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Description of *Schendylops jeekeli* sp. n., a new geophilomorph centipede (Myriapoda: Chilopoda) from the Paranapiacaba fragment of the Atlantic Forest in Southeastern Brazil, with complementary notes on similar Neotropical species

Luis A. Pereira

CONICET and Natural Sciences Faculty and Museum, National University of La Plata, Paseo del Bosque s./n., (1900) La Plata, Provincia de Buenos Aires, Argentina. E-mail: lpereira@fcnym.unlp.edu.ar

Abstract

Schendylops jeekeli sp. n. (Chilopoda: Geophilomorpha: Schendylidae) is here described and illustrated on the basis of a male specimen collected in Alto da Serra of Paranapiacaba (State of São Paulo, Southeastern Brazil Region) in a remnant fragment of the Atlantic Forest. This new species is characterized by having ventral pore fields on the anterior region of the body only, and is compared in detail with those Neotropical members of the genus sharing the same trait and having a similar range of leg-bearing segments. It is also included in a key which is provided for identification of all the species of *Schendylops* from the Neotropics with a similar feature. Further morphological data and new illustrations for *S. interfluvius* (Pereira, 1984), *S. paolettii* (Pereira & Minelli, 1993) and *S. schubarti* Pereira, Foddai & Minelli, 2002 are given on the basis of re-examination of type materials.

Key words

Brazil, Chilopoda, Geophilomorpha, *Schendylops*, Neotropical Region, new species

Introduction

The geophilomorph centipede genus *Schendylops* Cook, 1899 is the most speciose and widespread of the schendylid genera in the Neotropics. *Schendylops* can be distinguished from all other genera currently recognized in the family Schendylidae by the following unique combination of features: (1) pleurites of second maxillae not fused to coxosternum; (2) apical claw of telopodites of second maxillae pectinate on both dorsal and ventral edges; (3) sterna of leg-bearing segments with pore fields; (4) last pair of legs

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with seven podomeres; (5) last legs with praetarsus in form of a small hirsute tubercle or replaced by a small spine or altogether absent; (6) coxopleura of last leg-bearing segment each with two internal coxal organs of simple structure ("homogeneous coxal glands" *sensu* Brölemann & Ribaut 1912). The length of adult specimens in the genus varies from *ca*. 7 mm to *ca*. 70 mm, and the number of leg-bearing segments ranges from 27 to 87.

Of the 65 species currently recognized in *Schendylops*, five occur in Madagascar and seven in mainland Africa. The remaining fifty-three (in addition to the new species described below) are distributed in the Neotropical Region, in which the genus is known from the Caribbean Islands (British Virgin Islands, French Antilles (Guadeloupe, Martinique) and Puerto Rico); South American mainland (Colombia, Venezuela, Guyana, Suriname, French Guiana, continental Ecuador, Brazil, Peru, Bolivia, Paraguay and Argentina); and the Galapagos Islands.

Members of *Schendylops* can be found in a wide variety of habitats, at altitudes ranging from sea level (e.g., littoral species inhabiting the Caribbean area), up to *ca*. 4500 m a.s.l., (high altitude species living in the Andes). A detailed account of the geographical distribution of the New World species of *Schendylops* can be found in Morrone and Pereira (1999).

In the present contribution, a new dwarf species of this genus is described from Brazil (São Paulo state), on the basis of a male specimen collected in the Paranapiacaba fragment of the Atlantic Forest biome (Southeastern region of the country). At this time, 22 species of *Schendylops* are known from Brazil, of which twenty are distributed in the following states: two in Amapa: *S. lesnei* (Brölemann & Ribaut, 1911) and *S. verhoeffi* (Brölemann & Ribaut, 1911); six in Amazonas: *S. amazonicus* (Pereira, Minelli & Barbieri, 1994), *S. bakeri* (Chamberlin, 1914), *S. continuus* (Pereira, Minelli & Barbieri, 1995), *S. janauarius* (Pereira, Minelli & Barbieri, 1995), *S. marchantariae* (Pereira, Minelli & Barbieri, 1995) and *S. oligopus* (Pereira, Minelli & Barbieri, 1995); one in Mato Grosso: *S. inquilinus* Pereira, Uliana & Minelli, 2007; one in Minas Geraes: *S. sublaevis* (Meinert, 1870); two in Paraíba: *S. parahybae* (Chamberlin, 1914) and *S. perditus* (Chamberlin, 1914); one in Pernambuco: *S. schubarti* Pereira, Foddai & Minelli, 2002; one in Rio de Janeiro: *S. olivaceus* (Crabill, 1972); five in São Paulo: *S. coscaroni* (Pereira & Minelli, 1996), *S. demelloi* (Verhoeff, 1938), *S. gounellei* (Brölemann, 1902), *S. iguapensis* (Verhoeff, 1938) and *S. paulista* (Brölemann, 1905). For the two remaining species, *S. brasilianus* (Silvestri, 1897) and *S. luederwaldi* (Brölemann & Ribaut, 1911) the localities of origin are not known, being only cited as "Brésil". *Schendylops jeekeli* sp. n., herein described from the Atlantic Forest, increases to 23 the number of species of the genus recorded from Brazil, and to six those from the state of São Paulo.

According to Morellato & Haddad (2000), the Atlantic Forest is composed of two major vegetation types: the coastal forest or Atlantic Rain forest and the tropical seasonal forest or Atlantic Semi-deciduous Forest. The Atlantic Rain Forest covers mostly the low to medium elevations ($\leq$1000 m a.s.l.) of the eastern slopes of the mountain chain that runs along the coastline from southern to northeastern Brazil; the Atlantic Semi-deciduous Forest extends across the plateau (usually > 600 m a.s.l.) in the center and southeastern interior of the country (Leitão Filho & Morellato 1997; Oliveira-Filho & Fontes 2000).

The original area covered by the Atlantic Forest when European colonization began in A.D. 1500 was *ca*. 1,300,000 square kilometres stretching from the state of Rio Grande do Norte at the easternmost tip of South America to as far as Rio Grande do Sul, the southernmost Brazilian state (Collins 1990). The human occupation, with no planning, caused a reduction of the forest to *ca*. 98,800 square kilometres, or 7.6 percent of its original extent; another consequence was the high number of forest fragments and the various patterns of fragmentation observed today (Morellato & Haddad 2000). The Atlantic Forest system lies almost entirely within the borders of Brazil, with small portions entering Argentina and Paraguay (Morellato & Haddad 2000). A detailed description of the Atlantic Forest system is presented by Oliveira-Filho & Fontes (2000).

Little is known of the Atlantic Forest, but what we do know is that this complex biome contains a species diversity higher than most of the Amazon forests, and is characterized by high levels of endemism (averaging nearly 50% overall, and as high as 95% in some groups; Brown & Brown 1992; Morellato & Haddad 2000). According to Hoffman (2000) two genera of chelodesmid millipedes, *Atlantodesmus* and *Iemanja* are endemic for the region.

The new species of *Schendylops* herein described from this biome, is characterized by having ventral pore fields on the anterior region of the body only, being here compared in detail with the Neotropical members of the genus sharing the same trait and having a similar range of leg-bearing segments. It is also included in a key, which will enable the identification of all the *Schendylops* species from the Neotropics presenting a similar feature.

A chance to re-examine type material of three out of the six species with which *S. jeekeli* sp. n. is compared in detail (i.e., *S. interfluvius* (Pereira, 1984), *S. paolettii* (Pereira & Minelli, 1993) and *S. schubarti* Pereira, Foddai and Minelli, 2002) has allowed the addition of further morphological data and new illustrations which permit a more precise comparison of the present new species with these taxa.

A full citation of the latest taxonomic contributions on the genus *Schendylops* can be found in Pereira (2008).

M**aterials and methods**

The holotype herein designated is deposited at the Museo de Zoologia da Universidade de São Paulo (MZUSP); other type material revised here is currently housed at the same Museum and at the Museo de La Plata (MLP) as indicated under each species. All specimens were examined through light microscopy; only temporary mounts have been prepared by direct transfer of the specimens from the preservation liquid (70 per cent ethanol) onto microscopic slides, using as a mounting medium undiluted 2-Phenoxyethanol. Details on preparation of microscope slides and employed dissection procedures are described in Pereira (2000, 2008) and Foddai et al. (2002). All measurements are given in mm. The following abbreviation was used in the text and legends of the figures: a.a., antennal article.

Results

Family Schendylidae
Genus *Schendylops* Cook, 1899

Type of the genus: *Schendyla grandidieri* De Saussure & Zehntner, 1897, by original designation.

Remarks: Most of the Neotropical species of *Schendylops*, are listed in Minelli ed. (2006). Besides the new species described below, the following two taxa can be added to that list: *Schendylops achalensis* Pereira, 2008 (from Argentina: Córdoba province: Pampa de Achala) and *Schendylops inquilinus* Pereira, Uliana & Minelli, 2007 (from Brazil: Mato Grosso state: Pantanal de Poconé).

Schendylops jeekeli sp. n.
Figs 1-48.

Diagnosis: A Neotropical species of *Schendylops* without pore field on the first sternum; all pore fields undivided; pore fields present on anterior region of the body only; medial edge of forcipular trochanteropraefemur smooth. Among the Neotropical species of the genus, these four combined traits are also present in *S. anamariae* (Pereira, 1981); *S. interfluvius* (Pereira, 1984); *S. janauarius* (Pereira, Minelli & Barbieri, 1995); *S. lomanus* (Chamberlin, 1957); *S. nealotus* (Chamberlin, 1950); *S. oligopus* (Pereira, Minelli & Barbieri, 1995); *S. pallidus* (Kraus, 1955); *S. paolettii* (Pereira & Minelli, 1993); *S. perditus* (Chamberlin, 1914) and *S. virgingordae* (Crabill, 1960). Another Neotropical species, *S. schubarti* Pereira, Foddai & Minelli, 2002, shares with these species only the first three mentioned traits. For a confident identification of the present new species it is only necessary to compare it in detail with those having a similar range of leg-bearing segments, i.e. *S. interfluvius; S. janauarius*; *S. lomanus*; *S. paolettii*; *S. perditus* and *S. schubarti*.

S. jeekeli sp. n. is differentiated from *S. interfluvius*, *S. janauarius*, S. *paolettii*, *S. perditus* and *S. schubarti* (of which the ♂ is known) by the following unique traits: width/length ratio of tergum of ♂ last leg-bearing segment, 1.15: 1, Fig. 42 (1.59, 1.56, 1.24, 1.36 and 1.65, for the other species, respectively); ♂ antennae with a.a. II-XIII *ca*. as long as wide, Figs 1-4 (longer than wide for all the other species).

S. jekeeli sp. n. can be differentiated as follows from *S. lomanus* (of which the ♂ is not known; traits for *S. lomanus* are given in parentheses): tip of specialized sensilla on apex of a.a. XIV, tripartite (undivided); tip of type *b* sensilla on a.a. II, V, IX and XIII, tripartite (undivided); 13 medial clypeal setae (eight setae); coxosternum of first maxillae with setae (without setae); basal internal edge of forcipular tarsungulum with a very small round tipped prominence (with a small pale tooth); praetarsus of last legs as a diminutive tubercle with one very small apical spine, Fig. 46 (represented by two diminutive spines, Figs 80, 81). Morphological traits in Table 1 differentiate *S. jeekeli* sp. n. from *S. interfluvius*, *S. janauarius*, *S. lomanus*, *S. paolettii*, *S. perditus*, and *S. schubarti*.

Table 1. Comparative matrix of morphological traits for *Schendylops jeekeli* sp. n., *S. interfluvius*, *S. janauarius*, *S. lomanus*, *S. paolettii*, *S. perditus* and *S. schubarti*. (Data taken from male holotype of *S. jeekeli*, *S. janauarius*, and *S. schubarti*; female holotype of *S. lomanus*; female holotype and male allotype of *S. paolettii* and *S. perditus*; female holotype, male allotype, male and female paratypes, and non type specimens of *S. interfluvius*).

	jeekeli	***interfluvius***	***janauarius***	***lomanus***	***paolettii***	***perditus***	***schubarti***
Number of leg-bearing segments	♂: 39 ♀: ?	♂: 39, 41 ♀: 41	♂: 43 ♀: ?	♂: ? ♀: 43	♂: 35, 37 ♀: 37, 39, 41	♂: 35 ♀: 37	♂: 37 ♀: ?
Body length	13 mm (♂)	19 mm (♂) 17 mm (♀)	21 mm (♂)	17 mm (♀)	14 mm (♂) 16 mm (♀)	13 mm (♂) 17 mm (♀)	17 mm (♂)
Ratio length of antennae/ length of cephalic shield	2.6: 1 (♂)	*Ca*. 3.8: 1 (♂) *Ca*. 3.2: 1 (♀)	4.7: 1 (♂)	3.4: 1 (♀)	3.1: 1 (♂, ♀)	4.2: 1 (♂) 2.6: 1 (♀)	2.7: 1 (♂)
Antennal article IV much longer than a.a. I-III and V-XIII and provided with numerous small setae	No (Fig. 1)	No (Fig. 59)	No (Figs 66, 67)	No (Fig. 76)	No (Fig. 90)	No (Figs 95, 99)	Yes (Fig. 110)
A.a. II-XIII *ca.* as long as wide	Yes (♂, Figs 1-4)	No (♂, ♀)	No (♂)	No (♀)	No (♂, ♀)	No (♂, ♀)	No (♂)
Ratio width of a.a. II/ width of a.a. XIV	1.50: 1 (♂)	*Ca*. 1.17: 1 (♂), *ca*. 1.30: 1 (♀)	1.50: 1 (♂)	1.25: 1 (♀)	1.07: 1 (♂) 1.23: 1 (♀)	1.74: 1 (♂) 1.54: 1 (♀)	1.76: 1 (♂)
Tip of specialized sensilla on apex of a.a. XIV	Tripartite	Undivided	Undivided	Undivided	Undivided	Tripartite	Tripartite
Number of medial claviform sensilla on the terminal a.a.	*Ca*. 3-4	*Ca*. 5-7	*Ca.* 3	*Ca.* 1	*Ca*. 2	?	*Ca*. 2
Type *b* sensilla on a.a. II, V, IX and XIII, with tip divided in three apical branches	Yes (Figs 11, 12)	No	No	No	No	Yes	Yes

		jeekeli	*interfluvius*	*janauarius*	*lomanus*	*paolettii*	*perditus*	*schubarti*
Antennae of ♂ proportionally much longer than those of ♀		?	No, (only slightly longer)	?	?	No	Yes (Figs 99, 95)	?
Chaetotaxy of ♂ antennae		As in Fig. 1	As in Fig. 59	As in Figs 66, 67	?	As in Fig. 90	As in Fig. 99	As in Fig. 110
Ratio maximum width of cephalic shield/ maximum width of forcipular tergum		1.28: 1 (Fig. 13)	*Ca*. 1.12-1.21: 1	?	?	*Ca*. 1.13-1.19: 1	?	*Ca*. 1.22: 1
Clypeal setae	Postantennal	2	2	2	2	2	2	2
	Medial	13	*Ca*. 6-8	10	8	4	14	12
	Praelabral	2	2	2	2	2	2	2
A.a. I and II and lateral margins of clypeus with numerous, distally very thin setae		No (Figs 1, 14)	No	No	No	No	Yes (♂, ♀, Figs 95, 96, 99-103)	No
Number of blocks of dentate lamellae of mandibles		Three (with 4,2,3 and 3,2,3 teeth, Figs 16, 17)	Two (with 3,2; 3,3 and 4,3 teeth, Fig. 49)	Three (with 4,3,2 and 3,3,2 teeth)	Three (with 3,3,2 teeth)	Three (with 3,3,2 teeth)	Three (with 3,3,3 and 3,2,3 teeth)	Three (with 3,2,4 and 3,3,3 teeth)
Setae on coxosternum of first maxillae		1+2 (Fig. 19)	1+1	Absent	Absent	Absent	1+1	1+1
Coxosternal lappets of first maxillae relatively large		Yes (Fig. 18)	Yes	No (poorly developed, Fig. 68)	Yes	No (poorly developed, Fig. 84)	Yes	Yes
Number of setae on median projections of coxosternum of first maxillae		1+1 (Fig. 19)	1+1	1+1	1+1	1+1	2+2	2+2 (large) and 1+1 (small)

	jeekeli	*interfluvius*	*janauarius*	*lomanus*	*paolettii*	*perditus*	*schubarti*
Number of ventral setae on second article of telopodites of first maxillae	2+2 (Fig. 19)	1+1 or 2+2	1+2	1+1	1+1	3+3	3+3
Number of dorsal sensilla on second article of telopodites of first maxillae	4+4 (Fig. 18)	4-5+4-5	3+3	3+3	3+3	4+4	5+5
Number of setae on coxosternum of second maxillae	17 (Fig. 19)	*Ca*. 11-15	16	13	*Ca*. 12	*Ca*. 13	23
Number of teeth on apical claw of telopodites of second maxillae	*Ca*. 12 (on ventral edge, Fig. 21), *ca*. 16 (on dorsal edge)	*Ca*. 6-8 (on ventral edge), *ca*. 7-10 (on dorsal edge)	*Ca*. 7 (on ventral edge), *ca*. 10 (on dorsal edge)	*Ca*. 12-14 (on ventral edge), *ca*. 17-18 (on dorsal edge)	*Ca*. 10 (on ventral and dorsal edges)	*Ca*. 11 (on ventral edge), *ca*. 17-18 (on dorsal edge)	*Ca*. 12 (on ventral edge), *ca*. 18 (on dorsal edge)
Shape of postero-external region of second maxillae	As in Fig. 20	As in Fig. 50	As in Fig. 69	As in Fig. 77	As in Fig. 85	As in Fig. 106	As in Fig. 111
Forcipular trochantero-praefemur with a blunt but not sclerotized prominence on apical part of medial edge	No (Figs 22, 23)	No	No	No	No	No	Yes (Figs 112, 113)
Basal internal edge of forcipular tarsungulum	With a very small pale round tipped prominence	With a small pale round tipped prominence	With a small pale round tipped prominence	With a small pale tooth	With a small pale tooth	With a very small pale round tipped prominence	With a very small pale round tipped prominence
Ratio length of first legs/ width of forcipular coxosternum	0.70: 1	0.70: 1	?	?	0.79: 1	?	0.96: 1

