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A new geophilid centipede of the genus *Eurytion* Attems, 1903 from north-western Argentina. (Chilopoda: Geophilomorpha: Geophilidae)

LUIS A. PEREIRA

CONICET - División Zoología Invertebrados, Museo de La Plata, Paseo del Bosque s/n, (1900) La Plata, Buenos Aires, Argentina; lpereira@museo.fcnym.unlp.edu.ar

Abstract

Eurytion yungarum n. sp. (Chilopoda: Geophilomorpha: Geophilidae) is described from a specimen collected in north-western Argentina (Jujuy: some 50 Km to the west of Fraile Pintado) in the Biogeographical Province of the Yungas. The new species seems to be closely related to *Eurytion lethifer* Crabill, 1968 from Peru (Cuzco: Urubamba), in the same Biogeographical Province, from which it differentiates mostly in the shape of labrum; pilosity of clypeal area; chaetotaxy of walking legs; body length; number of pairs of legs and presence of lappets on the coxosternum of the first maxillae.

Key words: Myriapoda, Chilopoda, Geophilomorpha, Geophilidae, *Eurytion*, new species, Neotropical Region, Argentina

Resumen

Eurytion yungarum n. sp. (Chilopoda: Geophilomorpha: Geophilidae) es descripta en base a un ejemplar colectado en el noroeste de Argentina (Jujuy: aproximadamente a unos 50 Km al oeste de Fraile Pintado), en la Provincia Biogeográfica de las Yungas. La nueva especie parece estrechamente relacionada con *Eurytion lethifer* Crabill, 1968 colectada en Peru (Cuzco: Urubamba), en la misma Provincia biogeográfica, y de la cual difiere principalmente por la forma del labro; pilosidad del área clipeal; pilosidad de las patas ambulatorias; longitud del cuerpo; número de pares de patas y presencia de palpos en el coxosternum de las primeras maxilas.

Palabras clave: Myriapoda, Chilopoda, Geophilomorpha, Geophilidae, *Eurytion*, nueva especie, Región Neotropical, Argentina

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Introduction

One male specimen of the geophilomorph centipede genus *Eurytion* was collected in the subtropical forests (Yungas) of north-western Argentina, in the Jujuy Province. It resembled very much *Eurytion lethifer* Crabill, 1968 from Peru (Cuzco: Urubamba) but a detailed study demonstrated that it represents a new species, which is described here.

Twenty nine species were currently included in the genus *Eurytion* Attems, 1903 (Foddai, Pereira & Minelli, 2000). Of these, 3 species occur in Australia, 18 species in Africa and 8, in addition to the new species described below, occur in the Neotropics. Up to present, only two species were known from Argentina, i.e. *Eurytion gracile* (Gervais, 1849) from Neuquén and Tucumán Provinces (also cited from Chile) and *Eurytion tenebrosum* (Meinert, 1886) from Chaco Province (also cited from Uruguay); *Eurytion yungarum* n. sp. is the third species of the genus for the Argentinean fauna and also the first record for this genus from the Jujuy Province.

Material and methods

The specimen described here was collected in 1993 during an expedition supported by the National Geographic Society, (Washington, D.C.) and deposited at the Museum of La Plata (MLP).

The procedures employed for dissection and preparation of specimens for microscopical examination are those described in Pereira (2000) and Foddai, Minelli & Pereira (2002).

RESULTS

Family Geophilidae

Genus Eurytion Attems, 1903

Diagnosis: Clypeal area finely punctate or granulate, not areolate. First maxillae with or without coxosternal lappets, telopodite lappets present. Second maxillae with coxosternites medially joined through a narrow, hyaline and non-areolate membranous isthmus only; antero-internal corners of coxosternum without processes; coxosternal pore surronded by sclerotized rim. Forcipulae: pleurocoxosternal sutures extend parallel to the outer margin, chitinous lines absent. Sterna with pore fields. Last pair of legs with two tarsal articles; praetarsus of last legs claw-like, well developed; coxopleura of the last leg-bearing segment with numerous coxal organs opening separately or grouped in one or two clusters.

Type of the genus: *Geophilus (Eurytion) michaelseni* Attems, 1903 (currently *Eurytion michaelseni* (Attems, 1903)) by subsequent designation by Attems 1929—Tierreich 52: 254.

Remark: For a complete list of the Neotropical species currently included in the genus *Eurytion* and corresponding full citations, see Foddai, Pereira and Minelli (2000).

***Eurytion yungarum* n. sp.**
(Figs. 1–41)

Diagnosis: An *Eurytion* species with circumforaminal rim of coxosternum of second maxillae not elongate and coxal organs arranged in 2 clusters in each coxopleuron. Among the Neotropical species included in the genus *Eurytion*, only the present species and *Eurytion lethifer* Crabill, 1968 share these particular traits. Characters in table 1 separate these two species.

