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Revision and cladistic analysis of the Afrotropical endemic genus *Smeringopus* Simon, 1890 (Araneae: Pholcidae)

BERNHARD A. HUBER

Alexander Koenig Research Museum of Zoology, Adenauerallee 160, 53113 Bonn, Germany. E-mail: b.huber@zfmk.de

This paper is dedicated to Prof. Otto Kraus



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BERNHARD A. HUBER

Revision and cladistic analysis of the Afrotropical endemic genus *Smeringopus* Simon, 1890 (Araneae: Pholcidae)

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Abstract

The genus *Smeringopus* Simon, 1890 is revised, with redescriptions of most previously known species and descriptions of 36 new species. With now 55 species, *Smeringopus* becomes the most species-rich pholcid genus in Africa. *Smeringopus* is largely restricted to central, southern, and eastern Africa, where it includes some of the largest and most conspicuous pholcid spiders in the region. A first cladistic analysis of *Smeringopus*, including outgroup representatives of all other genera of Smeringopinae, strongly suggests that the central and western African *Smeringopina* Kraus, 1957 is the sister taxon of *Smeringopus*. *Smeringopus* is here divided into twelve operational species groups, most of which are characterized by putative synapomorphies and by specific geographic distributions. Three species are newly synonymized with *S. pallidus* (Blackwall, 1858): *S. excavatus* (Simon, 1877); *S. pholcicus* Strand, 1907; and *S. buehleri* Schenkel, 1944. *Smeringopus madagascariensis* Millot, 1946 is newly synonymized with *S. carli* Lessert, 1915. *Crossopriza cylindrogaster* Simon, 1907 is transferred to *Smeringopus*. The following new species are described: *S. badplaas*; *S. blyde*; *S. bujongolo*; *S. butare*; *S. bwindi*; *S. chibububo*; *S. chogoria*; *S. dehoop*; *S. dundo*; *S. florisbad*; *S. hanglip*; *S. harare*; *S. isangi*; *S. kalomo*; *S. katanga*; *S. koppies*; *S. lotzi*; *S. lubondai*; *S. luki*; *S. lydenberg*; *S. mayombe*; *S. mgahinga*; *S. mlilwane*; *S. moxico*; *S. mpanga*; *S. ndumo*; *S. ngangao*; *S. oromia*; *S. principe*; *S. ruhiza*; *S. saruanle*; *S. sederberg*; *S. tombua*; *S. turkana*; *S. ubicki*; *S. uisib*.

Key words: Pholcidae, Smeringopinae, *Smeringopus*, Africa, Madagascar, cladistic analysis, taxonomy

Introduction

Pholcids are among the dominant web-building spiders in tropical and subtropical regions around the world, occupying a wide variety of microhabitats from the leaf litter to tree canopies, and ranging from sea level to over 4000 m. The concentration of pholcid diversity in tropical and subtropical countries has long slowed and handicapped progress in understanding fundamental aspects of relationships, distribution patterns, and species-level diversity. Only recently has the situation started to change. After more than a decade of concentrated effort towards all taxonomic levels from species to subfamily, using both morphological and molecular tools and including new material from numerous focused expeditions, a stable phylogeny is finally beginning to emerge and rough estimates of actual distribution patterns and species-level diversity can be provided (Huber 2011a). Even though species numbers have doubled during the last 12 years, several genera continue to be very poorly known, with numerous species ‘described’ but unidentifiable with the existing literature and thus basically unknown. This is particularly true of *Smeringopus*, one of the most species rich pholcid genera in Africa that includes relatively large and conspicuous species but that has received essentially no taxonomic attention for over five decades.

While the type species of *Smeringopus*, the pantropical *S. pallidus*, is fairly well known, its many African cousins have remained very poorly studied. When Kraus (1957) published the only previous revision of the genus, only about 100 adult specimens (other than *S. pallidus*) were available to him, representing eight species. Several further nominal species were known at that time, but they were either not treated for lack of material or not even mentioned (e.g. *S. thomensis* Simon, 1907; *S. natalensis* Lawrence, 1947). Some species have never been illustrated (*S. affinitatus* Strand, 1906; *S. lineiventris* Simon, 1890; *S. pholcicus* Strand, 1907; *S. rubrotinctus* Strand, 1913; *S. thomensis*), and some were unidentifiable because of lost and/or juvenile type specimens (e.g. *S. affinitatus*; *S. arambourgi* Fage, 1936; *S. peregrinus* Strand, 1906; *S. zonatus* Strand, 1906), resulting in misidentification (e.g. in the case of *S. peregrinus* in Kraus 1957). Since then, intensive collecting in many African countries has increased the number of available specimens to over 3000, and in several cases it has become possible to reliably identify ‘old’ species even in problematic cases such as those with lost or juvenile types. However, not a single further species has been described since 1957 and with the exception of *S. pallidus* and *S. natalensis*, no taxonomic treatment nor even a single new record has been published. The present paper is intended to provide a long overdue update of Kraus’s revision. It gives an overview of the genus, redescribes as many as possible of the ‘old’ species, and describes a large part of the new species available in collections. With 55 species, *Smeringopus* becomes the most species rich pholcid genus in Africa (followed by *Pholcus* with 47 African species).

Together with seven other genera, *Smeringopus* constitutes the subfamily Smeringopinae which is geographically restricted to Africa, the Mediterranean, and the Middle East (Huber 2011a). The monophyly of the group has previously been supported both by morphological and molecular data (reviewed in Huber 2011a), but

previous studies never included more than four of the eight genera. As a result, relationships of *Smeringopus* to its closest relatives have remained unresolved. The present paper provides a first cladistic analysis of *Smeringopus* and of Smeringopinae, including representatives of all operational species groups of *Smeringopus* and of all other genera currently assigned to Smeringopinae.

Material and methods

This review is based on the study of about 3000 specimens deposited in the following 26 collections: American Museum of Natural History, New York (AMNH); Natural History Museum, London (BMNH); California Academy of Sciences, San Francisco (CAS); Collection John and Frances Murphy, Middlesex, England (CJFM); collection Peter Horak, Graz (CPH); Durban Natural Science Museum, Durban (DNSM); Museum of Comparative Zoology, Cambridge (MCZ); Muséum d'histoire naturelle, Genève (MHNG); Muséum national d'Histoire naturelle, Paris (MNHN); Musée royal de l'Afrique Centrale, Tervuren (MRAC); Museo Zoologico de "la Specola", Firenze (MZP); Museum of the Institute of Zoology, Polish Academy of Science, Warsaw (MZPW); National Collection, Pretoria (NCP); Naturhistorisches Museum, Basel (NHMB); Naturhistorisches Museum Wien, Vienna (NHMW); National Museum, Bloemfontein (NMBA); National Museum of Kenya, Nairobi (NMKE); Natal Museum, Pietermaritzburg (NMP); Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt (SMF); Transvaal Museum, Pretoria (TMP); National Museum of Natural History, Washington D.C. (USNM); Zoologisches Forschungsmuseum Alexander Koenig, Bonn (ZFMK); Museum für Naturkunde, Berlin (ZMB); Zoologisches Institut und Zoologisches Museum, Hamburg (ZMH); Museum of Zoology, Turku (ZMT); Zoological Museum, University of Copenhagen, Copenhagen (ZMUC).

Methods and terminology are as in Huber (2000, 2011b). Measurements are in mm unless otherwise noted. Eye measurements are $\pm 5 \mu\text{m}$. Drawings were done with a camera lucida on a Leitz Dialux 20 compound microscope. Cleared epigyna were stained with chlorazol black. Photos were made with a Nikon Coolpix 995 digital camera (2048 x 1536 pixels) mounted on a Nikon SMZ 1500 dissecting microscope. For SEM photos, specimens were dried in HMDS (Brown 1993), and photographed with a Hitachi S-2460 scanning electron microscope. SEM data are often not based on the specimen described (e.g., in the case of holotypes).

Locality coordinates are in round brackets when copied from labels and original publications or when received directly from collectors, in square brackets when originating from some other source (such as online gazetteers, Google Earth, MRAC database, etc.). Distribution maps were generated with Arc View GIS 3.2. The numerical cladistic analyses were done using NONA, version 2 (Goloboff 1993), Pee-Wee, version 2.8 (Goloboff 1997), and TNT, version 1.1 (Goloboff *et al.* 2004, 2008). The matrix (66 taxa, 40 characters) is given in Appendix 1; terminal taxa and characters scored are given in Appendices 2 and 3. Of the 40 characters, 38 are binary, the other two are treated as nonadditive. Note that two characters are uninformative in the present dataset (1 and 12). They were left in the matrix because they will probably become informative when certain taxa are added in future versions. They were deactivated for the calculation of tree statistics. The final matrix can be downloaded at <http://www.uni-bonn.de/~bhuber1/matrices.html>. Cladogram analysis was done with Winclada, version 1.00.08 (Nixon 2002). See Cladistic analysis section below for details of the analyses.

Further abbreviations:

ALE	anterior lateral eye
ALS	anterior lateral spinneret
AME	anterior median eye
e	embolus
p	procurus
PME	posterior median eye
PMS	posterior median spinneret
sd	sperm duct (opening)

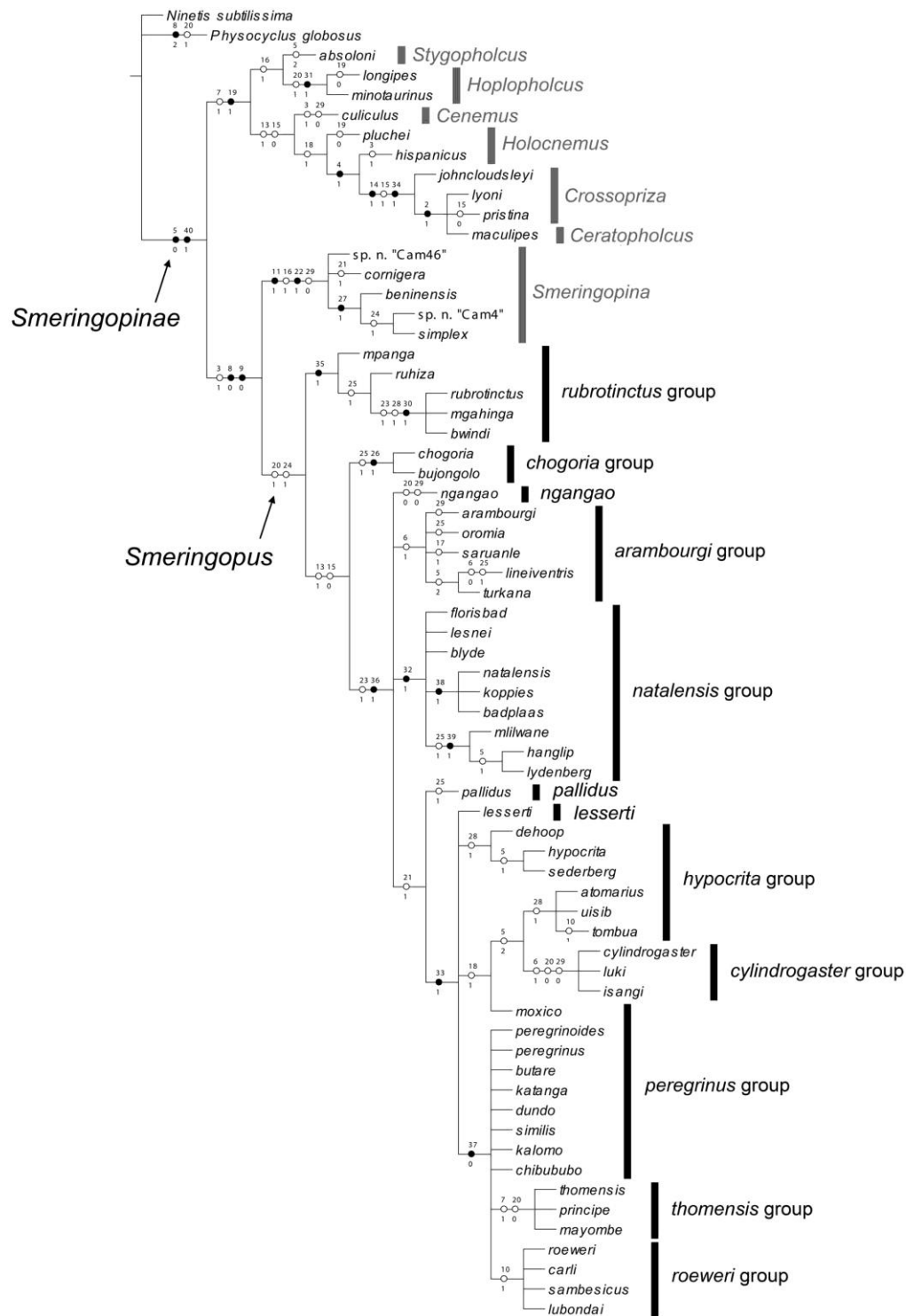


FIGURE 1. One of the four most parsimonious cladograms resulting from the analysis of the matrix in Appendix 1 using successive weighting in NONA. See Cladistic analysis for discussion.

Cladistic analysis

Using NONA with **hold/100**, **mult*200** (or **hold/10; mult*10.000**), and **amb-** for the matrix in Appendix 1 and equal character weights resulted in six most parsimonious cladograms with a length of 81 (Ci = 51; Ri = 87). Using

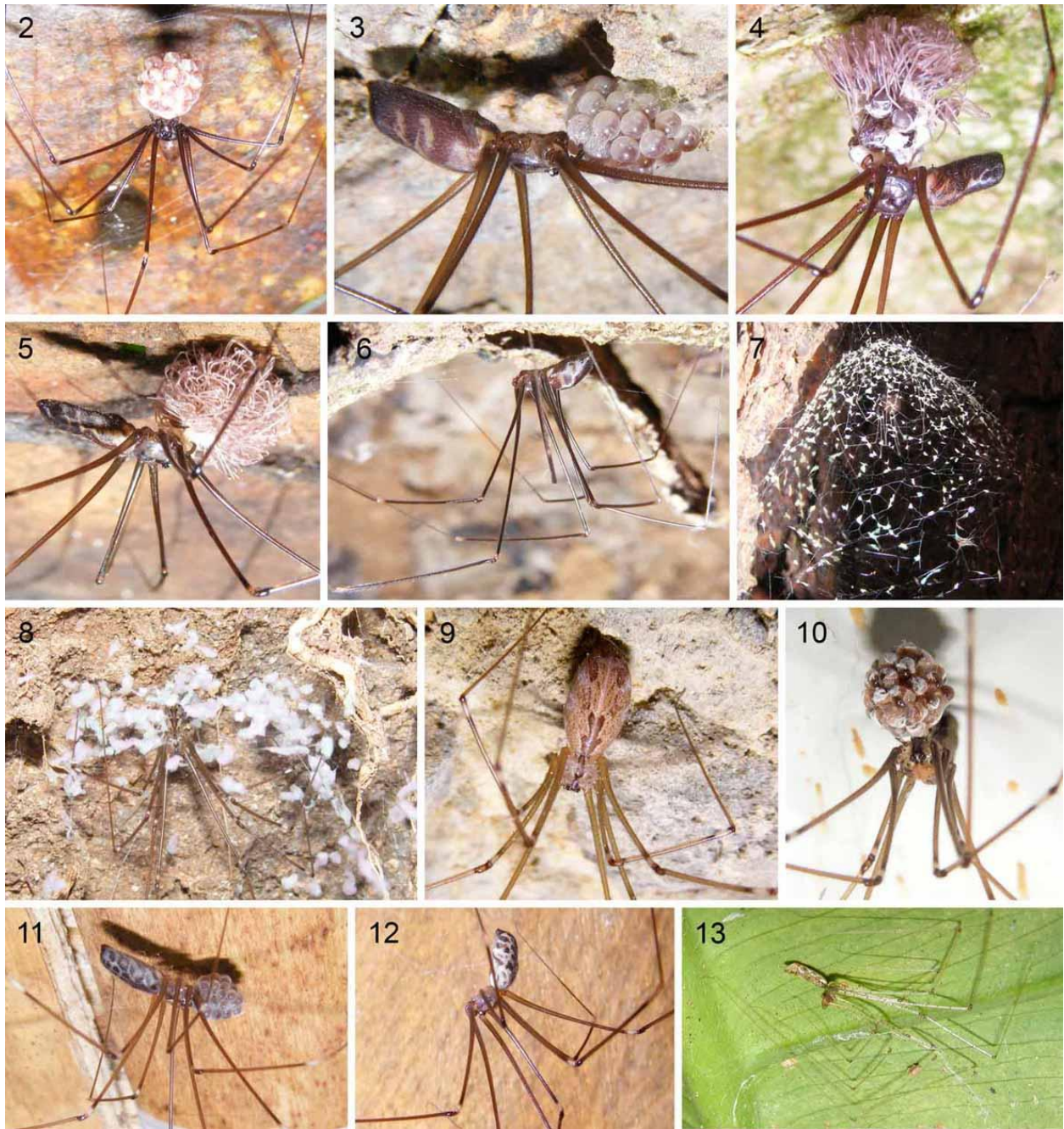
TNT with various parameters in the New Technology search strategies resulted in the same most parsimonious cladograms. Successive weighting in NONA (with the consistency index as weighting function) resulted in very similar four most parsimonious cladograms, one of which is shown in Fig. 1 (L = 84; Ci = 52; Ri = 87). The other three successive weighting cladograms differed only with respect to the *arambourgi* species group, which was split into two to three groups, all originating from the same polytomy as *S. ngangao*. With respect to topology, the cladograms using equal character weights differed in three details from the cladogram shown in Fig. 1: (1) the sister group of *Crossopriza* varied, resulting in a tetrachotomy in the strict consensus including *Cenemus*, the two species of *Holocnemus*, and *Crossopriza* + *Ceratopholcus*; (2) the *rubrotinctus* group was either monophyletic (as in Fig. 1) or paraphyletic; (3) the *arambourgi* group consistently included *S. ngangao* but not *S. lineiventris*. Since this position of *S. ngangao* seems highly obscure for reasons discussed below, the cladogram shown in Fig. 1 is preferred to those of the analysis using equal character weights.

Implied weighting in Pee-Wee (which resolves character conflict in favor of the characters that have less homoplasy) was used with all possible settings of the constant of concavity K (1–6) to explore the stability of different clades under different weighting regimes. Most clades were entirely unaffected, except for two cases: (1) at K=1-5 the relationships among the species of the *arambourgi* group varied strongly, resulting in a large polytomy in the consensus cladograms, i.e. all five species included in the analysis originated from the same polytomy as *S. ngangao*. At K=6 the *arambourgi* group was resolved, but including *S. ngangao* and excluding *S. lineiventris* (as in the equal weighting trees above); (2) the *rubrotinctus* group was always monophyletic but with a basal trichotomy. The implications of these cladograms are discussed below (see Generic relationships and Specific relationships).

Identification key

This key is designed to identify the species groups of *Smeringopus*. Species within species groups are best identified by comparing diagnostic figures. Note that males and females must be present for this key to work.

- | | | |
|----|---|---|
| 1 | Male chelicerae with long distal lateral apophyses (Figs. 24-27); epigynum with distinct posterior indentation (Figs. 38-57) | <i>rubrotinctus</i> group |
| - | Male chelicerae with shorter distal apophyses; epigynum without posterior indentation | 2 |
| 2 | Male palpal cymbium with very long slender process near palpal tarsal organ (Figs. 131, 132) | <i>chogoria</i> group |
| - | Male palpal cymbium without or with much shorter process near palpal tarsal organ (e.g. Figs. 357, 367, 387) | 3 |
| 3 | Epigynum without pair of pockets | 4 |
| - | Epigynum with pair of pockets (e.g. Figs. 459, 542) | 7 |
| 4 | Genital bulb with only one process (Fig. 151); cheliceral apophyses in relatively proximal position (Fig. 153) | <i>S. ngangao</i> |
| - | Genital bulb with two or three processes | 5 |
| 5 | Male palpal coxa with retrolateral apophysis (arrow in Fig. 379) | <i>S. pallidus</i> |
| - | Male palpal coxa without retrolateral apophysis | 6 |
| 6 | Genital bulb with two processes | <i>arambourgi</i> group and <i>S. ndumo</i> |
| - | Genital bulb with three processes (or dorsal process clearly bifid, Figs. 338, 360, 364) | <i>natalensis</i> group (except <i>S. ndumo</i>) |
| 7 | Male chelicerae with proximal frontal projections (Figs. 771, 779, 788) | <i>roeweri</i> group |
| - | Male chelicerae without proximal frontal projections | 8 |
| 8 | Legs without curved hairs | 9 |
| - | Legs with curved hairs | 10 |
| 9 | Abdomen without dorsal pattern (Figs. 530, 534); procursus without distal pointed apophysis (Figs. 533, 537); cymbium with elongation (Figs. 533, 537) | <i>cylirogaster</i> group |
| - | Abdomen with distinct dorsal pattern (Figs. 699, 701, 703); procursus with long distal pointed apophysis (Figs. 706, 708); cymbium without elongation (Figs. 706, 708) | <i>thomensis</i> group |
| 10 | Procursus with long and slender distal process (Figs. 402-404); bulb with long pointed dorsal process on embolus (Figs. 405, 406) | <i>S. lesserti</i> |
| - | Procursus with shorter distal process (e.g. Figs. 487, 500, 609); bulb without or with shorter dorsal process on embolus (e.g. Figs. 503, 658, 689) | 11 |
| 11 | Procursus distally strongly bent towards prolateral (e.g., Figs. 484, 510); valve in internal female genitalia medially barely widened and not clearly divided (Figs. 460-474) | <i>hypocrita</i> group |
| - | Procursus distally not or only slightly bent towards prolateral (e.g., Figs. 651, 657, 675); valve in internal female genitalia medially strongly widened and divided (Figs. 593-607) | <i>peregrinus</i> group |



FIGURES 2–13. *Smeringopus*, alive specimens in their natural habitats. 2. *S. bwindi*, female with eggsac (Uganda, Bwindi). 3–4. *S. chogoria*, females with eggsac and spiderlings (Kenya, Mau Mau and Chogoria). 5. *S. mpanga*, female with spiderlings (Uganda, Kalinzu). 6–7. *S. ngangao*, male and web with silk-balls (Kenya, Ngangao). 8–10. *S. peregrinus*, web with silk-balls (Kenya, Gonkonyi), female (Kenya, Hell's Gate), female with eggsac (Gonkonyi). 11. *S. pallidus*, female with eggsac (Uganda, Semuliki). 12. *S. lesserti*, male (Gabon, Mayebout). 13. *S. cylindrogaster* (Guinea, Dieke).

Taxonomy

Smeringopus Simon, 1890

Smeringopus Simon 1890: 94; type species by original designation: *Pholcus elongatus* Vinson, 1863 = *Pholcus pallidus* Blackwall, 1858. Simon 1893: 476. Kraus 1957: 217. Timm 1976: 70–72.

Diagnosis. Relatively large pholcids (body length usually about 5–8 mm) with elongate abdomen (Figs. 2–13), usually with vivid dark pattern, deep thoracic pit (Figs. 82, 414), male palpal femur usually with deep retrolateral furrow with distinct proximal rim (Figs. 344, 411; absent in *S. mpanga*, *S. ruhiza*, and *chogoria* group), cymbium with macrotrichia (Figs. 158, 797), legs usually with curved hairs on tibiae and metatarsi (absent in *thomensis* group and *cylindrogaster* group), without spines on male femora (present in *S. saruanle*). Distinguished from *Smeringopina* by absence of proximal lateral apophyses on male chelicerae, by barely modified male palpal trochanter, and by low number of modified hairs on male chelicerae (usually one on each side, rarely zero). Distinguished from other *Smeringopinae* genera by male gonopore with only two epiandrous spigots (Figs. 159, 347) and by absence of stridulatory ridges on chelicerae.

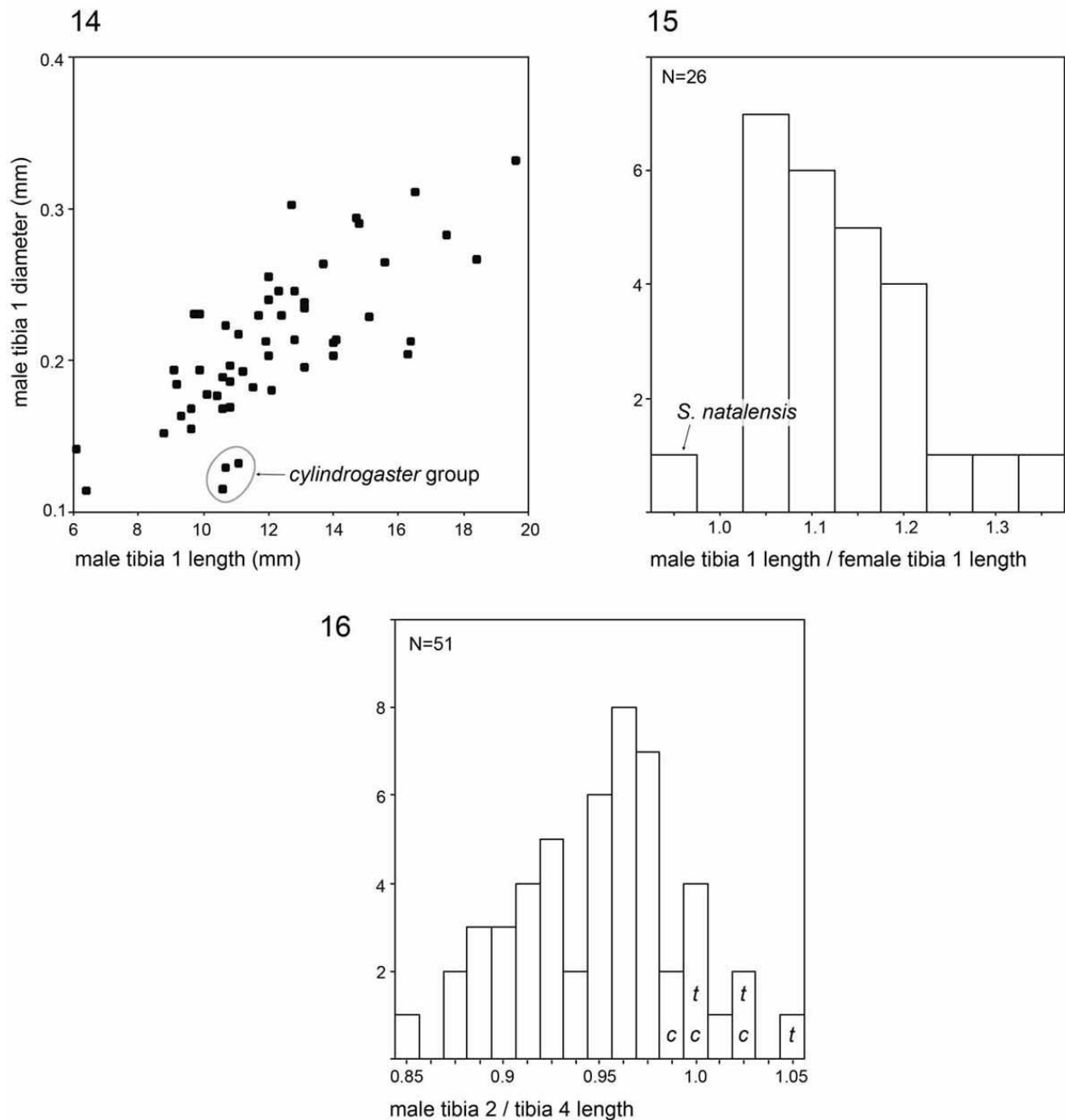
Description. Male: Total body length ~3.5–10 (usually ~5–8); carapace width 1.2–3.3 (usually 1.5–2.5). Carapace with deep pit; ocular area weakly raised, eye triads relatively close together (distance PME-PME usually about same as PME diameter), each secondary eye accompanied by more or less distinct elevation (Figs. 215, 539; ‘pseudo-lenses’; cf. Huber 2009), AME relatively large, in low position. Clypeus high, never modified, usually with pair of dark stripes (Figs. 179, 570). Chelicerae never with stridulatory ridges, usually with pair of small apophyses near fang-joints, each provided with one modified hair (Figs. 213, 417); representatives of the *rubrotinctus* group with larger apophyses and without modified hairs (Figs. 87, 106). Palpal coxa with or without retrolateral apophysis, trochanter barely modified, femur usually with deep retrolateral furrow with distinct proximal rim (Figs. 344, 411; absent in *S. mpanga*, *S. ruhiza*, and *chogoria* group), cymbium always with macrotrichia (Figs. 158, 797), sometimes with process near palpal tarsal organ (Figs. 357, 367; very long in *S. chogoria* and *S. bujongolo*: Figs. 131, 132), palpal, tarsal organ capsulate (Figs. 395, 421), procurus never with hinge, tip usually with spine-like process and membranous structures, bulb with usually rather complex embolus and one or two processes arising from embolus or fused proximally to embolus.

Legs long and thin, leg 1 length ~25–80 (usually ~35–60), tibia 1 ~6–20 (Fig. 14; usually ~7–15), tibia 2 usually shorter than tibia 4 (Fig. 16), especially in small species (*S. saruanle*, *S. oromia*). Tibia 1 L/d usually ~40–70, higher only in leaf-dwelling species (*cylindrogaster* group: ~80–95). Legs usually without spines on femora (present in *S. saruanle*), with curved hairs on tibiae and metatarsi (absent in *thomensis* group and *cylindrogaster* group), retrolateral trichobothrium very proximal (at 1.5–3.0%), prolateral trichobothrium always present (also on tibiae 1; Fig. 644). Tarsal pseudosegments very indistinct, apparently never regular rings but rather irregular platelets (Figs. 89, 346).

Abdomen elongate, posteriorly rather pointed, never elevated above spinnerets, usually with distinct dark pattern dorsally, oblique lines or marks laterally, and distinctive ventral pattern usually consisting of dark epigastric area, two or three black lines in median part and two lines in posterior part (Figs. 559, 567). Male gonopore always with two spigots (Figs. 159, 347), each ALS with large widened spigot, pointed spigot, and 5–6 cylindrically shaped spigots (Figs. 419, 665; *S. thomensis* with only two small cylindrically shaped spigots: Fig. 737; other species of the *thomensis* group also with reduced number but not studied with SEM).

Female usually very similar to male, no sexual dimorphism in PME-PME distance, chelicerae unmodified, legs usually slightly shorter than in males, only in *S. natalensis* on average longer (Fig. 15). Epigynum either a simple plate (Figs. 168, 399) or provided with pair of pockets (Figs. 666, 672), very derived in *S. isangi* (with additional pair of pockets on lateral membranous processes; Fig. 542). Internal genitalia with frontal valve that is sometimes widened and divided medially (e.g. Figs. 616, 790); pores of pore plates either homogeneously distributed (Figs. 99, 114) or in groups (Figs. 349, 397); rarely with internal pockets in female genitalia (Figs. 342, 361).

Monophyly. In this monograph, I follow a conservative approach, keeping *S. rubrotinctus* and close relatives (the *rubrotinctus* species group) in *Smeringopus* even though preliminary molecular data (Dimitrov, Astrin & Huber, in press) suggest that these taxa (together with the two species comprising the *chogoria* group) may be more closely related with *Smeringopina* than with *Smeringopus*. Following this conservative delimitation of *Smeringopus*, all cladistic analyses above agree on two synapomorphies for the genus: (1) the presence of curved hairs on the legs (char. 20); and (2) the presence of macrotrichia on the male palpal cymbium (char. 24). The analyses using equal and implied character weighting at K=6 identify one or two further synapomorphies, none of them convincing (char. 25: presence of process on cymbium near palpal tarsal organ; char. 35: epigynum with large posterior indentation). A re-delimited *Smeringopus* (as suggested by molecular data, i.e. excluding the *rubrotinctus* group and the *chogoria* group) would also be supported by two morphological characters: (1) male palpal femur with retrolateral furrow (char. 23); and (2) pore plates in female internal genitalia with pores arranged in groups



FIGURES 14–16. Scatter diagram and histograms of specific measurements in *Smeringopus*. 14. Representatives of the *cylindrogaster* group have relatively slender legs in relation to their length. 15. Of the 26 species with at least 5 males and 5 females measured, only *S. natalensis* has shorter male than female legs. 16. In most species, tibia 2 is shorter than tibia 4, which is unusual in long-legged pholcids; rather usual values are found in representatives of the *cylindrogaster* group (c) and the *thomensis* group (t).

(char. 36). Further analyses (including a more complete sample of *Smeringopina* and DNA sequences of more species) are needed to decide if the *rubrotinctus* and *chogoria* groups belong either to *Smeringopus* or to *Smeringopina*.

Generic relationships. All analyses, under all weighting regimes used, agree on a sister group relationship between *Smeringopus* and *Smeringopina*. Three morphological characters support this relationship: (1) an elongated abdomen (char. 3); (2) the unique (among Pholcidae) reduction of epiandrous spigots from 4 to 2 (char. 8); (3) the loss of cheliceral stridulation (char. 9). Preliminary molecular data support this close relationship (Dimitrov, Astrin & Huber, in press), but the details need further investigation (especially regarding the positions of the *rubrotinctus* and *chogoria* groups; see Monophyly above).

The outgroup sample is too small to allow well-founded conclusions about relationships among the other Smeringopinae, but it is noteworthy that *Cenemus* (which is endemic to the Seychelles) consistently groups with these other genera (which are geographically restricted to northern Africa, the Mediterranean, and the Middle East) rather than with *Smeringopus* and *Smeringopina* (the two sub-Saharan genera). *Cenemus* shares with these northern genera the reduction of ALS spigots from 7–8 to 2, but it also shares a derived character with the two sub-Saharan genera (the elongated abdomen, char. 3).

Specific relationships. Based on the cladistic analyses above and partly also on superficial similarity and geographic closeness, *Smeringopus* is here divided into twelve operational species groups, three of them monospecific. Some of these groups are likely monophyletic (e.g., *rubrotinctus* group, *chogoria* group, *cylindrogaster* group, *thomensis* group), one may be monophyletic even though the cladograms suggest otherwise (*hypocrita* group), and at least one is very probably not monophyletic (*peregrinus* group). This grouping, even though preliminary and not strictly cladistic, structures the existing diversity and reflects biogeographic patterns. In the descriptive section below, species are ordered according to species groups in the order used here (which in turn is derived from the cladogram in Fig. 1).

1. *rubrotinctus* group. This group includes five species (*S. rubrotinctus*, *S. mgahinga*, *S. bwindi*, *S. ruhiza*, *S. mpanga*) with an epigynum with posterior indentation (Figs. 38–57; char. 35). In the analyses above, the group is always sister to all other *Smeringopus*, but molecular data (Dimitrov, Astrin & Huber, in press) suggest a closer relationship with the *chogoria* group than with other groups. These two groups also share a rather dark, almost purplish coloration (Figs. 18–23, 115–118) and the geographic distribution (Fig. 58).

2. *chogoria* group. This group includes two species that are extremely similar in most respects and share a very long process on the male palpal cymbium (Figs. 131, 157; char. 26).

3. *S. ngangao*. This species appears very isolated morphologically, especially by the absence of curved hairs on legs and by the absence of a distal apophysis on the procurus.

4. *arambourgi* group. Three species (*S. arambourgi*, *S. oromia*, *S. turkana*) of this largely Ethiopian group share a transversal dark band ventrally on the abdomen (Figs. 170, 172, 174; char. 6). In two species (*S. lineiventris*, *S. saruanle*) the ventral abdominal pigment is largely or entirely reduced and the transversal band is thus barely visible or absent. Two further species are very likely part of this group but the types are lost and no new material is known to me (*S. affinitatus*, *S. zonatus*).

5. *natalensis* group. Most species of this large southern African group (*S. natalensis*, *S. koppies*, *S. badplaas*, *S. florissbad*, *S. lesnei*, *S. harare*, *S. blyde*, *S. hanglip*, *S. lydenberg*) are characterized by three (rather than one or two) processes arising from the genital bulb (Figs. 302, 307; char. 32). Two species (*S. mlilwane*, *S. ndumo*) have only two processes arising from the genital bulb but are tentatively assigned to this group because of other specific similarities (e.g., ventrally strongly curved procurus; female genitalia) and geographic closeness.

6. *S. pallidus*. The type species of the genus appears very similar to representatives of the *arambourgi* group above but shares with the following groups a distinct retrolateral apophysis on the male palpal coxa (Figs. 413, 732, 802; char. 21).

7. *S. lesserti*. This species shares with all the following groups the presence of epigynal pockets (Figs. 423, 666, 672; char. 33) but otherwise (bulbal apophyses, procurus tip) it appears very isolated.

8. *hypocrita* group. This group is restricted to southern Africa but in contrast to the *natalensis* group rather to the western than to the eastern side (Fig. 475). The cladistic analyses never resolved this group as monophyletic, but apart from their geographic distribution, the species share a procurus tip that is strongly bent towards proteral (Figs. 477, 484; char. 18). The cladistic analyses separate the group into a more southern clade (*S. hypocrita*, *S. sederberg*, *S. dehoop*; probably also *S. lotzi* and *S. ubicki* that were not included in the matrix) and a more northern clade (*S. atomarius*, *S. uisib*, *S. tombua*).

9. *cylindrogaster* group. This group is unique (among *Smeringopus*) in its pale coloration, resulting from its unique biology (high in the vegetation rather than near the ground; see Natural history below). The three species (*S. luki*, *S. isangi*, *S. cylindrogaster*) share a distinctive color pattern (abdomen dorsally monochromous, ventrally with black spots), an elongated cymbium, and a prominent proximal ventral process of the procurus. Two species occur in central Africa; the third is the only *Smeringopus* (other than *S. pallidus*) that also occurs in western Africa.

10. *peregrinus* group. Representatives of this large group share with the two following groups a distinctive structure in the female internal genitalia (part of the valve appears medially widened and divided; Figs. 616, 790; char. 37) but the group itself is probably not monophyletic. It is widely distributed in central and eastern Africa (*S. peregrinus*, *S. peregrinoides*, *S. katanga*, *S. butare*, *S. dundo*) but reaches further south until Namibia (*S. similis*),

Zimbabwe, and Mozambique (*S. kalomo*, *S. chibububo*). *S. moxico* is tentatively assigned to this group even though the cladistic analysis suggests otherwise.

11. *thomensis* group. The three species of this group (*S. thomensis*, *S. principe*, *S. mayombe*) share the loss of curved hairs on the legs (char. 20) and the reduction of ALS spigots (char. 7; in *S. thomensis* two tiny cylindrically shaped spigots are still present: Fig. 737; in the other two species the spinnerets were studied in the light microscope only and it remains unknown if the spigots are entirely reduced or if two tiny spigots are still present too). They also share a distinctive pattern dorsally on the abdomen (Figs. 699, 701, 703; not coded) and the geographic distribution (São Tomé and Príncipe Islands and western Congo D.R.).

12. *roeweri* group. The four species of this group (*S. roeweri*, *S. lubondai*, *S. carli*, *S. sambesicus*) share rounded light projections proximally on the male chelicerae (Figs. 771, 779; char. 10). The group is widely distributed in central and eastern Africa.

Natural history. Even though *S. pallidus* is a pantropical species, very few studies have been dedicated to exploring its biology in any detail. Jackson (1992) and Jackson *et al.* (1992) studied whirling behavior as a defense mechanism against predators such as web-invading jumping spiders. It is remarkable that in many places *S. pallidus* seems to have been largely replaced by other synanthropic species such as *Physocyclus globosus*. For example, Sánchez Roig (1911) cites *S. pallidus* (under *Pholcus tipuloides*) as “una de las especies más vulgares de Cuba”, but this does no longer seem to be the case (A. Pérez G. & B. A. Huber, unpubl. obs.); also, Mello-Leitão (1918, 1946) reports the species (under *S. geniculatus*) to occur in “todo o Brazil, no littoral” and to be “muito comum no interior das habitações” in Rio de Janeiro, but the species does no longer seem to be common along the Brazilian coast (B.A. Huber, unpubl. obs.).

For most other species, label data and observations by the author in South Africa, Kenya, Uganda, Cameroon, Gabon, and Guinea are the only sources of information. Most species prefer the same type of shady, protected habitat that is typical for pholcid spiders: holes and caverns, undersides of overhangs, dark spaces under logs and rocks and between buttresses. Here the spiders build their sheet webs that are more or less domed, with the animal hanging from the apex of the dome. Unlike most other pholcids but like many other Smeringopinae, several species of *Smeringopus* seem to be fairly tolerant against aridity. This may explain to some degree the fact that several species have invaded human constructions and it is thus remarkable that only one species has spread all over the world.

Smeringopus occurs from sea level to over 3700 m, but only representatives of the *rubrotinctus* species group have been found beyond 2300 m. Most species of the *rubrotinctus* group appear restricted to high altitudes, and *S. bujongolo* is currently the pholcid spider with the highest known record in Africa (at 3780 m).

Most exceptional both in its morphology and behavior is *S. cylindrogaster* (its two close relatives share the morphology but their behavior has not been studied). *Smeringopus cylindrogaster* has shifted its microhabitat to the undersides of alive (green) leaves where it rests in an unusual lamp-shade web in an inverted position (Fig. 13; Huber 2009). The entire spider has changed to a pale whitish coloration with black spots that break the contours. Only the dorsal side of the abdomen (that is pressed against the leaf) is monochromous (cf. Figs. 530, 534). Unlike other *Smeringopus* species that whirl or vibrate their bodies when disturbed, *S. cylindrogaster* remains tightly pressed against the leaf.

The facultative construction of silk balls that are attached to the domed webs appears to be plesiomorphic for *Smeringopus* (see Cladistic analysis, char. 40), but only in a few species have such silk balls actually been observed: in *S. pallidus* (Japyassú & Macagnan 2004), *S. cylindrogaster* (Huber 2009), *S. peregrinus* (Figs. 8, 623–625) and *S. ngangao* (Fig. 7). Silk balls also occur in other genera of Smeringopinae (*Hoplopholcus*, *Holocnemus*; Wiehle 1933; Sedey & Jakob 1998; J. & F. Murphy, unpubl. obs.), but they have been studied in more detail in only two species (Hajer & Řeháková 2003; Japyassú & Macagnan 2004). The conditions under which such structures are incorporated into the web seem to vary among taxa.

Distribution. With the exception of the pantropical *S. pallidus*, *Smeringopus* is largely restricted to central, eastern, and southern Africa (Fig. 17). Other than *S. pallidus*, only two species occur outside Africa: (1) *S. natalensis* (originally from southern Africa) has been able to establish stable populations in Western Australia and New South Wales (Huber 2001); (2) *S. lineiventris* is only known from Yemen. Only two species occur in western Africa (*S. pallidus* and *S. cylindrogaster*), where *Smeringopus* is largely replaced by *Smeringopina*. The two genera have a wide range of overlap in central Africa. The same occurs with *Crossopriza* in the Sahel and in north-eastern Africa. At least four species occur on Madagascar (*S. pallidus*, *S. carli*, *S. peregrinus*, *S. kalomo*), but none of them is endemic to the island and it is likely that at least three of them are recent (possibly human) introductions.

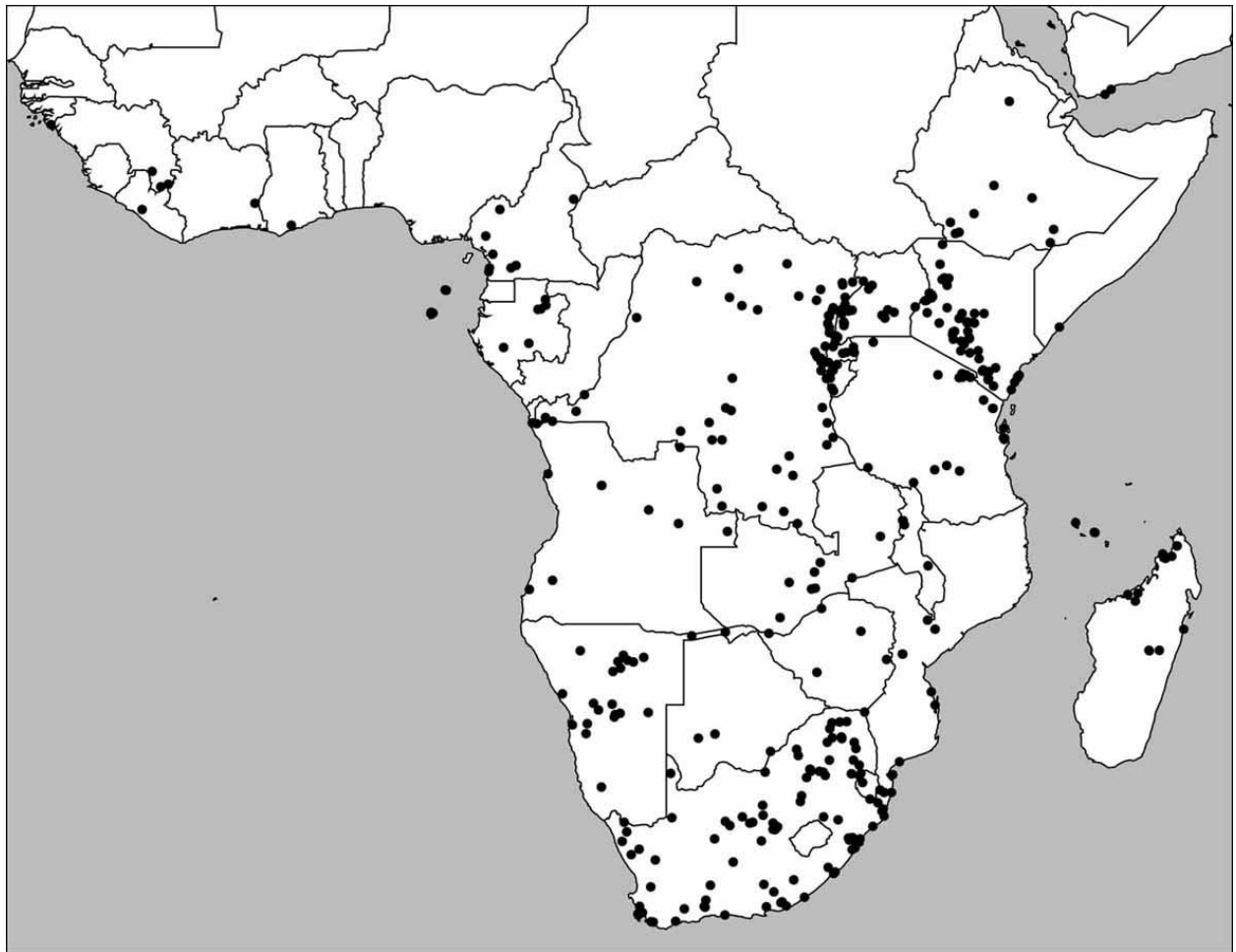


FIGURE 17. Known distribution of *Smeringopus*. Excluded is *Smeringopus pallidus* which has a worldwide distribution and whose distribution in Africa is shown in Fig 386.

Composition. As delimited here, *Smeringopus* now includes 55 described species, 36 of which are newly described below. The collections seen include about 20 further undescribed species that are not treated for various reasons: some are very similar to species treated herein; some are only represented by poorly preserved specimens; most are represented by only one sex. Considering the patchiness of collecting efforts and known distribution patterns in the genus, it appears likely that 50% of the actual species may remain undescribed.

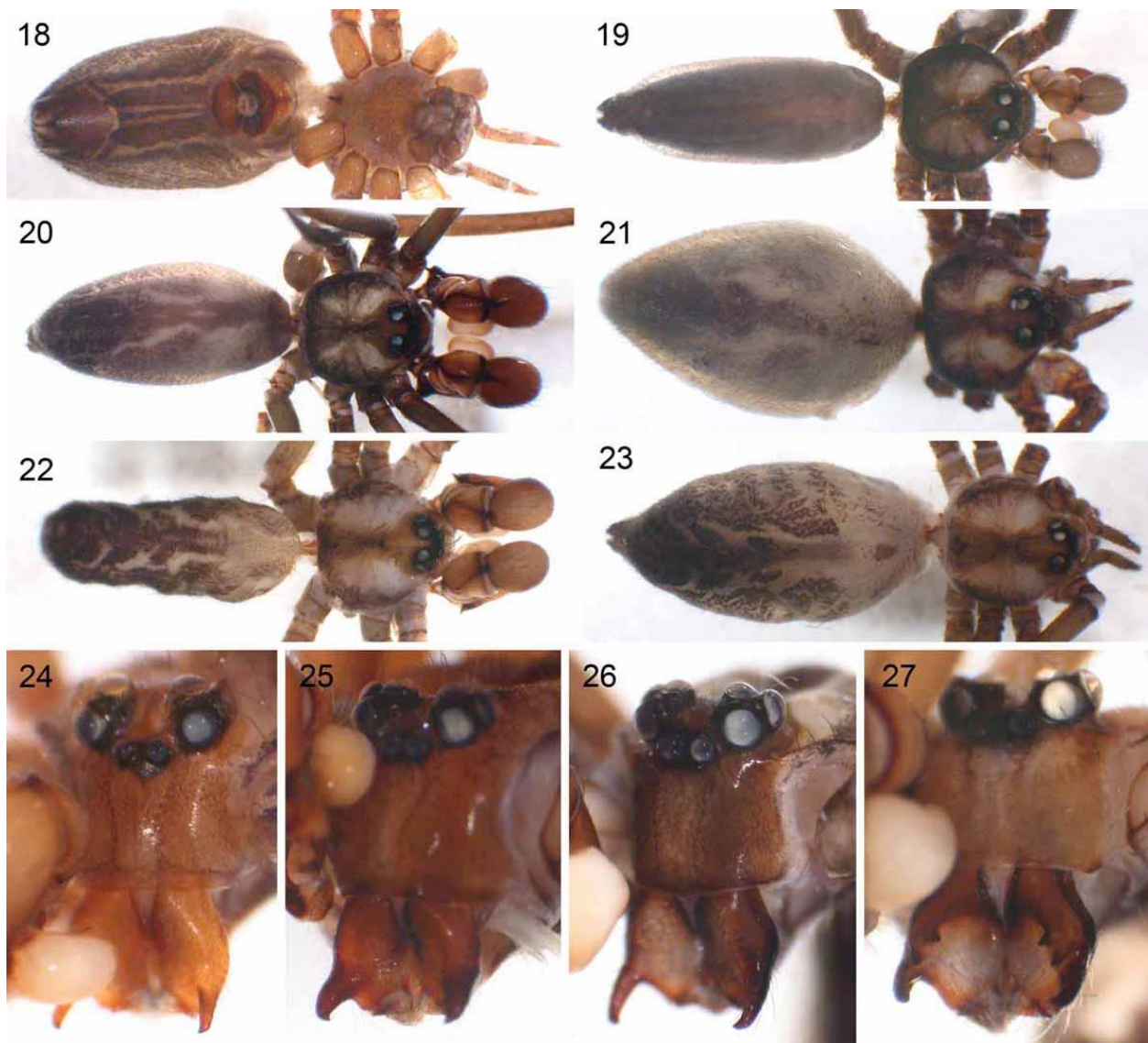
***Smeringopus rubrotinctus* Strand, 1913**

Figs. 18, 24, 28–29, 38–41, 59–64

Smeringopus rubrotinctus Strand 1913: 343–344.

Types. 1♂1♀ syntypes from Rwanda, Rugege Forest [=Nyungwe Forest, 2°29'S, 29°15'E], 1800 m a.s.l., 20.viii.1907 (not 1902 as on labels) (H. Schubotz, Expedition Adolf-Friedrich Herzog zu Mecklenburg), in ZMB (9866), examined.

Diagnosis. Distinguished from similar congeners (other species of the *rubrotinctus* group) by shapes of procurus and embolus (Figs. 59–63); from most (except *S. bwindi*) also by deeply indented epigynum (Figs. 38–41); from most other congeners by long apophyses on male chelicerae (Fig. 24; very similar *S. ruhiza*).



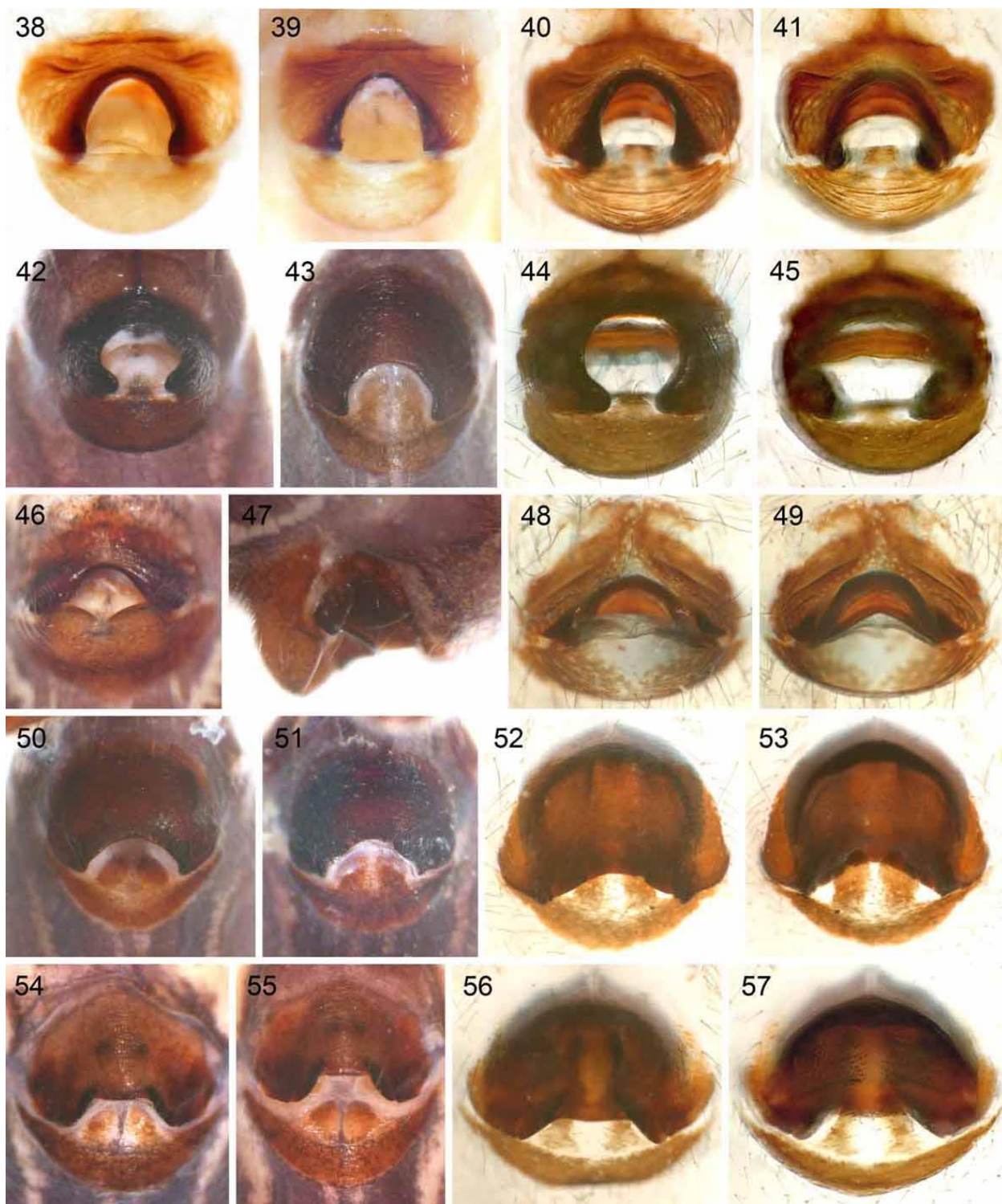
FIGURES 18–27. *Smeringopus rubrotinctus* group, habitus and male prosomata, oblique frontal views. 18. *S. rubrotinctus*, female, ventral view. 19. *S. bwindi*, male, dorsal view. 20–21. *S. ruhiza*, male and female, dorsal views. 22–23. *S. mpanga*, male and female, dorsal views. 24. *S. rubrotinctus*. 25. *S. mgahinga*. 26. *S. ruhiza*. 27. *S. mpanga*.

Male (syntype). Total body length 6.7, carapace width 2.3. Leg 1: 46.5 (11.9 + 0.8 + 12.0 + 18.7 + 3.1), tibia 2: 9.1, tibia 3: 7.3, tibia 4: 9.9; tibia 1 L/d: 50. Habitus similar *S. ruhiza* (cf. Fig. 20). Syntype entirely pale; color pattern of male from Burundi: carapace mostly brown with darker margins and large whitish marks beside ocular area, clypeus with barely visible pair of darker lines, sternum dark brown, leg femora and tibiae with dark subdistal rings and light tips, abdomen dorsally with indistinct pattern, ventrally with three dark lines behind gonopore (median line narrow). Distance PME-PME 185 μ m, diameter PME 185 μ m, distance PME-ALE 125 μ m, distance AME-AME 70 μ m, diameter AME 135 μ m. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’; deep but small thoracic pit. Chelicerae as in Fig. 24 (very similar *S. ruhiza*). Palps as in Figs. 28 and 29, coxa with indistinct bulge, trochanter barely modified, femur with deep retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus with distinctive tip with ventral bifid apophysis and whitish prolateral process (Figs. 59–61), bulb with relatively simple branched embolus (Figs. 62, 63). All hairs missing in syntype; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1; male from Burundi (legs 1 missing): legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 2.

Variation. The male from Burundi is smaller than the syntype (tibia 2: 6.9) but has identical palpal structures and chelicerae.



FIGURES 28–37. *Smeringopus rubrotinctus* group, left male palps, prolatateral and retrolateral views. 28–29. *S. rubrotinctus*. 30–31. *S. bwindi*. 32–33. *S. mgahinga*. 34–35. *S. ruhiza*. 36–37. *S. mpanga*.



FIGURES 38–57. *Smeringopus rubrotinctus* group, epigyna, ventral views (47: lateral view) and cleared female genitalia, ventral and dorsal views. 38–41. *S. rubrotinctus* (38: syntype, 39: Karisimbi, 40–41: Rwegura). 42–45. *S. bwindi* (Buhoma). 46–49. *S. mgahinga* (46–47: Ruhiza, 48–49: Mgahinga). 50–53. *S. ruhiza* (50: Kitahurira, 51–53: Buhoma). 54–57. *S. mpanga* (Kanyanchu).

Female. In general similar to male; tibia 1 in 3 females: 9.3, 10.8, 11.1. Epigynum anterior plate with large indentation (Figs. 38–40; very similar *S. bwindi*), without pockets; posterior plate simple, not projecting; internal genitalia as in Figs. 41 and 64.

Distribution. Known from Rwanda and northern Burundi (Fig. 58).

Material examined. RWANDA: Rugege Forest: 1♂1♀ syntypes above. Marais de Mukokola, Forêt de Rugege, 2250 m a.s.l., 11.–17.viii.1949 (Laurent), 2♀ (2 vials) in MRAC (66539, 66572). Karisimbi [$\sim 1^{\circ}35'S$, $29^{\circ}30'E$], xi.1907 (Schubotz), forest at 2500 m a.s.l., 1♀ in ZMB (9867).

BURUNDI: Parc National de la Kibira, Rwegura, Mt. Musumba [$\sim 2^{\circ}55'S$, $29^{\circ}31'E$], site 2, forest with *Hagenia abyssinica*, 2100 m a.s.l., 25.vii.2008 (N. Benoit), 1♂ in MRAC (226403); same data, 1♀ in MRAC (226399).

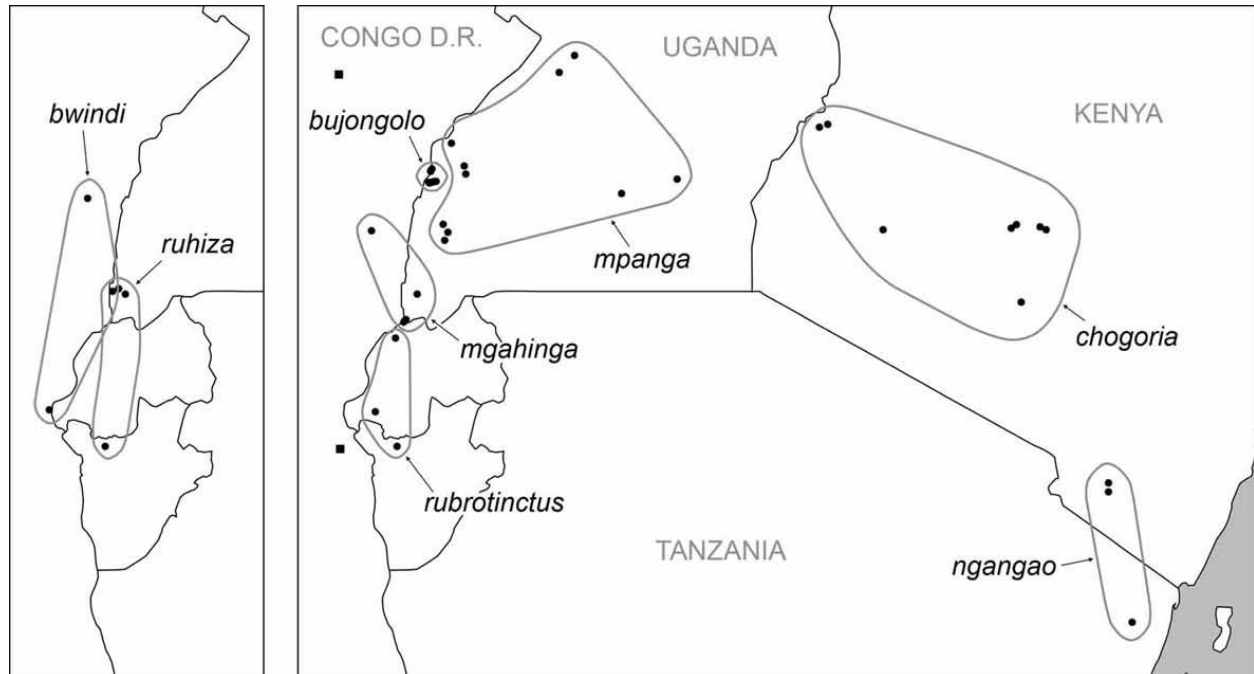


FIGURE 58. Known distributions of the *rubrotinctus* group, the *chogoria* group, and *S. ngangao*. Squares: further undescribed species.

Smeringopus bwindi new species

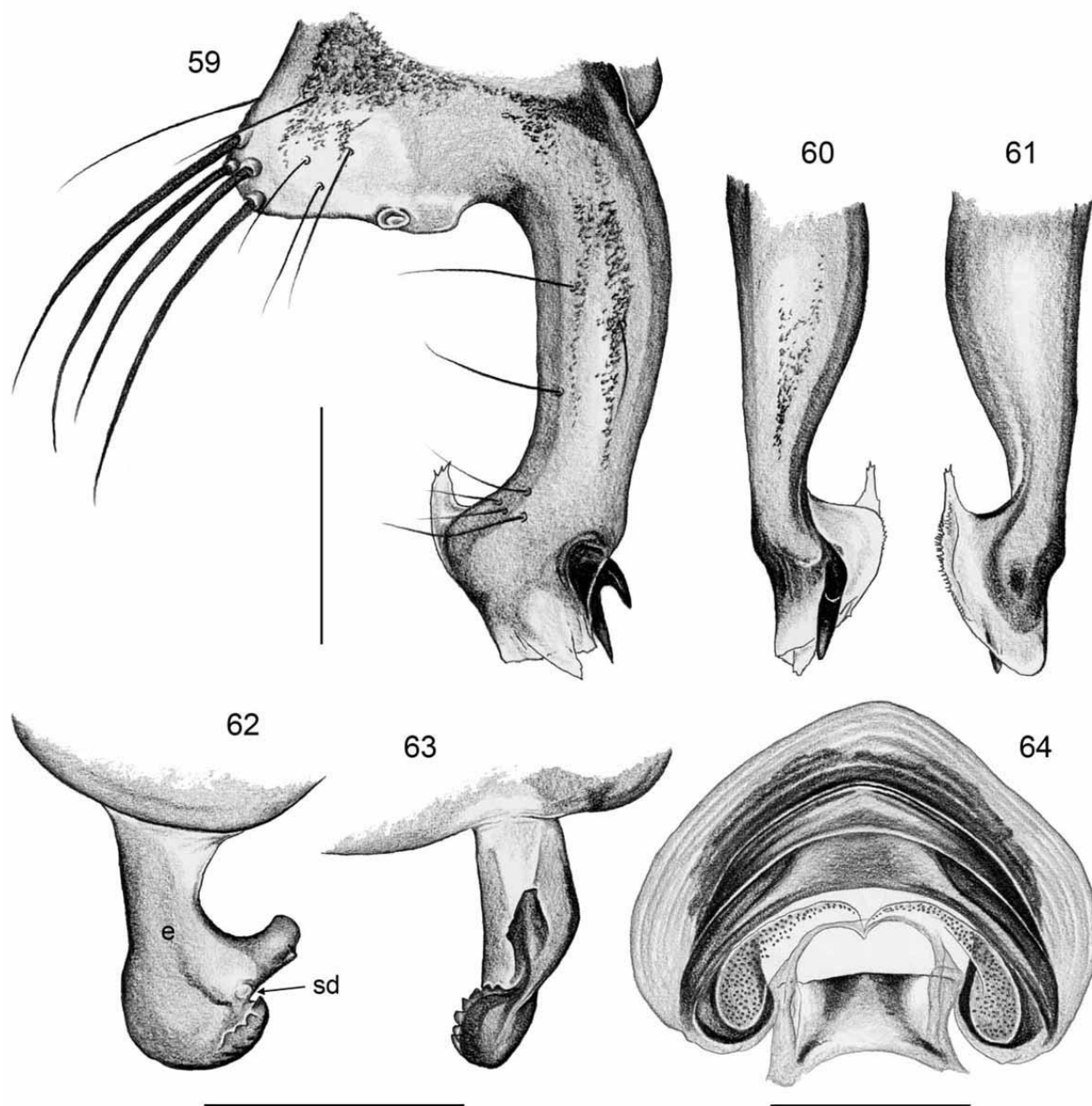
Figs. 2, 19, 30–31, 42–45, 65–72

Type. Male holotype from Uganda, Kanungu District, Bwindi Impenetrable National Park, waterfall trail near Buhoma ($0^{\circ}59.8'-1^{\circ}00.2'S$, $29^{\circ}36.9-37.2'E$), $\sim 1500-1600$ m a.s.l., 22.xi.2010 (B.A. Huber), in ZFMK (Ar 8490).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *rubrotinctus* group) by shapes of procurus and embolus (Figs. 65–67, 70–71); from most (except *S. rubrotinctus*) also by deeply indented epigynum (Figs. 42–45); from most other congeners by long apophyses on male chelicerae (Figs. 68, 69).

Male (holotype). Total body length 5.3, carapace width 1.7. Leg 1: 41.9 (10.3 + 0.7 + 10.6 + 17.7 + 2.6), tibia 2: 7.3, tibia 3: 5.7, tibia 4: 8.2; tibia 1 L/d: 63. Habitus as in Fig. 19. Carapace with wide median and lateral brown bands, clypeus and sternum dark brown, leg femora and tibiae with indistinct subdistal rings, abdomen with indistinct pattern dorsally and ventrally. Distance PME-PME 175 μ m, diameter PME 175 μ m, distance PME-ALE 90 μ m, distance AME-AME 45 μ m, diameter AME 115 μ m. Ocular area slightly elevated, secondary eyes with indistinct 'pseudo-lenses'; deep but small thoracic pit. Chelicerae as in Figs. 68 and 69, with pair of strong apophyses. Palps as in Figs. 30 and 31, coxa with indistinct bulge, trochanter barely modified, femur with deep retrolateral furrow with distinct rim proximally, ventral end of rim with apophysis, cymbium without projection near tarsal organ, procurus with distinctive tip with ventral bifid apophysis and whitish prolateral process (Figs. 65–67), bulb with relatively simple branched embolus (Figs. 70, 71). Legs without spines, few vertical hairs, with curved hairs ventrally and dorsally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1.