	jeekeli	*interfluvius*	*janauarius*	*lomanus*	*paolettii*	*perditus*	*schubarti*
Ratio length of first legs/ length of second legs	0.78: 1	0.70: 1	?	?	0.88: 1	?	0.86: 1
Anterior walking legs with second and third articles much wider than remaining distal articles	No (Fig. 33)	Yes, legs II-XII (-XIV), Figs 56, 57	No	?	No	?	No (Fig. 114)
Posterior limit of ventral pore fields series	Sternum XVI of 39 (♂)	Sterna XII-XIV of 39 or 41 (♂) and XII-XIV of 41 (♀)	Sternum XV of 43 (♂)	Sternum XVIII of 43 (♀)	Sternum XIV of 37 (♂) and XIV of 39 (♀)	Sternum XIV of 35 (♂) and sternum XV of 37 (♀)	Sternum XIX of 37 (♂)
Single pore fields accompanied at the anterior sides by an additional group of pores	Yes (Figs 34-41)	Yes	No	No	No	No	No
Anterior margin of some sterna of the anterior region of the body provided medially with a small shallow pit, accompanied by an internal chitinous thickening	No	Yes, on sterna III-IX (-XII), Figs 51, 52	No	No	No	No	No
Last praetergum completely fused to the pleurites	Yes (Fig. 42)	No (Fig. 60)	Yes	Yes	Yes	No	Yes
Shape and pilosity of ♂ last leg-bearing segment and terminal segments	As in Figs 42, 43	As in Figs 60, 61	As in Figs 71, 72	?	As in Figs 91, 92	As in Figs 104, 105	As in Figs 116, 117

	jeekeli	*interfluvius*	*janauarius*	*lomanus*	*paolettii*	*perditus*	*schubarti*
Shape and pilosity of ♀ last leg-bearing segment and terminal segments	?	As in Fig. 53	?	As in Figs 78, 79	As in Figs 86, 87	As in Figs 97, 98	?
Ratio width/ length of tergum of last leg-bearing segment	(♂) 1.15: 1 (♀) ?	(♂) 1.59: 1 (♀) 1.61: 1	(♂) 1.56: 1 (♀) ?	(♂) ? (♀) 1.50: 1	(♂) 1.40: 1 (♀) 1.49: 1	(♂) 1.36: 1 (♀) 1.50: 1	(♂) 1.65: 1 (♀) ?
Ratio width/ length of sternum of last leg-bearing segment	(♂) 1.33: 1 (♀) ?	(♂) 1.65: 1 (♀) 1.75: 1	(♂) 1,25: 1 (♀) ?	(♂) ? (♀) 1.69: 1	(♂) 1.28: 1 (♀) 1.31: 1	(♂) 1.75: 1 (♀) 1.46: 1	(♂) 1.63: 1 (♀) ?
Shape of sternum of last leg-bearing segment	Trapeziform (♂), Fig. 43	Trapeziform (♂ and ♀), Figs 61, 53	Trapeziform (♂), Fig. 72	Trapeziform (♀), Fig. 79	Conspicuously subtriangular (♂), slightly subtriangular (♀), Figs 92, 87	Trapeziform (♂ and ♀), Figs 105, 98	Trapeziform (♂), Fig. 117
Shape and relative size of coxal organs	As in Figs 43-45	As in Fig. 58	As in Figs 70-72	As in Fig. 79	As in Figs 87, 88	As in Figs 98, 104, 105	As in Figs 115, 117
Ratio length of telopodite of last legs/ length of last sternum	(♂) *ca.* 5.10-5.24: 1 (♀) ?	(♂) *ca.* 6.0: 1 (♀) *ca.* 5.50: 1	(♂) 4.77: 1 (♀) ?	(♂) ? (♀) 5.40: 1	(♂) 3.90: 1 (♀) 3.80: 1	(♂) 5.46: 1 (♀) 3.78: 1	(♂) 5.78: 1 (♀) ?
Shape of praefemur, femur and tibia of male last legs	Conspicuously inflated (Figs 42, 43)	Conspicuously inflated (Figs 60, 61	Conspicuously inflated (Figs 71, 72)	?	Conspicuously inflated (Figs 91, 92)	Not inflated (Figs 104, 105)	Moderately inflated, Figs 116, 117)
Internal and external edges of praefemur and femur of ♂ terminal legs with similar convexity	Yes (Figs 42, 43)	No (the external edge is less convex than the internal, Figs 60, 61)	Yes (Figs 71, 72)	?	Yes (Figs 91, 92)	Yes (Figs 104, 105)	Yes (Figs 116, 117)
Ratio width of praefemur/ width of trochanter of ♂ last legs	1.30: 1 (Figs 42, 43)	1.04: 1 (Figs 60, 61)	1.38: 1 (Figs 71, 72)	?	1.09: 1 (Figs 91, 92)	1.0: 1 (Figs 104, 105)	1.14: 1 (Figs 116, 117)

	jeekeli	*interfluvius*	*janauarius*	*lomanus*	*paolettii*	*perditus*	*schubarti*
Ratio width of tibia/ width of tarsus I of ♂ last legs	1.18: 1 (Figs 42, 43)	1.66: 1 (Figs 60, 61)	2.40: 1 (Figs 71, 72)	?	1.25: 1 (Figs 91, 92)	1.25: 1 (Figs 104, 105)	1.44: 1 (Figs 116, 117)
Ratio length of tarsus II/ length of tarsus I of last legs	(♂) *ca.* 0.97-1.20: 1 (♀) ?	(♂) *ca.* 1.20-1.24: 1 (♀) *ca.* 1.50: 1	(♂) *ca.* 1.06-1.12: 1 (♀) ?	(♂) ? (♀) *ca.* 1.07-1.23: 1	(♂) 1.0: 1 (♀) *ca.* 1.23-1.30: 1	(♂) *ca.* 1.32-1.37: 1 (♀) *ca.* 1.07: 1	(♂) *ca.* 1.34-1.42: 1 (♀) ?
Praetarsus of last legs	As a diminutive tubercle with one very small apical spine (Fig. 46)	As a diminutive tubercle with a very small apical spine (Fig. 62)	As a very small tubercle with 3-4 apical spines (Fig. 73)	Represented by two diminutive spines (Figs 80, 81)	Represented by two diminutive spines (Fig. 89)	As a diminutive tubercle with a very small apical spine (Fig. 107)	As a diminutive tubercle with one very small apical spine (Fig. 118)
Shape of ♂ terminal segments	As in Figs 42, 43	As in Figs 63, 64	As in Fig. 74	?	As in Fig. 93	As in Figs 104, 108	As in Figs 116, 117
Shape and chaetotaxy of ♂ gonopods	As in Figs 43, 47	As in Figs 61, 65	As in Figs 72, 75	?	As in Figs 92, 94	As in Fig. 109	As in Figs 117, 119

S. jeekeli can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on the anterior region of the body only, by using the key below.

Type material examined: Holotype: ♂, 39 leg-bearing segments, body length 13 mm, from Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra], 12 June 1986, L. A. Pereira and S. Coscarón leg. In alcohol. Deposited in MZUSP.

Description (Male Holotype): Thirty-nine leg-bearing segments; body length 13 mm; maximum body width 0.65 mm; cephalic plate: length 0.50 mm, maximum width 0.44 mm; maximum width of forcipular coxosternum, 0.48 mm. Ground color (of preserved specimen in alcohol) yellowish, head and forcipular segment pale ocher.

Antennae: relatively short, *ca*. 2.6 times as long as the cephalic plate, distally attenuate; length/ width ratio of a.a. I-XIV as follows: I, 0.81: 1; II, 1.04: 1; III, 1.04: 1; IV, 0.94: 1; V, 0.99: 1; VI, 1.01: 1; VII, 0.98: 1; VIII, 0.98: 1; IX, 1.03: 1; X, 1.01: 1; XI, 0.98: 1; XII, 1.02: 1; XIII, 1.02: 1; XIV, 2.22: 1 (Figs 1-4). Ratio width of a.a. II/ width of a.a. XIV, 1.50: 1. Setae on a.a. I-III (-IV) of different length, few in number, those of remaining articles shorter and much more numerous (Fig. 1). Terminal a.a. with *ca*. 9-11 claviform sensory setae on the external border and *ca*. 3-4 on the internal border. Distal end of this a.a. with *ca*. 5-6 very small equally trifid specialized sensilla. Ventral and dorsal surface of a.a. II (Figs 5, 6), V (Figs 7, 8), IX (Figs 9, 10) and XIII (Figs 11, 12) with very small specialized sensilla. Ventral sensilla of two types (*a* and *b*). Type *a* sensilla very thin and not split apically, type *b* sensilla very similar to those of the apex of the terminal a.a. (Fig. 11: a and b). Specialized sensilla on dorsal side represented by three different types: *a* and *b* similar to *a* and *b* of ventral side and type *c* sensilla similar in size to type *b*, but not divided apically and much darker (ochreous in color) (Fig. 12: a, b, c). Relative position of specialized sensilla on ventral and dorsal surfaces of the specified a.a. as in Figs 5, 7, 9, 11 and 6, 8, 10, 12 respectively. Distribution of type *a*, *b*, and *c* sensilla as in Table 2.

Cephalic plate: slightly longer than wide (ratio 1.08: 1), anterior border convex, posterior border concave, lateral margins curved, shape and chaetotaxy as in Fig. 13. Ratio maximum width of cephalic plate/ maximum width of forcipular tergum, 1.28: 1.

Clypeus: with 1+1 postantennal setae, 7+6 median setae and 1+1 small praelabral setae (Fig. 14).

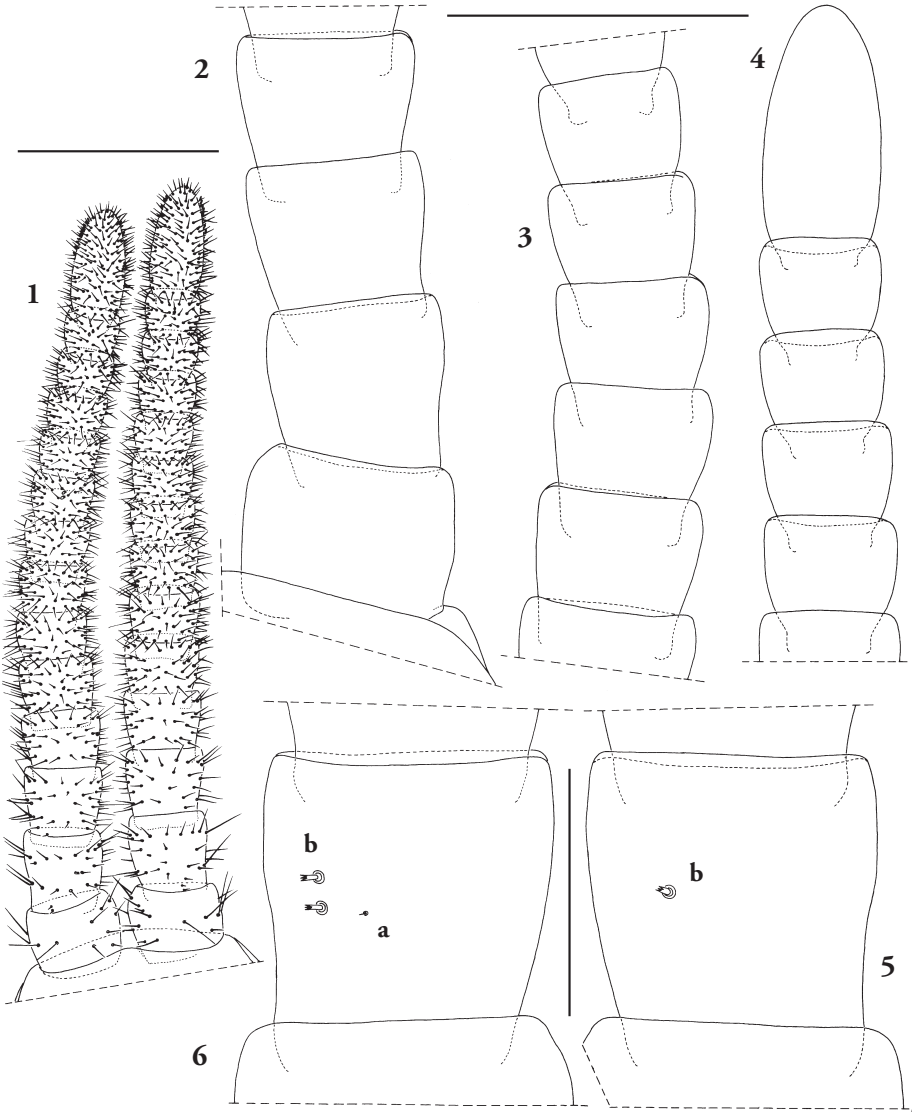
Labrum: with 20 teeth, those of median arc dark, with round tips, those on the lateral labromeres less sclerotized and sharply pointed (Fig. 15).

Table 2. Number of type *a*, *b* and *c* sensilla on antennal articles II, V, IX and XIII in the male holotype of *Schendylops jeekeli* sp. n. from Brazil: São Paulo state: Santo André municipio: Alto da Serra.

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

Mandibles: dentate lamella subdivided into three distinct blocks, with 3,2,3 teeth in the right mandible (Fig. 16) and 4,2,3 in the left mandible (Fig. 17); pectinate lamella with *ca*. 19-20 hyaline teeth.

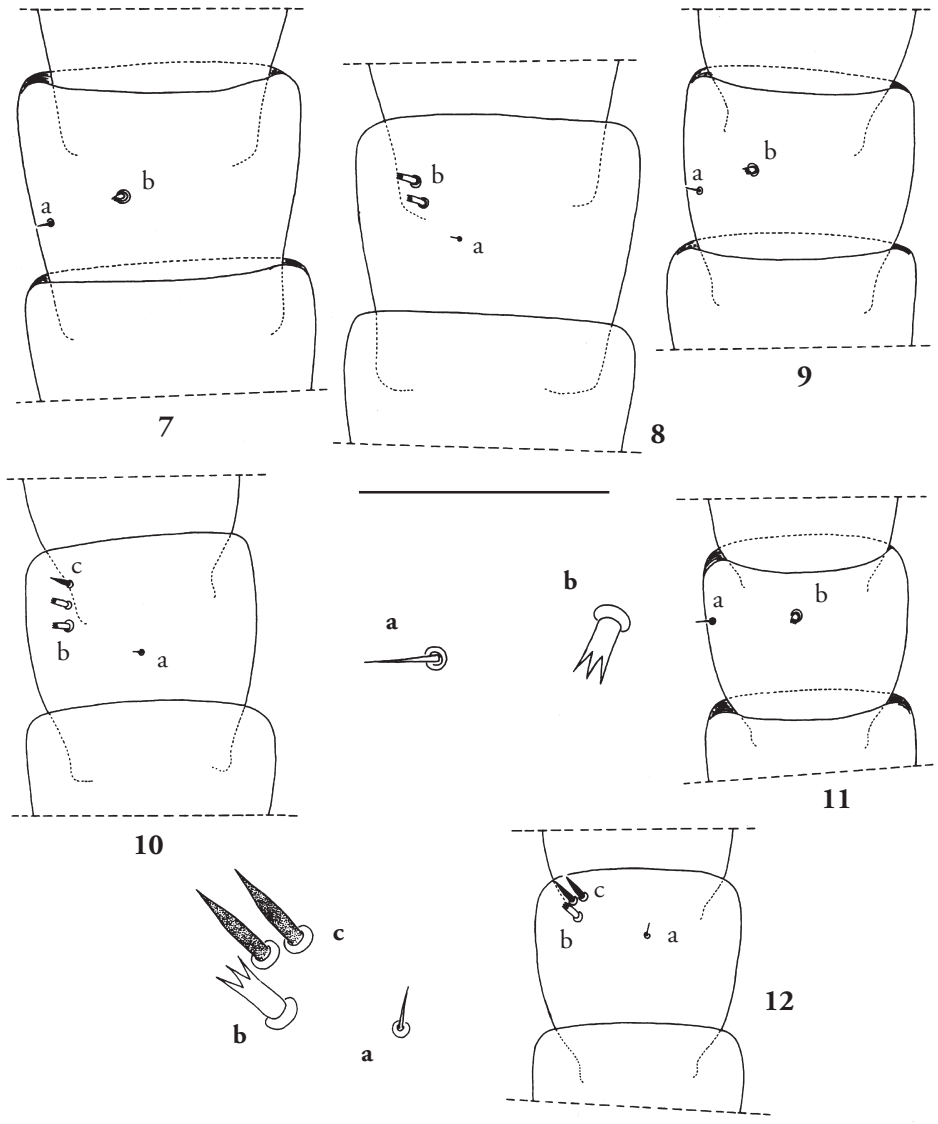
First maxillae: with well developed lappets on both coxosternum and telopodites (Figs 18, 19). Coxosternum with 1+2 setae, median projections of coxosternum with 1+1 setae. Article II of telopodite with 2+2 ventral setae and 4+4 dorsal sensilla (Figs 18, 19).



Figures 1-6. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (1) Antennae, ventral. (2) Contour of right a.a I-IV, dorsal. (3) Contour of right a.a. V-IX, dorsal. (4). Contour of right a.a. X-XIV, dorsal. (5) Left a.a. II, ventral (b: *b*, type sensilla). (6) Left a.a. II, dorsal (a, b: *a, b* type sensilla). Scale bars: 0.3 mm (1); 0.2 mm (2-4); 0.1 mm (5, 6).

Second maxillae (Figs 19-21): with 8+9 setae on coxosternum, arranged as in Fig. 19. Postero-external region of left second maxilla as in Fig. 20. Apical claw of telopodite bipectinate, ventral edge with *ca*. 12 teeth (Fig. 21) and dorsal edge with *ca*. 16 teeth.

