Papéis Avulsos de Zoologia

Museu de Zoologia da Universidade de São Paulo

Volume 50(42):643-665, 2010 **www.mz.usp.br/publicacoes** **www.revistasusp.sibi.usp.br** **www.scielo.br/paz** **ISSN impresso: 0031-1049** **ISSN *on-line:* 1807-0205**

First record of a ballophilid centipede from French Guiana with a description of *Ityphilus betschi* sp. nov. (Myriapoda: Chilopoda: Geophilomorpha)

Luis Alberto Pereira

ABSTRACT

Ityphilus betschi *sp. nov. from French Guiana, (Chilopoda: Geophilomorpha: Ballophilidae) is here described and illustrated on the basis of the male holotype and a non-type female specimen. The new species is characterized by having the internal edge of the forcipular tarsungulum partially serrate; ventral pore-fields present along the entire body length; and all pore-fields undivided. It is compared in detail with the other Neotropical members of the genus sharing these three combined traits, and having a roughly similar range of leg-bearing segments,* i.e., I. crabilli *Pereira, Minelli* & *Barbieri, 1994 (from Brazil);* I. demoraisi *Pereira, Minelli* & *Barbieri, 1995 (from Brazil);* I. guianensis *Chamberlin, 1921 (from Guyana, Brazil, Trinidad);* I. perrieri *(Brölemann, 1909) (from Brazil); and* I. saucius *Pereira, Foddai* & *Minelli, 2000 (from Brazil). Complementary notes for these latter species are also given. Undiluted 2-Phenoxyethanol (CAS No. 122-99-6) has been used as an effective clearing agent/mounting medium for the preparation of temporary mounts of all body parts of the examined specimens. The discovery of the new species here described represents the first record of the family Ballophilidae from French Guiana.*

Keywords: *Ityphilus;* Taxonomy; New species; Chilopoda; Geophilomorpha; Ballophilidae.

INTRODUCTION

Seventy-eight species in twelve genera are currently recognized in the geophilomorph family Ballophilidae. The taxon occurs in diverse tropical and subtropical regions of the world, with maximum species richness in the tropical Americas, southernmost Africa and in Indonesia (Minelli, 2006; Bonato *et al.,* 2009).

In the Neotropics the family is currently represented by 41 species in 11 genera: Three species in the genus *Ballophilus* Cook, 1896; seventeen in *Ityphilus* Cook, 1899; six in *Diplethmus* Cook, 1899; six in *Taeniolinum* Pocock, 1893; and one species in each of the following taxa: *Caritohallex* Crabill, 1969; *Cerethmus* Chamberlin, 1941; *Clavophilus* Chamberlin, 1959; *Koinethmus* Chamberlin, 1958; *Leucolinum* Chamberlin, 1945; *Tanophilus* Chamberlin, 1922; and *Zygethmus* Chamberlin, 1957, (Minelli. 2006). *Ballophilus* and *Ityphilus* are also distributed outside the Neotropical Region, while the other nine genera are exclusive to the Neotropics. *Afrotaenia* Chamberlin, 1951 (which includes a single species from Africa (Angola), is the only genus of the family not represented in the New World (Pereira *et al.,* 1997; Foddai *et al.,* 2004; Minelli, 2006).

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The purpose of the present contribution is to describe a new species of the genus *Ityphilus* on the basis of a male and a female specimens collected in French Guiana. This genus is the most speciose of the ballophilid genera in the Neotropics, in which it is known from the southernmost part of North America; Central America; Lesser and Greater Antilles; and continental South America (where it has been hitherto recorded from Peru, Colombia, Guyana and Brazil). The discovery of the new species described below represents the first record of the family Ballophilidae from French Guiana. Up to the present only two geophilomorph families (Geophilidae and Schendylidae) have been recorded from this large French overseas department, in Amazonia.

MATERIALS AND METHODS

The holotype herein designated is deposited at the Muséum national d' Histoire naturelle, Paris (MNHN); other non type material is deposited at the same institution.

The specimens were dissected using a stereomicroscope, and examined in detail through a compound microscope equipped with a drawing tube attachment, which was used to delineate the figures, and also measured directly in mm with a micrometer objective. Temporary mounts were prepared by direct transfer of the specimens from the preservation liquid (70 per cent ethanol) onto microscope slides, using as a clearing agent/mounting medium, undiluted 2-Phenoxyethanol (CAS No. 122-99-6). No additional steps were carried out before mounting. (The slides were temporarily stored in a small acrylic box to avoid evaporation of this fluid). Details of the preparation of microscope slides and dissection procedures are described in Pereira (2000, 2008, 2009), Foddai *et al.* (2002), Bonato & Minelli (2004). All measurements are given in mm. Terminology for external anatomy follows Bonato *et al.* (in press). The following abbreviation was used in the text and legends of the figures: a.a., antennal article/articles.

RESULTS

Family Ballophilidae

Genus *Ityphilus* Cook, 1899

Diagnosis: Antennae slightly to strongly clavate, moderately to conspicuously geniculate. Mid-piece of labrum membranous, without teeth or with minute hair-like structures. Forcipular coxosternite with incomplete to nearly complete chitin-lines; internal edge of forcipular tarsungulum smooth to conspicuously serrate or dentate. Ventral pore-fields of anterior region of the body single (subcircular to transversally elliptical), those of posterior region of the body single or divided into two areas. Coxopleura of the last leg-bearing segment each with two internal coxal organs of simple structure ("homogeneous coxal glands", *sensu* Brölemann & Ribaut (1912)). Legs of the ultimate pair with seven articles, ultimate pretarsus setiform, basally tubercle-like and usually accompanied by a minute spine.

Type species of the genus: Ityphilus lilacinus Cook, 1899, by original designation.

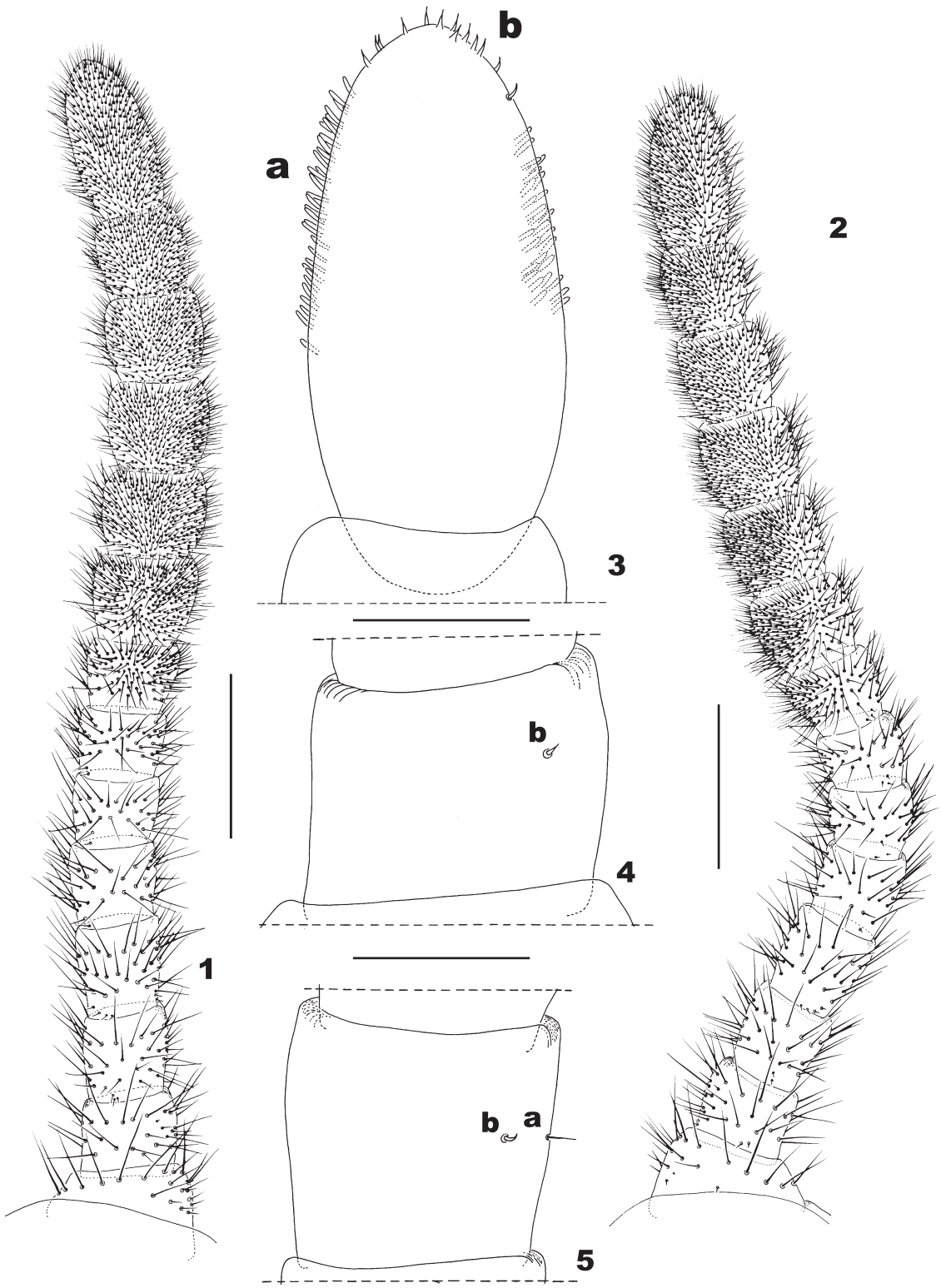
Remarks: All species currently assigned to the genus are listed in Minelli, 2006; Bonato *et al.* 2007.

DESCRIPTION

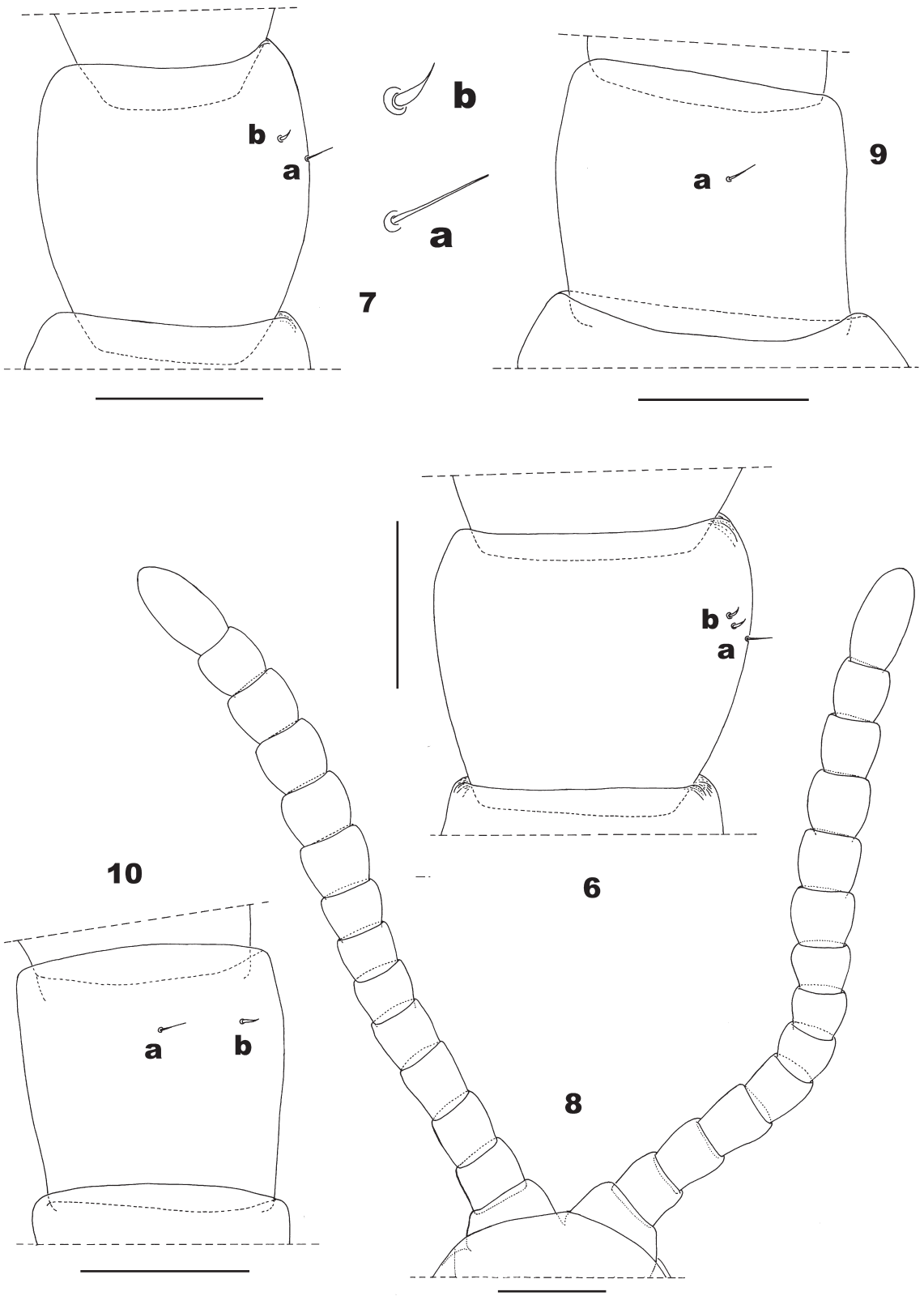
Ityphilus betschi sp. nov. (Figs. 1-52)

