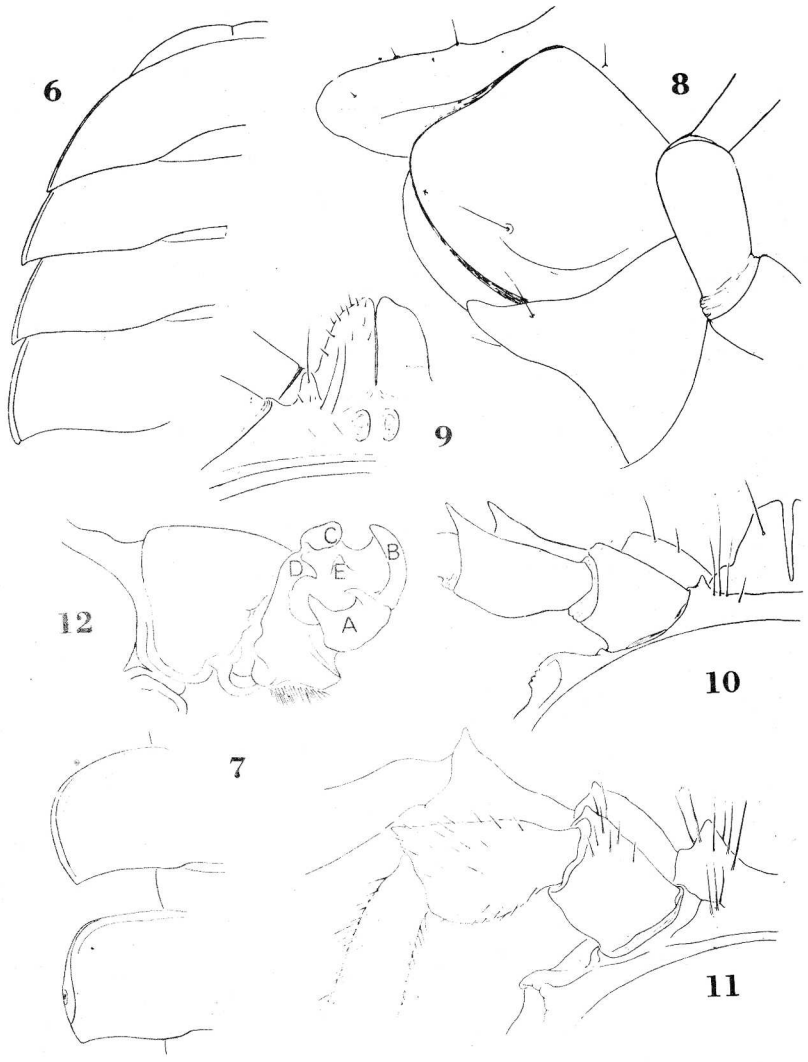

Fig. 6.- *Stachyproctus codicillus* (Karsch), first four segments, left side, dorsal aspect, of holotype. Fig. 7.- Paranota of segments 8 and 9, dorsal aspect. Fig. 8.- Telson, in oblique caudoventral aspect, showing shape of hypoproct. Fig. 9.- Sternum of 5th segment, caudal aspect, showing form of sternal processes and two ovoid callosities. Fig. 10.- *S. cameranii* (Silvestri), sternum of 5th segment of type, caudal aspect, to compare with Fig. 9. Fig. 11.- *S. cameranii*, sternum and base of legs of 6th segment, caudal aspect, specimen from San Lorenzo. Fig. 12.- *S. cameranii*, left gonopod, dorsomedial aspect, of specimen from Sapucai, Paraguay, showing spatial relationships of distal lobes of prefemoral process.

***Stachyproctus cameranii* (Silvestri), comb. nov.**

(Figures 10-17)

Odontopeltis Cameranii Silvestri, 1895, Boll. Mus. Torino, *10*, 203: 4, fig. 4. ?Syntype ♂ (MCSNG), labeled "Paraguay: centrale", Alfredo Borelli leg.

Leiodesmus Cameranii: Silvestri, 1897, Boll. Mus. Torino, *12*, 283: 5.