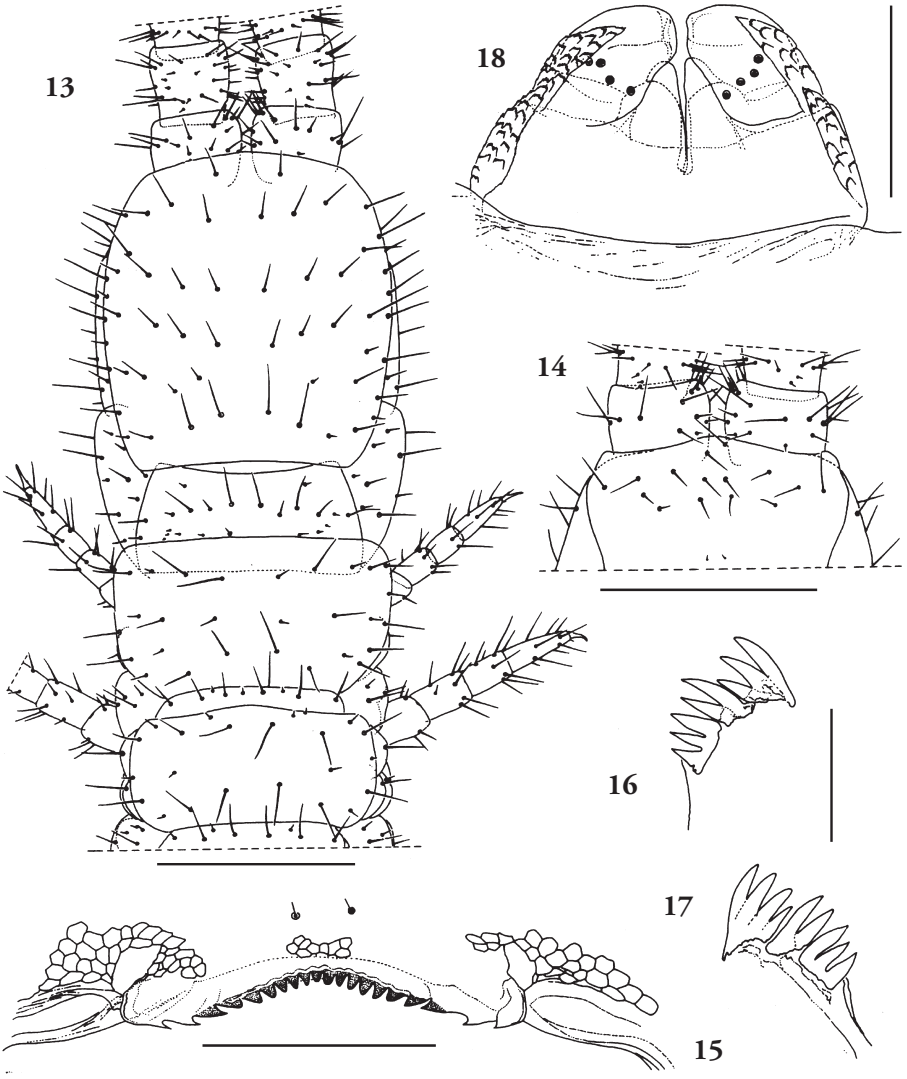
Forcipular segment: tergum with anterior margin concave and lateral margins curved, chaetotaxy represented by an irregular transverse median row of *ca*. 10 large setae and a few additional smaller setae on the remaining surface (Fig. 13). All articles



Figures 7-12. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (7) Left a.a. V, ventral (a, b: *a, b* type sensilla). (8) Left a.a. V, dorsal (a, b: *a, b* type sensilla). (9) Left a.a. IX, ventral (a, b: *a, b* type sensilla). (10) Left a.a. IX, dorsal (a, b, c: *a, b, c* type sensilla). (11) Left a.a. XIII, ventral (a, b: *a, b* type sensilla). (12) Left a.a. XIII, dorsal (a, b, c: *a, b, c* type sensilla). Scale bar: 0.1 mm.

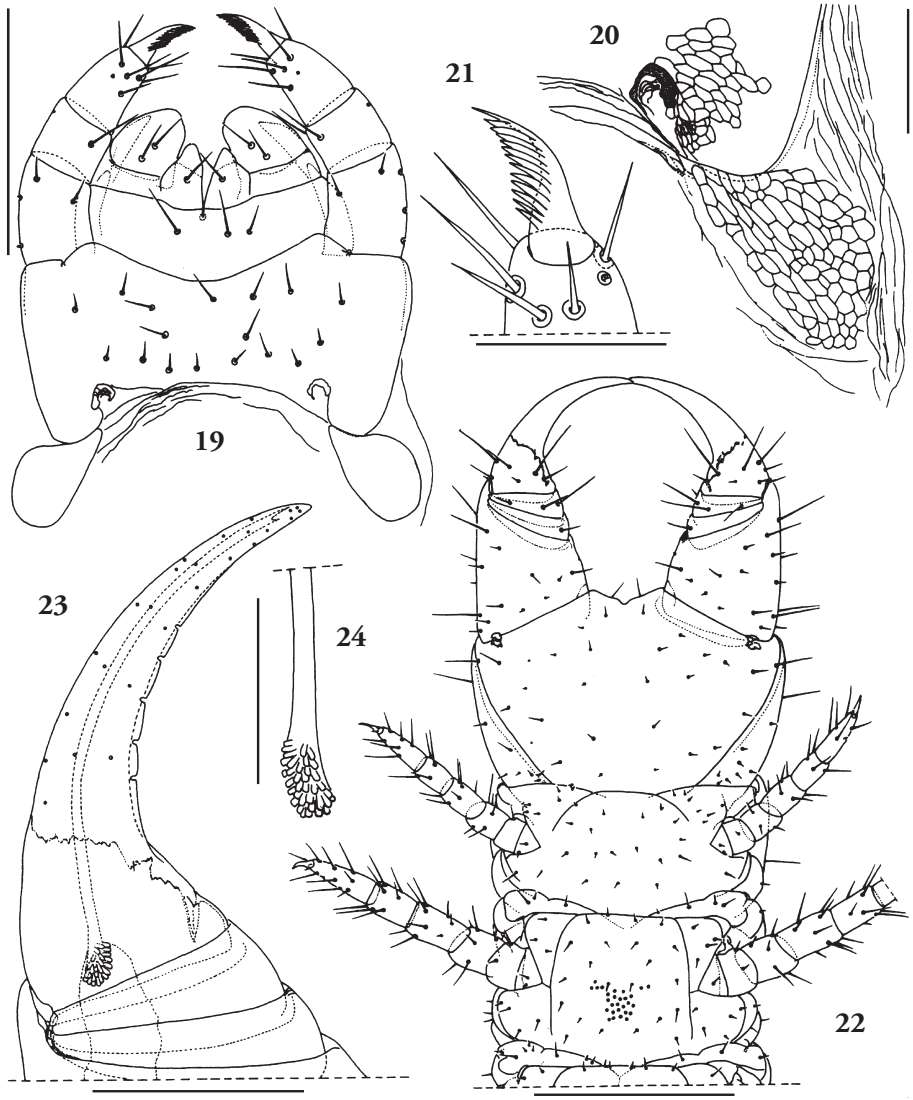
of telopodites without teeth (Fig. 22). Ventral internal edge of ungulum with shape as in Figs 23, 25. Calyx of poison gland cylindrical, relatively short (Figs 23, 24). Shape and chaetotaxy of coxosternum and telopodites as in Fig. 22.

Walking legs: first pair shorter and narrower than second pair, in the proportions of 0.77: 1 and 0.70: 1 respectively (Fig. 22). Chaetotaxy uniform throughout the body length



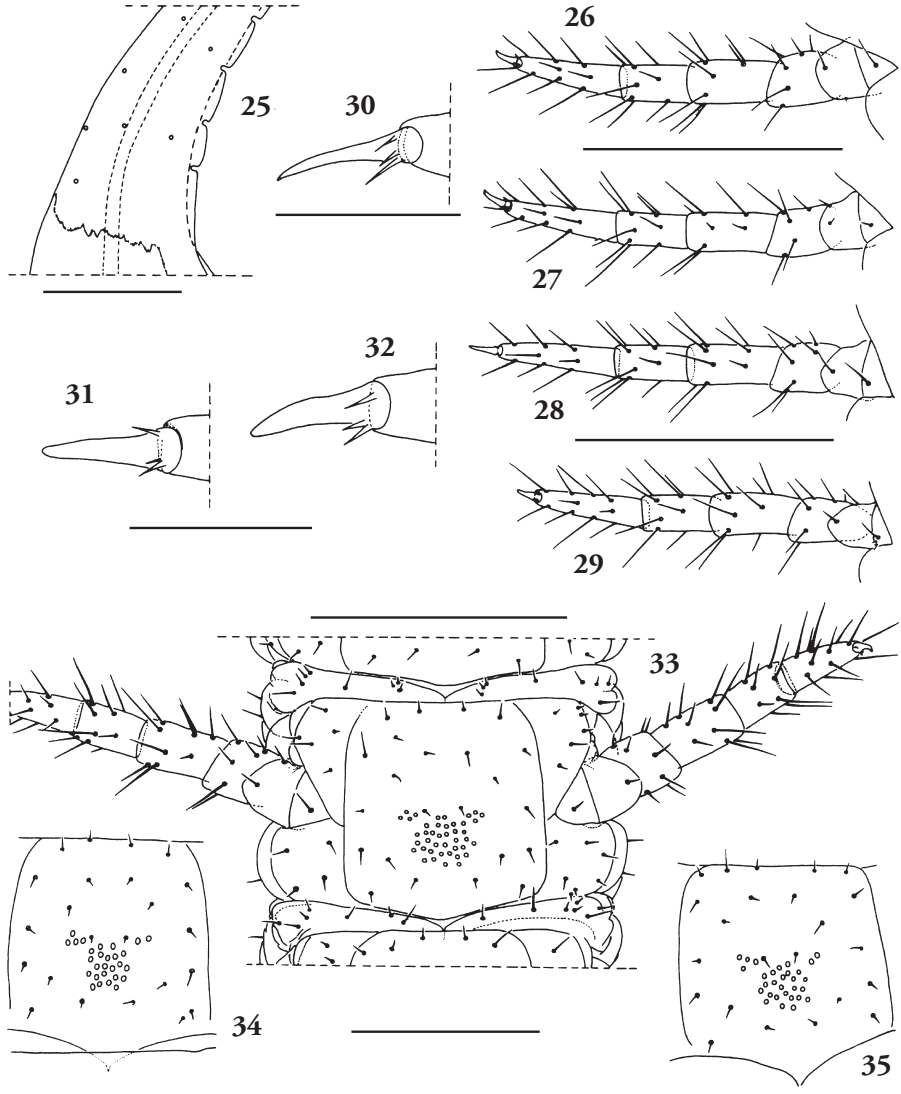
Figures 13-18. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (13) Dorsal view of anterior region of the body, showing cephalic shield, base of antennae, forcipular segment, leg-bearing segments I, II, and small anterior portion of leg-bearing segment III. (14) Clypeus and base of antennae. (15) Labrum. (16) Right mandible, dorsal. (17) Left mandible, dorsal. (18) First maxillae, dorsal. Scale bars: 0.3 mm (13, 14); 0.1 mm (15, 18); 0.03 mm (16, 17).

(Figs 22, 26-29). Legs IX relatively wider than all remaining legs, with length/ maximum width ratio 5.95: 1; ratio width of these legs/ width of sternum IX, 0.31: 1 (Fig. 33). Claws ventrobasally with two parungues, one anterior, one posterior; a third smaller parunguis occurs internally, very close to the posterior one. Parungues of legs I to *ca*. XI (-XIII) with relative size as in Fig. 30, relative size of parungues of remaining legs as in Figs 31, 32.



Figures 19-24. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (19) First and second maxillae, ventral. (20) Detail of postero-external region of left second maxilla, ventral. (21) Claw of telopodite of left second maxilla, ventral. (22) Forcipular segment, leg-bearing segments I, II, and small anterior portion of leg-bearing segment III, ventral. (23) Detail of poison gland in right forcipular telopodite, ventral. (24) Detail of calyx of left poison gland, ventral. Scale bars: 0.2 mm (19); 0.05 mm (20, 21, 24); 0.3 mm (22); 0.1 mm (23).

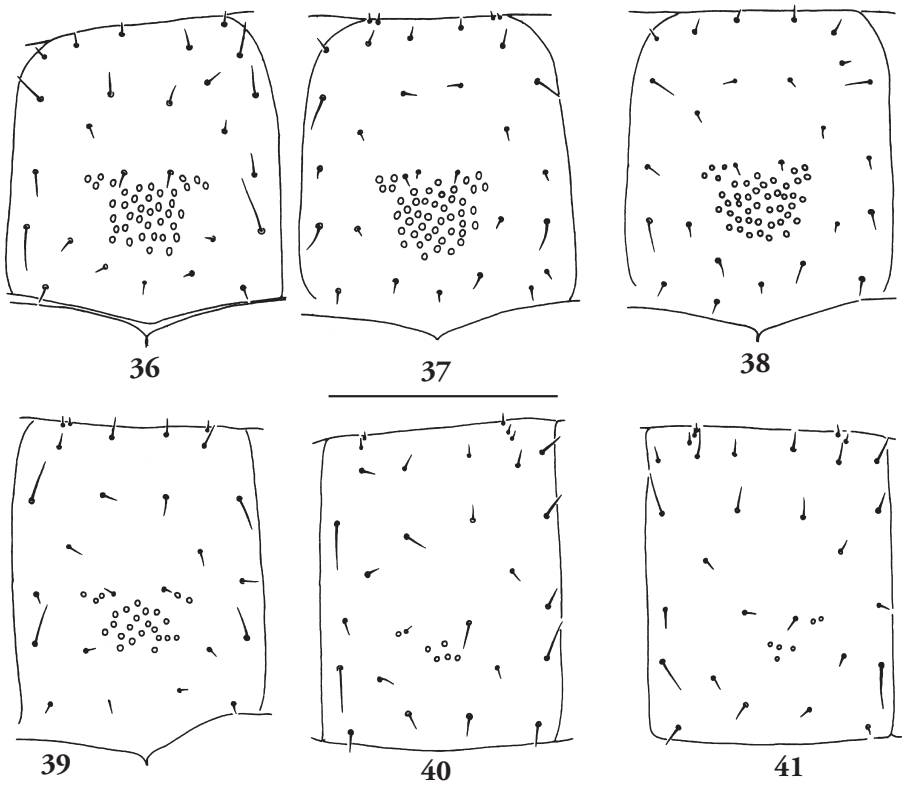
Sterna: pore fields present on sterna II-XVI, totally absent on all remaining sterna. All pore fields undivided. Fields on sterna II-XIV with two - four additional pores on each side of the anterior border (Figs 33-39); field on sternum XV, with one additional pore on the right side (Fig. 40); field on sternum XVI with two additional pores on the



Figures 25-35. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (25) Detail of ventral internal edge of right forcipular ungulum. (26) Right leg XVI, ventral. (27) Right leg XXIII, ventral. (28) Right leg XXX, ventral. (29) Right leg XXXVIII, ventral. (30) Claw of right leg I, antero-ventral view. (31) Claw of right leg XXVI, ventral. (32) Claw of right leg XXIX, ventral. (33) Leg-bearing segment IX, ventral. (34) Sternum II. (35) Sternum III. Scale bars: 0.05 mm (25, 30-32); 0.3 mm (26-29, 33); 0.2 mm (34, 35).

left side (Fig. 41). Shape of fields changes along the trunk as in Figs 33-41. Number of pores on selected sterna: sternum II (4+22+2); III (4+24+2); VII (4+31+4); VIII (4+37+4); IX (4+34+4); X (4+37+4); XIII (3+20+2); XV (1+5+0); XVI (0+4+2).

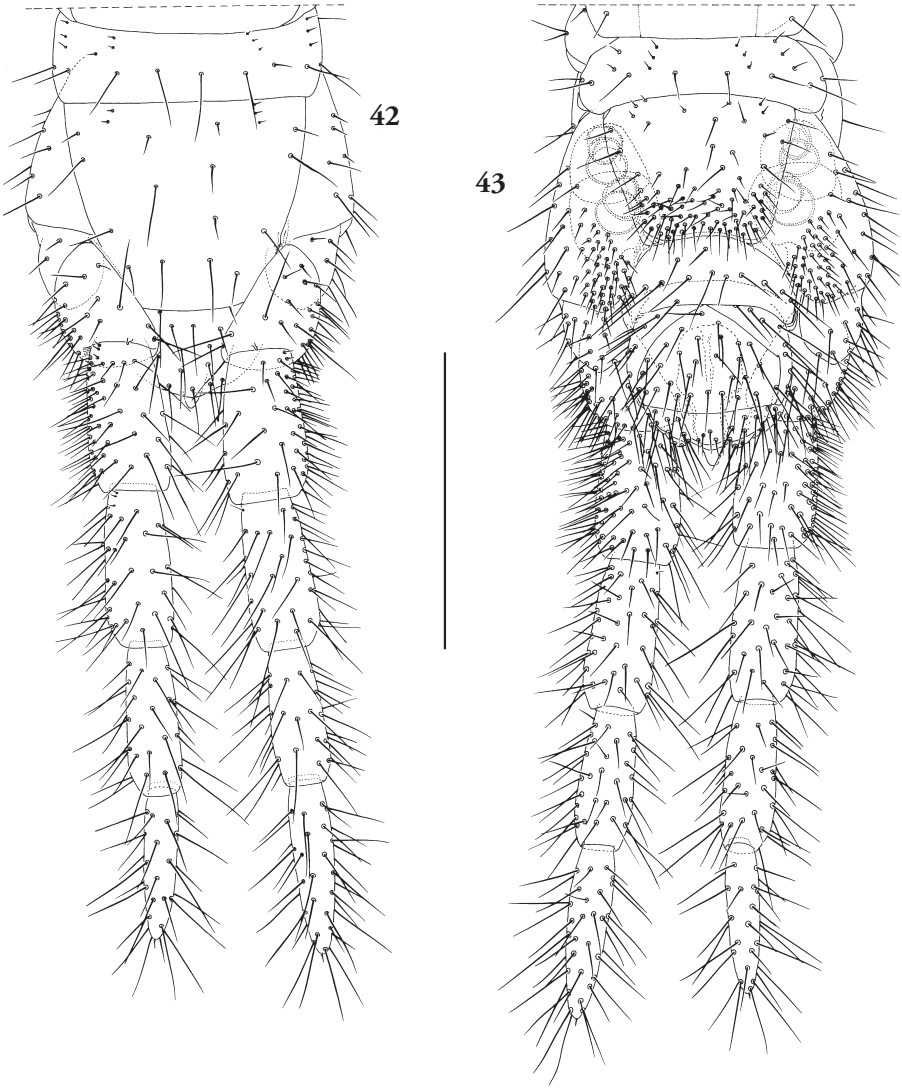
Last leg-bearing segment: without pleurites at the sides of praetergum, praesternum not divided along the sagittal plane; width/ length ratio of tergum, 1.15: 1; width/ length ratio of sternum, 1.33: 1. Shape and chaetotaxy of tergum and sternum as in Figs 42, 43. Coxopleura very slightly protruding at their distal internal ventral ends, setae small and numerous on the distal-internal ventral area, the remaining surface with setae bigger and less numerous (Fig. 43). Two single ('homogeneous') coxal organs in each coxopleuron, both organs unilobed, anterior organ smaller than the posterior in the proportion shown in Figs 43-45. Relative size of coxal organs in respect to the size of coxopleura and sternum as in Fig. 43. Coxal organs opening on the membrane between coxopleuron and sternum, partially covered by the latter (Figs 43-45). Last legs with seven podomeres, with ratio length of telopodites/ length of sternum, 5.20: 1, shape and chaetotaxy as in Figs 42, 43. Praetarsus as a diminutive tubercle with one very small apical spine (Fig. 46).