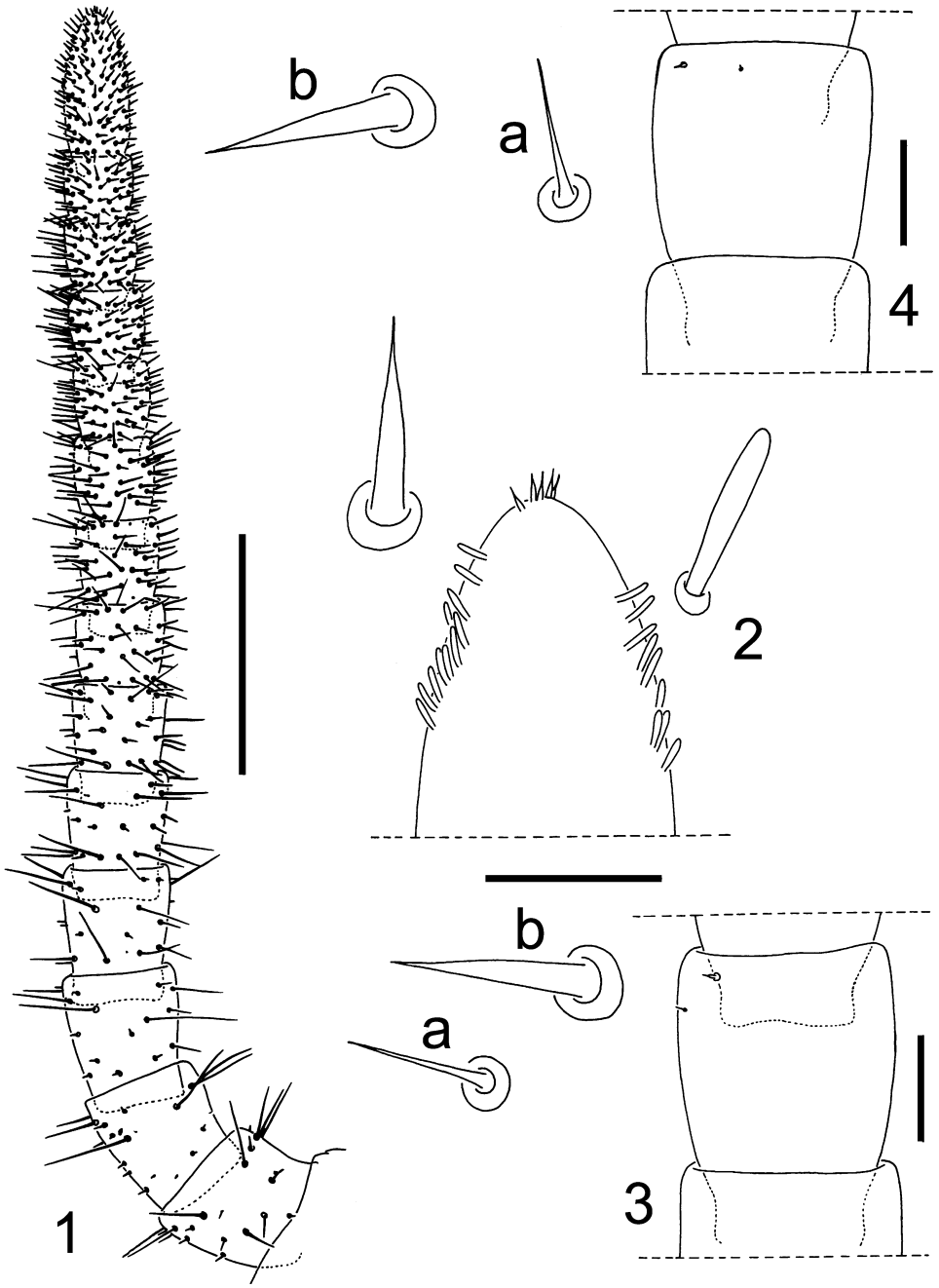
TABLE 1. Differential characters of *Eurytion yungarum* n.sp. and *Eurytion lethifer* Crabill, 1968.

	Eurytion yungarum n.sp.	*Eurytion lethifer* Crabill, 1968
pairs of legs	male: 49	female: 59
body length	19 mm (male)	35 mm (female)
number of inclusive setae of clypeal area	4 (Fig. 7)	2
labrum	side-pieces well separated by a subtraspeziform mid-piece (Fig. 8)	"side-pieces very narrowly separated by triangular mid-piece"
lappets of coxosternum of first maxillae	present (Fig. 10)	absent
chaetotaxy of walking legs	articles 3, 4 and 5 of legs I to ca. XXV each ventrally with one especially long seta (Figs. 19-21)	"articles 3, 4, 5 and 6 each ventrally with one especially long seta"
relative size of parungues of walking legs	as in Figs. 23–25	"Parungues: anteriors nearly as long as claws; posteriors minute, nearly suppressed"

Type material examined: Holotype ♂, 49 pairs of legs, body length 19 mm, from ARGENTINA: Jujuy: 900 m a.s.l., ca. 50 Km W of Fraile Pintado, close to rivers Candelaria and Normenta, 17.IV.1993, L. A. Pereira & S. Coscarón leg. (MLP). (First maxillae and mandibles in a slide, rest of the body in alcohol).

Etymology: This species is named after the biogeographical Province of the 'Yungas' in which the holotype has been collected.

Description of Male holotype: 49 pairs of legs, body length 19 mm, maximum body width 0.5 mm. Colour (of preserved specimen in alcohol) yellowish with cephalic shield and forcipular segment darker (pale ochreous).