Catharodesmus cameranii: Attems, 1938, Tierreich, *69*: 60.

Leptodesmus codicillus (nec Karsch, 1881): Attems, 1898, Denks. Akad. Wien, *67*: 162, figs. 140, 141, 155 (material from "Paraguay", ZMB, Dr. Bohls, leg.).

Leptodesmus (Desmoleptus) codicillus (nec Karsch, 1881): Attems, 1938, Tierreich, *69*: 32, fig. 34.

The same situation described for *Platinodesmus argentineus* applies to this species: there is a male "type" at Genoa, obviously retained by Silvestri who was working there when he studied the Borelli material. But there appears to be nothing under the name *cameranii* at Torino, nor at Portici, so the Genoa specimen may be either the original holotype or the only surviving syntype.

There can be no doubt that the specimens identified by Attems as *codicillus* in 1898 and again in 1938 are in fact referable to *cameranii*. Although the drawings published in 1895 by Silvestri are somewhat primitive, they can easily be matched up with material, and it is quite amazing that Attems did not see the similarity of his Fig. 140 (1898) to Silvestri's fig. 4 for *cameranii*. The more so since Silvestri's brief description pointed out the peculiar form of the hypoproct, which Attems did notice for *O. discrepans*, based by Silvestri on a female and considered by Attems as a possible synonym of *codicillus*.

Material examined from three localities in Paraguay is generally quite uniform in structure. Some differences are to be noted in the apical processes of the prefemoral process, however, as shown in figures 14, 16, 17. Although processes *c*, *d*, and *e* are present at all three places, they tend to differ slightly in shape and position, and process *f* occurs only in the sample from Sapucai. Material at hand is not sufficient to distinguish individual from geographic variation, and this matter is left for the eventual attention of a local investigator. If constant, the differences might form the basis for recognition of subspecies within *cameranii*.

The species is apparently endemic to Paraguay. Silvestri did not give a specific locality for the type (unless his "centrale" refers to the province by that name), and Attems' material was labeled only "Paraguay". I have examined four specimens from San Lorenzo, ca. 15 km east of Asunción (26 June 1976, H.G. Fowler leg. [RLH]) and two from Sapucai, ca. 70 km southeast of Asunción (W. Forster leg. [BMNH]). The specimens taken by Mr. Fowler carry the notation "Following *Atta sexdens* trail."

***Stachyproctus discrepans* (Silvestri), comb. nov.**

Odontopeltis discrepans Silvestri, 1895, Boll. Mus. Torino, *10*, 203: 5. Location of ♀ holotype unknown, type locality Asunción, Paraguay.

Unless future studies reveal the presence of two species of this genus at Asuncion, it is highly probable that *discrepans* is really no different from *cameranii*. Silvestri's brief diagnosis gives no tangible basis for separation.

***Astrophogonus*, gen. n.**

(Gk. *astrophos*, not twisted + *Gk. -gonus* [from gonopod], referring to absence of torsion of gonopod telopodite).

Type species: *Polydesmus (Oxyurus) henselii* Karsch, 1881.

Diagnosis: With the characteristics of the tribe, distinguished by the short, broad, laminate form of the gonopod telopodite which lacks any trace of torsion and by the relatively simple form of the prefemoral process. Prostatic groove visible up entire medial face of