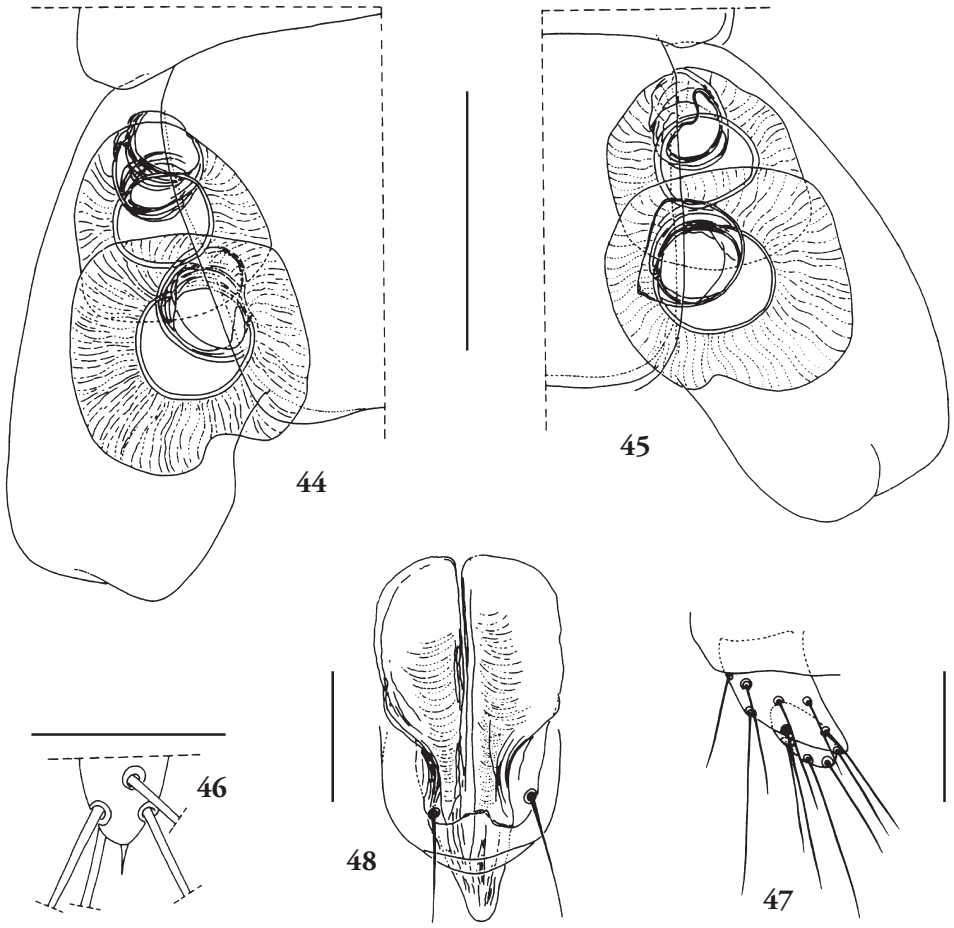
Figures 36-41. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (36) Sternum VII. (37) Sternum VIII. (38) Sternum X. (39) Sternum XIII. (40) Sternum XV. (41) Sternum XVI. Scale bar: 0.2 mm.

Terminal segments: intermediate tergum with posterior border convex, intermediate sternum with posterior border concave, sternum of first genital segment with posterior border convex (Figs 42, 43). Gonopods biarticulate, basal article with *ca*. 8 setae, apical article with *ca*. 3 setae (Figs 43, 47); apical article articulated dorso-apically with the basal article (articulation not visible from ventral side, Fig. 47); penis dorsally with 1+1 apical setae (Fig. 48).

Remark: The adult condition of this specimen is proved by the presence of mature spermatozoa in the tubula seminifera.



Figures 42-43. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (42) Last leg-bearing segment and terminal segments, dorsal. (43) Last leg-bearing segment and terminal segments, ventral. Scale bar: 0.3 mm.



Figures 44-48. *Schendylops jeekeli* sp. n. (♂ holotype; Brazil: São Paulo state: Santo André municipio: Paranapiacaba [Alto da Serra]). (44) Right coxal organs, ventral. (45) Left coxal organs, ventral. (46) Detail of distal end of last podomere of right last leg, ventral. (47) Right gonopod, ventral. (48) Penis, dorsal. Scale bars: 0.1 mm (44, 45); 0.05 mm (46-48).

Female: Unknown.

Etymology: The species is respectfully dedicated to Dr. Casimir A. W. Jeekel (Ulvenhout, The Netherlands), as a personal recognition for all the generous help and expert advice that he has provided me during my stay at his Oisterwijk home in 1979, for consulting his large documentation on Chilopoda Geophilomorpha and superb library on Myriapoda.

Morphological similarities of *Schendylops jeekeli* sp. n. with other Neotropical species of the genus

Besides the species mentioned in the diagnosis of *S. jeekeli* sp. n., several other species of *Schendylops* have ventral pore fields on the anterior region of the body only. The following list includes all the Neotropical members of the genus with this feature.

S. anamariae (Pereira, 1981) (Argentina)
S. andesicola (Chamberlin, 1957) (Ecuador)
S. dentifer (Chamberlin, 1957) (Ecuador)
S. edentatus (Kraus, 1957) (Peru)
S. interfluvius (Pereira, 1984) (Argentina)
S. janauarius (Pereira, Minelli & Barbieri, 1995) (Brazil)
S. jeekeli sp. n. (Brazil)
S. luederwaldi (Brölemann & Ribaut, 1911) (Brazil)
S. lomanus (Chamberlin, 1957) (Peru)
S. nealotus (Chamberlin, 1950) (Ecuador: Galapagos Islands)
S. oligopus (Pereira, Minelli & Barbieri, 1995) (Brazil)
S. pallidus (Kraus, 1955) (Peru)
S. paolettii (Pereira & Minelli, 1993) (Venezuela)
S. perditus (Chamberlin, 1914) (Brazil)
S. peruanus (Turk, 1955) (Peru)
S. potosius (Chamberlin, 1955) (Bolivia)
S. schubarti Pereira, Foddai & Minelli, 2002 (Brazil)
S. titicacaensis (Kraus, 1954) (Peru)
S. virgingordae (Crabill, 1960) (British Virgin Islands)

These species can be determined by the aid of the key below.

New specific diagnoses for the six species with which *S. jeekeli* sp. n. is being compared in detail, together with complementary morphological data and new illustrations for three of these taxa, follow bellow.

***Schendylops interfluvius* (Pereira, 1984)**
Figs 49-65.

Schendylurus interfluvius Pereira, 1984, p. 64-74.
Schendylurus interfluvius: Pereira & Minelli 1993, p. 121.
Schendylurus interfluvius: Pereira & Minelli 1996, p. 263, 292.
Schendylops interfluvius: Hoffman & Pereira 1997, p. 21.
Schendylops interfluvius: Morrone & Pereira 1999, p. 167, 170.
Schendylops interfluvius: Foddai, Pereira & Minelli 2000, p. 139.

Diagnosis: The species differs from *S. jeekeli* sp. n., *S. janauarius*, *S. lomanus*, *S. paolettii*, *S. perditus* and *S. schubarti* by the following unique traits (cf. Table 1): dentate lamellae of mandibles divided in two blocks (Fig. 49); anterior margin of some sterna of the anterior region of the body provided medially with a small shallow pit, accompanied by an internal chitinous thickening (Figs 51, 52). The following characters are also distinctive for this species: ratio length of first legs/ length of second legs 0.70: 1; anterior walking legs with second and third articles much wider than the remaining distal articles (Figs 56, 57); praefemur and femur of ♂ last legs with external margin less convex than the internal margin (Figs 60, 61); ratio length of telopodites of ♂ last legs/ length of last sternum, 6.0: 1; ratio length of tarsus II/ length of tarsus I of ♀ last legs, 1.50: 1.

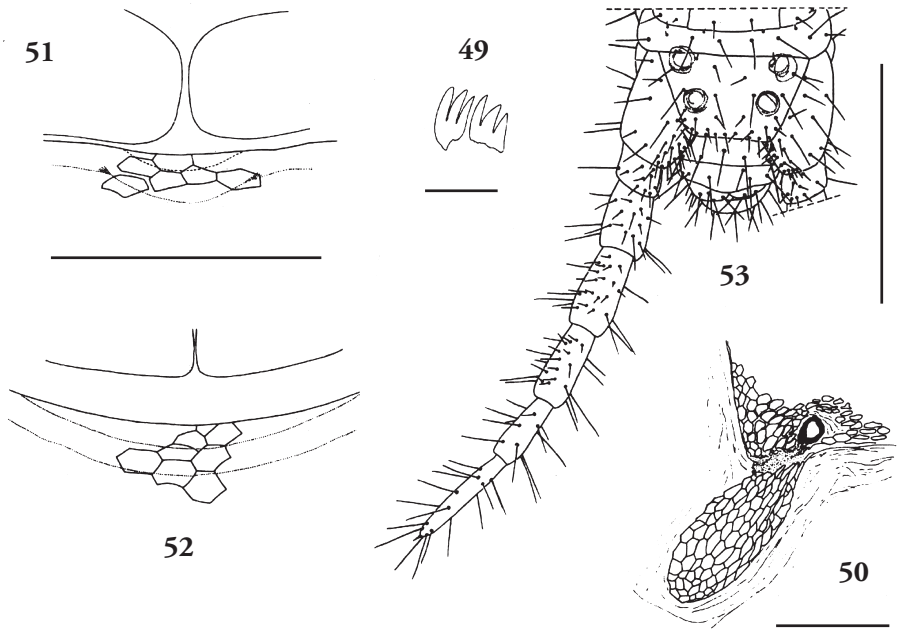
S. interfluvius can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type material examined: Holotype: ♀, with 41 leg-bearing segments, body length 13 mm; allotype: ♂, with 39 leg-bearing segments, body length 12 mm; paratype ♀, with 41 leg-bearing segments, body length 13 mm and paratype ♂ with 39 leg-bearing segments, body length 12 mm (here individualized as paratypes "A" and "B" respectively); all from Argentina: Entre Ríos province: Salto Grande, 23 January 1976, L. A. Pereira leg. In alcohol. (MLP).

Remarks: The following complementary information can be given on the ♀ holotype: specimen with spermathecae full of spermatozoa at level of leg-bearing segments XXXVIII-XXXIX. Length of cephalic shield: 0.42 mm; width of forcipular coxosternum: 0.41 mm. Antennae: ratio width of a.a. II/ width of a.a. XIV, 1.38: 1; ratio length/ width of a.a. XIV, *ca*. 2.35: 1; ventral and dorsal surface of a.a. II, V, IX (Figure 54) and XIII (Fig. 55) with very small specialized sensilla. Ventral sensilla of two types (*a* and *b*). Type *a* sensilla very thin and not split apically, type *b* sensilla thicker and very similar to those on the distal end of the terminal a.a. (Fig. 54: a, b). Type *a* sensilla occur from a latero-median position on a.a. II to a latero-apical position on a.a. XIII, whereas type *b* sensilla always occur on a latero-apical position on the specified a.a. Dorsal sensilla of three types (*a*, *b* and *c*). Types *a* and *b*, respectively similar to *a* and *b* of ventral side; type *c* sensilla similar to type *b* but slightly smaller and a little darker in color (Fig. 55: a, b, c). Position of type *a* sensilla varies from antero-median on a.a. II to apical-median on a.a. XIII, whereas type *b* and *c* sensilla always occur on the external apical-lateral region of the specified a.a. Distribution of type *a*, *b* and *c* sensilla as in Table III. (The original

Table 3. Number of type *a, b* and *c* sensilla on antennal articles II, V, IX and XIII in the female holotype of *Schendylops interfluvius* (Pereira, 1984) from Argentina: Entre Ríos province: Salto Grande.

	Ventral		**Dorsal**			**Figs**
	a	***b***	***a***	***b***	***c***	
II	-	1	1	1	-	
V	1	1	1	1	-	
IX	1	1	1	1	1	54
XIII	1	1	1	1	1	55



Figures 49-53. *Schendylops interfluvius* (Pereira, 1984), (♀ Paratype "A"; Argentina: Entre Ríos province: Salto Grande), (Reference *Schendylurus interfluvius*). (49) Dentate lamella of mandible. (50) Detail of postero-external region of right second maxilla, ventral. (51) Detail of middle part of anterior margin of sternum III showing small shallow pit and internal chitinous thickening. (52) Detail of middle part of anterior margin of sternum IX showing small shallow pit and internal chitinous thickening. (53) Last leg-bearing segment and terminal segments, ventral. Scale bars: 0.02 mm (49); 0.05 mm (50-52); 0.3 mm (53).

description of the species by Pereira (1984) only mentions one type of specialized sensilla, (here individualized as "type *b*")).

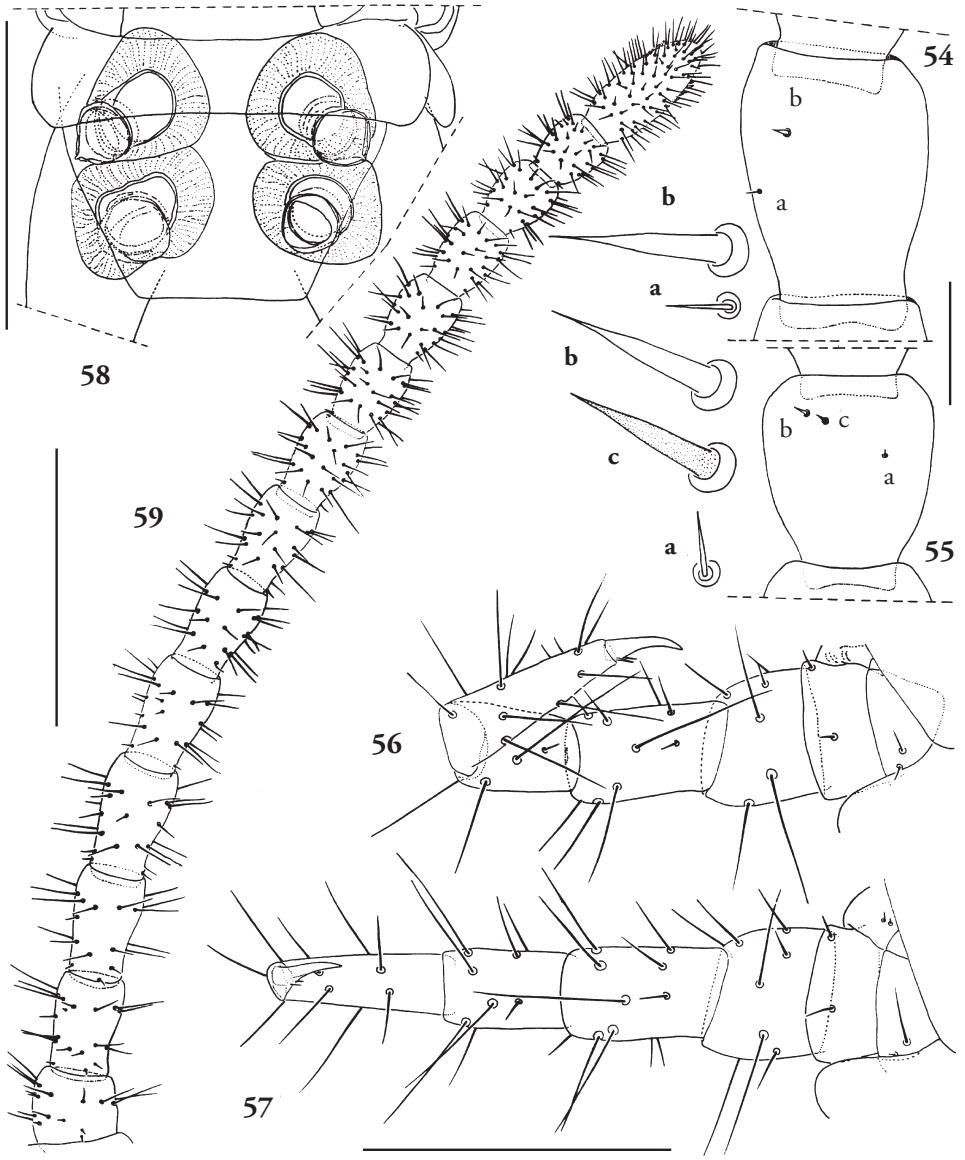
Ratio maximum width of cephalic shield/ maximum width of forcipular tergum, 1.12: 1; ratio length of first legs/ maximum width of forcipular coxosternum, 0.70: 1; ratio length of first legs/ length of second legs, 0.70: 1. Shape and relative size of coxal organs as in Fig. 58.

Male allotype: Antennae proportionally slightly longer than those of the female, *ca*. 3.8 times as long as the cephalic plate; shape and pilosity as in Fig. 59.

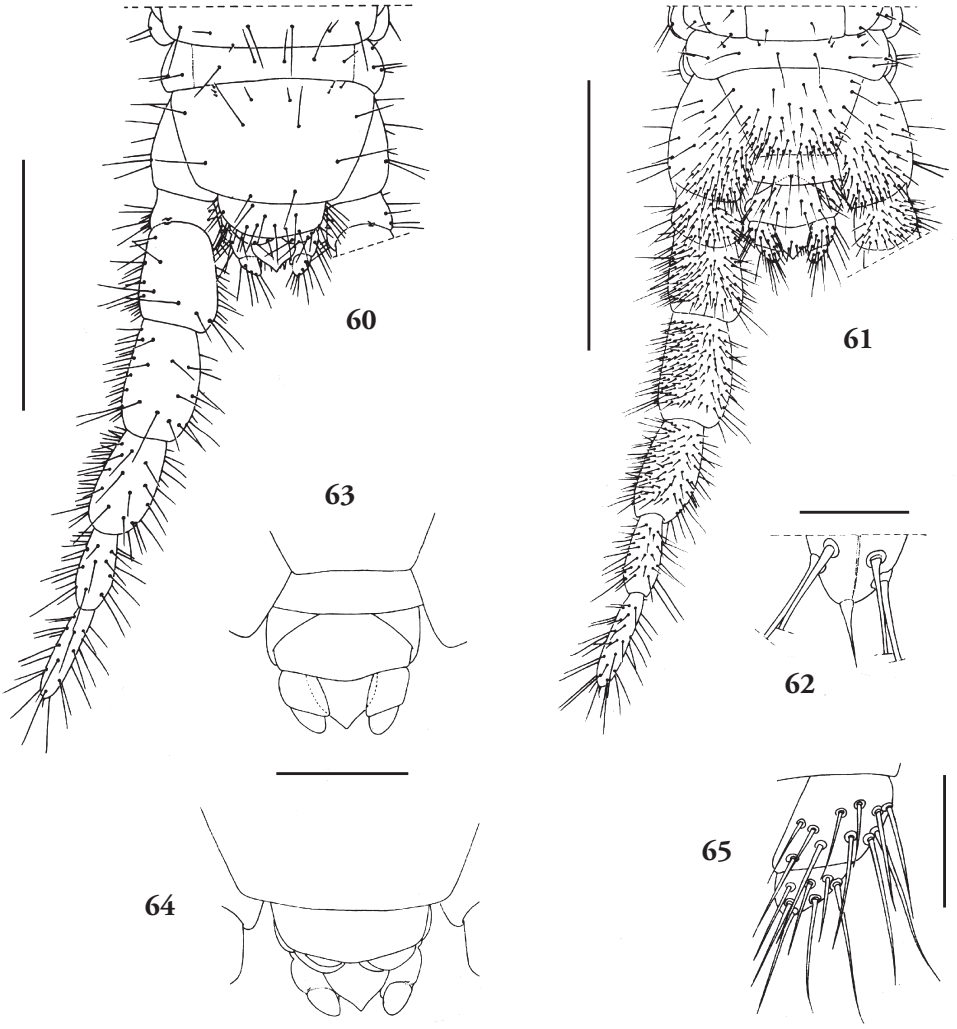
Several ratios taken on the ♀ holotype and ♂ allotype, related to tergum, sternum and legs of last leg-bearing segment, as in Table 1.