FIGURES 59–64. *Smeringopus rubrotinctus*. 59. Left cymbium and procurus, retrolateral view. 60–61. Left procurus, ventral and dorsal views. 62–63. Left embolus, prolateral and dorsal views. 64. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

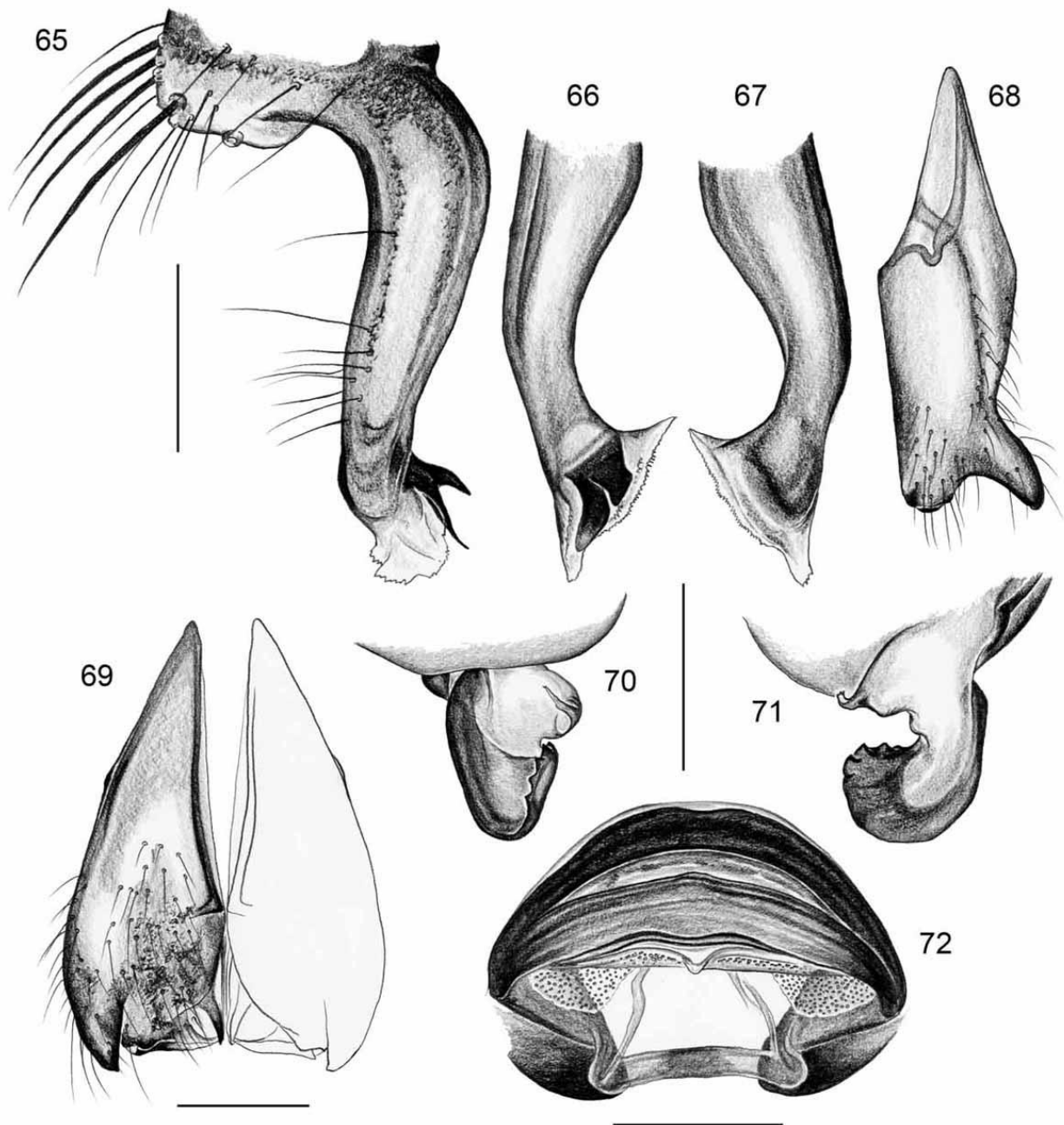
Variation. Tibia 1 in 2 other males: 10.2, 10.3. The cheliceral apophyses vary slightly in width and length.

Female. In general similar to male; tibia 1 in 4 females: 8.3, 9.0, 9.1, 10.0. Epigynum anterior plate with large indentation (Figs. 42–44; very similar *S. rubrotinctus*), without pockets; posterior plate simple, not projecting; internal genitalia as in Figs. 45 and 72.

Distribution. Known from southwestern Uganda and eastern Congo D.R. (Nord-Kivu, Sud-Kivu) (Fig. 58).

Material examined. UGANDA: *Western Region*: Kanungu District, Bwindi Impenetrable N.P., waterfall trail near Buhoma: 1♂ holotype above; same data, 3♀ in ZFMK (Ar 8491); same data, 2♀ in pure ethanol in ZFMK (Uga 126).

CONGO D.R.: *Nord-Kivu Prov.*: Butembo-vallée Musosa [~0°09'N, 29°18'E], 1745 m a.s.l., iv.1968 (R.P.M. Lejeune), 2♂ in MRAC (134024). *Sud-Kivu Prov.*: Kabare, riv. Nyakagera [~2°28'S, 28°49.5'E], 1600–1700 m a.s.l., xi.1955 (N. Leleup), 1♂1♀ in MRAC (84164–5).



FIGURES 65–72. *Smeringopus bwindi*. 65. Left cymbium and procurus, retrolateral view. 66–67. Left procurus, ventral and dorsal views. 68–69. Male chelicerae, lateral and frontal views. 70–71. Left embolus, prolateral and dorsal views. 72. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

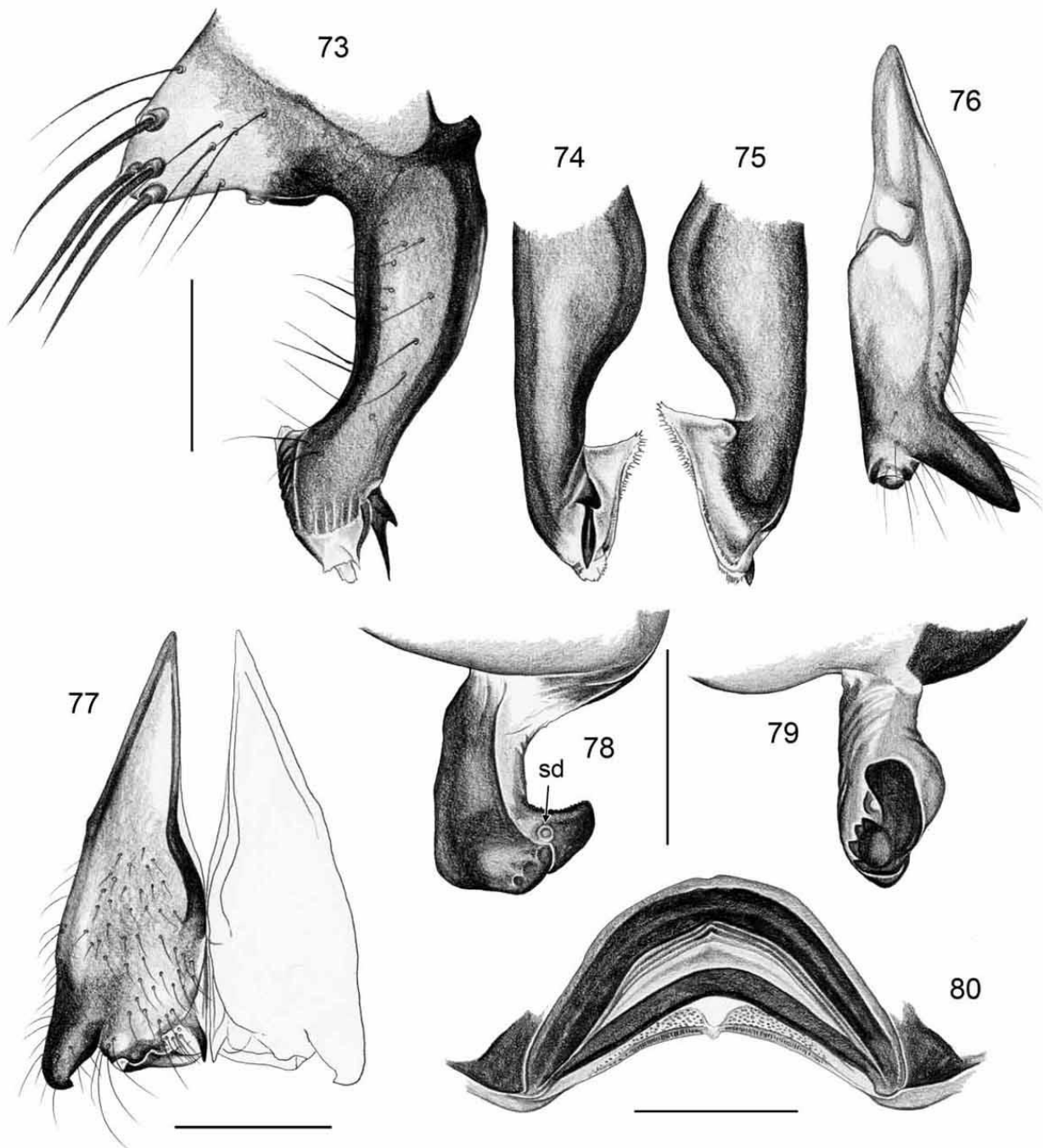
Smeringopus mgahinga new species

Figs. 25, 32–33, 46–49, 73–93

Type. Male holotype from Uganda, Kisoro District, Mgahinga Gorilla National Park, Garama Cave, cave entrance (1°21.4'S, 29°37.9'E), 2500 m a.s.l., 25.xi.2010 (B.A. Huber), in ZFMK (Ar 8516).

Etymology. The name is a noun in apposition, derived from the type locality.

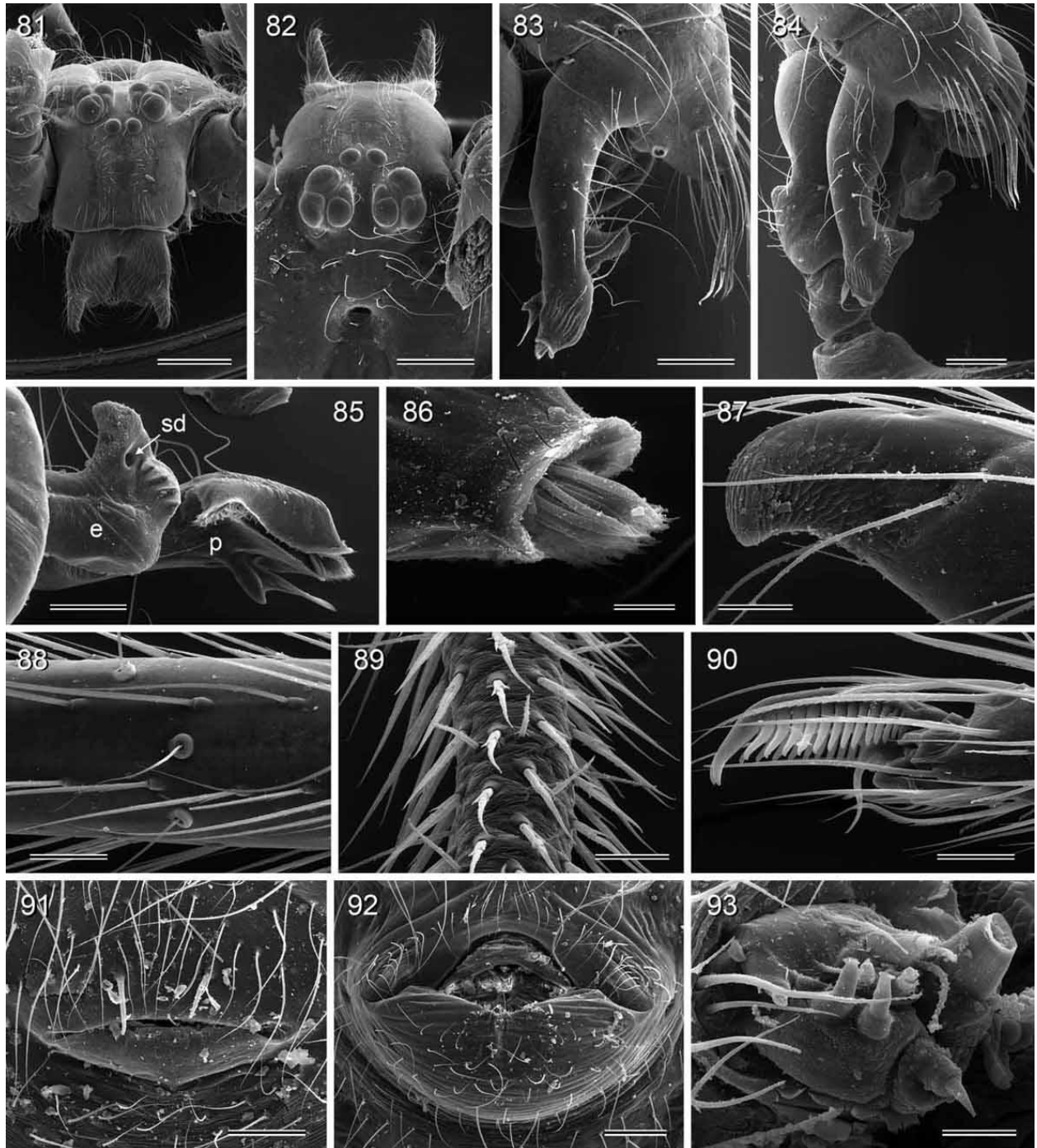
Diagnosis. Distinguished from similar congeners (other species of the *rubrotinctus* group) by shapes of procurus and embolus (Figs. 73–75, 78, 79) and by strongly protruding posterior epigynal plate (Fig. 47); from most other congeners also by long apophyses on male chelicerae (Figs. 25, 76, 77).



FIGURES 73–80. *Smeringopus mgahinga*. 73. Left cymbium and procurus, retrolateral view. 74–75. Left procurus, ventral and dorsal views. 76–77. Male chelicerae, lateral and frontal views. 78–79. Left embolus, prolateral and dorsal views. 80. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm (73–75, 78–80), 0.5 mm (76–77).

Male (holotype). Total body length 6.2, carapace width 2.1. Leg 1: 56.2 (13.7 + 0.9 + 14.0 + 23.9 + 3.7), tibia 2: 10.3, tibia 3: 8.1, tibia 4: 10.9; tibia 1 L/d: 69. Habitus similar *S. ruhiza* (cf. Fig. 20). Carapace with wide median and lateral brown bands, clypeus with pair of wide, indistinct brown bands, sternum brown, leg femora and tibiae with indistinct subdistal rings and light tips, abdomen dorsally with indistinct pattern, ventrally with three dark bands behind gonopore separated by narrow light lines. Distance PME–PME 175 μ m, diameter PME 185 μ m, distance PME–ALE 70 μ m, distance AME–AME 60 μ m, diameter AME 125 μ m. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’; deep but small thoracic pit (Fig. 82). Chelicerae as in Figs. 76 and 77, with pair of strong apophyses; without modified hair at tip of apophysis (Fig. 87). Palps as in Figs. 32 and 33,

coxa with indistinct bulge, trochanter barely modified, femur with deep retrolateral furrow with distinct rim proximally (Fig. 84), ventral end of rim with apophysis, cymbium without projection near tarsal organ, procurus with distinctive tip with bifid ventral apophysis and whitish prolateral process (Figs. 73–75, 83, 84), bulb with relatively simple bifid embolus (Figs. 78, 79, 85). Legs without spines, few vertical hairs, with curved hairs mainly on tibiae and metatarsi 1 and 2, but also some on femora and metatarsi and on legs 3 and 4, on tibiae and metatarsi also dorsally; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 91).



FIGURES 81–93. *Smeringopus mgahinga*. 81–82. Male prosoma, frontal and dorsal views. 83–84. Right palp, retrolateral and retrolatero-dorsal views. 85. Left procurus and embolus, prolateral view. 86. Tip of right procurus. 87. Tip of male cheliceral apophysis. 88. Trichobothria on male tibia 1. 89. Male tarsus 1 pseudosegmentation. 90. Male tarsus 1 claws. 91. Male gonopore. 92. Epigynum. 93. Female ALS. Scale lines: 20 μm (86), 30 μm (87, 93), 40 μm (89), 50 μm (90), 100 μm (85, 88, 91), 200 μm (83, 84, 92), 500 μm (81).

Variation. Tibia 1 in 11 other males: 8.8–15.1 (mean 12.4). The cheliceral apophyses vary slightly in width and length.

Female. In general similar to male; tibia 1 in 14 females: 8.1–13.9 (mean 11.4). Epigynum anterior plate with indentation, without pockets (Figs. 46, 48); posterior plate strongly projecting (Fig. 47); internal genitalia as in Figs. 49 and 80. ALS with eight spigots each (Fig. 93).

Distribution. Known from southwestern Uganda and from a female from Congo D.R. (Nord-Kivu) assigned tentatively (Fig. 58).

Material examined. UGANDA: *Western Region*: Kisoro District, Mgahinga Gorilla N.P., Garama Cave: 1♂ holotype above; same data, 4♂4♀ in ZFMK (Ar 8517); same data, 2 juvs in pure ethanol, in ZFMK (Uga 105). Mgahinga Gorilla N.P., Gorge (1°22.9'S, 29°35.8–36.0'E), 2900–3000 m a.s.l., 25.xi.2010 (B.A. Huber), 3♂3♀ in ZFMK (Ar 8518-19); same data, 1♀ 2 juvs in pure ethanol, in ZFMK (Uga 146). Mgahinga Gorilla N.P., bamboo forest (~1°22.0–22.3'S, 29°36.3–36.9'E), 2500–2600 m a.s.l., 25.xi.2010 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8520). Kabale District, Ruhiza, Bwindi Impenetrable N.P. (~1°02'S, 29°46'E), ~2300 m a.s.l., roadcut, 25.ix.1996 (C.E. Griswold), 2♂1♀ in CAS; same data, on buildings and roadcut, 12.–16.ix.1996 (C.E. Griswold), 1♂4♀ 2 juvs in CAS.

Assigned tentatively: CONGO D.R.: *Nord-Kivu Prov.*: Bikara, 18 km S Lubéro on route Lubéro-Goma [0°15'S, 29°12'E], 1200 m a.s.l., xii.1976 (M. Lejeune), 1♀ in MRAC (159843).

***Smeringopus ruhiza* new species**

Figs. 20–21, 26, 34–35, 50–53, 94–99

Type. Male holotype from Uganda, Kabale District, Ruhiza, Bwindi Impenetrable National Park (~1°02'S, 29°46'E), ~2300 m a.s.l., roadcut, 25.ix.1996 (C.E. Griswold), in CAS.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *rubrotinctus* group) by shapes of procurus and embolus (Figs. 94–97); from most other congeners by long apophyses on male chelicerae (Figs. 26, 98).

Male (holotype). Total body length 5.1, carapace width 1.7. Leg 1: 36.7 (9.3 + 0.6 + 9.3 + 15.2 + 2.3), tibia 2: 6.7, tibia 3: 5.2, tibia 4: 7.6; tibia 1 L/d: 57. Habitus as in Fig. 20. Carapace with wide median and lateral brown bands, clypeus and sternum dark brown, leg femora and tibiae with indistinct subdistal rings, abdomen with indistinct pattern dorsally, with wide dark band divided by two narrow light lines ventrally. Distance PME-PME 175 µm, diameter PME 170 µm, distance PME-ALE 90 µm, distance AME-AME 45 µm, diameter AME 135 µm. Ocular area slightly elevated, secondary eyes with indistinct 'pseudo-lenses'; deep but small thoracic pit. Chelicerae as in Figs. 26 and 98 (very similar *S. rubrotinctus*), with pair of long apophyses. Palps as in Figs. 34 and 35, coxa with indistinct bulge, trochanter barely modified, femur with retrolateral indentation but no furrow, without proximal rim and without apophysis, cymbium with projection near tarsal organ, procurus tip with distinctively long ventral apophysis and whitish prolateral process (Figs. 94, 95), bulb with complex embolus with two processes, one with sclerotized teeth, other with membranous tip (Figs. 96, 97). Legs without spines, few vertical hairs, with curved hairs ventrally and dorsally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 1.5%; prolateral trichobothrium present on tibia 1.

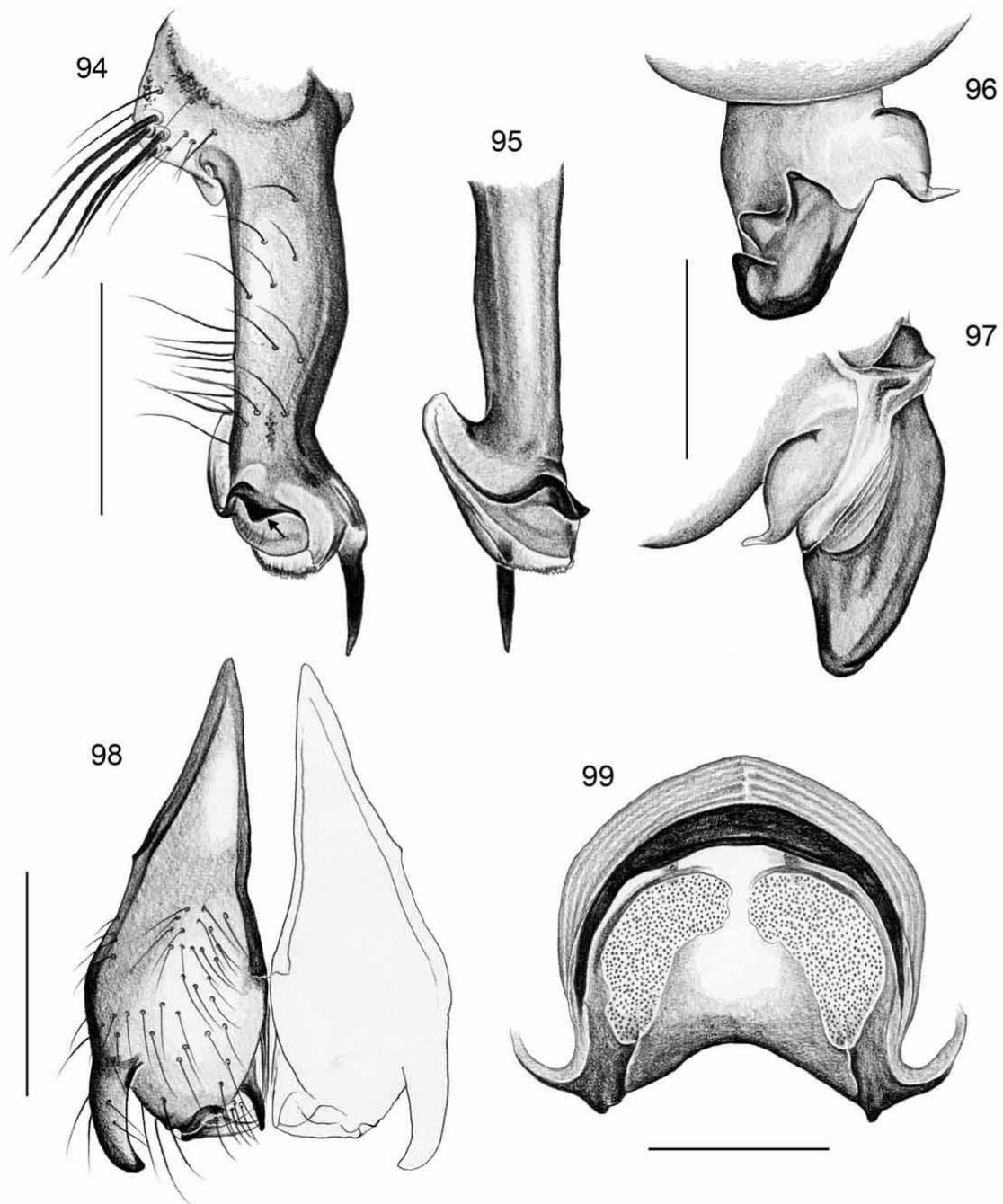
Variation. Tibia 1 in 2 other males: 9.3, 11.1. In the males from Kitahurira and Buhoma the palps are absolutely larger and the sclerotized flaps retrolaterally on the procurus (arrow in Fig. 94) are relatively larger. The shapes of the sclerotized teeth on the large embolar process (Fig. 96) vary slightly.

Female. In general similar to male; tibia 1 in 3 females: 9.7, 10.4, 10.9. Epigynum anterior plate with indentation, without pockets (Figs. 50–52); posterior plate simple, not projecting; internal genitalia as in Figs. 53 and 99.

Distribution. Known from southwestern Uganda and northern Burundi (Fig. 58).

Material examined. UGANDA: *Western Region*: Kabale District, Ruhiza, Bwindi Impenetrable N.P.: 1♂ holotype above. Rukungiri District, Kitahurira, Bwindi Impenetrable N.P. (~0°58'S, 29°41'E), ~1740 m a.s.l., roadcuts in forest, 17.–19.ix.1996 (C.E. Griswold, G. Mayoba), 1♂1♀ in CAS; same data but 18.–20.ix.1996 (C.E. Griswold), 1♀ in CAS. Kanungu District, Bwindi Impenetrable N.P., waterfall trail near Buhoma (0°59.8'–1°00.2'S, 29°36.9–37.2'E), ~1500–1600 m a.s.l., 22.xi.2010 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8562); same data, 1♀ in pure ethanol in ZFMK (Uga 125).

BURUNDI: Parc National de la Kibira, Rwegura, Mt. Musumba [$\sim 2^{\circ}55'S$, $29^{\circ}31'E$], site 6, forest with *Carapa grandiflora* and *Polyscias fulva*, 2100 m a.s.l., 25.vii.2008 (N. Benoit), 1♂ in MRAC (226402).

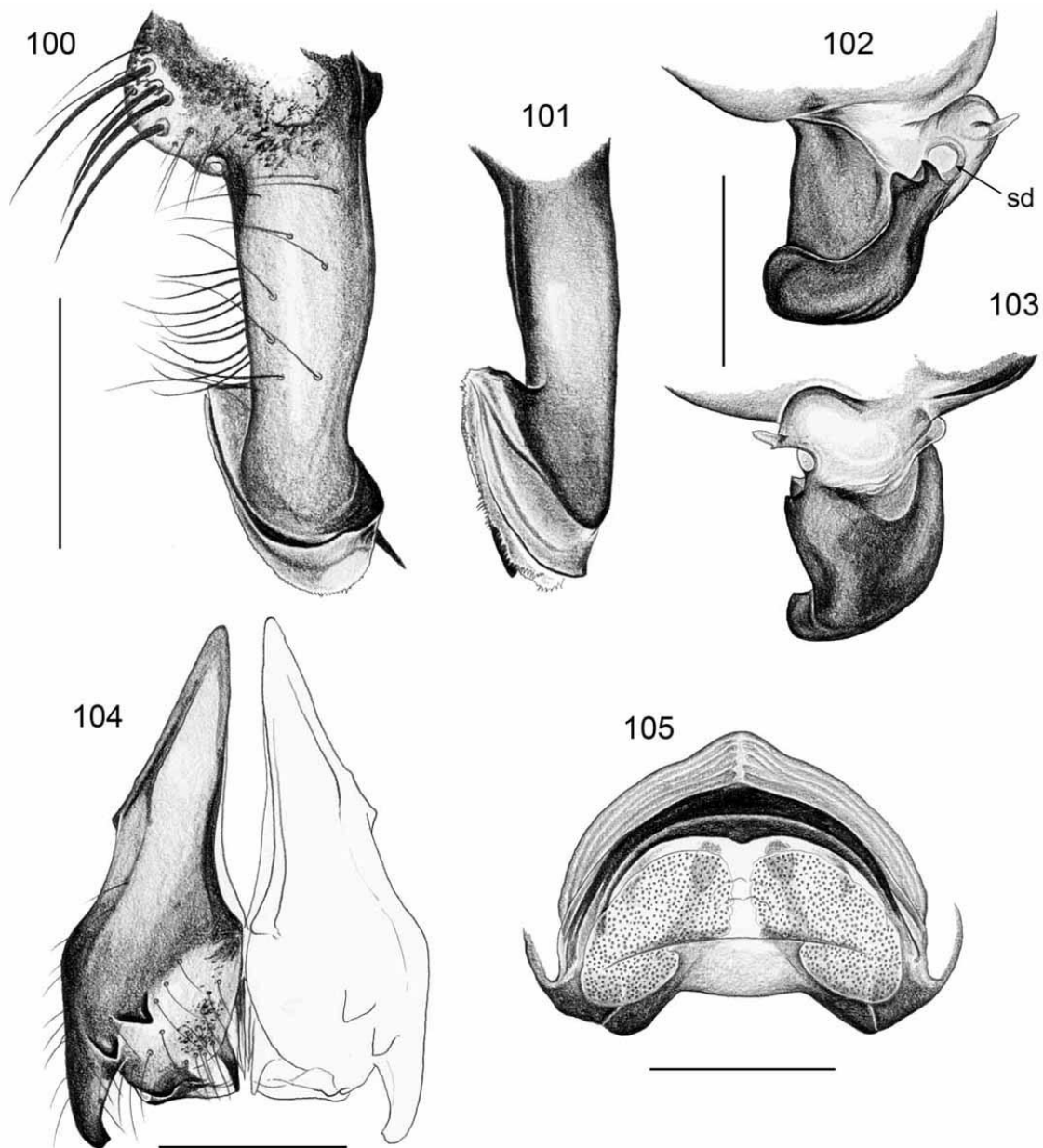


FIGURES 94–99. *Smeringopus ruhiza*. 94. Left cymbium and procurus, retrolateral view (arrow points to variable structure, see text). 95. Left procurus, dorsal view. 96–97. Left embolus, prolateral and dorsal views. 98. Male chelicerae, frontal view. 99. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm (96–97), 0.5 mm (94–95, 98–99).

***Smeringopus mpanga* new species**

Figs. 5, 22–23, 27, 36–37, 54–57, 100–114

Type. Male holotype from Uganda, Mpigi District, Mpanga Forest Reserve ($0^{\circ}12.4'N$, $32^{\circ}18.1'E$), 1200 m a.s.l., 22.xi.2010 (B.A. Huber), in ZFMK (Ar 8523).



FIGURES 100–105. *Smeringopus mpanga*. 100. Left cymbium and procurus, retrolateral view. 101. Left procurus, dorsal view. 102–103. Left embolus, prolateral and dorsal views. 104. Male chelicerae, frontal view. 105. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm (102–103), 0.5 mm (100–101, 104–105).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from known congeners by cheliceral armature (three pairs of apophyses; Figs. 27, 104); from closest relatives (other species of the *rubrotinctus* group) also by shapes of procurus and embolus (Figs. 100–103) and by angular rather than rounded posterior indentation of epigynal plate (Figs. 54, 55).

Male (holotype). Total body length 6.5, carapace width 2.1. Leg 1: 52.8 (13.1 + 0.8 + 13.1 + 23.5 + 2.3), tibia 2: 8.9, tibia 3: 6.8, tibia 4: 9.9; tibia 1 L/d: 67. Habitus as in Fig. 22. Carapace with wide median and lateral brown bands, clypeus brown with barely visible pair of darker lines, sternum dark brown, leg femora and tibiae with dark subdistal rings, abdomen with distinct pattern dorsally and ventrally. Distance PME-PME 170 μ m, diameter PME 185 μ m, distance PME-ALE 70 μ m, distance AME-AME 60 μ m, diameter AME 150 μ m. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’; deep but small thoracic pit. Chelicerae as in Figs. 27 and 104, with three pairs of distinctive apophyses; without modified hairs at tips of apophyses (Fig. 106). Palps as in Figs. 36 and 37, coxa with indistinct bulge, trochanter barely modified, femur with retrolateral indentation but no

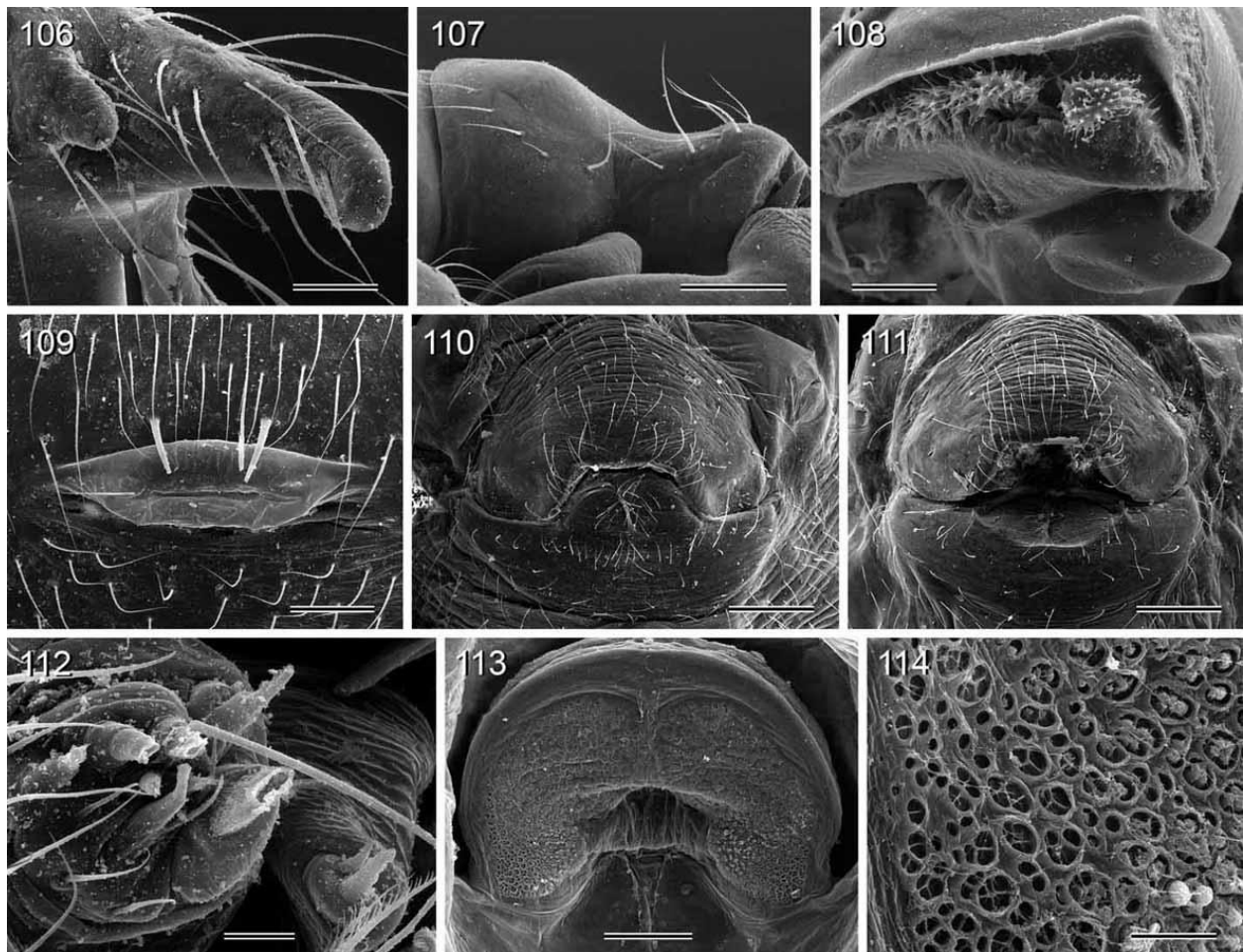
distinct furrow, without proximal rim and without apophysis (Fig. 107), cymbium without projection near tarsal organ, procurus with distinctive distal elements (Figs. 100, 101, 108), bulb with complex embolus with two processes, one sclerotized, other mostly membranous (Figs. 102, 103). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, some also on tibiae 3, retrolateral trichobothrium on tibia 1 at 1.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 109).

Variation. Tibia 1 in 23 other males: 10.4–14.8 (mean 12.2).

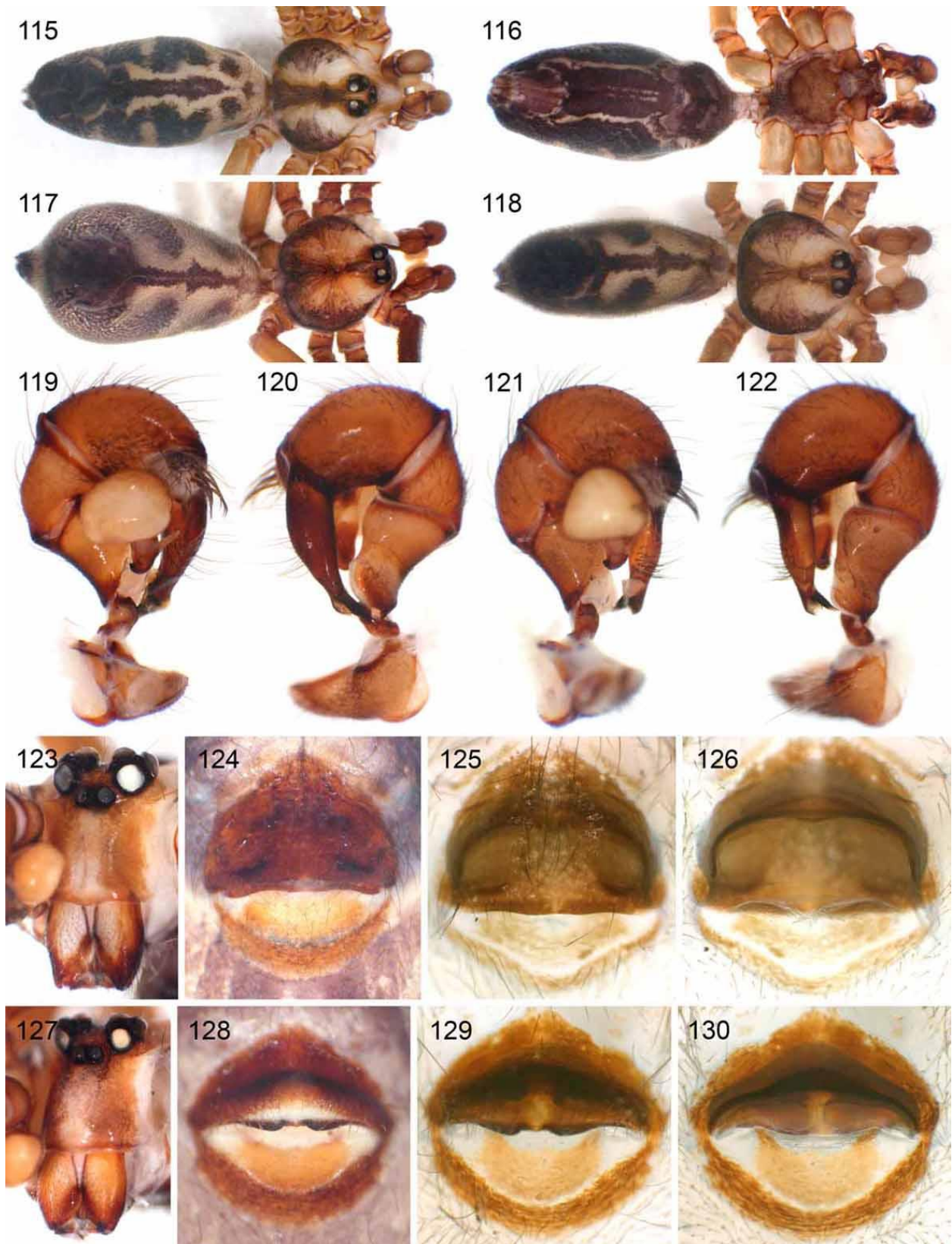
Female. In general similar to male; tibia 1 in 30 females: 8.7–13.5 (mean 10.7). Epigynum anterior plate with distinctively angular indentation, without pockets (Figs. 54, 55, 110, 111); posterior plate simple, not projecting; internal genitalia as in Figs. 57, 105, and 113. In some females, the epigynum appears ‘open’, in others ‘closed’ (compare Figs. 110 and 111). ALS with eight spigots each (Fig. 112).

Distribution. Widely distributed in western and central Uganda (Fig. 58).

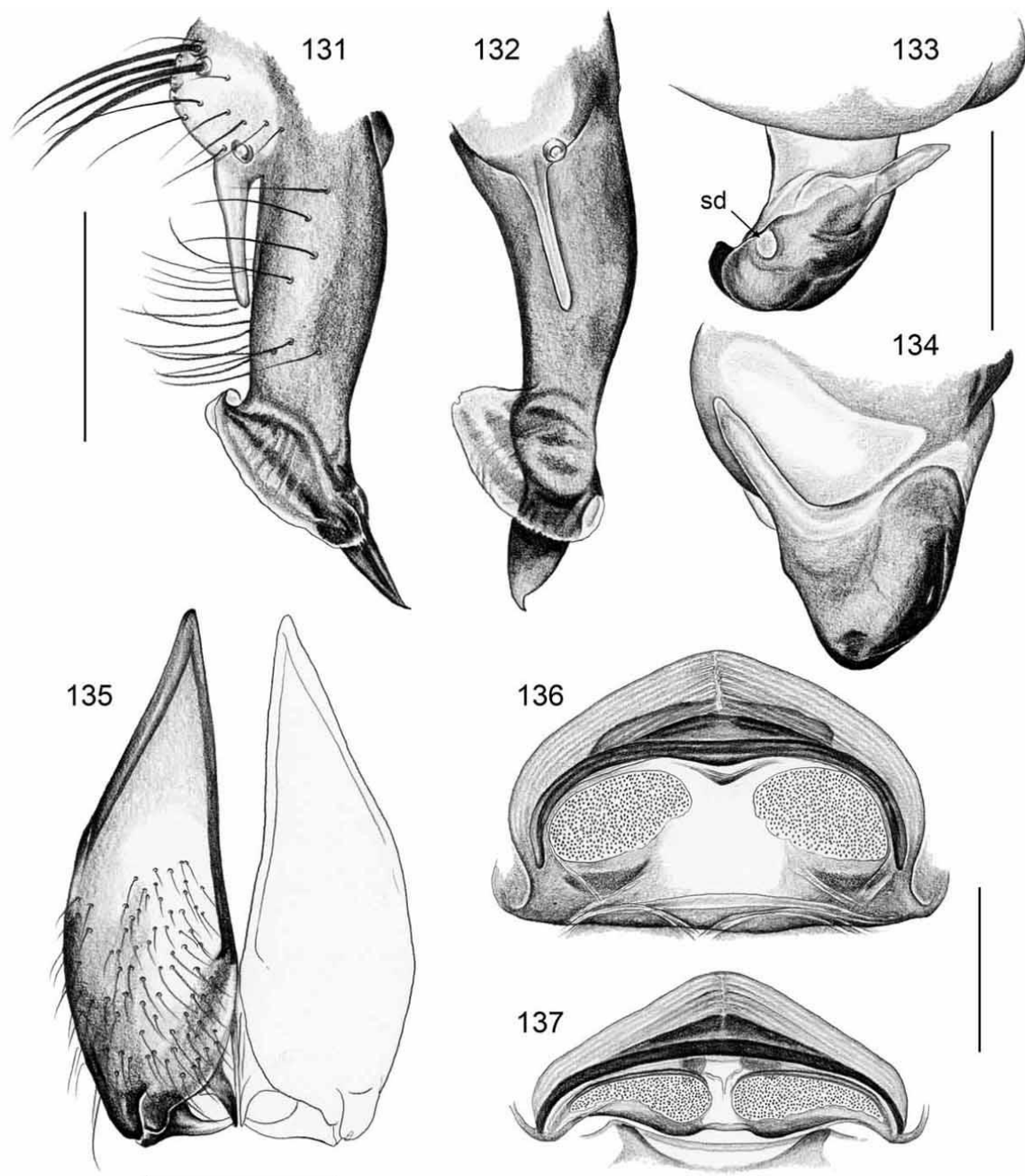
Material examined. UGANDA: *Central Region*: Mpigi District, Mpanga Forest Reserve: 1♂ holotype above; same data, 2♂3♀ (2 vials) in ZFMK (Ar 8524-25); same data, 3♀ in pure ethanol in ZFMK (Uga 132). Mukono District, Mabira Forest Reserve (0°23.6'N, 32°59.4'E), 1200 m a.s.l., 11.xii.2010 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8526); same data, 1♀ 2 juvs in pure ethanol in ZFMK (Uga 107). *Western Region*: Kabarole and Kamwenge Districts, Kibale Forest Reserve (0°27.5–28.0'N, 30°22.3–22.8'E), 1250 m a.s.l., 7.xii.2010 (B.A. Huber), 5♂8♀ in ZFMK (Ar 8527-28). Kabarole District, Kibale Forest N.P., forest near Makerere Univ. Research Station (0°33.2'N, 30°21.4'E), ~1500 m a.s.l., 6.xii.2010 (B.A. Huber), 1♂3♀ 1 juv. in ZFMK (Ar 8529); same data, 2♂ 1 juv. in pure ethanol in ZFMK (Uga 102). Masindi District, Budongo Forest Reserve, Kaniyo Pabidi (1°55.1'N, 31°43.2'E), ~1000 m a.s.l., 9.xii.2010 (B.A. Huber), 3♂5♀ in ZFMK (Ar 8530-31); same data, 2♀ in



FIGURES 106–114. *Smeringopus mpanga*. 106. Male cheliceral apophyses. 107. Left male palpal femur. 108. Tip of left procurus. 109. Male gonopore. 110–111. Epigynum, ‘closed’ and ‘open’. 112. Female ALS and PMS. 113. Female internal genitalia, dorsal view. 114. Detail of pore plate. Scale lines: 20 µm (112), 30 µm (114), 60 µm (106, 108), 80 µm (109), 200 µm (107, 113), 300 µm (110, 111).

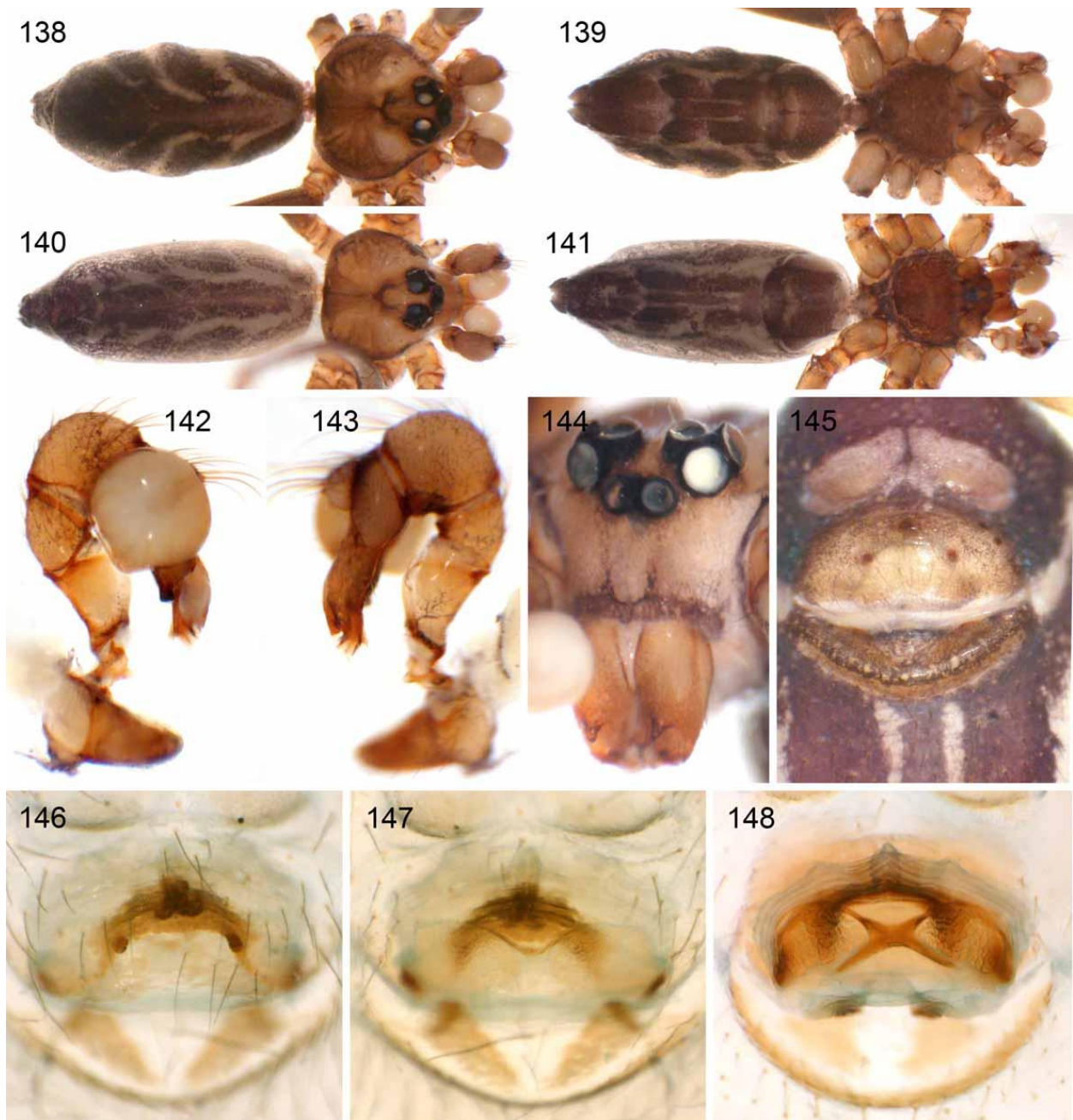


FIGURES 115–130. *Smeringopus chogoria* group, habitus, left male palps (prolateral and retrolateral views), male prosomata (oblique frontal views), epigyna (ventral views), and cleared female genitalia (ventral and dorsal views). 115–116, 119–120, 123–126. *S. chogoria*. 117–118, 121–122, 127–130. *S. bujongolo*.

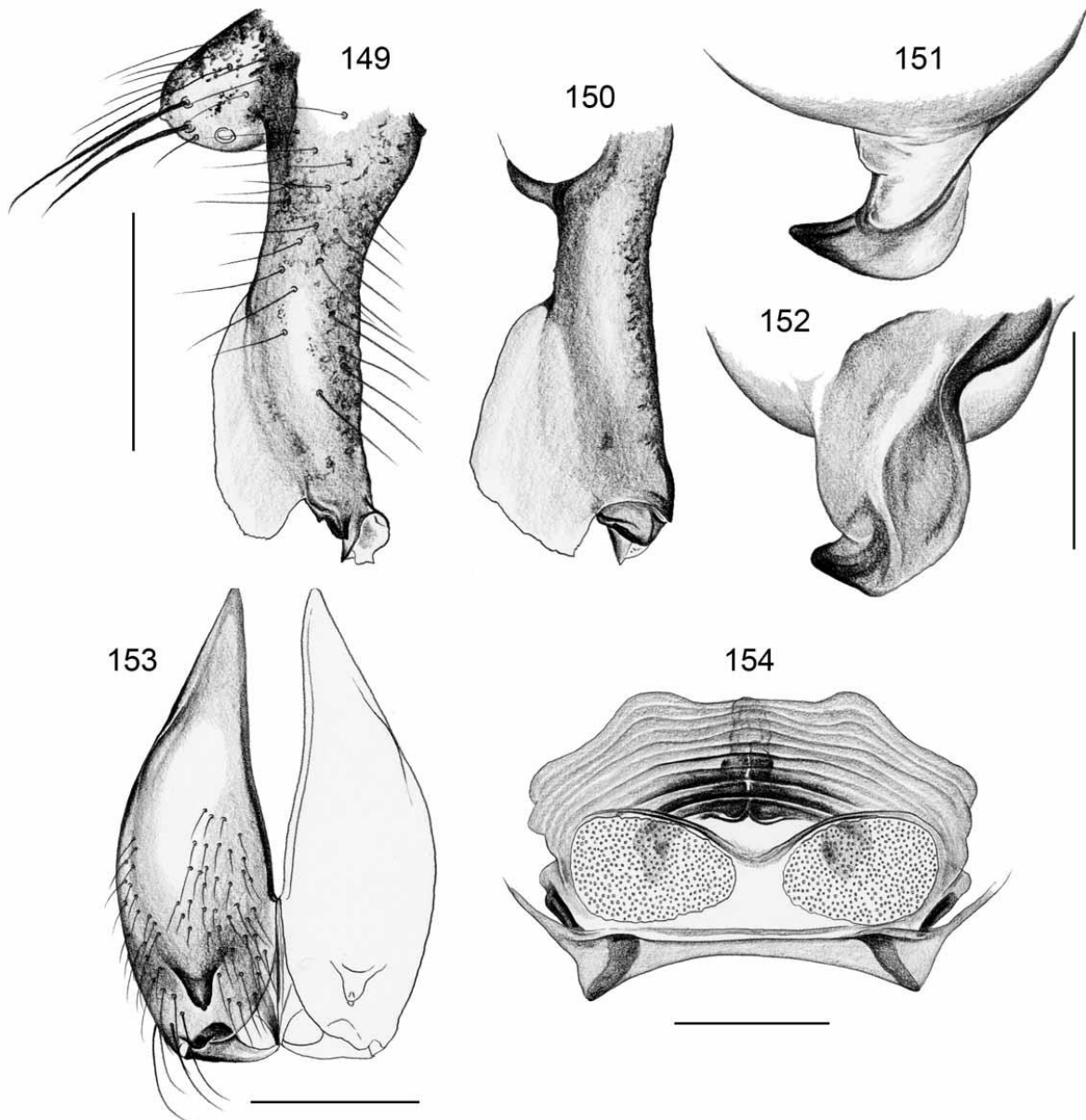


FIGURES 131–137. *Smeringopus chogoria* (131–136) and *S. bujongolo* (137). 131. Left cymbium and procurus, retrolateral view. 132. Left procurus, dorsal view. 133–134. Left embolus, prolateral and dorsal views. 135. Male chelicerae, frontal view. 136–137. Cleared female genitalia, dorsal views. Scale lines: 0.3 mm (133–134), 0.5 mm (131–132, 135–137).

pure ethanol in ZFMK (Uga 152); Budongo Forest Reserve (1°42.5–43.5'N, 31°31.6–32.7'E), ~1100 m a.s.l., 9.xii.2010 (B.A. Huber), 3♂2♀ in ZFMK (Ar 8532); same data, 2♀ in pure ethanol in ZFMK (Uga 136). Bushenyi District, Kyambura River Gorge (~0°10.7'S, 30°05.8'E), 900 m a.s.l., 29.xi.2010 (B.A. Huber), 1♂2♀ in ZFMK (Ar 8533); same data, 2♀ 1 juv. in pure ethanol in ZFMK (Uga 138); Kasyoha-Kitomi Forest Reserve (0°16.1'S, 30°09.1'E), 1280 m a.s.l., 29.xi.2010 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8534). Kalinzu Forest Reserve (0°22.5'S, 30°06.9'E), 1500 m a.s.l., 28.xi.2010 (B.A. Huber), 4♂4♀ in ZFMK (Ar 8535); same data, 3♀ 1 juv. in pure ethanol in ZFMK (Uga 117). Bundibugyo District, between Sempaya and Itajo (~0°50.4'N, 30°11.5'E), 1095 m a.s.l., degraded forest, 5.xii.2010 (B.A. Huber), 2♂5♀ in ZFMK (Ar 8536-37); same data, 2♀ 3 juvs in pure ethanol in ZFMK (Uga 145).



FIGURES 138–148. *Smeringopus ngangao*. 138–141. Males from Ngangao (138–139) and Amani (140–141), dorsal and ventral views. 142–143. Left male palp, prolateral and retrolateral views (Amani). 144. Male prosoma, oblique frontal view (Ngangao). 145. Epigynum, ventral view (Ngangao). 146–147. Cleared female genitalia, ventral and dorsal views (Ngangao). 148. Cleared female genitalia, dorsal view (Amani).



Figures 149–154. *Smeringopus ngangao*. 149. Left cymbium and procurus, retrolateral view. 150. Left procurus, dorsal view. 151–152. Left embolus, prolatero-dorsal and retrolatero-dorsal views. 153. Male chelicerae, frontal view. 154. Cleared female genitalia, dorsal view (Ngangao). Scale lines: 0.2 mm (151–152, 154), 0.3 mm (149–150, 153).

***Smeringopus chogoria* new species**

Figs. 3–4, 115–116, 119–120, 123–126, 131–136, 155–164

Type. Male holotype from Kenya, Eastern Province, Mt. Kenya N.P., Chogoria Forest, ‘site 1’ (0°12.1’S, 37°29.4’E), 2460 m a.s.l., 27.i.2010 (B.A. Huber), in ZFMK (Ar 8495).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from most known congeners by long process near male palpal tarsal organ (Figs. 131, 132); also by shapes of procurus (distal elements; Figs. 131, 132) and embolus (large sclerotized part with slender semitransparent projection; Figs. 133, 134); from very similar *S. bujongolo* only by minor details of procurus tip (membranous part whitish rather than transparent; distal apophysis slightly longer), semitransparent embolar process (straight rather than curved), and female genitalia (longer anterior epigynal plate; border of anterior plate without whitish area separating pair of black structures at rim; Fig. 124; pore plates much wider; Fig. 136).

Male (holotype). Total body length 7.9, carapace width 2.8. Leg 1: 64.1 (16.5 + 1.2 + 16.5 + 26.3 + 3.6), tibia 2: 12.3, tibia 3: 9.7, tibia 4: 12.8; tibia 1 L/d: 53. Habitus as in Figs. 115 and 116. Carapace with wide median and lateral brown bands, clypeus with pair of wide brown bands, sternum dark brown, legs ochre-brown, femora and tibiae with darker subdistal rings, abdomen with distinct pattern dorsally and ventrally. Distance PME-PME 185 μm , diameter PME 230 μm , distance PME-ALE 175 μm , distance AME-AME 70 μm , diameter AME 160 μm . Ocular area slightly elevated, secondary eyes with small 'pseudo-lenses'; deep thoracic pit. Chelicerae as in Figs. 123 and 135, with one pair of lateral apophyses distally; each apophysis with one small modified hair at tip (Figs. 160, 161). Palps as in Figs. 119 and 120, coxa with indistinct bulge, trochanter barely modified, femur with retrolateral indentation but no distinct furrow, without proximal rim and without apophysis (Fig. 155), cymbium with long projection near tarsal organ, procurus with distinctive distal elements (Figs. 131, 132, 155, 156), bulb with complex embolus with two processes, one sclerotized, other mostly membranous (Figs. 133, 134, 157, 158). Legs without spines, few vertical hairs, with curved hairs ventrally and dorsally on all tibiae and metatarsi, also on femora 1 and 2, retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 159); ALS with eight spigots each (Fig. 162).

Variation. Tibia 1 in 17 other males: 14.0–18.5 (mean 16.3).

Female. In general similar to male; tibia 1 in 29 females: 11.6–17.3 (mean 14.5). Epigynum anterior plate roughly triangular, without pockets; arc-shaped posterior plate (Figs. 124, 125, 164); internal genitalia as in Figs. 126 and 136. ALS as in male (Fig. 163).

Distribution. Widely distributed at higher elevations (mostly between 2000 and 3000 m a.s.l.) in central and western Kenya (Fig. 58).

Material examined. KENYA: *Eastern Prov.*: Mt. Kenya N.P., Chogoria Forest, 'site 1': 1♂ holotype above; same data, 4♂5♀ in ZFMK (Ar 8496); same data, 2♀ in pure ethanol in ZFMK (Ken 110); Chogoria Forest, 'site 2' (0°14.2'S, 37°34.0'E), 1950 m a.s.l., 27.i.2010 (B.A. Huber), 3♂8♀ in ZFMK (Ar 8497); same data, 1♀ in pure ethanol in ZFMK (Ken 118). Ol Donyo Sabuk N.P. (1°08.1'S, 37°15.4'E), 2070 m a.s.l., 26.i.2010 (B.A. Huber), 1♂1♀ 1 juv. in ZFMK (Ar 8498). *Central Prov.*: Mt. Kenya, Mau Mau Cave (0°13.0'S, 37°08.2'E), 2230 m a.s.l., 28.i.2010 (B.A. Huber), 3♂7♀ in ZFMK (Ar 8502); same data, 1♀ in pure ethanol in ZFMK (Ken 116); Mt. Kenya N.P., Naro Moru Forest, under bridge (0°10.6'S, 37°12.0'E), 2800 m a.s.l., 29.i.2010 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8499). *Rift Valley*: Mt. Elgon N.P., under bridge near Kitum Cave (1°01.8'N, 34°45.4'E), 2410 m a.s.l., 31.i.2010 (B.A. Huber), 1♂ in ZFMK (Ar 8500). Mt. Elgon N.P., Kitum Cave (1°01.8'N, 34°45.4'E), 2410 m a.s.l., deep in cave, 31.i.2010 (B.A. Huber), 5♂5♀ in ZFMK (4♂4♀, Ar 8501) and NMKE (1♂1♀); same locality ("Kitumi Cave"), 24.ii.1971 (Kock), 1♀ 1 juv. in SMF. Endeless, R. Suam [1°04.5'N, 34°50.6'E], riverine forest, 2000 m a.s.l., 7.viii.1972 (Murphy), 1♀ in CJFM (1656 part). Mau Escarpment between Kericho and Molo, forest fragment near road (0°14.3'S, 35°32.7'E), 2130 m a.s.l., 4.ii.2010 (B.A. Huber), 2♂1♀ in ZFMK (Ar 8503); same data, 1♀ in pure ethanol in ZFMK (Ken 136).

Smeringopus bujongolo new species

Figs. 117–118, 121–122, 127–130, 137

Type. Male holotype from Uganda, Kasese District, Ruwenzori Mts., between Nyabitaba Hut and Guy Yeoman Hut (~0°20.6–21.5'N, 29°55.6–58.7'E), 2660–3450 m a.s.l., 2.xii.2010 (B.A. Huber), in ZFMK (Ar 8483).

Etymology. The name is a noun in apposition, derived from Bujongolo Shelter, the highest African locality at which pholcids have been found so far.

Diagnosis. Easily distinguished from most known congeners by long process near male palpal tarsal organ (as in *S. chogoria*; cf. Figs. 131, 132); also by shapes of procurus and embolus (very similar *S. chogoria*; cf. Figs. 131–134); from very similar *S. chogoria* only by minor details of procurus tip (membranous part transparent rather than whitish; distal apophysis slightly shorter), semitransparent bulbal process (curved rather than straight), and female genitalia (shorter anterior epigynal plate; border of anterior plate with whitish area separating pair of black structures at rim; Fig. 128; pore plates much narrower: Fig. 137).

Male (holotype). Total body length 7.7, carapace width 2.7. Leg 1: 58.1 (14.3 + 1.2 + 14.7 + 23.2 + 4.7), tibia 2: 11.2, tibia 3: 8.5, tibia 4: 11.7; tibia 1 L/d: 50. Habitus as in Fig. 117. Carapace with wide median and lateral brown bands with indistinct borders, clypeus with pair of wide brown bands, sternum dark brown, legs ochre-brown, femora and tibiae with darker subdistal rings, abdomen with distinct pattern dorsally and ventrally. Distance PME-

PME 250 µm, diameter PME 220 µm, distance PME-ALE 175 µm, distance AME-AME 90 µm, diameter AME 150 µm. Ocular area slightly elevated, secondary eyes with small ‘pseudo-lenses’; deep thoracic pit. Chelicerae very similar *S. chogoria* (Fig. 127; apophyses slightly shorter). Palps as in Figs. 121 and 122, very similar *S. chogoria* (differences of procurus shapes between Figs. 120 and 122 result from slightly different angles of view), coxa with indistinct bulge, trochanter barely modified, femur with retrolateral indentation but no furrow, without proximal rim and without apophysis, cymbium with long projection near tarsal organ, procurus with distinctive distal elements (cf. Figs. 131, 132; distal apophysis slightly shorter), bulb with complex embolus with two processes, one sclerotized, other mostly membranous (cf. Figs. 133, 134; membranous part more curved). Legs without spines, few vertical hairs, with curved hairs ventrally and dorsally on all tibiae and metatarsi, also on femora 1 and 2 (ventrally), retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 7 other males: 9.9–15.6 (mean 12.8). Some males with ‘normal’ (posteriorly not widened) abdomen (Fig. 118).

Female. In general similar to male; tibia 1 in 20 females: 8.7–14.8 (mean 12.0). Epigynum anterior plate roughly triangular, without pockets, posterior rim with distinctive pair of dark bulges (Figs. 128, 129); arc-shaped posterior plate; internal genitalia as in Figs. 130 and 137.

Distribution. Only known from higher elevations (mostly between 2000 and 3800 m a.s.l.) in the Ruwenzori Mountains (Uganda, Congo D.R.) (Fig. 58).

Material examined. UGANDA: *Western Region*: Kasese District, Ruwenzori Mts., between Nyabitaba Hut and Guy Yeoman Hut: 1♂ holotype above; same data, 2♂6♀ in ZFMK (Ar 8484); same data, 1♂ 2 juvs. in pure ethanol in ZFMK (Uga 143). Ruwenzori Mts., between Guy Yeoman Hut and Bujongolo Shelter (~0°20.6–20.9’N, 29°55.0–55.6’E), 3450–3620 m a.s.l., 2.xii.2010 (B.A. Huber), 1♀ 3 juvs. in ZFMK (Ar 8485). Ruwenzori Mts., Bujongolo Shelter (~0°20.9’N, 29°54.8’E), 3780 m a.s.l., 2.xii.2010 (B.A. Huber), 1♂ in ZFMK (Ar 8486). Ruwenzori Mts., near Nyabitaba Hut (~0°21.5’N, 29°58.7’E), ~2600 m a.s.l., 1.xii.2010 (B.A. Huber), 1♂4♀ in ZFMK (Ar 8487); same data, 1♀ in pure ethanol in ZFMK (Uga 154). Ruwenzori Mts., between National Park gate and Nyabitaba Hut (~0°21.3–21.8’N, 29°59.7–30°01.6’E), 1720–2260 m a.s.l., 1.xii.2010 (B.A. Huber), 3♂9♀ in ZFMK (Ar 8488–89); same data, 2♀ in pure ethanol in ZFMK (Uga 157).

CONGO D.R.: *Nord-Kivu Prov.*: Face N du Ruwenzori, Kanzuiri camp [~0°29’N, 29°56’E?], “sur le Karibumba, dans mousses”, 3500 m a.s.l., vii.–viii.1974 (M. Lejeune), 1♂ in MRAC (155073); same data but “fauchage”, 1♂ in MRAC (155060). Face N du Ruwenzori, Kilindera camp [~0°31’N, 29°57’E?], Kilindera, in dead wood, 2750 m a.s.l., vii.–viii.1974 (M. Lejeune), 2♀ 2 juvs in MRAC (158551).

Smeringopus ngangao new species

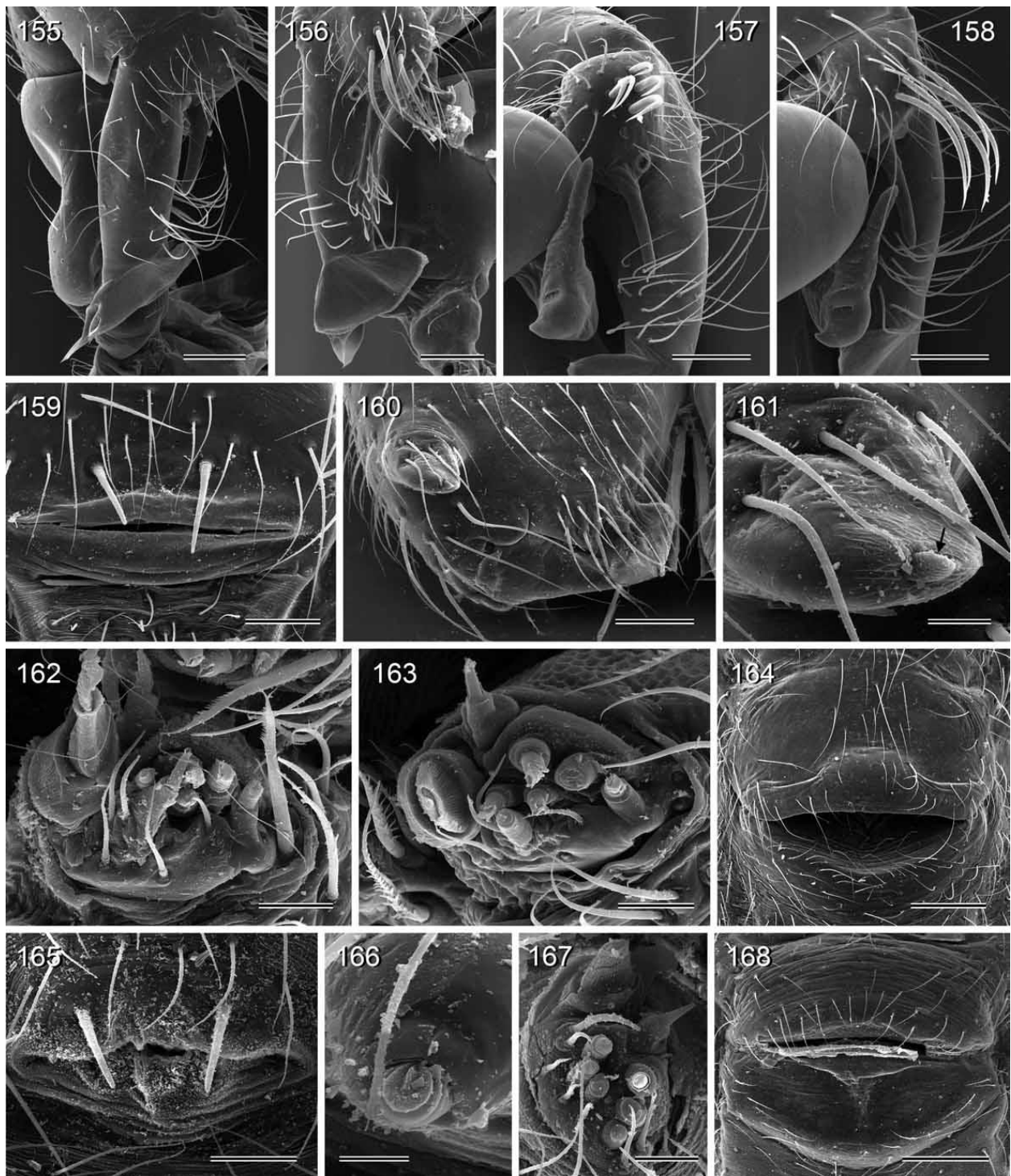
Figs. 6–7, 138–154, 165–168

Type. Male holotype from Kenya, Coast Province, Taita Hills, Ngangao Forest (3°22.2’S, 38°20.4’E), 1810 m a.s.l., 19.i.2010 (B.A. Huber), in ZFMK (Ar 8546).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Small species, easily distinguished from known congeners by shapes of procurus and embolus (Figs. 149–152) and by cheliceral armature (one pair of relatively large apophyses in unusual frontal and proximal position; Figs. 144, 153).