Diagnosis: An *Ityphilus* species with internal edge of forcipular tarsungulum partially serrate; ventral pore-field series present along the entire body length; all pore-fields undivided. For a confident identification, the new species is compared in detail to the other Neotropical members of the genus sharing these three combined traits, and having a roughly similar range of leg-bearing segments, *i.e., I. crabilli* Pereira, Minelli & Barbieri, 1994 (from Brazil); *I. demoraisi* Pereira, Minelli & Barbieri, 1995 (from Brazil); *I. guianensis* Chamberlin, 1921 (from Brazil, Guyana, Trinidad); *I. perrieri* (Brölemann, 1909) (from Brazil); and *I. saucius* Pereira, Foddai & Minelli, 2000 (from Brazil). *I. betschi* sp. nov. can be distinguished from these latter taxa by the following unique traits (the corresponding ones in the other five species are given in parentheses): body length up to 57 mm (15 to 32 mm); a.a. III and IV slightly longer than wide, a.a. XIII as long as wide (antennal articles I to XIII, all wider than long); ratio of length of a.a. XIV/length of antennal articles XI to XIII taken together, *ca.* 0.62: 1 (from *ca.* 0.85: 1 to *ca.* 1.05: 1); forcipular coxosternite: ratio of maximum width/length at the middle, *ca.* 2.70: 1 (*ca.* 1.73: 1 to *ca.* 2.42: 1).

The relatively high ratio of length/width of the apical a.a. (= *ca.* 2.6: 1); relative large size of the calyx



FIGURES 1-5: *Ityphilus betschi* sp. nov., (male holotype; French Guiana: piste de St. Elie: 16 km from Sinnamary): **(1)** Right antenna, ventral; **(2)** Left antenna, latero-ventral (external) view; **(3)** Rigth a.a. XIV, ventral (a: claviform sensilla, b: apical specialized sensilla); **(4)** Right a.a. II, ventral (b: *b* type sensilla); **(5)** Right a.a. V, ventral (a, b: *a, b* type sensilla). Scale bars: 0.3 mm (1-2); 0.1 mm (3-5).



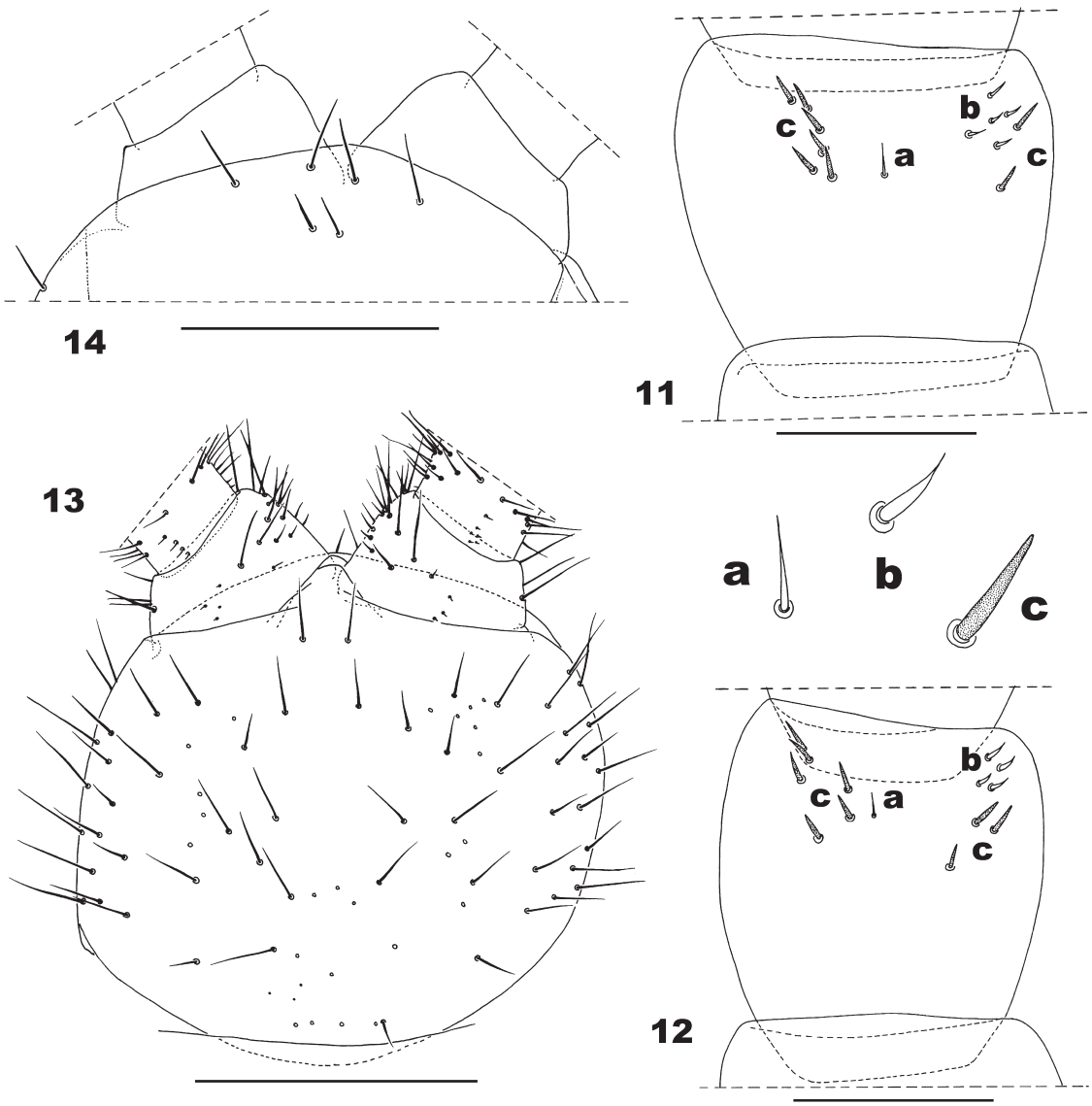
FIGURES 6-10: *Ityphilus betschi* sp. nov., (male holotype): **(6)** Right a.a. IX, ventral (a, b: *a, b* type sensilla); **(7)** Right a.a. XIII, ventral (a, b: *a, b* type sensilla); **(8)** Contour of antennae, ventral; **(9)** Right a.a. II, dorsal (a: *a* type sensilla); **(10)** Right a.a. V, dorsal (a, b: *a, b* type sensilla). Scale bars: 0.3 mm (8); 0.1 mm (6, 7, 9, 10).

of poison gland (Figs. 23, 30); high ratio of length of telopodite of the ultimate legs/length of sternite of the male ultimate leg-bearing segment (= *ca.* 3.2: 1); and the presence of diminutive hair-like structures on the posterior edge of the labral mid-piece (Fig. 16), are also distinctive features for this species.

Morphological traits in Table 1 differentiate *I. betschi* sp. nov. from *I. crabilli; I. demoraisi; I. guianensis; I. perrieri;* and *I. saucius.*

Type material examined: Holotype male (MNHN Collection Myriapodes et Onychophores: M354), 67 leg-bearing segments, body length 40 mm, from French Guiana: piste de St. Elie: 16 km from Sinnamary, *ca.* 73 m a.s.l., (Lat (DMS) 04°49'60"N, Long (DMS) 53°16'60"W), 26 March 1977, J.-M. Betsch leg.

Other material examined: female (MNHN Collection Myriapodes et Onychophores: M354), 71 leg-bearing segments, body length 57 mm, from French Guiana: Petit Saut: Fleuve Sinnamary, *ca.* 19 m a.s.l., (Lat (DMS) 05°20'60"N, Long (DMS) 53°40'60"W), 13 October 1989, H.P. Auberlenc, leg.



FIGURES 11-14: *Ityphilus betschi* sp. nov., (male holotype): **(11)** Right a.a. IX, dorsal (a, b, c: *a, b, c* type sensilla); **(12)** Right a.a. XIII, dorsal (a, b, c: *a, b, c* type sensilla); **(13)** Cephalic plate and basis of antennae; **(14)** Clypeus. Scale bars: 0.1 mm (11-12); 0.4 mm (13); 0.3 mm (14).

TABLE 1: Comparative matrix of morphological traits for *Ityphilus betschi* sp. nov., *I. crabilli, I. demoraisi, I. guianensis, I. perrieri* and *I. saucius.* Data taken from holotype male and a non type female of *I. betschi;* holotype female, allotype male and non type specimens of *I. crabilli;* holotype female and paratype female of *I. demoraisi;* holotype female of *I. saucius.* Traits of *I. guianensis* are taken from the original description; those of *I. perrieri* come from the original description and the additional information given by Pereira *et al.,* (1994) and Pereira & Minelli (1996), based on the lectotype male (and a paralectotype of which the sex was not determined).

	I. betschi sp. nov.	*I. crabilli*	*I. demoraisi*	*I. guianensis*	*I. perrieri*	*I. saucius*
Number of leg-bearing segments	Male: 67 Female: 71	Male: 47 Female: 47, 49, 51, 53	Male: ? Female: 67, 69	Male: 49, 55? Female: 49, 55?	Male: 61, (63?) Female: 63?	Female: 67? Male: ?
Body length	40 mm (male) 57 mm (female)	15 mm (male) 21 mm (female)	32 mm (female)	23 mm (sex?)	17 mm (male) 18 mm (sex?)	22 mm, at least (female)
Ratio of length of antennae/length of cephalic plate	*ca.* 3.0: 1	*ca.* 2.2: 1	*ca.* 2.1: 1	*ca.* 1.80: 1? (Fig. 57)	? ("médriocrement allongées")	*ca.* 3.0: 1
Shape of the antennae	Distally slightly thickened (Figs. 1-2, 8)	distally moderately clavate (Fig. 53)	Distally moderately clavate (Fig. 55)	"distally strongly clavate" (Fig. 57)	"un peu claviformes"	Distally moderately clavate (Fig. 61)
Ratio of width of widest article of distal antennal half/width of narrowest article of proximal antennal half	*ca.* 1.25: 1	*ca.* 1.38: 1	*ca.* 1.40: 1	*ca.* 1.60: 1? (Fig. 57)	?	*ca.* 1.48: 1
Antennal articles I to XIII all wider than long	No (a.a. III and IV slightly longer than wide; a.a. XIII as long as wide)	Yes	Yes	Yes (Fig. 57)	Yes ("articles courts à l'exception du dernier")	Yes
Ratio of length/width of antennal articles X, XI, XII, XIII, XIV	X (*ca.* 0.88: 1) XI (*ca.* 0.93: 1) XII (*ca.* 0.93: 1) XIII (*ca.* 1.0: 1) XIV (*ca.* 2.06: 1)	X (*ca.* 0.34: 1) XI (*ca.* 0.34: 1) XII (*ca.* 0.34: 1) XIII (*ca.* 0.41: 1) XIV (*ca.* 1.0: 1)	X (*ca.* 0.36: 1) XI (*ca.* 0.39: 1) XII (*ca.* 0.41: 1) XIII (*ca.* 0.75: 1) XIV (*ca.* 1.45: 1)	X (*ca.* 0.29: 1?) XI (*ca.* 0.30: 1?) XII (*ca.* 0.25: 1?) XIII (*ca.* 0.31: 1?) XIV (*ca.* 1.0: 1?) (Fig. 57)	?	X (*ca.* 0.53: 1) XI (*ca.* 0.54: 1) XII (*ca.* 0.48: 1) XIII (*ca.* 0.63: 1) XIV (*ca.* 1.69: 1)
Ratio of length of a.a. XIV/length of a.a. XIII	*ca.* 1.89: 1	*ca.* 2.21: 1	*ca.* 2.58: 1	*ca.* 2.81: 1? (Fig. 57)	?	*ca.* 2.53: 1
Ratio of length of a.a. XIV/length of antennal articles XI to XIII taken together	*ca.* 0.62: 1	*ca.* 0.85: 1	*ca.* 0.91: 1	*ca.* 1.05: 1? (Fig. 57)	? "dernier article presque aussi long que les trois précédents réunis"	*ca.* 0.89: 1
Ventral pilosity of the antennae	As in Figs. 1-2	As in Fig. 53	As in Fig. 55	?	?	As in Fig. 61
Shape of specialized sensilla on apex of a.a. XIV	undivided apically	with two very small apical branches	apparently not split apically	?	?	apparently not split apically
"Spine-like" (or claviform-like) specialized ocher sensilla, on dorsal side of a.a. V	Absent	Present	Present	?	?	Absent

TABLE 1: Continued.