Type Locality: Argentina: Entre Ríos province: Salto Grande.

Known range: Argentina: Entre Ríos province: Salto Grande; Gualeguaychú.



Figures 54-59. (54-58) *Schendylops interfluvius* (Pereira, 1984), (♀ holotype; Argentina: Entre Ríos province: Salto Grande), (Reference *Schendylurus interfluvius*): (54) Left a.a. IX, ventral (a, b: *a, b* type sensilla). (55) Left a.a. XIII, dorsal (a, b, c: *a, b, c* type sensilla). (56) Right leg VI, ventral. (57) Right leg IX, ventral. (58) Coxal organs, ventral. (59) *Schendylops interfluvius* (Pereira, 1984), (♂ allotype; Argentina: Entre Ríos province: Salto Grande), (Reference *Schendylurus interfluvius*): Left antenna, ventral. Scale bars: 0.05 mm (54, 55); 0.2 mm (56-58); 0.3 mm (59).



Figures 60-65. *Schendylops interfluvius* (Pereira, 1984), (♂ Paratype "B"; Argentina: Entre Ríos province: Salto Grande), (Reference *Schendylurus interfluvius*). (60) Last leg-bearing segment and terminal segments, dorsal. (61) Last leg-bearing segment and terminal segments, ventral. (62) Detail of distal end of last podomere of right last leg, ventral. (63) Terminal segments, ventral. (64) Terminal segments, dorsal. (65) Left gonopod, ventral. Scale bars: 0.3 mm (60, 61); 0.02 mm (62); 0.1 mm (63, 64); 0.05 mm (65).

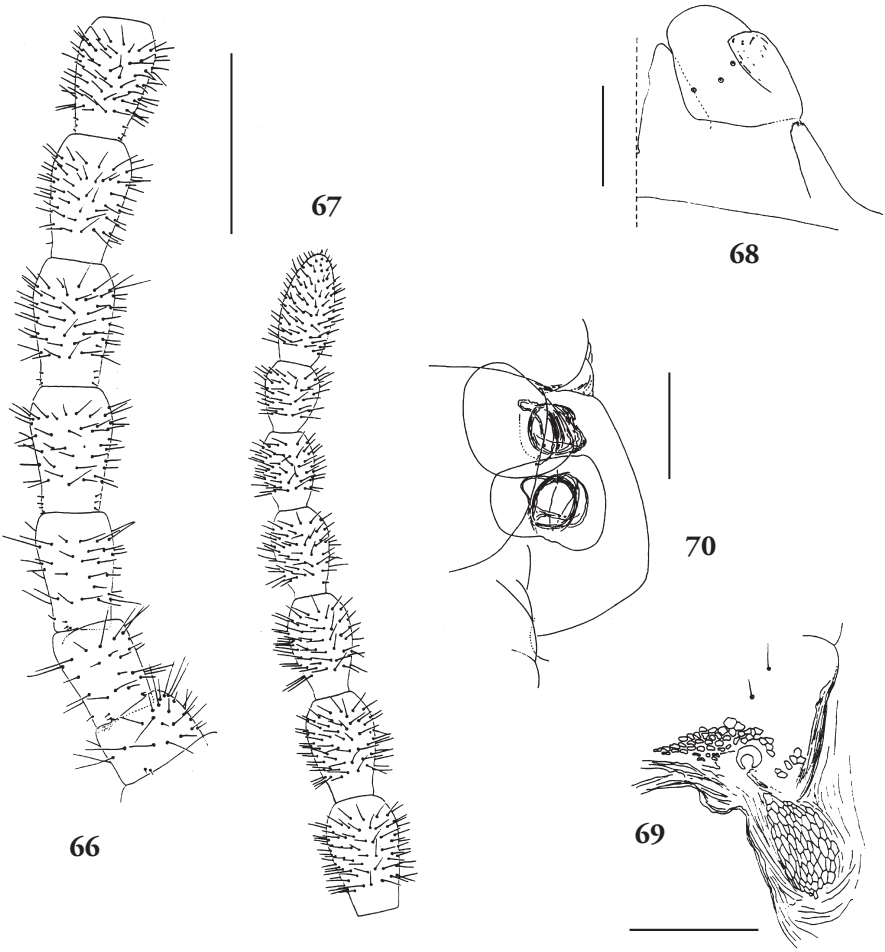
Schendylops janauarius **(Pereira, Minelli & Barbieri, 1995)**

Figs 66-75.

Schendylurus janauarius Pereira, Minelli & Barbieri, 1995, p. 325, 342-343.
Schendylurus janauarius: De Morais, Adis, Berti-Fihlo, Pereira, Minelli & Barbieri 1997, p. 117, 118, 119.

Schendylops januarius [sic.]: Hoffman & Pereira 1997, p. 21.
Schendylops janauarius: Pereira, Foddai & Minelli 1997, p. 85.
Schendylops janauarius: Morrone & Pereira 1999, p. 167, 170.
Schendylops janauarius: Foddai, Pereira & Minelli 2000, p. 139.
Schendylops janauarius: Foddai, Minelli & Pereira 2002, p. 473.
Schendylops janauarius: Foddai, Pereira & Minelli 2004, p. 271-282.

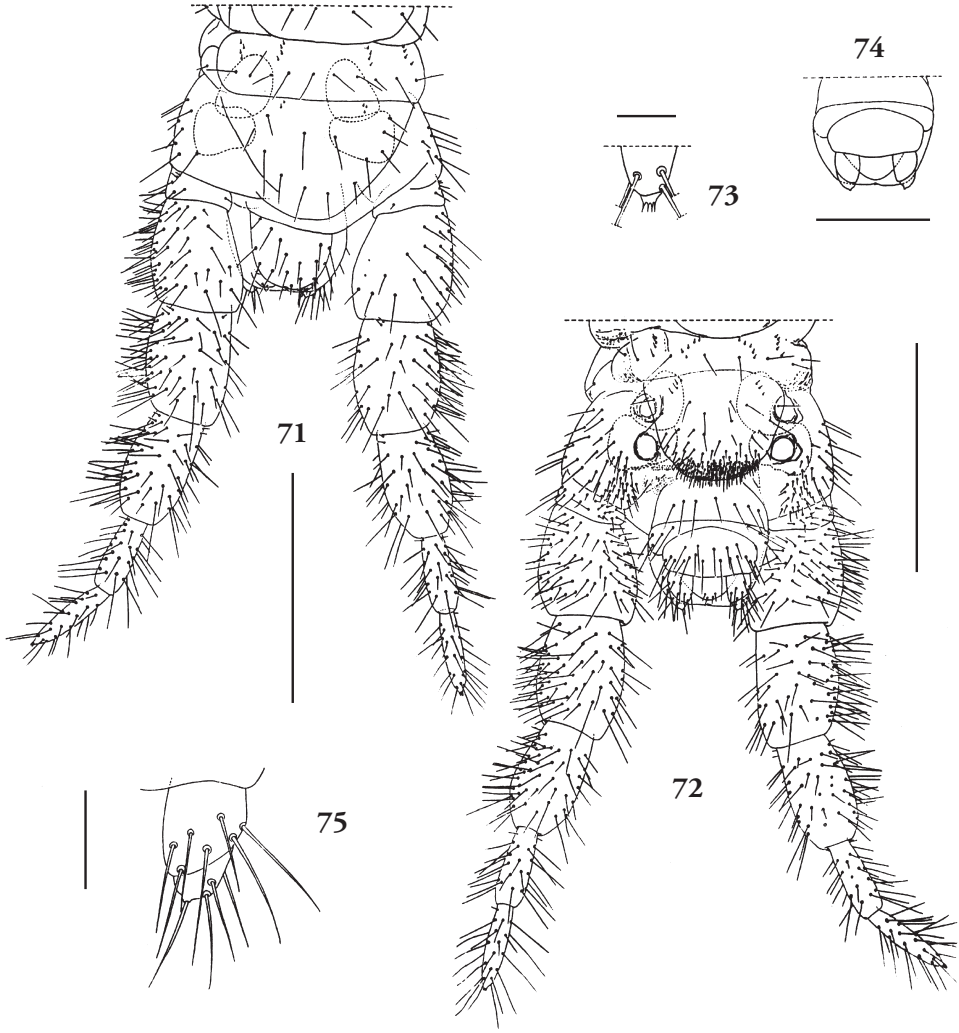
Diagnosis: The species differs from *S. jeekeli* sp. n., *S. interfluvius*, *S. lomanus*, *S. paolettii*, *S. perditus* and *S. schubarti* by the following unique traits (cf. Table 1): body length 21 mm (♂); praetarsus as a very small tubercle with 3-4 apical spines (Fig. 73). The following characters are also distinctive for this species (all present in the ♂): 43 leg-



Figures 66-70. *Schendylops janauarius* (Pereira, Minelli & Barbieri, 1995), (♂ holotype; Brazil: Amazonas: Lago Janauarí), (Reference *Schendylurus janauarius*). (66) Right a.a. I-VII, ventral. (67) Right a.a. VIII-XIV, ventral. (68) Right first maxilla, dorsal. (69) Detail of postero-external region of left second maxilla, ventral. (70) Left coxal organs, ventral. Scale bars: 0.3 mm (66, 67); 0.05 mm (68); 0.1 mm (69, 70).

bearing segments; ratio length of antennae/ length of cephalic shield 4.7: 1; ratio width of praefemur/ width of trochanter of last legs 1.38: 1; ratio width of tibia/ width of tarsus I of last legs 2.40: 1; antennae with chaetotaxy as in Figs 66, 67.

Besides the similarity with the species mentioned above, *S. janauarius* is also very similar to *S. andesicola* (Chamberlin, 1957) from which it can be differentiated as follows (traits for *S. andesicola* are given in parentheses): ♂ with 43 leg-bearing segments (with 45, 47, 49); all a.a. without type *c* sensilla (a.a. IX and XIII with type *c* sensilla



Figures 71-75. *Schendylops janauarius* (Pereira, Minelli & Barbieri, 1995), (♂ holotype; Brazil: Amazonas: Lago Janauarí), (Reference *Schendylurus janauarius*). (71) Last leg-bearing segment and terminal segments, dorsal. (72) Last leg-bearing segment and terminal segments, ventral. (73) Detail of distal end of last podomere of right last leg, ventral. (74) Terminal segments, ventral. (75) Left gonopod, ventral. Scale bars: 0.4 mm (71, 72); 0.03 mm (73); 0.2 mm (74); 0.05 mm (75).

on dorsal side); calyx of poison gland subcircular in form (subcylindrical); medial edge of forcipular trochanteropraefemur completely unarmed (with an apical unpigmented tooth); all ventral pores grouped on a single area (single pore field areas accompanied at the anterior sides by an additional group of a few pores); shape and chaetotaxy of ♂ last leg-bearing segment and terminal segments as in Fig. 72 (as in Fig. 120); shape of distal internal ventral area of ♂ coxopleura as in Fig. 72 (as in Fig. 120); shape and chaetotaxy of ♂ gonopods as in Figs 72, 74, 75 (as in Fig. 120).

S. janauarius can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type Locality: Brazil: Amazonas: Lago Janauarí

Known range: Only known from the type locality.

***Schendylops lomanus* (Chamberlin, 1957)**

Figs 76-81.

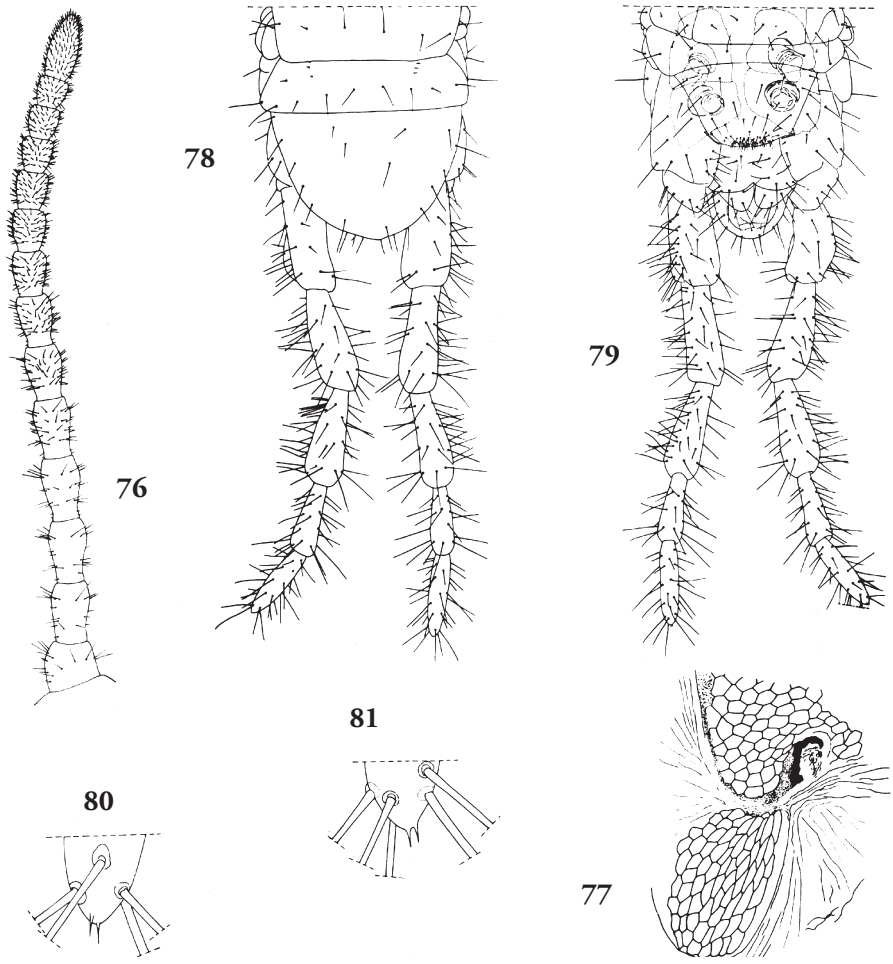
Schendylurus pallidus lomanus Chamberlin, 1957, p. 23-24, 30.
Schendylurus pallidus lomanus: Pereira 1983, p. 69.
Schendylurus lomanus: Pereira 1985, p. 47, 50, 67-72.
Schendylurus lomanus: Pereira & Minelli 1993, p. 121, 122.
Schendylops lomanus: Hoffman & Pereira 1997, p. 21.
Schendylops lomanus: Morrone & Pereira 1999, p. 167, 170.
Schendylops lomanus: Foddai, Pereira & Minelli 2000, p. 140.

Diagnosis: The species is similar to *S. jeekeli* sp. n., *S. interfluvius*, *S. janauarius*, *S. paolettii*, *S. perditus* and *S. schubarti*. *S. lomanus* seems to be more closely related to *S. paolettii*, with which it shares the following traits: ratio width of a.a. II/ width of a.a. XIV, *ca*. 1.23-1.25: 1; basal internal edge of forcipular tarsungulum with a small pale tooth; praetarsus of last legs represented by two diminutive spines (*cf*. Table 1). *S. lomanus* can be differentiated from *S. paolettii* as follows (characters for this last are given in parentheses): ♀ with 43 leg-bearing segments (with 37, 39, 41); clypeus with 8 medial setae (with 4); coxosternal lappets of first maxillae relatively large (poorly developed); ratio length of telopodites of ♀ last legs/ length of last sternum, 5.40: 1 (3.80: 1); sternum of ♀ last leg-bearing segment trapeziform in form (slightly subtriangular).

S. lomanus can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type Locality: Peru: 16 miles to NW of Chancay, Loma Lachay.

Known range: Only known from the type locality.



Figures 76-81. *Schendylops lomanus* (Chamberlin, 1957), (type ♀; Peru: NW Chancay, Loma Lachay), (Reference *Schendylurus lomanus*). (76) Left antenna, ventral. (77) Detail of postero-external region of right second maxilla, ventral. (78) Last leg-bearing segment and terminal segments, dorsal (79) Last leg-bearing segment and terminal segments, ventral. (80) Detail of distal end of last podomere of left last leg, ventral. (81) Detail of distal end of last podomere of right last leg, ventral. (From Pereira 1985). Scales not available.

***Schendylops paolettii* (Pereira & Minelli, 1993)**

Figs 82-94.

Schendylurus paolettii Pereira & Minelli, 1993, p. 108-111, 121, 122.
Schendylops paolettii: Hoffman & Pereira 1997, p. 21.
Schendylops paoletti [sic]: Morrone & Pereira 1999, p. 167.
Schendylops paolettii: Morrone & Pereira 1999, p. 171.
Schendylops paolettii: Foddai, Pereira & Minelli 2000, p. 143.

Diagnosis: The species is similar to *S. jeekeli* sp. n., *S. interfluvius*, *S. janauarius*, *S. lomanus*, *S. perditus* and *S. schubarti*. *S. paolettii* seems to be more closely related to *S. lomanus* with which it shares the following traits: ratio width of a.a. II/ width of a.a. XIV, *ca*. 1.23-1.25: 1; basal internal edge of forcipular tarsungulum with a small pale tooth; praetarsus of last legs represented by two diminutive spines (*cf*. Table 1). *S. paolettii* can be differentiated from *S. lomanus* as follows (characters for this last are given in parentheses): ♀ with 37, 39, 41 leg-bearing segments (43); clypeus with 4 medial setae (with 8); coxosternal lappets of first maxillae poorly developed (relatively large); ♀ with ratio length of telopodites of last legs/ length of last sternum, 3.80: 1 (5.40: 1); sternum of ♀ last leg-bearing segment slightly subtriangular in form (trapeziform).

S. paolettii can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type material examined: Holotype: ♀, with 39 leg-bearing segments, body length 16 mm; allotype: ♂, with 37 leg-bearing segments, body length 14 mm, both from Venezuela: Andean region near Boconó: La Cristalina, 2500 m a.s.l., February 1987, M.G. Paoletti legit. In alcohol (MLP).