Male (holotype). Total body length 4.5, carapace width 1.7. Leg 1: 39.6 (10.6 + 0.6 + 9.6 + 17.5 + 1.3), tibia 2: 6.9, tibia 3: 5.5, tibia 4: 7.1; tibia 1 L/d: 62. Habitus as in Figs. 138 and 139. Carapace brown with lighter areas beside ocular area, clypeus with indistinct pair of brown lines and brown rim, sternum monochromous brown, legs brown, tips of femora and tibiae lighter, abdomen with distinct pattern dorsally and ventrally. Distance PME-PME 115 µm, diameter PME 170 µm, distance PME-ALE 45 µm, distance AME-AME 45 µm, diameter AME 140 µm. Ocular area slightly elevated, secondary eyes apparently without ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in Fig. 153, with one pair of relatively large apophyses in unusual frontal and proximal position; each with one modified hair at tip (Fig. 166). Palps as in Figs. 142 and 143, coxa unmodified, trochanter with small retrolateral projection, femur with retrolateral furrow, proximal rim with apophysis, cymbium without projection near tarsal organ, procurus with large whitish protrusion prolaterally (Figs. 149, 150), bulb with simple hooked embolus (Figs. 151, 152). Legs without spines, few vertical hairs, without curved hairs, retrolateral trichobothrium on tibia 1 at 1.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 165).



FIGURES 155–168. *Smeringopus chogoria* (155–164) and *S. ngangao* (165–168). 155–156. Right palp, retrolatero-dorsal and prolatero-dorsal views. 157–158. Left palp, dorsal and prolatero-dorsal views. 159. Male gonopore. 160–161. Male chelicerae and cheliceral apophysis (arrow points to modified hair). 162–163. Male and female ALS. 164. Epigynum. 165. Male gonopore. 166. Modified hair on male cheliceral apophysis. 167. Female ALS. 168. Epigynum. Scale lines: 10 μm (166), 20 μm (161, 167), 30 μm (162, 163), 50 μm (165), 80 μm (159), 100 μm (160), 200 μm (155–158, 168), 300 μm (164).

Variation. Tibia 1 in 9 other males: 8.0–9.6 (mean 9.1). In males from Amani (Figs. 140, 141), the tip of the procurus is minimally different and the embolus is slightly more slender.

Female. In general similar to male; tibia 1 in 10 females: 7.6–8.4 (mean 7.9). Epigynum simple anterior plate with pair of dark dots, without pockets, simple arc-shaped posterior plate (Figs. 145, 146, 168); internal genitalia as

in Figs. 147 and 154. ALS with eight spigots each (Fig. 167). Females from Amani with distinct x-shaped structure in internal female genitalia (Fig. 148).

Distribution. Known from Taita Hills in southern Kenya and Usambara Mountains in northeastern Tanzania (Fig. 58).

Material examined. KENYA: *Coast Prov.*: Taita Hills, Ngangao Forest: 1♂ holotype above; same data, 3♂7♀ in ZFMK (2♂6♀, Ar 8547-48) and NMKE (1♂1♀); same data, 3♀ 2 juvs in pure ethanol in ZFMK (Ken 90). Taita Hills, roadside near Ngangao Forest (~3°22.2'S, 38°20.4'E), 1810 m a.s.l., 19.i.2010 (B.A. Huber), 1♂ in ZFMK (Ar 8549). Taita Hills, Chavia Forest (3°28.8'S, 38°20.4'E), 1590 m a.s.l., 20.i.2010 (B.A. Huber), 4♂1♀ in ZFMK (Ar 8550); same data, 1♂2♀ in pure ethanol in ZFMK (Ken 96).

TANZANIA: *Tanga Region*: East Usambara Mountains, Amani (5°05.7'S, 38°38'E), 950 m a.s.l., 27.x.–9.xi.1995 (C.E. Griswold, N. Scharff, D. Ubick), 2♂4♀ in CAS.

***Smeringopus arambourgi* Fage, 1936**

Figs. 169–170, 179, 184–185, 194–195, 205–218

Smeringopus arambourgi Fage in Fage & Simon 1936: 319–320, figs. 12a–b (male only; female see *S. turkana*).

Note. This species might be a synonym of *S. affinitatus* Strand, 1906 (see below).

Types. 2♂ syntypes from Ethiopia, plaines de l'Omo, St. n° 28, Bourillé [~5°30'N, 36°12'E?], 600 m a.s.l., 2.ii.1933 [C. Alluaud, R. Jeannel, P.A. Chappuis], in MNHN (AR 10362), mislabeled as “*Smeringopus fontisflorum* ... Bloemfontein...”. The actual type label was found in a vial containing *S. lesserti* from Gabon.

Diagnosis. Distinguished from similar congeners (other species of *arambourgi* species group and *S. pallidus*) by distinctively curved tip of procurus (Figs. 185, 205), shapes of bulbal processes (hooked embolus and slender dorsal projection; Figs. 207, 211), and epigynum shape (Fig. 194; externally similar *S. oromia* and *S. saruanle*).

Male (Nech Sar N.P., plains). Total body length 5.2, carapace width 1.7. Leg 1: 44.4 (11.3 + 0.7 + 11.5 + 18.8 + 2.1), tibia 2: 8.0, tibia 3: 5.9, tibia 4: 8.1; tibia 1 L/d: 63. Habitus as in Fig. 169. Carapace with distinct median and lateral brown marks, sternum brown with light spots, leg femora and tibiae with subdistal dark rings and light tips, abdomen pale grey, dorsally with distinct dark pattern, ventrally with three lines in median part (median line broken), with transversal mark in posterior third (cf. female, Fig. 170). Distance PME-PME 150 µm, diameter PME 150 µm, distance PME-ALE 55 µm, distance AME-AME 30 µm, diameter AME 125 µm. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’ (Fig. 215); deep thoracic pit. Chelicerae as in Fig. 208, with small distal apophyses, each provided with one modified hair at tip (Figs. 212, 213). Palps as in Figs. 184 and 185, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow, proximal rim slightly more distinct, cymbium without projection near tarsal organ, procurus with distinctively curved tip and large prolateral process (Figs. 205, 206, 210), bulb with sclerotized embolus and distinctive slender dorsal process (Figs. 207, 211). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1–2, retrolateral trichobothrium on tibia 1 at 3.5%; prolateral trichobothrium present on tibia 1. ALS with eight spigots each (Fig. 214).

Variation. Some males with considerably less dark pattern (e.g. without lateral marks on carapace, fewer ventral abdominal marks, median ventral line sometimes missing). Tibia 1 in syntypes: 15.2, 15.9; 2 males from Sof Omar: 13.7, 18.0; male from Somalia: 10.0. The syntypes are in fairly good condition; in one male both palps are detached and one of them is missing.

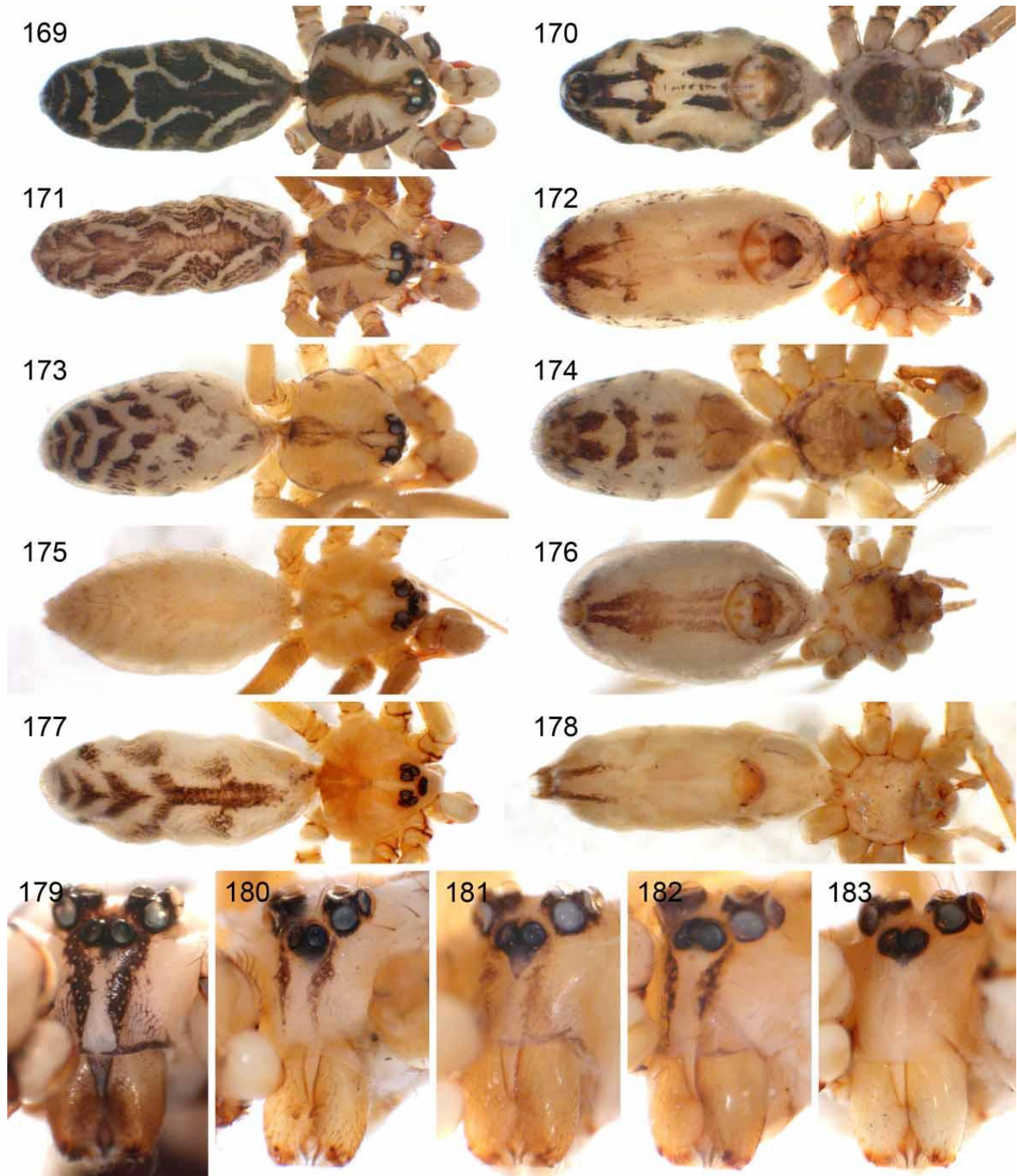
Female. In general similar to male; tibia 1 in 7 females: 10.4–16.2 (mean 13.8). Epigynum a simple flat plate without pockets, internal structures visible through cuticle (Fig. 194); internal genitalia as in Figs. 195, 209, and 217. ALS as in male (Fig. 216).

Distribution. Known from three localities in southern Ethiopia and from Somalia (locality unknown) (Fig. 204).

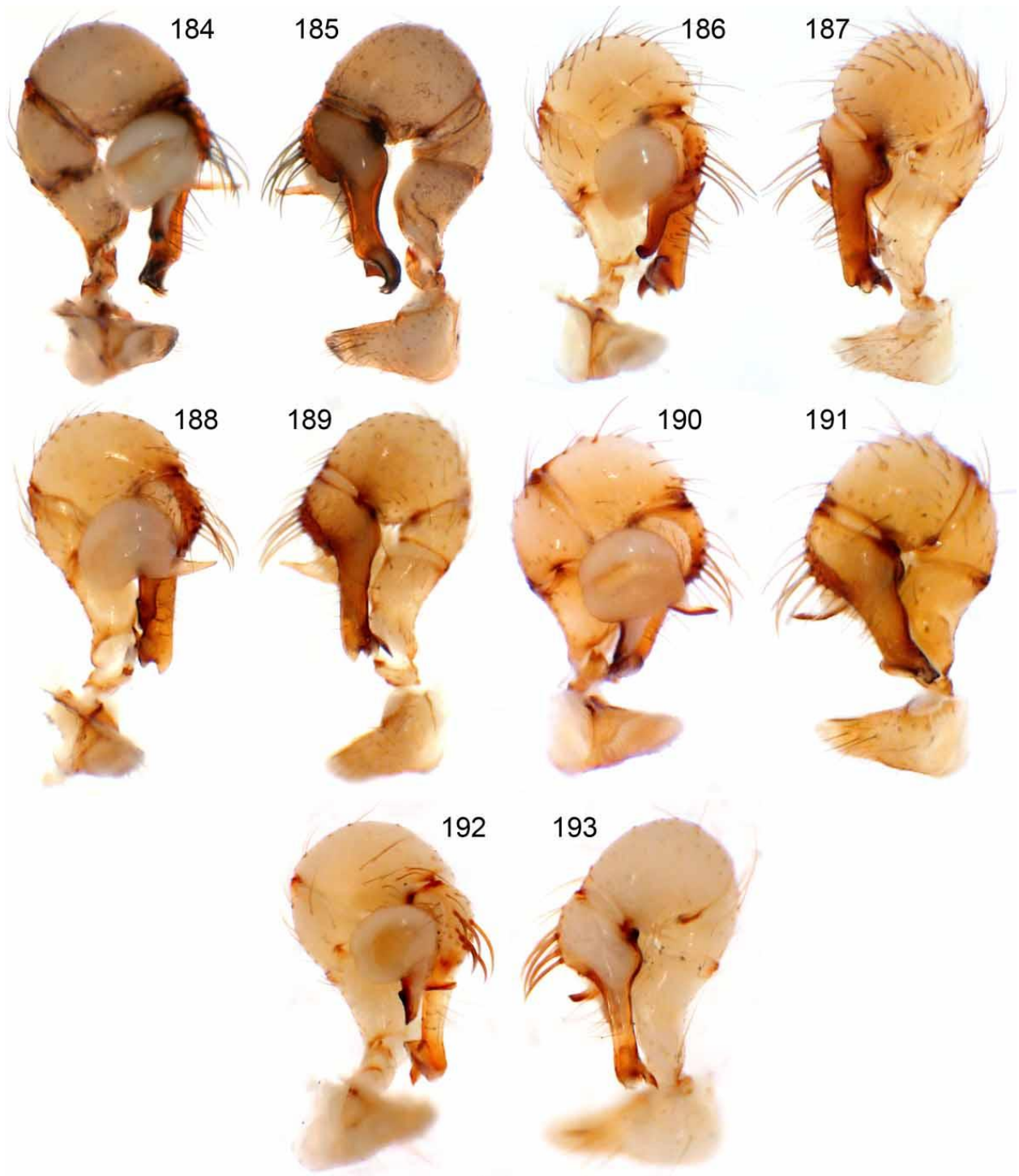
Material examined. ETHIOPIA: “Plaines de l'Omo, St. n° 28, Bourillé”: 2♂ syntypes above. *Southern Nations, Nationalities and People's Region*: Arba Minch, Nech Sar National Park (6°00.0'N, 37°32.6'E), 1385 m a.s.l., in houses, 18.vi.2011 (M. Moradmand, V. Hula, J. Niedobová), 2♂2♀ in SMF; same data but 19.vi.2011, 1♀ in SMF; same data but plains, 19.vi.2011, 1♂1♀ in SMF. *Oromia Region*: Sof Omar village (6°54.2'N, 40°51.0'E), *Acacia* trees, under stones, on cliffs and along riverside, 1200 m a.s.l., 16.vi.2011 (M. Moradmand, V. Hula, J. Niedobová),

2♂2♀ in SMF; same data but inside limestone caves, in crevices, 1♂1♀ in SMF. Grotte Sof Omar, 8./11./13./14.ii.1971 (T. Monod), 3♀ 7 juvs. (3 vials) in MNHN.

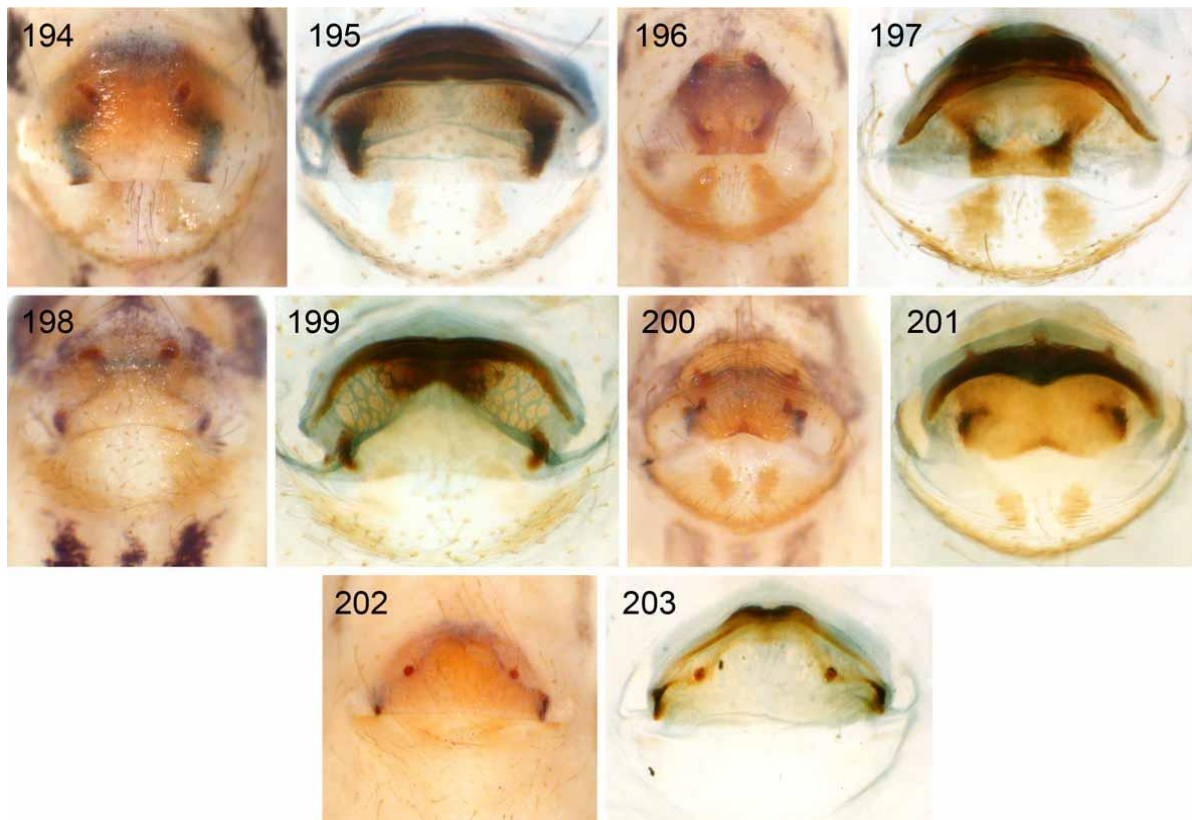
SOMALIA: locality not specified (“n. 339, 76”, “Mag. No. 866”), 1924 (Stefanini, Puccioni), 1♂ in MZF.



FIGURES 169–183. *Smeringopus arambourgi* group, habitus and male prosomata, oblique frontal views. 169–170. *S. arambourgi*, male, dorsal view and female, ventral view. 171–172. *S. turkana*, male, dorsal view and female, ventral view. 173–174. *S. oromia*, male, dorsal and ventral views. 175–176. *S. saruanle*, male, dorsal view and female, ventral view. 177–178. *S. lineiventris*, male, dorsal view and female, ventral view. 179. *S. arambourgi*. 180. *S. turkana*. 181. *S. oromia*. 182. *S. saruanle*. 183. *S. lineiventris*.



FIGURES 184–193. *Smeringopus arambourgi* group, left male palps, prolateral and retrolateral views. 184–185. *S. arambourgi*. 186–187. *S. turkana*. 188–189. *S. oromia*. 190–191. *S. saruanle*. 192–193. *S. lineiventris*.



FIGURES 194–203. *Smeringopus arambourgi* group, epigyna, ventral views and cleared female genitalia, dorsal views. 194–195. *S. arambourgi*. 196–197. *S. turkana*. 198–199. *S. oromia*. 200–201. *S. saruanle*. 202–203. *S. lineiventris*.

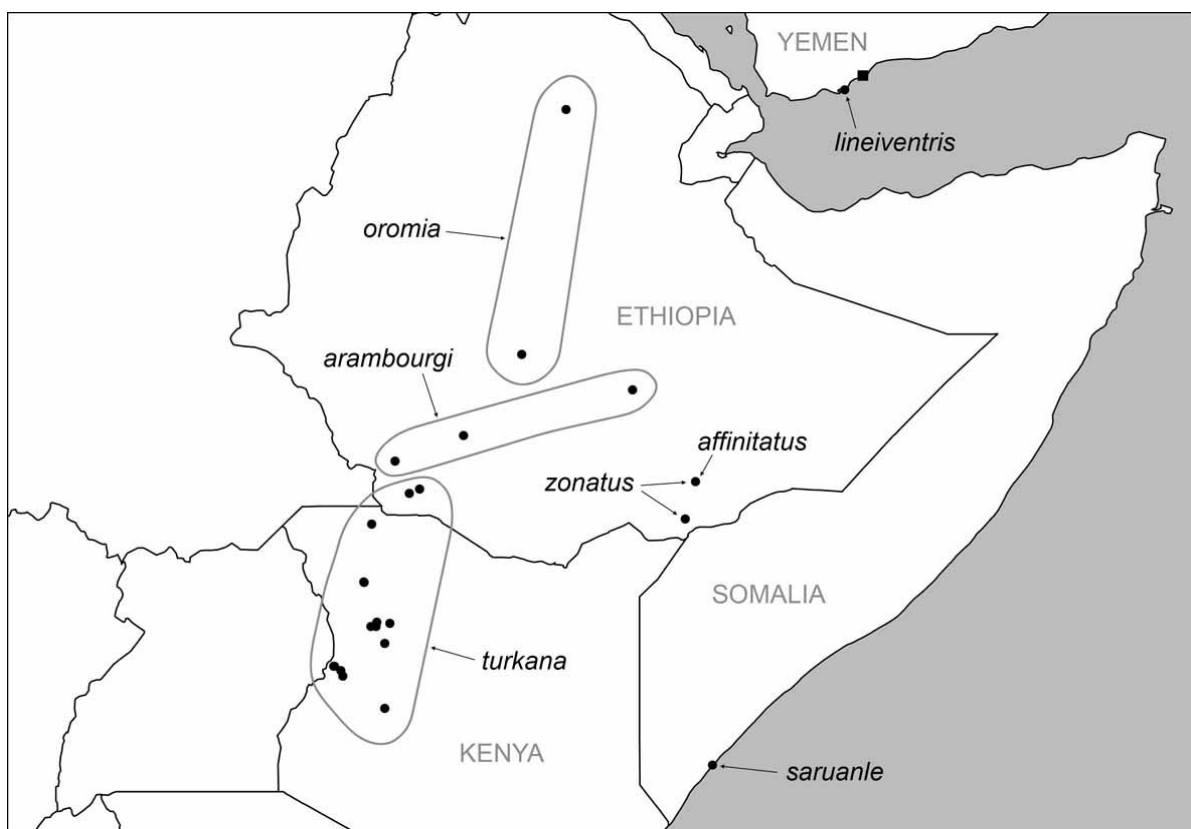
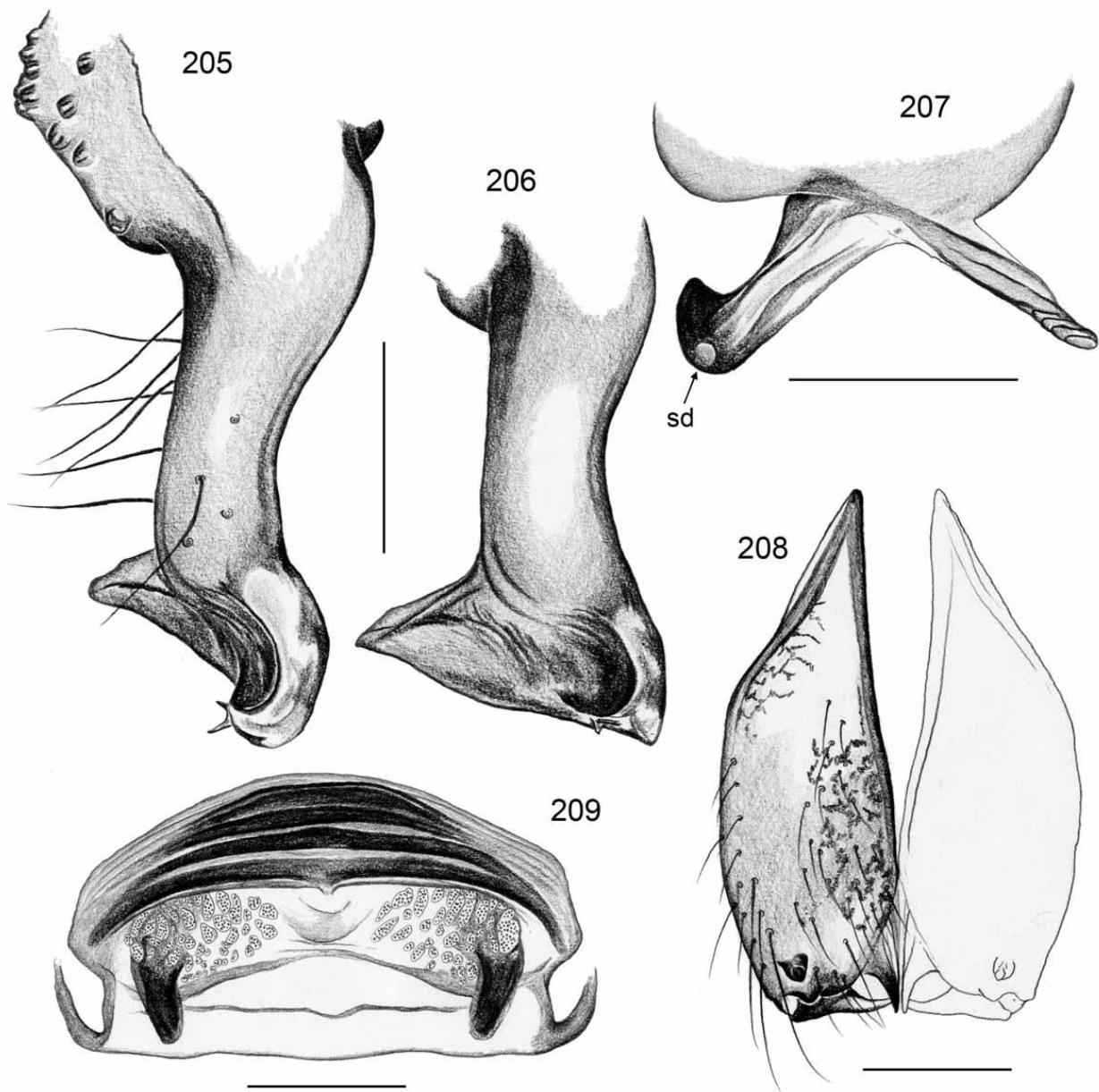


FIGURE 204. Known distribution of the *arambourgi* group. Note that two localities are not shown: the unspecified locality of *S. arambourgi* in Somalia, and “Massoua” (for *S. lineiventris*). Square: further undescribed species.

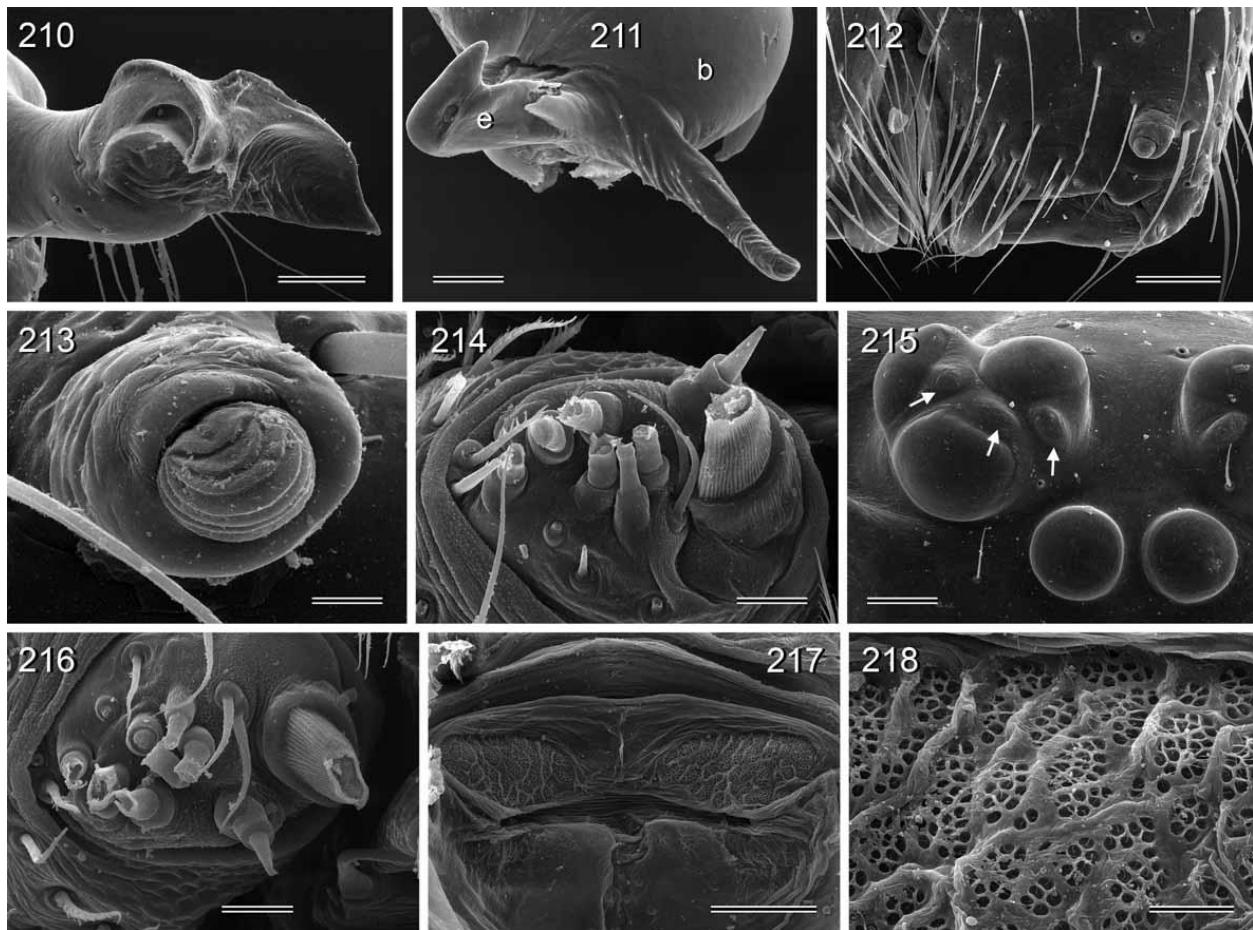


FIGURES 205–209. *Smeringopus arambourgi*. 205. Left cymbium and procurus, retrolateral view. 206. Left procurus, dorsal (slightly retrolateral) view. 207. Left bulbal processes, prolateral view. 208. Male chelicerae, frontal view. 209. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

***Smeringopus affinitatus* Strand, 1906**

Smeringopus affinitatus Strand 1906a: 670–671. Strand 1908: 93–95.

Notes. Strand's (1906a, 1908) descriptions were apparently based on a single female specimen from Ethiopia, Somali Region, "Fluß Mane" [=Webi Mane, ~5°06'N, 42°05'E], collected by C.F. von Erlanger. The specimen is probably lost and the long descriptions without illustrations do not allow clear separation of this species from similar congeners, especially from *S. arambourgi*. Strand's specimen had a patella + tibia 1 length of 7.8 (i.e. tibia 1 ~7.3) which is much shorter than in the *S. arambourgi* females measured above, but strong size variation is not uncommon in *Smeringopus* and the male *S. arambourgi* specimen from Somalia also has shorter legs than the Ethiopian specimens. Further collecting in southeastern Ethiopia is necessary to decide if *S. arambourgi* is a synonym of *S. affinitatus* or not.



FIGURES 210–218. *Smeringopus arambourgi*. 210. Left procurus tip, retrolatero-distal view. 211. Left bulbal processes, prolatero-distal view. 212–213. Male chelicerae and cheliceral apophysis. 214. Male ALS. 215. Female ocular area (arrows point to ‘pseudo-lenses’). 216. Female ALS. 217. Cleared female genitalia, dorsal view. 218. Detail of pore plate. Scale lines: 10 μm (213), 20 μm (214, 216), 30 μm (218), 80 μm (212), 100 μm (210, 211, 215), 200 μm (217).

Smeringopus turkana new species

Figs. 171–172, 180, 186–187, 196–197, 219–224

“*Smeringopus arambourgi* Fage” (misidentification; females only) in Fage & Simon 1936: 319–320, fig. 12c.

Type. Male holotype from Kenya, Rift Valley, Kacheliba [$\sim 1^{\circ}28'N$, $35^{\circ}01'E$?], 1400 m a.s.l., hot dry area, 4.viii.1972 (Murphy) in ZFMK (Ar 8565; from CJFM 1464).

Note. This species might be a synonym of *S. zonatus* Strand, 1906 (see below).

Etymology. Named for the Turkana people in northwestern Kenya; noun in apposition.

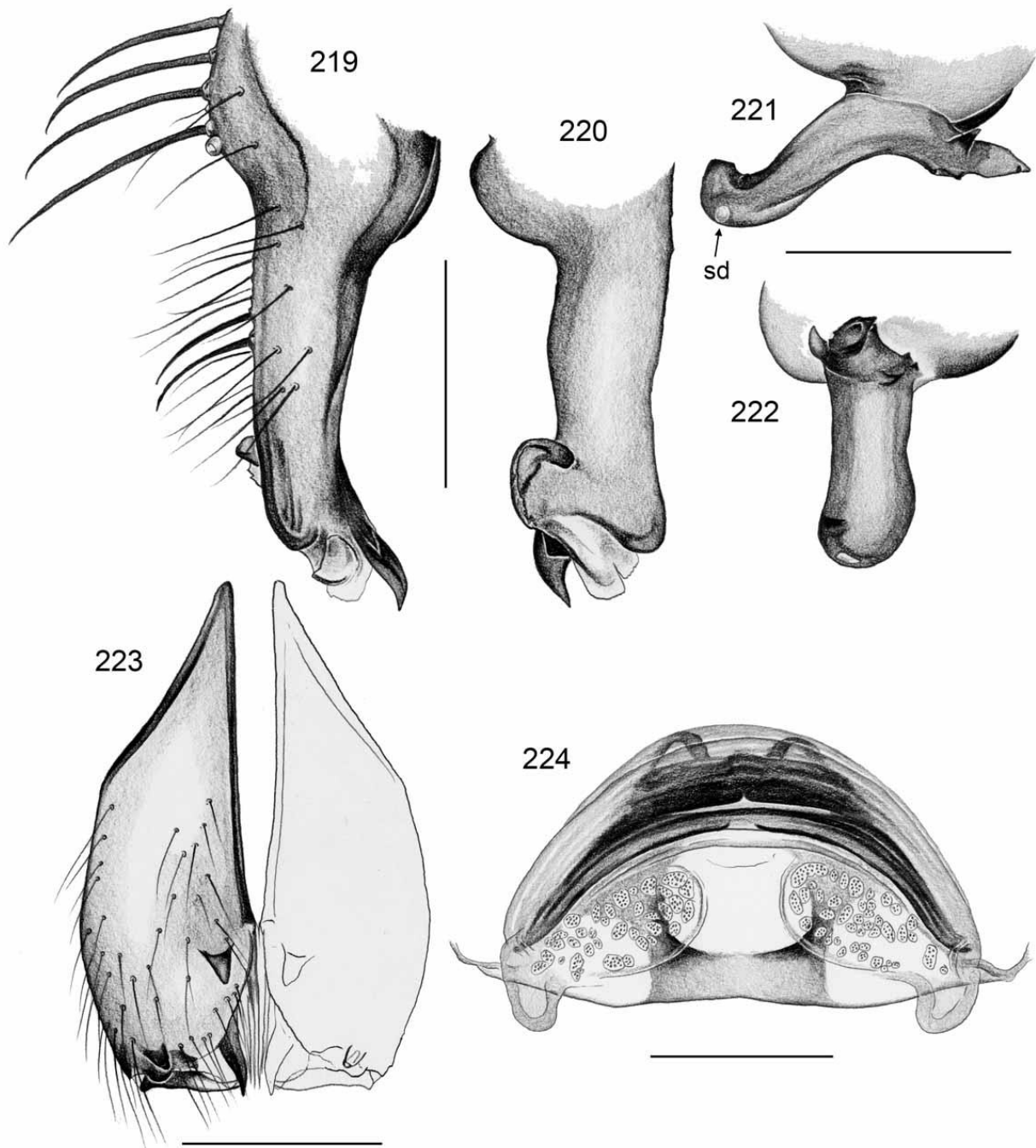
Diagnosis. Easily distinguished from similar congeners (other species of the *arambourgi* species group and *S. pallidus*) by second pair of apophyses frontally on male chelicerae (Fig. 223); also distinguished by tip of procurus (Figs. 219, 220), shapes of bulbal processes (pointed processes on dorsal projection; Figs. 221, 222), and epigynum shape (frontal part with dark hexagonal area; Fig. 196).

Male (holotype). Total body length 4.9, carapace width 1.6. Leg 1: 37.6 (10.5 + 0.7 + 9.6 + 14.9 + 1.9), tibia 2: 6.4, tibia 3: 4.9, tibia 4: 6.9; tibia 1 L/d: 57. Habitus as in Fig. 171. Carapace with distinct brown pattern medially and laterally, clypeus with pair of dark lines, sternum brown with light spots, leg femora and tibiae with subdistal dark rings and light tips, abdomen with distinct dorsal and ventral pattern. Distance PME-PME 140 μm , diameter PME 135 μm , distance PME-ALE 45 μm , distance AME-AME 35 μm , diameter AME 135 μm . Ocular area slightly elevated, secondary eyes with barely visible ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in Fig. 223, with usual pair of small distal apophyses and unique additional pair more proximally. Palps as in Figs. 186 and 187,

coxa without retrolateral apophysis, trochanter barely modified, femur with shallow retrolateral furrow, cymbium without projection near tarsal organ, procurus with distinctive tip (Figs. 219, 220), bulb with sclerotized embolus and distinctive dorsal process set with two pointed projections (Figs. 221, 222). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1–2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Variation. The pointed projections on the dorsal bulbal process vary slightly in size and position. Tibia 1 in 4 other males: 8.2, 8.5, 10.0, 10.7.

Female. In general similar to male; tibia 1 in 12 females: 7.2–10.3 (mean 8.4). Epigynum a simple flat plate without pockets, with dark median hexagonal area, internal structures visible through cuticle, posterior part with two darker areas (Fig. 196); internal genitalia as in Figs. 197 and 224.



FIGURES 219–224. *Smeringopus turkana*. 219. Left cymbium and procurus, retrolateral view. 220. Left procurus, dorsal (slightly prolateral) view. 221–222. Left bulbal processes, prolateral and dorsal views. 223. Male chelicerae, frontal view. 224. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Distribution. Known from northwestern Kenya and southwestern Ethiopia (Fig. 204).

Material examined. KENYA: *Rift Valley*: Kacheliba: 1♂ holotype above. Turkana, Kanapoi [~2°19'N, 36°06'E?], 10.ix.1966 (B. Patterson), 1♂1♀ 1 juv. in MCZ (34013); same data but 17.–24.vii.1966, 2♀ 1 juv. in MCZ (34021). Lodwar, along Turkwell River (3°07.0'N, 35°35.7'E), 10.–12.vi.1999 (W.J. Pulawski, J.S. Schweikert), 1♀ in CAS. Lodwar, 60 km W of Lake Rudolf [3°07'N, 35°36'E], 16.–26.viii.1963 (B. Patterson), 1♂2♀ 3 juvs in MCZ (34023). Turkana, Lokori [~1°57'N, 36°00'E], 26.viii.1965 (B. Patterson), 1♂1♀ in MCZ (34025); same data but in concrete houses, 25.vii.1965, 1♂ in MCZ (34010). Loperot [~2°20'N, 35°50'E], vii.1964 (B. Patterson), 1♂ in MCZ (34019). 7 mi S Loperot [~2°15'N, 35°50'E], vii.1964 (B. Patterson), 1♂1♀ (2 vials) in MCZ (34009, 34024). 16 km SW Loperot [~2°15'S, 35°44'E], Akuryo waterhole, bat cave, 24.vi.1964 (B. Patterson), 1♂1♀ in MCZ (34020); same data but viii.1964, 1♀ in MCZ (34027). Kamatira [~1°16'N, 35°10'E], roadside scrub, 2300 m a.s.l., 23.viii.1972 (Murphy), 1♀ in CJFM (2164). Kongelai [~1°28'N, 35°01'E?], dry scrub, 1400 m a.s.l., 17.viii.1972 (Murphy), 1♀ in CJFM (1958). Lake Baringo [~0°38'N, 36°00'E], lakeside scrub, 1100 m a.s.l., 28.viii.1972 (Murphy), 1♀ in CJFM (2274). “Turkana méridional” and “Lokitang”, Mission de l'Omo, 19.i.1933 and 23.i.1933 [C. Alluaud, R. Jeannel, P.A. Chappuis], 2♀ misidentified as *S. arambourgi* in Fage & Simon (1936), in MNHN (AR 10357, 10366).

ETHIOPIA: *Southern Nations, Nationalities and People's Region*: Caschei [~4°52'N, 36°29'E?], 5.vii.1939 (E. Zavattari) 1♂2♀ 1 juv. (2 vials) in MZF; same data but 5./7.vii.1939, 1♀ in MZF. Gonga-Baino [~4°57'N, 36°41'E], 21.vi.1939 (E. Zavattari), 1♀ in MZF.

***Smeringopus zonatus* Strand, 1906**

Smeringopus zonatus Strand 1906a: 671. Strand 1908: 95–97, pl. 2, fig. 3.

Notes. Strand's (1906a, 1908) descriptions were based on 2♀ 1 juv. syntypes from Ethiopia, Somali Region, “Fluß Daa” [=Webi Daa or Dawa, ~4°22'N, 41°53'E], and 1♀ from Webi Mane [~5°06'N, 42°05'E], all collected by C.F. von Erlanger. The specimens are probably lost and the descriptions do not offer sufficient detail to separate this species from similar congeners, especially from *S. turkana*. Further collecting in southeastern Ethiopia is necessary to decide if *S. turkana* is a synonym of *S. zonatus* or not.

***Smeringopus oromia* new species**

Figs. 173–174, 181, 188–189, 198–199, 225–230

Type. Male holotype from Ethiopia, Oromia Region, Lake Langano [~7°36'N, 38°41'E], under stones, short grass near hotel, 24.x.1982 (A. Russell-Smith), in ZFMK (Ar 8552).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *arambourgi* species group and *S. pallidus*) by tip of procurus (Figs. 225–227), shapes of bulbal processes (Figs. 228, 229; simple semitransparent dorsal projection shorter and wider than in *S. arambourgi*), and epigynum shape (Fig. 198; similar *S. arambourgi* and *S. saruanle*).

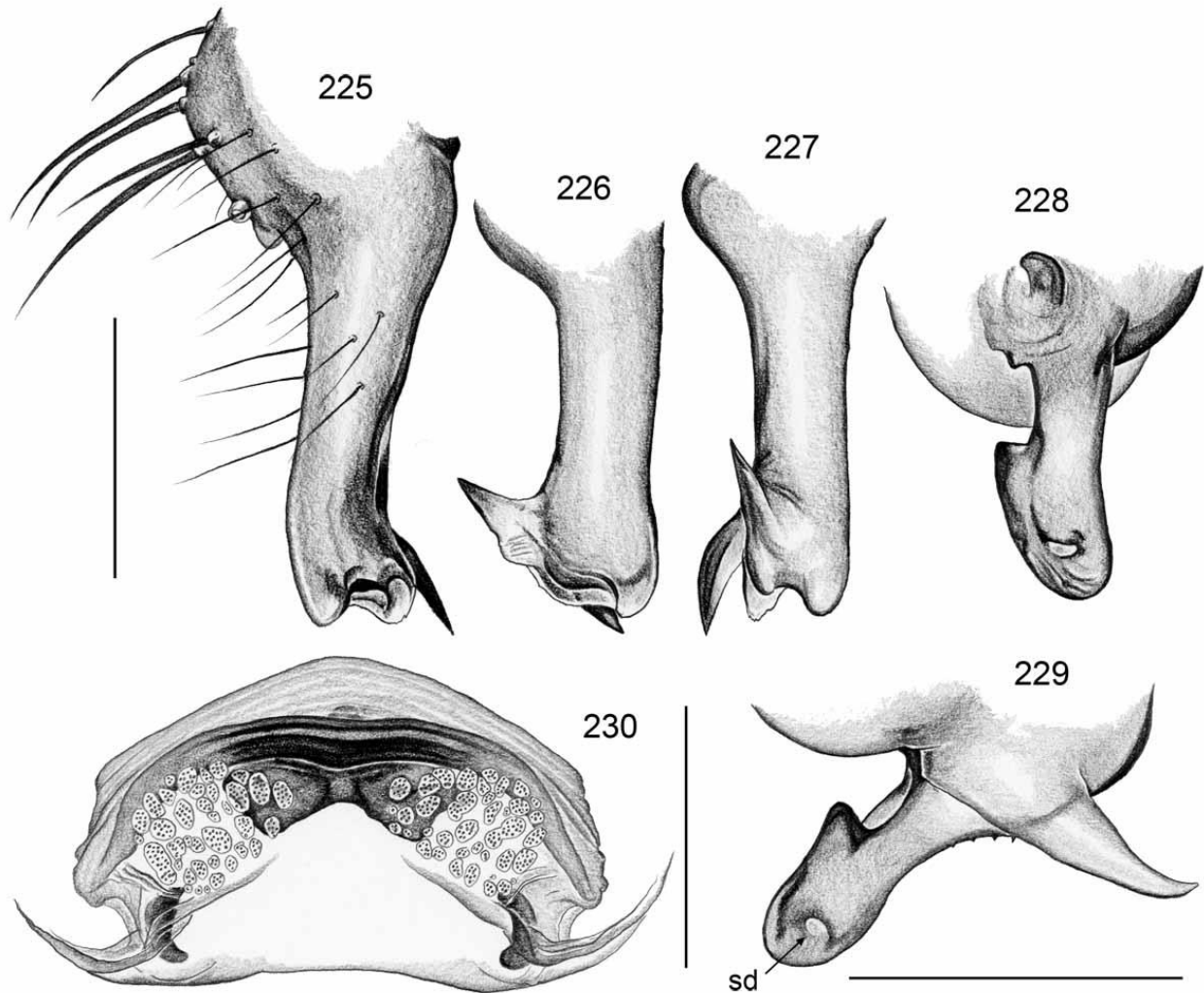
Male (holotype). Total body length 3.6, carapace width 1.5. Leg 1: 23.9 (6.1 + 0.6 + 6.1 + 9.7 + 1.4), tibia 2: 4.2, tibia 3: 3.2, tibia 4: 4.8; tibia 1 L/d: 43. Habitus as in Figs. 173 and 174. Carapace with narrow median and lateral marks, clypeus with pair of dark marks, sternum light brown with darker margins and darker frontal half, legs monochromous ochre-yellow, abdomen ochre-gray with dark dorsal and ventral pattern. Distance PME-PME 135 µm, diameter PME 105 µm, distance PME-ALE 55 µm, distance AME-AME 45 µm, diameter AME 90 µm. Ocular area slightly elevated, secondary eyes with barely visible ‘pseudo-lenses’; deep thoracic pit. Chelicerae very similar *S. saruanle* (cf. Fig. 236), with pair of small distal apophyses. Palps as in Figs. 188 and 189, coxa without retrolateral apophysis, trochanter barely modified, femur with shallow retrolateral furrow, cymbium with small projection near tarsal organ, procurus with distinctive tip (Figs. 225–227), bulb with sclerotized embolus and simple semitransparent dorsal process (Figs. 228, 229). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1–2 (many hairs missing), retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Ventral abdominal pattern in other male indistinct and irregular (artifact?); tibia 1 in this male: 7.5.

Female. In general similar to male but both females with very distinct dark subdistal rings on femora and tibiae; tibia 1 in 2 females: 5.6, 6.4. Epigynum a simple flat plate without pockets, lateral whitish areas separated from median part by black marks, posterior part without or with very indistinct darker areas (Fig. 198); internal genitalia as in Figs. 199 and 230.

Distribution. Known from two localities in central and northern Ethiopia (Fig. 204).

Material examined. ETHIOPIA: *Oromia Region*: Lake Langano: 1♂ holotype above, together with 1♀. *Tigray Region*: Alomata [=Alamat'a, 12°25'N, 39°33'E], 5000 ft a.s.l., 16.i.1960 (E.S. Ross), 1♂1♀ in CAS.



FIGURES 225–230. *Smeringopus oromia*. 225. Left cymbium and procurus, retrolateral view. 226–227. Left procurus, dorsal and prolateral (slightly dorsal) views. 228–229. Left bulbal processes, dorsal and prolateral views. 230. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

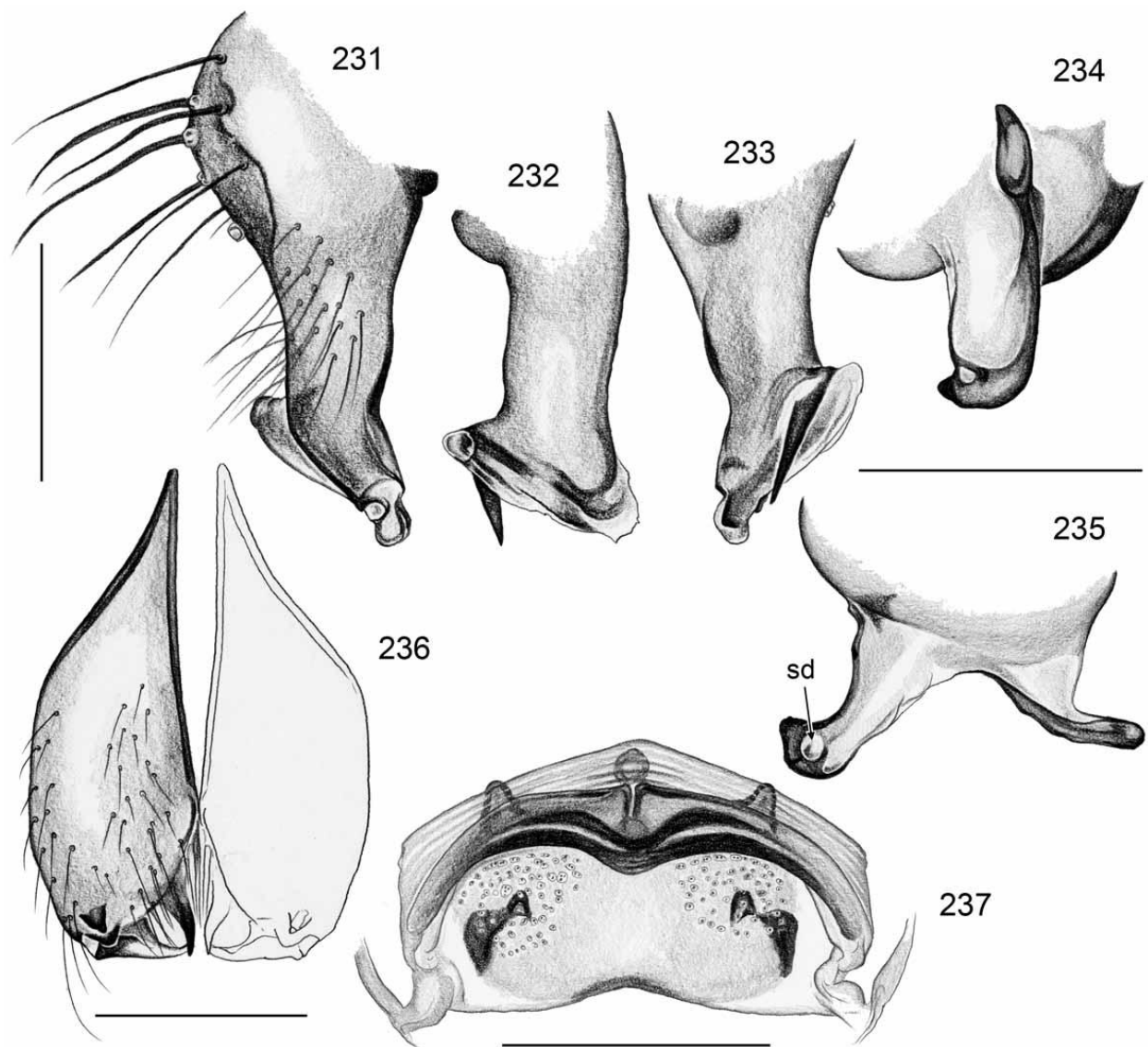
Smeringopus saruanle new species

Figs. 175–176, 182, 190–191, 200–201, 231–237

Type. Male holotype from Somalia, Sar Uanle [~0°29'S, 42°25'E], 30.x.1971 "S.B.S. (P.L.)", in MZF.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from similar congeners (other species of the *arambourgi* species group) by procurus (short thick shaft, details of tip; Figs. 231–233), shapes of bulbal processes (Figs. 234, 235), and epigynum shape (Fig. 200; similar *S. arambourgi* and *S. oromia*).



FIGURES 231–237. *Smeringopus saruanle*. 231. Left cymbium and procurus, retrolateral view. 232–233. Left procurus, dorsal and proterolateral views. 234–235. Left bulb, dorsal and proterolateral views. 236. Male chelicerae, frontal view. 237. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Male (holotype). Total body length 3.6, carapace width 1.2. Leg 1: 25.5 (6.9 + 0.5 + 6.4 + 10.3 + 1.4), tibia 2: 4.5, tibia 3: 3.5, tibia 4: 5.3; tibia 1 L/d: 56. Habitus as in Fig. 175. Carapace ochre-yellow, without dark pattern, clypeus with distinct pair of dark marks, sternum light brown with large light marks, legs monochromous ochre-yellow, abdomen ochre-gray, dorsally only above spinnerets some dark marks, ventrally with pair of black lines in front of spinnerets. Distance PME-PME 135 μ m, diameter PME 125 μ m, distance PME-ALE 45 μ m, distance AME-AME 45 μ m, diameter AME 105 μ m. Ocular area slightly elevated, secondary eyes with barely visible ‘pseudo-lenses’; small thoracic pit. Chelicerae as in Fig. 236, with pair of small distal apophyses. Palps as in Figs. 190 and 191, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow, proximal rim slightly more distinct, cymbium without projection near tarsal organ, procurus short and thick, with distinctive tip (Figs. 231–233), bulb with sclerotized embolus and slender partly sclerotized dorsal process (Figs. 234, 235). Legs with two rows of spine-like ventral hairs distally on femora 1, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1–2, retrolateral trichobothrium on tibia 1 at 3%; proterolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 3 other males: 6.1, 6.3, 8.1.

Female. In general similar to male; tibia 1 in 2 females: 5.0, 7.6. Epigynum a simple flat plate without pockets, lateral whitish areas separated from median part by black marks, posterior part with indistinct darker areas (Fig. 200); internal genitalia as in Figs. 201 and 237.

Distribution. Only known from type locality in southern Somalia (Fig. 204).

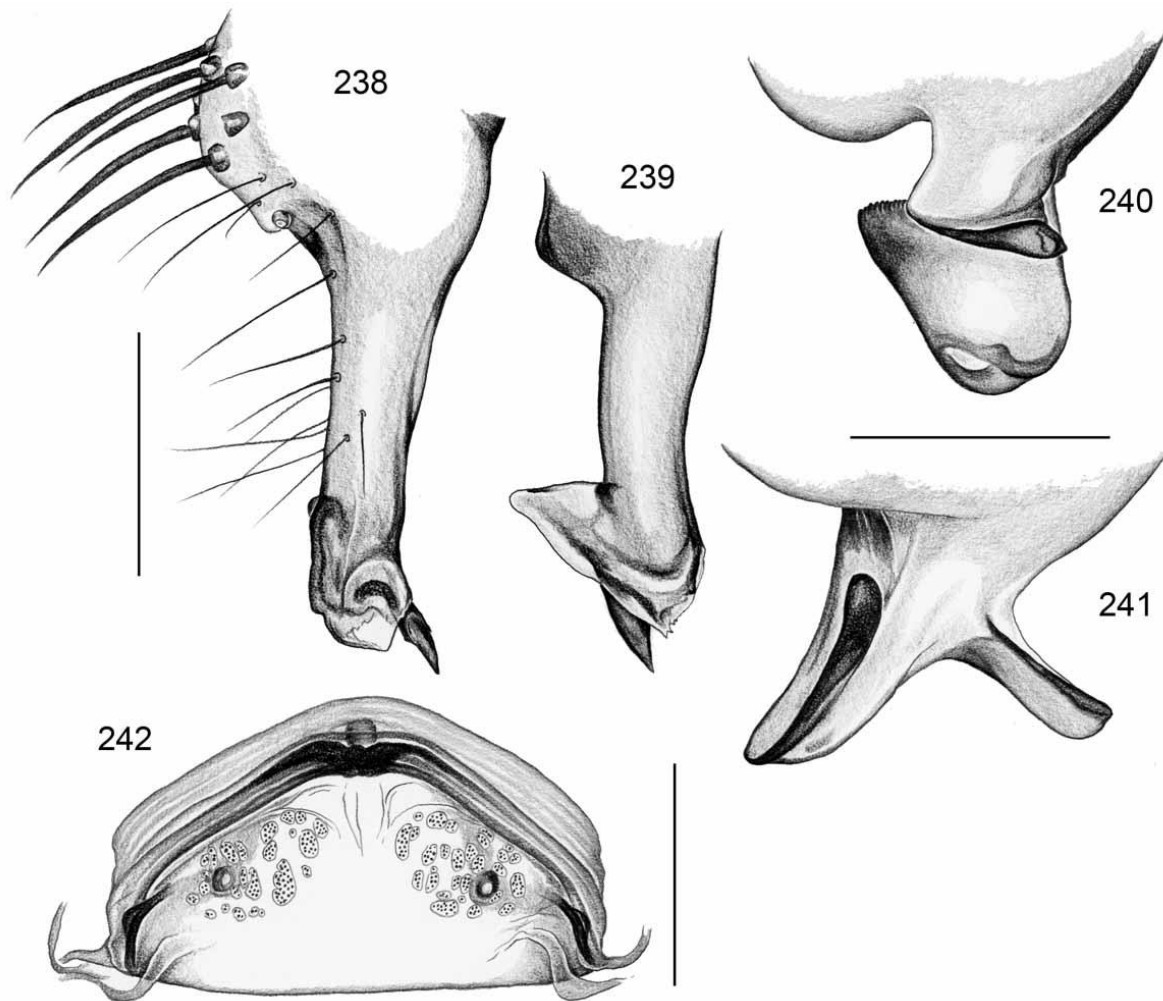
Material examined. SOMALIA: Sar Uanle: 1♂ holotype above; same locality, 2.vi.1973, 1♂ in MZF; 18.vi.1973, 1♂ in MZF; 19.x.1971, 1♀ in MZF.

Dubious locality (or mislabeled specimens): “Le Para (Mth)”, E. Simon collection 2587, 1♂1♀ in MNHN (AR 10352).

***Smeringopus lineiventris* Simon, 1890**

Figs. 177–178, 183, 192–193, 202–203, 238–242

Smeringopus lineiventris Simon 1890: 95.



FIGURES 238–242. *Smeringopus lineiventris*. 238. Left cymbium and procurus, retrolateral view. 239. Left procurus, dorsal view. 240–241. Left bulbous processes, dorsal and prolateral views. 242. Cleared female genitalia, dorsal view. Scale lines: 0.2 mm (240–241), 0.3 mm (238–239, 242).

Types. 4♂4♀ syntypes from Yemen, Aden [12°48'N, 45°00'E], date unknown (1889–1890), leg. E. Simon, in MNHN (10488), with Simon’s handwritten label “10746 *Sm. lineiventris* ES Aden!”, examined.

Diagnosis. Distinguished from similar congeners (other species of the *arambourgi* species group and *S. pallidus*) by tip of procurus (Figs. 238, 239), shapes of bulbous processes (Figs. 240, 241), and epigynum shape (simple plate with pair of round internal structures visible through cuticle; Fig. 202; similar *S. pallidus*); apparently also by reduced color pattern on carapace, clypeus, sternum, and legs (mostly monochromous).

Male (syntype). Total body length 6.4, carapace width 2.1. Leg 1: 65.6 (17.1 + 0.9 + 16.4 + 28.8 + 2.4), tibia 2: 11.9, tibia 3: 8.8, tibia 4: 11.7; tibia 1 L/d: 77. Habitus as in Fig. 177. Colors possibly slightly bleached but dorsal abdominal pattern still very distinct; carapace only posteriorly slightly darker, clypeus, sternum, and legs monochromous ochre-yellow, abdomen ochre-gray with distinct dorsal pattern, ventrally only with two pairs of dark lines (beside book lungs and posteriorly). Distance PME-PME 160 μ m, diameter PME 150 μ m, distance PME-ALE 80 μ m, distance AME-AME 25 μ m, diameter AME 140 μ m. Ocular area slightly elevated, secondary eyes with barely visible ‘pseudo-lenses’; deep thoracic pit. Chelicerae very similar *S. saruanle* (cf. Fig. 236), with small distal apophyses. Palps as in Figs. 192 and 193, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow, proximal rim slightly more distinct, cymbium with very small projection near tarsal organ, procurus with distinctive distal processes (Figs. 238, 239), bulb with sclerotized embolus and distinctive dorsal process (Figs. 240, 241). Legs without spines, few vertical hairs, with curved hairs on legs 1–2 (most hairs missing), retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 6 other males: 9.3–15.7 (mean 13.2).

Female. In general similar to male; tibia 1 in 8 females: 10.4–15.2 (mean 12.4). Epigynum a simple plate without pockets, with internal round structures visible through cuticle (Fig. 202); internal genitalia as in Figs. 203 and 242.

Natural history. According to Simon (1890), this species was once “commun dans les maisons” at the type locality in Aden. This seems no longer to be the case, as the species is apparently missing in the new collections from Yemen made by A. van Harten and deposited at the RMNH.

Distribution. Only known from type locality in Yemen and “Massoua” (see below) (Fig. 204).

Material examined. YEMEN: Aden: 4♂4♀ syntypes above; same locality, “E a. Emerton” no further data, 1♂ in MCZ (34047).

Dubious locality: “Massoua” (= Er Rih Island?, 18°10’N, 38°26’E; or Massawa?, 15°36’N, 39°27’E), E. Simon collection 10250, 4♂5♀ 6 juvs. in MNHN (AR 10475).

***Smeringopus natalensis* Lawrence, 1947**

Figs. 243–244, 251, 256–257, 278–279, 300–304, 343–349

Smeringopus natalensis Lawrence 1947: 14–15, figs. 7a–b. Lawrence 1967: 299, figs. 3–5. Huber 2001: 136, figs. 430, 432–433, 437.

Type. Male holotype from South Africa, KwaZulu Natal, Verulam [29°39’S, 31°03’E], date and collector not given, in Naturhistoriska Museet, Göteborg, Sweden, not examined.

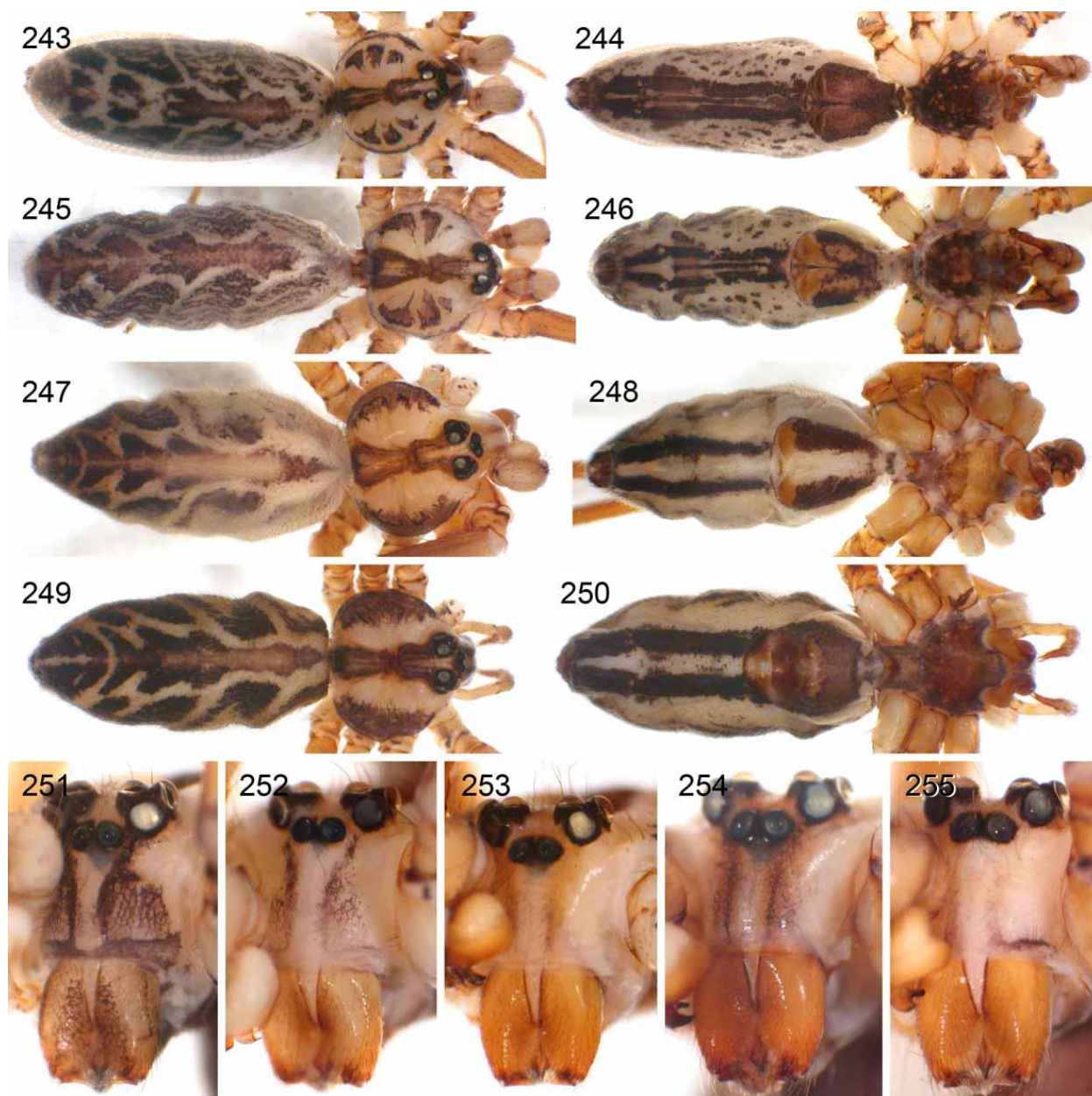
Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. lesnei*, *S. florisbad*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*) by shapes of bulbal processes (Figs. 302, 303); from other close relatives by absence of process near palpal tarsal organ (Fig. 300), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two; compare Fig. 244 with Figs. 248 and 250).

Male (Badplaas, ZFMK). Total body length 6.3, carapace width 2.2. Leg 1: 53.6 (14.0 + 0.8 + 14.1 + 22.0 + 2.7), tibia 2: 9.6, tibia 3: 7.2, tibia 4: 10.0; tibia 1 L/d: 66. Habitus as in Figs. 243 and 244. Carapace ochre-yellow with distinct dark pattern (median, lateral, and submarginal marks), clypeus with pair of dark marks widened distally, sternum brown with light marks near leg coxae, legs with dark rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow but distinct). Distance PME-PME 160 μ m, diameter PME 170 μ m, distance PME-ALE 70 μ m, distance AME-AME 45 μ m, diameter AME 135 μ m. Ocular area slightly elevated, secondary eyes with very indistinct ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in *S. badplaas* (cf. Figs. 314, 315), each apophysis with modified hair at tip (Fig. 345). Palps as in Figs. 256 and 257, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally (Fig. 344), cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 300, 301), bulb with three distinctively shaped processes (Figs. 302, 303). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 347); ALS with eight spigots each.