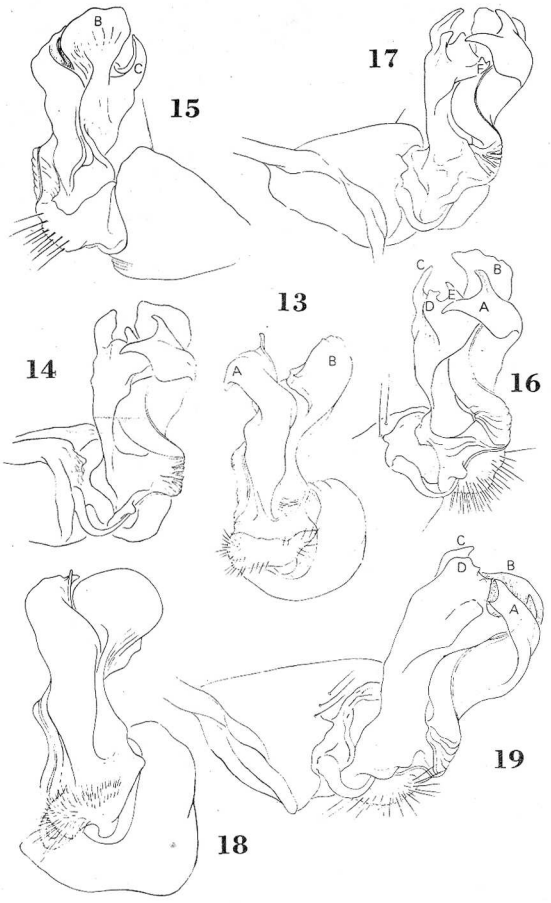

Fig. 13.- *Stachyproctus cameranii* (Silvestri), left gonopod of specimen from San Lorenzo, Paraguay, ventral aspect. Fig. 14.- The same gonopod, mesal aspect. Fig. 15.- The same gonopod, lateral aspect. Fig. 16.- *S. cameranii*, left gonopod of ?holotype (MCSNG). Fig. 17.- *S. cameranii*, left gonopod of specimen from Sapucai, Paraguay (BMNH), showing distal lobe "F". Fig. 18.- *S. codicillus* Karsch), left gonopod of holotype, ventral aspect. Fig. 19.- The same gonopod, mesal aspect. Abbreviations (same for Fig. 12): A, distal branch of telopodite, solenomerite indicated by broken parallel lines; B, ventrolateral major lobe of prefemoral process; C, dorsolateral lobe; D, dorsal lobe; E, medioapical lobe; F, adventitious medial lobe, of prefemoral process.

telopodite, terminating on small subapical laminate solenomerite. Anterior legs of male without prefemoral spines. Legs and sterna without elongated hairs. Hypoproct not prolonged medially.

Distribution: The genus is known so far only from the Brasilian state of Rio Grande do Sul.

Astrophogonus henselii (Karsch), comb. n.

(Figures 20-25)

Polydesmus (Oxyurus) henselii Karsch, 1881, Arch. Naturgesch., *47*: 41, fig. 6. Holotype ♂ (ZMB 797) from "Santa Cruz" (Hensel, leg.).

Leptodesmus dilatatus (nec Brandt) Attems, 1898, Denks. Akad. Wien, *67*: 381, figs. 136, 137 (misidentification of material from "Sierra Geral" in ZMB as *Polydesmus dilatatus* Brandt, 1841).

Leptodesmus (Leptodesmus) ribauti Attems, 1931, Zoologica (Stuttgart) *30*, 79: 18, fig. 22. 23 ♂ and ♀ syntypes (NMW) from Santa Cruz, Est. Rio Grande do Sul, Brasil (Stiegelmayer leg. 1897), a ♂ has been isolated and labeled as Lectotype, July 1979. New Synonymy!

Comment: The relationships of the above-mentioned names are poorly established, and a brief review is necessary. In 1938 Attems included both *Henseli* and *ribauti* as junior synonyms of what he regarded as Brandt's *dilatatus*, but this association is open to question on several counts.

The original description of *dilatatus* is inexplicit and can scarcely be attached to any