Remarks: The following complementary information can be given on the ♀ holotype: specimen with spermathecae full of spermatozoa placed at level of leg-bearing segments XXXV-XXXVI. Length of cephalic shield: 0.51 mm; width of forcipular coxosternum: 0.57 mm. Antennae: ratio width of a.a. II/ width of a.a. XIV, 1.23: 1; ratio length/ width of a.a. XIV, *ca*. 2.06: 1; ventral and dorsal surface of a.a. II, V, IX and XIII (Figures 82, 83) with very small specialized sensilla. Ventral sensilla of two types (*a* and *b*). Type *a* sensilla very thin and not split apically, type *b* sensilla thicker and very similar to those on the distal end of the terminal a.a. (Fig. 82: *a*, *b*). Type *a* sensilla always occur on a latero-median position and type *b* sensilla on a latero-apical position on the specified a.a. Dorsal sensilla of three types (*a*, *b* and *c*). Types *a* and *b*, respectively, similar to *a* and *b* of ventral side; type *c* sensilla similar to type *b* but slightly smaller and darker (brownish ochre) in color (Fig. 83: a, b, c). Position of type *a* sensilla varies from antero-median on a.a. II to apical-median on a.a. XIII, whereas type *b* and *c* sensilla always occur on the external apical-lateral region of the specified a.a. Distribution of type *a*, *b* and *c* sensilla as in Table 4. (The original description of the species by Pereira & Minelli (1993) only mentions two types of specialized sensilla (here individualized as "type *b*" and "type *c*")).

Ratio maximum width of cephalic shield/ maximum width of forcipular tergum, 1.19: 1; ratio length of first legs/ width of forcipular coxosternum 0.79: 1; ratio length

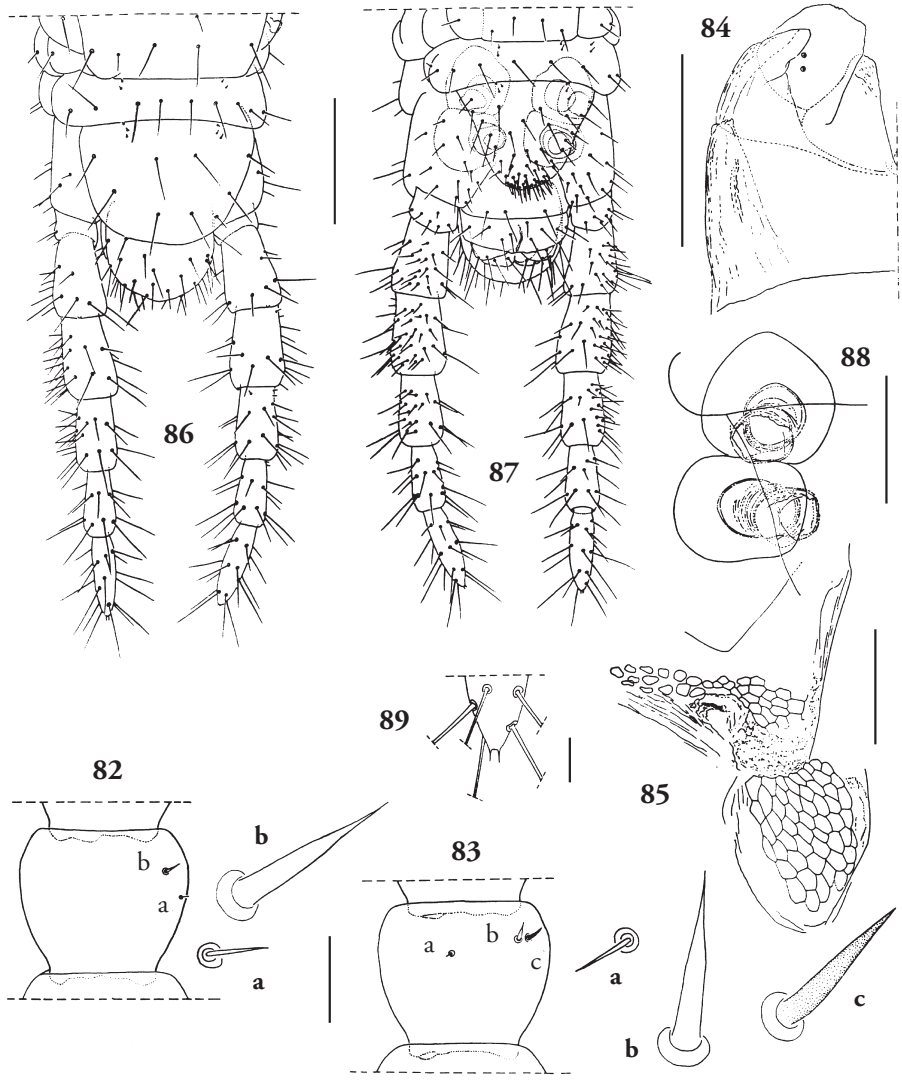
Table 4. Number of type *a*, *b* and *c* sensilla on antennal articles II, V, IX and XIII in the female holotype of *Schendylops paolettii* (Pereira & Minelli, 1993) from Venezuela: Andean region near Boconó: La Cristalina.

	Ventral		**Dorsal**			**Figs**
	a	***b***	***a***	***b***	***c***	
II	-	1	1	1	-	
V	1	1	1	1	-	
IX	1	1	1	1	1	
XIII	1	1	1	1	1	82-83

of first legs/ length of second legs 0.88: 1. Several ratios taken on the ♀ holotype and ♂ allotype related to tergum, sternum and legs of last leg-bearing segment, as in Table 1.

Type locality: Venezuela: Andean region near Boconó: La Cristalina, 2500 m a.s.l.

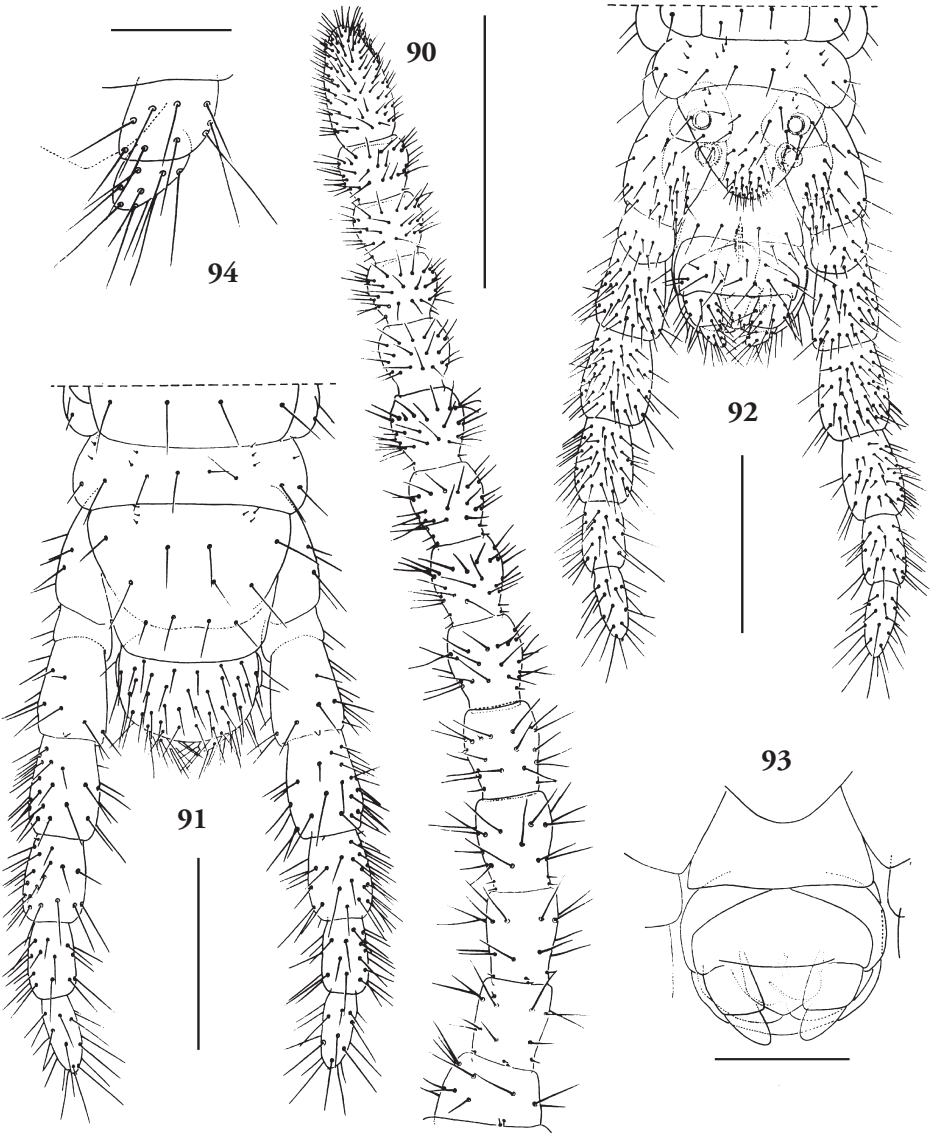
Known range: Venezuela: Andean Region near Boconó: La Cristalina, 2500 m a.s.l.; Guaramacal, 3000 m a.s.l.; Guaramacal, La laguna 2000 m a.s.l.



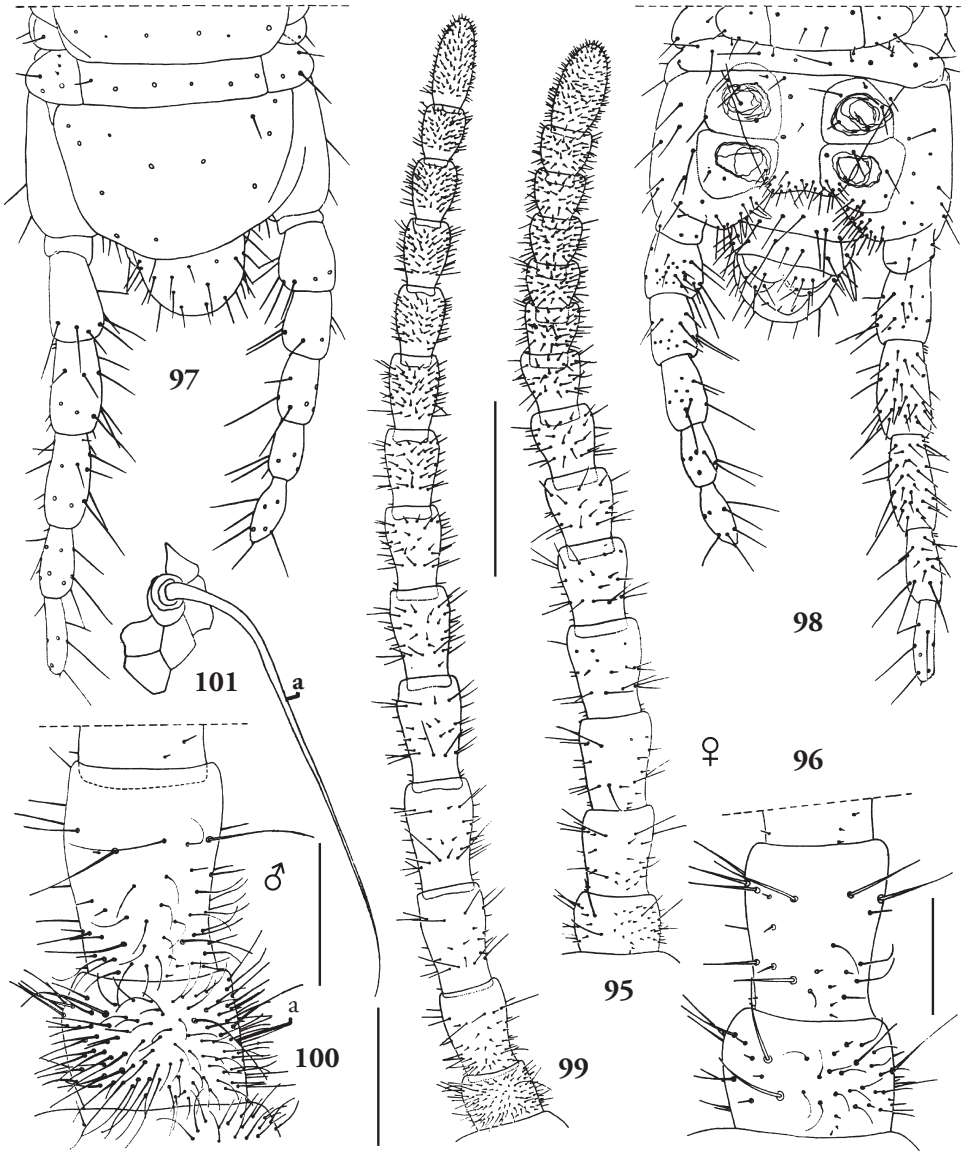
Figures 82-89. *Schendylops paolettii* (Pereira and Minelli, 1993), (♀ holotype: Venezuela: Andean region near Boconó: La Cristalina), (Reference *Schendylurus paolettii*). (82) Right a.a. XIII, ventral (a, b: *a, b* type sensilla). (83) Right a.a. XIII, dorsal (a, b, c: *a, b, c* type sensilla). (84) Left first maxilla, dorsal. (85) Detail of postero-external region of left second maxilla, ventral. (86) Last leg-bearing segment and terminal segments, dorsal. (87) Last leg-bearing segment and terminal segments, ventral. (88) Right coxal organs, ventral. (89) Detail of distal end of last podomere of left last leg, ventral. Scale bars: 0.05 mm (82, 83, 85); 0.1 mm (84, 88); 0.2 mm (86, 87); 0.02 mm (89).

***Schendylops perditus* (Chamberlin, 1914)**
Figs 95-109.

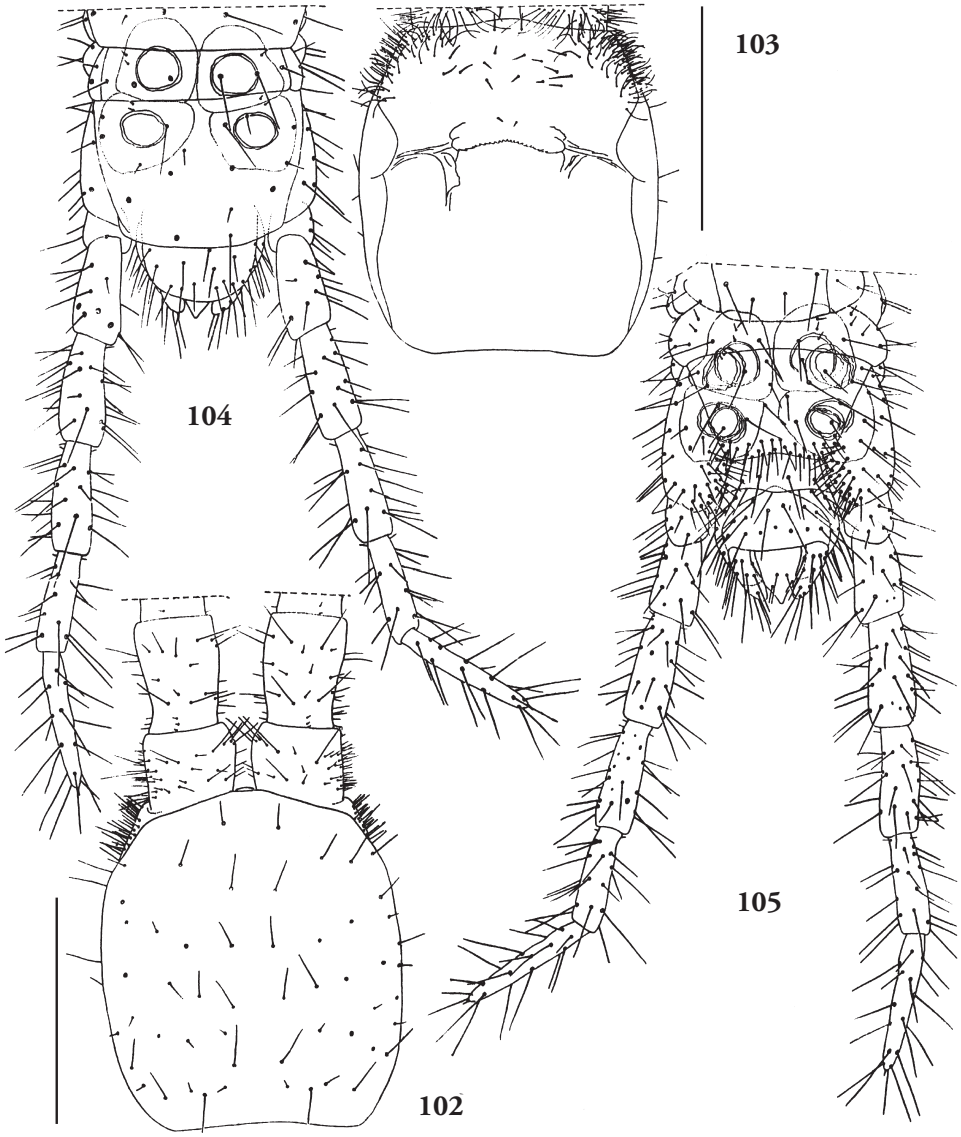
Schendylurus perditus Chamberlin, 1914, p. 152, 196, 198-200.
Schendylurus perditus: Chamberlin 1921, p. 22.



Figures 90-94. *Schendylops paolettii* (Pereira and Minelli, 1993), (♂ allotype; Venezuela: Andean region near Boconó: La Cristalina), (Reference *Schendylurus paolettii*). (90) Left antenna, ventral. (91) Last leg-bearing segment and terminal segments, dorsal. (92) Last leg-bearing segment and terminal segments, ventral. (93) Terminal segments, ventral. (94) Left gonopod, ventral. Scale bars: 0.3 mm (90); 0.2 mm (91, 92); 0.1 mm (93); 0.05 mm (94).



Figures 95-101. (95-98) *Schendylops perditus* (Chamberlin, 1914), (♀ paralectotype; Brazil: State of Paraíba: Independencia), (Reference *Schendylurus perditus*): (95) Left antenna, ventral. (96) Left a.a. I-II, ventral. (97) Last leg-bearing segment and terminal segments, dorsal. (98) Last leg-bearing segment and terminal segments, ventral. (99-101) *Schendylops perditus* (Chamberlin, 1914), (♂ lectotype; Brazil: State of Paraíba: Independencia), (Reference *Schendylurus perditus*): (99) Left antenna, ventral. (100) Left a.a. I-II, ventral (a: specialized seta). (101) Detail of seta marked as "a" in Figure 100. Scale bars: 0.3 mm (95, 99); 0.1 mm (96, 100); 0.02 mm (101); scale not available (97, 98).