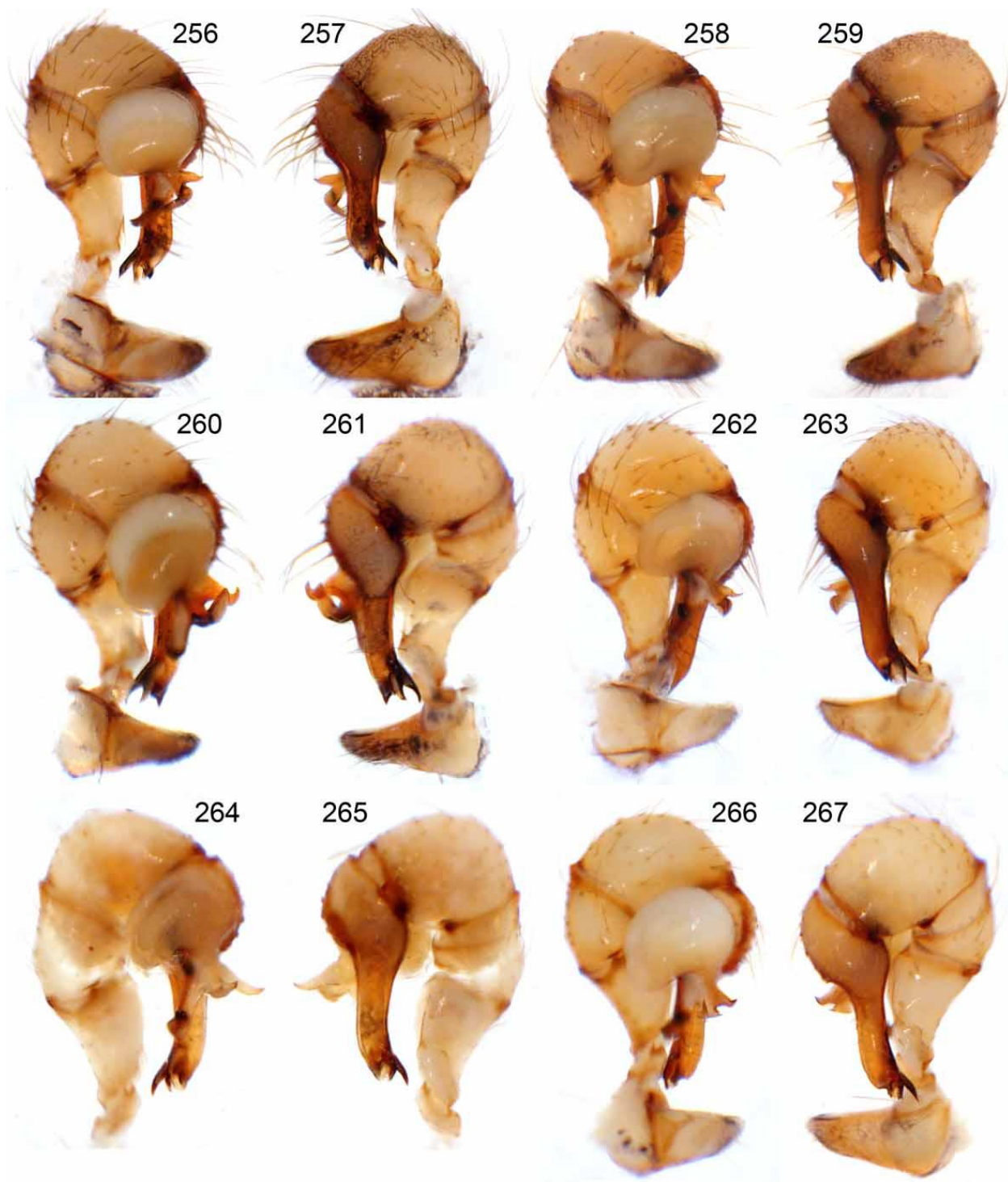
Variation. In males from Oudtshoorn and from Tembe Elephant Park the median bulbal process is slightly shorter and thicker. Tibia 1 in 60 other males: 8.1–16.4 (mean 11.9).

Female. In general similar to male; tibia 1 in 87 females: 8.4–16.4 (mean 12.6). Epigynum a simple plate without pockets (Fig. 278), variable in shape and coloration and thus possibly not clearly distinguishable from close relatives (*S. lesnei*, *S. florisbad*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*); internal genitalia as in Figs. 279, 304, and 348 (also very similar to close relatives). The four females from Bloemfontein (see below) are assigned tentatively to *S. natalensis* rather than to *S. florisbad* because of the long legs (tibia 1: 12.7–15.6).

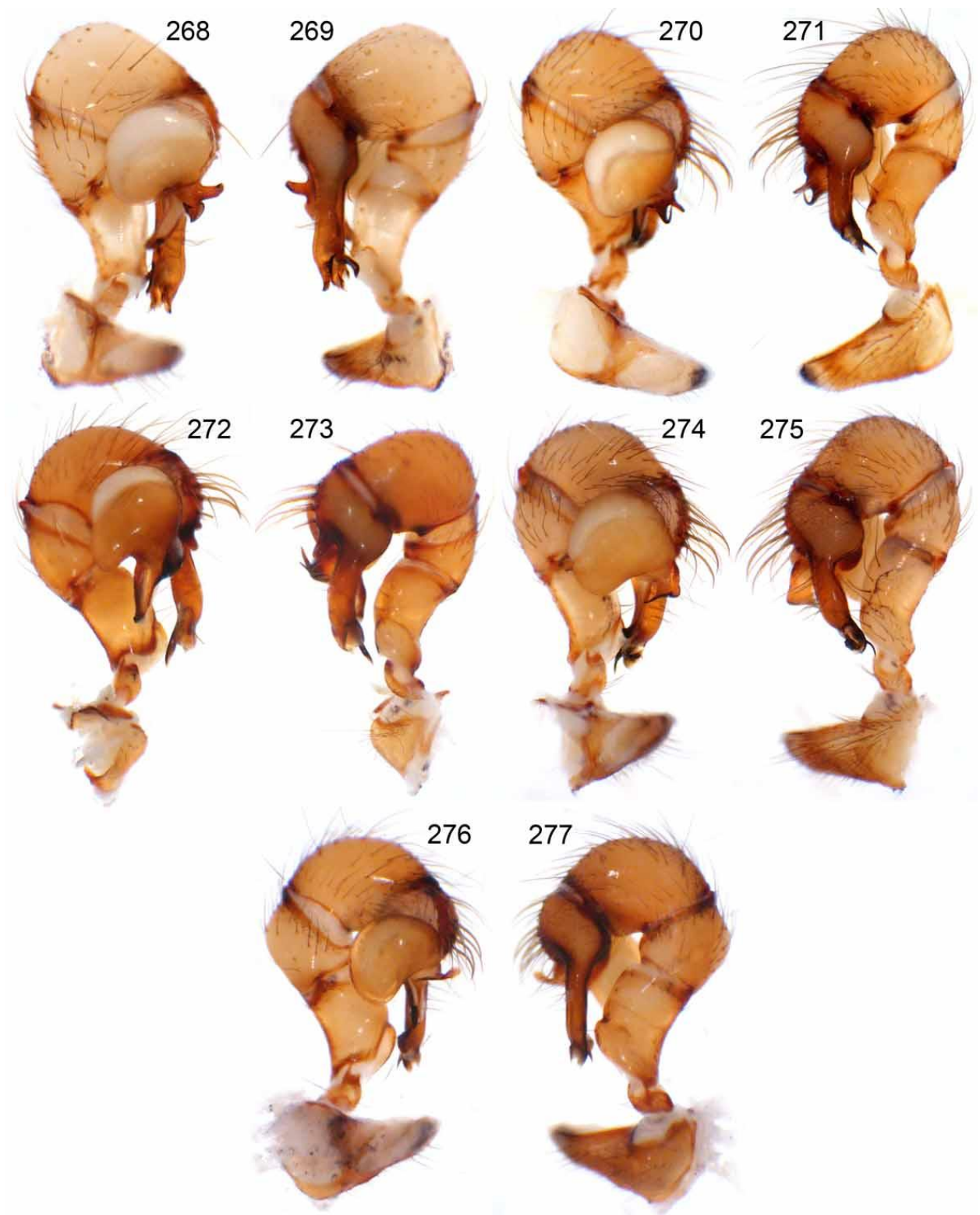
Note: This is a very rare case among Pholcidae where female legs are on average longer than male legs (Fig. 15) (cf. Huber 2005). The only other case known to me is *Pholcus fragillimus* but in that species sample size was much smaller (seven males, eight females; Huber 2011b).



FIGURES 243–255. *Smeringopus natalensis* group, habitus and male prosomata, oblique frontal views. 243–244. *S. natalensis*, male, dorsal and ventral views. 245–246. *S. koppies*, male, dorsal and ventral views. 247–248. *S. hanglip*, male, dorsal and ventral views. 249–250. *S. lydenberg*, female, dorsal and ventral views. 251. *S. natalensis*. 252. *S. blyde*. 253. *S. hanglip*. 254. *S. lydenberg*. 255. *S. mlilwane*.



FIGURES 256–267. *Smeringopus natalensis* group, left male palps, prolateral and retrolateral views. 256–257. *S. natalensis*. 258–259. *S. koppies*. 260–261. *S. badplaas*. 262–263. *S. florisbad*. 264–265. *S. lesnei*. 266–267. *S. harare*.



FIGURES 268–277. *Smeringopus natalensis* group, left male palps, prolateral and retrolateral views. 268–269. *S. blyde*. 270–271. *S. hanglip*. 272–273. *S. lydenberg*. 274–275. *S. mililwane*. 276–277. *S. ndumo*.



FIGURES 278–297. *Smeringopus natalensis* group, epigyna, ventral views and cleared female genitalia, dorsal views. 278–279. *S. natalensis*. 280–281. *S. koppies*. 282–283. *S. badplaas*. 284–285. *S. florisbad*. 286–287. *S. lesnei*. 288–289. *S. blyde*. 290–291. *S. hanglip*. 292–293. *S. lydenberg*. 294–295. *S. mlilwane*. 296–297. *S. ndumo*.



FIGURE 298. Known distribution of *S. natalensis*. For Australian records, see Huber (2001).

Distribution. Widely distributed in eastern South Africa and southern Mozambique, ranging further west along the coast (Fig. 298).

Material examined. SOUTH AFRICA: *Mpumalanga*: Badplaas, resort area [25°56.9'S, 30°33.9'E], 28.iii.2001 (B.A. Huber), 4♂2♀ in ZFMK (Ar 8538). Badplaas, Embuleni Reserve [25°57.2'S, 30°33.2'E], 28.iii.2001 (B.A. Huber), 3♂7♀ (2 vials) in ZFMK (Ar 8539-40); same locality, wooded areas in grassveld savanna, 1100 m a.s.l., 28.iii.2001 (D. & S. Ubick), 1♂1♀ in CAS (9027114). Badplaas (25°56.8'S, 30°33.8'E), waste ground, 26.iii.2001 (P. Horak), 6♂9♀ (2 vials) in CPH. Songimvelo Nature Reserve, Kroomdraai (26°02.5'S, 31°00.1'E), 800 m a.s.l., secondary highveld forest, cabin area, 16.–23.iii.2001 (D. & S. Ubick), 2♂2♀ 6 juvs. in CAS (9027107). Croc Valley, Nelspruit [25°27'S, 30°59'E], 25.v.1999 (P. Stephen), 1♂ in NCP (921/66). Ogies [26°03'S, 29°03'E], "Tul.", 19.iv.1987 (M. Ebersohn), 1♂1♀ in NCP (90/353).

Gauteng: Melville [26°10'S, 28°00'E], "Kopjes N Jo'burg", under stones, 6.iv.1976 (F. Wanless, A. Russell-Smith), 1♂1♀ in BMNH. Pretoria [25°45'S, 28°12'E], in corner of garage, 20.iv.1987 (M. Voster), 1♂ in NCP (88/316); Pretoria, in garage, iv.1987 (M. Prinsloo), 1♀ in NCP (88/339); Pretoria, 1987 (P. Lombaard), 1♂1♀ in NCP (91/598); Pretoria, no date, leg. E.R. Rossouw, 1♂ in NCP (91/230); Pretoria, "in hoek v. motorhuis", 10.iv.1988 (A. van Rensburg), 1♀ in NCP (88/869); Pretoria, 29.iv.1987 (B.L. Veeremans), 1♀ in NCP (88/348); Pretoria, in building, 2.iv.1987 (E. Opperman), 1♂ in NCP (91/669); Pretoria, "in tuin", 3.iii.1976 (L. Harley), 2♀ 2 juvs in NCP (76/959); Pretoria, 24.i.1983 (J. Bruijns), 1♀ in NCP (83/146); Pretoria, in dark corner, iv.1987 (M. Swart), 1♀ in NCP (88/353); Pretoria, in house, 10.iii.1967 (A.S.D.), 1♂ in NCP (36/2022); Pretoria, dark corner of building, 23.iv.1987 (J.C. de Klerk), 1♂1♀ in NCP (88/838); Pretoria, in building, 28.iii.1987 (L. Lerwill), 1♂ in NCP (88/835); Pretoria, in garage, 15.iv.1980 (C.J. Cilliers), 1♀ in NCP (81/637); Pretoria, in garage, 20.iii.1987 (G. Gelderblom), 1♀ in NCP (88/867); Pretoria, in garage, 19.iii.1987 (T.T. Vreede), 1♀ in NCP (88/831); Pretoria, Astor Court, CSIR Water Res., 6.iv.1959, collector not given, 1♂ in TMP (12844); Pretoria, 1956 (L. Vari), 1♂3♀ + juvs in TMP (12849); Pretoria, 8.i.1919 (G.P.F. van Dam), 1♀ in TMP (12932); Pretoria, 31.x.1984 (S. Nkosi), 1♀ in TMP (21041); Pretoria, Brooklyn, in bird cage, 20.iii.1991 (C. Maree), 1♂1♀ in NCP (92/392); Pretoria, Hatfield, on outbuilding, ceiling, 26.iv.1987 (M. Kroese), 1♀ in NCP (88/836); Pretoria, Irene, 23.vii.1972 (C.K.

Brain), 1♀ in TMP (10575); Pretoria, Les Marais, 3.iii.1987 (A. Koch), 1♂ in NCP (91/1140); Pretoria, Makapan, no date (E. Simon), 1♀ in MNHN (AR 10364); Pretoria, Monument Park, in garden, 16.iv.1987 (C. Strydom), 1♀ 1 juv. in NCP (91/613); same locality, in house, 16.iv.1988 (C. Strydom), 1♂ in NCP (90/334); Pretoria, Pierneef, in house, x.1990 (V. Gouws), 1♀ in NCP (91/25); Pretoria, Rietardale, pit traps, 6.ix.1988 (A. Biggs), 1♀ in NCP (89/18); Pretoria, Sunnyside, 14.ii.1984 (L. von Heerden), 1♂ 1 juv. in NCP (88/833); Pretoria, Waverly, in outside room, 21.iv.1987 (J.P. Coetzee), 1♀ in NCP (88/257); Pretoria, Welgegund, “in tuin”, x.1982 (T. Marren), 2♀ in NCP (83/108); Pretoria, Willow Glen, iii.–iv.1987 (L. Vari), 1♀ in NCP (87/856); Pretoria, Wonderboom, in house, date not given, leg. C. Craemer, 1♂ in NCP (92/158); Pretoria-Noord, Ninapark, 15.x.1990 (D. v. Heerden), 1♂ in NCP (90/507).

KwaZulu Natal: Bonamanzi Reserve [28°04'S, 32°18'E], overhang in dry riverbed, 31.iii.2001 (B.A. Huber), 2♂2♀ in ZFMK (Ar 8541). Kosi Bay [27°00.5'S, 32°50.8'E], camping site, 29.x.1984 (M. Filmer), 1♀ in NCP (88/282). Natal Midlands, Ladysmith [28°34'S, 29°47'E], 3500 ft a.s.l., Klip river, “Dawn Pride”, x.1980 (H.D. Shaw-Copeland), 17♂34♀ in MRAC (166446); same data but xii.1981, 3♂5♀; i.1982, 2♂3♀; and ii.1982, 4♂10♀ in NHMW. 10 km W Ladysmith, Klip river, Farm Dawn Pride, 1200 m a.s.l., ix.–x.1980 (H.D. Shaw-Copeland), 10♀ in MRAC (166492). Durban [29°51'S, 31°01'E], “7.2. Zwickelt”, further data unreadable, 9♂9♀ in BMNH. Durban, “9.7. Leigh”, 3♂3♀ in BMNH (03.7.20–188–195). Pinetown (Durban) [29°49'S, 30°50'E], iii.1979 (M.E. Baddeley), 2♂1♀ 2 juvs in MRAC (152175). Pinetown, under stones and bricks, 16.vi.1987 (C.J. Smit), 1♀ 1 juv. in NCP (87/367). Pietermaritzburg [29°36'S, 30°23'E], 6.ii.1964 (Lamoral), 2♀ in MCZ (34050). “Maritzburg” [=Pietermaritzburg], leg. Zwickelt, 2♀ in BMNH (03.7.12.41a–b). Pietermaritzburg, Scottsville, ii.1965 (R.F. Lawrence), 2♂4♀ in NMP (9427). Pietermaritzburg, Bisley, iv.1961 (R.F. Lawrence), 1♀ in NMP (8084). Pietermaritzburg, 1917 (C. Akerman), 1♀ in NMP (1901); same data but x.1927, 1♀ in NMP (1493). Pietermaritzburg, in Museum, xi.1945 (R.F. Lawrence), 1♂ (chelicerae missing) in SMF (9835/1). Umkomaas River [30°11.6'S, 30°46.9'E], “9.7. Leigh”, 6♂4♀ in BMNH (03.7.20–29.34). Manderston [29°44'S, 30°26'E], iv.1963 (H. Buston), 1♂1♀ in NMP (8830). Mntunzini [28°57'S, 31°46'E], on wall in house, 19.ii.1977 (P. Reavell), 1♂3♀ 1 juv. in NCP (84/889). Pongola [27°23'S, 31°37'E], 27.vi.1968 (H. van Ark), 2♂3♀ + juvs in NCP (76/2016). Nagle Dam [29°35'S, 30°37'E], 10.v.1998 (A. Heeres), 1♀ in DNSM (329). St. Lucia [28°22'S, 32°25'E], 14.iv.1987 (R. Travis), 1♀ in NCP (91/200); St. Lucia, in corners, 16.xii.1980 (M. Bruton), 1♂3♀ + juvs in NCP (82/146). Tembe Elephant Park, sand forest near viewing tower (27°01.7'S, 32°24.6'E), 8.i.2002 (C. Haddad), 1♂1♀ in ZFMK (Ar 8542). Ubombo Mtn. foothills near Mkuze [27°36'S, 32°04'E], 530 m a.s.l., i.1982 (H. Shaw-Copeland), 1♂1♀ in NHMW. Umzinto, Vernon Crookes Nat. Res. (30°16'S, 30°36'E), 15.i.1992 (L.N. Lotz), 1♀ in NMBA (5949).

Free State: Farm Lusthof, Edenville [27°32'S, 27°39'E], 12.vi.1969 (J. Viljoen), 10♂24♀ in NCP (76/2020). Bloemfontein (29°08'S, 26°10'E), in house, 20.iv.1989 (C.A. van Ee), 1♀ 1 juv. in NMBA (3216); Bloemfontein, in house, 22.viii.1985 (Museum Staff), 1♀ in NMBA (981); Bloemfontein, in house, 17.xi.1995 (L.N. Lotz), 1♀ in NMBA (8279); Bloemfontein, 5.iv.1991 (L. Grobler), 1♀ in NMBA (5726).

Eastern Cape: Transkei, Port St. Johns [31°37'S, 29°32'E], iii.1979 (M.E. Baddeley), 1♂4♀ in MRAC (152115); same locality, xi.1980 (M.E. Baddeley), 1♀ in MRAC (166577). Transkei Coast, Lusikisiki Distr., Mzimhlava [=Umzimhlava] River [31°18'S, 29°14'E], river mouth, coastal evergreen forest, ii.1980 (M.E. Baddeley) 2♀ in MRAC (166620). Transkei Coast, Lusikisiki Distr., Ntafufu River [31°33'S, 29°38'E], ii.–iii.1980 (M.E. Baddeley) 1♂5♀ in MRAC (166726). Oos London [East London, 33°00'S, 27°53'E], 2.xii.1977 (G. Petty), 1♂6♀ in NCP (37/1099); same locality, v.–vi.1979 (G. Petty, O. Keetch), 2♂1♀ in NCP (81/490). 70 km N Port Elizabeth near Addo [33°32'S, 25°42'E], in cottage, 24.x.2003 (J. Altmann), 2♀ 2 juvs in SMF. Bathurst [33°29'S, 26°50'E], 17.iii.1974 (P. Croeser), 1♀ in NCP (87/711).

Western Cape: Oudtshoorn [33°34'S, 22°12'E], at campground, 5.x.1999 (D. Ubick, S. Prinsloo), 1♂1♀ in CAS. Bellville, Welgemoed [33°52.3'S, 18°36.9'E], wasteland, 9.i.1989 (R. Jocqué), 1♂1♀ 1 juv. in MRAC (169767). Bellville, in and around house, 6.–25.i.1989 (R. Jocqué), 1♂3♀ in MRAC (169690). Calendon, Hermanus (34°25'S, 19°15'E), 14.xii.1989 (L.N. Lotz), 1♀ in NMBA (3328). Hermanus, 16.x.2003 (J. Altmann), in house, 1♂ in SMF. Fishershaven [34°22'S, 19°08'E; not 26°14'E as on label], 19.iii.2004 (C. Haddad), 1♀ in ZFMK (Ar 8543).

Limpopo: Dendron [23°22'S, 29°19'E], v.1970 (J. Viljoen), 28♂40♀ in NCP (76/2010); same data but xii.1969, 3♂14♀ in NCP (76/2011), and xi.1970, 4♂4♀ in NCP (74/2012). Pietersburg [=Polokwane, 23°54'S, 29°27'E], grass, 13.iii.1998 (C. Spies), 1♂ in NCP (98/342).

Northwest Province: Vryburg [26°57'S, 24°44'E], E. Simon collection 15278, 2♀ in MNHN (AR 10367).

SWAZILAND: Mlilwane Game Reserve [$\sim 26^{\circ}26.5'S$, $31^{\circ}11.0'E$], at houses, 31.iii.2001 (B.A. Huber), 2♂2♀ in ZFMK (Ar 8544).

MOZAMBIQUE: Bilene, Praia do Bilene ($25^{\circ}15.6'S$, $33^{\circ}17.7'E$), 27 m a.s.l., leaf litter, coastal forest, 20.xii.2007 (C. Haddad, R. Lyle, R. Fourie), 1♀ in ZFMK (Ar 8545). Inhaca Island, Village Hotel [$26^{\circ}00'S$, $32^{\circ}55'E$], 20.xii.1992 (T. Steyn), 4♂4♀ in NCP (93/194).

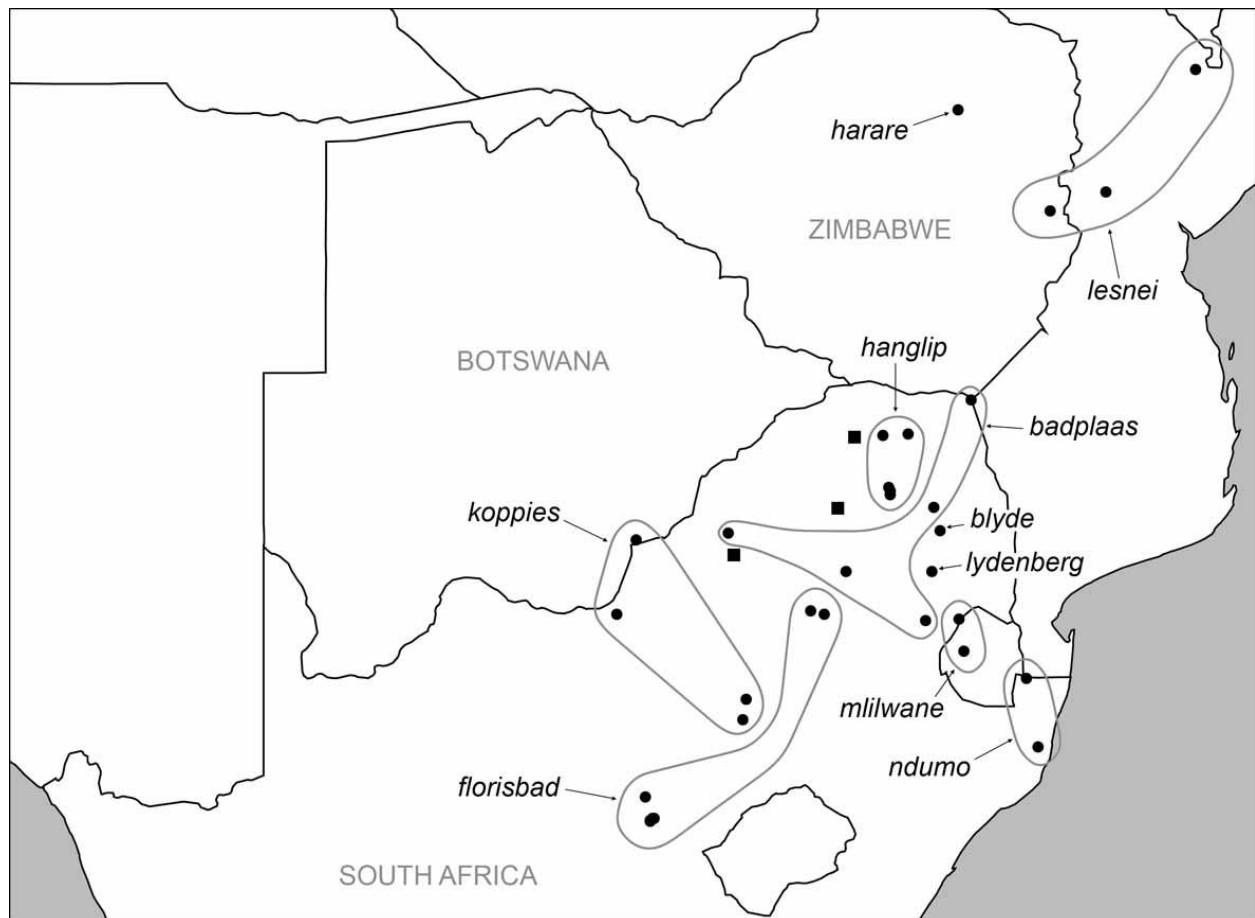


FIGURE 299. Known distribution of the *natalensis* group except *S. natalensis* (cf. Fig. 298). Squares: further undescribed species.

Smeringopus koppies new species

Figs. 245–246, 258–259, 280–281, 305–309

Type. Male holotype from South Africa, Free State, Koppiesdam Nat. Res. ($27^{\circ}13'S$, $27^{\circ}42'E$), 1400 m a.s.l., 28.ix.1993 (L.N. Lotz), in NMBA (6609 part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. natalensis*, *S. florisbad*, *S. lesnei*, *S. blyde*, *S. harare*, *S. badplaas*) by shapes of bulbal processes (Figs. 307, 308); from other close relatives by absence of process near palpal tarsal organ (Fig. 305), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two; compare Fig. 246 with Figs. 248 and 250).

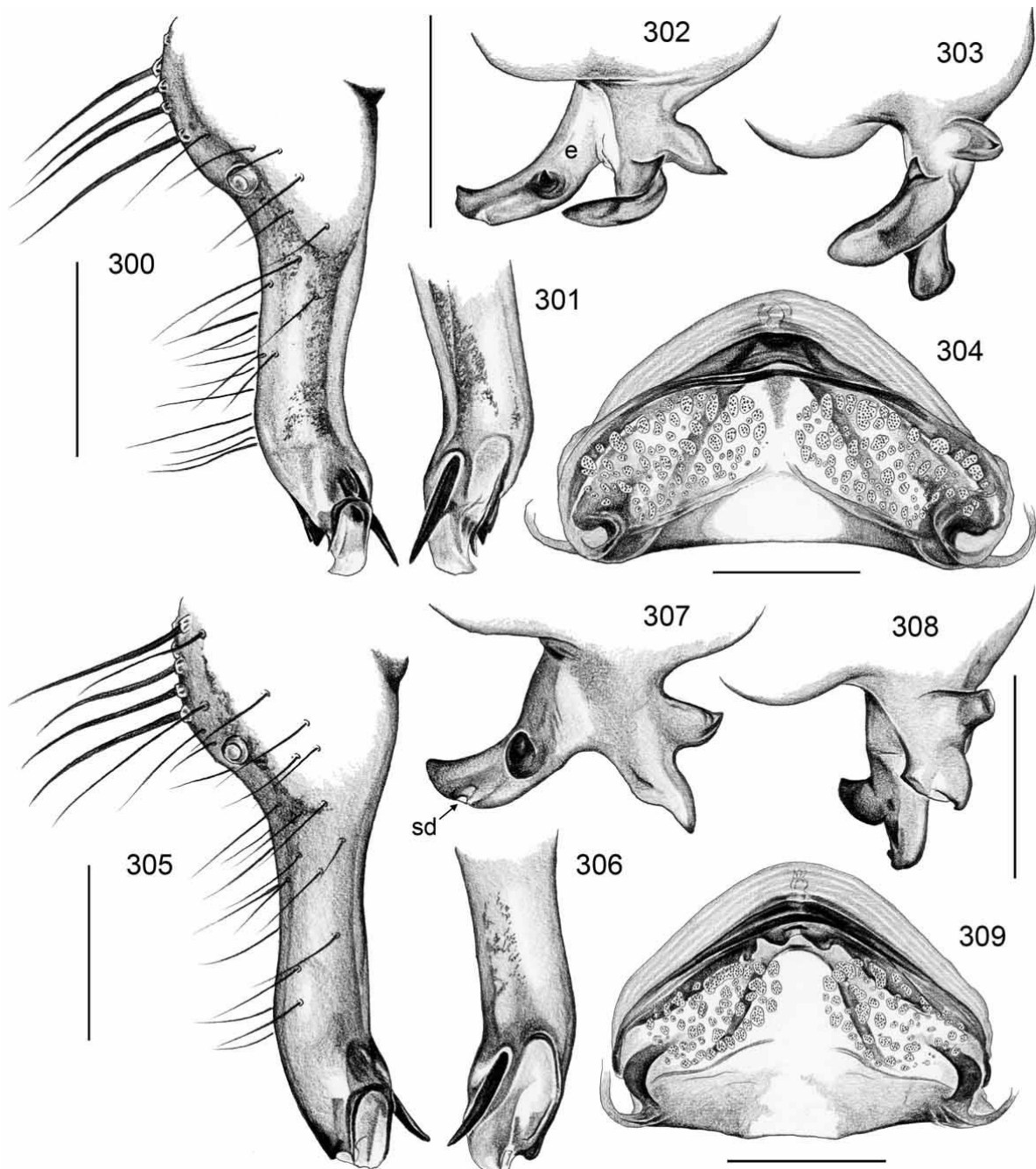
Male (holotype). Total body length 6.4, carapace width 2.0. Leg 1: 42.4 (11.3 + 0.8 + 11.1 + 16.7 + 2.5), tibia 2: 7.7, tibia 3: 5.9, tibia 4: 8.3; tibia 1 L/d: 51. Habitus as in Figs. 245 and 246. Carapace ochre-yellow with distinct dark pattern (median, lateral, and submarginal marks), clypeus with pair of dark marks widening distally, sternum brown with light marks, legs with barely visible darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow but distinct). Distance PME-PME 175 μm , diameter PME 175 μm , distance PME-ALE 70 μm , distance AME-AME 45 μm , diameter AME 150 μm . Ocular area slightly elevated, secondary eyes with very indistinct ‘pseudo-lenses’; deep thoracic pit.

Chelicerae as in *S. badplaas* (cf. Figs. 314, 315; just slightly larger). Palps as in Figs. 258 and 259, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 305, 306), bulb with three distinctively shaped processes (Figs. 307, 308). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. Tibia 1 in 5 other males: 11.1–12.4 (mean 11.6).

Female. In general similar to male; tibia 1 in 8 females: 7.7–14.0 (mean 10.3). Epigynum a simple plate without pockets (Fig. 280), variable in shape and coloration and thus possibly not clearly distinguishable from close relatives (*S. natalensis*, *S. florisbad*, *S. lesnei*, *S. blyde*, *S. harare*, *S. badplaas*); internal genitalia as in Figs. 281 and 309 (also similar to close relatives).

Distribution. Known from several localities in northern South Africa and southern Botswana (Fig. 299).



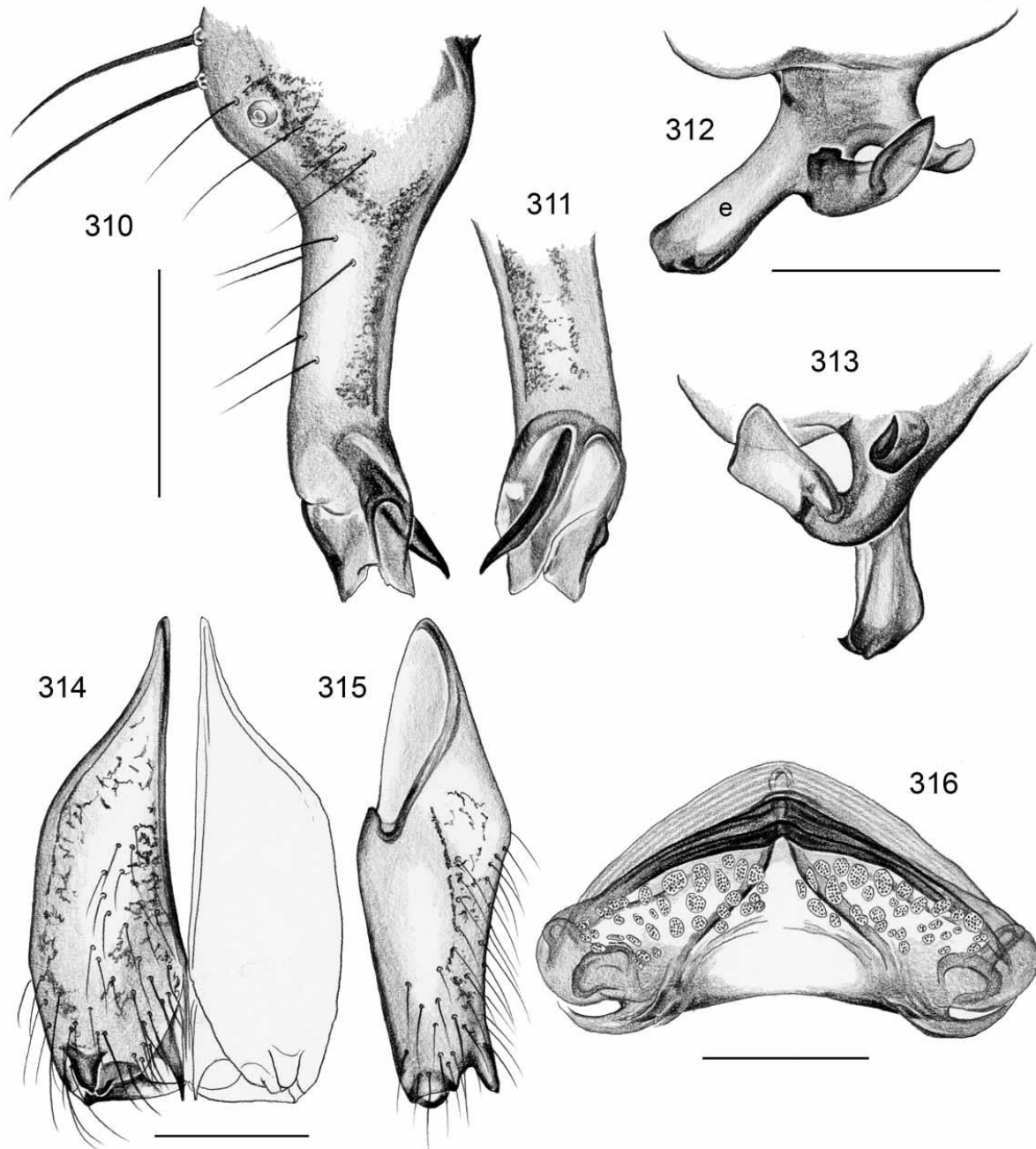
FIGURES 300–309. *Smeringopus natalensis* (300–304) and *S. koppies* (305–309). 300, 305. Left cymbia and procuri, retrolateral views. 301, 306. Left procuri, prolateral views. 302–303, 307–308. Left bulbal processes, prolateral and dorsal views. 304, 309. Cleared female genitalia, dorsal views. Scale lines: 0.3 mm.

Material examined. SOUTH AFRICA: *Free State*: Koppiesdam Nat. Res.: 1♂ holotype above; same data, 1♂1♀ in NMBA (6609 part). Farm Lusthof, Edenville [27°32'S, 27°39'E], 5.iv.1967 (N. Genis), 1♂1♀ 1 juv. in NCP (76/2018). *Northern Cape Province*: Kimberley [28°44'S, 24°46'E], "Hebrou", no date (E. Simon), E. Simon collection 15271, 1♂ in MNHN (AR 10353). *Northwest Province*: Mafeking [=Mafikeng, 25°51'S, 25°38'E], ii.1905 (Schultze), 1♂ 6 juvs in ZMB (1132).

BOTSWANA: *South-East*: Gaborone [24°40.0'S, 25°56.7'E], Museum yard, iii.1974 (J.K. Ullberg), 5♂6♀ + juvs in ZMT (3532); Gaborone, 16.vii.1973 (R. Hakanen), 1♀ 1 juv. in ZMT (3381); Gaborone, inside house, 4.vii.1973 (R. Hakanen), 4♀ 2 juvs in ZMT (3382).

***Smeringopus badplaas* new species**

Figs. 260–261, 282–283, 310–316



FIGURES 310–316. *Smeringopus badplaas*. 310. Left cymbium and procrurus, retrolateral view. 311. Left procrurus, prolateral view. 312–313. Left bulbal processes, prolateral and dorsal views. 314–315. Male chelicerae, frontal and lateral views. 316. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Type. Male holotype from South Africa, Mpumalanga, Badplaas (25°57.0'S, 30°34.0'E), 1100 m a.s.l., at night, litter under riparian trees, 26.–29.iii.2001 (D. & S. Ubick), in CAS (9027106 part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. natalensis*, *S. florisbad*, *S. lesnei*, *S. blyde*, *S. koppies*, *S. harare*) by shapes of bulbal processes (Figs. 312, 313); from other close relatives by absence of process near palpal tarsal organ (Fig. 310), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two).

Male (holotype). Total body length 5.7, carapace width 1.8. Leg 1: 42.5 (11.2 + 0.8 + 10.8 + 18.0 + 1.7), tibia 2: 7.2, tibia 3: 5.3, tibia 4: 7.6; tibia 1 L/d: 58. Habitus similar *S. koppies* (cf. Figs. 245, 246). Carapace ochre-yellow with distinct dark pattern (median, lateral, and submarginal marks), clypeus with pair of dark marks widening distally, sternum brown with light marks, legs with indistinct dark rings subdistally on femora and tibiae, tips of femora and tibiae black, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow but distinct). Distance PME-PME 150 µm, diameter PME 140 µm, distance PME-ALE 60 µm, distance AME-AME 35 µm, diameter AME 130 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae as in Figs. 314 and 315; with pair of distal apophyses. Palps as in Figs. 260 and 261, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 310, 311), bulb with three distinctively shaped processes (Figs. 312, 313). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 4 other males: 11.3, 11.5, 12.0, 16.1.

Female. In general similar to male; tibia 1 in 2 females: 11.1 (both). Epigynum a simple plate without pockets (Fig. 282), not clearly distinguishable from close relatives (*S. natalensis*, *S. florisbad*, *S. lesnei*, *S. blyde*, *S. koppies*, *S. harare*); internal genitalia as in Figs. 283 and 316 (also similar to close relatives).

Distribution. Known from several localities in northeastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: Mpumalanga: Badplaas: 1♂ holotype above; same data, 1♂2♀ 4 juvs. in CAS (9027106 part). Limpopo: Oudestad, Groblersdal [25°10'S, 29°24'E], "Blok VII, Katoenland", 28.ii.1980 (M. Stiller), 1♂ 1 juv. in NCP (81/419). Kruger Nat. Park, Pafuri area [22°26'S, 31°18'E], hollow, cracks between rocks, 14.x.1995 (A. Leroy), 1♂ 1 juv. in NCP (98/403). Thabazimbi [24°34'S, 27°25'E], in barn in dark corner, 18.iv.1987 (R. Vos), 1♂ in NCP (91/218). Makalali (24°09'S, 30°42'E), ii.–xii.1999 (C. Whitmore), 1♂ in DNSM (477).

***Smeringopus florisbad* new species**

Figs. 262–263, 284–285, 317–321

Type. Male holotype from South Africa, Free State, Brandford, Florisbad (28°46'S, 26°05'E), 1250 m a.s.l., 1.–15.ii.1988 (L.N. Lotz), in NMBA (4107).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. lesnei*, *S. natalensis*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*) by shapes of bulbal processes (Figs. 319, 320); from other close relatives by absence of process near palpal tarsal organ (Fig. 317), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two).

Male (holotype). Total body length 5.5, carapace width 1.7. Leg 1: 41.0 (10.9 + 0.7 + 10.4 + 16.7 + 2.3), tibia 2: 7.3, tibia 3: 5.5, tibia 4: 7.7; tibia 1 L/d: 59. Habitus similar *S. koppies* (cf. Figs. 245–246). Carapace ochre-yellow with distinct dark pattern (median, lateral, and submarginal marks), clypeus with pair of dark marks widening distally, sternum brown with light marks near leg coxae, legs with barely visible darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow but distinct). Distance PME-PME 170 µm, diameter PME 140 µm, distance PME-ALE 70 µm, distance AME-AME 35 µm, diameter AME 140 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae as in *S. badplaas* (cf. Figs. 314, 315). Palps as in Figs. 262 and 263, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without

prolateral process at tip (Figs. 317, 318), bulb with three distinctively shaped processes (Figs. 319, 320). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. In males from Bronkhorstspuit the median bulbal projection is slightly shorter and the distance between dorso-distal apophysis and membranous tip of procurus (marked in Fig. 317) is slightly shorter. Tibia 1 in 6 other males: 7.6–11.5 (mean 10.2).

Female. In general similar to male; tibia 1 in 9 females: 6.8–10.9 (mean 9.3). Epigynum a simple plate without pockets (Fig. 284), variable in shape and coloration and thus possibly not clearly distinguishable from close relatives (*S. lesnei*, *S. natalensis*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*); internal genitalia as in Figs. 285 and 321 (also very similar to close relatives).

Distribution. Known from four localities in central and eastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: *Free State*: Brandford, Florisbad: 1♂ holotype above, together with 1 juv.; same data but 21.xii.1987–5.i.1988, 1♀ in NMBA (3845); 5.–19.i.1988, 1♀ in NMBA (3919); 19.i.–1.ii.1988, 1♂ in NMBA (3983); 1.–15.ii.1988, 1♀ in NMBA (4079); 2.–16.iii.1988, 1♀ in NMBA (4223); 24.v.–8.vi.1988, 1♂ in NMBA (4443). 31.x.–18.xi.1988, 1♂ in NMBA (5225). Florisbad, vi.1985 (Museum Staff), 1♂ in NMBA (839). Bloemfontein (29°09'S, 26°10'E), 23.xi.1999 (L.N. Lotz), 1♂ in NMBA (9236); Bloemfontein, 1440 m a.s.l., in house, 3.xii.1991 (L.N. Lotz), 1♂ in NMBA (5851); Bloemfontein, in house, 22.ix.1988 (L.N. Lotz), 1♂ in NMBA (2983); Bloemfontein, in house, ii.1993 (M. Swart), 1♀ in NMBA (6116); Bloemfontein, in museum, 1400 m a.s.l., 24.i.1992 (J. Irish), 1♀ in NMBA (6000); Bloemfontein, in house, 23.viii.1993 (J. Irish), 1♀ in NMBA (8299). Bloemfontein, Naval Hill (29°06'S, 26°14'E), 1440 m a.s.l., viii.1990 (L.N. Lotz), 1♀ in NMBA (6518). Bloemfontein, Grant's Hill South, Oliewenhuis (29°06'S, 26°13'E), xi.1991 (L.N. Lotz) 1♀ in NMBA (7930). *Gauteng*: Bronkhorstspuit [25°48'S, 28°44'E], "onder klip", 12.ii.1967 (A.S.D.), 1♂1♀ in NCP (76/2015); Bronkhorstspuit, in house, 15.iv.1987 (K. Viviers), 1♀ in NCP (91/223). "Plaas Onverwacht", ~12 km E Bronkhorstspuit [~25°51'S, 28°57'E], date not given, leg. A.S.D., 1♂ in NCP (76/2014).

***Smeringopus lesnei* Lessert, 1936**

Figs. 264–265, 286–287, 322–326

Smeringopus lesnei Lessert 1936: 234–235, figs. 29–30.

Type. Male holotype from Mozambique, Manica Province, Vila Pery [=Chimoio, 19°07'S, 33°27'E], date not given, leg. P. Lesne, in MHNG, examined.

Note. The type specimen above is in poor condition. It seems to have been dry at some point and the chelicerae are missing. It originates from the type locality but may not even be the actual type for two reasons: first, there are two left (!) palps in the vial (but no further trace of a second male), suggesting that this may (partly?) be material collected later than the holotype. Second, a female accompanies the male but Lessert did not describe a female specimen. Either he erroneously considered the female a juvenile or the specimen was collected later than the holotype. In any case, Lessert's (1936) good drawings of the bulb clearly indicate that the specimen above is at least correctly identified.

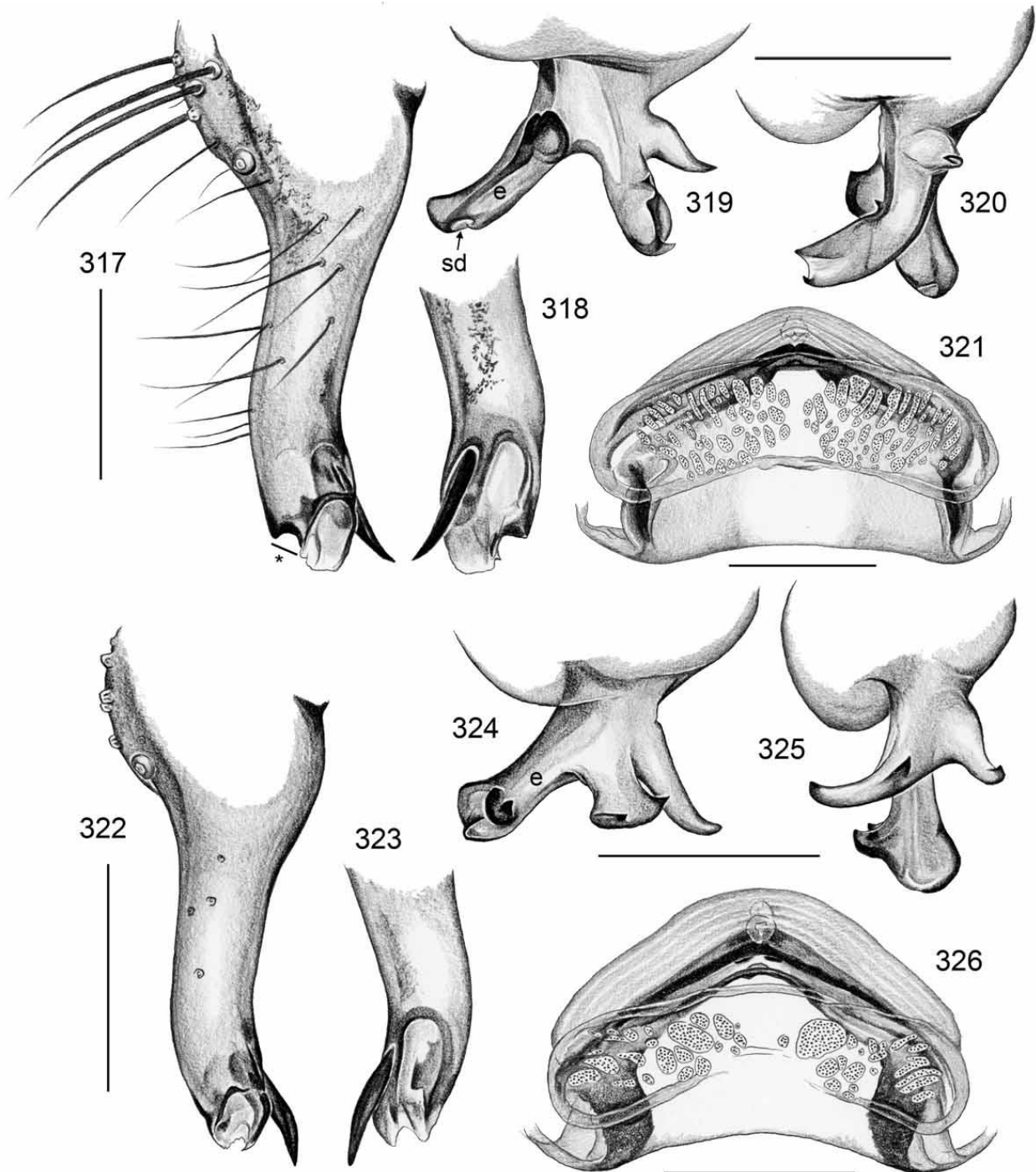
Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. natalensis*, *S. florisbad*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*) by shapes of bulbal processes (Figs. 324, 325); from other close relatives by absence of process near palpal tarsal organ (Fig. 322), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two).

Male (holotype). Total body length ~4.0, carapace width ~1.4. Leg 1: 34.3 (9.1 + 0.5 + 8.8 + 14.0 + 1.9), tibia 2: 5.9, tibia 3: 4.4, tibia 4: 6.3; tibia 1 L/d: 58. Habitus similar *S. natalensis* (cf. Fig. 243). Coloration difficult to see in type specimen but apparently very similar *S. natalensis* and other close relatives (cf. Figs. 243–246). Distance PME-PME 125 µm, diameter PME 140 µm, distance PME-ALE 55 µm, distance AME-AME 25 µm, diameter AME 110 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae missing, according to Lessert (1936) as in *S. peregrinus* (with one pair of distal apophyses; cf. Figs. 614, 615). Palps as in Figs. 264 and 265, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 322, 323), bulb with three distinctively shaped

processes (Figs. 324, 325). All hairs missing on legs, retrolateral trichobothrium on tibia 1 at 3.5%; prolateral trichobothrium present on tibia 1.

Female. In general similar to male; tibia 1 in 2 females: 9.0, 11.1. Epigynum a simple plate without pockets (Fig. 286), not clearly distinguishable from close relatives (*S. natalensis*, *S. florisbad*, *S. blyde*, *S. koppies*, *S. harare*, *S. badplaas*); females from Nova Choupanga and Zimbabwe are thus assigned tentatively; internal genitalia as in Figs. 287 and 326 (also very similar to close relatives).

Distribution. Known from type locality in central Mozambique and from two females that are assigned tentatively from Mozambique and eastern Zimbabwe (Fig. 299).



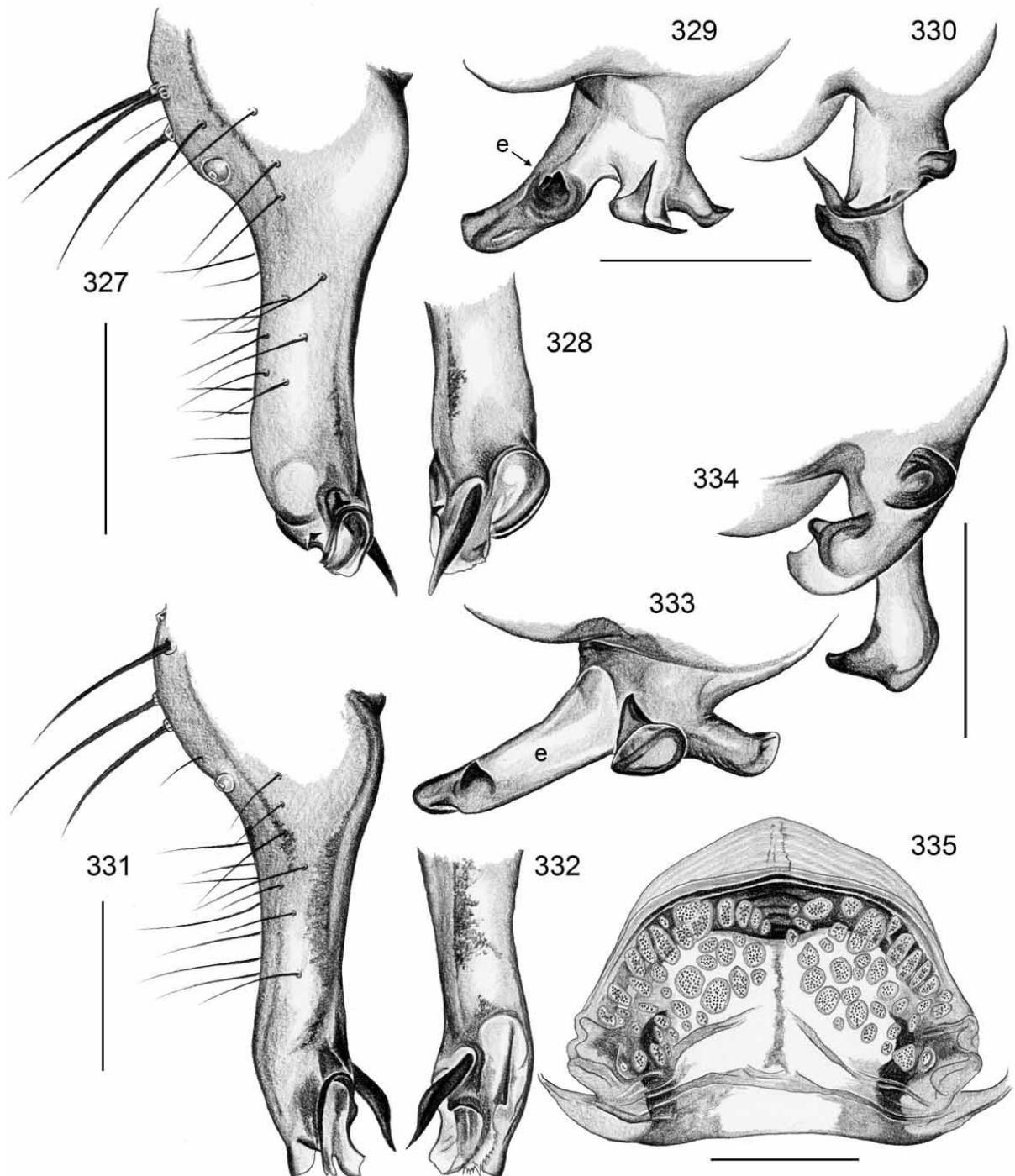
FIGURES 317–326. *Smeringopus florisbad* (317–321) and *S. lesnei* (322–326). 317, 322. Left cymbia and procrursi, retrolateral views (asterisk marks variable detail; see text). 318, 323. Left procrursi, prolateral views. 319–320, 324–325. Left bulb processes, prolateral and dorsal views. 321, 326. Cleared female genitalia, dorsal views. Scale lines: 0.3 mm.

Material examined. MOZAMBIQUE: *Manica Prov.*: Vila Pery [=Chimoio]: 1♂ holotype above, together with 1♀. *Sofala Prov.*: Nova Choupanga [near Chemba?, ~17°10'S, 34°53'E], date not given, leg. P. Lesne, 1♀ in MHNG.

ZIMBABWE: *Manicaland*: 54 mi S Umtali [=Mutare] [-19°25'S, 32°34'E], 560 m a.s.l., 18.iii.1958 (E.S. Ross, R.E. Leech), 1♀ in CAS.

***Smeringopus harare* new species**

Figs. 266–267, 327–330



FIGURES 327–335. *Smeringopus harare* (327–330) and *S. blyde* (331–335). 327, 331. Left cymbia and procursi, retrolateral views. 328, 332. Left procursi, prolateral views. 329–330, 333–334. Left bulbal processes, prolateral and dorsal views. 335. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Type. Male holotype from Zimbabwe, Harare (17°49'S, 31°05'E), in store room, 28.iv.2004 (M. Cumming), in ZFMK (Ar 8551).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. natalensis*, *S. florisbad*, *S. lesnei*, *S. blyde*, *S. koppies*, *S. badplaas*) by shapes of bulbal processes (Figs. 329, 330); from other close relatives by absence of process near palpal tarsal organ (Fig. 327), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two).

Male (holotype). Total body length 5.9, carapace width 1.8. Leg 1: 10.8 + 0.8 + 10.8, metatarsus damaged, tibia 2: 7.3, tibia 3: 5.6, tibia 4: 7.9; tibia 1 L/d: 58. Habitus similar *S. koppies* (cf. Figs. 245–246). Carapace and abdomen with usual dark pattern but dissolved into many spots, clypeus without dark marks, sternum brown with light marks, legs with barely visible rings subdistally on femora and tibiae. Distance PME-PME 175 µm, diameter PME 140 µm, distance PME-ALE 70 µm, distance AME-AME 35 µm, diameter AME 125 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae as in *S. badplaas* (cf. Figs. 314, 315; apophyses minimally more detached). Palps as in Figs. 266 and 267, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 327, 328), bulb with three distinctively shaped processes (Figs. 329, 330). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Female. Unknown.

Distribution. Only known from type locality in Zimbabwe (Fig. 299).

Material examined. ZIMBABWE: Harare: 1♂ holotype above, together with 1 juv.

***Smeringopus blyde* new species**

Figs. 252, 268–269, 288–289, 331–335

Type. Male holotype from South Africa, Mpumalanga, Blyde River Canyon [~24°31'S, 30°48'E], "Botaniese Reserwaat", in house, under roof, 9.iv.2001 (D. van den Spiegel), in MRAC (211081 part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *natalensis* group, especially *S. lesnei*, *S. natalensis*, *S. florisbad*, *S. koppies*, *S. harare*, *S. badplaas*) by shapes of bulbal processes (Figs. 333, 334); from other close relatives by absence of process near palpal tarsal organ (Fig. 331), relatively straight procurus (ventrally), absence of prolateral process on procurus tip, and three black lines ventrally on abdomen (versus two).

Male (holotype). Total body length 7.0, carapace width 2.2. Leg 1: 54.2 (14.1 + 0.9 + 14.0 + 22.7 + 2.5), tibia 2: 9.6, tibiae 3 and 4 missing; tibia 1 L/d: 66. Habitus similar *S. koppies* (cf. Figs. 245, 246). Carapace ochre-yellow with distinct dark pattern (median, lateral, and submarginal marks), clypeus with pair of dark marks widening distally, sternum brown with light marks, legs with barely visible darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow but distinct). Distance PME-PME 150 µm, diameter PME 175 µm, distance PME-ALE 70 µm, distance AME-AME 45 µm, diameter AME 145 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae as in *S. badplaas* (cf. Figs. 314, 315; just slightly larger). Palps as in Figs. 268 and 269, coxa without retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, cymbium without projection near tarsal organ, procurus ventrally almost straight, without prolateral process at tip (Figs. 331, 332), bulb with three distinctively shaped processes (Figs. 333, 334). Legs without spines, few vertical hairs, with curved hairs ventrally on metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Female. In general similar to male; tibia 1: 9.7 (missing in other females). Epigynum a simple plate without pockets (Figs. 288), possibly not clearly distinguishable from close relatives (*S. lesnei*, *S. natalensis*, *S. florisbad*, *S. koppies*, *S. harare*, *S. badplaas*); internal genitalia as in Figs. 289 and 335 (longer than in close relatives).

Distribution. Only known from type locality in eastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: Mpumalanga: Blyde River Canyon: 1♂ holotype above; same data, 2♀ 5 juvs, in MRAC (211081 part); same locality but under rocks, 5.iv.2001 (R. Jocqué), 1♀ in MRAC (210166).

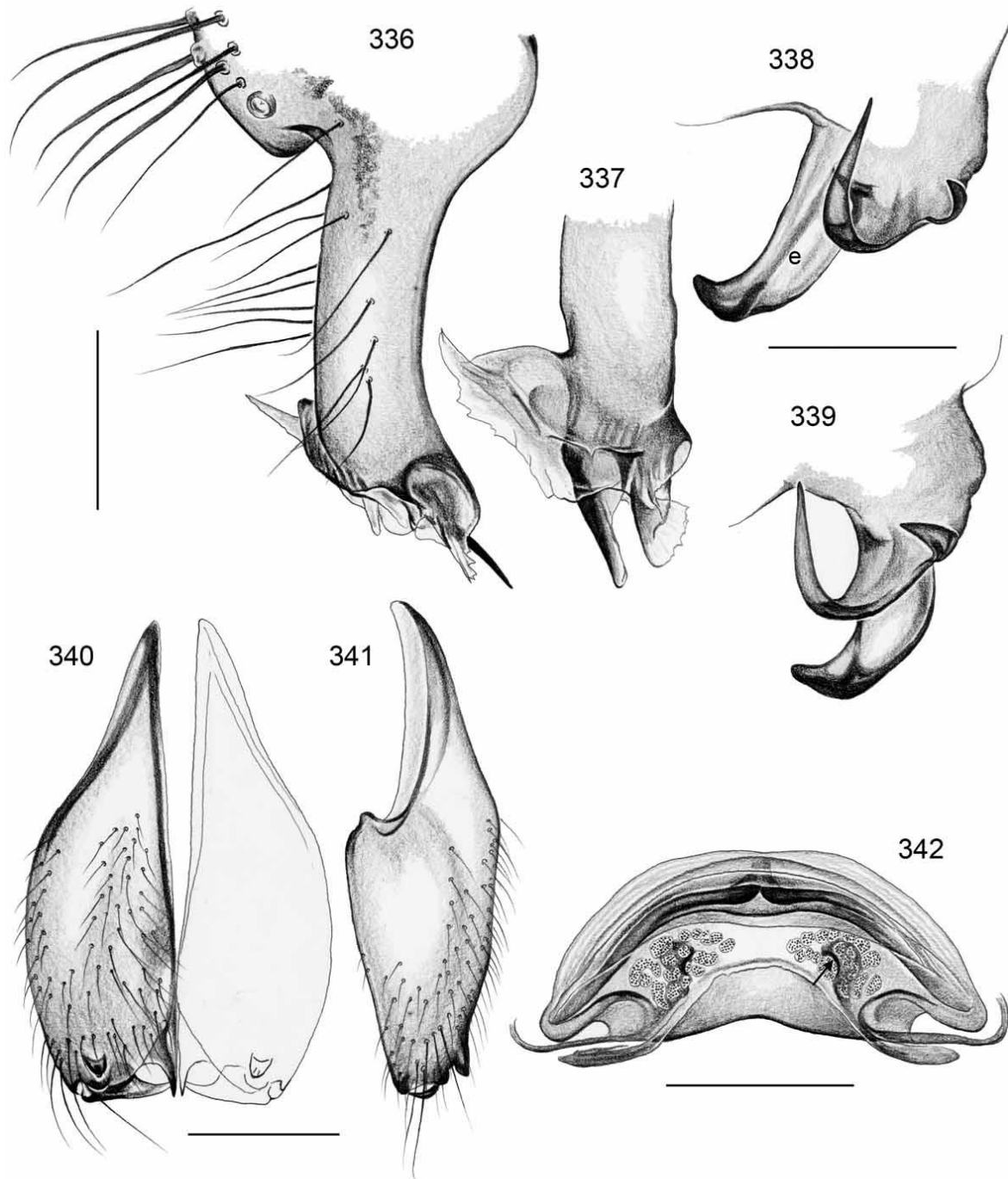
***Smeringopus hanglip* new species**

Figs. 247–248, 253, 270–271, 290–291, 336–342, 350–356

Type. Male holotype from South Africa, Northern Province, Soutpansberg, 8 km NW Louis Trichard, Hanglip Forest, picnic area (~23°00'S, 29°53'E), 1440 m a.s.l., 30.xi.1996 (C.E. Griswold), in CAS.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from most congeners (except *S. lydenberg*) by two black lines ventrally on abdomen (versus three; Fig. 248); from similar congeners (*S. lydenberg*, *S. ndumo*, *S. mlilwane*) by shapes of bulbal processes (Figs. 338, 339); from other close relatives by low process near palpal tarsal organ (Fig. 336), ventrally strongly curved procurcus (Figs. 271, 336), and prolateral process on procurcus tip (Fig. 337).



FIGURES 336–342. *Smeringopus hanglip*. 336. Left cymbium and procurcus, retrolateral view. 337. Left procurcus, dorsal view. 338–339. Left bulbal processes, prolateral and dorsal views. 340–341. Male chelicerae, frontal and lateral views. 342. Cleared female genitalia, dorsal view (arrow points to internal pocket). Scale lines: 0.3 mm (336–339), 0.5 mm (340–342).



FIGURES 343–356. *Smeringopus natalensis* (343–349) and *S. hanglip* (350–356). 343. Left procurus tip, retrolateral view. 344. Left palpal femur, ventral view. 345. Male cheliceral apophysis. 346. Tarsal pseudosegments. 347. Male gonopore. 348. Cleared female genitalia, dorsal view. 349. Detail of pore plate. 350. Left procurus, dorsal view. 351. Male cheliceral apophysis. 352. Bulbal processes. 353. Male ALS and PMS. 354. Male gonopore. 355. Epigynum. 356. Female ALS. Scale lines: 20 μm (345, 351), 30 μm (346, 356), 40 μm (353), 50 μm (349), 60 μm (343), 80 μm (347), 100 μm (344, 352), 200 μm (348, 350, 354), 300 μm (355).

Male (holotype). Total body length 9.5, carapace width 3.3. Leg 1: 77.8 (20.4 + 1.5 + 19.6 + 33.2 + 3.1), tibia 2: 14.5, tibia 3: 11.3, tibia 4: 14.8; tibia 1 L/d: 59. Habitus as in Figs. 247 and 248. Carapace ochre-yellow with

distinct dark pattern (median and lateral bands, no submarginal marks), clypeus with pair of indistinct dark stripes, sternum posterior half brown, legs with indistinct darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with two dark lines. Distance PME-PME 240 µm, diameter PME 240 µm, distance PME-ALE 90 µm, distance AME-AME 70 µm, diameter AME 205 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae as in Figs. 340 and 341; with pair of small distal apophyses; each apophysis with modified hair at tip (Fig. 351). Palps as in Figs. 270 and 271, coxa without retrolateral apophysis, trochanter barely modified, femur with deep and wide retrolateral furrow with distinct rim proximally, cymbium with indistinct projection near tarsal organ (Fig. 336), procurus ventrally strongly curved (Figs. 271, 336), with prolateral process at tip (Figs. 337, 350), bulb with three distinctively shaped processes (Figs. 338, 339, 352). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 1.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 354); ALS with eight spigots each (Fig. 353).

Variation. Tibia 1 in 6 other males: 14.0–19.2 (mean 16.5). In southern specimens (Magoebaskloof and George's Valley) the two dorsal processes of the bulb are slightly closer together.

Female. In general similar to male; tibia 1 in 17 females: 12.1–18.8 (mean 15.7). Epigynum a simple plate without pockets (Figs. 290, 355), laterally whitish, not clearly distinguishable from close relatives (*S. lydenberg*, *S. mlilwane*); internal genitalia as in Figs. 291 and 342 (also similar to close relatives, with internal pockets). ALS as in male (Fig. 356).

Distribution. Known from several localities in northeastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: *Limpopo*: Hanglip Forest: 1♂ holotype above; same data, 2♂7♀ in CAS. Soutpansberg, Entabeni Forest, ~20 km N Levubu (22°59'S, 30°17'E), 1360 m a.s.l., 1.–2.xii.1996 (C.E. Griswold), 3♂5♀ in CAS. Magoebaskloof Hotel, 30 km SSW Tzaneen (~23°53'S, 30°00'E), 22.–23.xi.1996 (C.E. Griswold), 3♀ 1 juv. in CAS. 28 km SSW Tzaneen, 8.6 km from Magoebaskloof Hotel, forest on Magoebaskloof trail (~23°50'S, 29°59'E), 1800 m a.s.l., 22.–23.xi.1996 (C.E. Griswold), 1♀ 4 juvs in CAS. Magoebaskloof, Hideaway Farm, forest, pump house, near stream, 11.viii.1997 (R. Jocqué), 1♂1♀ in MRAC (206534); same data but 1700 m a.s.l., night catch, 1♀ 2 juvs in MRAC (206529). George's Valley [~23°57'S, 30°01'E], 23.iii.2001 (G. Binford), 1♂2♀ in ZFMK (Ar 8508).

Smeringopus lydenberg new species

Figs. 249–250, 254, 272–273, 292–293, 357–361

Type. Male holotype from South Africa, Mpumalanga, Misty Mountain Hotel, ca. 32 km E Lydenberg (25°10'S, 30°40'E), forest, 1890 m a.s.l., 3.–5.xii.1996 (C.E. Griswold), in CAS.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from most congeners (except *S. hanglip*) by two black lines ventrally on abdomen (versus three; Fig. 250); from similar congeners (*S. hanglip*, *S. ndumo*, *S. mlilwane*) by shapes of bulbal processes (Figs. 359, 360); from other close relatives by long process near palpal tarsal organ (Fig. 357), ventrally strongly curved procurus (Figs. 273, 357), and prolateral process on procurus tip (Fig. 358).