FIGURES 1–4. *Eurytion yungarum* n. sp. (male holotype; ARGENTINA: Jujuy: 50 km west of Fraile Pintado). 1: left antenna, ventral; 2: apical region of left a.a. XIV, ventral; 3: left a.a. IX, ventral (a,b: a,b type setae); 4: left a.a. IX, dorsal (a,b: a,b type setae). Scale bars: 1: 0.3 mm; 2–4: 0.05 mm.

Antennae: relatively short, ca. 2.4 times as long as the cephalic plate, distally slightly attenuate, all articles longer than wide. Setae on antennal articles I-V of different length and few in number; those of remaining articles progressively shorter and more numerous

towards the tip of the appendage (Fig. 1). Terminal antennal article (a.a.) with ca. 9 claviform sensilla on the external border and ca. 11 on the internal border. Distal end of this a.a. with ca. 5 very small sensilla apparently not split apically (Fig. 2). Ventral and dorsal surface of a.a. II, V, IX (Figs. 3–4) and XIII with very small specialised sensilla. On the ventral side these sensilla are restricted to an internal latero-apical area and are represented by two different types: *a* and *b*. Type *a* sensilla are very thin and not divided apically, type *b* sensilla are very similar to those of the apex of the terminal article (*a*, *b*, Fig. 3). Specialised sensilla on dorsal side are restricted to a latero-apical area and are represented by two different types: *a* and *b*, similar to *a* and *b* of the ventral side (*a*, *b*, Fig. 4). Distribution of type *a* and *b* sensilla as in table 2.

TABLE 2. Number of type *a* and *b* setae on a.a. II, V, IX and XIII in the holotype of *Eurytion yungarum* n.sp.

	ventral		dorsal		Figs.
	a	b	a	b	
II	-	1	1	1	
V	1	1	1	1	
IX	1	1	1	1	3–4
XIII	1	1	1	3	

Cephalic plate: nearly subrectangular with sides curved, distinctly longer than wide (ratio 1.35: 1). Shape and chaetotaxy as in Fig 5.

Clypeus: with 4 setae located on the clypeal area and 2+2 setae on the middle: remaining clypeal surface without setae (Fig. 6). Clypeal area relatively small, minutely punctate or granulate, not areolate (Figs. 6, 7).

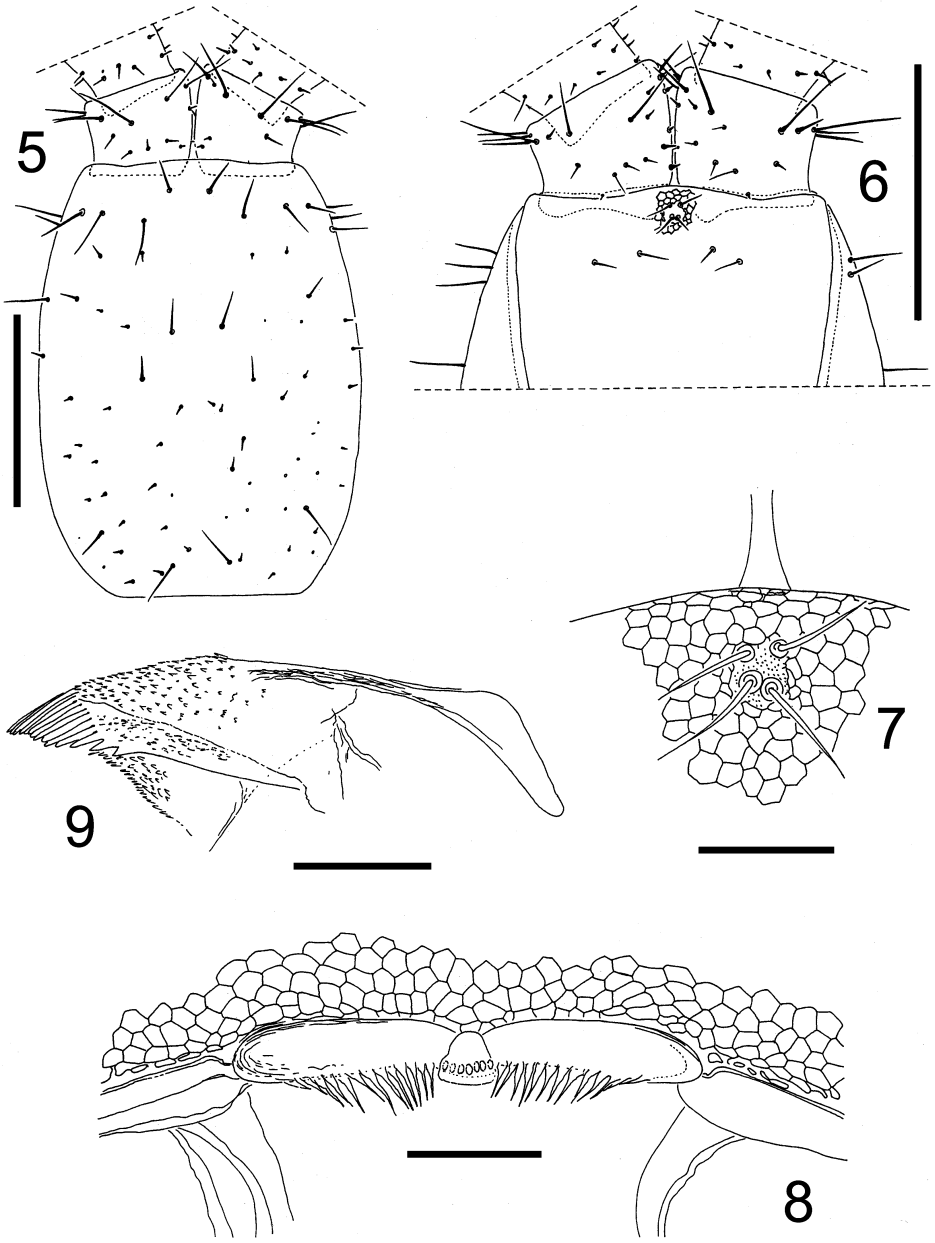
Labrum: mid-piece trapeziform, well developed and sclerotized, with 7 small tuberculate teeth. Side-pieces with 13+13 long hyaline filaments (Fig. 8).