Figures 102-105. *Schendylops perditus* (Chamberlin, 1914), (♂ lectotype; Brazil: State of Paraíba: Independencia), (Reference *Schendylurus perditus*). (102) Cephalic shield and base of antennae. (103) Head capsule and base of antennae, ventral. (104) Last leg-bearing segment and terminal segments, dorsal. (105) Last leg-bearing segment and terminal segments, ventral. Scale bars: 0.3 mm (102, 103); scale not available (104, 105).

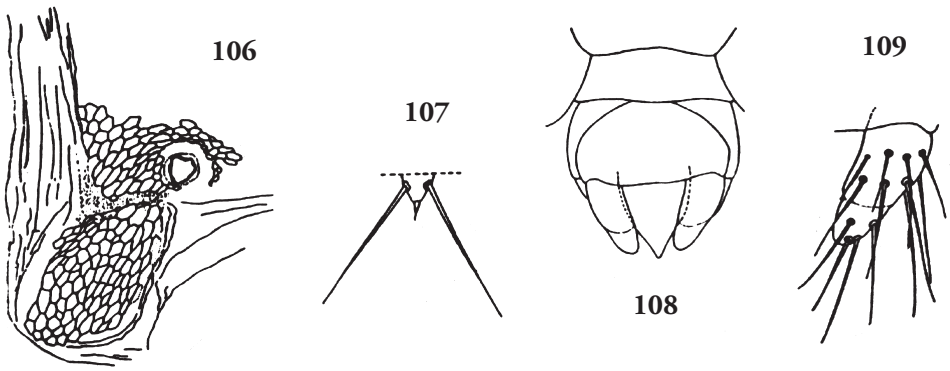
Schendylurus perditus: Attems 1928, p. 134.
Schendylurus perditus: Attems 1929, p. 76.
Schendylurus perditus: Bücherl 1942a, p. 202.
Schendylurus perditus: Bücherl 1942b, p. 348.
Schendylurus perditus: Chamberlin 1955-1956, p. 8.
Schendylurus perditus: Crabill 1972, p. 21.
Schendylurus perditus: Pereira 1985(1986), p. 17-19, 21.
Schendylurus perditus: Pereira & Minelli 1993, p. 121.
Schendylurus perditus: Pereira & Minelli 1996, p. 281-283, 292.
Schendylops perditus: Hoffman & Pereira 1997, p. 22.
Schendylops perditus: Pereira 1999, p. 525, 529, 530.
Schendylops perditus: Morrone & Pereira 1999, p. 167, 171.
Schendylops perditus: Foddai, Pereira & Minelli 2000, p. 144.
Schendylops perditus: Pereira, Foddai & Minelli 2002, p. 57.

Diagnosis: The species differs from *S. jeekeli* sp. n., *S. interfluvius*, *S. janauarius*; *S. lomanus*, *S. paolettii* and *S. schubarti* by the following unique trait (*cf*. Table 1): a.a. I and II and lateral margins of clypeus with numerous, distally very thin setae (Figs 95, 96, 99-103). The following character is also distinctive for this species: articles of last legs of ♂ not inflated (Figs 104, 105).

S. perditus can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type locality: Brazil: State of Paraíba: Independencia.

Known range: Only known from the type locality.

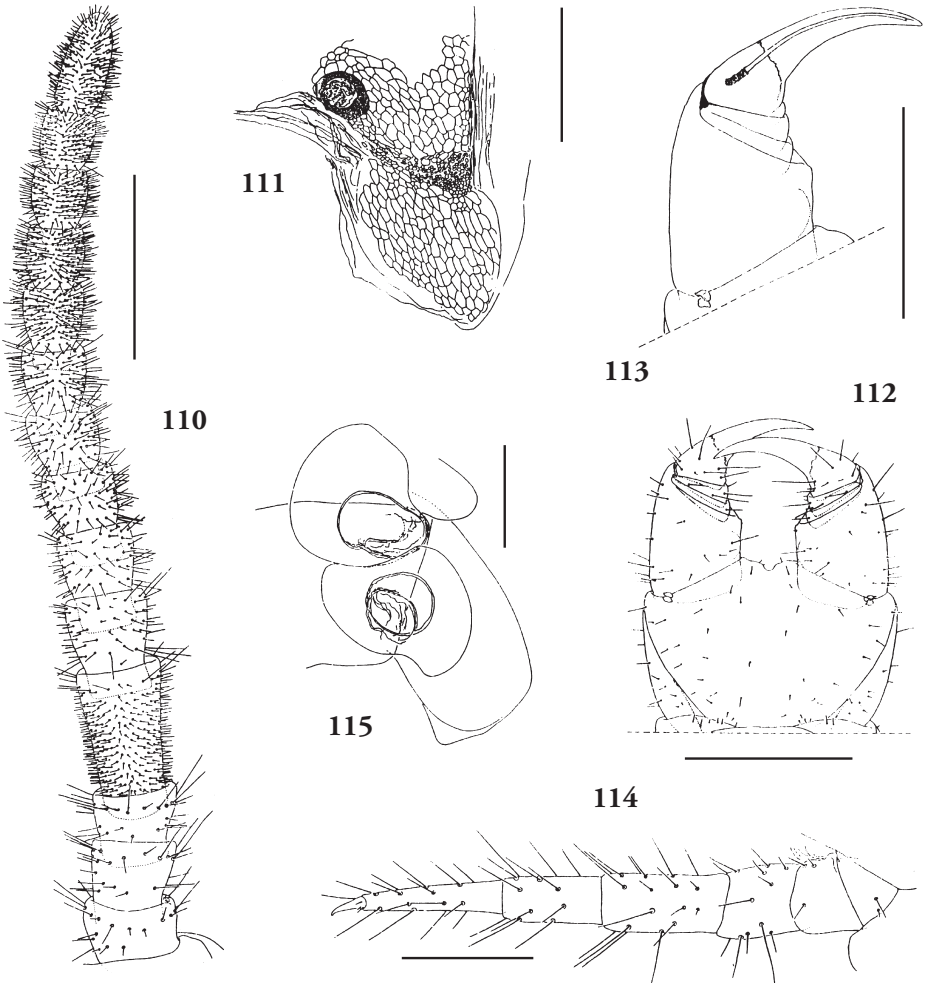


Figures 106-109. *Schendylops perditus* (Chamberlin, 1914), (♂ lectotype; Brazil: State of Paraíba: Independencia), (Reference *Schendylurus perditus*). (106) Detail of postero-external region of right second maxilla, ventral. (107) Detail of distal end of last podomere of right last leg, ventral. (108) Terminal segments, ventral (109) Left gonopod, ventral. From Pereira 1985 (1986). Scales not available.

***Schendylops schubarti* Pereira, Foddai & Minelli, 2002**
Figs 110-119.

Schendylops schubarti Pereira Foddai & Minelli, 2002, p. 57-65.

Diagnosis: The species differs from *S. jeekeli* sp. n., *S. interfluvius*, *S. janauarius*, *S. lomanus*; *S. paolettii* and *S. perditus* by the following unique traits (*cf.* Table 1): forcipular trochanteropraefemur with a blunt but not sclerotized prominence on apical part of medial edge; coxosternum of second maxillae with 23 setae. The following character is



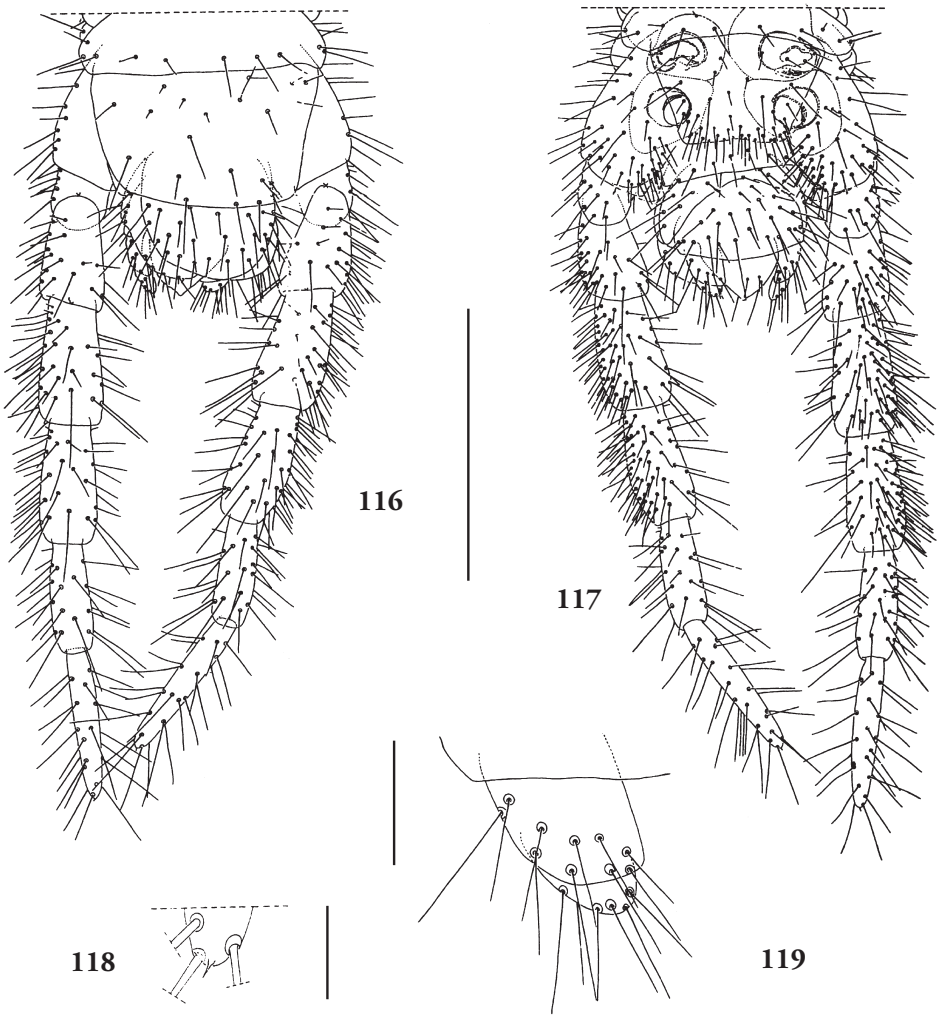
Figures 110-115. *Schendylops schubarti* Pereira, Foddai & Minelli, 2002 (♂ holotype; Brazil: Pernambuco: Tupi, close to Ipojuca). (110) Left antenna, ventral. (111) Detail of postero-external region of left second maxilla, ventral. (112) Forcipular segment, ventral. (113) Detail of calyx of poison gland in right forcipular telopodite, ventral. (114) Right leg IV, ventral. (115) Left coxal organs, ventral. Scale bars: 0.4 mm (110, 113); 0.1 mm (111, 115); 0.2 mm (114); 0.5 mm (112).

also distinctive for this species: ♂ antennae with a.a. IV much longer than a.a. I-III and V-XIII and provided with numerous small setae (Fig. 110).

S. schubarti can be separated from all the other Neotropical species of *Schendylops* having ventral pore fields on anterior region of the body only, by using the key below.

Type material examined: Holotype: ♂ with 37 leg-bearing segments, body length 17 mm, from Brazil: Pernambuco: Tupi, close to Ipojuca, 17 February 1935, Otto Schubart legit. (MZUSP).

Remarks: The following complementary information can be given on the ♂ holotype: length of cephalic shield: 0.77 mm; width of forcipular coxosternum: 0.76 mm;



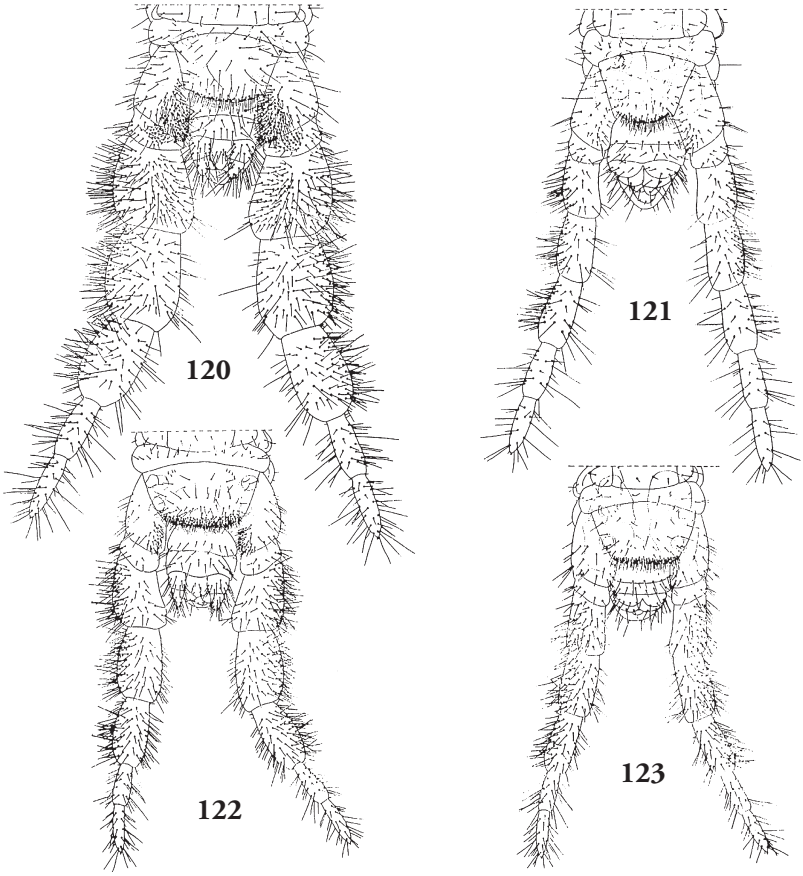
Figures 116-119. *Schendylops schubarti* Pereira, Foddai & Minelli, 2002 (♂ holotype; Brazil: Pernambuco: Tupi, close to Ipojuca). (116) Last leg-bearing segment and terminal segments, dorsal. (117) Last leg-bearing segment and terminal segments, ventral. (118) Detail of distal end of last podomere of right last leg, ventral. (119) Right gonopod, ventral. Scale bars: 0.4 mm (116, 117); 0.04 mm (118); 0.05 mm (119).

ratio width of a.a. II/ width of a.a. XIV, 1.76: 1; ratio maximum width of cephalic shield/ maximum width of forcipular tergum, 1.22: 1; ratio length of first legs/ width of forcipular coxosternum 0.96: 1; ratio length of first legs, length of second legs 0.86: 1.

Several ratios related to tergum, sternum and legs of last leg-bearing segment, as in Table 1.

Type locality: Brazil: Pernambuco: Tupi, close to Ipojuca.

Known range: Only known from the type locality.



Figures 120-123. (120) *Schendylops andesicola* (Chamberlin, 1957), (♂ specimen "A"; Ecuador: Pichincha province, 15 km E of Pifo), (Reference *Schendylurus andesicola*): Last leg-bearing segment and terminal segments, ventral. (121) *Schendylops andesicola* (Chamberlin, 1957), (♀ specimen "B"; Ecuador: Pichincha province, 15 km E of Pifo), (Reference *Schendylurus andesicola*): Last leg-bearing segment and terminal segments, ventral. (122) *Schendylops dentifer* (Chamberlin, 1957), (♂ specimen "A"; Ecuador: Pichincha province, NW slope of the Cotopaxi), (Reference *Schendylurus dentifer*): Last leg-bearing segment and terminal segments, ventral. (123) *Schendylops dentifer* (Chamberlin, 1957), (♀ specimen "B"; Ecuador: Pichincha province, NW slope of the cotopaxi), (Reference *Schendylurus dentifer*): Last leg-bearing segment and terminal segments, ventral. (From Pereira 1985). Scales not available.

Key to the Neotropical species of *Schendylops* with ventral pore fields present on anterior region of the body only, including *S. gracilis* (which also has pore fields on the proximal part of posterior region). (Data for *S. nealotus* taken from Shear & Peck 1992)

1. Sternum I with a pore field 2
- Sternum I without pore field..... 3
2. Pore fields present up to sternum XXXVII; ♀ with 45 leg-bearing segments... .....***S. gracilis*** (Attems, 1934)
- Pore fields present up to sternum XIII, ♀ with 41 leg-bearing segments ....***S. luederwaldi*** (Brölemann & Ribaut, 1911)
3. Some pore fields subdivided in two subsymmetrical areas 4
- All pore fields undivided 7
4. Lateral pieces of labrum with *ca*. 13-19+13-19 teeth (Figs 125, 126)..... .....***S. titicacaensis*** (Kraus, 1954)
- Lateral pieces of labrum with *ca*. 4-9+4-9 teeth..... 5
5. Fifty-seven leg-bearing segments (♀); body length 40 mm; forcipular tarsungulum with a basal internal tooth.....***S. peruanus*** (Turk, 1955)
- Forty-seven, 49, 51 or 53 leg-bearing segments, body length 20-23 mm; forcipular tarsungulum without a basal internal tooth 6
6. Male with 49 leg-bearing segments; ♀ with 49, 51 or 53 leg-bearing segments; ratio length of antennae/ length of cephalic shield, 2.5: 1; pore fields up to sternum XXI.....***S. edentatus*** (Kraus, 1957)
- Male with 47 leg-bearing segments; ratio length of antennae/ length of cephalic shield, 3.5: 1; pore fields up to sternum XXVII..... .....***S. potosius*** (Chamberlin, 1955)
7. Forcipular trochanteropraefemur with a conspicuous tooth on apical internal edge 8
- Forcipular trochanteropraefemur completely unarmed (or with an apical very small, blunt and not sclerotized prominence)..... 9
8. Female with 47, 49, 51 or 53 leg-bearing segments; ♂ with 45, 47 or 49 leg-bearing segments; ratio length of antennae/ length of cephalic shield 3.0: 1; tooth on apical medial edge of forcipular trocanteropraefemur, unpigmented; shape of ♂ and ♀ last leg-bearing segment and terminal segments as in Figs 120 and 121, respectively.....***S. andesicola*** (Chamberlin, 1957)
- Female with 45 leg-bearing segments and ♂ with 43 leg-bearing segments; ratio length of antennae/ length of cephalic shield 4.0: 1; tooth on apical medial edge of forcipular trocanteropraefemur, dark; shape of ♂ and ♀ last leg-bearing segment and terminal segments as in Figs 122 and 123, respectively..... .....***S. dentifer*** (Chamberlin, 1957)
9. Forcipular trochanteropraefemur with an apical very small blunt and unsclerotized prominence (Figs 112, 113); ♂ antennae with a.a. IV unusually elongated (Fig. 110)..... ***Schendylops schubarti*** Pereira, Foddai & Minelli, 2002

- Forcipular trochanteropraefemur completely unarmed; a.a. IV not elongated 10

10. Male with 27 or 29 leg-bearing segments, ♀ with 31 leg-bearing segments; maximum body length 9.5 mm; coxosternum of second maxillae with *ca*. 4+4 setae ..... ***S. oligopus*** (Pereira, Minelli & Barbieri, 1995)