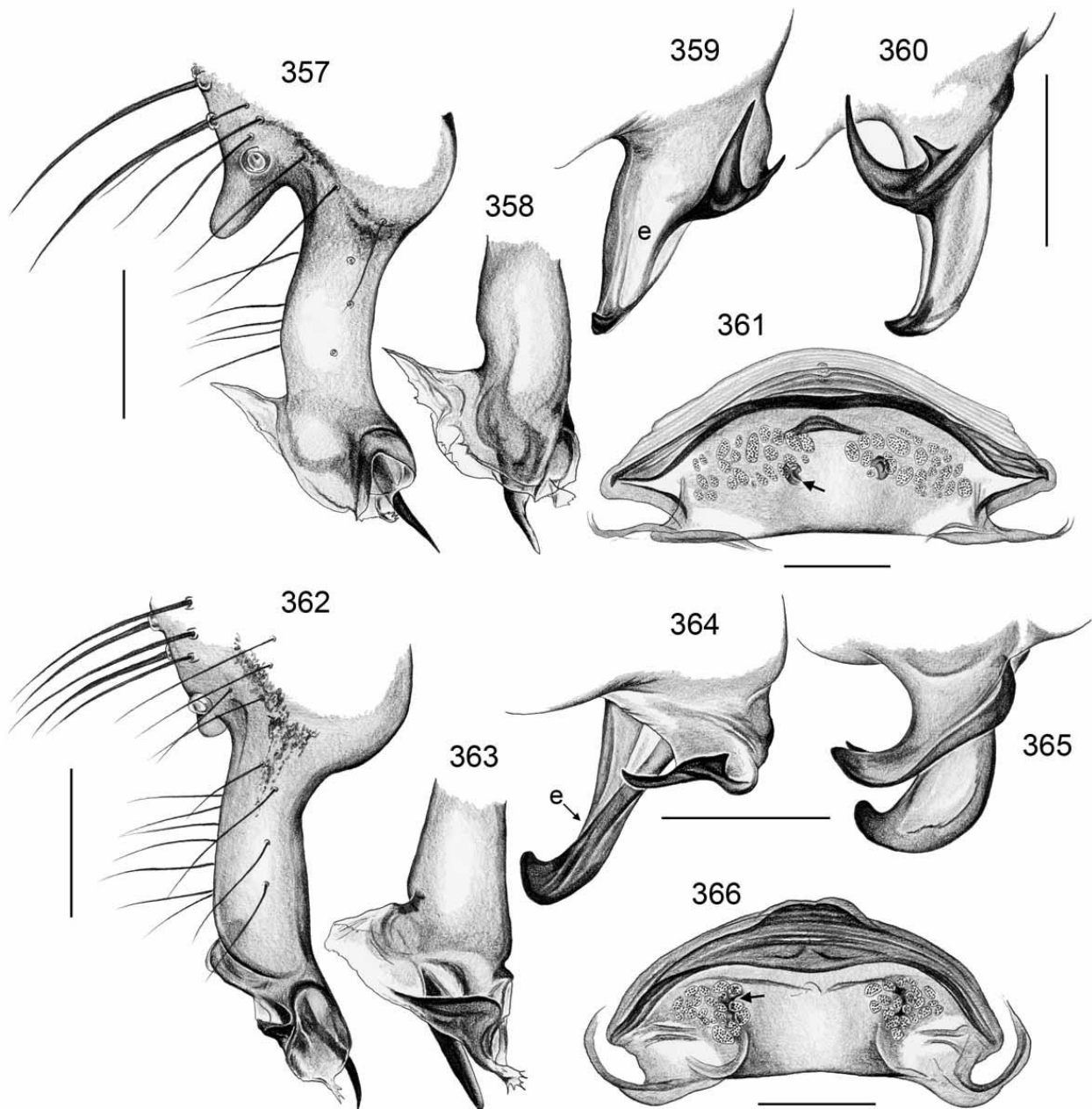
Male (holotype). Total body length 6.9, carapace width 2.7. Leg 1: 62.5 (16.7 + 1.1 + 15.6 + 26.0 + 3.1), tibia 2: 11.2, tibia 3: 8.4, tibia 4: 11.7; tibia 1 L/d: 59. Habitus as in female (cf. Figs. 249, 250). Carapace ochre-yellow with distinct dark pattern (median and lateral bands, no submarginal marks), clypeus with pair of indistinct dark stripes, sternum posterior half darker brown, legs with indistinct darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with two dark lines behind gonopore, dark area in front of gonopore not divided. Distance PME-PME 220 µm, diameter PME 205 µm, distance PME-ALE 90 µm, distance AME-AME 45 µm, diameter AME 185 µm. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae very similar *S. hanglip* (cf. Figs. 340, 341; slightly smaller but apophyses slightly larger). Palps as in Figs. 272 and 273, coxa without retrolateral apophysis, trochanter barely modified, femur with deep and wide retrolateral furrow with distinct rim proximally, cymbium with long projection near tarsal organ (Fig. 357), procurus ventrally strongly curved (Figs. 273, 357), with prolateral process at tip (Fig. 358), bulb with three distinctively shaped processes (Figs. 359, 360). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in other male: 14.7 (missing in third male).

Female. In general similar to male; tibia 1 missing in both females. Epigynum a simple plate without pockets (Fig. 292), laterally whitish, very similar to close relatives (*S. lydenberg*, *S. mlilwane*) but frontally with pair of distinct sclerotized areas; internal genitalia as in Figs. 293 and 361 (also similar to close relatives, with internal pockets).

Distribution. Only known from type locality in northeastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: *Mpumalanga*: Misty Mountain: 1♂ holotype above; same data, 2♂2♀ + juvs. in CAS.



FIGURES 357–366. *Smeringopus lydenberg* (357–361) and *S. mlilwane* (362–366). 357, 362. Left cymbia and procursi, retrolateral views. 358, 363. Left procursi, dorsal views. 359–360, 364–365. Left bulbal processes, prolateral and dorsal views. 361, 366. Cleared female genitalia, dorsal views (arrows point to internal pockets). Scale lines: 0.3 mm.

***Smeringopus mlilwane* new species**

Figs. 255, 274–275, 294–295, 362–366

Type. Male holotype from Swaziland, Mlilwane Game Reserve [$\sim 26^{\circ}26.5'S$, $31^{\circ}11.0'E$], in crevices of rocks, 31.iii.2001 (B.A. Huber, K. Schütt), in ZFMK (Ar 8521).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (*S. hanglip*, *S. lydenberg*, *S. ndumo*) by shapes of bulbal processes (Figs. 364, 365); from *S. hanglip* and *S. lydenberg* also by three black lines ventrally on abdomen (versus two; median line narrow); from other close relatives by process near palpal tarsal organ (Fig. 362), ventrally very strongly curved procurus (Figs. 275, 362), and prolateral process on procurus tip (Fig. 363).

Male (holotype). Total body length 8.0, carapace width 2.8. Leg 1: 69.6 (18.1 + 1.2 + 17.5 + 29.7 + 3.1), tibia 2: 12.7, tibia 3: 9.7, tibia 4: 13.1; tibia 1 L/d: 62. Habitus similar *S. hanglip* (cf. Fig. 247). Carapace ochre-yellow with distinct dark pattern (median and lateral bands, no submarginal marks), clypeus with very indistinct pair of dark stripes, sternum mostly dark brown, legs with darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow). Distance PME-PME 220 μm , diameter PME 220 μm , distance PME-ALE 80 μm , distance AME-AME 55 μm , diameter AME 210 μm . Ocular area slightly elevated, secondary eyes with indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae very similar *S. hanglip* (cf. Figs. 340, 341). Palps as in Figs. 274 and 275, coxa without retrolateral apophysis, trochanter barely modified, femur with deep and wide retrolateral furrow with distinct rim proximally, cymbium with distinct projection near tarsal organ (Fig. 362), procurus ventrally very strongly curved (Figs. 275, 362), with prolateral process at tip (Fig. 363), bulb with distinctively shaped processes (dorsal process bifid; Figs. 364, 365). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 3 other males: 11.9, 14.1, 16.3.

Female. In general similar to male; tibia 1: 12.3. Epigynum a simple plate without pockets (Fig. 294), laterally whitish, very similar to close relatives (*S. hanglip*, *S. lydenberg*); internal genitalia as in Figs. 295 and 366 (also similar to close relatives).

Distribution. Known from two localities in Swaziland and eastern South Africa (Fig. 299).

Material examined. SWAZILAND: Mlilwane Game Reserve: 1♂ holotype above; same data, 1♂ in ZFMK (Ar 8522).

SOUTH AFRICA: *Mpumalanga*: Songimvelo Nature Reserve, Diepgezet ($25^{\circ}56.7'S$, $31^{\circ}06.2'E$), 1420 m a.s.l., ravine with indigenous forest, 17.–23.iii.2001 (D. & S. Ubick), 2♂1♀ + juvs in CAS (9027103).

***Smeringopus ndumo* new species**

Figs. 276–277, 296–297, 367–371

Type. Male holotype from South Africa, KwaZulu-Natal, Ndumo Game Reserve ($26^{\circ}52.7'S$, $32^{\circ}11.1'E$), *Acacia tortilis* savanna, under logs, 19.vi.2005 (C. Haddad), in NCP.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (*S. hanglip*, *S. lydenberg*, *S. mlilwane*) by shapes of bulbal processes (Figs. 369, 370); from *S. hanglip* and *S. lydenberg* also by three black lines ventrally on abdomen (versus two; median line narrow); from other close relatives by process near palpal tarsal organ (Fig. 367), ventrally strongly curved procurus (Figs. 277, 367), and prolateral process on procurus tip (Fig. 368).

Male (holotype). Total body length 7.3, carapace width 2.4. Leg 1: 52.0 (13.5 + 0.9 + 13.1 + 22.0 + 2.5), tibia 2: 9.2, tibia 3: 6.9, tibia 4 missing; tibia 1 L/d: 56. Habitus similar *S. koppies* (cf. Fig. 245). Carapace ochre-yellow with distinct dark pattern (median and lateral bands, two pairs of submarginal marks), clypeus with pair of dark stripes, sternum mostly light brown with black pattern posteriorly, legs with darker rings subdistally on femora and tibiae, abdomen dorsally with distinct dark pattern, ventrally with three dark lines in median part (median line narrow). Distance PME-PME 160 μm , diameter PME 185 μm , distance PME-ALE 90 μm , distance AME-AME 35 μm , diameter AME 155 μm . Ocular area slightly elevated, secondary eyes with indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae very similar *S. hanglip* (cf. Figs. 340, 341; just slightly smaller). Palps as in Figs. 276 and 277, coxa without retrolateral apophysis, trochanter barely modified, femur with deep and wide retrolateral furrow

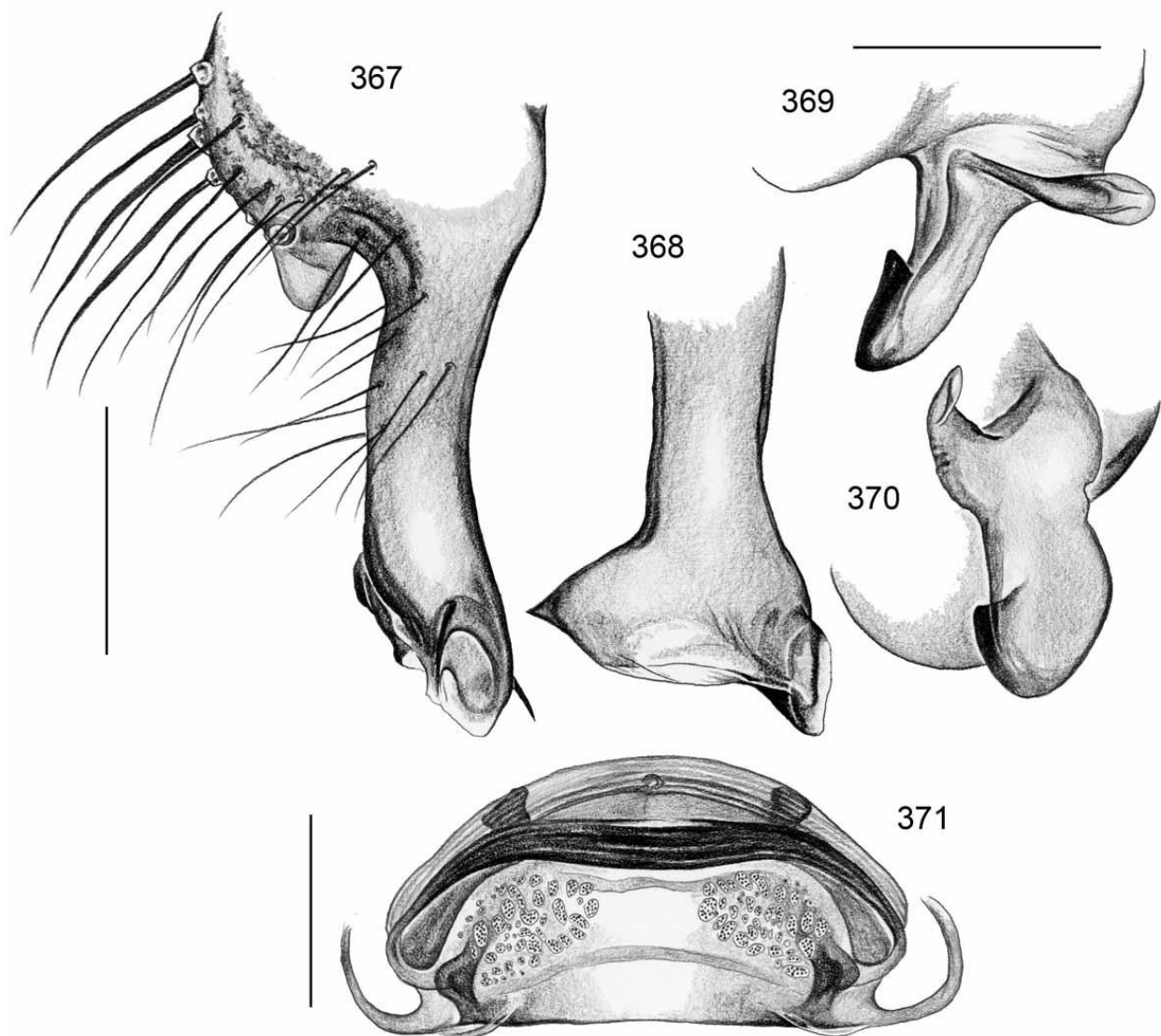
with distinct rim proximally, cymbium with distinct projection near tarsal organ (Fig. 367), procurcus ventrally strongly curved (Figs. 277, 367), with prolateral process at tip (Fig. 368), bulb with two distinctively shaped processes (Figs. 369, 370). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3.5%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 2 other males: 9.7, 10.6. In one male from False Bay Park (the smaller one) the color pattern is generally simpler and more irregular.

Female. In general similar to male; tibia 1 in 7 females: 9.3–12.8 (mean 10.6). Epigynum a simple plate without pockets (Fig. 296), slightly variable in shape even among specimens from type locality; internal genitalia as in Figs. 297 and 371.

Distribution. Known from two localities in eastern South Africa (Fig. 299).

Material examined. SOUTH AFRICA: *KwaZulu-Natal*: Ndumo Game Reserve: 1♂ holotype above; same data, 6♀ in NCP. Ndumo Game Reserve, sand forest, SE boundary fence, under logs, 9.ii.2005 (C. Haddad), 1♀ in NCP. Ndumo Game Reserve, 18.i.–14.ii.2005 (F. Stahlavsky), 1♂ in pure ethanol in ZFMK (Kral 6) (J. Kral chromosome preparation). False Bay Park (27°58'S, 32°22'E), 28.i.2004 (collector not given), 1♂ in NCP (2004/1156); same data but 9.ii.2004, 1♂1♀ in NCP (2004/1152 part); same data but 24.xi.2003, 1♀ in NCP (2004/1154).



FIGURES 367–371. *Smeringopus ndumo*. 367. Left cymbium and procurcus, retrolateral view. 368. Left procurcus, dorsal view. 369–370. Left bulbal processes, prolateral and dorsal views. 371. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Smeringopus pallidus (Blackwall, 1858)

Figs. 11, 372–373, 378–379, 382–383, 387–400

?*Pholcus geniculatus* White, 1841: 477 (Brazil); nomen dubium (see Kraus 1957: 220); considered a synonym of *S. elongatus* (Vinson) by Mello-Leitão (1918: 121).

Pholcus pallidus Blackwall 1858: 433–434 (♀, Brazil). Blackwall 1861: 444 (♂, Brazil). Simon 1893: 481.

Smeringopus pallidus (Blackwall): Mello-Leitão 1918: 119–120. Kraus 1957: 219–222, figs. 1–6 (Brazil, Cuba, Malawi, Mozambique, Madagascar, Sri Lanka, Myanmar, Indonesia, Philippines, Polynesia, Samoa). Lawrence 1958: 863–864 (Congo R.). Yaginuma 1960: 48, fig. 98 (Japan). Lawrence 1964: 67 (South Africa). Lee 1966: 35, fig. 8r (“*S. pullidus*”) (not seen). Yaginuma 1970: 646. Timm 1976: 70–72, figs. 7–8. Saaristo 1978: 102–103, figs. 23–26, 31–38 (Seychelles). Yaginuma 1986: 28–29, pl. 6, fig. 8, fig. 17.4a,e,p. Pérez González and García-Debrás 1997: 26 (Cuba). Huber 1998: 1597, figs. 64, 120–122 (Costa Rica). Song *et al.* 1999: 65, figs. 26i–o (China, Taiwan). Huber 2000: 129, 149, figs. 15, 72, 119, 164, 191. Murphy and Murphy 2000: 249. Huber 2001: 134, figs. 431, 434–436 (Australia). Saaristo 2001: 23, figs. 49–55 (Seychelles). Cai 2003: 20–21 (“*S. pullidus*”), figs. 1–9 (China). Beatty *et al.* 2008: 21–23, figs. 20, 55, 67 (Micronesia, Polynesia, Australia, Indonesia, New Caledonia, Philippines, Solomon Isl.). Sewlal and Starr 2008: 78 (Lesser Antilles). Irie 2009: 111, figs. (2-2-13) 39–41, pl. 5, figs. 6–7 (Japan).

Pholcus elongatus Vinson 1863: 135–137, 307; pl. 3, figs. 5, 5a (Réunion). Thorell 1878: 162–163 (Ambon). Thorell 1881: 179. Thorell 1887: 8 (Myanmar). Karsch 1891: 276 (Sri Lanka); synonymized by Kraus (1957: 219).

Smeringopus elongatus (Vinson): Simon 1890: 94. Simon 1893: 476. Simon 1894: 519 (St. Vincent). Thorell 1895: 70 (Myanmar). Thorell 1898: 274 (Myanmar). Moenkhaus 1898: 91 (Brazil). Pocock 1900: 239 (Sri Lanka, India, Myanmar). Strand 1907c: 125 (China). Simon 1909: 80 (Vietnam). Simon 1910: 190 (South Africa). Petrunkevitch 1911: 163. Strand 1915: 58 (Madagascar). Sherriffs 1919: 228 (India, Sri Lanka). Berland 1924: 193 (New Caledonia). Berland 1929: 43, figs. 2–3 (Samoa). Petrunkevitch 1929: 144–147, figs. 136–138 (Bermudas, Puerto Rico). [Lessert 1930: misidentification; see *S. lesserti*]. Berland 1934: 326, 335 (Samoa, Marquesas). Franganillo 1936a: 46 (Cuba). Franganillo 1936b: 77 (Cuba). Berland 1936: 81 (Cape Verde). Berland 1938: 162 (New Hebrides). Millot 1941: 18–20, figs. 7a–i (Guinea, Ivory Coast). Millot 1946: 150–151, fig. 25a (Madagascar). Marples 1955: 466 (Samoa). Gertsch 1973: 167 (Hawaii). Roth 1985: B-33-1 (USA). Sierwald 1988: 11 (Bermuda).

Pholcus distinctus O. Pickard-Cambridge 1869: 380, pl. 11, figs. 28–30 (♀, Sri Lanka); synonymized by Simon (1893: 475).

Pholcus tipuloides L. Koch 1872: 281–283, pl. 23, figs. 5, 5a–g (♂♀, Samoa); Marx 1889: 99, pl. 4, fig. 5 (Bermudas) (not seen). Sánchez Roig 1911: 360 (Cuba); synonymized by Thorell (1878: 162).

Pholcus tigrinus Taczanowski 1874: 104–105, pl. 2, fig. 7 (French Guiana); Simon 1893: 478 (transfer to *Priscula* suggested); synonymized by Huber and Zhu (2001: 151).

Priscula tigrina (Taczanowski): Mello-Leitão 1946: 60.

Physocyclus tigrinus (Taczanowski): Brignoli 1981: 96.

Pholcus excavatus Simon, 1877: 482–483. **New synonymy.**

Smeringopus excavatus (Simon): Huber 2011b: 126.

Pholcus margarita Workman 1878: 451–452, pl. 18, figs. 1a–e (Myanmar); synonymized by Simon (1893: 475).

Smeringopus purpureus Moenkhaus 1898: 91–93, pl. 5, figs. 1, 1a–b (♀, Brazil); Mello-Leitão 1918: 120–121; synonymized by Kraus (1957: 219).

Smeringopus pholcicus Strand 1907a: 527 (♂, Tanzania). Strand 1907b: 571–573. **New synonymy.**

Smeringopus todai Kishida 1913: 827, fig. 1 (not seen); synonymized by Lee (1966: 36).

Smeringopus kishidai Saito 1933: 41, pl. 3, fig. 8 (not seen) synonymized by Kraus (1957: 219).

Smeringopus katangae Giltay 1935: 2, figs. 1–3 (♂♀, Congo D.R.); synonymized by Kraus (1957: 219).

Smeringopus buehleri Schenkel, 1944: 176–178, figs. 2a–c (Indonesia). **New synonymy.**

“*Pholcus phalangioides* Walck. [sic!]” (misidentification): Doleschall 1859: 47 (see Thorell 1878: 162).

“*Pholcus v-notatus* Thorell, 1878” (misidentification): Leardi in Airaghi 1902: 349–350 (Mahé: India or Seychelles?) (see Huber 2011b).

Types. *Pholcus pallidus*: ♀ holotype from Brazil, Pernambuco [~8°S, 35°W], leg. E. Williams, no further data, not examined.

Pholcus elongatus: unspecified number of syntypes from Réunion [21°07'S, 55°32'E], date and collector not given, not examined.

Pholcus distinctus: ♀ holotype from Sri Lanka, leg. J. Nietner, no further data, not examined.

Pholcus tipuloides: unspecified number of syntypes from Samoa, Upolu [13°55'S, 171°45'W], no further data, in ZMH, not examined.

Pholcus tigrinus: 5♀ 6 juv. syntypes (2 vials) from French Guiana, St. Laurent de Maroni [5°30'N, 54°00'W] and Uassa [now Brazil, Amapá, Uaçá, ~4°10'N, 51°32'W], leg. K. Yelski, dates not given, in MZPW (examined; see Huber and Zhu 2001).

Pholcus excavatus: ♂ holotype from “Congo”, no further locality data, apparently lost (not in MNHN).

Pholcus margarita: unspecified number of specimens from ship bringing rice from Myanmar, Rangoon to Great Britain, Liverpool, no further data, not examined.

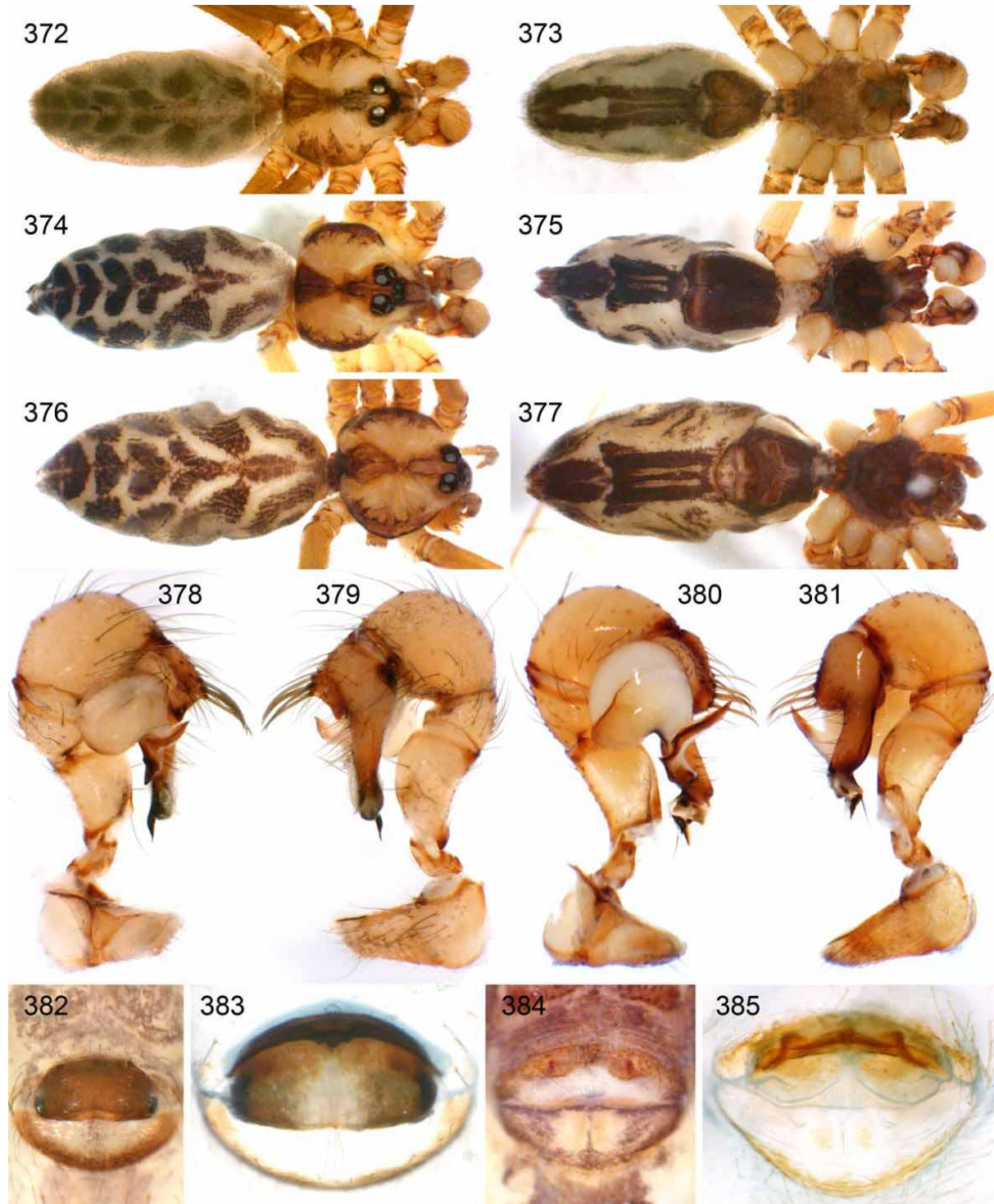
Pholcus geniculatus: unspecified number of syntypes from Brazil, Rio de Janeiro [22.9°S, 43.2°W], leg. C. Darwin, no further data, not examined.

Smeringopus purpureus: unspecified number of female syntypes from Brazil, São Paulo, São Sebastião [23°46'S, 45°25'W], date and collector not given, not examined.

Smeringopus pholcicus: ♂ holotype from Tanzania, Tanga Region, East-Usambara, Amani [5°06'S, 38°38'E], leg. Voesslerer, date not given, in ZMB (9861) and MNHN (AR 10471, right palp), examined.

Smeringopus katangae: 2♂2♀ syntypes from Congo D.R., Haut-Katanga, Katompé [near Lubumbashi, ~11°40'S, 27°30'E], vi.1933 (C. Seydel), not examined.

Smeringopus buehleri: ♀ holotype from Indonesia, "Timor, Soë" [Nusa Tenggara Timur, Soë: 9°51.7'S, 124°16.2'E], vi. 1935 (A. Bühler), in NHMB (1224a), examined.



FIGURES 372–385. *Smeringopus pallidus* (372–373, 378–379, 382–383) and *S. lesserti* (374–377, 380–381, 384–385). 372–375. Males, dorsal and ventral views. 376–377. Female, dorsal and ventral views. 378–380. Left male palps, prolateral and retrolateral views. 382–383. Epigyna, ventral views and cleared female genitalia, dorsal views.

Justification of new synonymies. The holotypes of *S. pholcicus* and *S. buehleri* were both examined and found to be identical to specimens from all over the world. The type of *Pholcus excavatus* is lost and the description would fit almost any *Smeringopus*. However, it is likely that the specimen originated from the lower Congo rather than from the interior, and only four species are known to occur there. Of these, only *S. pallidus* and *S. lesserti* fit Simon's (1877) description of the bulbal apophysis ("divisée dès la base en deux branches divergentes, arquées"), and since Simon did not mention the distinctive long spine at the tip of the procurus of *S. lesserti* (Fig. 380), I conclude that *Ph. excavatus* is most likely a synonym of *S. pallidus*.

Diagnosis. Easily distinguished from similar congeners (*S. lineiventris* and other species of the *arambourgi* species group) by tip of procurus (Figs. 387–389), shapes of bulbal processes (Figs. 390, 391), and epigynum shape (small oval to rectangular dark plate; Figs. 382, 399).

Male (Uganda, Bumaga). Total body length 5.3, carapace width 1.8. Leg 1: 47.0 (12.7 + 0.8 + 12.1 + 19.1 + 2.3), tibia 2: 8.1, tibia 3: 6.0, tibia 4: 8.4; tibia 1 L/d: 67. Habitus as in Figs. 372 and 373. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown, legs ochre-yellow to light brown, femora and tibiae with dark subdistal rings and lighter tips, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 160 µm, diameter PME 170 µm, distance PME-ALE 55 µm, distance AME-AME 35 µm, diameter AME 115 µm. Ocular area slightly elevated, secondary eyes with barely visible 'pseudo-lenses'; deep thoracic pit. Chelicerae as in Fig. 392, with small distal apophyses. Palps as in Figs. 378 and 379, coxa with small but distinct retrolateral apophysis, trochanter barely modified, femur with wide retrolateral furrow, proximal rim slightly more distinct, cymbium with projection near tarsal organ, procurus with distinctive distal processes (Figs. 387–389, 394), bulb with sclerotized embolus and distinctive dorsal process (Figs. 390, 391). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 398); ALS with eight spigots each (cf. female; Fig. 396).

Variation. Tibia 1 in 26 males: 8.8–14.0 (mean 11.7). The *S. pholcicus* holotype is very pale and the right palp is missing; tibia 2: 6.4.

Female. In general similar to male; tibia 1 in 41 females: 8.3–13.3 (mean 11.0). Epigynum a simple, small oval to rectangular dark plate without pockets (Figs. 382, 399); internal genitalia as in Figs. 383, 393, and 400.

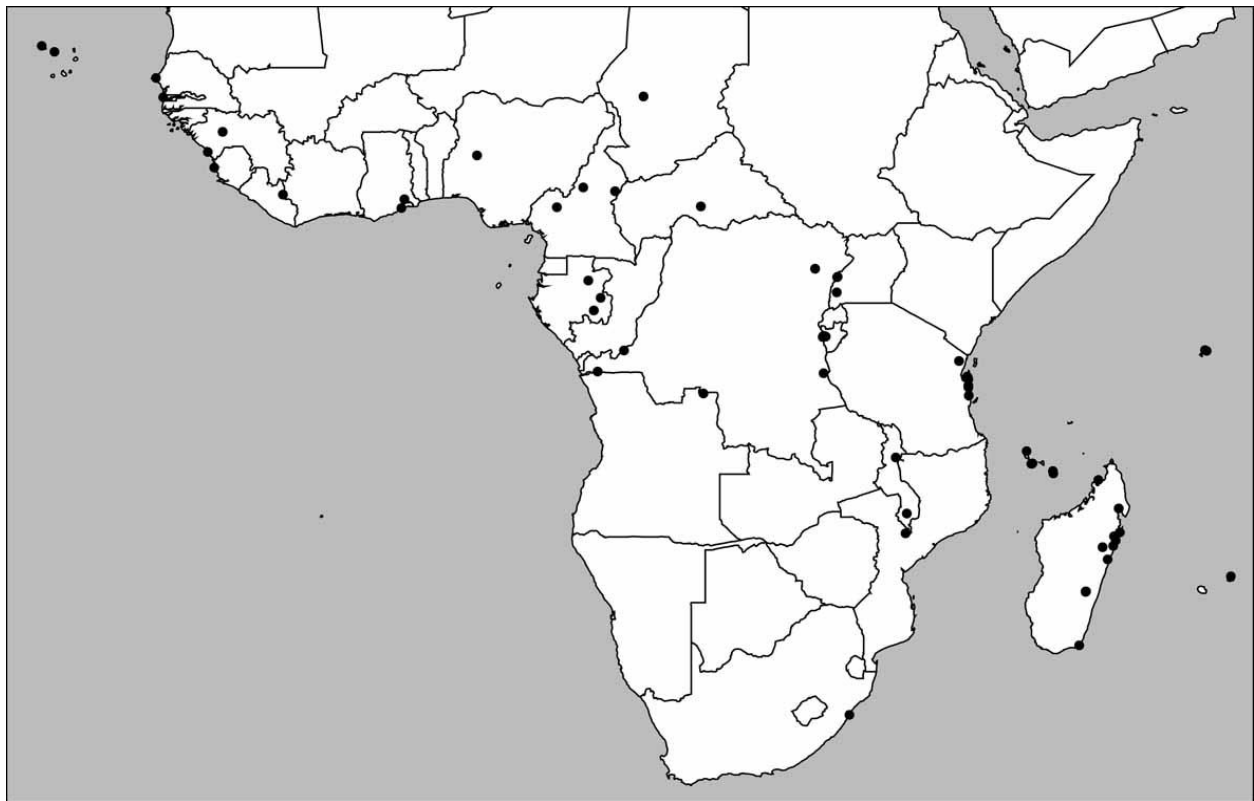
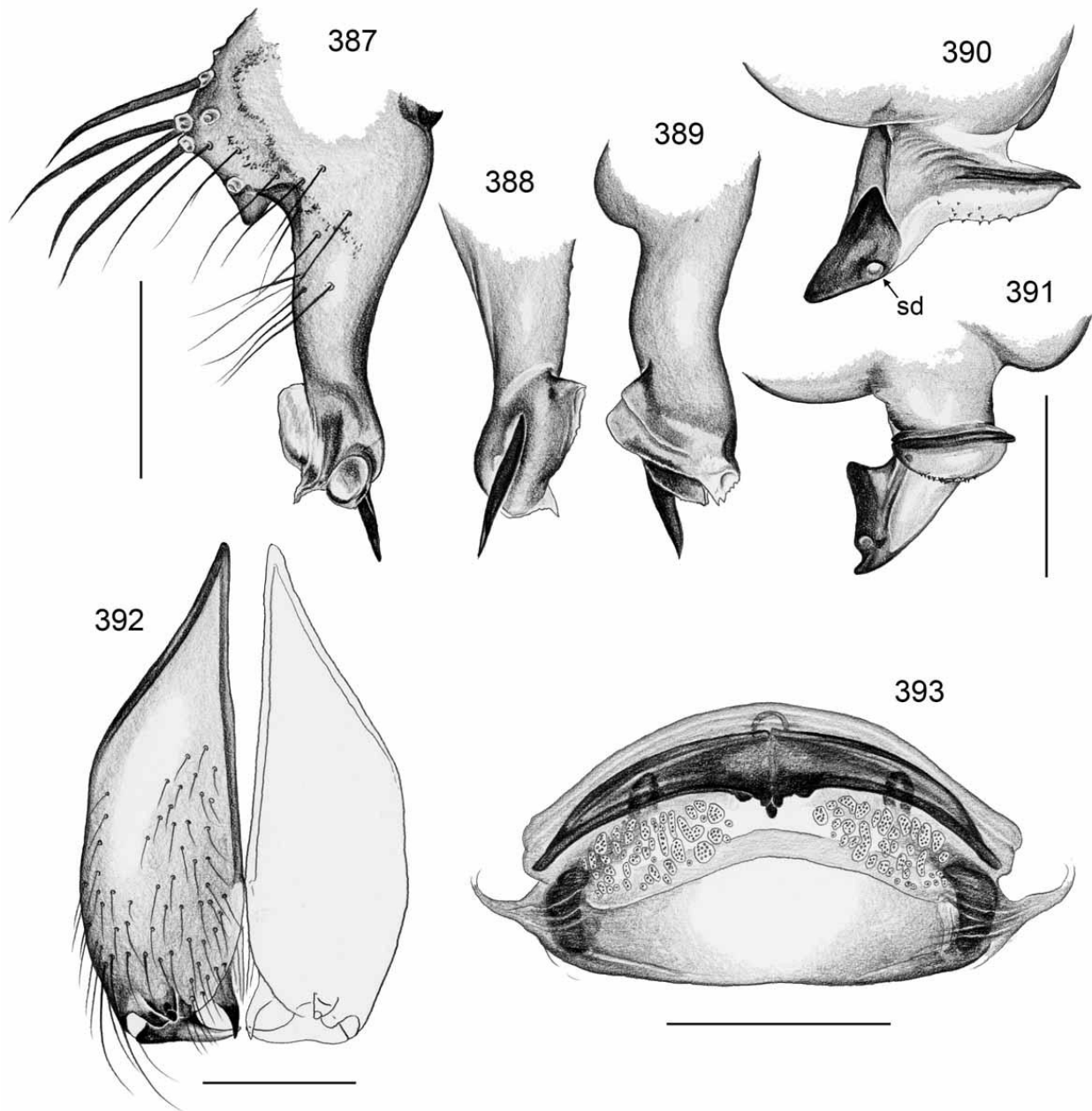


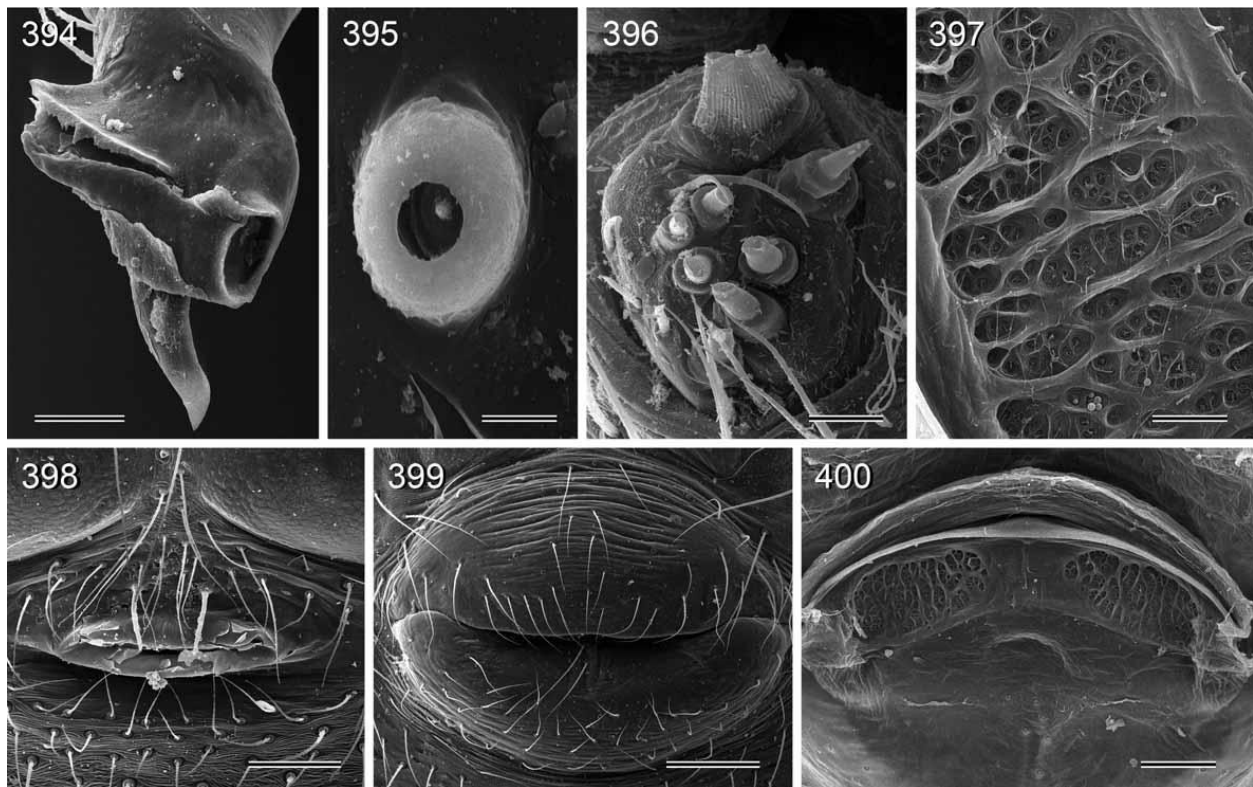
FIGURE 386. Known distribution of *S. pallidus* in Africa.

Distribution. Pantropical. In Africa, *S. pallidus* is widely distributed from Cape Verde to Madagascar and Mauritius, but it seems to be largely absent from southern and northeastern Africa (Fig. 386).

Material examined. Listed here are only the African countries from which I have seen material: Cape Verde, Senegal, The Gambia, Guinea, Sierra Leone, Ivory Coast, Ghana, Nigeria, Cameroon, Gabon, Central African Republic, Congo D.R., Burundi, Malawi, Uganda, Tanzania, Angola, Mozambique, South Africa, Madagascar, Comoros, Seychelles, Mascarene Islands.



FIGURES 387–393. *Smeringopus pallidus*. 387. Left cymbium and procursus, retrolateral view. 388–389. Left procursus, prolateral and dorsal views. 390–391. Left bulbal processes, prolateral and dorsal views. 392. Male chelicerae, frontal view. 393. Cleared female genitalia, dorsal view. Scale lines: 0.2 mm (390–391), 0.3 mm (387–389, 392–393).



FIGURES 394–400. *Smeringopus pallidus*. 394. Left procurus tip, retrolatero-dorsal view. 395. Male palpal tarsal organ. 396. Female ALS. 397. Detail of pore plate. 398. Male gonopore. 399. Epigynum. 400. Cleared female genitalia, dorsal view. Scale lines: 10 μ m (395), 20 μ m (396–397), 60 μ m (394), 100 μ m (398, 400), 200 μ m (399).

Smeringopus lesserti Kraus, 1957

Figs. 12, 374–377, 380–381, 384–385, 402–423

“*Smeringopus elongatus*” (misidentification): Lessert 1930: 621–622, fig. 5.

Smeringopus lesserti Kraus 1957: 222–223, pl. 19, figs. 7–10 (except female from Dilolo-Gare; see below).

Types. Male holotype and 1 ♀ paratype from Congo D.R., Congo Central Province, Malela [5°59’S, 12°37’E], 2.–12.vii.1915 (H. Lang, American Museum Congo Expedition), in MHNG (only left male palp) [the SMF (40441) also has a palp of a “male paratype”, but a male paratype was not designated and the palp is also a left one]. One misidentified female paratype (poorly preserved, larger epigynal pockets) from Congo D.R, Lualaba Prov., Katanga, Dilolo-Gare [10°42’S, 22°20’E], 1931 (F. Haas), in SMF. All types examined.

Diagnosis. Easily distinguished from known congeners by long dorsal process on embolus (Figs. 380, 415), thin process distally on procurus (Figs. 402–404), and epigynum shape (small, narrow plate with relatively large semicircular pockets; Figs. 384, 423).

Male (Thysville). Total body length 6.5, carapace width 2.1. Leg 1: 64.3 (16.1 + 0.9 + 16.3 + 28.5 + 2.5), tibia 2: 10.5, tibia 3: 7.2, tibia 4: 10.5; tibia 1 L/d: 80. Habitus as in Figs. 374 and 375. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of brown stripes, sternum monochromous brown, legs ochre-yellow to light brown, tips of femora and tibiae lighter, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 185 μ m, diameter PME 170 μ m, distance PME-ALE 70 μ m, distance AME-AME 40 μ m, diameter AME 135 μ m. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’ (cf. female, Fig. 422); deep thoracic pit. Chelicerae as in Figs. 408 and 409, with small distal apophyses, each provided with modified hair (Figs. 416, 417). Palps as in Figs. 380 and 381, coxa with low retrolateral apophysis and deep wide furrow, trochanter barely modified, femur with deep retrolateral furrow with apophysis on proximal rim (Fig. 411), procurus with distinctive distal processes (Figs. 402–404, 412–413), bulb with long dorsal process arising from embolus (Figs. 405–407, 415). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1 and 2,

retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 418); ALS with eight spigots each (Fig. 419); PMS with two spigots each (Fig. 420).

Variation. Sternum varies from light brown to almost black; femora and tibiae subdistally often darkened. Tibia 1 in 34 males: 8.1–16.1 (mean 13.1).

Female. In general similar to male; tibia 1 in 51 females: 7.1–16.0 (mean 12.0). Epigynum small and narrow plate with relatively large, semicircular pockets (Figs. 384, 423); internal genitalia as in Figs. 385 and 410.

Distribution. Widely distributed in central Africa (Fig. 401).

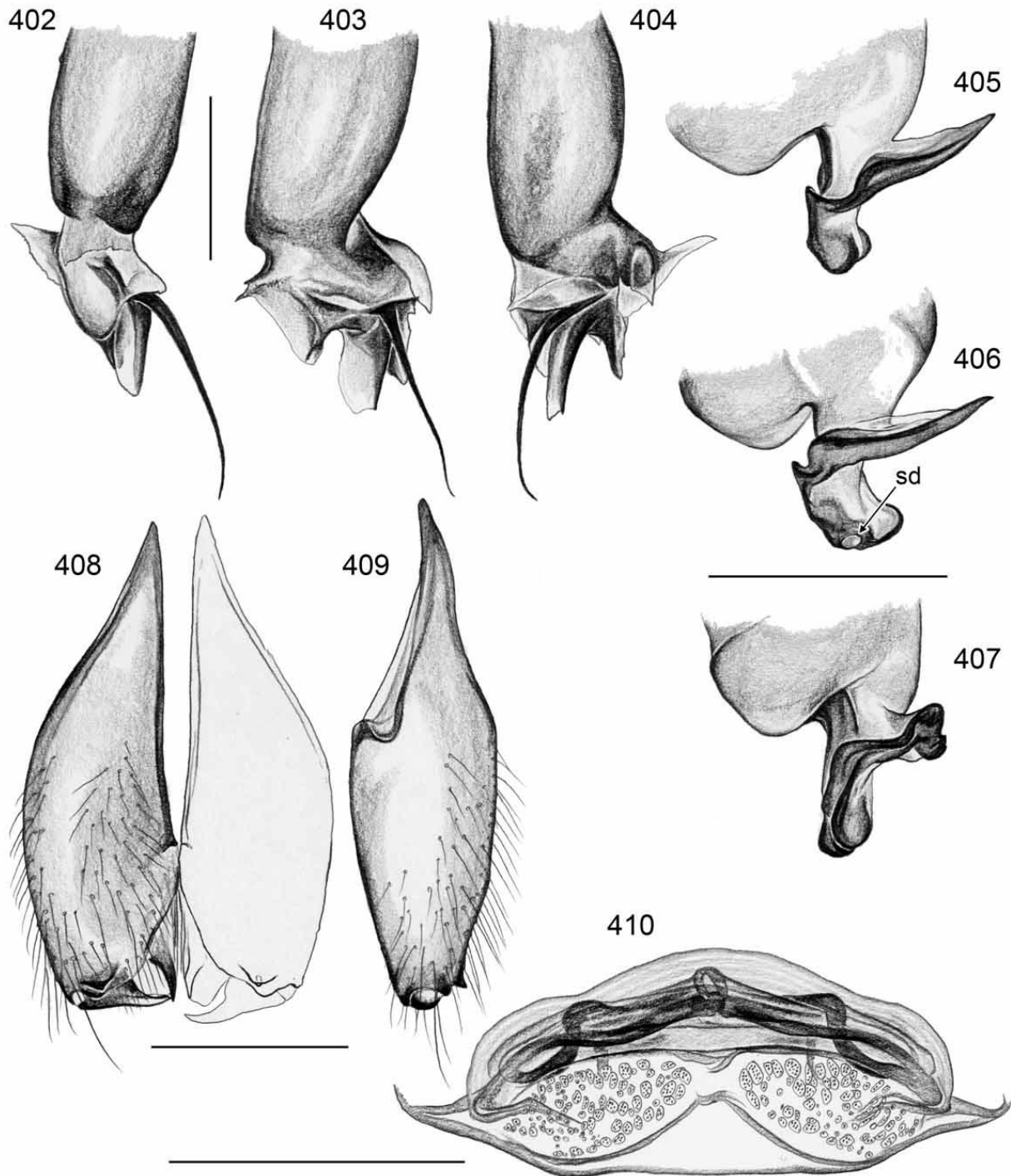


FIGURE 401. Known distribution of *S. lesserti*.

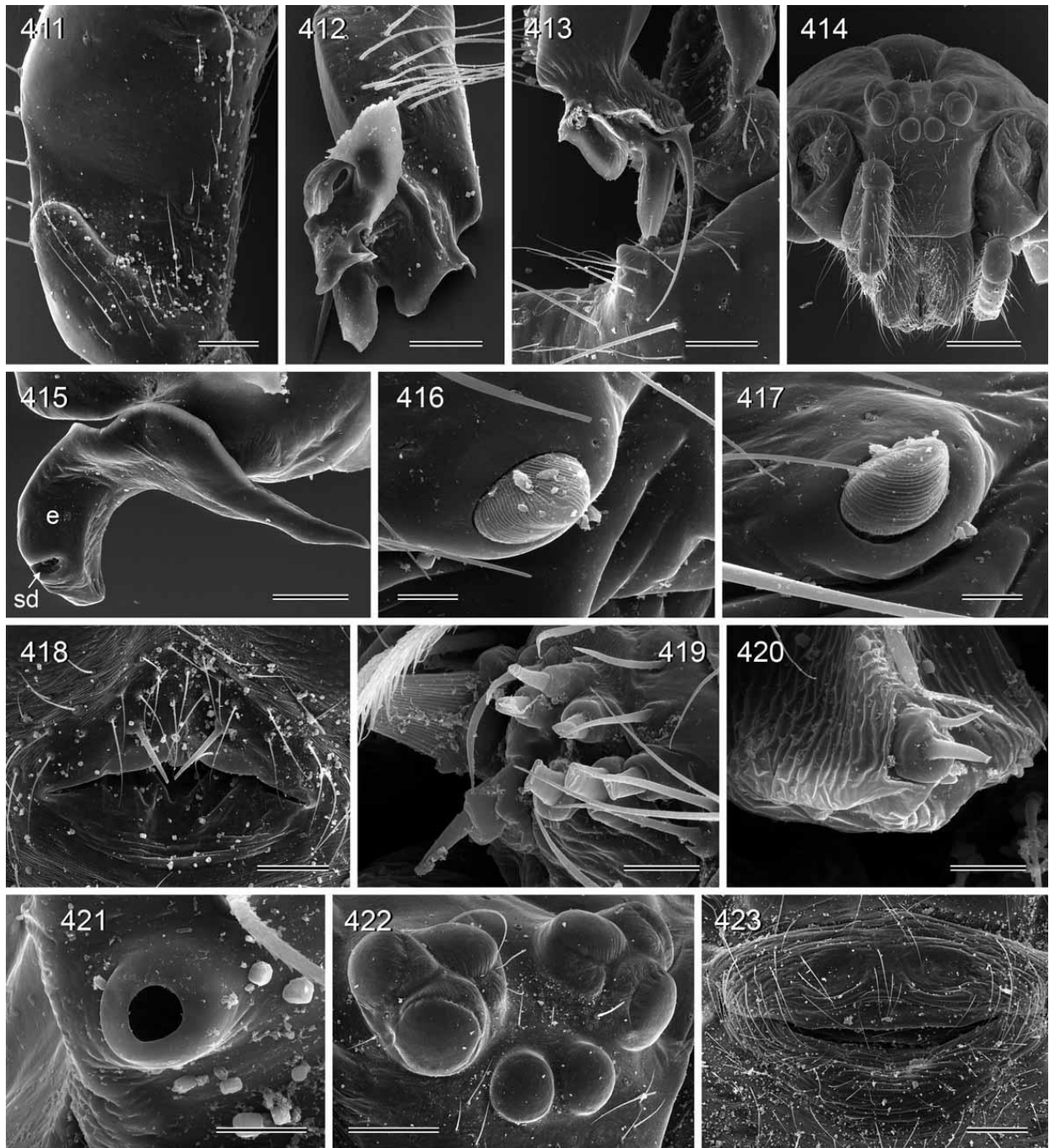
Material examined. CONGO D.R.: *Congo Central Prov.*: Malela, 1♂1♀ types above. Muanda [5°56'S, 12°21'E], ix.1947 (Darteville), 1♂1♀ (2 vials) in MRAC (66205, 66231). Thysville [=Mbanza-Ngungu, 5°16'S, 14°51'E], 3.x.1938 (M. Bequaert), large cave, 1500 m a.s.l., 7♂26♀ in MRAC (1390–1432); same data but 6.x.1938, 7♀ in MRAC (separated from 1374–1382). Grotte de Thysville, viii.1924 (G. Geerts), 1♀ in MRAC (25674). “Grotte de Vivi” [near Matadi, ~5°50'S, 13°30'E?], ii.1937 (Darteville), 2♂4♀ + juvs (2 vials) in MRAC (26828–32, 26852–53). *Equateur Prov.*: Eala [=Mbandaka, 0°03'N, 18°16'E], v.1936 (J. Ghesquière), 1♀ in MRAC (26908). *Tshopo Prov.*: Stanleyville [=Kisangani, 0°31'N, 25°12'E], v.1928 (A. Collart), 1♂ in MRAC (30525). Avakubi [1°19'N, 27°33'E], no date (Delhaize), 1♂4♀ in MRAC (25696–702). *Lulua Prov.*: Luluaburg [=Kananga, 5°54'S, 22°27'E], no date (R.P. Cambier), 1♂3♀ in MRAC (25692–95). Kele [6°55'S, 23°10'E], caves, 1938 (M. Bequaert), 2♂2♀ in MRAC (702–05). *Kinshasa Prov.*: Leopoldville [=Kinshasa, 4°20'S, 15°19'E], i.1922 (P.H. Schouteden), 1♂ in MRAC (25690). *Nord-Kivu*: Beni [=Beni?, 0°30'N, 29°28'E], i.–ii.1953 (M. Watty), 3♂13♀ in MHNG. Forêt de Beni, Vill. Mbao [=Mbau, 0°39'N, 29°30'E], 1000–1100 m a.s.l., 5.v.1964 (M.J. Celis), 4♂6♀ + juvs (2 vials) in MRAC (126796, 97). *Bas-Uele Prov.*: Djamba [2°52'N, 24°06'E?], no date (P.H. Schouteden), 1♂2♀ in MRAC (30536–38).

SÃO TOMÉ AND PRÍNCIPE: *São Tomé*: Barricade Wall S of Praia du Mutamba (0°23.2'N, 6°35.7'E), 3.v.2001 (J.M. Ledford), 1♂1♀ 1 juv. in CAS. Roca Zampalma [~0°16'N, 6°37'E], 2500 feet a.s.l., 5.–14.viii.1949 (B. Malkin), 1♀ in CAS. *Príncipe* [~1°37'N, 7°24'E]: no further locality data, 9.xii.1932 (W.H.J. Janis?), 2♀ in BMNH (separated from 1933.8.30.60–64).

CAMEROON: *Adamawa Region*: Djohong [6°50'N, 14°42'E], 1.–5.ix.1971 (F. Puylaert), 14♂16♀ in MRAC (141389). *Northwest Region*: Oku (~6°14.5'N, 10°30.5'E), ~1900 m a.s.l., in building, 17.iv.2009 (B.A. Huber), 1♂1♀ in ZFMK (Ar 8510). *Centre Region*: Reserve forestiere du Nyong, 16 km S of Makak ("Lok. 174"; ~3°25'N, 11°00'E?), 10.xi.-13.xii.1950 (J. Birket-Smith, J. Dahl), 1♂1♀ in ZMUC; same data but "1949–1950, 10/2 – 727", 1♂ in ZMUC.



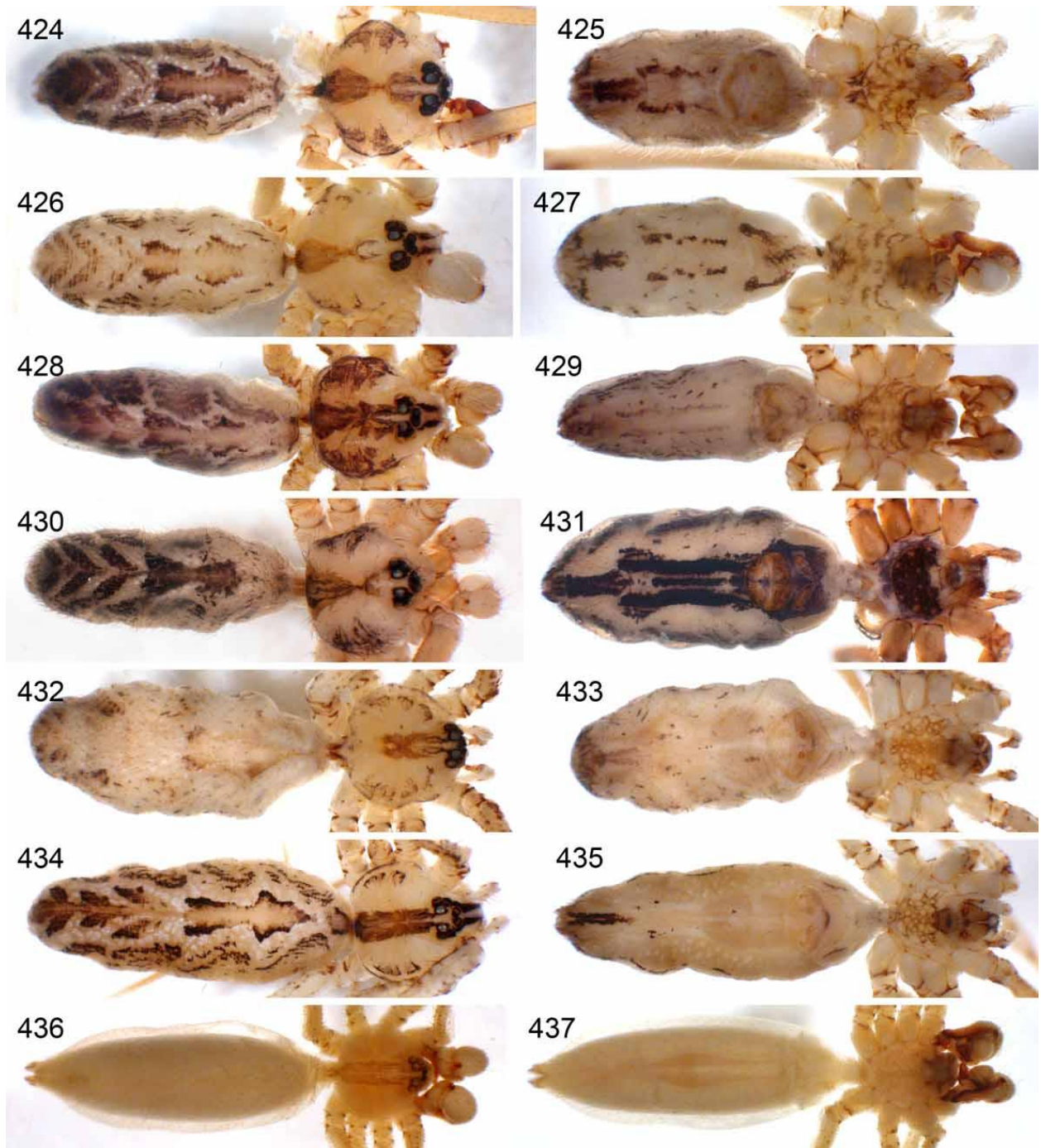
FIGURES 402–410. *Smeringopus lesserti*. 402–404. Left procrurus, retrolateral, retrolatero-ventral, and ventral views. 405–407. Left embolus, prolateral, prolatero-dorsal, and prolatero-ventral views. 408–409. Male chelicerae, frontal and lateral views. 410. Cleared female genitalia, dorsal view. Scale lines: 0.2 mm (402–404), 0.5 mm (405–410).



FIGURES 411–423. *Smeringopus lesserti*. 411. Left male palpal femur, retrolateral view. 412–413. Left procurus tip, distal and retrolateral views. 414. Female prosoma. 415. Male bulbous processes, prolatero-dorsal view. 416–417. Male cheliceral apophyses. 418. Male gonopore. 419. Male ALS. 420. Male PMS. 421. Male palpal tarsal organ. 422. Female ocular area. 423. Epigynum. Scale lines: 10 μm (416–417), 20 μm (419–421), 80 μm (412–413, 418), 100 μm (411, 415), 200 μm (422–423), 500 μm (414).

GABON: *Ogooué-Ivindo*: Monts de Belinga, Mayebout (1°06.9'N, 13°06.4'E), 500 m a.s.l., in building, 13.viii.2011 (B.A. & S.R. Huber), 2♂14♀ 1 juv. (2 vials) in ZFMK (Ar 8511-12); same data, 1♂2♀ in pure ethanol, in ZFMK (Gab 225). Makokou (0°33.9'N, 12°50.7'E), 520 m a.s.l., in building, 13.viii.2011 (B.A. & S.R. Huber) 1♀ in ZFMK (Ar 8513). *Ogooué-Lolo*: village near Moudouma (1°23.9'S, 12°09.4'E), 440 m a.s.l., in building, 24.viii.2011 (B.A. & S.R. Huber), 2♂5♀ (2 vials) in ZFMK (Ar 8514-15); same data, 1♂1♀ in pure ethanol, in ZFMK (Gab 178). “Gabon”, no further data, with the label belonging to the lost *S. arambourgi* male syntypes, 11♂4♀ in MNHN (Ar 10363). “Gabon”, no further data, donated by E. Simon in 1913 (as *S. elongatus*), 1♂ (without palps) 1♀ in MHNG.

ANGOLA: *Luanda Prov.*: Luanda [8°50'S, 13°15'E], no date (H. Chatclain), 1♂ 1 juv. in USNM. *Malanje Prov.*: Furnas de Cacolo-Calombe near Malange [=Malanje, ~9°30'S, 16°20'E], 23.xi.1946 (A. de Barros Machado), 2♂4♀ in SMF (Ang 165.3); same locality, vi.1948 (H. Breui), 2♂4♀ in SMF (Ang 3128.1).



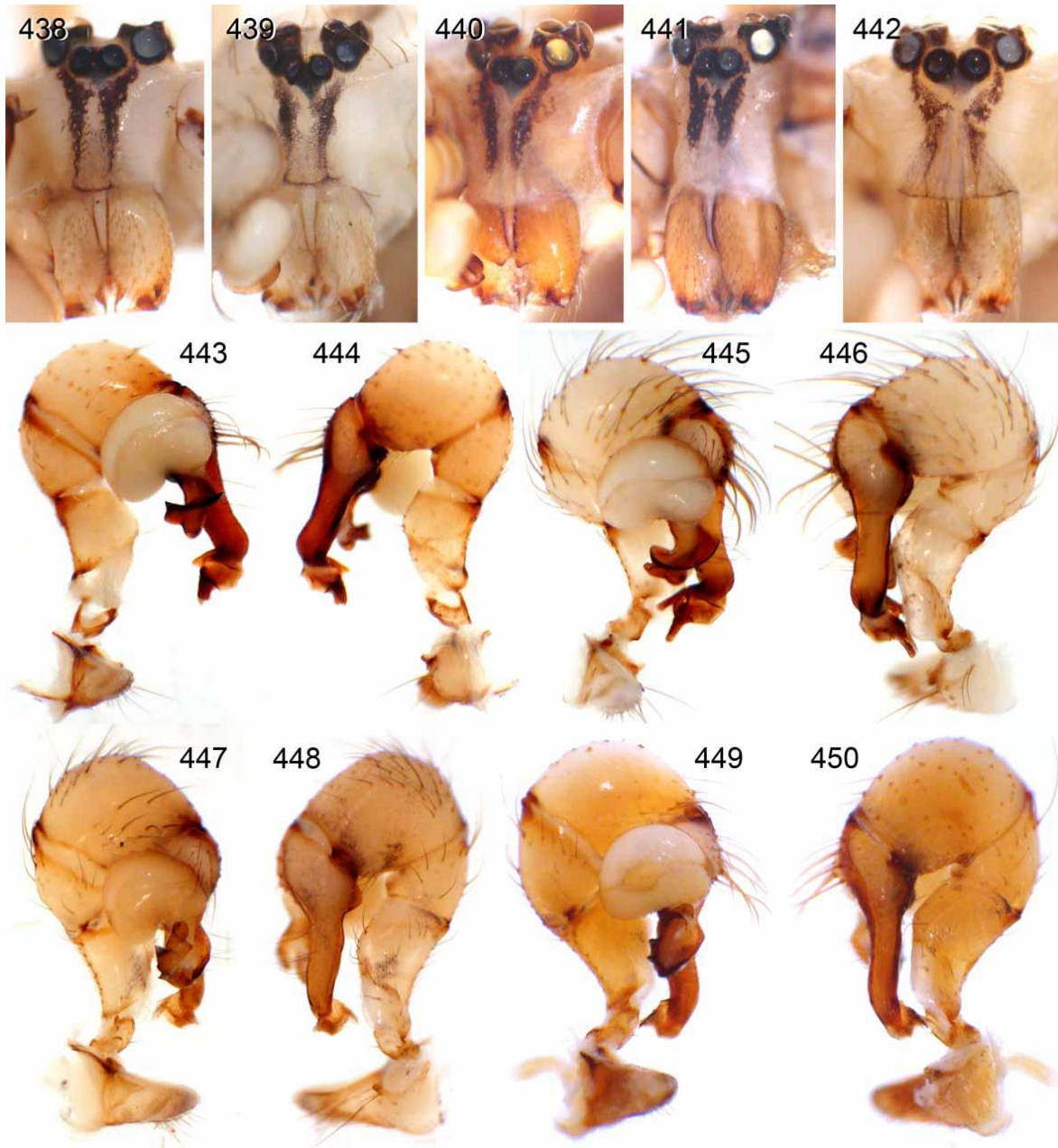
FIGURES 424–437. *Smeringopus hypocrita* group, habitus. 424–425. *S. hypocrita*, male, dorsal view and female, ventral view. 426–427. *S. sederberg*, male, dorsal and ventral views. 428–429. *S. lotzi*, male, dorsal and ventral views. 430–431. *S. dehoop*, male, dorsal view and female, ventral view. 432–433. *S. atomarius*, female, dorsal and ventral views. 434–435. *S. uisib*, female, dorsal and ventral views. 436–437. *S. tombua*, male, dorsal and ventral views.

***Smeringopus hypocrita* Simon, 1910**

Figs. 424–425, 438, 443–444, 459–460, 476–482

Smeringopus hypocrita Simon 1910: 190 (except female from Kubub; see *S. similis*). Kraus 1957: 232–233, figs. 53–58. Kraus 1984: 380, fig. 6 (copied from Kraus 1957).

Types. Male lectotype (see Notes below) and 2♀ paralectotypes from South Africa, Northern Cape Province, Kamaggas [=Komaggas, 29°47.9'S, 17°29.2'E], 1904 (L. Schultze), in ZMB (2 vials: 10462, 10464). 1♀ 1 juv. (2 vials) paralectotypes from South Africa, Northern Cape Province, Steinkopf [29°15.8'S, 17°44.1'E], 1904 (L. Schultze), in ZMB (10463, second vial without number). 2♂1♀ paralectotypes from Namibia, “Gubub” [locality not identified, see Notes below], date not given [1903–1905] (L. Schultze), in MNHN (10483). All types examined.



FIGURES 438–450. *Smeringopus hypocrita* group, male prosomata, oblique frontal views and left male palps, prolateral and retrolateral views. 438. *S. hypocrita*. 439. *S. sederberg*. 440. *S. ubicki*. 441. *S. dehoop*. 442. *S. atomarius*. 443–444. *S. hypocrita*. 445–446. *S. sederberg*. 447–448. *S. lotzi*. 449–450. *S. ubicki*.

Notes. Kraus (1957) explicitly designated the male from Komaggas as lectotype, but on labels he identified one of the two females as lectotype and the male and the second female as paralectotypes. I follow the publication rather than the labels and consider the male as the lectotype.

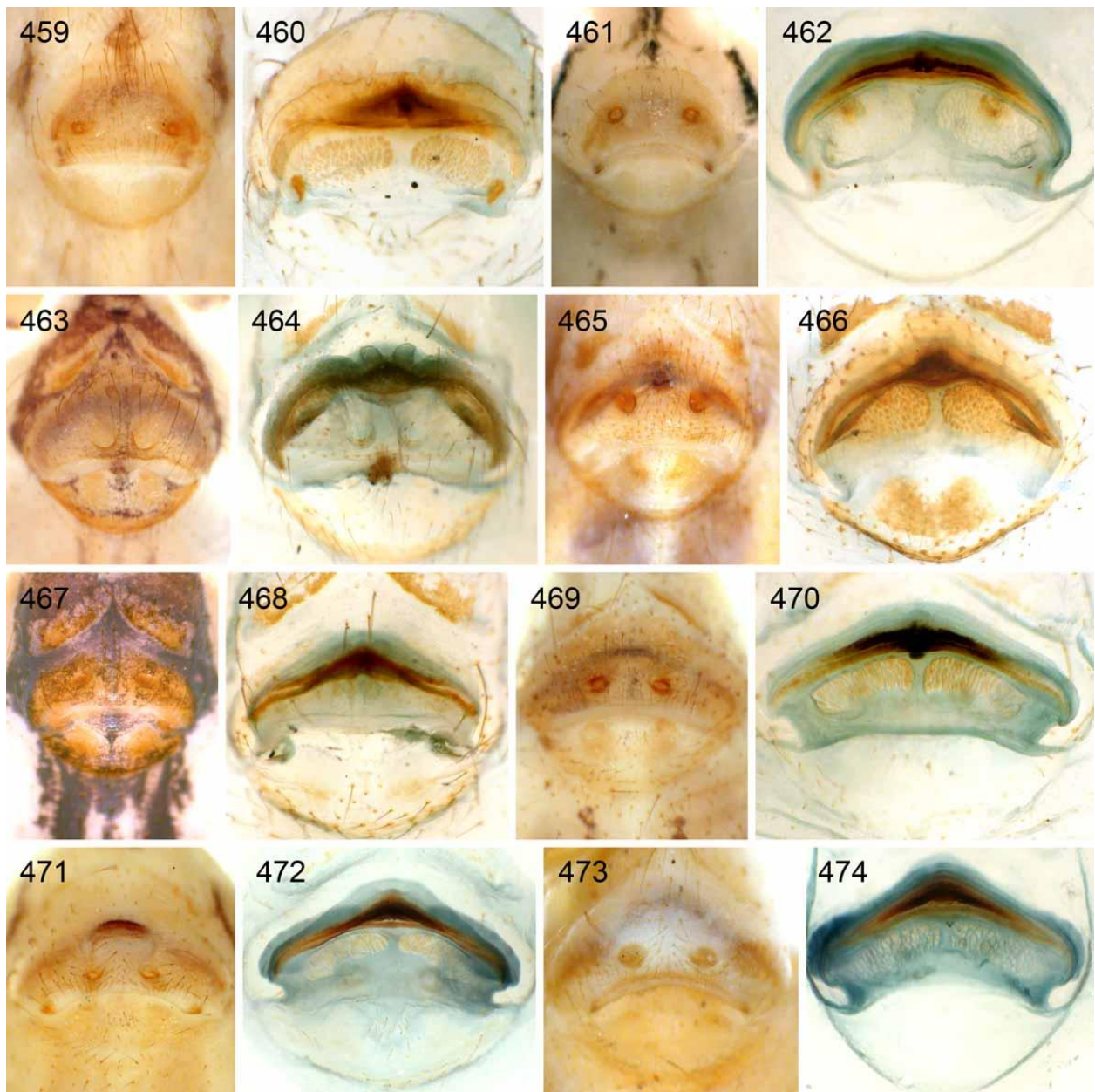
The paralectotype-locality “Gubub” (=Kubub?) could not be identified; at least six Kubub exist in southern Namibia.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Figs. 476, 477), bulb (processes of embolus, Figs. 480, 481), very lateral cheliceral apophyses (Fig. 478; similar *S. sederberg* and *S. atomarius*), and shape of epigynum (Fig. 459; simple plate with small round pockets in very lateral position; like *S. sederberg*).