	I. betschi sp. nov.	*I. crabilli*	*I. demoraisi*	*I. guianensis*	*I. perrieri*	*I. saucius*
Width/length ratio of cephalic plate	1.0: 1	1.1: 1	1.1: 1	*ca.* 1.05: 1? (Fig. 57)	"aussi large que long"	1.15: 1
Clypeal setae	With 4 setae near the anterior margin and 2 setae on the middle	With 13 setae distributed near the anterior margin	With 4 setae near the anterior margin and 2 setae on the middle	"Prelabral region with six setae, a postantennal series of 2+2 and two setae following, one behind the other on the median line"	"zone prélabiale avec six soies en deux rangées, dont l'une, antérieure, de 4 soies et l' autre de deux"	With 4 setae near the anterior margin and 2 setae on the middle
Teeth of labral side-pieces	With 5+4 teeth (Fig. 15)	With 5+5 teeth	With 5+5 teeth	Without teeth? ("labrum simple, non chitinous")	"labre rudimentaire (fig. 8), composé d'un repli faiblement chitinisé, dépourvu de dents ou de lanières"	With 2+2 teeth
Teeth of dentate lamella of mandibles	9-10	11	12	"Mandible with about eleven teeth of which the most ventral are largest"	11	14
First maxillary lappets	Present on coxosternite and telopodites (Fig. 19)	Present on coxosternite and telopodites	Present on coxosternite and telopodites (those of coxosternite rudimentary)	?	"pas des palpes latéraux"	Present on coxosternite and telopodites (those of coxosternite rudimentary)
Number of teeth on apical claw of telopodites of second maxillae	*ca.* 26 teeth (on dorsal edge, Fig. 21), *ca.* 19 (on ventral edge)	*ca.* 9-15 teeth (on dorsal edge), *ca.* 6-9 (on ventral edge)	*ca.* 29 teeth (on dorsal edge), *ca.* 20 (on ventral edge)	?	?	*ca.* 15 teeth (on dorsal edge), *ca.* 8 (on ventral edge)
Forcipular coxosternite: maximum width/length at the middle ratio	*ca.* 2.70: 1	*ca.* 1.92: 1	*ca.* 1.75: 1	? (Fig. 58)	?	*ca.* 2.42: 1
Chitin-lines of forcipular coxosternite	Incomplete (Fig. 22: a)	Incomplete	Complete	"Prosternum with chitinous lines present, these light" (Fig. 58)	"à lignes chitinisées incomplètes"	Complete (Fig. 62)
Anterior edge of forcipular coxosternite deeply notched at the middle	No (Figs. 22, 29)	No	No	No, (Fig. 58)	No	Yes (Fig. 62)
Ratio of maximum length/ maximum width of forcipular trochanteropraefemur	*ca.* 1.17: 1	*ca.* 1.1: 1	*ca.* 1.1: 1	*ca.* 1.0: 1? (Fig. 58)	?	*ca.* 1.32: 1
Number of teeth on the internal edge of forcipular tarsungulum	With *ca.* 10-11 teeth (shape as in Figs. 23, 30)	With *ca.* 12 teeth (shape as in Fig. 54)	With *ca.* 13 teeth (shape as in Fig. 56)	With *ca.* 4-5 teeth? "claw serrate at base within" (Fig. 58)	With *ca.* 5 teeth (shape as in Fig. 60)	With *ca.* 8 teeth (shape as in Fig. 63)

TABLE 1: Continued.

	I. betschi sp. nov.	*I. crabilli*	*I. demoraisi*	*I. guianensis*	*I. perrieri*	*I. saucius*
Shape of calyx of poison gland	Cylindrical (Figs. 23, 30)	Subsphaerical (Fig. 54)	Subcylindrical, short (Fig. 56)	?	Very short, subcylindrical to subsphaerical	Subcylindrical, short (Fig. 63)
Sternite of leg-bearing segment 1 with pore-field	No	No	Yes	Yes	No	No
Sternite of leg-bearing segment 2 with a well defined pore-field	Yes (Fig. 31)	Yes	Yes	Yes	Yes	No (only one isolated pore)
Posterior limit of ventral pore-field series	Penultimate leg-bearing segment	Penultimate leg-bearing segment	Penultimate leg-bearing segment	Penultimate leg-bearing segment	Antepenultimate leg-bearing segment	Antepenultimate leg-bearing segment
Ventral pore-field series	From second to penultimate leg-bearing segment	From second to penultimate leg-bearing segment	From first to penultimate leg-bearing segment	"from the first to the penult inclusive"	From second to antepenultimate leg-bearing segment	From third to antepenultimate leg-bearing segment (sternite of leg-bearing segment 2, with a single pore)
Claw of legs (pair 1 to penultimate)	With two accessory spines: one anterior, one posterior (Figs. 27-28)	With three accessory spines: one anterior, two posterior	With three accessory spines: one anterior, two posterior	?	?	With two accessory spines: one anterior, one posterior
Ratio of width of ultimate leg-bearing segment/width of penultimate leg-bearing segment	Male: *ca.* 1.46: 1 Female: *ca.* 1.33: 1	Male: *ca.* 1.31: 1 Female: *ca.* 1.09: 1	Male: ? Female: *ca.* 1.70: 1	*ca.* 1.16: 1? (Male?) (Fig. 59)	Male: ? Female: ?	Male: ? Female: *ca.* 1.54: 1
Length/width ratio of sternite of the ultimate leg-bearing segment	Male: *ca.* 1.13: 1 (longer than wide) Female: *ca.* 1.13: 1 (longer than wide)	Male: *ca.* 0.73: 1 (wider than long) Female: *ca.* 1.0: 1 (as long as wide)	Male: ? Female: *ca.* 1.07: 1 (longer than wide)	*ca.* 1.28: 1? ("Last ventral plate long, strongly narrowed caudad from middle in front of which the sides are subparallel; caudal margin short and straight ") (Male?) (Fig. 59)	Male: ? Female: ? "Sternite en trapèze, large de base"	Male: ? Female: *ca.* 0.93: 1 (wider than long)
Anterior versus posterior coxal organs	Similar in size (Figs. 44, 46)	Similar in size	Similar in size	"posterior one typically considerably larger than the anterior" (Fig. 59)	Similar size? ("hanches: elles abritent chacune deux grandes glandes"	Anterior organs smaller than the posterior
Ratio of length of telopodite of ultimate legs/length of sternite of the ultimate leg-bearing segment	Male: *ca.* 3.20: 1 Female: *ca.* 1.96: 1	Male: *ca.* 2.37: 1 Female: *ca.* 2.44: 1	Male: ? Female: *ca.* 1.96: 1	*ca.* 1.88: 1? (Male?) (Fig. 59)	Male: ? Female: ?	Male: ? Female: *ca.* 2.53: 1

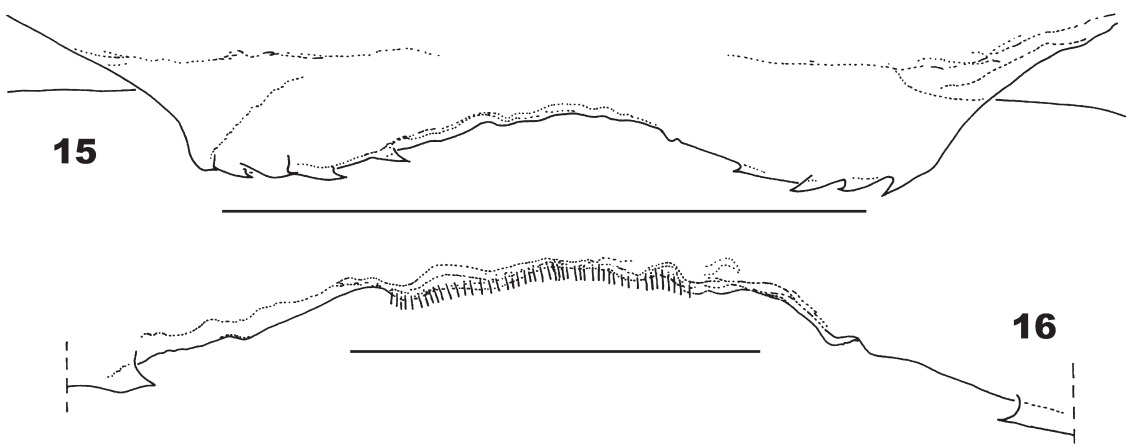
Remarks: The adult condition of these specimens is confirmed by the presence of mature spermatozoa in the tubula seminifera of the male, and spermatozoa in the spermathecae of the female. (This is easily observable at the compound microscope from the specimens mounted on temporary slides).

Male holotype: Sixty-seven leg-bearing segments, body length 40 mm. Trunk attenuate on anterior and posterior regions, with exception of the ultimate leg-bearing segment which is conspicuously wider than the penultimate, in the ratio 1.47: 1 (Figs. 41-42). Width of selected leg-bearing segments as follows: 1 (0.71 mm); 3 (0.62 mm); 4 (0.68 mm); 10 (0.80 mm); 21 (1.0 mm); 35 (1.15 mm); 57 (0.90 mm); 62 (0.80 mm); 66 (0.68 mm); 67 (1.0 mm). Width of cephalic plate, *ca.* 0.72 mm. Width of forcipular coxosternite, *ca.* 0.77 mm. Ground color (of preserved specimen in alcohol) pale ocher.