Mandible: pectinate lamella with ca. 14 hyaline teeth with shape as in Figure 9.

First maxillae: with small lappets on coxosternum; telopodites with well developed lappets almost as long as the telopodite (Fig. 10). Coxosternum without setae; median projections of coxosternum subtriangular, well developed and provided with 3+3 large setae and 3+3 small sensilla. Article II of telopodite with 4+4 ventral setae (Fig. 10), dorsal surface apparently without sensilla.

Second maxillae: coxites with 11+11 setae, medially joined through a narrow, hyaline and non-areolate membranous isthmus only (Fig. 11). Pore surronded by sclerotized rim (Figs. 12–13). Apical claw of telopodite well developed slightly curved internally at the tip (Fig. 14). Chaetotaxy of coxosternum and telopodites as in Figs. 11, 15.

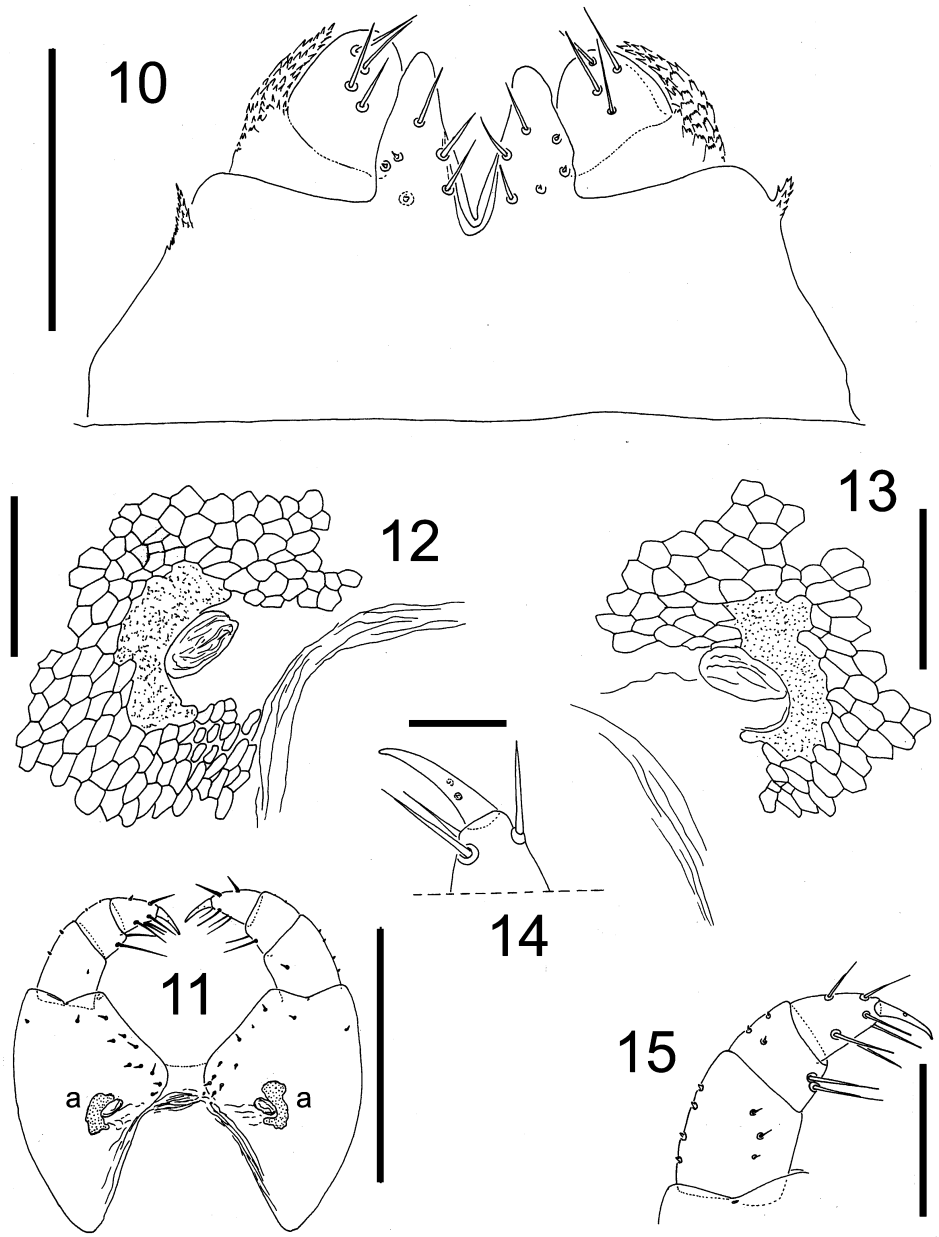
Forcipular segment: when closed, the telopodites reach the level of the anterior margin of the head or slightly project beyond. Forcipular tergum trapeziform with anterior and