Male (Kap Kap). Total body length 4.8, carapace width 1.7. Leg 1: 39.1 (10.4 + 0.6 + 10.1 + 15.8 + 2.2), tibia 2: 7.1, tibia 3: 5.8, tibia 4: 8.1; tibia 1 L/d: 57. Habitus as in Fig. 424. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora and tibiae with whitish tips and dark subdistal rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 140 µm, diameter PME 140 µm, distance PME-ALE 55 µm, distance AME-AME 60 µm, diameter AME 120 µm. Ocular area slightly elevated, secondary eyes with small ‘pseudo-lenses’; deep thoracic pit. Chelicerae with distal apophyses in very lateral position (Figs. 478, 479). Palps as in Figs. 443 and 444, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes (Figs. 476, 477), bulb with distinctive complex embolus (Figs. 480, 481; very similar *S. sederberg*). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.



FIGURES 451–458. *Smeringopus hypocrita* group, left male palps, prolateral and retrolateral views. 451–452. *S. dehoop*. 453–454. *S. atomarius*. 455–456. *S. uisib.* 457–458. *S. tombua.*



FIGURES 459–474. *Smeringopus hypocrita* group, epigyna, ventral views and cleared female genitalia, dorsal views. 459–460. *S. hypocrita*. 461–462. *S. sederberg*. 463–464. *S. lotzi*. 465–466. *S. ubicki*. 467–468. *S. dehoop*. 469–470. *S. atomarius*. 471–472. *S. uisib*. 473–474. *S. tombua*.

Variation. In the male from Cape Town the lateral marks on the carapace are absent and the dorsal membranous element on the procurus (arrow in Fig. 477) is slightly more sclerotized and curved. The lectotype is bleached and both palps are detached; the dorsal membranous element on the procurus is slightly narrower; tibia 1: 8.6. Tibia 1 in 3 other males: 8.4, 8.8, 11.7.

Female. In general similar to male; tibia 1 in 5 females: 8.1–13.5 (mean 9.6). Epigynum a simple plate with round pockets in very lateral position (Fig. 459; very similar *S. sederberg*); internal genitalia as in Figs. 460 and 482 (the strong folding of the frontal ‘valve’ is probably an artifact).

Distribution. Known from several localities in western South Africa and from an unidentified locality (“Gubub”) in southern Namibia (Fig. 475). Specimens from near Loeriesfontein and Garies are assigned tentatively because no males are known from these localities and the very similar *S. sederberg* occurs only slightly further south. The female from Neudamm (Namibia) assigned by Kraus (1957) to *S. hypocrita* is very probably *S. atomarius* (see below).

Material examined. SOUTH AFRICA: *Northern Cape Prov.*: Komaggas: 1♂2♀ types above. Steinkopf: 1♀ type above. Namaqualand, Garies [30°34.1'S, 17°59.4'E], 14.xi.1949 (B. Malkin), 1♀ in CAS. 10 km NW Loeriesfontein [~30°52.3'S, 19°22.3'E], Calvinia, under stones, 21.x.1990 (L.N. Lotz), 1♀ in NMBA (5481); same locality, 22.x.1990 (S. Louw), 1♀ 1 juv. in NMBA (5500). Namaqualand, Kap Kap [~30°15'S, 18°27'E], under stones, 20.x.1990 (L.N. Lotz), 1♂1♀ in NMBA (5450). *Western Cape Prov.*: Cape Town, Lions Head [33°56'S, 18°23'E], no date (N. Larson), "slide no 128", 1♂ in NCP (92/6).

NAMIBIA: "Gubub", 2♂1♀ types above.

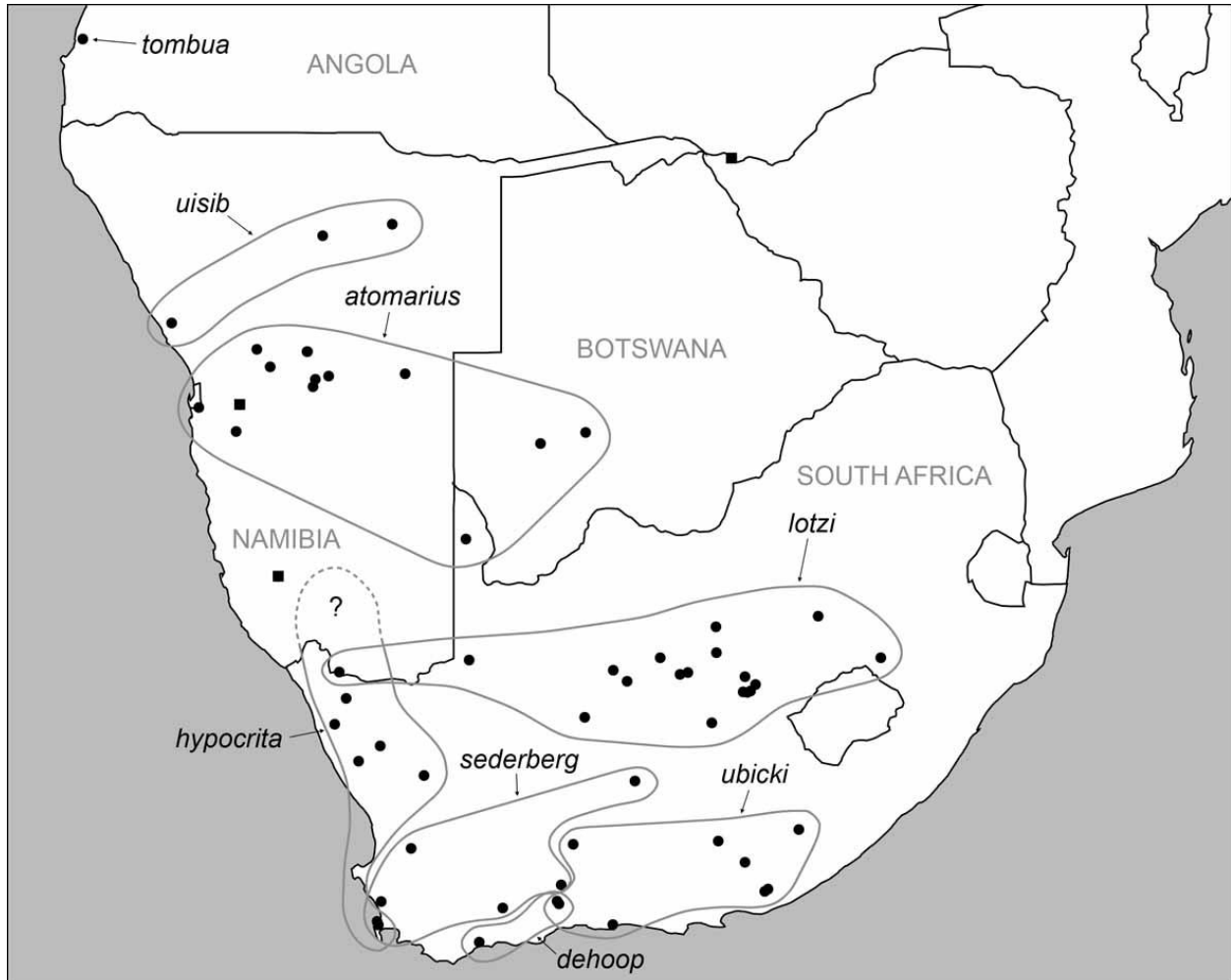


FIGURE 475. Known distribution of the *hypocrita* group. Squares: further undescribed species.

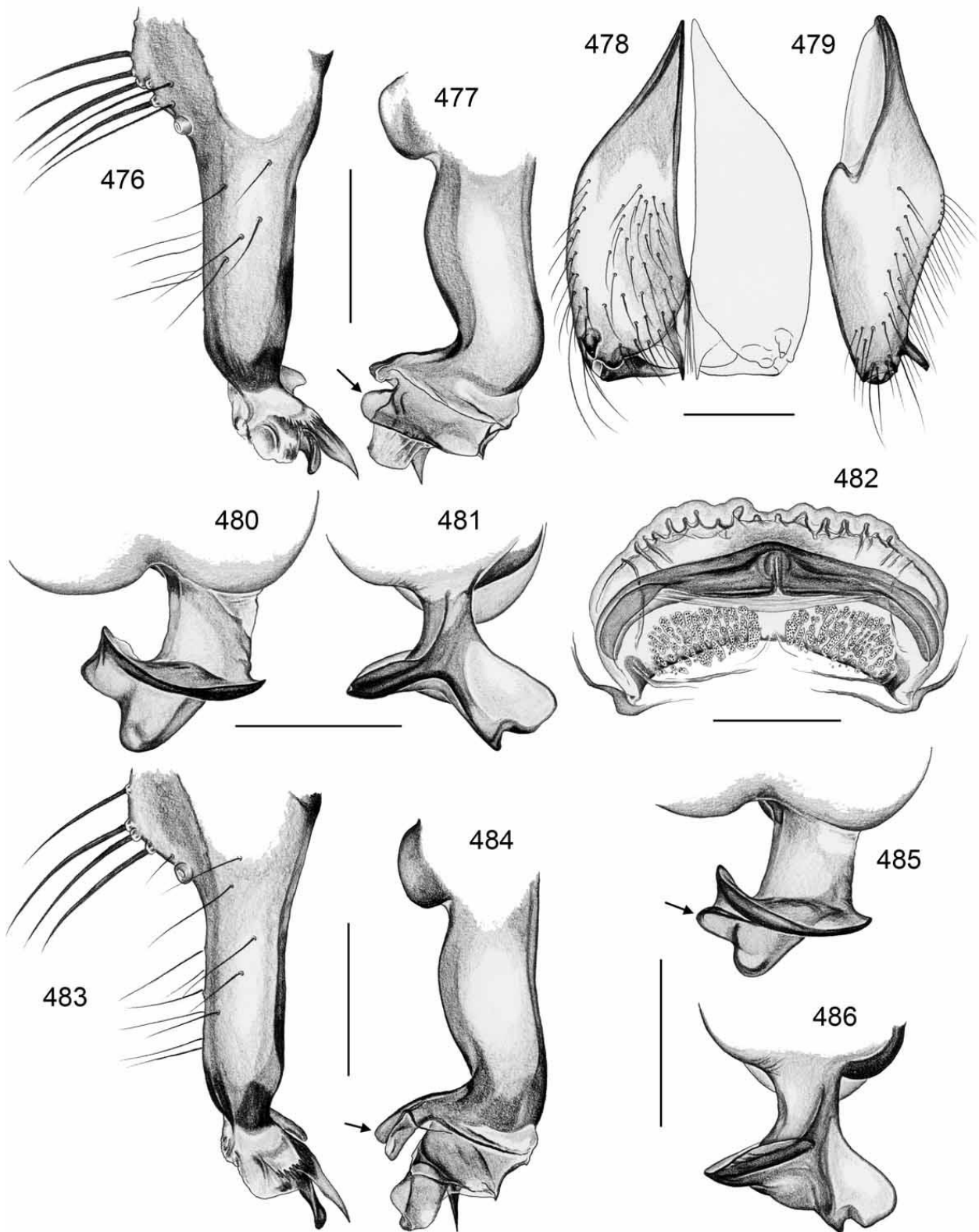
Smeringopus sederberg new species

Figs. 426–427, 439, 445–446, 461–462, 483–486

Type. Male holotype from South Africa, Western Cape Province, Clanwilliam Distr., Sederberg [~32°24'S, 19°06'E], "dans humus sous buissons ou de grosses pierres", vii.1958 (J. Smith), in MRAC (124946).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Figs. 483, 484), bulb (processes of embolus, Figs. 485, 486), very lateral cheliceral apophyses (Fig. 439; similar *S. hypocrita* and *S. atomarius*), and shape of epigynum (Fig. 461; simple plate with small round pockets in very lateral position, like *S. hypocrita*).



FIGURES 476–486. *Smeringopus hypocrita* (476–482) and *S. sederberg* (483–486). 476, 483. Left cymbia and procrursi, retrolateral views. 477, 484. Left procrursi, dorsal views (arrows point to variable structures; see text). 478–479. Male chelicerae, frontal and lateral views. 480–481, 485–486. Left emboli, prolateral and dorsal views (arrow points to variable structure; see text). 482. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Male (holotype). Total body length 4.7, carapace width 1.7. Leg 1: 37.9 (10.3 + 0.7 + 9.9 + 14.8 + 2.2), tibia 2: 7.3, tibia 3: 5.6, tibia 4: 8.0; tibia 1 L/d: 51. Habitus as in Figs. 426 and 427. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora and tibiae with indistinct darker subdistal rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 140 μ m, diameter PME 135 μ m, distance PME-ALE 70 μ m, distance AME-AME 55 μ m, diameter AME 115 μ m. Ocular area slightly elevated, secondary eyes with small 'pseudo-lenses'; deep thoracic pit. Chelicerae as in *S. hypocrita* (cf. Figs. 478, 479). Palps as in Figs. 445 and 446, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes (Figs. 483, 484), bulb with distinctive complex embolus (Figs. 485, 486; very similar *S. hypocrita*). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. In the male from Mamre, the distinctive projection on the embolus (arrow in Fig. 485) is even more pronounced; in the male from Constantia Neck, the prolateral process on the procurus (arrow in Fig. 484) is slightly wider. In some males, the dark color pattern is in general much more distinct. Tibia 1 in 4 other males: 9.7, 10.0, 10.1, 12.3.

Female. In general similar to male; tibia 1 in 9 females: 8.6–11.5 (mean 9.7). Epigynum a simple plate with round pockets in very lateral position (Fig. 461; similar *S. hypocrita*); internal genitalia also similar *S. hypocrita* (Fig. 462).

Distribution. Widely distributed in southwestern South Africa (Fig. 475).

Material examined. SOUTH AFRICA: *Western Cape Prov.*: Clanwilliam Distr., Sederberg: 1♂ type above, together with 1♀. Mamre [33°31'S, 18°28'E], fynbos, ix.1999 (T.v.d. Berdt), 1♂ in NCP (99/328). Ladismith, "Gans Kap 136" (33°39', 21°01'E), 28.x.1987 (L.N. Lotz), 2♂3♀ + juvs. in NMBA (2605). Constantia Neck [34°00.7'S, 18°24.3'E], 11.iii.2001 (G. Binford), 1♂ in ZFMK (Ar 8563). [Near] Prince Albert (33°10'S, 22°15'E), 1.ii.1996 (W. Pulawski), 3♀ 4 juvs. in CAS. *Northern Cape Prov.*: Deelfontein [30°59.4'S, 23°48.1'E], no date, collector unreadable, 1♂3♀ in BMNH.

***Smeringopus lotzi* new species**

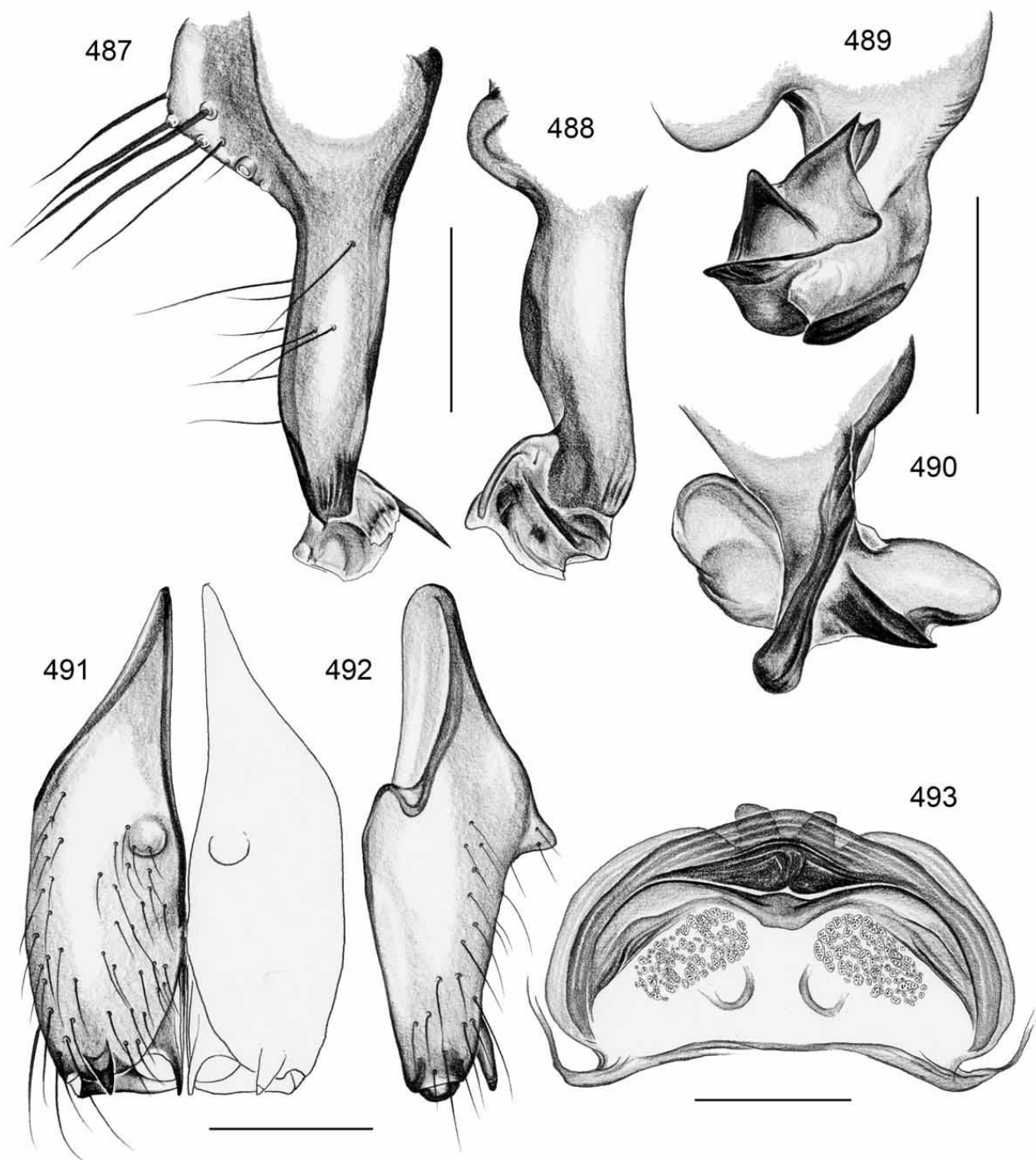
Figs. 428–429, 447–448, 463–464, 487–493, 514–519

Type. Male holotype from South Africa, Northern Cape Province, Hay [Distr.], Kogelbeen Cave (28°40'S, 23°21'E), entrance room of cave, 22.ii.1997 (L.N. Lotz), in NMBA (8153 part).

Etymology. The species is named for Leon L. Lotz from the National Museum in Bloemfontein who contributed many specimens for this revision.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Figs. 487, 488; similar *S. ubicki*), bulb (processes of embolus, Figs. 489, 490), cheliceral armature (presence and position of proximal apophyses; Figs. 491, 492), and shape of epigynum (Fig. 463; large pockets close together; similar *S. similis*).

Male (holotype). Total body length 6.1, carapace width 2.0. Leg 1: 46.7 (12.5 + 0.8 + 11.7 + 19.1 + 2.6), tibia 2: 8.9, tibia 3: 7.2, tibia 4: 9.8; tibia 1 L/d: 51. Habitus as in Figs. 428 and 429. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora and tibiae with subdistal dark rings, abdomen with dorsal and ventral pattern. Distance PME-PME 150 μ m, diameter PME 160 μ m, distance PME-ALE 90 μ m, distance AME-AME 55 μ m, diameter AME 140 μ m. Ocular area slightly elevated, secondary eyes with very indistinct 'pseudo-lenses'; deep thoracic pit. Chelicerae with proximal humps and distal apophyses (Figs. 491, 492), each distal apophysis provided with one modified hair (Figs. 514, 515). Palps as in Figs. 447 and 448, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim (Fig. 516), procurus with distinctive distal processes in dorsal view (Fig. 488; retrolateral view as in Fig. 487), bulb with distinctive complex embolus (Figs. 489, 490). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 518); ALS with eight spigots each (Fig. 519).



FIGURES 487–493. *Smeringopus lotzi*. 487. Left cymbium and procurus, retrolateral view. 488. Left procurus, dorsal view. 489–490. Left emboli, prolateral and dorsal views. 491–492. Male chelicerae, frontal and lateral views. 493. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Variation. Tibia 1 in 10 other males: 7.0–11.0 (mean 8.9). Some specimens from eastern localities (Bloemfontein, Edenville) have identical palps but lack the proximal cheliceral humps. They are assigned tentatively.

Female. In general similar to male; triads closer together (distance PME-PME 115 μ m); tibia 1 in 33 females: 4.7–10.2 (mean 7.3). Some darker specimens with black marks proximally on femora. Epigynum a simple plate with large pockets close together (Fig. 463); internal genitalia as in Figs. 464 and 493.

Distribution. Widely distributed in central and northwestern South Africa (Fig. 475).

Material examined. SOUTH AFRICA: *Northern Cape Prov.*: Hay, Kogelbeen Cave: 1♂ type above; same data, 1♂1♀ in NMBA (8153 part); same data but camp area, 1♀ 4 juvs in NMBA (8154). Barkly West, Borrelkop (28°24'S, 24°20'E), 17.x.1988 (A. Wels), 1♂ in NMBA (3076). "De Duine 18", Prieska [29°40'S, 22°45'E], under stones, 4.–7.ix.1981 ("Mus. Staff"), 1♂ 1 juv. in NMBA (79). Kimberley [28°45'S, 24°45'E] (E. Simon collection 15270), 5♂13♀ (2 vials) in MNHN (10355-56). Kimberley, "Hebrou" (E. Simon collection 15271), 1♂2♀ 2 juvs. in MNHN (AR 10358). Herbert, Vogelfontein (28°54'S, 23°38'E), under calcrete stone, 4.iv.1989 (L.N. Lotz), 2♀ in NMBA (3187). Augrabies [Falls] N.P., Riemvasmaak [28°27'S, 20°19'E], 8.v.1995 (M. de Jager), 1♀ in NCP (95/290). Camp close to Orange River (28°42.2'S, 17°35.7'E), 175 m a.s.l., 8.x.2009 (M. Forman), 1♂ in pure ethanol in ZFMK (Kral 9) (J. Kral chromosome preparation "Smeringopus 2"). *Free State*: Bloemfontein (29°08'S, 26°10'E), in house, 12.ix.1988 ("Entomol. Staff"), 1♀ in NMBA (2980); same data but 28.ix./23.xi.1987 (2 vials) (S. Louw), in house, 2♀ in NMBA (2182, 2785); same data but 2.ii.1988 (A. Wels), in house, 1♀ in NMBA (2827); same data but 5.i.1988 (L.N. Lotz), in house, 1♀ in NMBA (2805). Bloemfontein (E. Simon collection 15282), 3♂6♀ 2 juvs. (3 vials) in MNHN (AR 10359-61). Bloemfontein, Naval Hill (29°06'S, 26°14'E), xi.1990–iii.1991 (L.N. Lotz), 2♂4♀ (5 vials) in NMBA (6790, 7328, 7395, 7506, 7529). Bloemfontein, Spesbona (29°07'S, 26°05'E), v.–vii.1990 (S. du Toit), 1♂2♀ 1 juv. in NMBA (5610). Harrismith, Qwa Qwa National Park (28°26'S, 28°41'E), 3.iii.1994 (L.N. Lotz), 1♀ in NMBA (6718). Florisbad [~28°48'S, 26°07'E], under bridge, 21.xi.1985 ("Mus. Staff"), 1♀ in NMBA (1183); Florisbad, x.1982 ("Mus. Staff"), 1♀ in NMBA (282). Boshof, Table Farm (28°43'S, 24°55'E), under piece of iron, 18.viii.1987 ("Entomol. Staff"), 1♀ in NMBA (2110). Boshof, Elliesdal (28°18'S, 25°31'E), 18.viii.1987 ("Entomol. Staff"), 1♀ in NMBA (2066). "Swartsrus" (27°45'S, 25°30'E), 18.–19.xi.1985 ("Mus. Staff"), 4♀ + juvs in NMBA (1202). Glen (28°58'S, 26°20'E), 17.ix.1987 (L.N. Lotz), 1♀ 2 juvs in NMBA (2168). Jagersfontein [29°46'S, 25°25'E], other data unreadable, 1♀ in BMNH (04.4.24.28-40). *North West Province*: Vryburg [26°57'S, 24°44'E], (E. Simon collection 15278), 2♂2♀ in MNHN (AR 10354).

Assigned tentatively. SOUTH AFRICA: *Free State*: Farm Lusthof, Edenville [27°32'S, 27°39'E], 24.iv.1969 (J. Viljoen), 2♂2♀ in NCP (76/2019). Bloemfontein (29°08'S, 26°10'E), in Museum, 29.iii.1993 (D. de Swart), 1♂ in NMBA (6122); same data but 25.viii.1987 (L.N. Lotz), 1♂ in NMBA (2159).

Smeringopus ubicki new species

Figs. 440, 449–450, 465–466, 494–499

Type. Male holotype from South Africa, Western Cape Province, Oudtshoorn [33°34'S, 22°12'E], at campground, 5.x.1999 (D. Ubick, S. Prinsloo), in CAS.

Etymology. The species is named for Darrell Ubick, arachnologist at California Academy of Sciences.

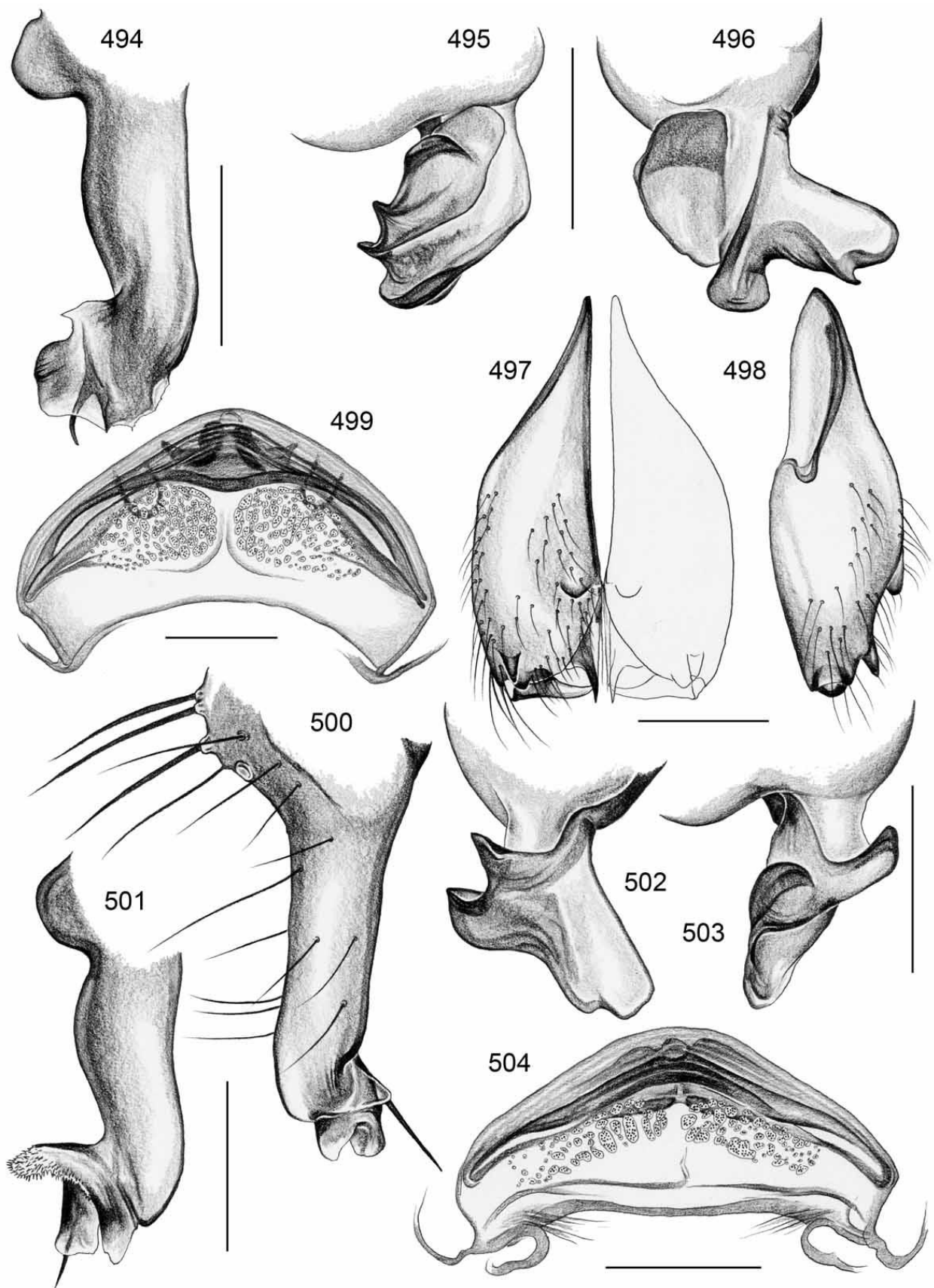
Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Fig. 494; similar *S. lotzi*), bulb (processes of embolus, Figs. 495, 496), cheliceral armature (presence and position of proximal humps; Figs. 497, 498), and shape of epigynum (Fig. 465; round pockets; wider apart than in *S. lotzi*).

Male (holotype). Total body length 5.8, carapace width 1.9. Leg 1: 39.2 (10.5 + 0.8 + 9.9 + 15.9 + 2.1), tibia 2: 7.5, tibia 3: 6.0, tibia 4: 8.4; tibia 1 L/d: 43. Habitus similar *S. lotzi* (cf. Figs. 428, 429). Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora and tibiae with subdistal dark rings, abdomen with dorsal and indistinct ventral pattern. Distance PME-PME 125 µm, diameter PME 175 µm, distance PME-ALE 55 µm, distance AME-AME 30 µm, diameter AME 135 µm. Ocular area slightly elevated, secondary eyes with 'pseudo-lenses'; deep thoracic pit. Chelicerae with proximal and distal apophyses (Figs. 497, 498). Palps as in Figs. 449 and 450, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with shallow retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes in dorsal view (Fig. 494; retrolateral view as in *S. lotzi*; cf. Fig. 487), bulb with distinctive complex embolus (Figs. 495, 496). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 3.5%; prolateral trichobothrium present on tibia 1.

Variation. Sternum in some specimens monochromous; abdomen ventrally in some specimens with distinct pattern. Tibia 1 in 3 other males: 9.1, 12.9, 13.0.

Female. In general similar to male; tibia 1 in 3 females: 10.2, 11.5, 12.0. Epigynum a simple plate with round pockets (Fig. 465); internal genitalia as in Figs. 466 and 499.

Distribution. Widely distributed in southern South Africa (Fig. 475).



FIGURES 494–504. *Smeringopus ubicki* (494–499) and *S. dehoop* (500–504). 494, 501. Left procurus, dorsal views. 495–496, 502–503. Left emboli, prolateral and dorsal views. 497–498. Male chelicerae, frontal and lateral views. 499, 504. Cleared female genitalia, dorsal views. 500. Left cymbium and procurus, retrolateral view. Scale lines: 0.3 mm.

Material examined. SOUTH AFRICA: *Western Cape Prov.*: Oudtshoorn: 1♂ type above; same data, 1♂ in CAS. Karoo National Park [~32°19'S, 22°30'E], in burrow, 4.i.1996 (A. Leroy), 1♂ in NCP. Knysna, Uitzicht Annex (34°00'S, 23°20'E), 28.xii.1988, 6.xii.1989 and 18.xii.1989 (L.N. Lotz), 2♂1♀ 1 juv. (3 vials) in NMBA (3134, 3309, 3342). *Eastern Cape Prov.*: 22 mi W of Cofimvaba [~32°01'S, 27°15'E], 940 m a.s.l., 14.iv.1958 (E.S. Ross, R.E. Leech), 2♂ in CAS. Babiaan River, Bedford [~32°41'S, 26°07'E], date/collector not given/unreadable, 2♂2♀ in BMNH (03.6.25-26-29). Grahamstown [33°18'S, 26°32'E], xi.1900 (Schonland), 1♂ in BMNH. Zebra National Park near Cradock [~32°15'S, 25°33'E], web in grass, 22.iii.1989 (A. Leroy), 1♂ in NCP (89/722). Ecça Pass, 15 km NE of Grahamstown direction Bedford [33°15'S, 26°36'E], under stones, 16.i.1989 (R. Jocqué), 1♀ in MRAC (169731).

***Smeringopus dehoop* new species**

Figs. 430–431, 441, 451–452, 467–468, 500–504

Type. Male holotype from South Africa, Western Cape Province, De Hoop National Reserve (34°22.5'S, 20°32.0'E), Potberg, *Eucalyptus* forest, searching under bark, 6.iv.2004 (C. Haddad), in NCP.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from similar congeners by shapes of procurus (prolateral flap and other distal structures, Figs. 500, 501) and bulb (processes of embolus, Figs. 502, 503); from some close relatives also by cheliceral armature (Fig. 441; similar *S. uisib* and *S. peregrinus*).

Male (holotype). Total body length 8.3, carapace width 2.5. Leg 1: 49.9 (13.7 + 1.1 + 12.7 + 19.7 + 2.7), tibia 2: 9.7, tibia 3: 7.9, tibia 4: 10.8; tibia 1 L/d: 42. Habitus as in Figs. 430 and 431. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of black stripes, sternum dark brown with light marks, leg femora and tibiae with subdistal dark rings, abdomen with distinct dorsal and ventral pattern. Distance PME-PME 150 µm, diameter PME 175 µm, distance PME-ALE 80 µm, distance AME-AME 55 µm, diameter AME 140 µm. Ocular area slightly elevated, secondary eyes with 'pseudo-lenses'; deep thoracic pit. Chelicerae with one pair of distal apophyses similar *S. peregrinus* (cf. Figs. 614, 615). Palps as in Figs. 451 and 452, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes (Figs. 500, 501), bulb with distinctive complex embolus (Figs. 502, 503). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. Second male from type locality lighter but with same pattern. Males from Le Roux River with dark lines on clypeus reaching border of clypeus, and shapes of bulbal apophyses minimally different in dorsal view. Tibia 1 in 4 other males: 11.9, 14.7, 16.3, 17.7.

Female. In general similar to male; tibia 1: 10.1. Epigynum a simple plate with pair of pockets (Fig. 467); internal genitalia as in Figs. 468 and 504.

Distribution. Known from two localities in southern South Africa (Fig. 475).

Material examined. SOUTH AFRICA: *Western Cape Prov.*: De Hoop National Reserve: 1♂ type above; same data, 1♂1♀ 1 juv. in ZFMK (Ar 8507). Le Roux River, 10 km W Cango Caves (33°30'S, 22°10'E), 4.ii.1991 (V.D. & B. Roth), 3♂ in CAS.

***Smeringopus atomarius* Simon, 1910**

Figs. 432–433, 442, 453–454, 469–470, 505–508, 520–525

Smeringopus atomarius Simon 1910: 190–191. Kraus 1957: 229–230, figs. 46–52.

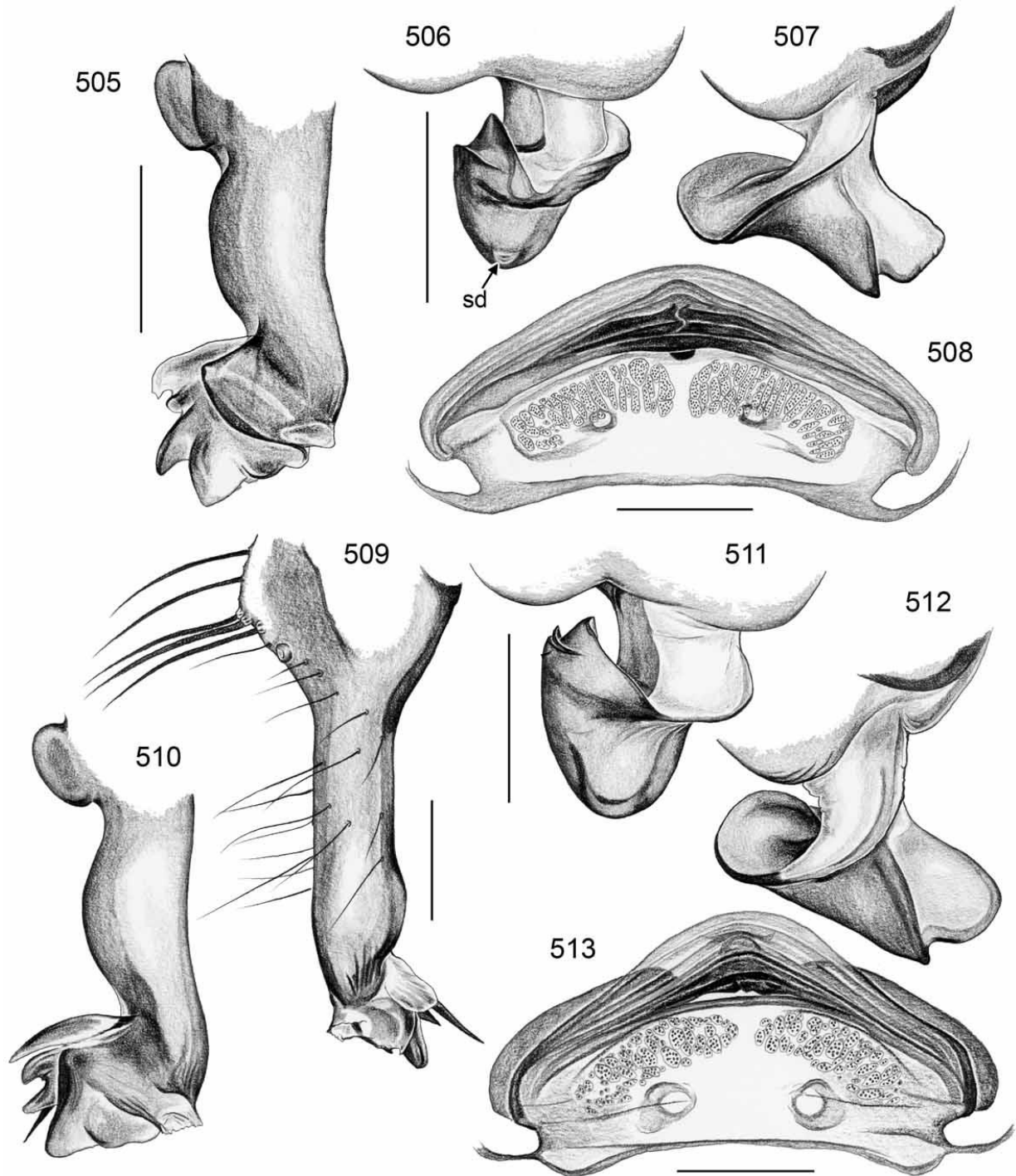
Types. 1♀ syntype(?) from Botswana, Kalahari, no date (L. Schultze), in MNHN (AR 10491), examined. Unspecified number of female syntypes from Namibia, Erongo Region, Rooibank near Walvis Bay [23°10.7'S, 14°39.0'E] and Otjimbingwe [22°21.3'S, 16°08.0'E] and from Botswana, Kgalagadi District, Lehututu [23°54.9'S, 21°49.7'E] and Kang [23°40.8'S, 22°47.0'E], not examined (not in MNHN).

Notes. Simon (1910) based his description on females from Namibia and Botswana and did not designate a holotype. Slight differences in epigynum shape among the specimens examined suggest that two species might be

involved. I follow Kraus (1957) in considering the Namibian specimens as *S. atomarius*, but further collecting (especially of males in Botswana) is necessary to solve this problem.

I have not seen the female from Neudamm (Namibia, 22°30'S, 17°22'E) assigned by Kraus (1957) to *S. hypocrita* but the distribution patterns in this species group (Fig. 475) strongly suggest that it was in fact *S. atomarius*.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Fig. 505), bulb (processes of embolus, Figs. 506, 507; similar *S. uisib*), cheliceral apophyses (similar *S. sederberg* and *S. hypocrita*; cf. Figs. 478, 479), shape of epigynum (Fig. 469; wide plate with small round pockets; similar *S. uisib*), and spotted leg femora (not only proximally as in *S. uisib*).



FIGURES 505–513. *Smeringopus atomarius* (505–508) and *S. uisib* (509–513). 505, 510. Left procursi, dorsal views. 506–507, 511–512. Left emboli, prolateral and dorsal views. 508, 513. Cleared female genitalia, dorsal views. 509. Left cymbium and procurus, retrolateral view. Scale lines: 0.3 mm.

Male (Windhoek, CAS). Total body length 4.8, carapace width 1.6. Leg 1: 44.4 (11.7 + 0.7 + 10.6 + 19.5 + 1.9), tibia 2: 7.6, tibia 3: 5.7, tibia 4: 8.5; tibia 1 L/d: 56. Habitus as in female (cf. Figs. 432, 433). Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora with many brown spots, femora and tibiae with whitish tips and dark subdistal rings, abdomen ochre-gray with indistinct dorsal and ventral pattern. Distance PME-PME 140 μ m, diameter PME 140 μ m, distance PME-ALE 45 μ m, distance AME-AME 45 μ m, diameter AME 140 μ m. Ocular area slightly elevated, secondary eyes with small 'pseudo-lenses'; deep thoracic pit. Chelicerae similar *S. hypocrita* (cf. Figs. 478, 479), apophyses slightly closer together and shorter; each apophysis with one modified hair at tip (Fig. 520). Palps as in Figs. 453 and 454, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes (Fig. 505; retrolateral view as in *S. uisib*, cf. Fig. 509), bulb with distinctive complex embolus (Figs. 506, 507; very similar *S. uisib*). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 523); ALS with eight spigots each (Fig. 524).

Variation. Tibia 1 in 9 other males: 6.9–13.2 (mean 10.5).

Female. In general similar to male; tibia 1 in 11 females: 7.3–11.5 (mean 10.0). Epigynum a wide plate with pockets (Figs. 469, 525; very similar *S. uisib*); internal genitalia as in Figs. 470 and 508.

Distribution. Widely distributed in central Namibia (Fig. 475). Records from Botswana need to be checked. The females from Grootfontein assigned by Kraus (1957) to *S. atomarius* are here assigned to *S. uisib*.

Material examined. NAMIBIA: *Khomas*: Windhoek [22°34'S, 17°05'E], iii.1991 (V. & B. Roth), 1♂1♀ in CAS; same locality, date and collector not given, 3♂7♀ + juvs (4 vials) in SMF (RII 3734, 5970, 6317, 6618); same locality, 24.iv.–9.v.1911 (W. Michaelsen), 1♀ in ZMH. Windhoek, Regenstein [22°43'S, 17°02'E], 9.xi. and 3.xii.1974 (3 vials) (S. Endrödy-Younga), 3♀ in TMP (18754, 18773, 18775). *Hardap*: 50 km E Gobabeb [~23°40'S, 15°25'E], in pitfall traps, iv.–vi.1979 (B. Wharton), 1♂ in CAS; same data but 28.iii.–22.iv.1979, 1♂ in CAS. *Omaheke*: Gobabis [22°27'S, 18°58'E], date and collector not given, 1♂ (only 1 palp, chelicerae missing) in SMF (RII 5189). *Otjonzondjupa*: Okahandja [21°59'S, 16°55'E], v.1955 (Gaerdes), 1♀ in SMF (RII 11728 ex RII 11056). Bona near Okahandja, 2.vi.1911 (W. Michaelsen), 1♂1♀ in ZMH. *Erongo*: Karibib [21°56'S, 15°51'E], 23.–26.iv.1911 (W. Michaelsen), 1♂2♀ 1 juv. in ZMH.

SOUTH AFRICA: *Northern Cape Prov.*: Kalahari, Gemsbok Park [~25°55'S, 20°15'E], 4.ii.1987 (E.A. Ueckermann), 1♂2♀ 2 juvs in NCP (87/422).

BOTSWANA: *Kgalagadi District*: Kalahari, 1♀ syntype(?) above.

Smeringopus uisib new species

Figs. 434–435, 455–456, 471–472, 509–513

Type. Male holotype from Namibia, Otjonzondjupa Region, Grootfontein, Uisib (19°33'S, 17°14'E), Uhlenhorst Cave, dark zone, 6.vii.1993 (J. Irish), in NMBA (7708).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Figs. 509, 510), bulb (processes of embolus, Figs. 511, 512; similar *S. atomarius*), cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615), shape of epigynum (Fig. 471; wide plate with small round pockets; like *S. atomarius*), and spotted leg femora (only proximally).

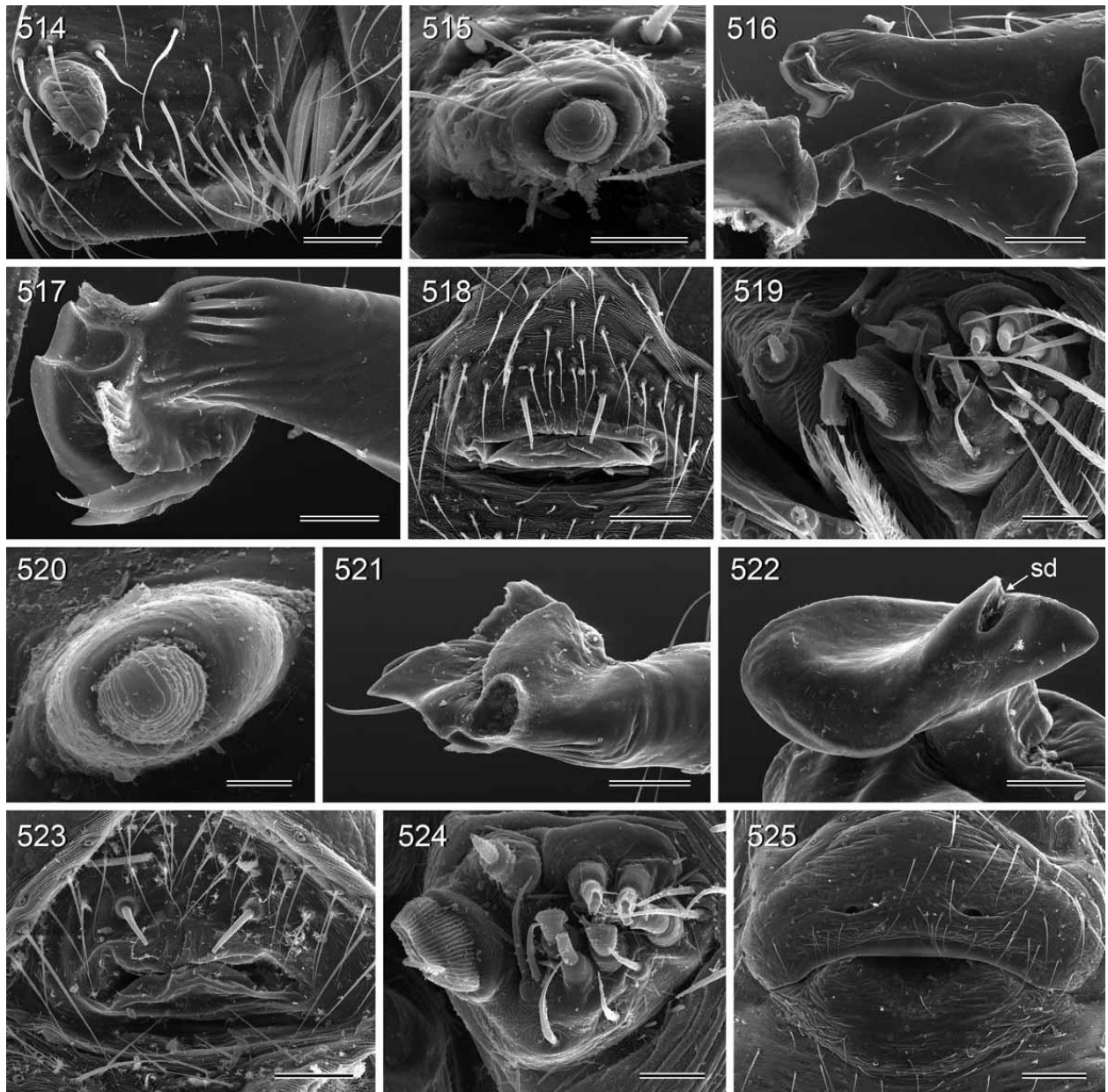
Male (holotype). Total body length 8.2, carapace width 2.3. Leg 1: 76.1 (20.0 + 1.3 + 18.4 + 33.3 + 3.1), tibia 2: 13.3, tibia 3: 10.0, tibia 4: 14.0; tibia 1 L/d: 69. Habitus as in female (cf. Figs. 434, 435). Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum ochre-yellow with brown pattern, leg femora with brown spots proximally, femora and tibiae with whitish tips and dark subdistal rings, abdomen ochre-gray with distinct dorsal but indistinct ventral pattern. Distance PME-PME 140 μ m, diameter PME 210 μ m, distance PME-ALE 70 μ m, distance AME-AME 45 μ m, diameter AME 175 μ m. Ocular area slightly elevated, secondary eyes with small 'pseudo-lenses'; deep thoracic pit. Chelicerae similar *S. peregrinus* (cf. Figs. 614, 615). Palps as in Figs. 455 and 456, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes (Figs. 509, 510), bulb with distinctive complex embolus (Figs. 511, 512; very similar *S. atomarius*). Legs without spines, few vertical

hairs, with curved hairs on metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. The male from near Messum Crater is smaller (tibia 1: 12.9; PME diameter: 160 μm) and differs slightly in the shapes of procurus tip and embolus; it is therefore assigned tentatively.

Female. In general similar to male; tibia 1 in 3 females from Grootfontein: 8.7, 9.3, 9.8; female from near Messum Crater: 11.4. Epigynum a wide plate with round pockets (Fig. 471; very similar *S. atomarius* and *S. tombua*); internal genitalia as in Figs. 472 and 513. The females from Farm Neitsas are tentatively assigned to this species rather than to *S. atomarius* because of the geographic closeness to the type locality but males are needed to test this assignment.

Distribution. Known from three localities in northern Namibia (Fig. 475), but two of them are based on specimens assigned tentatively (see above).



FIGURES 514–525. *Smeringopus lotzi* (514–519) and *S. atomarius* (520–525). 514–515. Male chelicerae and cheliceral apophysis. 516. Left male palp, retrolateral view. 517. Left procurus tip, retrolateral view. 518. Male gonopore. 519. Male ALS and PMS. 520. Male cheliceral apophysis. 521. Left procurus tip, retrolatero-dorsal view. 522. Left embolus, distal view. 523. Male gonopore. 524. Female ALS. 525. Epigynum. Scale lines: 10 μm (520), 20 μm (515, 519, 524), 60 μm (514, 517), 80 μm (522–523), 100 μm (518, 521), 200 μm (516, 525).

Material examined. NAMIBIA: *Otjozondjupa Region*: Grootfontein, Uhlenhorst Cave: 1♂ type above.

Assigned tentatively: NAMIBIA: *Otjozondjupa Region*: Grootfontein, Farm Neitsas [19°19'S, 18°42'E], 20.ii.1908 (Fock), 3♀ 1 juv. in ZMH. *Erongo Region*: near Messum Crater [~21°23'S, 14°04'E], in large *Welwitschia*, no date (R. Jocqué), 1♂1♀ in MRAC (208737).

Smeringopus tombua new species

Figs. 436–437, 457–458, 473–474, 526–529

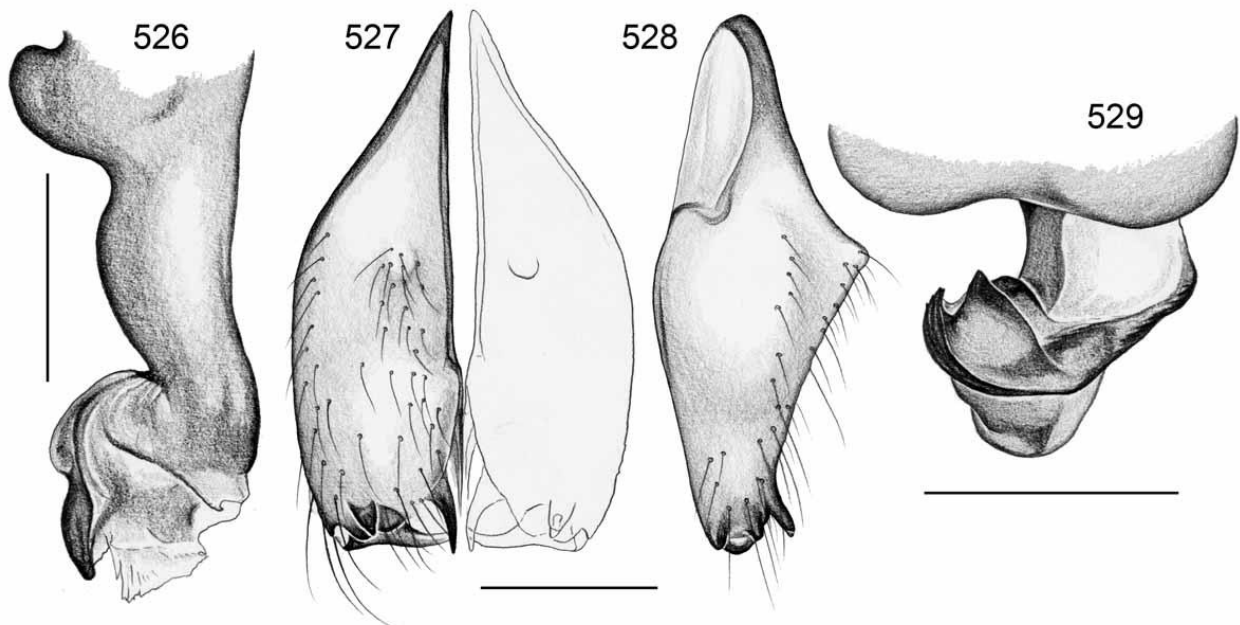
Type. Male holotype from Angola, Namib Province, “Désert de Moçamedes”, between km 30 and 34 of route [from Moçamedes = Namib] to Porto Alexandre [= Tômbua] [~15°26'S, 12°11'E], under *Welwitschia* leaves, 23.x.1949 (A. de Barros Machado), in SMF (Ang 1947.6).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by shapes of procurus (distal structures, Fig. 526; similar *S. atomarius* and *S. uisib*), bulb (processes of embolus, Fig. 529; similar *S. atomarius* and *S. uisib*), cheliceral apophyses (with proximal humps; Figs. 527, 528), shape of epigynum (Fig. 473; wide plate with small round pockets; like *S. atomarius* and *S. uisib*), and spotted leg femora (only proximally).

Male (holotype). Total body length 6.2, carapace width 1.7. Leg 1: 43.6 (12.5 + 0.8 + 10.8 + 17.5 + 2.0), tibia 2: 8.0, tibia 3: 6.0, tibia 4: 8.8; tibia 1 L/d: 55. Habitus as in Figs. 436 and 437. Carapace ochre-yellow with brown median and very indistinct lateral marks, clypeus with indistinct pair of dark stripes, sternum slightly darkened medially, leg femora with some brown spots proximally, femora and tibiae with indistinct subdistal rings, abdomen monochromous pale whitish. Distance PME-PME 115 µm, diameter PME 150 µm, distance PME-ALE 55 µm, distance AME-AME 60 µm, diameter AME 135 µm. Ocular area slightly elevated, secondary eyes with small ‘pseudo-lenses’; deep thoracic pit. Chelicerae with conical proximal humps and distal apophyses (Figs. 527, 528). Palps as in Figs. 457 and 458, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with retrolateral furrow with distinct proximal rim, procurus with distinctive distal processes in dorsal view (Fig. 526; retrolateral view as in *S. uisib*; cf. Fig. 509), bulb with complex embolus, distinctive in prolateral view (Fig. 529; dorsal view as in *S. uisib*; cf. Fig. 512). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. Tibia 1 in 4 other males: 8.9, 9.3, 10.0, 10.8.

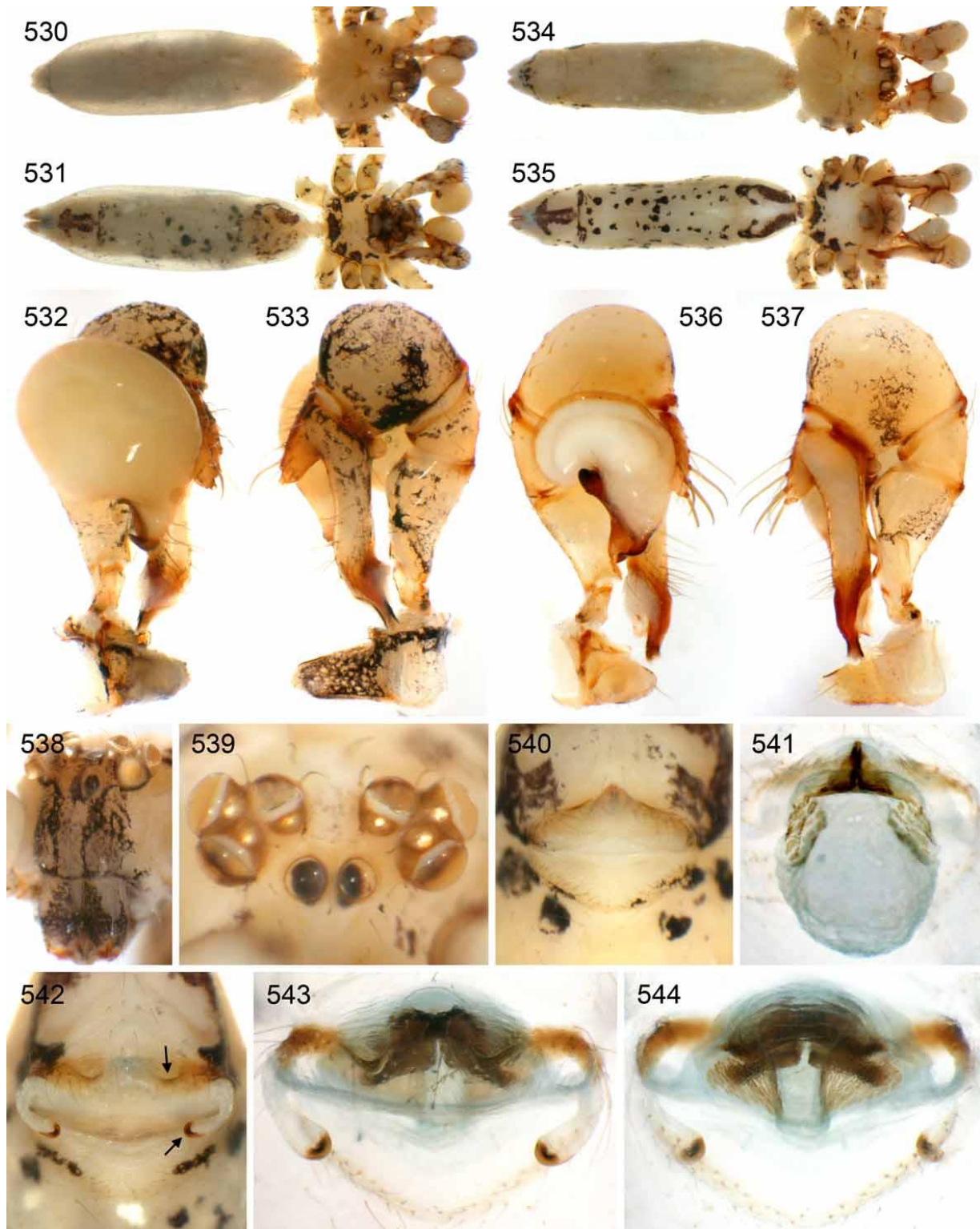


FIGURES 526–529. *Smeringopus tombua*. 526. Left procurus, dorsal view. 527–528. Male chelicerae, frontal and lateral views. 529. Left embolus, prolateral view. Scale lines: 0.3 mm.

Female. In general similar to male; tibia 1 in 2 females: 9.3, 9.6. Epigynum a wide plate with round pockets (Fig. 473; very similar *S. atomarius* and *S. uisib*); internal genitalia as in Fig. 474.

Distribution. Only known from type locality in southwestern Angola (Fig. 475).

Material examined. Angola: *Namib Province*: between Namib and Tômbua: type above; same data, 4♂3♀ (3 vials) in SMF.



FIGURES 530–544. *Smeringopus cylindrogaster* group. *S. luki* (530–533, 538–541) and *S. isangi* (534–537, 542–544). 530–531, 534–535. Males, dorsal and ventral views. 532–533, 536–537. Left male palps, prolateral and retrolateral views. 538. Male prosoma, frontal oblique view. 539. Male ocular area. 540–544. Female epigyna and cleared female genitalia, dorsal (541, 544) and ventral (543) views (arrows point to median and lateral pockets).

Smeringopus cylindrogaster (Simon, 1907) new combination

Fig. 13

Crossopriza cylindrogaster Simon 1907: 252. Huber 2009: 2494–2502, figs. 1–6, 15–23, 45–62, 148.

Distribution: Widely distributed in western and central Africa (Fig. 545).

New records. LIBERIA: Grand Bassa Co. [~6°15'N, 9°55'W], ii.1896 (Beulak), 1♂ in USNM.

GABON: *Ogooué-Ivindo*: Monts de Belinga, NE Makokou (0°47.0'N, 13°08.3'E), 530 m a.s.l., degraded forest along road, 15.viii.2011 (B.A. & S.R. Huber) 2♂3♀ in ZFMK (Ar 8504); same data, 1♀ in pure ethanol, in ZFMK (Gab 223). Monts de Belinga, forest near Mayebout (1°06.7'N, 13°06.6'E), 500 m a.s.l., 13.–14.viii.2011 (B.A. & S.R. Huber), 1♀ 2 juvs in pure ethanol, in ZFMK (Gab 198). Ivindo N.P. near Simintang (0°32.2'N, 12°41.3'E), 545 m a.s.l., forest, 16.viii.2011 (B.A. & S.R. Huber), 2♀ in ZFMK (Ar 8505). *Ngounié*: near Moulandoufouala (1°38.1'S, 10°42.5'E), 110 m a.s.l., forest along road, 27.viii.2011 (B.A. & S.R. Huber) 1♂ in ZFMK (Ar 8506).

CONGO D.R.: *Mongala Prov.*: Mbangi (2°07'N, 21°44'E), old secondary forest, 23./25.vi.2009 (D. de Bakker), 3♀ 3 juvs. (3 vials) in MRAC.

Smeringopus luki new species

Figs. 530–533, 538–541, 546–551

Type. Male holotype from Congo D.R., Congo Central Province, Mayombe, Luki Forest Reserve (5°37.3'S, 13°05.9'E), beating in old secondary rainforest, near fogging site 7, 20.ix.2007 (D. de Bakker, J.P. Michiels), in MRAC (222993).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from closest relatives by details of male and female genitalia: from *S. cylindrogaster* by absence of proximal apophyses on male chelicerae (Fig. 550), shapes of bulbal processes (Figs. 548, 549) and epigynum (Fig. 540: shallow pockets; less distinct and differently shaped dark internal structure); from *S. isangi* by shapes of procurus and bulbal processes, relatively larger bulb, larger cheliceral apophyses, and absence of lateral projections on epigynum (compare Figs. 540 and 542).

Male (holotype). Total body length 4.7, carapace width 1.3. Leg 1: 44.5 (11.3 + 0.5 + 10.7 + 20.8 + 1.2), tibia 2: 7.1, tibia 3: 4.8, tibia 4: 6.9, tibia 1 L/d: 83. Habitus as in Figs. 530 and 531; carapace pale ochre-yellow with some black lateral marks, clypeus with small black spots, sternum with black marks at bases of coxae 2–4 and posteriorly, legs with many small black marks on femora and tibiae, patellae and tibia-metatarsus joints brown, abdomen pale ochre-grey, dorsally with some indistinct white spots, ventrally with distinctive pattern of black marks. Distance PME-PME 160 µm, diameter PME 160 µm, distance PME-ALE 90 µm, distance AME-AME 45 µm, diameter AME 115 µm. Ocular area slightly elevated, secondary eyes with distinct 'pseudo-lenses'; thoracic pit small but distinct. Chelicerae as in Fig. 550, with single pair of apophyses, each provided with one modified hair at tip; without stridulatory ridges. Palps as in Figs. 532 and 533, coxa with retrolateral apophysis, trochanter unmodified, femur with retrolateral furrow with distinct proximal rim, tibia almost globular, cymbium with rounded projection ventrally, dorsal elongation with several macrosetae, procurus rather simple, only distally with some distinctive membranous and sclerotized elements (Figs. 546 and 547), bulb with short membranous embolus and distinctive dorsal apophysis (Figs. 548, 549). Legs without spines and curved hairs, few vertical hairs; retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on all tibiae.

Variation. Tibia 1 in 10 other males: 9.5–10.7 (mean 9.9). The extent of black pigment varies, especially in chelicerae and clypeus, but never present dorsally on abdomen.

Female. In general similar to male, same color pattern; tibia 1 in 22 females: 7.2–9.6 (mean 8.2). Epigynum weakly sclerotized narrow plate with pair of slit-like pockets (Fig. 540); internal genitalia as in Figs. 541 and 551, with large inflated uterus externus (possibly an artifact).

Distribution. Only known from type locality in Congo D.R. (Fig. 545).

Material examined. CONGO D.R.: *Congo Central Prov.*: Mayombe, Luki Forest Reserve: 1♂ holotype above; same locality, collectors, and depository unless otherwise noted: primary rainforest, fogging (1, 2, 5, 13–17, 20), 4., 7. & 13.xi.2006, 26.–30.ix.2007, 4.x.2007, 3♂14♀ + juvs (9 vials) (parts of 219850, 219852, 219855, 224312–316, 224319); primary rainforest, beating, 2.x.2007, 1♂ (223629 part); primary rainforest, beating along trail, 11.xi.2006,

1♀ (221535); central zone, by hand, 26.–27.ix.2007 (W. Hubau), 1♀ (222155 part); along trail near guest house, beating, 8.xi.2006, 1♂1♀ (219959 part); old secondary rainforest, fogging (10–12), 23.–25.ix.2007, 3♂2♀ (3 vials) (parts of 224309–311); old secondary rainforest near fogging sites 4 & 11, beating, 17. & 24.ix.2007, 2♂1♀ (222113, 223120 part); secondary forest, beating, 16.xi.2006, 1♂1♀ (219817); secondary rainforest near fogging site 1, beating, 14.ix.2007, 1♂2♀ (223422); near fogging sites 2 & 3, beating, 15. & 16.ix.2007, 1♂2♀ 1 juv. (2 vials) (223085, part of 223113); young secondary rainforest, fogging 1, 14.ix.2007, 1♂ 11 juvs (224301 part); planted and regenerated forest near guest house, beating along trail, 9.xi.2006, 1♀ (221618 part).

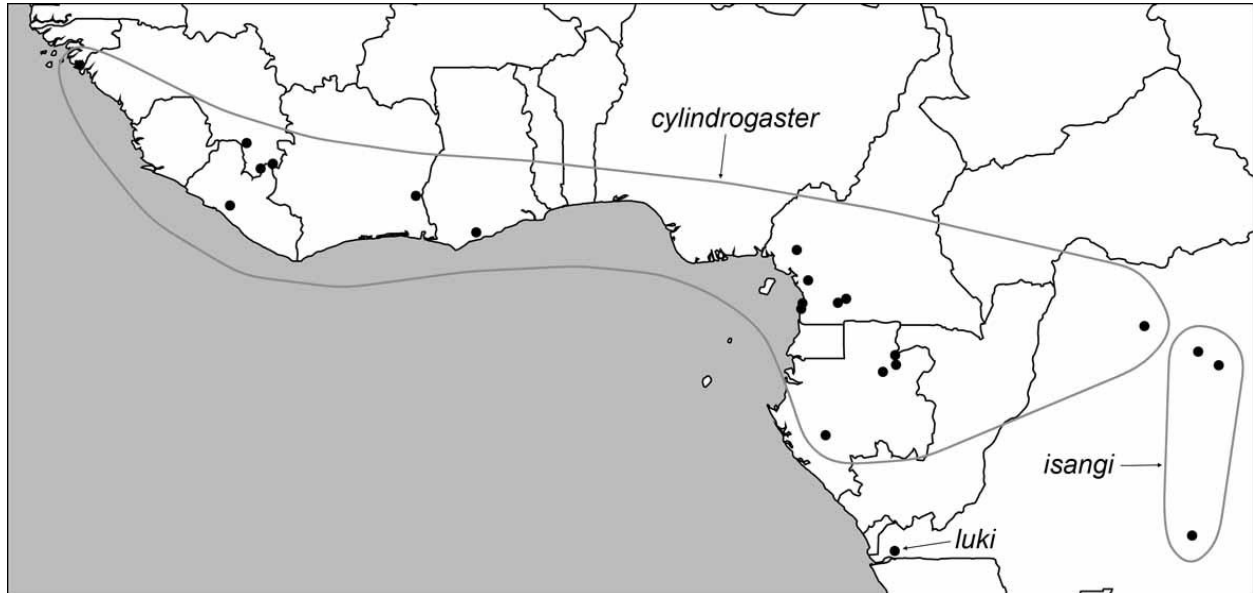


FIGURE 545. Known distribution of the *cylindrogaster* group.