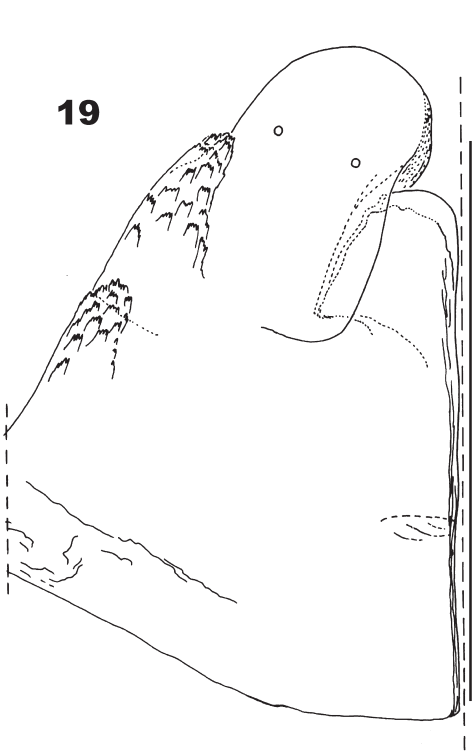
Antennae: nearly contiguous, *ca.* 3.0 times as long as the cephalic plate, somewhat curved at the middle (Figs. 2, 8), distally slightly thickened (Figs. 1-2, 8). Antennal article XIV apically blunt, nearly as long as the sum of the two previous articles. Apical club extends over a.a. VIII to XIV of which a.a. VIII is transitional, being narrow at the base and slightly widened distally (Figs. 1-2, 8). Ratio of width of a.a. IX (= widest antennomere of distal antennal half)/width of a.a. IV (= narrowest antennomere of basal antennal half), *ca.* 1.25: 1. Length/width ratio of right antennal articles I-XIV (in ventro-dorsal position), as follows: I (0.61: 1); II (0.83: 1); III (1.02: 1); IV (1.11: 1); V (0.94: 1); VI (0.88: 1); VII (0.84: 1); VIII (0.81: 1); IX (0.85: 1); X (0.88: 1); XI (0.93: 1); XII (0.93: 1); XIII (1.0: 1); XIV (2.6: 1). A.a. VIII to XIV slightly flattened dorso-ventrally. Ventral chaetotaxy: setae on a.a. I to VII of various lengths and relatively few in number, those of a.a. VIII to XIV much shorter and very numerous (Figs. 1-2). Dorsal chaetotaxy: setae on a.a. I to VII similar to those on ventral side, setae on a.a. VIII to XIV much less numerous and a little longer than those on ventral side. A.a. XIV with *ca.* 31 claviform sensilla on the external border and *ca.* 27 on the internal border (Fig. 3); distal end of this a.a. with *ca.* 13 very small hyaline specialized sensilla apparently not split apically (Fig. 3). Ventral and dorsal surface of a.a. II, V, IX and XIII with very small specialized sensilla. On the ventral side, these sensilla are restricted to a middle latero-internal area on a.a. II and V (Figs. 4-5) and to an apical latero-internal area on a.a. IX and XIII (Figs. 6-7), and are represented by two different types: *a* and *b.* Type *a* sensilla are very thin and not split apically (Fig. 7: a); type *b* sensilla (Fig. 7: b) are very similar to those on the apex of a.a. XIV. Specialized sensilla on dorsal side distributed on the apical half of the specified antennal articles (Figs. 9-12), and are represented by three different types: *a* and *b,* similar to *a* and *b* of ventral

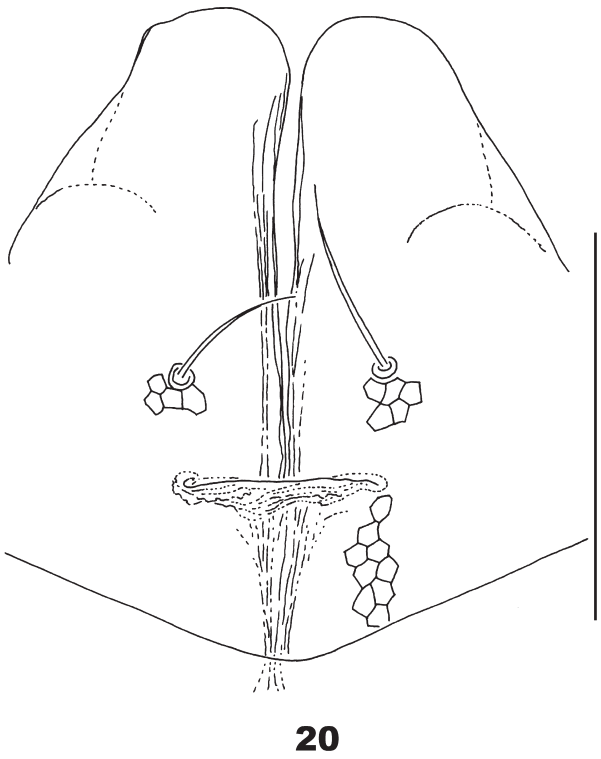
TABLE 2: Number of type *a, b* and *c* sensilla on antennal articles II, V, IX and XIII in the male holotype of *Ityphilus betschi* sp. nov. from French Guiana: piste de St. Elie: 16 km from Sinnamary.

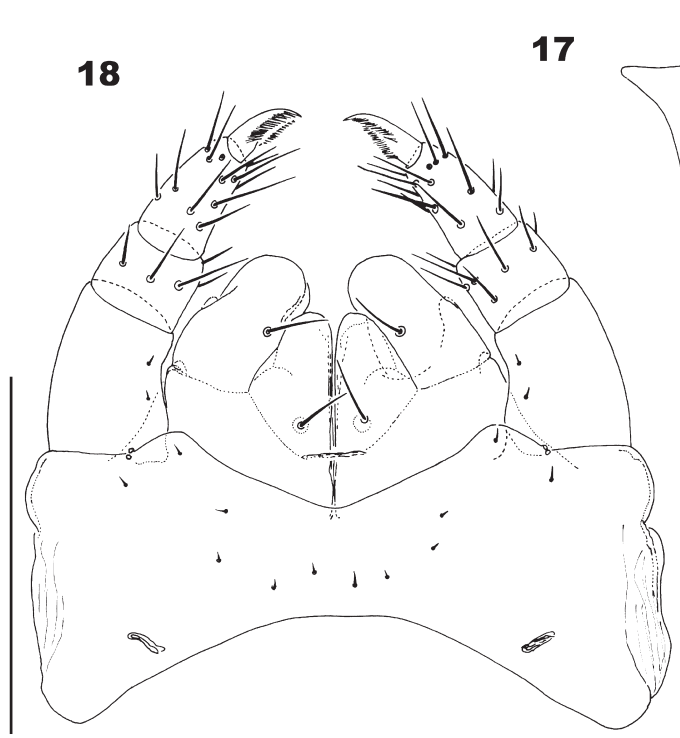
	Ventral		Dorsal			Figs.
	a	*b*	*a*	*b*	*c*	
II		1	1			4, 9
V	1	1	1	1		5, 10
IX	1	2	1	5	8	6, 11
XIII	1	1	1	4	9	7, 12

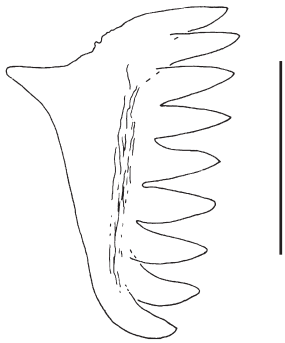


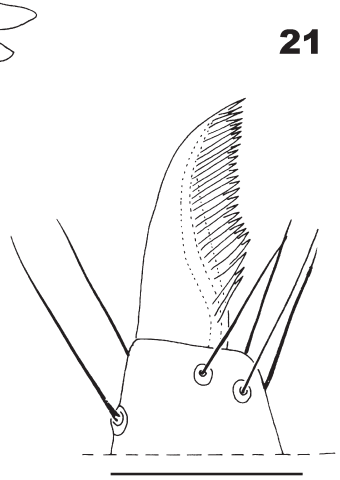
FIGURES 15-16: *Ityphilus betschi* sp. nov., (male holotype): **(15)** Labrum; **(16)** Detail of mid-piece of labrum at high magnification (showing diminutive hair-like structures). Scale bars: 0.2 mm (15); 0.05 mm (16).