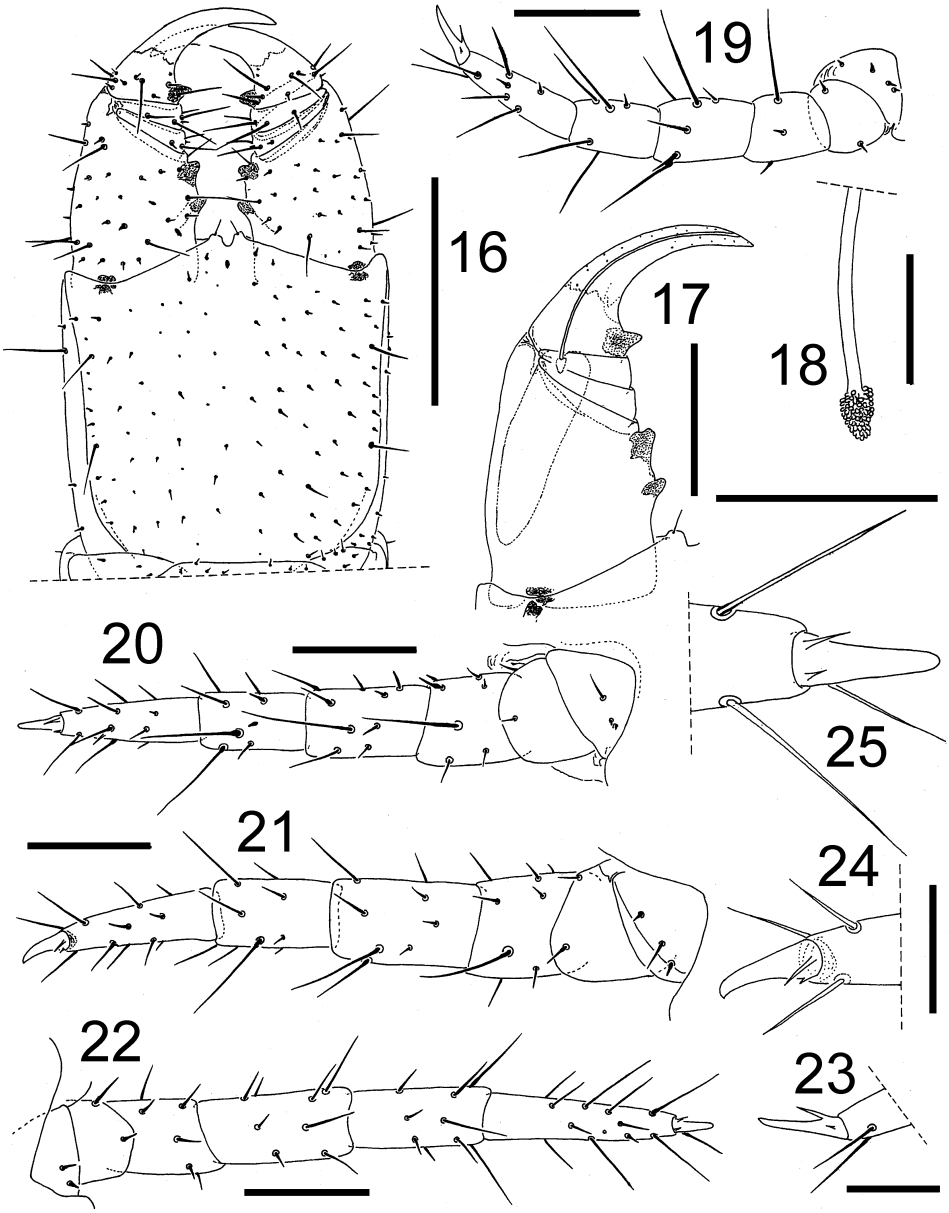
FIGURES 5–9. *Eurytion yungarum* n. sp. (male holotype; ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 5: cephalic shield and base of antennae; 6: clypeus and base of antennae; 7: clypeal area; 8: labrum; 9: right mandible. Scale bars: 5–6: 0.3 mm; 7-9: 0.05 mm.

posterior margins, respectively, covered by the cephalic plate and the tergum of first leg-bearing segment; chaetotaxy represented by an irregular transverse row of ca. 4 setae on the middle and a very few additional smaller setae dispersed on the remaining surface. Coxosternum without chitinous lines, middle part of anterior border with two ochreous denticles . Telopodites: trochanteropraefemur with two denticles, both deeply pigmented,

proximal denticle shorter than the distal one (Figs. 16–17). Femur and tibia without denticles. Tarsungulum basally with a well developed and deeply pigmented denticle; dorsal and ventral edge of the ungular blade not serrulate. Calyx of poison gland subtriangular (Figs. 17–18). Chaetotaxy of coxosternum and telopodites as in Fig. 16.