Smeringopus isangi new species

Figs. 534–537, 542–544, 552–557

Type. Male holotype from Congo D.R., Tshopo Province, Yaekama (Isangi) (0°46'N, 24°18'E), young secondary forest, “Fog 13”, 7.vi.2009 (D. de Bakker), in MRAC.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from close relatives by details of male and female genitalia: from *S. cylindrogaster* by absence of proximal apophyses on male chelicerae (Fig. 556), shapes of bulbal processes (Figs. 554, 555; very distinctive proximal pointed projection) and epigynum (Figs. 542, 543; distinctive lateral projections); from *S. luki* by shapes of procurus and bulbal processes, smaller cheliceral apophyses, deep epigynal pockets, and lateral epigynal projections.

Male (holotype). Total body length 5.3, carapace width 1.4. Leg 1: 46.2 (11.6 + 0.7 + 11.1 + 21.6 + 1.2), tibia 2: 7.1, tibia 3: 4.8, tibia 4: 7.1, tibia 1 L/d: 84. Habitus as in Figs. 534 and 535; carapace pale ochre-yellow with some small black lateral marks, clypeus with small black spots under eye triads, sternum with black marks at bases of coxae 2–4 and posteriorly, legs with many small black marks on femora and tibiae, patellae and tibia-metatarsus joints brown, abdomen pale ochre-grey, dorsally with some indistinct white spots, ventrally with distinctive pattern of brown and black marks. Distance PME-PME 170 µm, diameter PME 160 µm, distance PME-ALE 95 µm, distance AME-AME 35 µm, diameter AME 115 µm. Ocular area slightly elevated, secondary eyes with distinct ‘pseudo-lenses’ (cf. Fig. 539); thoracic pit small but distinct. Chelicerae as in Fig. 556, with single pair of small apophyses, each provided with one large modified hair. Palps as in Figs. 536 and 537, coxa with retrolateral apophysis, trochanter unmodified, femur with retrolateral furrow with distinct proximal rim, tibia almost globular, cymbium with rounded projection ventrally, dorsal elongation with several macrosetae, procurus rather simple, only distally with some distinctive membranous and sclerotized elements (Figs. 552, 553), bulb with short membranous embolus with small dorsal apophysis and distinctive proximal pointed projection (Fig. 554, 555).

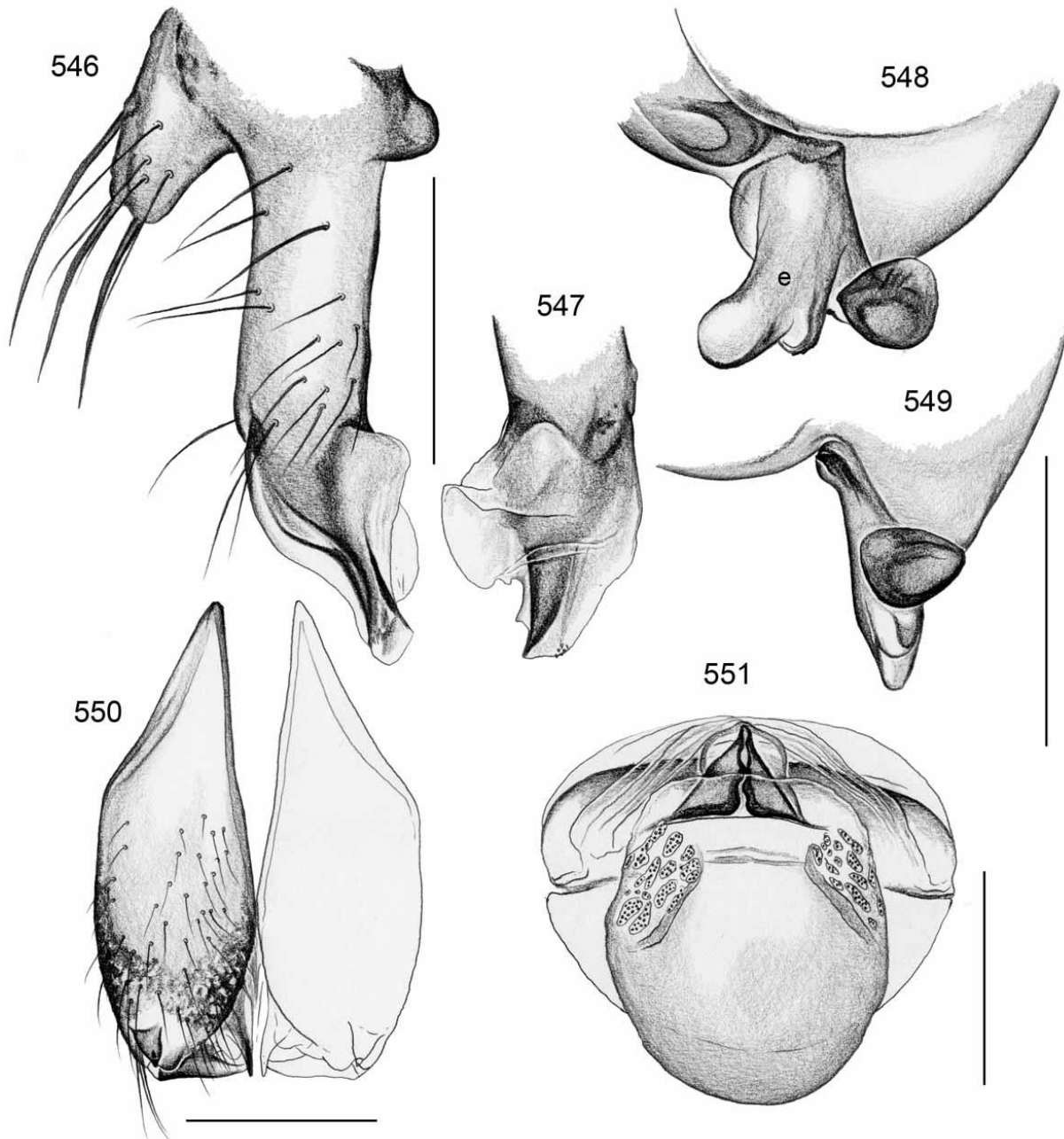
Legs without spines and curved hairs, few vertical hairs; retrolateral trichobothrium on tibia 1 at 1.5%; prolateral trichobothrium present on all tibiae. Gonopore with two epiandrous spigots.

Variation. Tibia 1 in other male: 10.9 (missing in third male).

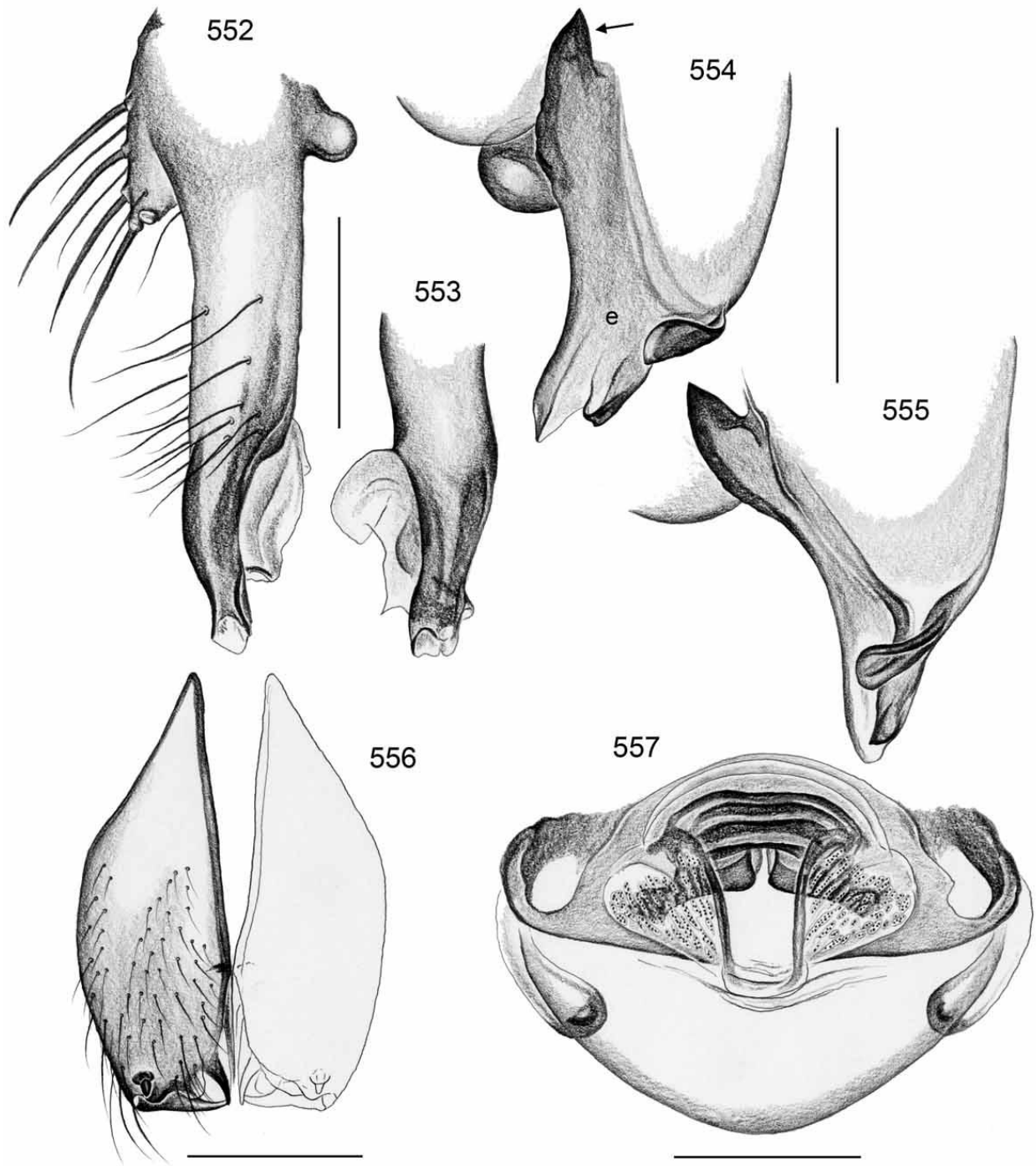
Female. In general similar to male, some females with distinct dark pattern on clypeus (pair of black bands); tibia 1 in 3 females: 8.5, 8.7, 9.6. Epigynum weakly sclerotized narrow plate with pair of distinct pockets and very distinctive pair of lateral epigynal projections each provided with sclerotized pocket (Figs. 542, 543); internal genitalia as in Figs. 544 and 557.

Distribution. Known from three localities in central and northern Congo D.R. (Fig. 545).

Material examined. CONGO D.R.: *Tshopo Prov.*: Yaekama (Isangi): 1♂ holotype above; same data, 1♂4♀ in MRAC; same data, 1♀ 3 juvs in pure ethanol, in MRAC. Basoko (Bokungu) (1°14'N, 23°36'E), old palm plantation (60 years old), "Fog 11", 7.iii.2009 (D. de Bakker), 1♂ 2 juvs in MRAC. *Sankuru Prov.*: 22 mi SW of Lusambo [~5°05'S, 23°23'E], 11.viii.1957 (E.S. Ross, R.E. Leech), 1♀ in CAS.



FIGURES 546–551. *Smeringopus luki*. 546. Left cymbium and procurus, retrolateral view. 547. Left procurus, dorsal view. 548–549. Left embolus, prolateral and dorsal views. 550. Male chelicerae, frontal view. 551. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.



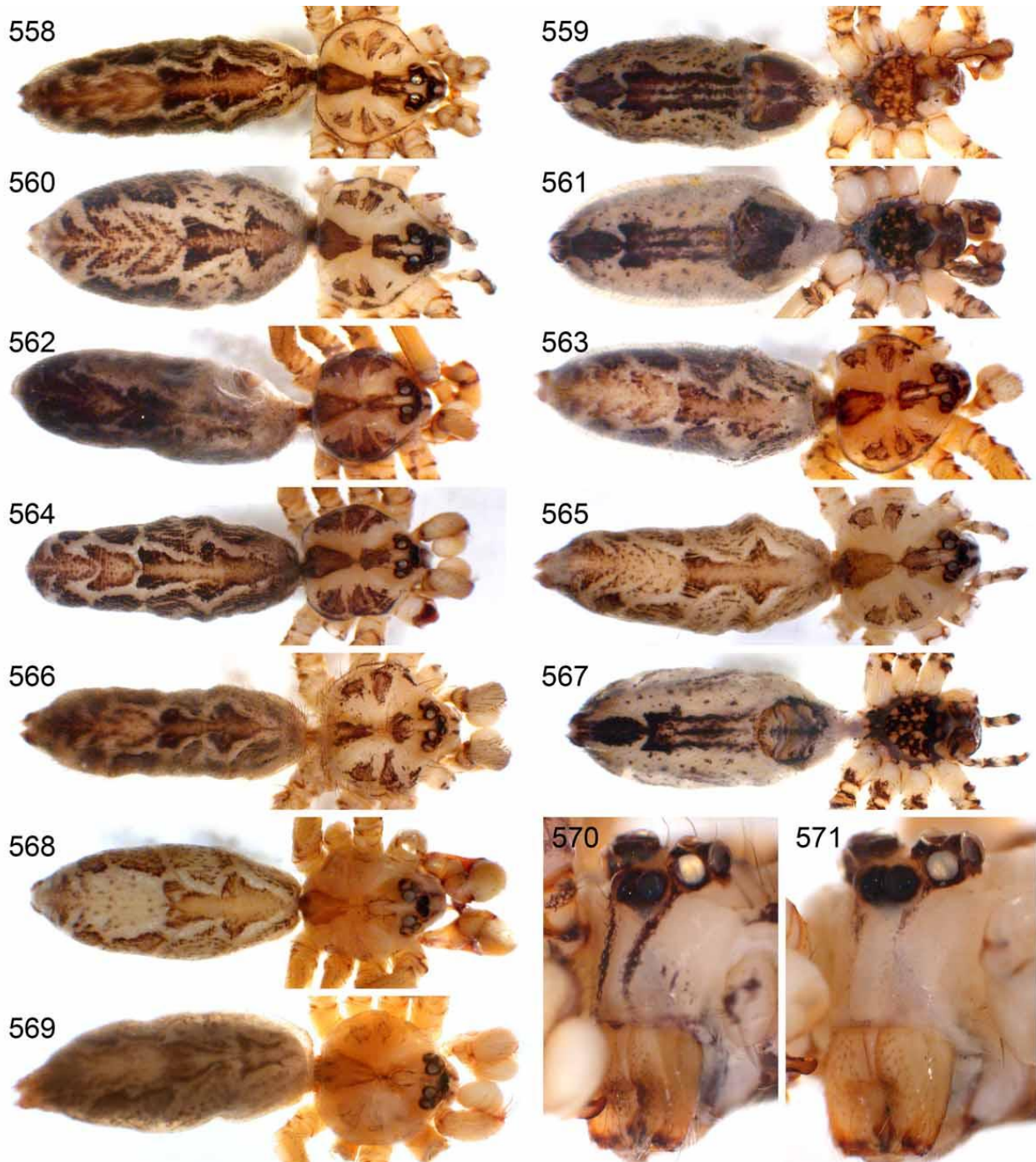
FIGURES 552–557. *Smeringopus isangi*. 552. Left cymbium and procurus, retrolateral view. 553. Left procurus, dorsal view. 554–555. Left embolus, prolateral and dorsal views (arrow points to distinctive process). 556. Male chelicerae, frontal view. 557. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Smeringopus peregrinus Strand, 1906

Figs. 8–10, 558–559, 572–573, 592–593, 609–625

Smeringopus peregrinus Strand 1906b: 47–49. Strand 1907b: 569–571. Tullgren 1910: 122–123, pl. 2, fig. 34a-d. Berland 1920: 129–130.

Misidentifications: Strand (1913) and Lessert (1915), see *S. peregrinoides*; Kraus (1957), see *S. kalomo*.



FIGURES 558–571. *Smeringopus peregrinus* group, habitus and male prosomata, oblique frontal views. 558–559. *S. peregrinus*, male, dorsal and ventral views. 560–561. *S. peregrinoides*, female, dorsal view and male, ventral view. 562. *S. butare*, male dorsal view. 563. *S. similis*, male, dorsal view. 564–565. *S. kalomo*, male and female, dorsal views. 566–567. *S. chibububo*, male, dorsal view and female, ventral view. 568. *S. katanga*, male, dorsal view. 569. *S. moxico*, male, dorsal view. 570. *S. chibububo*. 571. *S. kalomo*.



FIGURES 572–583. *Smeringopus peregrinus* group, left male palps, prolateral and retrolateral views. 572–573. *S. peregrinus*. 574–575. *S. peregrinoides*. 576–577. *S. butare*. 578–579. *S. katanga*. 580–581. *S. kalomo*. 582–583. *S. chibububo*.

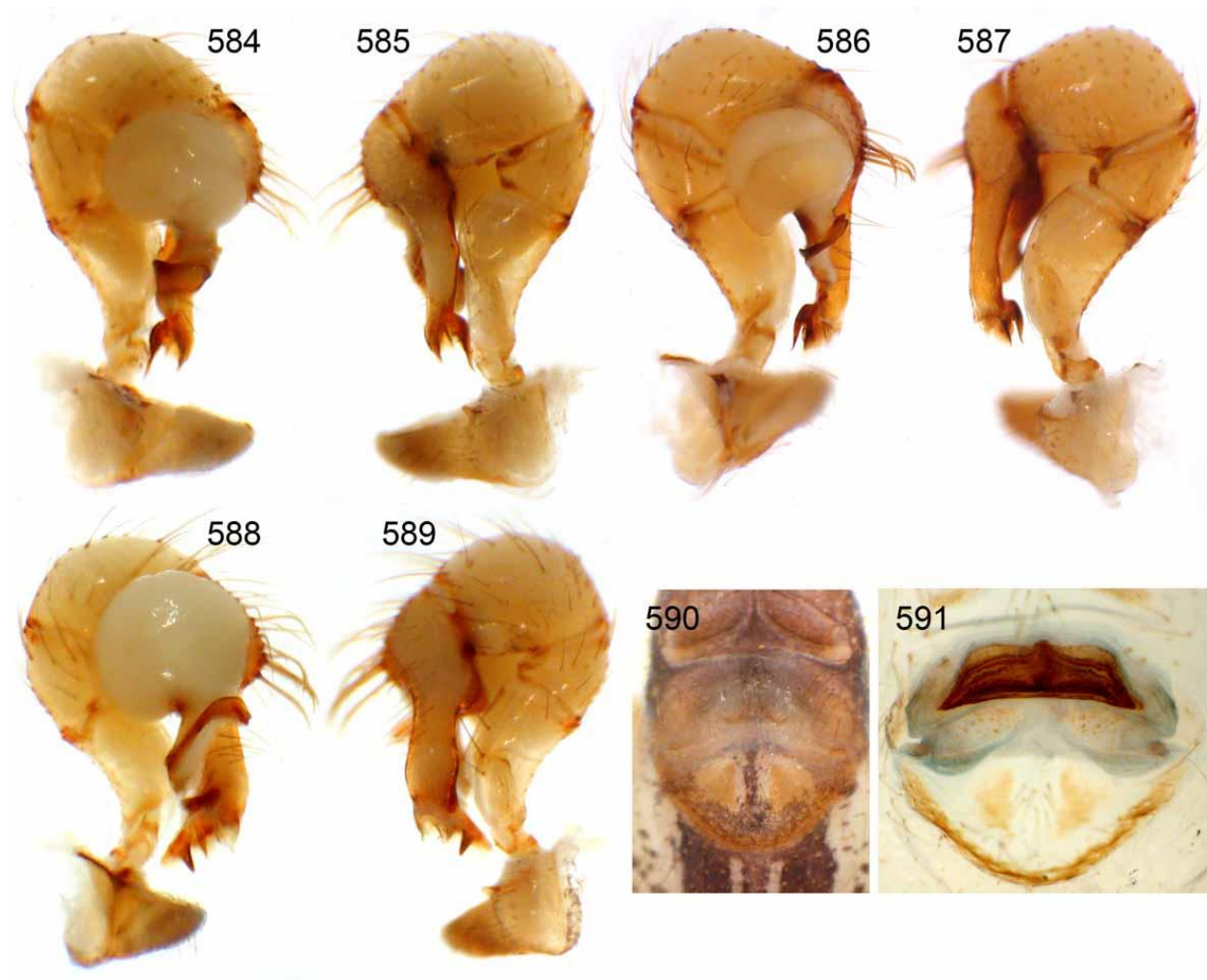
Types. Unspecified number of juvenile specimens from Tanzania, Kilimanjaro Region, Moshi [3°20'S, 37°20'E], date not given (Wiedemann), apparently lost.

Notes. Since *S. peregrinus* as circumscribed herein and *S. peregrinoides* have overlapping distributions in northeastern Tanzania (Fig. 608), the identity of *S. peregrinus* may never be clarified beyond doubt. I follow Berland (1920) in considering the largely Kenyan species as *S. peregrinus* and I follow Kraus (1957) in separating

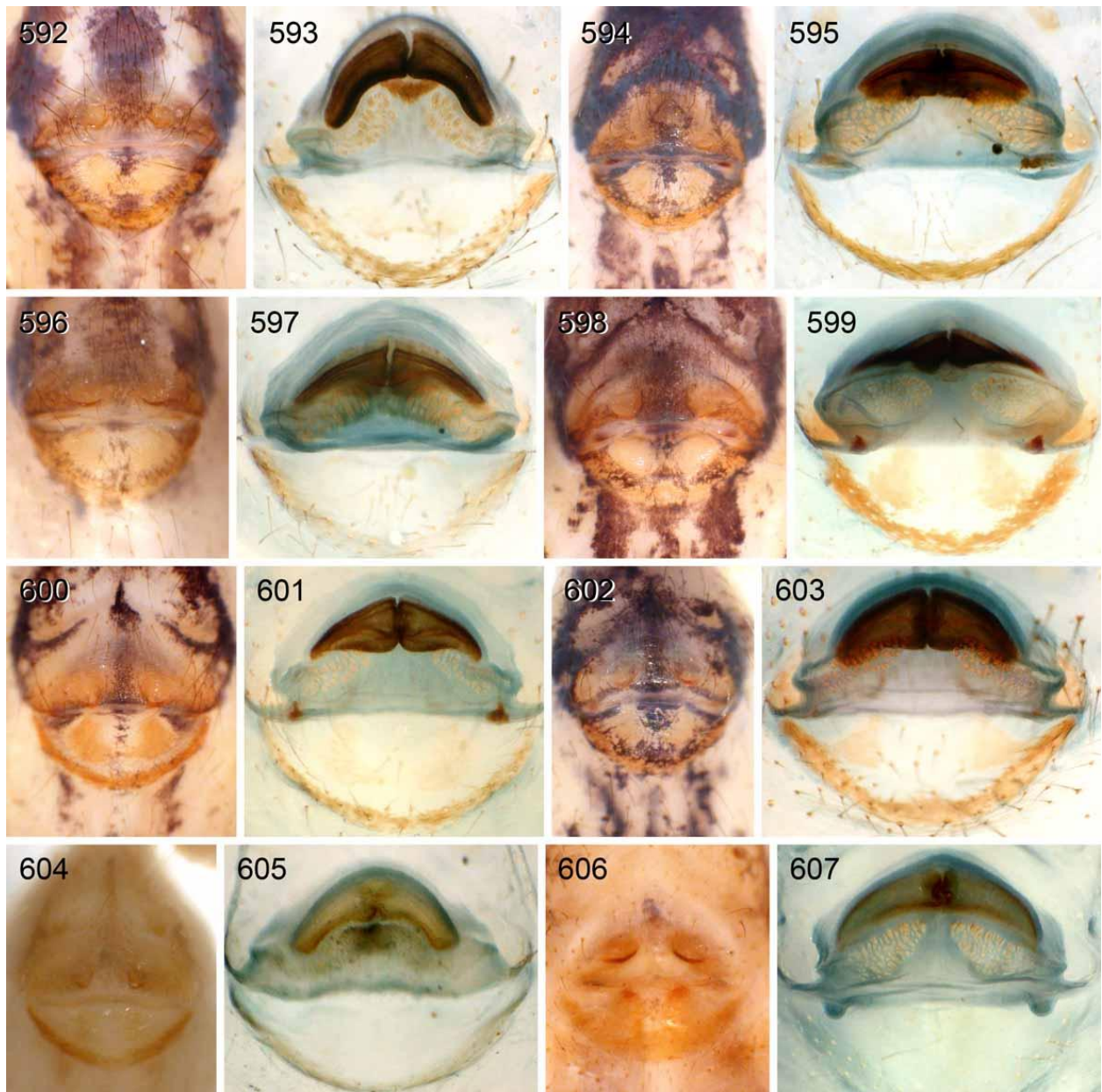
it from the more western *S. peregrinoides*. However, the species treated by Kraus (1957) as *S. peregrinus* has a much more southern distribution, far from the type locality of *S. peregrinus* (see *S. kalomo*).

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive membranous and sclerotized structures; Figs. 609, 610), by shape of embolus (Figs. 611–613; prolateral view distinctive; similar *S. butare* and *S. katanga*), and by strongly curved ‘valve’ in internal female genitalia (Fig. 593); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Figs. 592; females externally not distinguishable from *S. butare*).

Male (Wundanyi). Total body length 7.6, carapace width 2.3. Leg 1: 46.6 (12.4 + 1.1 + 12.0 + 18.4 + 2.7), tibia 2: 9.1, tibia 3: 7.1, tibia 4: 9.6; tibia 1 L/d: 47. Habitus as in Figs. 558 and 559. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with irregular light marks, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 160 µm, diameter PME 170 µm, distance PME-ALE 70 µm, distance AME-AME 45 µm, diameter AME 170 µm. Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in Figs. 614 and 615, with downward directed distal apophyses. Palps as in Figs. 572 and 573, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive distal structures (Figs. 609, 610), without prolateral membranous projection, bulb with distinctively shaped prolateral process on embolus (Figs. 611–613, 617). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 618); ALS with eight spigots each (Fig. 619).



FIGURES 584–591. *Smeringopus peregrinus* group, left male palps, prolateral and retrolateral views, epigynum, and cleared female genitalia, dorsal view. 584–585. *S. dundo*. 586–587. *S. similis*. 588–591. *S. moxico*.



FIGURES 592–607. *Smeringopus peregrinus* group, epigyna, ventral views and cleared female genitalia, dorsal views. 592–593. *S. peregrinus*. 594–595. *S. peregrinoides*. 596–597. *S. butare*. 598–599. *S. katanga*. 600–601. *S. kalomo*. 602–603. *S. chibububo*. 604–605. *S. dundo*. 606–607. *S. similis*.

Variation. The ventral abdominal bands may be undivided or divided into many spots; the ventral process of the embolus may be slightly wider (in prolateral view; male from Kilifi); in some specimens the retrolateral pointed process on the embolus (arrow in Fig. 613) is very indistinct (males from Ol Donyo Sabuk and Tana River). Tibia 1 in 37 males: 6.9–15.7 (mean 10.6).

Female. In general similar to male; tibia 1 in 42 females: 6.9–15.1 (mean 10.1). Epigynum a simple trapezoidal to triangular plate with pair of semicircular pockets (Figs. 592, 620); internal genitalia as in Figs. 593, 616, and 621, with strongly curved frontal ark.

Distribution. Widely distributed in Kenya, eastern Uganda, and northeastern Tanzania (Fig. 608); the two records from Madagascar are from Antananarivo (one of them explicitly from a building), suggesting that the species has been introduced to Madagascar by humans.

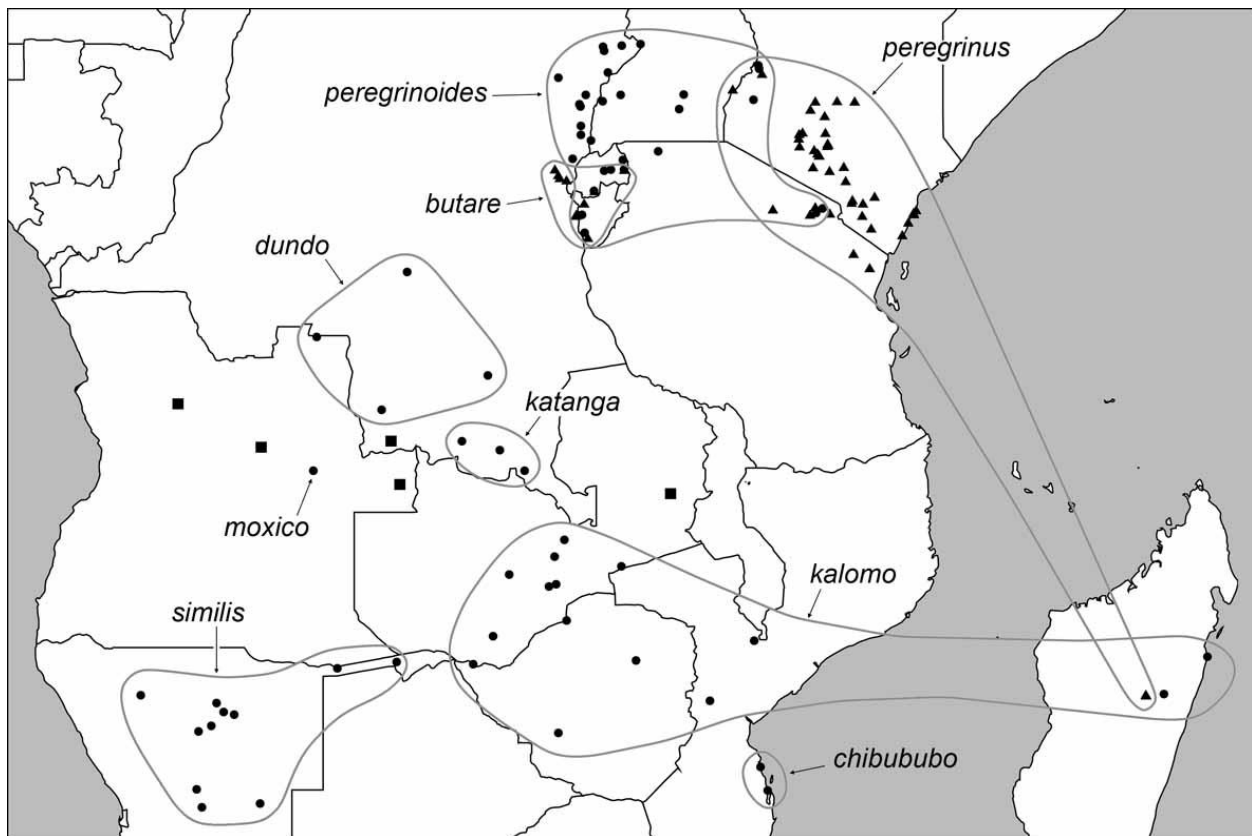
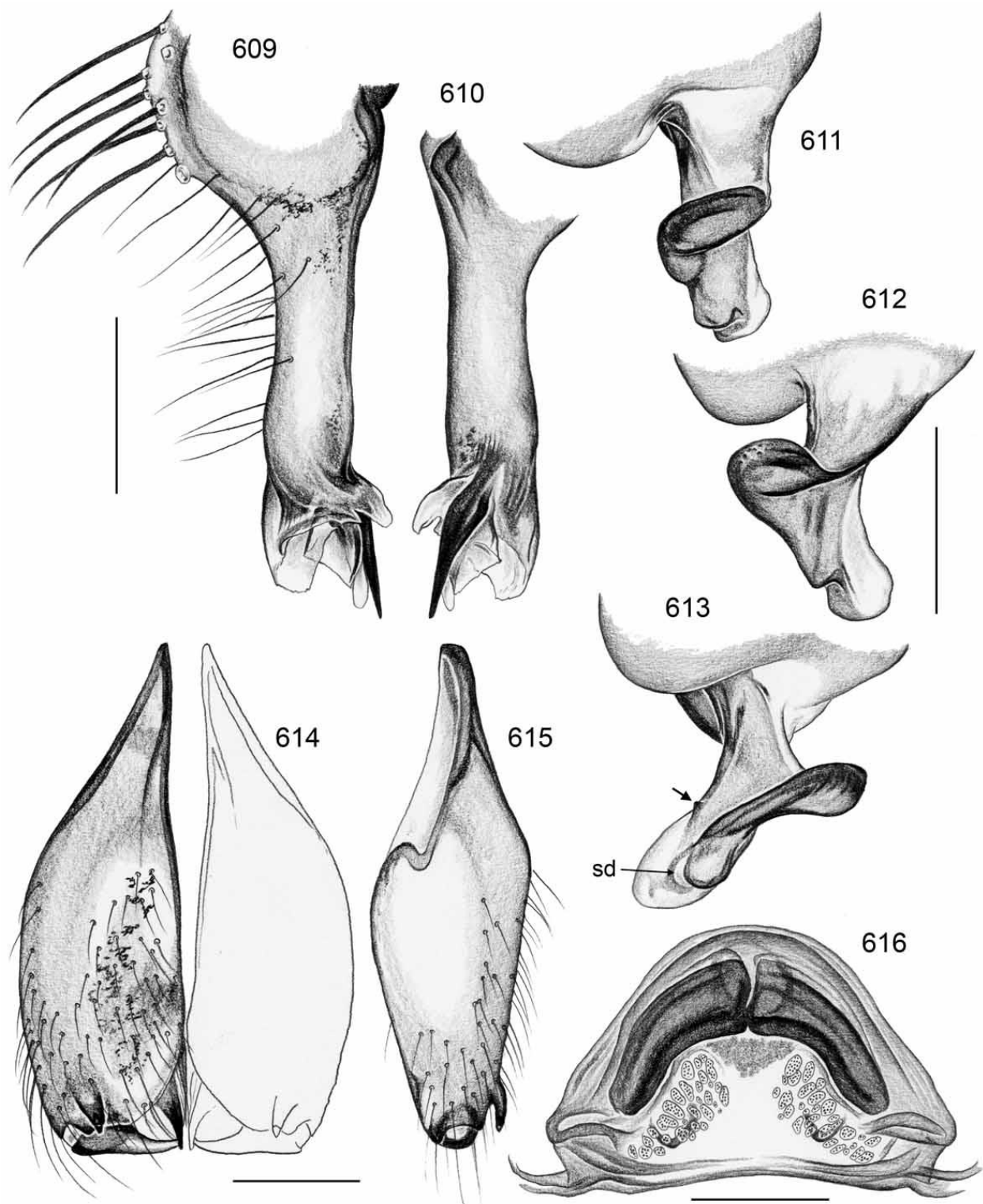


FIGURE 608. Known distribution of the *peregrinus* group. *S. butare* and *S. peregrinus* are represented by triangles in order to facilitate distinction from *S. peregrinoides*. Squares: further undescribed species.

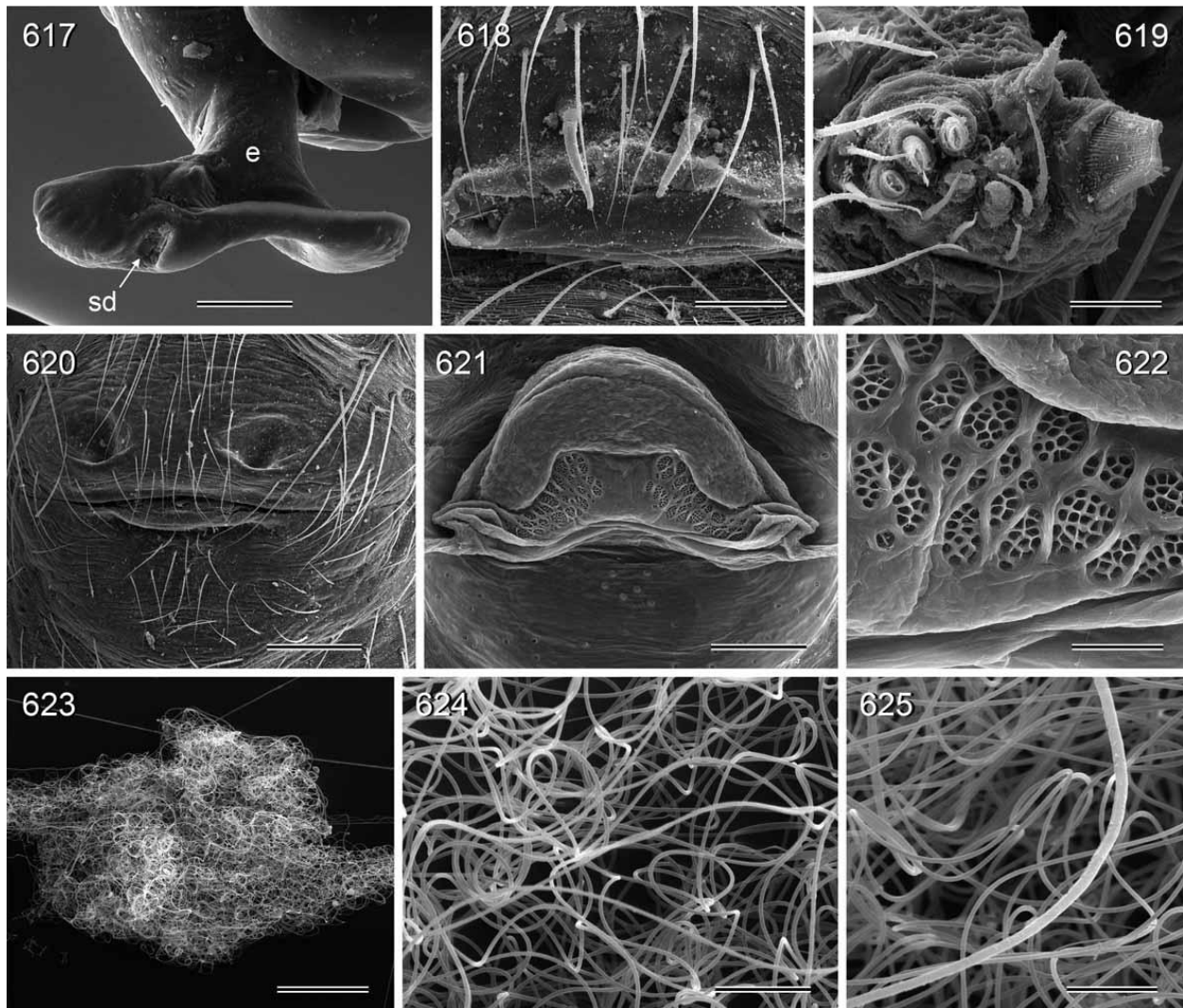
Material examined. KENYA: *Coast Prov.*: Taita Hills, Wundanyi, in hotel (3°24.2'S, 38°21.8'E), 1405 m a.s.l., 18.–19.i.2010 (B.A. Huber), 2♂1♀ in ZFMK (Ar 8553); same data, 2♂3♀ in pure ethanol in ZFMK (Ken 92). Taita Discovery Center [~3.0°S, 38.4°E], 8.–15.i.2002 (E. Selembo), 1♀ in MRAC (212939). Kilaguni Camp [~2°54'S, 38°03'E], 23.vi.1979 (N. Scharff), 2♀ in ZMUC. Tsavo West, Kasigau [3°49'S, 38°39'E], 645–1100 m a.s.l., forest, 6.xii.2000 (R. Jocqué), 1♀ in MRAC (209968). Tsavo West, Mzima Springs [2°59'S, 38°01'E], under rocks, 15.iv.1989 (F. Coyle, R. Bennett), 1♀ in AMNH. “Région côtière, Kiwi” (Mombasa, according to Berland 1920), st. n° 3, 28.–30.x.1911 (Alluaud, Jeannel), 1 juv. prosoma, in MNHN (AR 10473). Watamu [3°20'S, 40°01'E], beach litter, 12.ix.1984 (Murphy), 1♂ in CJFM (12395). Kilifi [3°38'S, 39°52'E], coastal scrub, 10 m a.s.l., 2.ix.1977 (Murphy), 2♂1♀ in CJFM (5980); same data but coconut grove, 1♀ in CJFM (6299); Kilifi, garden scrub, 4./5.ix.1977 (2 vials) (Murphy), 3♀ in CJFM (6023, 6068); Kilifi, beach litter, viii.1980 (Murphy), 1♀ in CJFM (9164). Malindi [3°13'S, 40°07'E], 19.ii.1982 (R.R. Jackson), 1♂1♀ + juvs in BMNH. 15 km S [SW] Malindi, Gedi Ruins [3°18.5'S, 40°01.0'E], 30.vi.1979 (N. Scharff), 1♀ in ZMUC; Gedi Forest near Gedi ruins (3°18.5'S, 40°01.1'E), 30 m a.s.l., under stone, 22.i.2010 (B.A. Huber), 1♂1♀ in pure ethanol in ZFMK (Ken 103).

Rift Valley: Kitale, Kaipos [1°12'N, 35°08'E], house, 2000 m a.s.l., 30.vi.1972 (Murphy) 1♂ in CJFM (1412). Lake Naivasha [~0°45'S, 36°20'E], shrubs, 1900 m a.s.l., 3.viii.1974 (Murphy), 1♀ in CJFM (3873). Lake Naivasha, Fisherman's Camp (~0°45'S, 36°20'E), 19.x.1992 (V. & B. Roth), 1♀ in CAS. Naivasha, st. n° 14, 1.xii.1911 (Alluaud, Jeannel), 2♂4♀ 7 juvs. (2 vials) in MNHN (AR 10480, 10487). Longonot crater [0°55'S, 36°27'E], st. n° 26, xii.1911 (Alluaud, Jeannel), 1♂1♀ in MNHN (AR 10489). Hell's Gate N.P., Lower Gorge (0°53.6'S, 36°19.2'E), 1850 m a.s.l., 5.ii.2010 (B.A. Huber), 3♂1♀ in ZFMK (Ar 8554); same data, 1♂2♀ in pure ethanol in ZFMK (Ken 147). Kajiado [1°50'S, 36°47.5'E], road culverts, v.1973, collector not given, 3♂2♀ in BMNH. Mpala Ranch [0°18'N, 36°51'E], 19.iv.2002 (R. Jocqué, C. Warui), 1♂ in MRAC (212190); same locality, near river in litter and under dead logs, 20.iv.2002 (R. Jocqué, C. Warui), 1♀ in MRAC (212221). Between Nanyuki and Nyahururu, under bridge (0°02.1'N, 36°41.8'E), 1940 m a.s.l., 30.i.2010 (B.A. Huber), 2♂2♀ in pure ethanol in ZFMK (Ken 129).

Nairobi: Nairobi [$\sim 1^{\circ}16'S$, $36^{\circ}49'E$], coll. C.S. Belton, date not given, 6♂4♀ in BMNH (99.1215-713). Forêt de Nairobi, st. n° 11, 22.-27.xi.1911 (Alluaud, Jeannel), 3♂2♀ in MNHN (AR 10495).



FIGURES 609–616. *Smeringopus peregrinus*. 609. Left cymbium and procursus, retrolateral view. 610. Left procursus, prolateral view. 611–613. Left embolus, prolateral, dorsal, and ventral (slightly prolateral) views (arrow points to variable structure; see text). 614–615. Male chelicerae, frontal and lateral views. 616. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.



FIGURES 617–625. *Smeringopus peregrinus*. 617. Left embolus, ventral (slightly prolateral) view. 618. Male gonopore. 619. Male ALS. 620. Epigynum. 621. Cleared female genitalia, dorsal view. 622. Detail of pore plate. 623. Silk ball (from web shown in Fig. 8). 624–625. Details of silk ball. Scale lines: 8 μm (625), 10 μm (624), 30 μm (619), 40 μm (622), 60 μm (618), 80 μm (623), 100 μm (617), 200 μm (620–621).

Eastern Prov.: Athi River [1°27'S, 36°59'E], 1530 m a.s.l., 19.x.1957 (E.S. Ross, R.E. Leech), 1♂ in CAS. 15 mi SW of Nairobi [~1°23'S, 36°55'E], 5400' a.s.l., 15.i.1970 (M.E. Irwin, E.S. Ross), 1♂4♀ in CAS. 25 mi SW of Nairobi [~1°27'S, 36°59'E], under rocks, 20.xi.1969 (M.E. Irwin, E.S. Ross), 1♂ in CAS. Gonkonyi River, at slopes and in tunnel under road (1°56.8'S, 37°18.2'E), 1340 m a.s.l., 25.i.2010 (B.A. Huber), 2♂2♀ in ZFMK (Ar 8555); same data, 3♀ in pure ethanol in ZFMK (Ken 106). Machakos Distr., “Mokweni” [1°49'S, 37°47'E?], 3500' a.s.l., iv.1965 (D.M. Sillou), 1♂ in MRAC (128381). Tsavo National Park East, Education Center [2°46'S, 38°47'E?], 4.vi.1975 (A.J. Penniman), 2♀ 1 juv. in AMNH. Murera, near gate of Meru National Park [0°18'N, 38°07'E], riverine forest, 24.iv.2004 (R. Jocqué, C. Warui, van den Spiegel), 1♂ in MRAC (215395). Ol Donyo Sabuk N.P., under stone at roadside (1°08.1'S, 37°15.1'E), 2070 m a.s.l., 26.i.2010 (B.A. Huber), 1♂ in ZFMK (Ar 8556); Ol Donyo Sabuk N.P., in buffalo skulls at main gate (~1°06.2'S, 37°16.4'E), ~1400 m a.s.l., 26.i.2010 (B.A. Huber), 1♂1♀ in pure ethanol in ZFMK (Ken 115). 4 km S Isiolo [0°19'N, 37°34'E], 1250 m a.s.l., 26.xi.1957 (E.S. Ross, R.E. Leech), 1♀ in CAS. Kiboko, Hunter's Lodge [2°16.5'S, 37°49.5'E], “Grotte à Otomops”, 27.ix.1975 (P. Strinati, V. Aellen), 2♀ in MHNG.

Central Prov.: Mount Kenya, Naro-Moru track [~0°10'S, 37°10'E], 25.vii.1975 (R. Bosmans), 1♂ in MRAC (161804). Mount Kenya, vii.1975 (R. Bosmans), 1♀ in MRAC (161926). Thika, Fourteen Falls [1°04'S, 37°15.5'E], 4.viii.1969 (R.D. Charles), 3♀ 1 juv. in MRAC (136458).

Unidentified localities in Kenya: “Ngunga”, 29.viii.1909 (G.M. Allen), 1♂ in MCZ (34029). “Tana River”, Chanier Exp., date not given, 1♂ in USNM. “Fort Hall”, st. n^o 30, 4.i.1912 (Alluaud, Jeannel), 1♂ 1 juv. in MNHN (AR 10472).

TANZANIA: *Arusha Region*: Arusha [3°22'S, 36°41'E], 4.ix.1972 (P.L.G. Benoit), 1♂2♀ 2 juvs in MRAC (141744). Meru, Sjöstedt leg., date not given, 1♀ in ZMB [this might be the female studied by Tullgren (1910), originating from “Meru: Ngare na nyuki” = Ngare Nanyuki, 3°08'S, 36°53'E]. Kilimanjaro, Meru-Expedition, 1905-1906 (Y. Sjöstedt), material identified and described by Tullgren (1910), 1♂1♀ in MNHN (AR 10492) [these might be Tullgren's specimens from Kibonoto=Kibongoto, ~3°11'S, 37°06'E]. West flank of Ngorongoro Crater [~3°12'S, 35°29'E], 1750 m a.s.l., 23.x.1957 (E.S. Ross, R.E. Leech), 1♀ in CAS. *Tanga Region*: Amani [5°06'S, 38°38'E], iv.1905 (Vosseler), 1♂ in ZMB [this is the male studied by Strand (1907b)]. Mkomazi [4°38'S, 38°05'E], thick grass below *Commiphora* trees, 25.i.1996 (A. Russell-Smith), 3♂1♀ in ZFMK (Ar 8557).

UGANDA: *Eastern Region*: Bukedi Distr., Tororo Hill [0°41'N, 34°11'E], 17.xii.1968 (R.D. Charles), 3♂ (2 vials) in MRAC (136448, 136450).

MADAGASCAR: Antananarivo [~18°55'S, 47°31'E], in building, 16.iii.1992 (V. Roth), 2♂4♀ in CAS. Antananarivo, Manakambahini [18°56.0'S, 47°32.2'E], 18.iii.1990 (W.E. Steiner), 2♂1♀ in USNM.

Smeringopus peregrinoides Kraus, 1957

Figs. 560–561, 574–575, 594–595, 626–646

“*Smeringopus peregrinus*” (misidentifications): Strand 1913: 341–343. Lessert 1915: 5–6, pl. 1, fig. 3.
Smeringopus peregrinoides Kraus 1957: 224–225, figs. 17–22.

Types. Male holotype and 4♂ paratypes from Rwanda, no further data, in SMF (holotype: RII 7771; paratypes: RII 11726); 4♂ and several juvenile paratypes from “Bukoba, Njarugenji” [Tanzania: Kagera Region: Karagwe Distr.: Bukoba: 1°19'S, 31°48'E; Rwanda: Nyarugenge = Kigali: 1°57'S, 30°04'E], no date (J. Carl), in MHNG; 2♀ paratypes from Tanzania, Bukoba, no date (J. Carl), in SMF (9812/1) and MHNG, all types examined.

Misidentified type specimens: 3♀ paratypes from Angola, Huila, Vila da Ponte [=Capelongo, 14°28'S, 16°18'E], no date (Exped. Monard), in MHNG (2♀) and SMF (9808/1: 1♀), examined.

Notes. Most of Lessert's (1915) specimens from Bukoba and Nyarugenge are apparently joined in one vial. In contrast to Kraus (1957), this vial does not contain 4♂4♀ but only 4♂ and several juveniles. Two females are in separate vials (see above); the other two females could not be located. The identity of the misidentified females from Vila da Ponte remains unclear. They probably belong to an undescribed species.

Diagnosis. Distinguished from similar congeners by small perpendicular apophyses frontally on male chelicerae (Figs. 631, 632), by tip of procurus (distinctive prolateral sclerite; arrow in Fig. 627), shape of embolus (Figs. 628–630), and v-shaped (or u-shaped) structure frontally in female internal genitalia (visible through cuticle; Fig. 594).

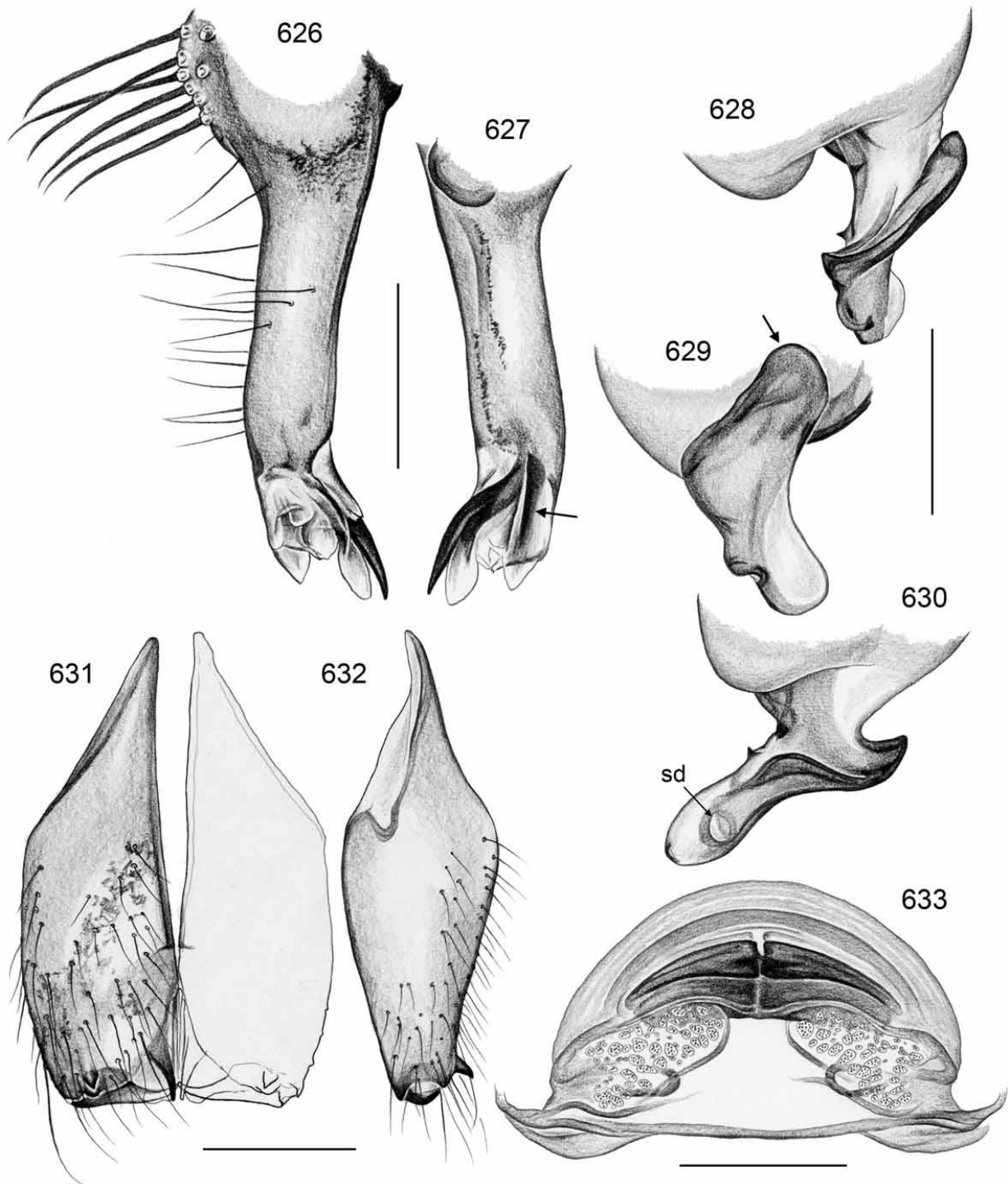
Male (Akagera Parc). Total body length 6.6, carapace width 2.1. Leg 1: 36.9 (10.2 + 0.8 + 9.7 + 13.9 + 2.3), tibia 2: 7.2, tibia 3: 5.3, tibia 4: 7.5; tibia 1 L/d: 42. Habitus as in female (cf. Fig. 560). Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 175 µm, diameter PME 140 µm, distance PME-ALE 70 µm, distance AME-AME 60 µm, diameter AME 130 µm. Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’ (Fig. 638); deep thoracic pit. Chelicerae as in Figs. 631 and 632, with distinctively small distal apophyses, each provided with one modified hair at tip (Figs. 641, 642). Palps as in Figs. 574 and 575, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive prolateral sclerite distally (Fig. 627), without prolateral membranous projection, bulb with distinctively shaped prolateral process on embolus (Figs. 628–630). Legs without spines, few vertical hairs, with curved hairs on tibiae (ventrally) and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1 (Fig. 644). Gonopore with two epiaandrous spigots (Fig. 640); ALS with eight spigots each (Fig. 643).

Variation. There is slight variation in the shape of the dorsal part of the process of the embolus (arrow in Fig. 629). This part is slightly wider in the Kenyan specimens, and slightly more projecting in specimens from

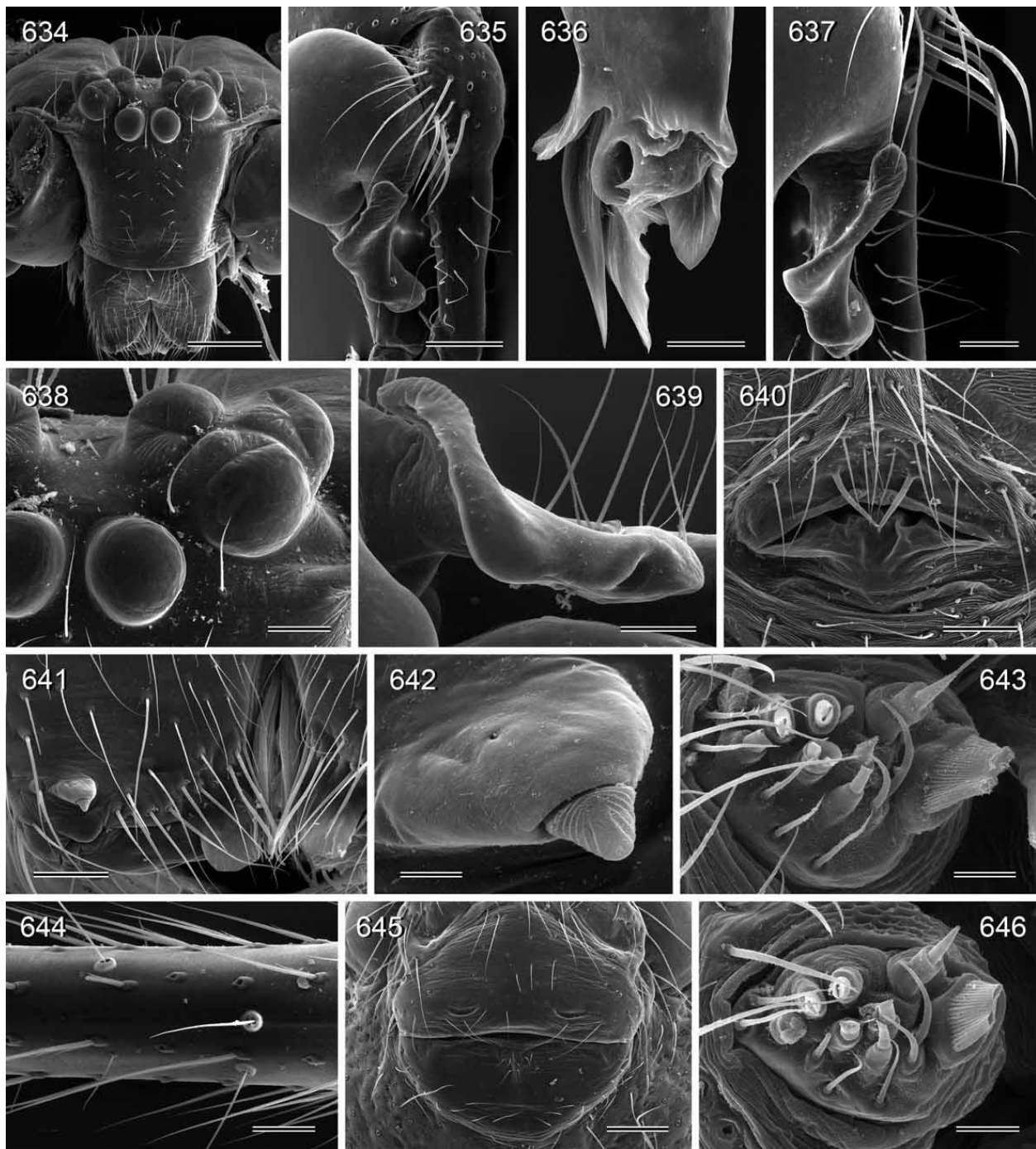
Bujumbura (Burundi) and some specimens from Uganda. Kenyan specimens also lack the small pointed process ventrally on the embolus. Tibia 1 in 57 males: 6.0–14.9 (mean 10.7). The holotype is pale but otherwise in fair condition; tibia 1: 14.0.

Female. In general similar to male; tibia 1 in 52 females: 6.2–13.1 (mean 9.2). Epigynum roughly triangular, with distinctive internal structure frontally (v-shaped or u-shaped), and semicircular pockets (Figs. 594, 645); internal genitalia as in Figs. 595 and 633. ALS as in male (Fig. 646).

Distribution. Widely distributed in northeastern Congo D.R., Uganda, Rwanda, Burundi, northern Tanzania, and western Kenya (Fig. 608).



FIGURES 626–633. *Smeringopus peregrinoides*. 626. Left cymbium and procurus, retrolateral view. 627. Left procurus, prolateral view. 628–630. Left embolus, prolateral, dorsal, and ventral (slightly prolateral) views (arrow points to variable structure). 631–632. Male chelicerae, frontal and lateral views. 633. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.



FIGURES 634–646. *Smeringopus peregrinoides*. 634. Male prosoma, frontal view. 635. Left male palp, dorsal view. 636. Left procurus tip, retrolatero-dorsal view. 637. Left bulb, prolateral view. 638. Male ocular area. 639. Left embolus, prolatero-distal view. 640. Male gonopore. 641–642. Male chelicerae and cheliceral apophysis. 643. Male ALS. 644. Male tibia 1, trichobothria. 645. Epigynum. 646. Female ALS. Scale lines: 10 μm (642), 20 μm (643, 646), 50 μm (636), 80 μm (639–641), 100 μm (637, 638, 644), 200 μm (635, 645), 400 μm (634).

Material examined. RWANDA: no further data: 5♂ types above. Kigali, Nyarugenge, unspecified number of male paratypes together with specimens from Tanzania, Bukoba (see above). 40 km E of Kigali [$\sim 1^{\circ}55'S$, $30^{\circ}16'E$], 1575 m a.s.l., 9.xii.1957 (E.S. Ross, R.E. Leech), 2♀ 1 juv. in CAS. Near Lac Ihema [$\sim 1^{\circ}55'S$, $30^{\circ}42'E$], 14./18.vii.1969 (R. Kiss), 92♂119♀ (3 vials) in MRAC (136301–03). Akagera Parc, Lac Ihema [$\sim 1^{\circ}55'S$, $30^{\circ}42'E$], vi.1969 (R. Kiss), 35♂60♀ (2 vials) in MRAC (135870–71); same locality, “presq’ il au N de la pêcheirie, sous pierres”, 29.xi.1985 (R. Jocqué, Nsengimana, Michiels), 1♂7♀ (2 vials) in MRAC (164762, 165399); same

data but “4 km S de la pêcheurie Ihema”, 14.xi.1985, 1♂1♀ in MRAC (165533); same data but “pêcheurie”, 14.xi.–8.xii.1985, 1♀ in MRAC (164715); same data but “savanne boisée, bois pourri”, 16.xi.1985, 1♀ in MRAC (165626); same data but “maison de pompage, sous pierres en savanne arborescente”, 5.xii.1985, 1♂1♀ (2 vials) in MRAC (164802, 165528). Akagera Parc, “50 km N de la pêcheurie Ihema” [~1°36'S, 30°40'E], 23.xi. and 6.xii.1985 (R. Jocqué, Nsengimana, Michiels), 1♂1♀ (2 vials) in MRAC (164991, 165068). Butare [2°36'S, 29°44'E], vi./vii.1971 (P. Nyalugaka), 24♂31♀ in MRAC (140658); same data but vi.1971, 12♂2♀ in MRAC (141206); same data but x./xi.1970, 1♂3♀ (2 vials) in MRAC (137764, 137788 part). Butare (Lac Mohasi), iv.1968 (E. Vertriest), 1♂ in MRAC (134794). Astrida [=Butare, 2°36'S, 29°44'E], 30.vi.1952 (Laurent), 2♀ in MRAC (73264–68 part).

BURUNDI: Nkayamba [3°57'S, 29°26'E], Miombo woodland with *Brachystegia*, 850 m a.s.l., by hand, 19.iii.2002 (N. Benoit), 1♂ in MRAC (213818). Bujumbura [3°23'S, 29°21'E], 1939 (Lestrade), 12♂9♀ (2 vials) in MRAC (3340–59, 3451–64).

CONGO D.R.: *Nord-Kivu Prov.*: Beni [0°30'N, 29°28'E], i./ii.1953 (Watty), 2♂8♀ in MHNG. Butembo [0°08'N, 29°17'E], 1750 m a.s.l., iii.1975 (M. Lejeune), 18♂16♀ in MRAC (161140). Butembo, “vallée de la Musosa”(?), v.1967 (R.P. Lejeune), 1♂ in MRAC (132838). Plaine de la Ruindi [=Rwindi, 0°47'S, 29°18'E], “Bulemba”, 1000 m a.s.l., dans termitière, 21.vi.1972 (R.P.M. Lejeune), 2♂1♀ 1 juv. in MRAC (144610). Forêt de Visiki [0°12'N, 29°15'E], 27.xii.1971 (R.P.M. Lejeune), 1♀ in MRAC (140904). Saké [1°34'S, 29°03'E], iii.1936 (L. Lippens), 1♀ in MRAC (26892). West shore of Lake Edward [~0.5°S, 29.3°E], 1931 (E.B. Worthington), 1♀ in BMNH (1934.2.15.100). *Ituri Prov.*: Geti [1°14'N, 30°10'E], 1939 (Randour), 12♂8♀ (3 vials) in MRAC (26880–84, 26950–58, 26959–68). Nioka [2°06'N, 30°37'E], 1934 (J. Leroy), 13♂8♀ (2 vials) in MRAC (26928–38, 29939–49); same locality, vii.1937 (J. Ghesquière), 1♂ in MRAC (26827). Lodjo, Mongbwalu [2°04'N, 30°01'E], viii.1939 (A. Lepersonne), 4♂7♀ (3 vials) in MRAC (26858–62, 26899–902, 26903–06). Mongbwalu [1°56'N, 30°03'E], i.–ii.1939 (A. Lepersonne), 2♂4♀ in MRAC (2419–24); same data but v.1939, 3♀ (2 vials) in MRAC (3683–84, 3687). Mahagi-Port [2°09'N, 31°14'E], 1925 (H. Schouteden), 2♂ (2 vials) in MRAC (26895/98, 26896). Mawambi [1°04'N, 28°34'E], iv.1908 (Schultz?) 1♂ in ZMB.

TANZANIA: *Kagera Region*: Karagwe: Bukoba: 2♀ paratypes and unspecified number of male paratypes together with specimens from Rwanda, Kigali (see above). *Arusha Region*: Nghongongare, M.B.T.'s Snake Farm (3°19.2'S, 36°53.0'E), arid grassland, 1450 m a.s.l., 15.i.1997 (P.P. Bjørn, L. Sørensen) 1♂1♀ in ZMUC. “Tanganjika”, no further locality data, collector unreadable, 1♂ 5 juvs in ZMB.

KENYA: *Western Prov.*: Kakamega Forest N.P., buildings at camping site (0°21.1'N, 34°51.9'E), 1610 m a.s.l., 2.–3.ii.2010 (B.A. Huber), 2♂ in ZFMK (Ar 8558); same data, 2♀ in pure ethanol in ZFMK (Ken 138). Kakamega Forest, 23.vii.1979 (N. Scharff), 1♂1♀ in ZMUC. *Rift Valley*: Mtembur [1°21'N, 35°03'E], dry scrub, 1500 m a.s.l., 26.vii.1974 (Murphy), 1♀ in CJFM (3731); same locality, hot dry scrub, 1600 m a.s.l., 30.viii.1984 (Murphy), 1♂ in CJFM (12165). Kongelai [1°28'N, 35°00'E?], 1400 m a.s.l., dry scrub, 17.viii.1972 (Murphy), 2♀ in CJFM (1957).

UGANDA: *Central Region*: Entebbe [0°03'N, 32°28'E], no date (E. Degen), 6♂22♀ in BMNH (06.3.28-58-300, part); same data, 1♂4♀ in BMNH (300-344, part); same data, 2♂2♀ in BMNH (344-400, part); Entebbe, botanic gardens, 17.v.1995 (A. Russell-Smith), 1♂ in ZFMK (Ar 8559). Namulonge Research Station near Kampala, [0°31'N, 32°37'E], on tree trunk, 31.i.1997 (A. Russell-Smith), 1♂ in ZFMK (Ar 8560). *Western Region*: Kanungu Distr.: Buhoma (0°58.0'S, 29°36.9'E), 1400 m a.s.l., in building, 26.xi.2010 (B.A. Huber), 2♂1♀ in ZFMK (Ar 8561); same data, 3♀ in pure ethanol in ZFMK (Uga 114). “Ruwendzori”, no further locality data [~0.3'N, 30.0°E], 1952 (G.O. Evans), 2♂4♀ in BMNH. Kibale Forest, Ngogo Camp (0°30'N, 30°35'E), 1500–1800 m a.s.l., 30.–31.x.1992 (V. & B. Roth), 2♂2♀ (2 vials) in CAS.