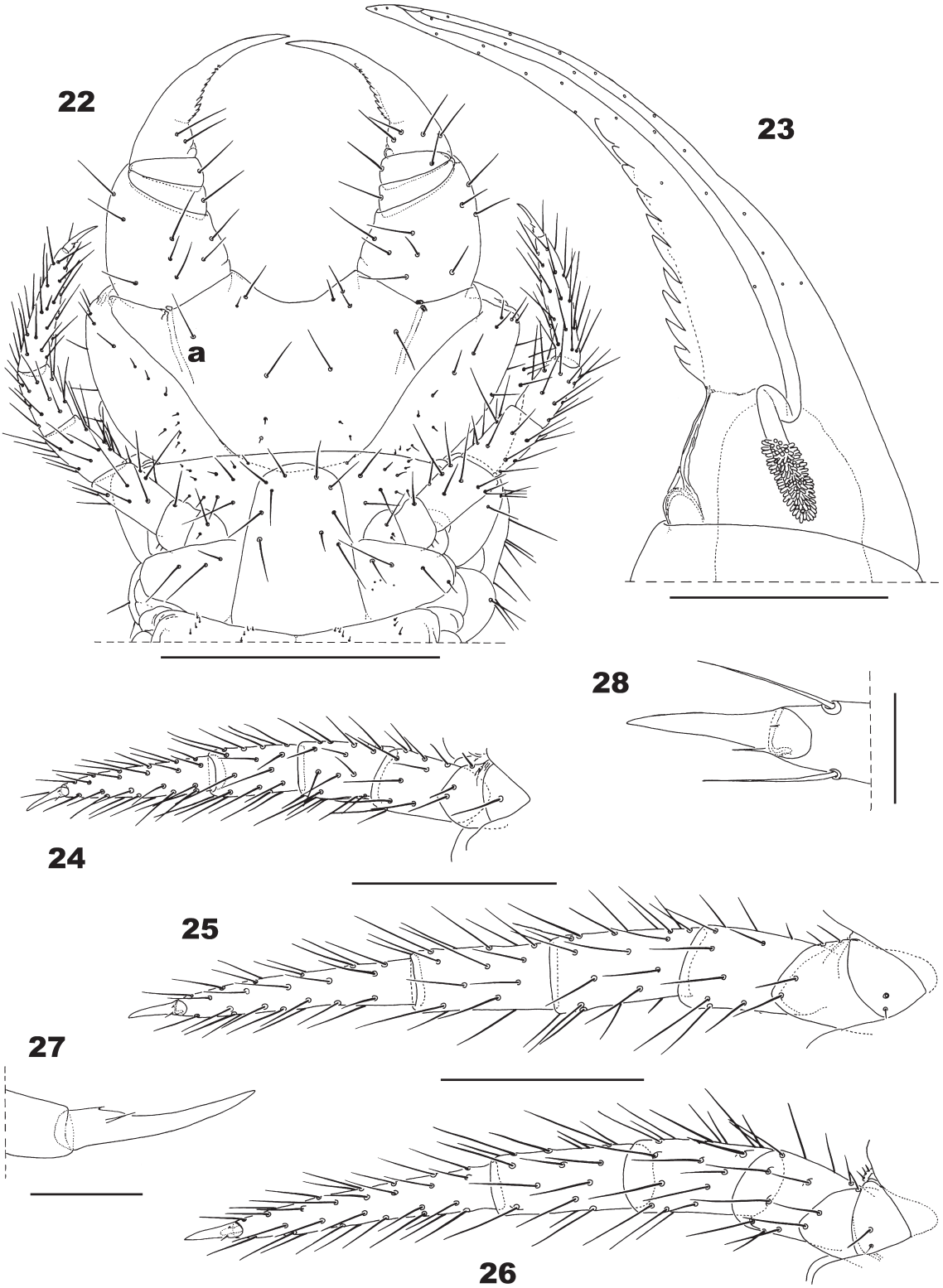




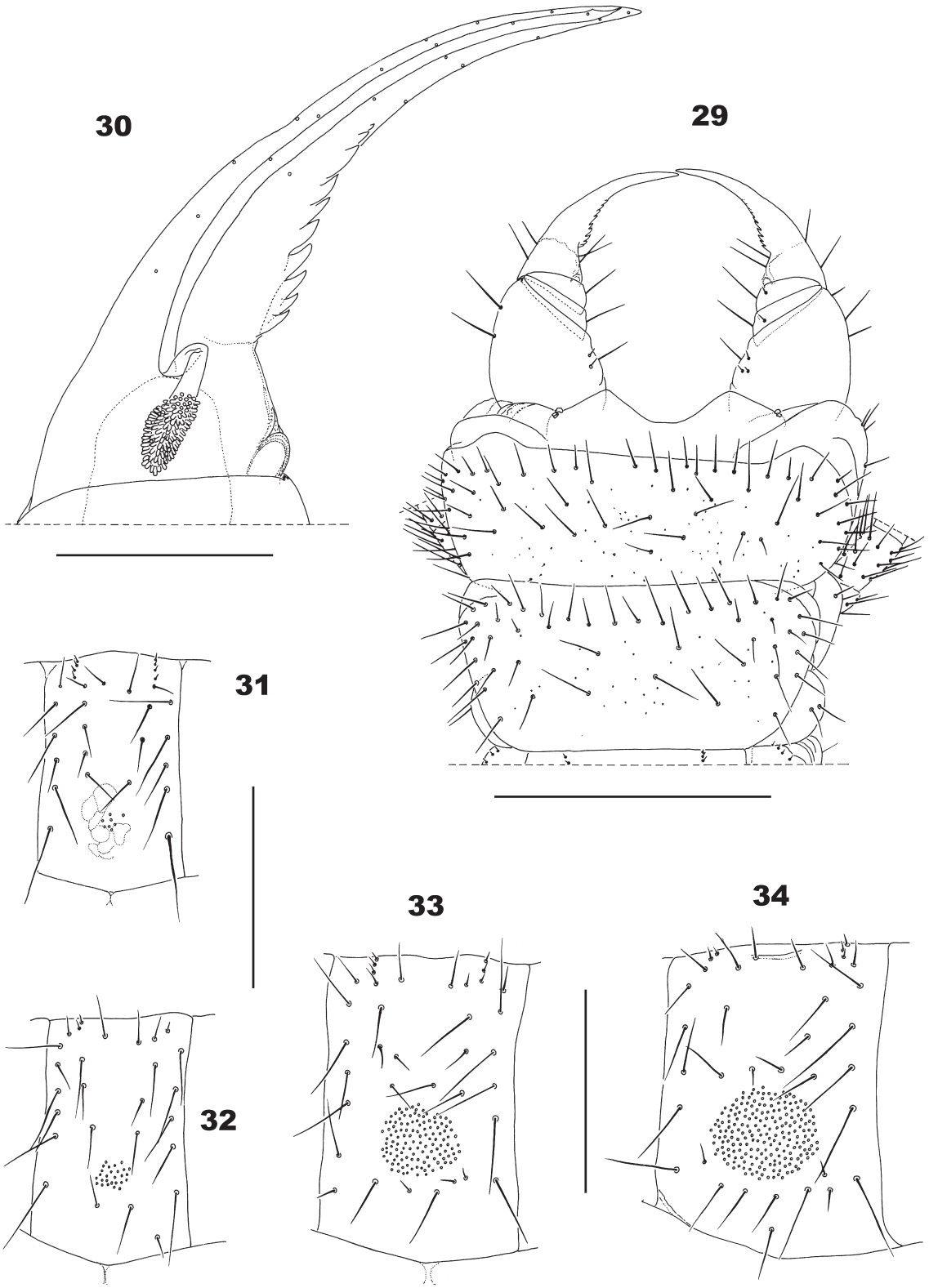




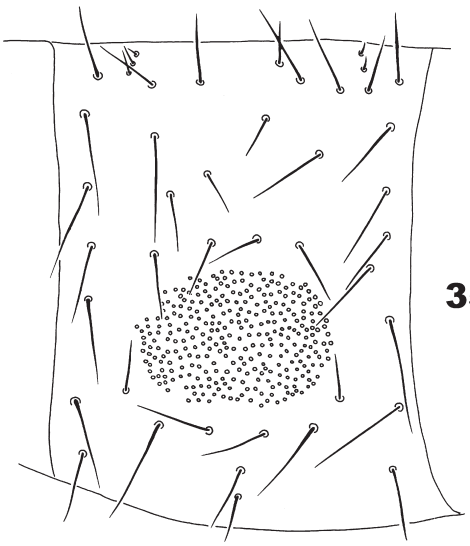
FIGURES 17-21: *Ityphilus betschi* sp. nov., (male holotype): **(17)** Dentate lamella of right mandible; **(18)** First and second maxillae, ventral; **(19)** Left side of first maxillae, dorsal; **(20)** Detail of first maxillary coxal projections, ventral; **(21)** Claw of left telopodite of second maxillae, dorsal. Scale bars: 0.05 mm (17, 21); 0.3 mm (18); 0.2 mm (19); 0.1 mm (20).



FIGURES 22-28: *Ityphilus betschi* sp. nov., (male holotype): **(22)** Forcipular segment and leg-bearing segment 1, ventral (a: chitin-line); **(23)** Detail of duct and calyx of poison gland in left forcipular telopodite, ventral; **(24)** Right leg (pair 2), ventral; **(25)** Right leg (pair 34), ventral; **(26)** Right leg (pair 54), ventral; **(27)** Claw of left leg (pair 5), postero-lateral view; **(28)** Claw of the right leg (pair 34), antero-ventral view. Scale bars: 0.5 mm (22); 0.1 mm (23); 0.3 mm (24-26); 0.05 mm (27, 28).



FIGURES 29-34: *Ityphilus betschi* sp. nov., (male holotype): **(29)** Forcipular segment and leg-bearing segment 1, dorsal; **(30)** Detail of duct and calyx of poison gland in right forcipular telopodite, ventral; **(31-34)** Sternites of leg-bearing segments 2, 3, 7 and 12 respectively. Scale bars: 0.5 mm (29); 0.1 mm (30); 0.3 mm (31-34).



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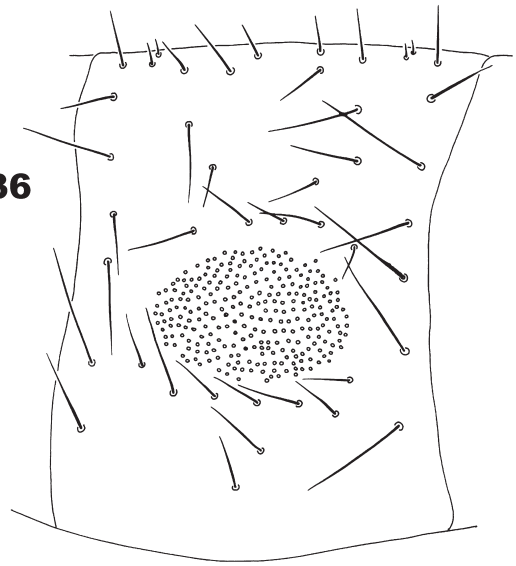

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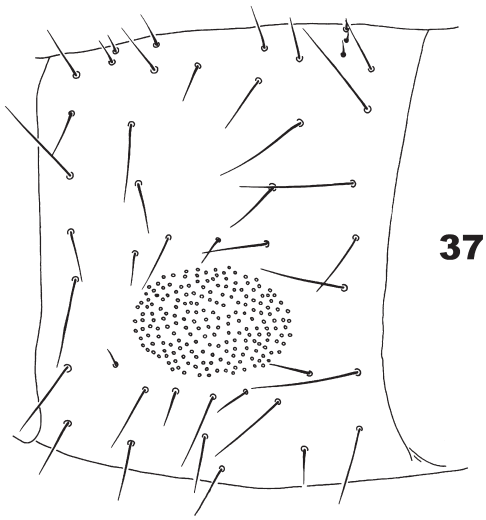

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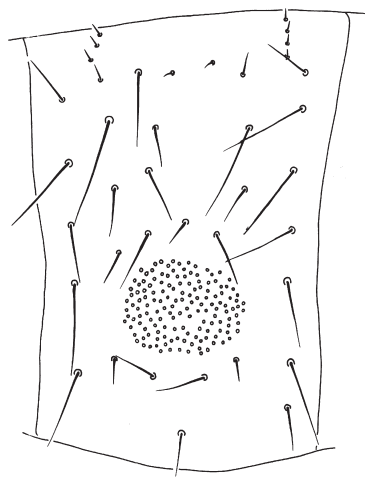

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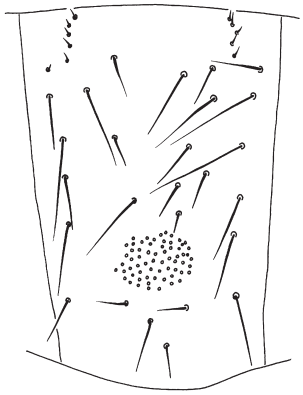

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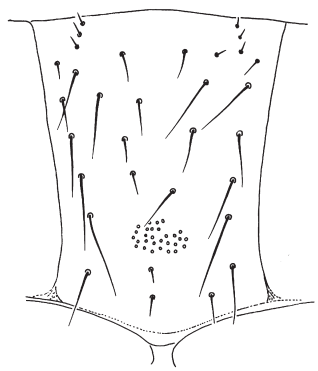

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FIGURES 35-40: *Ityphilus betschi* sp. nov., (male holotype): Sternites of leg-bearing segments 27, 41, 54, 61, 65 and 66 respectively. Scale bar: 0.3 mm.

side (Fig. 12: a, b); and type *c* sensilla "spine-like", larger, not divided apically, and slightly darker (pale brownish-ochreous) in color (Fig. 12: c). Number and distribution of specialized sensilla on a.a. II, V, IX and XIII, as in Table 2.

Cephalic plate: ca. as long as wide, shape and chaetotaxy as in Fig. 13. Ratio of maximum width of cephalic plate/maximum with of forcipular tergite *ca.* 0. 98: 1.

Clypeus: with 2+2 setae near the anterior margin and 1+1 setae in the middle (Fig. 14).

Labrum: poorly pigmented; mid-piece membranous, slightly and irregularly undulated, with posterior edge provided with diminutive hair-like structures only visible at high magnification (Fig. 16); side-pieces with 5+4 small and sharply pointed denticles (Fig. 15).

Mandibles: dentate lamella with all teeth of similar size, not subdivided into blocks, 9 teeth in the right mandible (Fig. 17), 10 teeth in the left mandible; pectinate lamella with *ca.* 39-44 hyaline teeth.

First maxillae: with lappets on the coxosternite and telopodites (Figs. 18-19). Coxosternite without setae; coxal projections subtriangular, well-developed and provided with 1+1 setae (Figs. 18, 20). Telopodites apparently without visible suture between the presumptive basal and distal articles, ventral surface bearing 1+1 setae on the middle part of medial edge (Fig. 18), dorsal surface with 2+2 sub apical sensilla (Fig. 19).

Second maxillae: coxosternite without any trace of suture along the sagittal plane and provided with 6+6 setae arranged as in Fig. 18. Apical claw of telopodites well-developed, bipectinate, dorsal edge with *ca.* 26 teeth (Fig. 21), ventral edge with *ca.* 19 teeth.

Forcipular segment: when closed, the telopodites do not extend beyond the anterior margin of the head. Forcipular tergite wider than the tergite of the first leg-bearing

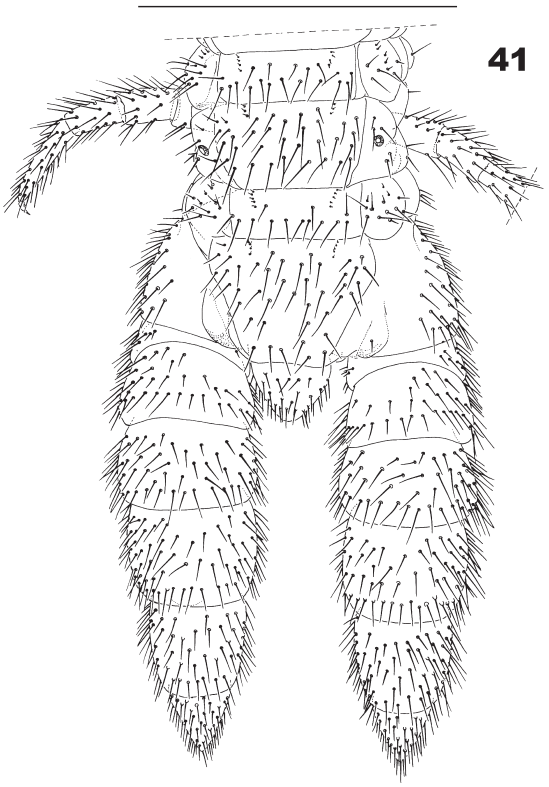


FIGURE 41: *Ityphilus betschi* sp. nov., (male holotype): Penultimate and ultimate leg-bearing segments, and postpedal segments, dorsal. Scale bar: 1.0 mm.