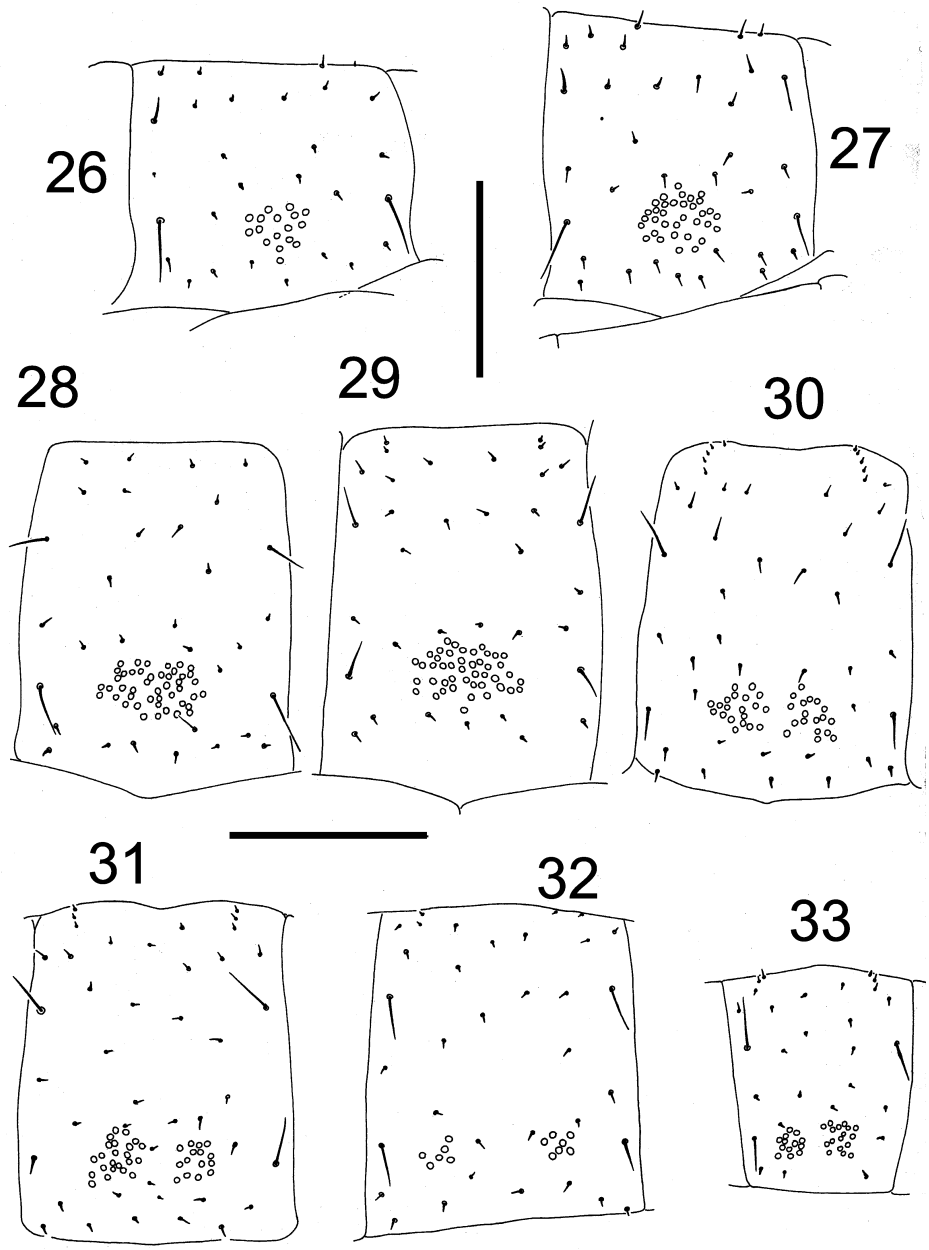


FIGURES 10–15. *Eurytion yungarum* n. sp. (male holotype; ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 10: first maxillae, ventral; 11: second maxillae, ventral (a: sclerotized rim); 12: detail of sclerotized rim of coxosternum of right second maxilla, ventral; 13: detail of sclerotized rim of coxosternum of left second maxilla, ventral; 14: claw of left second maxilla, ventral; 15: telopodite of left second maxilla, dorsal.Scale bars: 10, 15: 0.1 mm; 11: 0.3 mm; 12–13: 0.05 mm; 14: 0.03 mm.



FIGURES 16–25. *Eurytion yungarum* n.sp. (male holotype, ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 16: forcipular segment, ventral; 17: detail of poison gland in right forcipular telopodite, ventral; 18: detail of calyx of poison gland in right forcipular telopodite, ventral; 19–21: right legs I, II and XI, ventral; 22: left leg XLVIII, ventral; 23: claw of right leg I, postero-ventral; 24: claw of right leg XI, antero-ventral; 25: claw of left leg XLVIII, ventral: Scale bars: 16: 0.4 mm; 17: 0.2 mm; 18, 23-25: 0.05 mm; 19–22: 0.1 mm.