- Male with at least 35 leg-bearing segments; ♀ with at least 37 leg-bearing segments; body length of at least 13 mm; coxosternum of second maxillae with at least 6+6 setae 11

11. With 35 to 43 leg-bearing segments 12

- With 49 to 65 leg-bearing segments 17

12. A.a. I and II, and lateral parts of clypeus provided with numerous distally very thin setae (Figs 95, 96, 99-103) ..... ***S. perditus*** (Chamberlin, 1914)

- A.a. I-II and clypeus not covered by numerous distally very thin setae 13

13. Basal internal edge of forcipular tarsungulum with a small pale tooth; praetarsus of last legs represented by two diminutive spines 14

- Basal internal edge of forcipular tarsungulum unarmed or with a small pale round tipped prominence; praetarsus of last legs as a diminutive or very small tubercle, provided with one (or with three-four) apical spines 15

14. Female with 43 leg-bearing segments; clypeus with *ca*. 8 setae on the middle; coxosternal lappets of first maxillae relatively large; apical claw of telopodite of second maxillae with *ca*. 12-14 teeth on ventral edge and *ca*. 17-18 on dorsal edge; posterior limit of ventral pore field series on sternum XVIII; sternum of ♀ last leg-bearing segment trapeziform (Fig. 79); ratio length of telopodite of ♀ last legs/ length of last sternum, *ca*. 5.40: 1..... ..... ***S. lomanus*** (Chamberlin, 1957)

- Female with 37, 39 or 41 leg-bearing segments; clypeus with *ca*. 4 setae on the middle; coxosternal lappets of first maxillae poorly developed; apical claw of telopodite of second maxillae with *ca*. 10 teeth on ventral and dorsal edges; posterior limit of ventral pore field series on sternum XIV; sternum of last leg-bearing segment conspicuously subtriangular in the ♂ (Figure 92), slightly subtriangular in the female (Figure 87); ratio length of telopodite of ♀ last legs/ length of last sternum *ca*. 3.80: 1; ratio length of tarsus II/ length of tarsus I of ♂ last legs, 1.0: 1 ..... ***S. paolettii*** (Pereira & Minelli, 1993)

15. Body length 21 mm (♂); ♂ with 43 leg-bearing segments; chaetotaxy of ♂ antennae as in Figures 66, 67; ratio length of antennae/ length of cephalic shield (♂) *ca*. 4.7: 1; coxosternum of first maxillae without setae; coxosternal lappets of first maxillae poorly developed (Fig. 68); pore fields not accompanied by additional pores at both sides of the anterior border; ratio width of tibia/ width of tarsus I of ♂ last legs, 2.40: 1 (Figs 71, 72); praetarsus of last legs as a very small tubercle with 3-4 apical spines (Fig. 73)..... ..... ***S. janauarius*** (Pereira, Minelli & Barbieri, 1995)

- Body length up to 19 mm; ♂ with 39 or 41 leg-bearing segments; coxosternum of first maxillae with setae; coxosternal lappets of first maxillae relatively

large; pore fields accompanied at both sides of the anterior border by a few additional pores; ratio width of tibia/ width of tarsus I of ♂ last legs, 1.18-1.66: 1; praetarsus of last legs as a diminutive tubercle with one very small apical spine 16

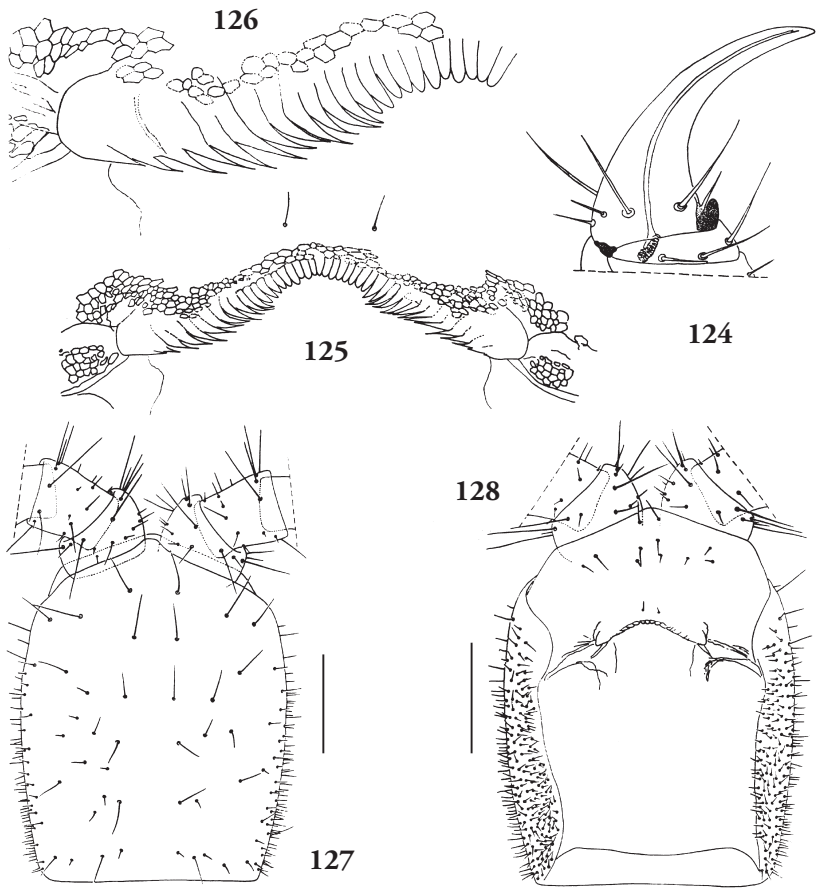
16. Body length 13 mm (♂); ratio length of antennae/ length of cephalic shield (♂) 2.6: 1; a.a. II-XIII of ♂ antennae *ca*. as long as wide (Figs 1-4); tip of specialized sensilla on apex of a.a. XIV tripartite; tip of type *b* sensilla on a.a. II, V, IX and XIII, divided in three apical branches; chaetotaxy of ♂ antennae as in Fig. 1; ratio maximum width of cephalic shield/ maximum width of forcipular tergum 1.28: 1 (Fig. 13); clypeus with *ca*. 13 medial setae; dentate lamellae of mandibles divided in three blocks; apical claw of telopodites of second maxillae with *ca*. 12 teeth on ventral edge (Fig. 21) and *ca*. 16 on dorsal edge; ratio length of first legs/ length of second legs 0.78: 1; width of second and third articles of anterior walking legs similar to width of remaining distal articles (Fig. 33); anterior margin of sterna without a pit; last praetergum completely fused to its pleurites; ratio width/ length of tergum of ♂ last leg-bearing segment 1.15: 1; internal and external edges of praefemur and femur of ♂ last legs with similar convexity (Figs 42, 43); ratio width of praefemur/ width of trochanter of ♂ last legs 1.30: 1 (Figures 42, 43); ratio width of tibia/ width of tarsus I of ♂ last legs 1.18: 1 (Figs 42, 43) ..... ***S. jeekeli*** sp. n.

- Body length up to 19 mm; ratio length of antennae/ length of cephalic shield *ca*. 3.8: 1 (♂, ♀); a.a. II-XIII longer than wide (♂, ♀); tip of specialized sensilla on apex of a.a. XIV, undivided; tip of type *b* sensilla on a.a. II, V, IX and XIII, undivided; chaetotaxy of ♂ antennae as in Fig. 59; ratio maximum width of cephalic shield/ maximum width of forcipular tergum 1.12-1.21: 1; clypeus with *ca*. 6-8 medial setae; dentate lamellae of mandibles divided in two blocks; apical claw of telopodites of second maxillae with *ca*. 6-8 teeth on ventral edge and *ca*. 7-10 on dorsal edge; ratio length of first legs/ length of second legs 0.70: 1; anterior walking legs with second and third articles much wider than remaining distal articles (Figs 56, 57); anterior margin of sterna III–IX (-XII) provided medially with a small shallow pit, accompanied by an internal chitinous thickening (Figs 51, 52); last praetergum not fused to its pleurites; ratio width/ length of tergum of ♂ last leg-bearing segment 1.59: 1; external edge of praefemur and femur of ♂ last legs, less convex than the internal edge (Figs 60, 61); ratio width of praefemur/ width of trochanter of ♂ last legs 1.04: 1 (Figs 60, 61); ratio width of tibia/ width of tarsus I of ♂ last legs 1.66: 1 (Figs 60, 61) ..... ***S. interfluvius*** (Pereira, 1984)

17. Basal internal edge of forcipular tarsungulum with a well developed and dark tooth (Fig. 124); ♂♂ with a maximum of 61 leg-bearing segments, ♀♀ with a maximum of 65 leg-bearing segments ..... ***S. pallidus*** (Kraus, 1955)

- Basal internal edge of forcipular tarsungulum without a tooth; ♂♂ with a maximum of 53 leg-bearing segments, ♀♀ with a maximum of 55 leg-bearing segments 18

18. Pleurites of head capsule covered by numerous small setae (Figs 127, 128) .... ***S. virgingordae*** (Crabill, 1960)
- Pleurites of head capsule glabrous 19
19. Anterior half of head capsule as broad as posterior half; praetarsus of last legs as a diminutive tubercle with a very small apical spine .... ***S. anamariae*** (Pereira, 1981)
- Anterior half of head capsule much broader than posterior half; praetarsus of last legs as "reduced tridentate claws" ..... ***S. nealotus*** (Chamberlin, 1950)



Figures 124-128. (124) *Schendylops pallidus* (Kraus, 1955), (♂ "Paratypoid", SMF 2486/3; Peru: high Andes in Central region of the country, near La Viuda), (Reference *Schendylurus pallidus*): Detail of calyx of poison gland in right forcipular telopodite, ventral. (125, 126) *Schendylops titicacaensis* (Kraus, 1954), (♀ "Paratypoid", SMF 2144/11; Peru: Choquechacra near Caracara, around Lake Titicaca), (Reference *Koepckeiella titicacaensis*): (125) Labrum. (126) Detail of right half of labrum. (127, 128) *Schendylops virgingordae* (Crabill, 1960), (♀ specimen; Venezuela: Falcón state: Morrocoy National Park, Playa Mero), (Reference *Schendylurus virgingordae*): (127) Cephalic shield and base of antennae. (128) Head and base of antennae, ventral. Scale bars: 0.2 mm (127, 128); scales not available (124-126).

Discussion

Species discrimination is generally difficult within the genus *Schendylops*, principally due to the insufficient availability of non variable traits. Comparison of the species known from a single sex with those only known from the opposite one, represents an additional difficulty.

Four of the seven species included in Table 1 (*S. jeekeli*, *S. janauarius*, *S. lomanus* and *S. schubarti*) are known from a single specimen; while two of them (*S. paolettii* and *S. perditus*), are known from a single specimen of each sex. In consequence, the actual intra-specific variability of some morphological traits such as the number of leg-bearing segments, adult body length, chaetotaxy of different structures and diverse morphometric ratios, is completely unknown for the first four species (besides the impossibility of knowing the eventual existence of secondary sexual dimorphism on the antennae as occurs in diverse species of *Schendylops*, see Minelli et al. (2000); Pereira (1999)). On the other hand, the knowledge of the morphological variability is very limited for the other two mentioned taxa.

Some of the species included in the present key (e.g., *S. gracilis* and *S. luederwaldi*), are also known from a single specimen, and some others from a very few ones. According to precedent details, variable traits here used for species differentiation, have been critically evaluated (and some of them only regarded as orientative) for distinguishing taxa.

Of the 22 species of *Schendylops* known up to now from Brazil, seven occur in the Atlantic Forest [*S. coscaroni* (Pereira & Minelli, 1996), *S. demelloi* (Verhoeff, 1938), *S. gounellei* (Brölemann, 1902), *S. iguapensis* (Verhoeff, 1938), *S. olivaceus* (Crabill, 1972), *S. schubarti* Pereira, Foddai & Minelli, 2002, and *S. sublaevis* (Meinert, 1870)]. Three other species, *S. parahybae* (Chamberlin, 1914) and *S. perditus* (Chamberlin, 1914) both from "Independencia" (state of Paraíba), and *S. paulista* (Brölemann, 1905) from "Poço Grande" (state of São Paulo) could also occur in this biome, but their respective collecting localities are imprecise, making it impossible to know their exact location. *Schendylops jeekeli* sp. n., herein described from the Paranapiacaba fragment, increases to eight the number of species of *Schendylops* confidently known from the Atlantic Forest.

According to Guix et al. (2002), the Paranapiacaba fragment is a key area in the conservation of the Brazilian Atlantic Forest. From a conservationist point of view, it is the most important Brazilian Atlantic rainforest fragment because of its large size, the excellent degree of conservation of its forest and the complex animal and plant communities that it hosts. The particular features of the Paranapiacaba fragment, in comparison to other forest fragments in Eastern Brazil (i.e., its location, large size, degree of isolation from surrounding forests, considerable discontinuities in its relief) turn it into a very significant portion of what the Brazilian Atlantic rainforest biome looked like before the European colonization of the New World (Guix et al. 2002).

In the Atlantic Forest along the Brazilian east coast, fragmentation has already reached a very advanced stage, as the forest has been dramatically reduced in the last few centuries, due to the expansion of agriculture, cattle raising, mining, and human

settlements (Pires et al. 2005). In the Neotropics, studies have shown that vegetation changes caused by fragmentation affect the distribution, abundance, richness and diversity of many plants, insects, birds and mammals (Lovejoy et al. 1986; Laurance 1991; Brown & Hutchings 1997; Pires et al. 2005).

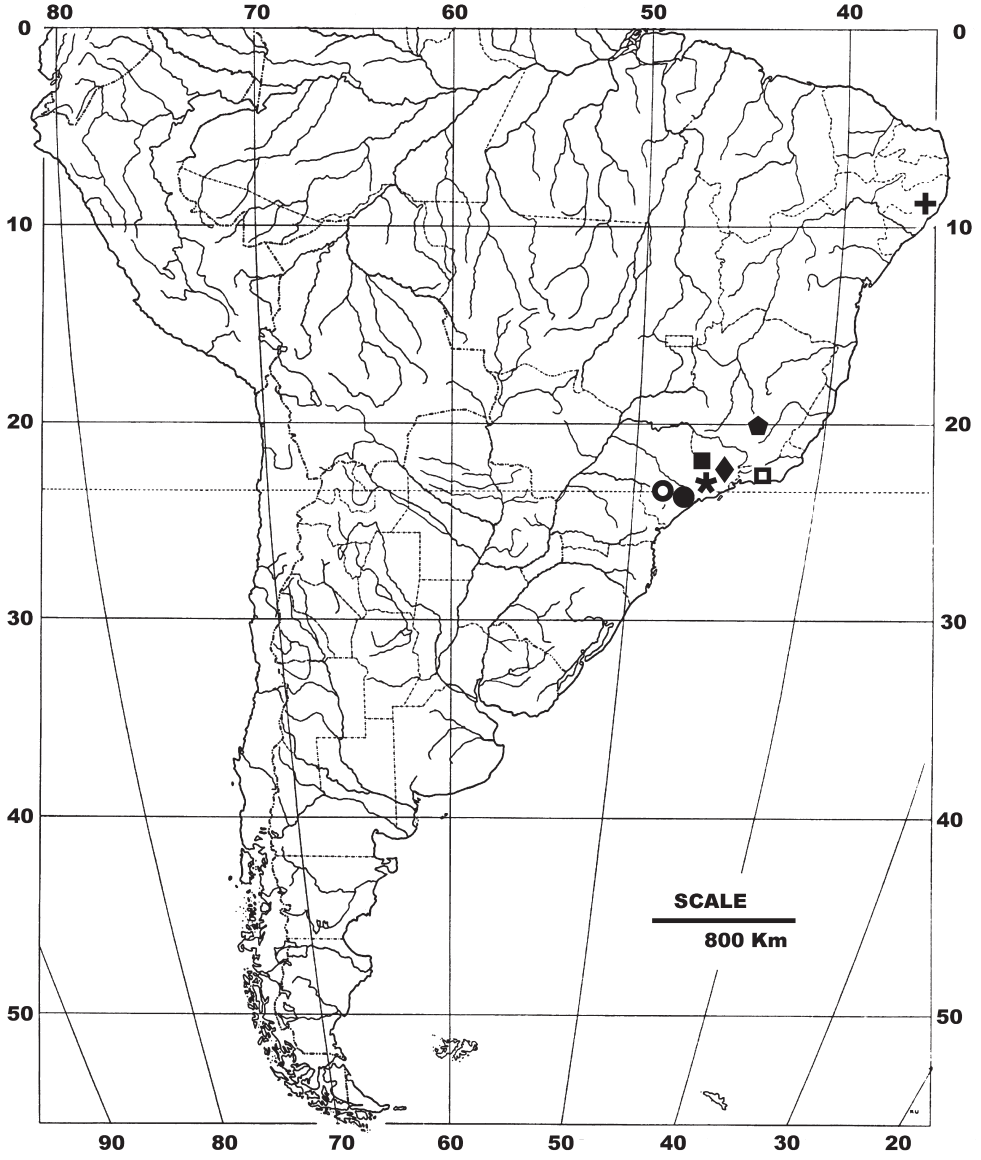


Figure 129. Geographical distribution of *Schendylops coscaroni* (Pereira & Minelli, 1996) (diamond); *Schendylops demelloi* (Verhoeff, 1938) (black dot); *Schendylops gounellei* (Brölemann, 1902) (square); *Schendylops iguapensis* (Verhoeff, 1938) (white dot); *Schendylops jeekeli* sp. n. (star); *Schendylops olivaceus* (Crabill, 1972) (white square); *Schendylops schubarti* Pereira, Foddai & Minelli, 2002 (cross) and *Schendylops sublaevis* (Meinert, 1870) (pentagon).

As the Atlantic coastal Forest is one of the world´s most species-rich systems (Myers et al. 2000), it is a critical priority to carry out detailed field studies on the responses of its species to fragmentation (Pires et al. 2005). The decimation of the Brazilian Atlantic Forest is one of the most alarming conservation problems in the world (Mori et al. 1981; Terborgh 1992; Viana et al. 1997). Forest destruction has resulted in the elimination of many populations, and potentially, in the erosion of the genetic diversity of several species (Brown & Brown 1992). Based on the nearly total destruction of this biome and the high number of endemic species specialized to the forest environment, it is reasonable to suppose that many species already have gone extinct before they were described and that many others will soon vanish (Morellato & Haddad 2000). It is predictable that intensive fieldwork in all remnant fragments of this rich biome, may result in the discovery of additional new species of *Schendylops*, as well as of other taxa of the order Geophilomorpha.

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