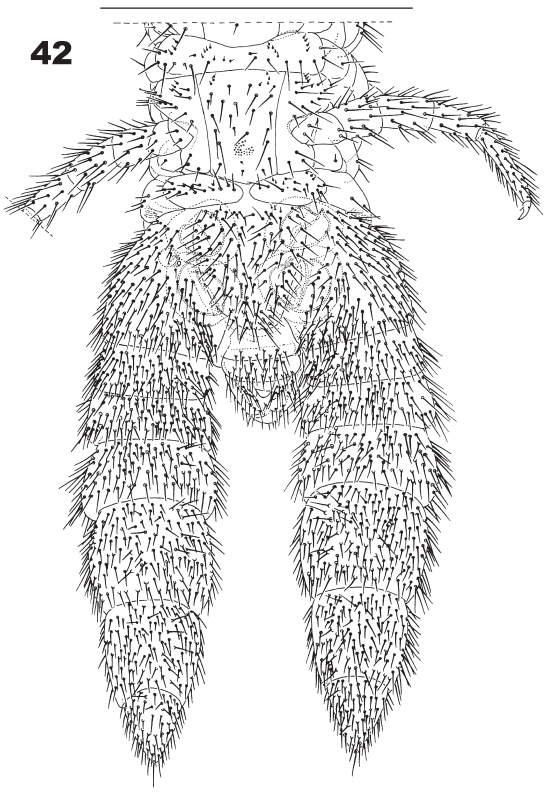
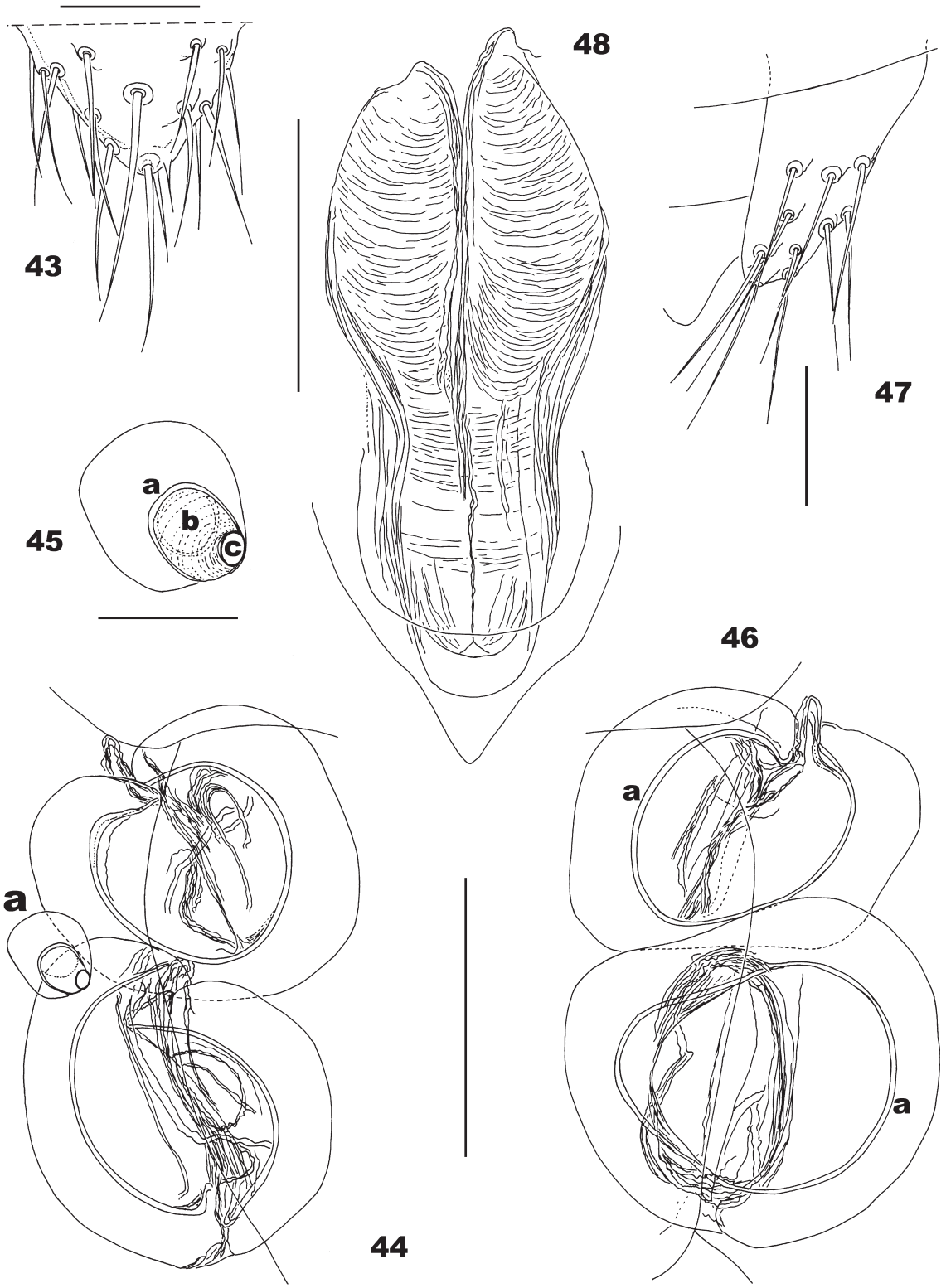


FIGURE 42: *Ityphilus betschi* sp. nov., (male holotype): Penultimate and ultimate leg-bearing segments, and postpedal segments, ventral. Scale bar: 1.0 mm.



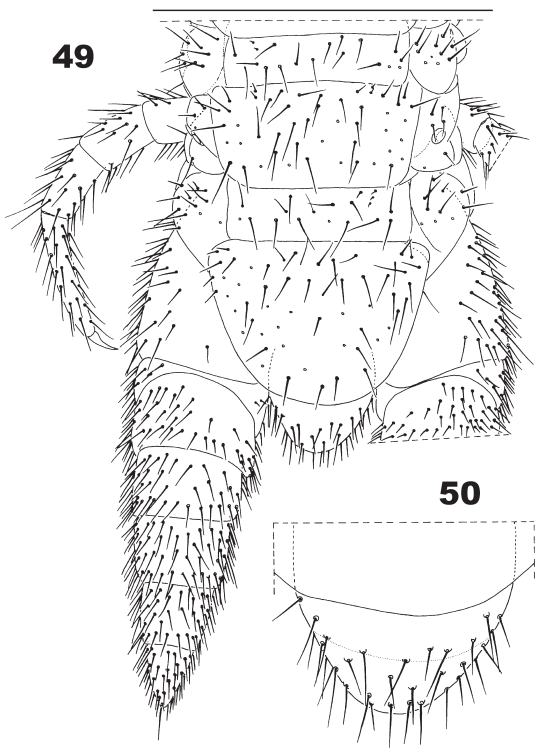
FIGURES 43-48: *Ityphilus betschi* sp. nov., (male holotype): **(43)** Detail of distal end of right ultimate leg, ventral; **(44)** Right coxal organs, ventral (a: small supernumerary coxal organ); **(45)** Detail of supernumerary coxal organ marked as "a" in Fig. 44 (a: mucous layer, b: channel, c: coxal pore); **(46)** Left coxal organs, ventral (a: mucous layer); **(47)** Left gonopod, ventral; **(48)** Penis, dorsal. Scale bars: 0.05 mm (43, 45, 47); 0.2 mm (44, 46); 0.1 mm (48).

segment, chaetotaxy represented by *ca.* 40 large setae dispersed on almost the whole surface (Fig. 29). Coxosternite: with incomplete chitin-lines (Fig. 22: a); maximum width/length ratio at the middle *ca.* 2.70: 1; central part of the anterior margin with shape as in Figs. 22, 29. Telopodites: all articles without teeth; trochanteropraefemur with greatest length/greatest width ratio *ca.* 1.17: 1; tarsungulum with a very small, unsclerotized and pale, round-tipped chitinous thickening on the basal part of the medial edge (Figs. 22, 29); internal edge of tarsungula serrate on the proximal half, left tarsungulum with 11 teeth (Fig. 23), right tarsungulum with 10 teeth (Fig. 30). Calyx of poison gland cylindrical (Figs. 23, 30). Shape and chaetotaxy of coxosternite and telopodites as in Figs. 22, 29.

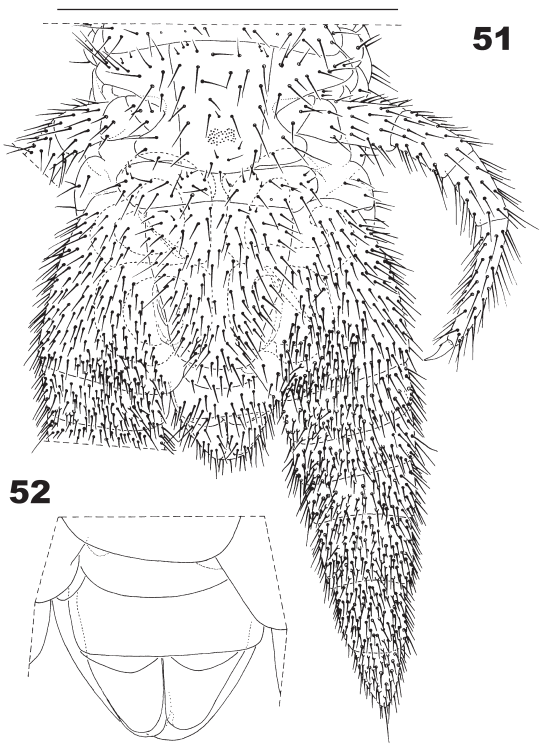
Legs (pair 1 to penultimate): first pair *ca.* as long as the second pair, articles of leg-pair 1 a little narrower than those of leg-pair 2 (relative size as in Figs. 22, 24); chaetotaxy of legs similar throughout the entire body length. Distribution, number, and relative size of setae as in Figs. 24-26. Claws with two thin and pale accessory spines ventrobasally, one anterior very small and one posterior much larger (shape and relative size as in Figs. 27-28).

Sternites of leg-bearing segments 1 to penultimate: pore-fields present in an uninterrupted series, from sternite 2 to penultimate inclusive. All pore-fields undivided and placed on a subcircular-subovoidal raised prominence. Form and relative size of fields changing along the trunk as in Figs. 31-40. Number of pores on selected sternites as follows: sternite 2 (8); 3 (27); 7I (125); 12 (204); 27 (298); 41 (259); 54 (195); 61 (146); 65 (64); 66 (29).

Ultimate leg-bearing segment: conspicuously wider than the penultimate leg-bearing segment, in the proportion 1:46: 1; intercalary pleurites present at both sides of the ultimate pretergite; ultimate presternite divided along the sagittal plane; length/width ratio of the tergite, 0.77: 1; length/width ratio of the sternite, 1.13: 1. Shape and chaetotaxy of tergite and sternite as in Figs. 41-42. Coxopleura with numerous setae distributed on the whole ventral and lateral surfaces, dorsal side with setae placed near the lateral edges



FIGURES 49-50: *Ityphilus betschi* sp. nov., (female; French Guiana: Petit Saut: Fleuve Sinnamary): **(49)** Penultimate and ultimate leg-bearing segments, and postpedal segments, dorsal; **(50)** Detail of intermediate tergite. Scale bars: 1.0 mm (49); 0.3 mm (50).



FIGURES 51-52: *Ityphilus betschi* sp. nov., (female; French Guiana: Petit Saut: Fleuve Sinnamary): **(51)** Penultimate and ultimate leg-bearing segments, and postpedal segments, ventral; **(52)** Postpedal segments, ventral. Scale bars: 1.0 mm (51); 0.3 mm (52).

only (Figs. 41-42). Two single ("homogeneous") coxal organs of similar size in each coxopleuron, coxal pores opening on the membrane between coxopleuron and sternite, partially covered by the latter (Fig. 42), internal cuticular structure as shown in Figs. 44, 46 (a: mucous layer). Right coxal organs accompanied by a very small supernumerary organ (Fig. 44: a, Fig. 45), opening independently by a little pore on the coxopleural surface (Fig. 45: c). Ultimate legs with seven articles. Articles strongly thickened, femur wider than all the other telopodite articles (ratio of width of femur/width of tarsus 2 *ca.* 2.33: 1). Ultimate legs remarkably long. Ratio of length of telopodites of ultimate legs/length of sternite *ca.* 3.20: 1. Ratio of length of telopodites of ultimate legs/length of legs of penultimate pair *ca.* 1.56: 1. Shape and chaetotaxy of ultimate legs as in Figs. 41-42. Ultimate pretarsus represented by a long, straight, setiform structure accompanied by a very small spine (Fig. 43).