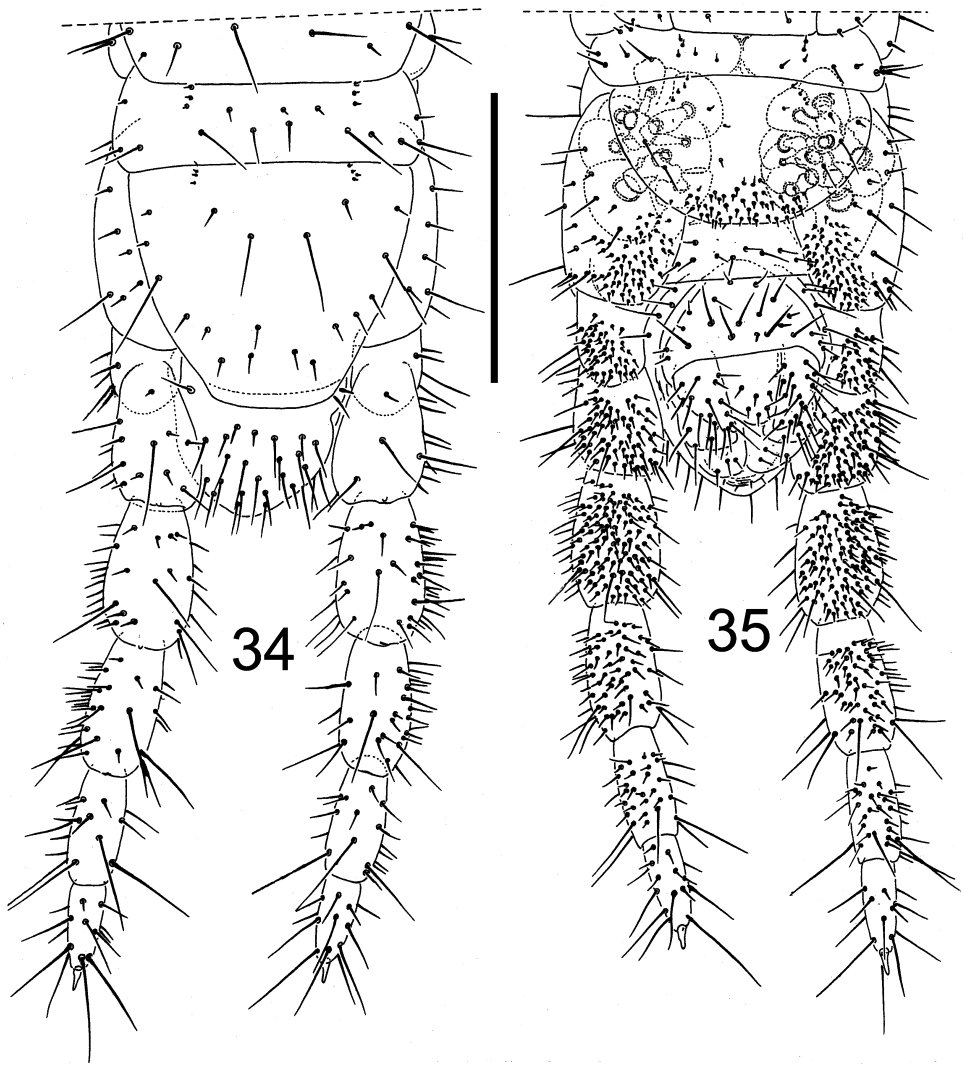
Walking legs: first pair shorter than the second one (ca. 0.85: 1). Praefemur, femur and tibia of legs I–XXV each ventrally with one specially long seta (Figs. 19–21). Remaining legs with shorter setae and similar chaetotaxy (Fig. 22). Claws ventrally with two basal parungues, the anterior larger than the posterior (Figs. 23–25).



FIGURES 26–33. *Eurytion yungarum* n. sp. (male holotype; ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 26: sternum II; 27: sternum VI; 28: sternum XII; 29: sternum XIII; 30: sternum XIV; 31: sternum XV; 32: sternum XXXVII; 33: sternum XLVIII. Scale bar: 0.2 mm.

Sterna: pore fields present from the second to the penultimate sternum. Fields undivided on sterna II–XIII and divided in two subsymetrical areas on all remaining ones (XIV-XLVIII). Form of fields changing along the trunk as in Figs. 26–33. Number of pores on selected sterna: on sternum II, 17 pores; on VI, 34; on XII, 45; on XIII, 44; on XIV, 20+18; on XV, 23+15; on XXXVII, 6+7; on XLVIII, 13+18.

Last leg-bearing segment: without pleurites at the sides of praetergum. Praesternum divided along the sagittal plane; shape and chaetotaxy of tergum and sternum as in Figs. 34–35. Coxopleura slightly protruding at their distal ventral ends, setae numerous on the distal internal area, the remaining surface with less numerous larger setae. Coxal organs arranged in 2+2 clusters. Anterior clusters with ca. 4–5 organs, posterior with ca. 3–4 organs (Figs. 35–37). Pores open on the membrane between coxopleuron and sternum, covered by the latter (Fig. 35–37). Last legs with seven podomeres, form and chaetotaxy as in Figs. 34–35. Praetarsus unguiform, relatively smaller than those of the remaining legs, basally with a single parunguis (Figs. 38–39).