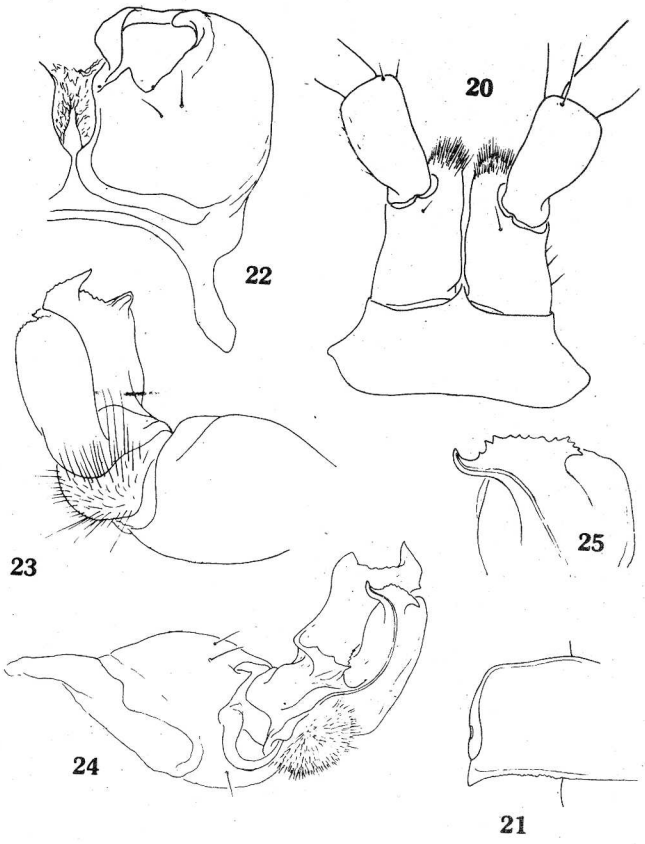

Fig. 20.- *Astrophogonus henselii* (Karsch), 1st pair of legs of holotype, caudal aspect. Fig. 21.- Left paranotum of 10th segment, dorsal aspect. Fig. 22.- Coxa of right gonopod, telopodite and cannula removed for clarity, showing form of sternum and coxal condyles. Fig. 23.- Left gonopod, lateral aspect. Fig. 24.- Left gonopod, mesal aspect. Fig. 25.- Solenomerite, much enlarged.

presently-known chelodesmid with confidence. The length dimension cited by Brandt (67 mm) certainly excludes the species from "Sierra Geral" which Attems described in 1898 as *dilatatus*, and there is no evidence at all that Attems ever saw Brandt's types. Perhaps the specimens had previously been misidentified by Peters? Both Attems and Verhoeff accepted the determinations of their predecessors with complete faith and credulity although often skeptical of each others' much more precise identifications! Until the type material of *dilatatus* can be restudied this name must remain in the status of species inquirendum. As the two types are both females in poor condition (M. Moritz *in litt.*), the status of the name may never be established except by some fiat.

Polydesmus henselii fell at once into obscurity after its publication in 1881, and was not associated with any better-known species until 1938 when it was synonymized with "*dilatatus*" by Attems. The reason for this action is not clear to me, as there is no evidence that he examined the type of *henselii*, and the drawing given by Karsch is not exceptionally accurate.

In his 1898 monograph Attems described material from "Sierra Geral [sic] in the Berlin Museum as *dilatatus*, and gave a reasonably good gonopod drawing made from a dorsal aspect (therefore not readily compara-

ble with other illustrations of chelodesmids. Perhaps for this reason he later (1931) described as new *Leptodesmus ribauti* from Santa Cruz, Est. Rio Grande do Sul. Not long afterwards he decided that *ribauti* was the same as his 1898 "*dilatatus*" and combined the two names in the Tierreich account, including with them *henselii* (perhaps because that species had the same type locality as *ribauti*?).

En 1979 I was fortunate in being able to examine the holotype of *henselii*, kindly loaned by Dr. Moritz, as well as the original syntype series of *ribauti* at Wien. There is structural agreement in every detail in all this material, which seems to verify that the type locality of both names is the same Santa Cruz that in Rio Grande do Sul. I have not restudied the specimens reported in 1898 from "Sierra Geral" which I presume is a misspelling of Serra Geral in northeastern RGS. If the locality label is correct, it seems likely that this population may have to be named as a separate subspecies, as Attems' drawing of the gonopods suggests some differences that might be expected because of the distance (100 km) between the two places involved.

In any case, with *dilatatus* removed from consideration it is obvious that the correct name for the species under discussion must be *Astrophogonus henselii* (Karsch), with *Leptodesmus ribauti* Attems a junior synonym based on material even taken at the type locality for *henseli.*

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