Postpedal segments: intermediate tergite with posterior margin strongly convex (Fig. 41), intermediate sternite and first genital sternite with posterior margin slightly convex (Fig. 42). Gonopods apparently uniarticulate (suture between the presumptive basal and apical articles not evident), left gonopod with 10 setae on ventral side (Fig. 47). Penis apparently devoid of setae, shape as in Fig. 48.

Female (specimen cited above): seventy-one leg-bearing segments, body length 57 mm, maximum body width 2.0 mm. All features similar to those in the male except for the shape and chaetotaxy of the ultimate leg-bearing segment and postpedal segments.

Ultimate leg-bearing segment: wider than the penultimate leg-bearing segment in the ratio 1.33: 1; length/width ratio of tergite, 0.73: 1; length/width ratio of sternite 1.13: 1. Shape and chaetotaxy of tergite and sternite as in Figs. 49, 51. Coxopleura very slightly protruding at their distal-internal ventral ends, setae numerous on the whole ventral and lateral surfaces, dorsal side with few setae placed near the lateral edges only (Figs. 49, 51). Articles of ultimate legs, strongly thickened, subconically narrowing from base to distal end (ratio of width of trochanter/width of tarsus 2 *ca.* 2.69: 1); ultimate legs relatively shorter than those of the male, with ratio length of telopodites/length of sternite, 1.96: 1. Shape and chaetotaxy of ultimate legs as in Figs. 49, 51.

Postpedal segments: intermediate tergite with posterior margin strongly convex (Figs. 49-50); intermediate sternite with posterior margin slightly convex, posterior margin of first genital sternite, nearly straight (Figs. 51-52). Gonopods uniarticulate not contiguous in the middle line, each bearing a single seta (Figs. 51-52).

Remarks: In the preceding description, length/width ratios of the antennal articles have been taken from the right antenna because it remained in an adequate ventral-dorsal position on the temporary slide (Figs. 1, 8). In contrast, the apical half of the left antenna remained in a latero-ventral position (Figs. 2, 8). Because the a.a. VIII to XIV are slightly flattened dorso-ventrally, it was not appropriate to take those comparative indices from this latter antenna.

For details on fine structure and function of coxal organs, see Rosenberg & Seifert (1977); Lewis (1981); and Rosenberg (1982, 1983).

Etymology: The species is dedicated to the collector of the holotype, Dr. Jean-Marie Betsch of the Muséum National d'Histoire Naturelle (Department Ecologie et Gestion de la Biodiversité, Brunoy, France).

Ecology: The two specimens described above were collected in tropical rainforest environments in equatorial Amazonia.

Type locality: French Guiana: piste de St. Elie: 16 km from Sinnamary.

Known range: French Guiana: piste de St. Elie: 16 km from Sinnamary; Petit Saut: Sinnamary River.

Complementary notes on some Neotropical species of *Ityphilus* morphologically similar to *I. betschi* sp. nov. (with which the latter is herein compared in detail)

Ityphilus crabilli Pereira, Minelli & Barbieri, 1994 (Figs. 53-54)

Ityphilus crabilli Pereira, Minelli & Barbieri, 1994:163, 164-166; Pereira *et al.,* 1995:326, 327; Adis *et al.,* 1996:168, 169; Pereira & Minelli, 1996:110; Foddai *et al.,* 2000:153; Foddai *et al.,* 2002:473; Foddai *et al.,* 2004:276; Bonato *et al.,* 2007:3.

Remarks: The following additional information from the figures included in the original description by

Pereira *et al.,* (1994) can be given on the female holotype. New data on the male allotype are based on the figures illustrating the subsequent description by Pereira *et al.* (1995).

Female holotype: width of cephalic plate, 0.38 mm; width of forcipular coxosternite, 0.47 mm. Several ratios related to antennal articles; forcipular segment; ultimate legs; and tergite and sternite of the ultimate leg-bearing segment, as in Table 1.

Male allotype: several ratios related to ultimate legs; tergite and sternite of the ultimate leg-bearing segment, as in Table 1.

Type locality: Brazil: Amazonas: Rio Tarumã Mirím.

Distribution: Brazil: Amazonas: Rio Tarumã Mirím; Reserva Fl. A. Ducke.

Ityphilus demoraisi Pereira, Minelli & Barbieri, 1995 (Figs. 55-56)

Ityphilus demoraisi Pereira, Minelli & Barbieri, 1995:325, 327, 328; Adis *et al.,* 1996:166, 168; Pereira & Minelli, 1996:110; Pereira *et al.,* 2000:8; Foddai *et al.,* 2000:153; Foddai *et al.,* 2002:473; Foddai *et al.,* 2004:276; Bonato *et al.,* 2007:3.

Remarks: The following complementary information can be given on the female holotype from the figures of the original description: width of cephalic plate, 0.57 mm; width of forcipular coxosternite, 0.54 mm. Several ratios related to antennal articles; forcipular segment; ultimate legs; tergite and sternite of the ultimate leg-bearing segment, as in Table 1.

Type locality: Brazil: Amazonas: Reserva Fl. A. Ducke.

Distribution: Only known from the type locality.

Ityphilus guianensis Chamberlin, 1921 (Figs. 57-59)

Ityphilus guianensis Chamberlin, 1921:23-25; Attems, 1929:106; Chamberlin, 1943:16; Chamberlin, 1945:171; Chamberlin, 1957:25; Pereira & Minelli, 1996:110; Foddai *et al.,* 2000:154; Foddai *et al.,* 2002:473; Foddai *et al.,* 2004:276; Bonato *et al.,* 2007:3.

Ityphilus cf. *guianensis:* Adis *et al.,* 1996:168

Remarks: This species was insufficiently described by Chamberlin (1921). The original description lacks information on important characters of specific value and only includes three inadequately detailed figures. Nevertheless, several approximate ratios (herein included in Table 1, as indicative features for this species), related to antennal articles; cephalic plate; forcipular segment; ultimate legs; tergite and sternite of the ultimate leg-bearing segment, are tentatively deduced from the original figures.

In the original description Chamberlin states "Pairs of legs, forty-nine in one specimen and fifty-five in two", but does not specify to which sex these numbers correspond. Describing the ultimate legs, he says "Anal legs, in the male at least, strongly thickened, subconically narrowing from base to distal end". Because this trait is consistent with his "fig. 24" (here reproduced as Fig. 59), it is possible that the specimen drawn is a male (but the schematic aspect of the postpedal segments, does not permit confirmation of its sex).

Type locality: British Guiana: Dunoon.

Distribution: Guyana: Dunoon. Trinidad. Brazil: Amazonas.

Ityphilus perrieri (Brölemann, 1909) (Fig. 60)

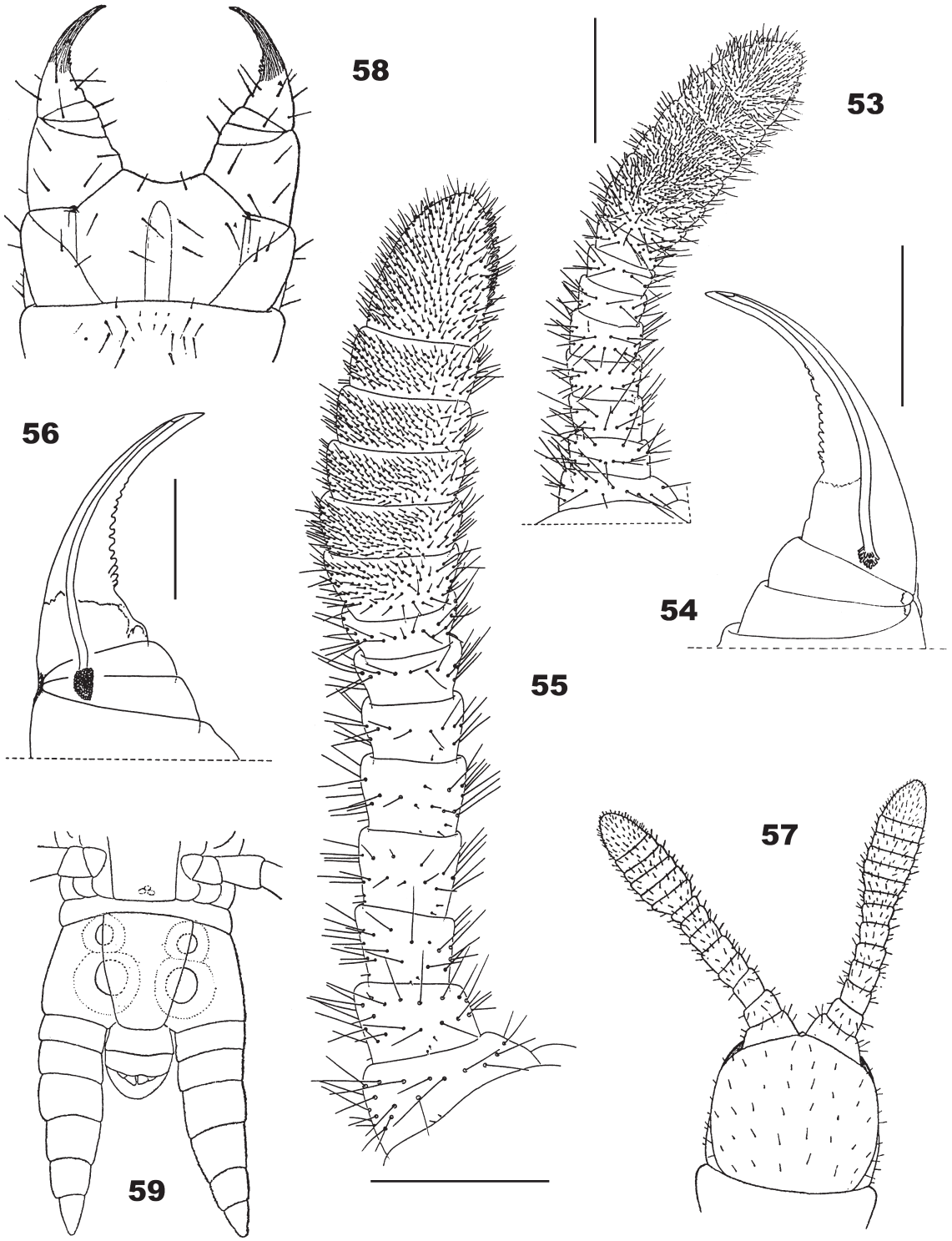
Thalthybius (Prionothalthybius) Perrieri Brölemann, 1909a:334 (nomen nudum); Brölemann, 1909b:415-417.

Thalthybius (Prionothalthybius) perrieri: Chamberlin, 1914:153, 204; Bücherl, 1942a:205; Bücherl, 1942b:352; Kraus, 1957:367.

Thalthybius perrieri: Attems 1929:105; Verhoeff, 1941:70.

Ityphilus perrieri: Pereira *et al.,* 1994:163, 166, 167; Pereira *et al.,* 1995:413; Pereira & Minelli, 1996:110; Pereira *et al.,* 2000:8; Foddai *et al.,* 2000:155; Bonato *et al.,* 2007:3.

Remarks: In the original description of the species, Brölemann (1909b:417) says of the ultimate leg-bearing segment: "Sternite en trapèze, large de base; sa surface est semée de sétules courtes et clairsemées". "Son prétergite n'est pas divisé, il porte une rangée de sétules". But the latter statement is apparently a mistake, and should refer to the presternite.



FIGURES 53-59: (53-54): *Ityphilus crabilli* Pereira, Minelli & Barbieri, 1994, (female holotype; Brazil: Amazonas: Rio Tarumã Mirím): **(53)** Left antenna, ventral; **(54)** Detail of duct and calyx of poison gland in left forcipular telopodite, ventral. (After Pereira *et al.* 1994). (55, 56): *Ityphilus demoraisi* Pereira, Minelli & Barbieri, 1995, (female holotype; Brazil: Amazonas: Reserva Fl. A. Ducke): **(55)** Left antenna, ventral; **(56)** Detail of duct and calyx of poison gland in right forcipular telopodite, ventral. (After Pereira *et al.,* 1995). **(57-59):** *Ityphilus guianensis* Chamberlin, 1921, (specimen male? Guyana: Dunoon): **(57)** Anterior end of the body, dorsal view; **(58)** Forcipular segment and anterior part of leg-bearing segment 1, ventral, **(59)** Posterior part of penultimate leg-bearing segment, ultimate leg-bearing segment, and postpedal segments, ventral. (After Chamberlin, 1921). Scale bars: 0.1 mm (54, 56); 0.2 mm (53, 55); no scale available (57-59).