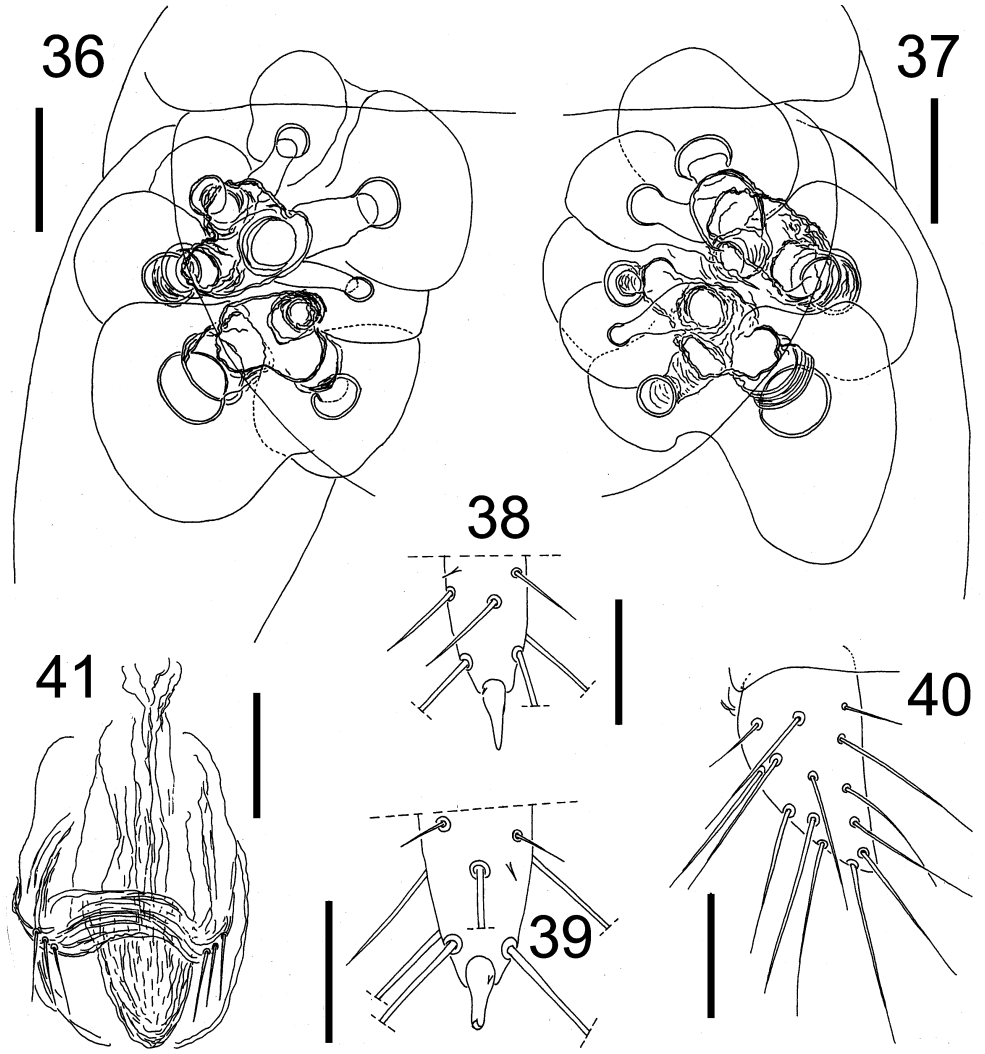


FIGURES 34–35. *Eurytion yungarum* n. sp. (male holotype; ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 34: last leg-bearing segment and terminal segments, dorsal; 35: last leg-bearing segment and terminal segments, ventral. Scale bar: 0.3 mm.

Terminal segments: intermediate tergum with posterior margin convex, intermediate sternum with posterior margin nearly straight. First genital sternum with posterior border approximately straight in the middle, concave along the sides. Gonopods uniarticulate with ca. 14 setae (Figs. 35, 40); penis dorsally with 3+3 apical setae (Fig. 41). Anal organs absent.

Remarks: The adult condition of this specimen is indicated by the tubula seminifera full of mature spermatozoa.

Female. Unknown.



FIGURES 36–41. *Eurytion yungarum* n.sp. (male holotype; ARGENTINA: Jujuy: 50 Km west of Fraile Pintado). 36: right coxal organs, ventral; 37: left coxal organs, ventral; 38: detail of distal end of last podomere of left last leg, ventral; 39: detail of distal end of last podomere of right last leg, ventral; 40: right gonopode, ventral; 41: penis, dorsal. Scale bar: 0.05 mm.

Ecology

The holotype of *Eurytion yungarum* n. sp. has been collected at ca. 900 m a.s.l. in a subtropical forest environment (Biographical Province of the 'Yungas'). According to Cabrera and Willink (1973) this Province is represented by a relatively narrow stripe on the oriental Andean slope with altitudinal range between 500 to ca. 3.500 meters, which extends from northern Venezuela to north-western Argentina.

The type locality of *Eurytion lethifer*, is placed in Peru at 2880 m a.s.l., also within the Yungas.The great latitudinal extension of this biogeographical Province probably facilitated dispersion of these centipedes along the occidental part of the South American continent in the North-South direction (Coscarón & Coscarón-Arias, 1995).

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