Pereira *et al.* (1994:165) say of the internal edge of the forcipular tarsungulum of *I. perrieri:* "with *ca.* 6 well developed teeth, fig. 29", but the number 6 was an involuntary mistake, because it refers to the lectotype male of the species which has 5 teeth (Fig. 60).

Pereira & Minelli (1996:110) adding data on *I. perrieri* state "lectotype female", but this was in error: this specimen is a male, as correctly stated when it was designated as the lectotype of the species by Pereira *et al.* (1994:166, 167).

Besides the type locality, Foddai *et al.* (2000:155) also give for the geographical distribution of *I. perrieri* "Peru: Atiquipa bei Chala". But this latter locality corresponds in reality to *I. krausi* Pereira & Minelli, 1997 which was described on the basis of a single specimen from that locality (erroneously identified by Kraus (1957) as *I. perrieri*).

Type locality: Brazil: Haut Carsévène.

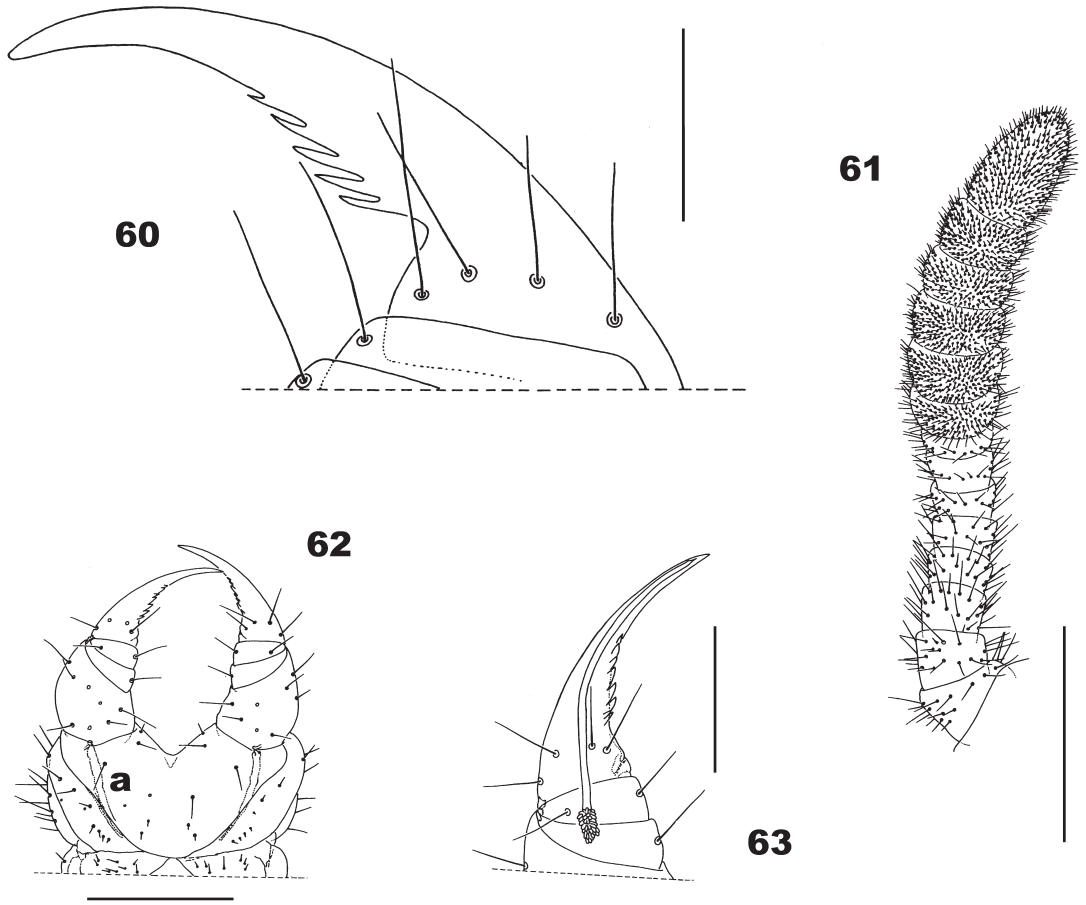
Distribution: Only known from the type locality.

Ityphilus saucius Pereira, Foddai & Minelli, 2000 (Figs. 61-63)

Ityphilus saucius Pereira, Foddai & Minelli, 2000:8, 9; Foddai *et al.,* 2000:155; Foddai *et al.,* 2002:473; Foddai *et al.,* 2004:276; Bonato *et al.,* 2007:4.

Remarks: The following complementary information can be given for the female holotype from the figures illustrating the original description: width of cephalic plate, 0.39 mm; width of forcipular coxosternite, 0.36 mm. Several ratios, relating to antennal articles; forcipular segment; ultimate legs; tergite and sternite of the ultimate leg-bearing segment, as in Table 1.

In the original description of *I. saucius* the species was compared with *I. demoraisi* and *I. perrieri*



FIGURES 60-63: (60): *Ityphilus perrieri* (Brölemann, 1909), (male lectotype; Brazil: Haut-Carsevène): Detail of left forcipular tarsungulum, ventral. (After Pereira *et al.,* 1994). **(61-63):** *Ityphilus saucius* Pereira, Foddai & Minelli, 2000, (female holotype; BRAZIL: Amazonas: 02°34'S, 60°06'W): **(61)** Left antenna, ventral; **(62)** Forcipular segment, ventral (a: chitin-line); **(63)** Detail of duct and calyx of poison gland in right forcipular telopodite, ventral. (After Pereira *et al.,* 2000). Scale bars: 0.05 mm (60); 0.1 mm (63); 0.2 mm (62); 0.3 mm (61).

(both sharing with it, the characteristic of having the internal edge of the forcipular tarsungulum serrate); it was also compared with *Ityphilus lilacinus* Cook, 1899 (from Lesser and Greater Antilles, and Florida) and *Cerethmus naiquatanus* Chamberlin, 1941 (from Venezuela), but these latter species have the internal side of the forcipular tarsungulum smooth.

Type locality: Brazil: Amazonas 02°34'S, 60°06'W.

Distribution: Only known from the type locality.

DISCUSSION

Of the 17 Neotropical species currently recognised in the genus *Ityphilus,* nine (in addition to the new species described below) are distinguished by having the internal edge of the forcipular tarsungulum serrate. *I. betschi* sp. nov. is herein compared in detail with five of these taxa *i.e., I. crabilli; I. demoraisi; I. guianensis; I. perrieri* and *I. saucius* (see Table 1). The remaining four species sharing the same trait, are *I. grandis* (Turk, 1955) (from Peru); *I. krausi* Pereira & Minelli, 1996 (from Peru); *I. mauriesi* Demange & Pereira, 1985 (from French Lesser Antilles: Guadeloupe); and *I. sensibilis* Pereira, Foddai & Minelli, 2000 (from Brazil). *I. betschi* can be confidently differentiated from these latter by means of the following selected traits (the corresponding features for the new species are given in parentheses):

— *I. grandis:* 113 leg-bearing segments; body length 93 mm (67, 71 leg-bearing segments; body length 57 mm).
— *I. krausi:* ventral pore-fields of the anterior half of the body undivided, fields of the posterior half divided in two sub-symmetrical areas (all pore-fields undivided).
— *I. mauriesi:* posterior third of the body without ventral pore-fields; 95 leg-bearing segments; body length 83 mm (pore-fields present along the entire body length; 67, 71 leg-bearing segments; body length 57 mm).
— *I. sensibilis:* coxosternite of the second maxillae with a sulcus along the sagittal plane; internal side of the antennal article I with strong stout dark setae; internal side of the forcipular trasungulum entirely serrate (coxosternite of second maxillae without a sulcus; internal edge of the antennal article I without strong stout dark setae; forcipular tarsungulum partially serrate).

Of the eight remaining Neotropical species of the genus, five have a smooth forcipular tarsungulum (in consequence these are confidently different to *I. betschi*). As for the other three taxa (*I. calinus* Chamberlin, 1957 (from Colombia); *I. ceibanus* Chamberlin, 1922 (from Honduras) and *I. savanus* Chamberlin, 1943 (from Mexico)), the original descriptions do not state whether the forcipular tarsungulum is serrate or smooth. For this reason an adequate comparison with the new species here proposed, is difficult because their similarities (and affinities) remain uncertain. Nevertheless, *I. betschi* sp. nov. can be also confidently separated from these latter, by means of the following selected traits (corresponding features for *I. betschi* already mentioned above):

— *I. calinus:* with 43 leg-bearing segments, body length 19 mm.
(The specimens assigned to this species by Pereira *et al.* (2000), with 41 and 43 leg-bearing segments and having the internal edge of the forcipular tarsungulum serrate, may belong to a species new to science, as remarked in that contribution).
— *I. savanus:* with 55 leg-bearing segments; body length 16 mm; terminal portion of the antennae greatly thickened; ventral pore-fields present from sternite of leg-bearing segment 2 to fourth sternite from rear end of the body.
— *I. ceibanus:* head longer than wide; antennae strongly clavate and geniculate.
(This species was described on the basis of a single incomplete specimen (with the ultimate leg-bearing segment and postpedal segments missing), reason for which it is even doubtful whether it really belongs to the genus *Ityphilus*)

Ityphilus betschi sp. nov. is the third geophilomorph centipede hitherto recorded from French Guiana, next to *Schendylops tropicus* (Brölemann & Ribaut, 1911) (in the family Schendylidae) and *Ribautia proxima* Pereira, Minelli & Barbieri, 1995 (Geophilidae). It is predictable that intensive fieldwork in the whole extension of this large French department in Amazonia, may result in the discovery of additional new taxa of gephilomorph centipedes.

RESUMEN

Ityphilus betschi *sp. nov. de Guayana Francesa, (Chilopoda: Geophilomorpha: Ballophilidae) se describe e ilustra sobre la base del holotipo macho y un ejemplar no*

tipo hembra. La nueva especie se caracteriza por tener el borde interno de la tarsungula forcipular parcialmente serrado; campos de poros ventrales presentes a lo largo de todo el cuerpo; y todos los campos de poros no divididos. Se compara en detalle con los demás miembros neotropicales del género que comparten estos tres caracteres combinados y que tienen un rango aproximadamente similar de segmentos pedales, i.e., I. crabilli *Pereira, Minelli & Barbieri, 1994 (de Brasil);* I. demoraisi *Pereira, Minelli & Barbieri, 1995 (de Brasil); I. guianensis Chamberlin, 1921 (de Guyana, Brasil, Trinidad);* I. perrieri *(Brölemann, 1909) (de Brasil); e* I. saucius *Pereira, Foddai & Minelli, 2000 (de Brasil). Notas complementarias para estas últimas especies también son brindadas. Se ha utilizado 2-Phenoxyethanol (CAS No. 122-99-6) no diluido, como un efectivo diafanizante (y a la vez medio de montaje) para la realización de preparaciones microscópicas trasitorias de todas las partes del cuerpo de los especimenes examinados. El hallazgo de la nueva especie aquí descripta representa el primer registro de la familia Ballophilidae para Guayana Francesa.*

Palabras-Clave: *Ityphilus;* Taxonomía; Especie nueva; Chilopoda; Geophilomorpha; Ballophilidae.

ACKNOWLEDGEMENTS

I am indepted to Jean-Marie Betsch and Jean-Paul Mauriès of the Muséum national d'Histoire naturelle of Paris for access to relevant material collected in French Guiana, and to Jean-Jeaques Geoffroy (of the same institution) for providing precise data on the collecting sites of the specimens here studied. I am also very grateful to the authorities of the Museum for the financial support that enabled my visit to the Laboratoire de Zoologie (Arthropodes) during part of this study. Two anonymous referees contributed with careful reviews which helped to improve the final version of the manuscript. Carlos José Einicker Lamas (Museu de Zoologia da Universidade de São Paulo), and Adriana Nascimento Flamino (of the same institution), very kindly assisted me during all steps of the review and publication process. Hernán Lucas Pereira (La Plata) scanned and edited the illustrations.

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Recebido em: 06.09.2010
Aceito em: 03.11.2010
Impresso em: 10.12.2010