Smeringopus butare new species

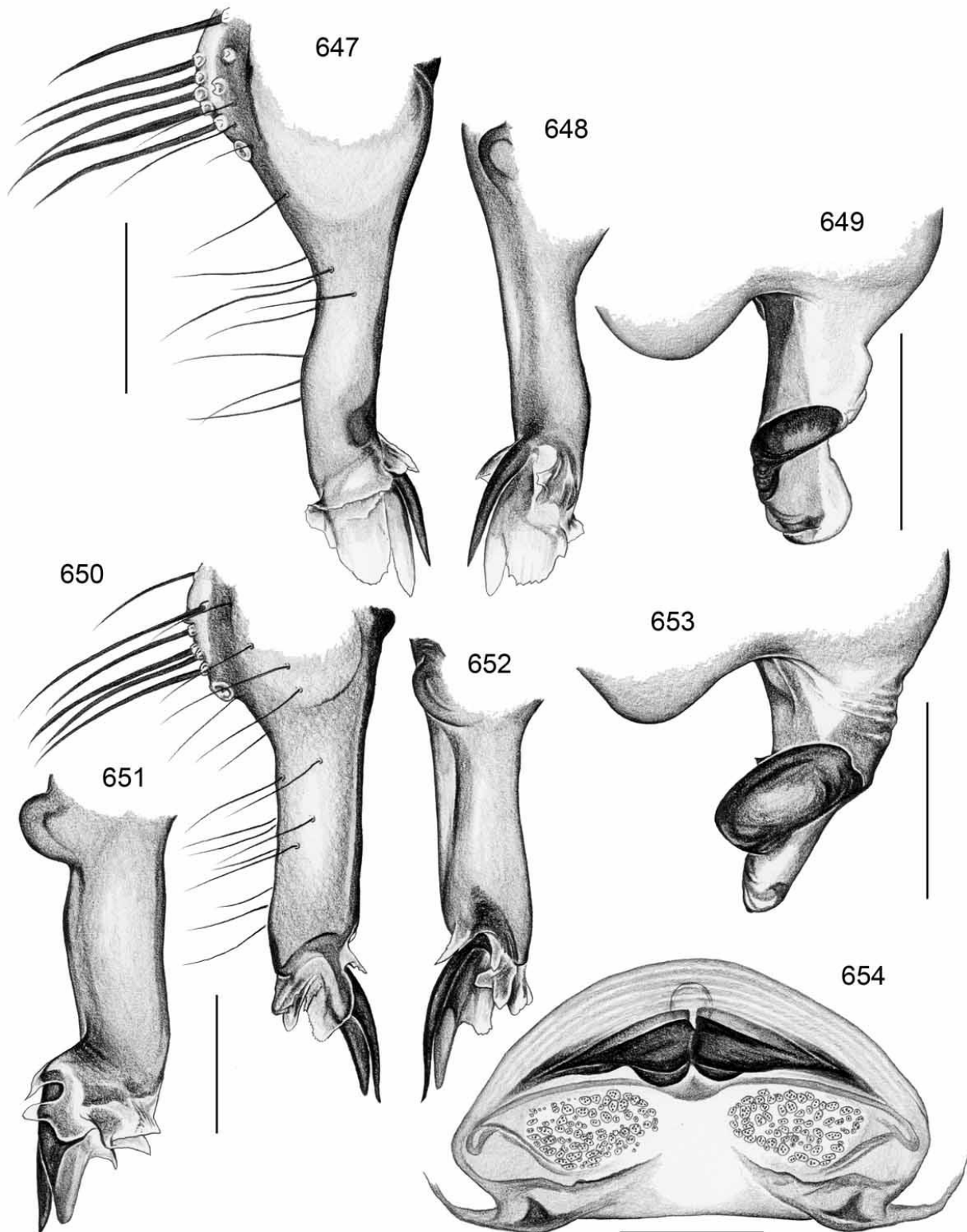
Figs. 562, 576–577, 596–597, 647–649, 663–666

Type. Male holotype from Rwanda, Butare [2°36'S, 29°44'E], vi.1971 (P. Nyalugaka), in MRAC (139117, part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive membranous flap longer than sclerotized spine; Figs. 647, 648), and shape of embolus (very similar *S. peregrinus* but narrower in prolateral view

and without pointed process; Fig. 649); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 596; epigynum and cleared female genitalia otherwise similar *S. peregrinoides* and *S. kalomo*).



FIGURES 647–654. *Smeringopus butare* (647–649) and *S. katanga* (650–654). 647, 650. Left cymbia and procursi, retrolateral views. 648, 651–652. Left procursi, prolateral (648, 652) and dorsal (651) views. 649, 653. Left emboli, prolateral views. 654. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Male (holotype). Total body length 7.2, carapace width 2.2. Leg 1: 49.5 (13.1 + 0.9 + 13.1 + 19.7 + 2.7), tibia 2: 9.3, tibia 3: 6.8, tibia 4: 9.5; tibia 1 L/d: 55. Habitus as in Fig. 562. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 185 μm , diameter PME 170 μm , distance PME-ALE 70 μm , distance AME-AME 55 μm , diameter AME 160 μm . Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae with pair of distal apophyses as in *S. peregrinus* (cf. Figs. 614, 615; apophyses slightly shorter); each apophysis with one modified hair at tip (Fig. 663). Palps as in Figs. 576 and 577, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive distal elements (Figs. 647, 648), bulb with distinctively shaped prolateral process on embolus (similar *S. peregrinus* but narrower in prolateral view; Fig. 649). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 664); ALS with eight spigots each (Fig. 665).

Variation. The color pattern is quite constant but variably distinct. Tibia 1 in 17 males: 9.3–18.1 (mean 13.8).

Female. In general similar to male; tibia 1 in 31 females: 10.0–15.7 (mean 11.9). Epigynum a simple plate mostly with poorly defined borders, with large semicircular pockets (Figs. 596, 666); internal genitalia as in Fig. 597 (very similar *S. peregrinoides* and *S. kalomo*).

Distribution. Known from Rwanda, Burundi, and eastern Congo D.R. (Sud-Kivu) (Fig. 608).

Material examined. RWANDA: Butare: type above; same data, 6♂4♀ in MRAC (139117, part); same data but vi.–vii.1971, 6♂3♀ in MRAC (140658 part), x.–xi.1970, 2♂15♀ + juvs (6 vials) in MRAC (137762 part, 137764 part, 137769, 137783, 137788, 137793); same locality, 23.xii.1979 (A. Vandenberghe), 1♀ 1 juv. in MRAC (153857). Astrida [=Butare, 2°36’S, 29°44’E], 30.vi.1952 (Laurent), 1♂1♀ 1 juv. in MRAC (73264–68). Near Lac Ihema [~1°55’S, 30°42’E], 14./18.vii.1969 (R. Kiss), 1♂ in MRAC (136301 part).

BURUNDI: *Bubanza Prov.*: “Crête Congo-Nil” [~3°S, 29.4°E], 2000 m a.s.l., iii.1967 (S. Ndani), 5♂6♀ (3 vials) in MRAC (132768–69, 132778). *Bururi Prov.*: Cabara [4°07’S, 29°31’E], Miombo woodland with *Brachystegia*, 850 m a.s.l., 18.iii.2002 (N. Benoit), 2♀ (2 vials) in MRAC (213925, 214163).

CONGO D.R.: *Sud-Kivu Prov.*: Bitale [2°11’S, 28°37’E], ~1700 m a.s.l., 30.–31.v.1949 (Laurent), 2♂ (2 vials) in MRAC (66508, 66512). Bukavu, Bitale, 19.iii.1950 (G. Marlier), 1♀ in MRAC (69051). Uvira [3°24’S, 29°08’E], vallée de lac Tanganika, 700 m a.s.l., “marais herbacé”, viii.1961 (R. Kiss), 1♂ in MRAC (120084); Uvira, 700 m a.s.l., vii.1961 (R. Kiss), 1♀ in MRAC (120048). Uvira, entre Kalundu et Kavimvira [~3°22’S, 29°09’E], vi.1961 (R. Kiss), 2♀ in MRAC (119923 part). Luhoho, Riv. Bunyakiri [2°05’S, 28°34’E], 1100 m a.s.l., 6.ix.1957 (E.S. Ross, R.E. Leech), 1♀ in CAS. Lwiro River, 47 km N Bukavu [~2°15’S, 28°50’E], 1950 m a.s.l., 15.xii.1957 (E.S. Ross, R.E. Leech), 1♀ 2 juvs in CAS. Irangi [1°54’S, 28°28’E], Luhoho River, 900 m a.s.l., 10.ix.1957 (E.S. Ross, R.E. Leech), 2♂1♀ in CAS. Irangi, vii.1964 (J. Bafort), 1♀ 1 juv. in MRAC (127421). Terr. Kalche, Maskele, 6 km from Irangi, “dans les creux des arbres vivantes en forêt primaire”, i.1962 (R. Kiss), 1♂1♀ in MRAC (121359).

***Smeringopus katanga* new species**

Figs. 568, 578–579, 598–599, 650–654

Type. Male holotype from Congo D.R., Haut-Katanga Province, Lubumbashi [11°40’S, 27°29’E], iv.–v.1966 (J. Godeaux), in MRAC (131511 part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by tip of procurus (two distal apophyses and membranous elements; Figs. 650–652), shape of embolus (Fig. 653; similar *S. peregrinus* and *S. butare*); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 598).

Male (holotype). Total body length 5.6, carapace width ~2.0 (deformed). Leg 1: 48.8 (12.3 + 0.8 + 12.0 + 21.2 + 2.5), tibia 2: 8.5, tibia 3: 6.3, tibia 4: 8.7; tibia 1 L/d: 59. Habitus as in Fig. 568. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen

ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 175 μm , diameter PME 175 μm , distance PME-ALE 70 μm , distance AME-AME 45 μm , diameter AME 160 μm . Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in *S. peregrinus* (cf. Figs. 614, 615), with one pair of distal apophyses. Palps as in Figs. 578 and 579, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive pair of distal sclerites (Figs. 650–652), bulb with distinctively shaped prolateral process on embolus (similar *S. peregrinus* and *S. butare* but different in prolateral view; Fig. 653). Legs without spines, few vertical hairs, with curved hairs on metatarsi 1, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. Tibia 1 in 3 other males: 11.3, 11.6, 13.2.

Female. In general similar to male; tibia 1 in 5 females: 11.3–12.7 (mean 12.0). Epigynum a simple plate with large pockets, distance between pockets slightly more than diameter of pocket (Fig. 598); internal genitalia as in Figs. 599 and 654.

Distribution. Known from three localities in south-eastern Congo D.R. (Fig. 608).

Material examined. CONGO D.R.: *Haut-Katanga Prov.*: Lubumbashi: 1♂ type above; same data, 1♂2♀ in MRAC (131511 part). Terr. de Jadotville [=Likasi, ~11°S, 26.7°E], “colline témoin de Menda”, x.1956 (Z. Bacq, N. Leleup), 1♂ in MRAC (90481); same data but “colline de Kasompi W”, 3♀ (2 vials) in MRAC (90897, 90990–91). *Lualaba Prov.*: Kolwezi [~10°43’S, 25°28’E], “Katebe”, 25.x.1981 (K. Martens), 2♂ 1 juv. in MRAC (159750).

***Smeringopus kalomo* new species**

Figs. 564–565, 571, 580–581, 600–601, 655–662, 667–672

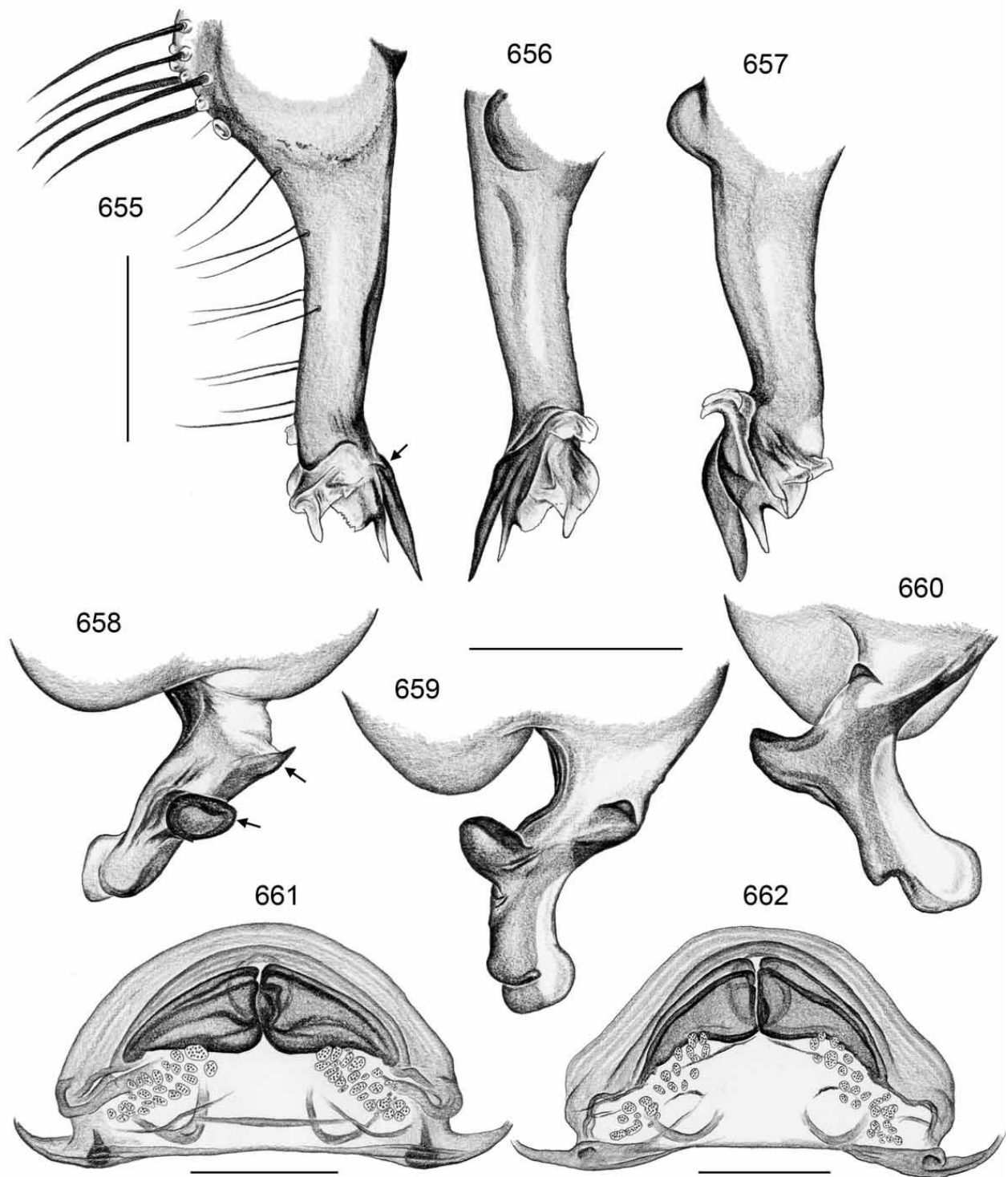
“*Smeringopus peregrinus* Strand” (misidentification): Kraus 1957: 223–224, figs. 11–16.

Type. Male holotype from Zambia, Southern Province, Kalomo (17°02’S, 26°29’E), 8.–9.iii.1995 (W.J. Pulawski), in CAS.

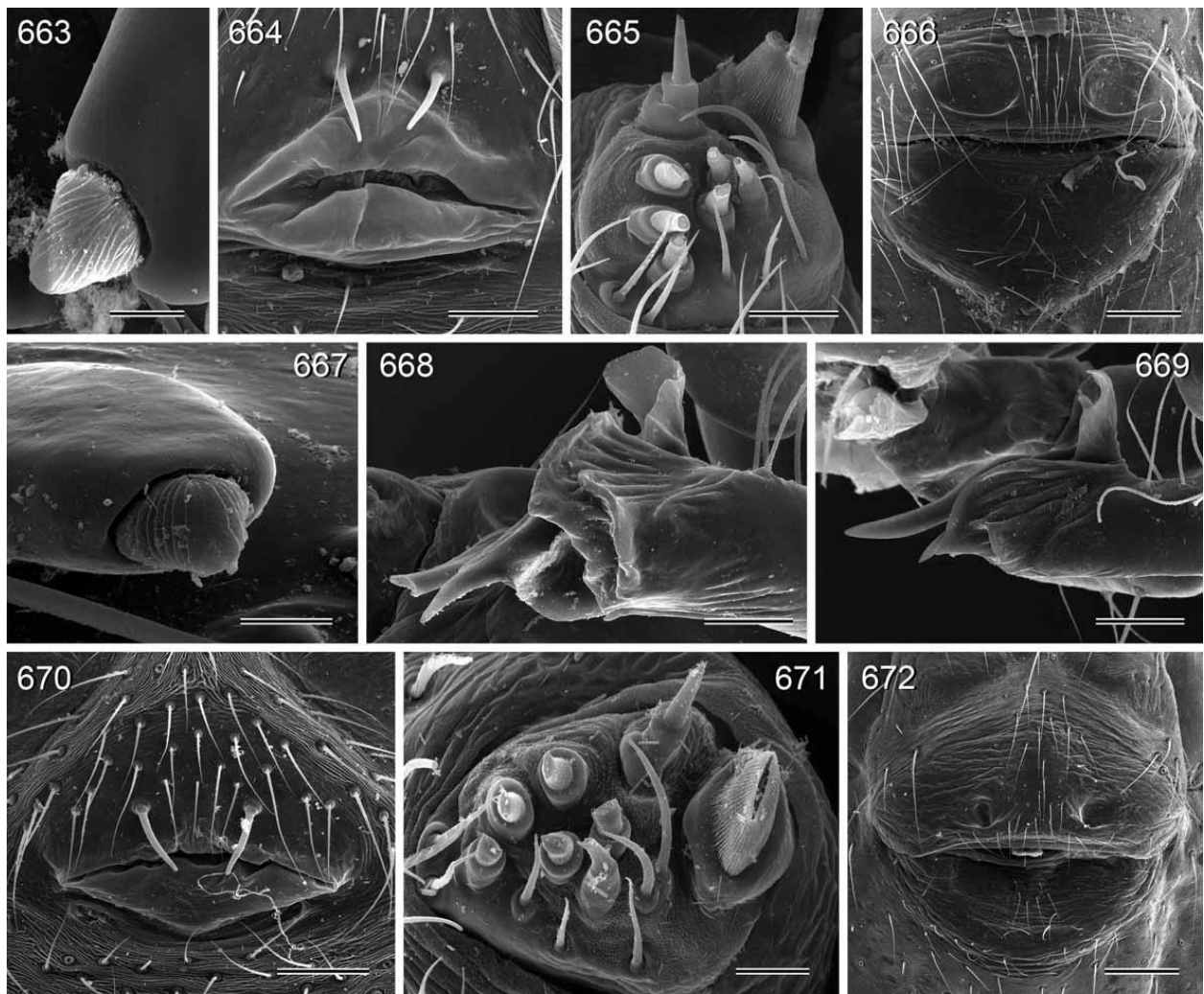
Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive sclerotized and membranous elements, prolateral flap; Figs. 655–657; similar *S. chibububo*), shape of embolus (Figs. 658–660; distinctive prolateral view); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 600).

Male (holotype). Total body length 6.0, carapace width 2.0 (slightly deformed). Leg 1: 56.3 (14.7 + 0.9 + 15.1 + 22.9 + 2.7), tibia 2: 10.3, tibia 3: 7.7, tibia 4: 10.3; tibia 1 L/d: 66. Habitus as in Fig. 564. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 185 μm , diameter PME 160 μm , distance PME-ALE 90 μm , distance AME-AME 55 μm , diameter AME 160 μm . Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in *S. peregrinus* (cf. Figs. 614, 615), with one pair of distal apophyses, each provided with one modified hair at tip (Fig. 667). Palps as in Figs. 580 and 581, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive distal elements (prolateral membranous flap; Figs. 655–657), bulb with distinctively shaped prolateral process on embolus (Figs. 658–660). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 670); ALS with eight spigots each (Fig. 671).



FIGURES 655–662. *Smeringopus kalomo*. 655. Left cymbium and procurus, retrolateral view (arrow points to variable structure; see text). 656–657. Left procurus, prolateral and dorsal views. 658–660. Left embolus, prolateral (slightly ventral), prolatero-dorsal, and dorsal views (arrows point to variable structures; see text). 661–662. Cleared female genitalia, dorsal views (661: Kalomo; 662: Harare). Scale lines: 0.3 mm.



FIGURES 663–672. *Smeringopus butare* (663–666) and *S. kalomo* (667–672). 663. Male cheliceral apophysis. 664. Male gonopore. 665. Male ALS. 666. Epigynum. 667. Male cheliceral apophysis. 668–669. Left procursus, retrolatero-dorsal and dorsal views. 670. Male gonopore. 671. Male ALS. 672. Epigynum. Scale lines: 10 μm (663, 667), 20 μm (671), 30 μm (665), 60 μm (668), 80 μm (664, 669), 100 μm (670), 200 μm (666, 672).

Variation. In the male from Bulawayo, the proximal part of the distal procursus spine (arrow in Fig. 655) is slightly more projecting. In the males from Madagascar, both sclerotized projections of the bulb (arrows in Fig. 658) are slightly shorter. Tibia 1 in 24 males: 10.1–16.7 (mean 12.9).

Female. In general similar to male; tibia 1 in 46 females: 8.8–15.2 (mean 11.0). Epigynum very similar *S. peregrinus* (Figs. 600, 672); frontal ‘valve’ in internal genitalia less curved (Figs. 601, 661, 662; very similar *S. chibububo*, *S. similis*).

Distribution. Widely distributed in Zambia, Zimbabwe, and Mozambique; apparently introduced to Madagascar (Fig. 608).

Material examined. ZAMBIA: *Southern Prov.*: Kalomo: 1♂ type above; same data, 1♂10♀ in CAS. *Eastern Prov.*: Kacholola (14°46’S, 30°36’E), 110 km E Petauke, 16.iii.1995 (W.J. Pulawski), 8♂7♀ in CAS. *Lusaka Prov.*: Lusaka [25°25’S, 28°17’E], in house, 20.iii.1982, collector not given, 1♂ in AMNH. 25 km E Lusaka (15°21’S, 28°30’E), 3.iii.1995 (W.J. Pulawski), 2♀ in CAS. *Central Prov.*: 6 km W Mumbwa (15°02’S, 27°00’E), 30.iii.1995 (W.J. Pulawski), 1♂3♀ in CAS. Broken Hill [=Kabwe, 14°27’S, 28°27’E], 20.iv.1911 (P. Timm), 1♂1♀ in ZMH. 8 mi NE Kapiri Mposhi [13°54’S, 28°46’E], 1280 m a.s.l., 10.ii.1958 (E.S. Ross, R.E. Leech), 1♀ in CAS.

ZIMBABWE: *Bulawayo Prov.*: Bulawayo [20°10’S, 28°35’E], xi.1964–i.1965 (S. Bucklin), 1♂1♀ in MRAC (128095). *Matabeleland North*: Victoria Falls (17°56’S, 25°50’E), 19.–22.xii.1995 (W. Pulawski), 3♂3♀ in CAS; same locality, 29.xi.1996 (W. Pulawski, V. Ahrens), 4♂11♀ in CAS. *Mashonaland West*: Kariba [16°31’S,

28°51'E], 16.x.1990 (V.D. & B. Roth), 1♀ in CAS. *Harare Prov.*: Harare (17°49'S, 31°05'E), in store-room, ii.1999 (M. Cumming), 1♀ in ZFMK.

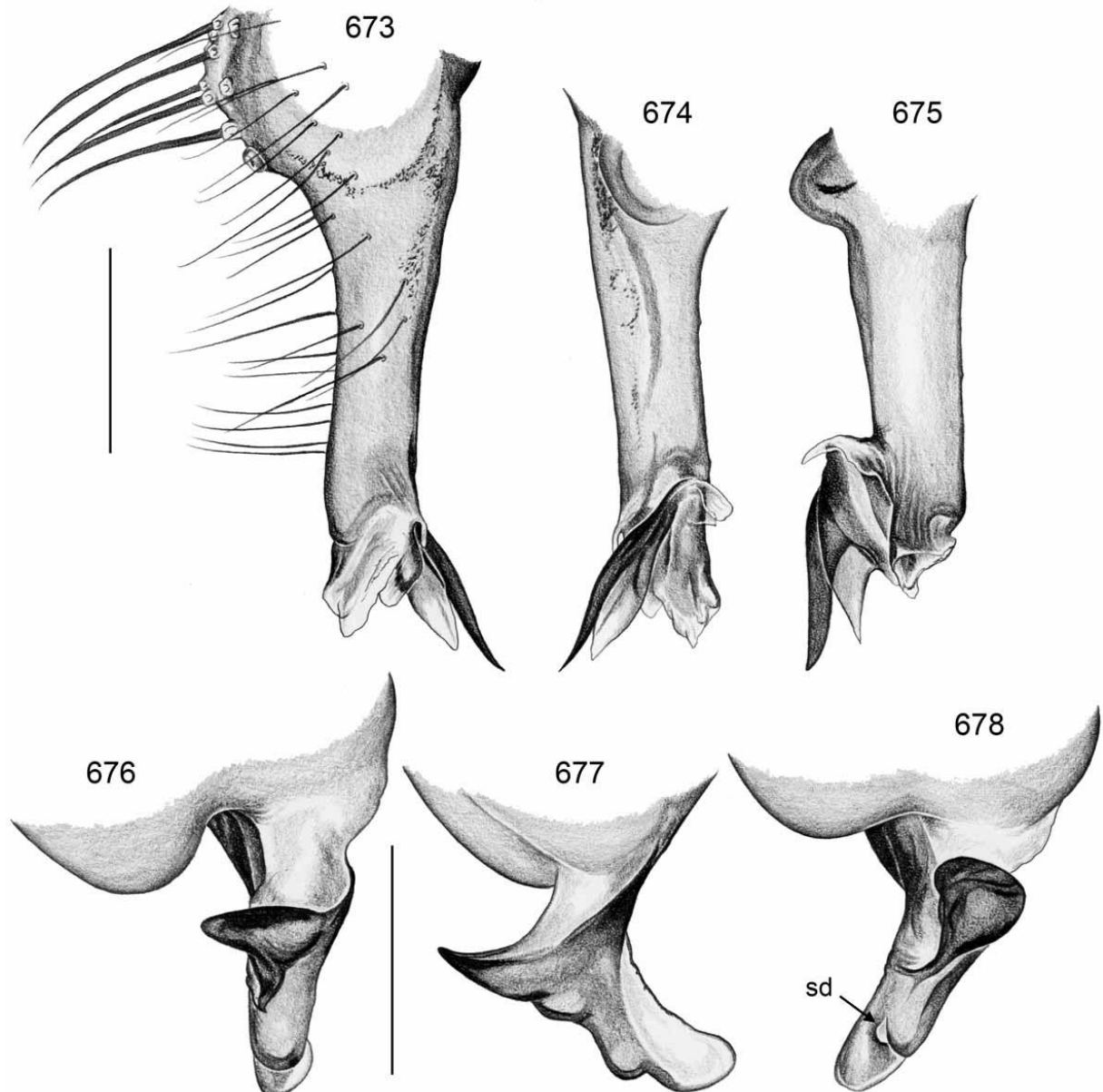
MOZAMBIQUE: *Sofala*: Nova Choupanga [near Chemba?, ~17°10'S, 34°53'E], leg. P. Lesne, date not given, 2♂4♀ in MHNG; same data, 2♂3♀ in SMF (9811/5). *Manica*: Vila Pery [=Chimoio, 19°07'S, 33°28'E], leg. P. Lesne, date not given, 3♂7♀ in MHNG.

MADAGASCAR: *Toamasina*: 70 km E Antananarivo [18°54.0'S, 48°06.7'E], zoo, 23.ix.1999 (P. Horak) 1♂ in CPH (Ma99-96). Tamatave, Foulpointe [17°41'S, 49°31'E], iii.1993 (A. Pauly), 1♀ in MRAC (200075). Foulpointe, forêt, 28.vii.1993 (A. Pauly), 1♂2♀ in MRAC (206271); Foulpointe, forêt d'Analalava, i.1995 (A. Pauly), 1♂ in MRAC (207264).

***Smeringopus chibububo* new species**

Figs. 566–567, 570, 582–583, 602–603, 673–678

Type. Male holotype from Mozambique, Inhambane Province, Vilankulos, Casa Chibububo (22°01.2'S, 35°19.2'E), leaf litter, coastal bush, 3 m a.s.l., 12.xii.2007 (C. Haddad, R. Lyle, R. Fourie), in ZFMK (Ar 8492).



FIGURES 673–678. *Smeringopus chibububo*. 673. Left cymbium and procurus, retrolateral view. 674–675. Left procurus, prolateral and dorsal views. 676–678. Left embolus, prolateral, dorsal, and prolatero-ventral views. Scale lines: 0.3 mm.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive sclerotized and membranous elements, prolateral flap; Figs. 673–675; similar *S. kalomo*), shape of embolus (Figs. 676–678; distinctive prolateral view); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 602).

Male (holotype). Total body length 6.5, carapace width 2.0. Leg 1: 46.4 (12.0 + 0.8 + 11.9 + 18.9 + 2.8), tibia 2: 8.4, tibia 3: 6.5, tibia 4: 8.8; tibia 1 L/d: 56. Habitus as in Fig. 566. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral dark pattern. Distance PME-PME 160 µm, diameter PME 150 µm, distance PME-ALE 70 µm, distance AME-AME 35 µm, diameter AME 150 µm. Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in *S. peregrinus* (cf. Figs. 614, 615), with one pair of distal apophyses. Palps as in Figs. 582 and 583, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow, procurus with distinctive distal elements (prolateral membranous flap; Figs. 673–675), bulb with distinctively shaped prolateral process on embolus (Figs. 676–678). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2.5%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in other male: 13.6.

Female. In general similar to male; tibia 1 in 2 females: 11.7, 11.9. Epigynum very similar *S. peregrinus* (Fig. 602); internal genitalia as in Fig. 603 (very similar *S. kalomo*, *S. similis*).

Distribution. Known from two localities in Mozambique (Fig. 608).

Material examined. MOZAMBIQUE: *Inhambane Prov.*: Vilankulos, Casa Chibububo: 1♂ type above; same data, 2♂2♀ in ZFMK (Ar 8493). Bartolomeu Dias Point, BD Lodge (21°15.6’S, 35°06.9’E), 5 m a.s.l., leaf litter, mangroves, 10.xii.2007 (C. Haddad, R. Lyle, R. Fourie), 1♀ in ZFMK (Ar 8494).

***Smeringopus dundo* new species**

Figs. 584–585, 604–605, 679–685

Type. Male holotype from Angola, Luanda Norte Province, 6 km NW of Dundo [7°20’S, 20°47’E], 24.ix.1946 (A. de Barros Machado), in SMF (Ang 38.6).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive sclerotized and membranous elements; Figs. 679–681), shape of embolus (Figs. 682–684; distinctive dorsal view); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 604).

Male (holotype). Total body length 5.5, carapace width 1.8. Leg 1: 35.5 (9.6 + 0.8 + 9.1 + 14.0 + 2.0), tibia 2: 6.5, tibia 3: 4.9, tibia 4: 6.9; tibia 1 L/d: 47. Habitus similar *S. moxico* (cf. Fig. 569). Color pattern in general similar *S. peregrinoides* but rather indistinct (light colors apparently artificially darkened). Distance PME-PME 150 µm, diameter PME 140 µm, distance PME-ALE 60 µm, distance AME-AME 45 µm, diameter AME 140 µm. Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae with pair of distal apophyses as in *S. peregrinus* (cf. Figs. 614, 615). Palps as in Figs. 584 and 585, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive distal membranous and sclerotized elements (Figs. 679–681), bulb with distinctively shaped prolateral process on embolus (Figs. 682–684). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

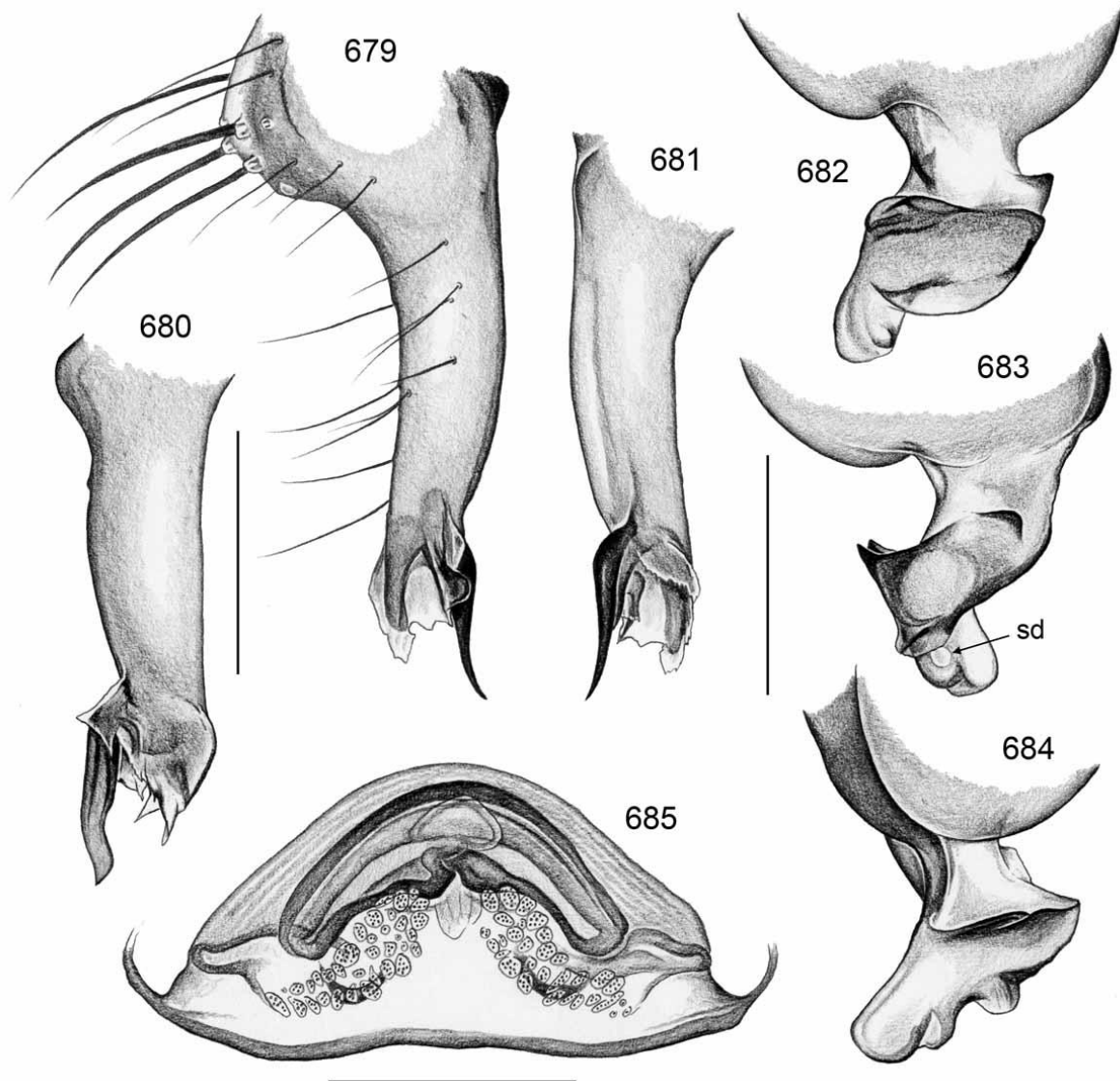
Variation. Tibia 1 in 4 other males: 9.1, 9.2, 9.2, 9.7.

Female. In general similar to male; tibia 1 in 7 females: 7.1–8.5 (mean 7.7). Epigynum a simple plate with pair of pockets about 1.5–2 pocket-diameters apart (Fig. 604); internal genitalia as in Figs. 605 and 685.

Distribution. Known from four localities in northeastern Angola and southern Congo D.R. (Fig. 608).

Material examined. ANGOLA: *Luanda Norte Prov.*: 6 km NW of Dundo: 1♂ type above; same data, 4♂6♀ (2 vials) in SMF.

CONGO D.R.: *Lualaba Prov.*: Sandoa [=Sanduwa, 9°42'S, 22°53'E], date not given, leg. G.F. Overlaet, 1♂ in MRAC (26922–27 part). *Haut-Lomami Prov.*: Nyonga [8°35'S, 26°18'E], v.1925 (G.F. de Witte), 2♂2♀ 1 juv. in MRAC (25661–65). *Sankuru Prov.*: Mwanza, Kabamba [5°14'S, 23°42'E?], v.1937 (A. Bayet), 1♂ in MRAC (26864).



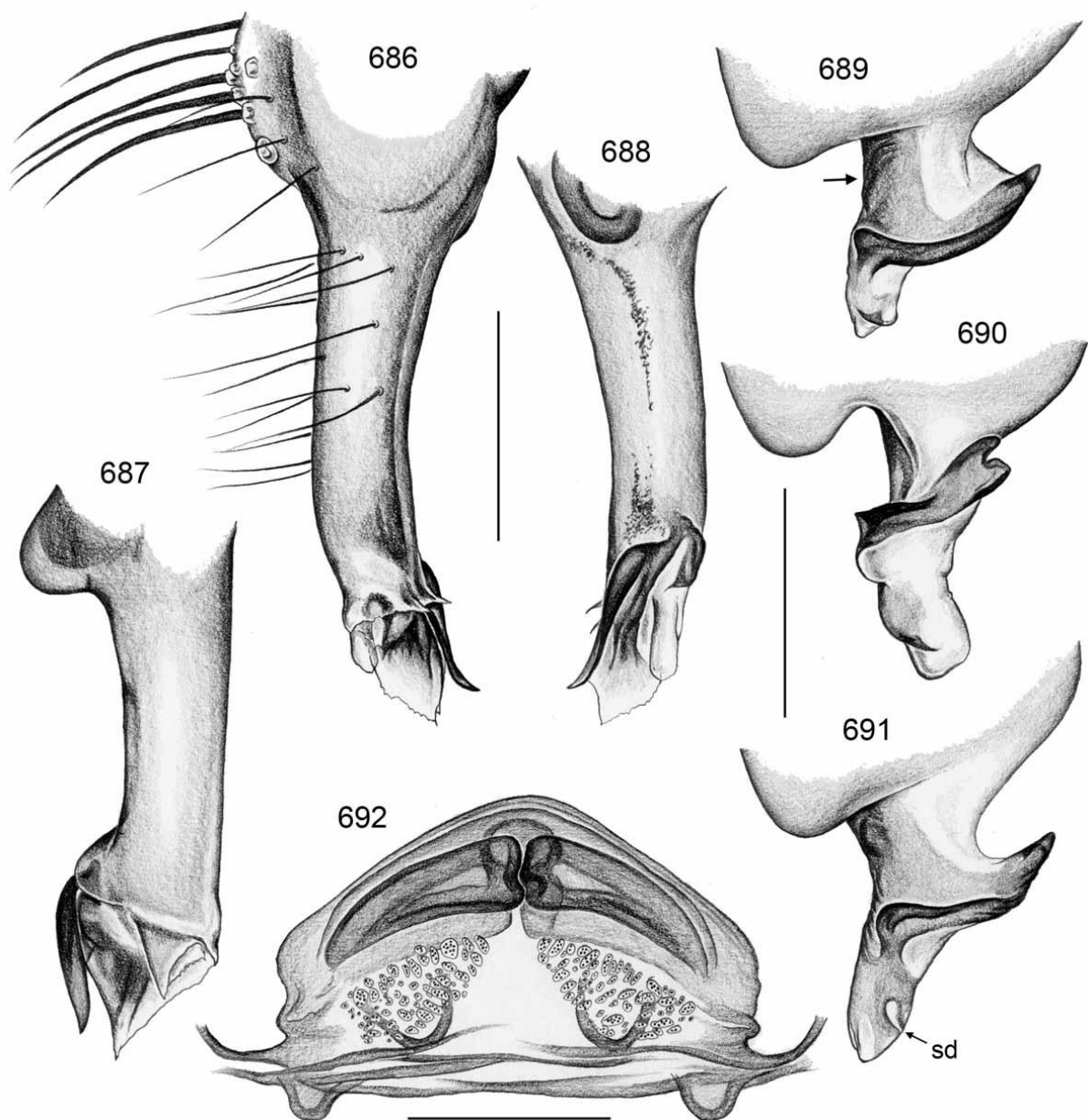
FIGURES 679–685. *Smeringopus dundo*. 679. Left cymbium and procurus, retrolateral view. 680–681. Left procurus, dorsal and prolateral views. 682–684. Left embolus, prolateral, dorsal, and ventral views. 685. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

***Smeringopus similis* Kraus, 1957**

Figs. 563, 586–587, 606–607, 686–692

“*Smeringopus hypocrita*” (misidentification): Simon 1910: 190 (female from Kubub only).
Smeringopus similis Kraus 1957: 230–232, figs. 34–40.

Types. All types from Namibia: Male holotype from Otjozondjupa Region, Okahandja [21°59'S, 16°55'E], v.1955 (Gaerdes), in SMF (RII 10626; only one palp, chelicerae missing). 4♀ 1 juv. paratypes (3 vials), same data, in SMF (RII 11054–56). 1♀ 2 juvs paratypes from Omaheke Region, Gobabis [22°27'S, 18°58'E], date and collector not given, in SMF (RII 7677). 1♀ paratype from Kubub [locality not identified, see Note under *S. hypocrita* redescription], iv.1904 (L. Schultze), misidentified by E. Simon as *S. hypocrita*, in ZMB (10461). 3♂7♀ paratypes



FIGURES 686–692. *Smeringopus similis*. 686. Left cymbium and procurus, retrolateral view. 687–688. Left procurus, dorsal and prolateral views. 689–691. Left embolus, prolateral, dorsal, and prolatero-ventral views (arrow points to variable structure). 692. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

from Oshikoto Region, Otjikoto, 20 km W Tsumeb [19°11.5'S, 17°33.0'E], 16.vi.1911 (W. Michaelsen), in ZMH. 1 juv. paratype from Otjozondjupa Region, Grootfontein [10°34'S, 18°07'E], 7./11.vi.1911 (W. Michaelsen), in ZMH. 1 juv. paratype from Otjozondjupa Region, Okaputo, 64 km SW Otavi [20°07'S, 16°58'E], 5.vi.1911 (W. Michaelsen), in ZMH. All types examined.

Diagnosis. Distinguished from similar congeners by tip of procurus (distinctive sclerotized and membranous elements; Figs. 686–688), shape of embolus (Figs. 689–691; distinctive dorsal view); from *S. peregrinoides* also by more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 606); from *S. atomarius* and *S. uisib* (which have overlapping geographic distributions) also by larger epigynal pockets closer together (Fig. 606).

Male (paratype from Otjikoto). Total body length 6.9, carapace width 2.2. Leg 1: 46.2 (12.4 + 0.9 + 12.3 + 17.9 + 2.7), tibia 2: 8.9, tibia 3: 6.8, tibia 4: 9.6; tibia 1 L/d: 50. Habitus as in Fig. 563. Color pattern similar *S. peregrinoides* but less distinct (possibly artificially), clypeus lines wider, light marks on sternum larger, ventral abdominal pattern limited to pair of interrupted lines. Distance PME-PME 160 µm, diameter PME 150 µm,

distance PME-ALE 70 µm, distance AME-AME 45 µm, diameter AME 140 µm. Ocular area slightly elevated, secondary eyes with 'pseudo-lenses'; deep thoracic pit. Chelicerae very similar *S. peregrinus* (cf. Figs. 614, 615). Palps as in Figs. 586 and 587, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with distinct rim proximally, procurus with distinctive distal elements (Figs. 686–688), bulb with distinctively shaped prolateral process on embolus (Figs. 689–691). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Some males with small conical projection ventrally on embolus (arrow in Fig. 689) and slightly more slender distal apophysis of procurus (in dorsal view). Males from Otavi and Andara-Kavango and two males from Otjikoto with many light brown marks on femora; specimens (male and females) from Otavi also otherwise with much more distinct color pattern (possibly the normal condition). Tibia 1 in 8 males: 6.3–14.8 (mean 10.7); in holotype: 14.8.

Female. In general similar to male; tibia 1 in 22 females: 7.2–12.7 (mean 10.1). Epigynum a rather pale indistinct plate with distinct, round pockets (Fig. 606); most females from the two eastern-most localities (Andara-Kavango and Sitwa) have smaller pockets wider apart and may thus not be conspecific with the males from these localities; internal genitalia as in Figs. 607 and 692 (very similar *S. kalomo*, *S. chibububo*).

Distribution. Widely distributed in northern Namibia (Fig. 608).

Material examined. NAMIBIA: *Otjozondjupa*: Okahandja, 1♂ holotype and 4♀ 1 juv. paratypes above. Grootfontein, Totes Tal Cave (19°56'S, 17°23'E), in cave, 11.iv.1991 (J. Irish), 1♀ in NMBA (5729). Grootfontein, 1 juv. paratype above. Okaputo: 1 juv. paratype above. *Omaheke*: Gobabis, 1♀ 2 juvs paratypes above. *Oshikoto*: Otjikoto, 3♂7♀ paratypes above. [Near] Otavi, Ghaub Cave [19°29.0'S, 17°46.7'E], 29.iv.1972 (P. Wrede, P. Strinati), 1♂2♀ + juvs in MHNG. *Omusati*: Etosha National Park, Bitterwater [~18°56'S, 15°06'E], 16.iii.1998 (A. Russell-Smith), 1♂ in ZFMK (Ar 8564). Etosha National Park, iii.1998 (A. Russell-Smith), 1♂ in MRAC (215622). *Okavango*: Andara-Kavango, Okavango riv. [18°04'S, 21°27'E], 1979 (M.E. Baddeley), 1♂6♀ in MRAC (152787). *Caprivi*: Sitwa near Choy, 10 km S Kongola [17°52'S, 23°22'E], under bark, 19.x.1987 (R. Jocqué), 1♂2♀ 1 juv. in MRAC (168618). *Komas*: Windhoek [22°34'S, 17°05'E], date and collector not given, 1♂ in SMF (part of RII 6618; misidentified by Kraus 1957 as *S. atomarius*). Unidentified locality: Kubub: 1♀ paratype above.

***Smeringopus moxico* new species**

Figs. 569, 588–591, 693–698

Type. Male holotype from Angola, Moxico Province, Sandando [11°39.9'S, 20°41.1'E], 80 km E Luso (=Luena), forêt claire, 17.i.1955 (A. de Barros Machado, D. Machado, E.L. de Carvalho), in SMF (Ang 4716–10, part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Easily distinguished from congeners by tip of procurus (distinctive sclerotized and membranous elements, large prolateral flap; Figs. 693, 694) and shape of embolus (Fig. 695–697); from *S. peregrinoides* also by longer and more downward directed cheliceral apophyses (similar *S. peregrinus*; cf. Figs. 614, 615) and absence of v-shaped or u-shaped structure frontally in female internal genitalia (Fig. 590).

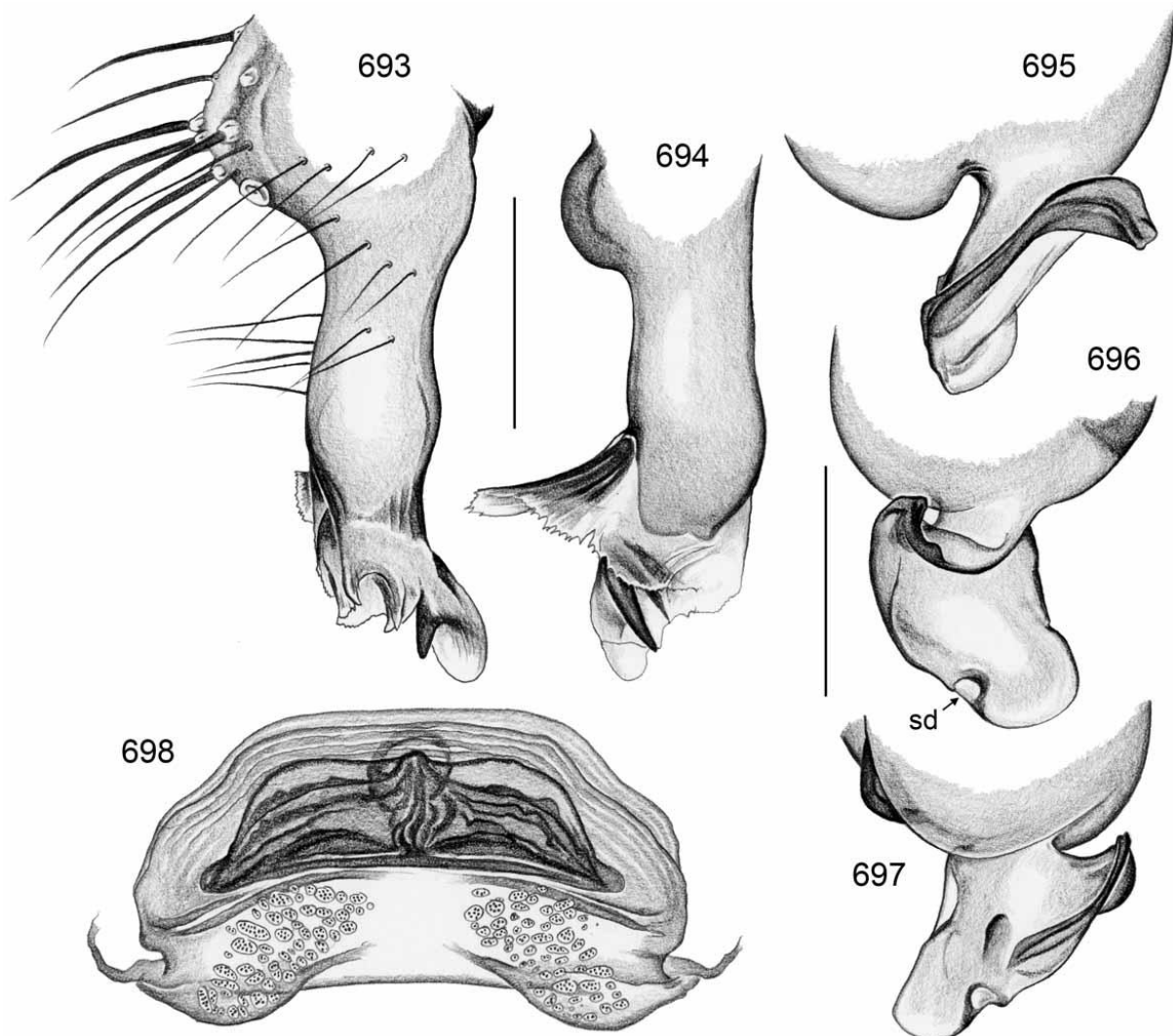
Male (holotype). Total body length 4.9, carapace width 1.6. Leg 1: 36.7 (10.0 + 0.7 + 9.2 + 14.8 + 2.0), tibia 2: 6.1, tibia 3: 4.7, tibia 4: 6.7; tibia 1 L/d: 50. Habitus as in Fig. 569. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of dark stripes, sternum brown with light marks near bases of coxae 2–4 and medially, legs light brown, femora with many light brown spots, femora and tibiae with lighter tips and subdistal dark rings, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 150 µm, diameter PME 135 µm, distance PME-ALE 80 µm, distance AME-AME 45 µm, diameter AME 115 µm. Ocular area slightly elevated, secondary eyes with 'pseudo-lenses'; deep thoracic pit. Chelicerae as in *S. peregrinus* (cf. Figs. 614, 615), with one pair of distal apophyses. Palps as in Figs. 588 and 589, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with deep retrolateral furrow with distinct rim proximally, procurus with distinctive distal elements (large prolateral membranous flap; Figs. 693, 694), bulb with distinctively shaped prolateral process on embolus (Figs. 695–697). Legs without spines, few vertical hairs, with curved hairs on tibiae (few) and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 2 other males: 8.1, 8.8.

Female. In general similar to male but darker sternum (with fewer light spots); tibia 1 in 4 females: 8.3, 8.5, 8.7, 9.1. Epigynum a simple plate with pockets close together (distance ~1 pocket diameter) (Fig. 590); internal genitalia as in Figs. 591 and 698.

Distribution. Only known from type locality in Angola (Fig. 608).

Material examined. ANGOLA: *Moxico Prov.*: Sandando: 1♂ type above; same data, 2♂4♀ (2 vials) in SMF.



FIGURES 693–698. *Smeringopus moxico*. 693. Left cymbium and procurus, retrolateral view. 694. Left procurus, dorsal view. 695–697. Left embolus, prolateral, dorsal, and ventral views. 698. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

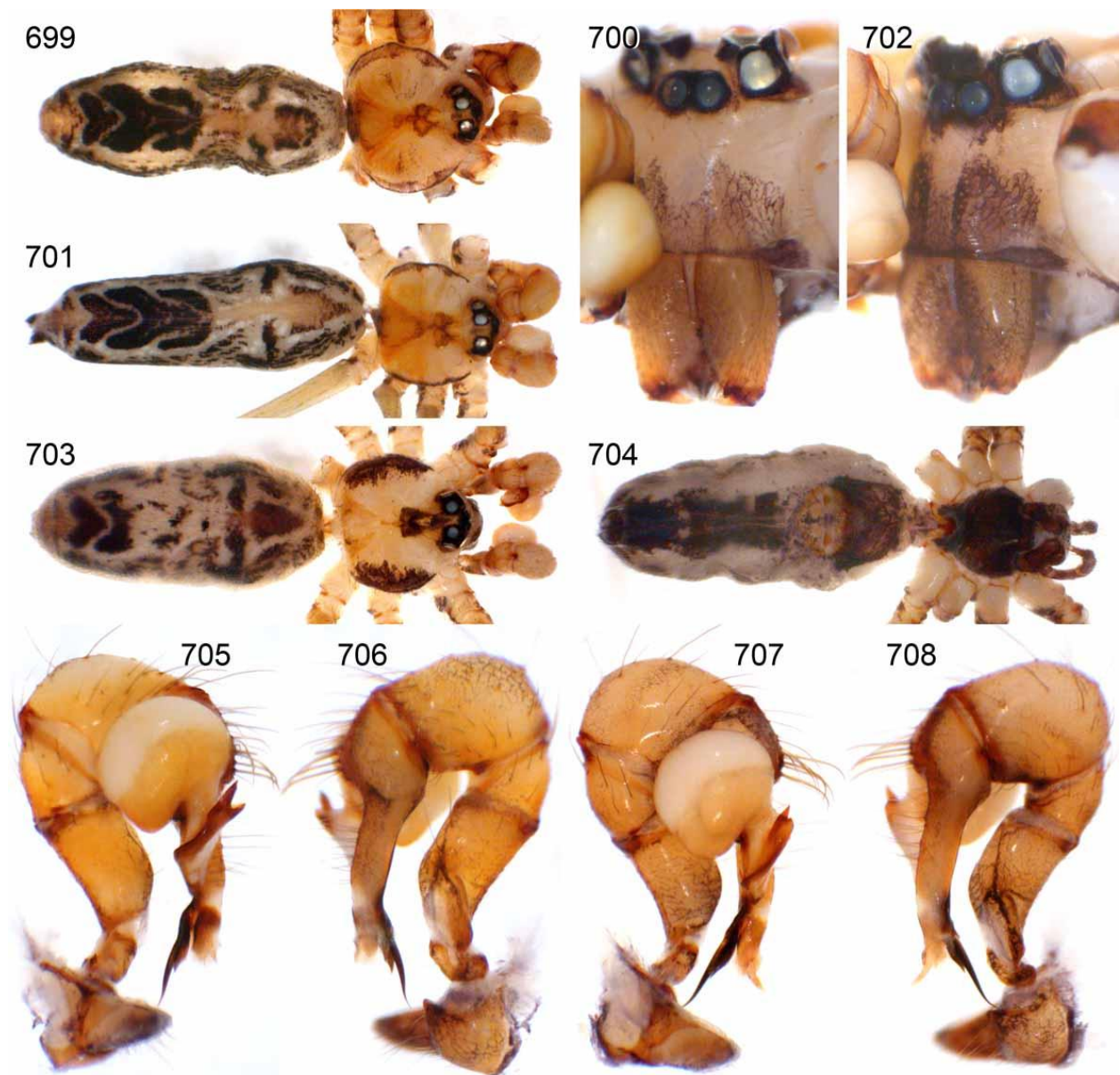
***Smeringopus thomensis* Simon, 1907**

Figs. 699–700, 705–706, 709–711, 719–724, 732–740

Smeringopus thomensis Simon 1907: 251–252.

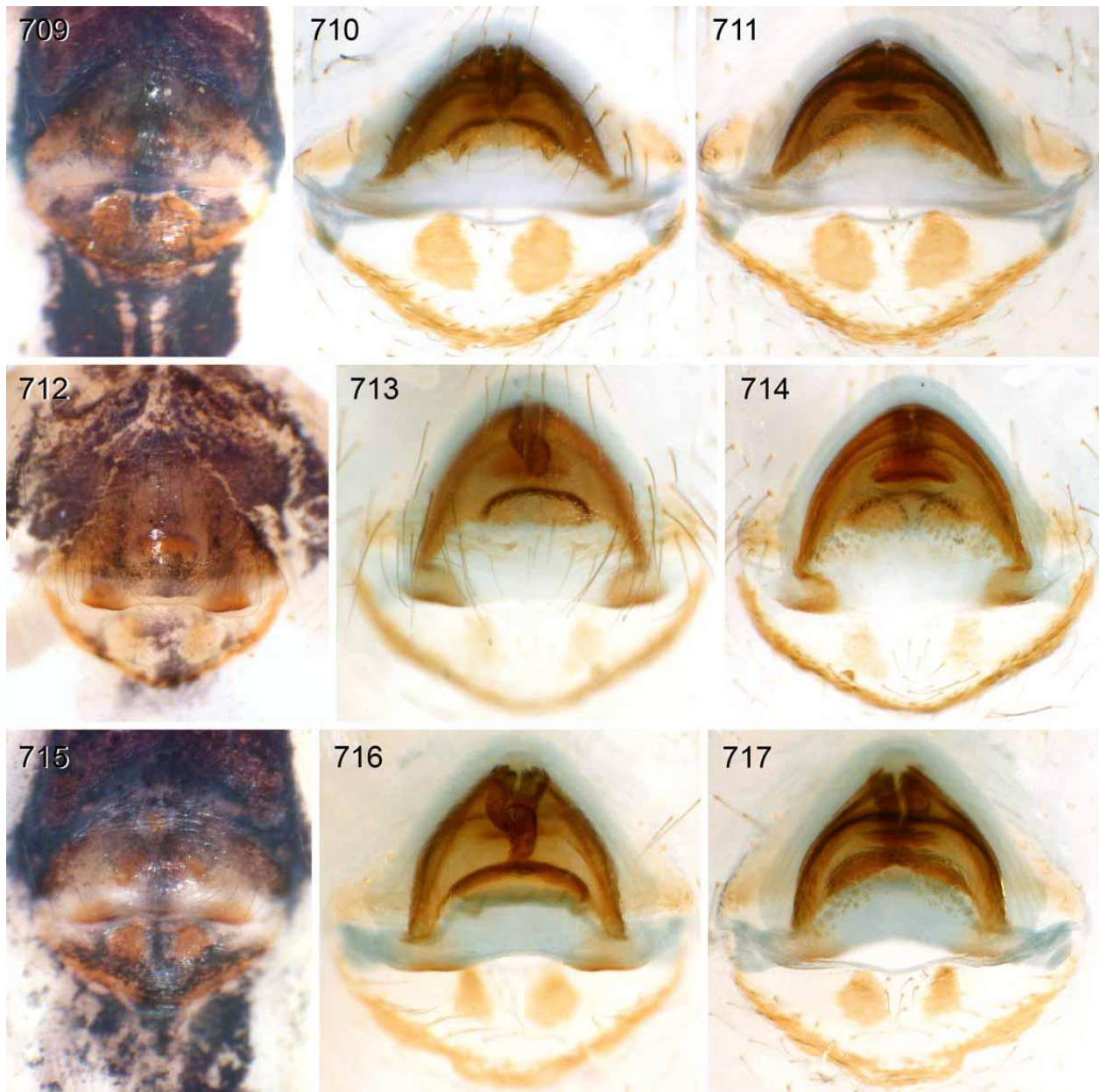
Type. Male holotype from São Tomé and Príncipe, São Tomé Island, Ribeira Palma [0°21'N, 6°35'E], leg. L. Fea, possibly in Museo Civico di Storia Naturale "Giacomo Doria", Genova, not examined.

Diagnosis. Distinguished from similar congeners (other species of the *thomensis* species group) by shape of embolus (two large rounded apophyses arising from embolus dorsally; Figs. 722, 723) and absence of pair of sclerotized areas on posterior rim of epigynum (Fig. 709); from *S. principe* also by absence of dorsal projection from procurus tip (compare Figs. 720 and 725) and much narrower pore plate (compare Figs. 724 and 728). Easily distinguished from all other congeners by distinctive color pattern dorsally on abdomen (figure composed of three black elements on posterior half; Fig. 699).



FIGURES 699–708. *Smeringopus thomensis* group. *S. thomensis* (699–700, 705–706), *S. princeps* (702–704, 707–708), and *S. mayombe* (701). 699, 701, 703. Males, dorsal views. 700, 702. Male prosomata, oblique frontal views. 704. Female, ventral view. 705–708. Left male palps, prolateral and retrolateral views.

Male (Palha Plantation). Total body length 5.0, carapace width 1.5. Leg 1: 45.3 (11.9 + 0.5 + 10.8 + 20.1 + 2.0), tibia 2: 7.2, tibia 3: 5.1, tibia 4: 7.2; tibia 1 L/d: 64. Habitus as in Fig. 699. Carapace ochre-yellow with median and lateral dark pattern, clypeus distal half darker, without pair of lines, sternum dark brown with some small light spots, legs ochre-yellow, femora and tibiae with dark subdistal rings and light tips, abdomen grey with distinctive dorsal pattern, ventrally with dark anterior and posterior plates and three indistinct bands in median section. Distance PME-PME 125 μ m, diameter PME 150 μ m, distance PME-ALE 55 μ m, distance AME-AME 30 μ m, diameter AME 120 μ m. Ocular area slightly elevated, secondary eyes with small dark ‘pseudo-lenses’; deep thoracic pit. Chelicerae with pair of small distal apophyses (Fig. 721), each provided with one modified hair at tip (Fig. 734). Palps as in Figs. 705 and 706, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with deep retrolateral furrow, proximal rim distinct (Fig. 732), procurus with distinctive distal processes (Figs. 719, 720), bulb with complex embolus with distinctive rounded dorsal processes (Figs. 722, 723). Legs without spines, few vertical hairs, without curved hairs, retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 736); ALS with one widened and one pointed spigot each, other spigots apparently reduced to two tiny remnants (cf. female, Fig. 737).



FIGURES 709–717. *Smeringopus thomensis* group. Epigyna, ventral views and cleared female genitalia, ventral and dorsal views. 709–711. *S. thomensis*. 712–714. *S. principe*. 715–717. *S. mayombe*.

Variation. Tibia 1 in 3 other males: 8.9, 10.1, 10.7.

Female. In general similar to male; tibia 1 in 5 females: 8.4–9.7 (mean 9.1). Epigynum a simple, roughly triangular plate with pockets (Figs. 709, 710), posterior plate semicircular; internal genitalia as in Figs. 711, 724, and 739.

Distribution. Known from São Tomé Island only (Fig. 718).

Material examined. SÃO TOMÉ AND PRÍNCIPE: *São Tomé*: Palha Plantation near São Tomé town (0°18.8'N, 6°42.4'E), 12.iv.2001 (C.E. Griswold), 4♂5♀ in CAS. Ponta Barro Bóró (0°23.8'N, 6°36.3'E), in culvert along roadside, 27.iv.2001 (J.M. Ledford), 1♀ 3 juvs in CAS. Augustino Neto, Rio de Oro Plantation (0°21.9'N, 6°38.7'E), 220 m a.s.l., 13.iv.2001 (C.E. Griswold), 1♀ in CAS. São Tomé, no further locality data, 1.xi.1999 (W. Tavernier), 1♂ 1 juv. in MRAC (209235); same data but garden, 17.xi.1999, 1♂ 1 juv. in MRAC (209256).

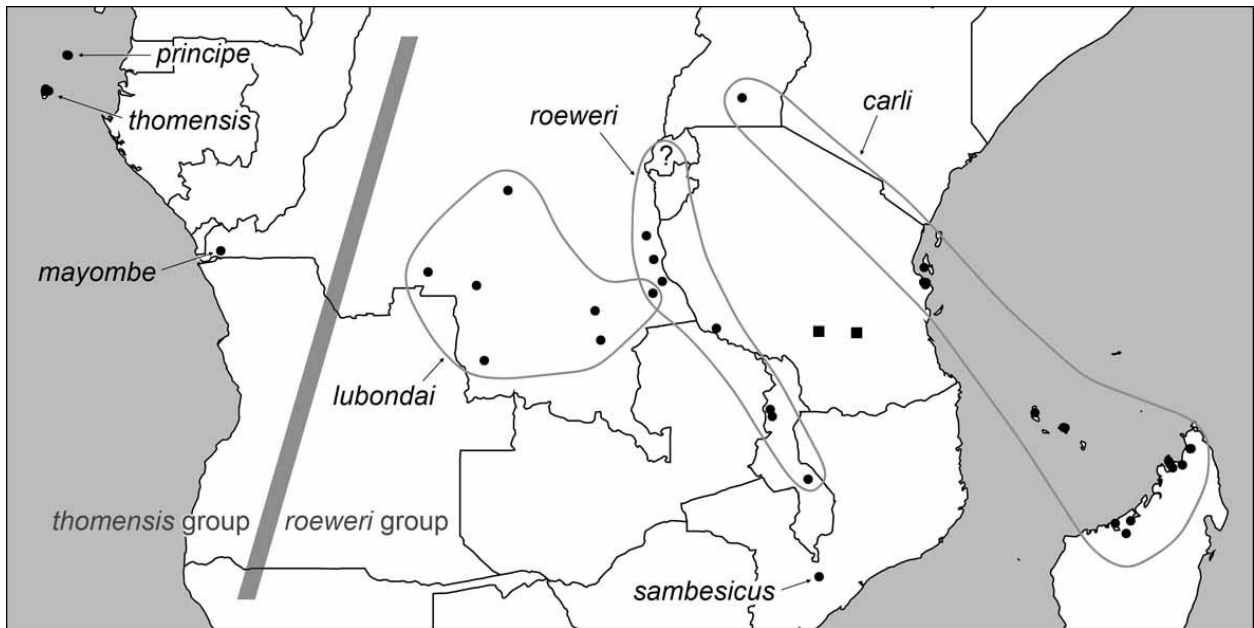
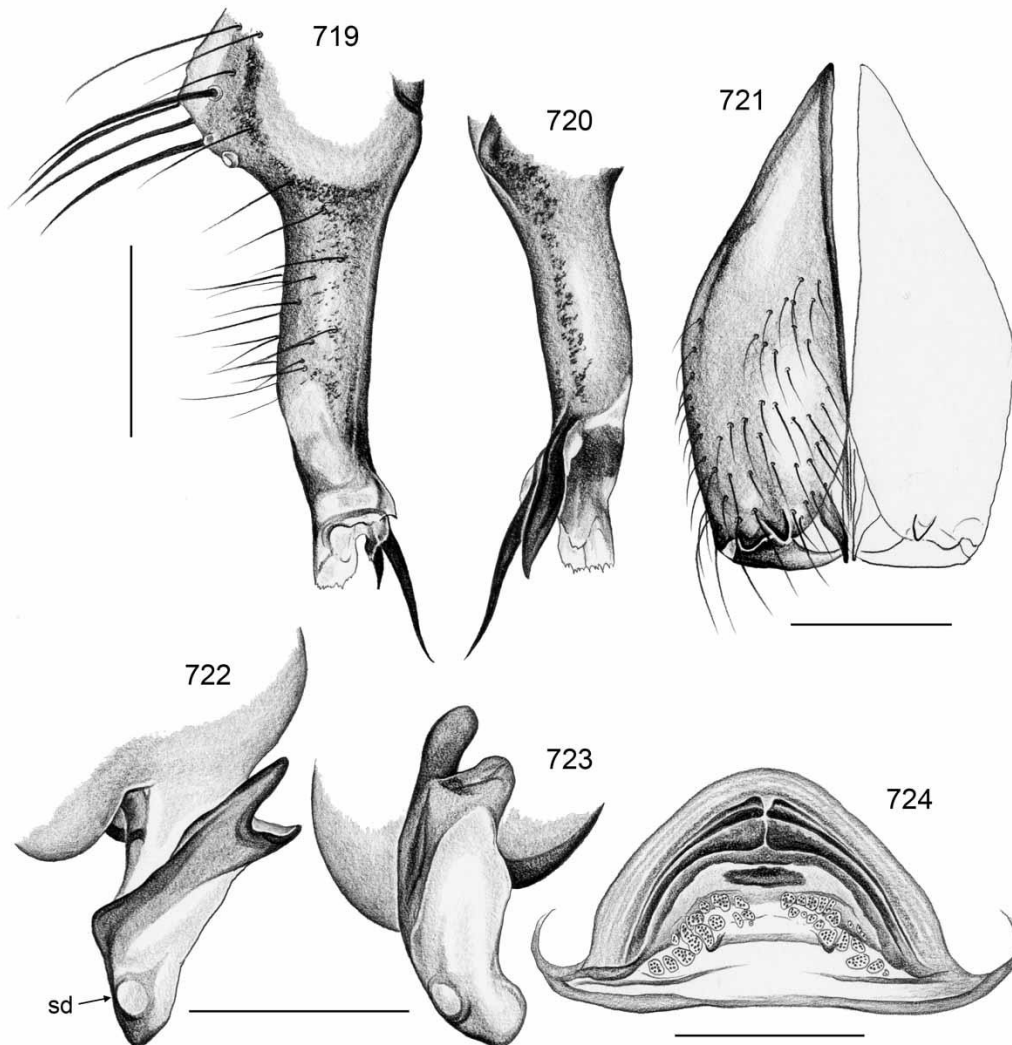
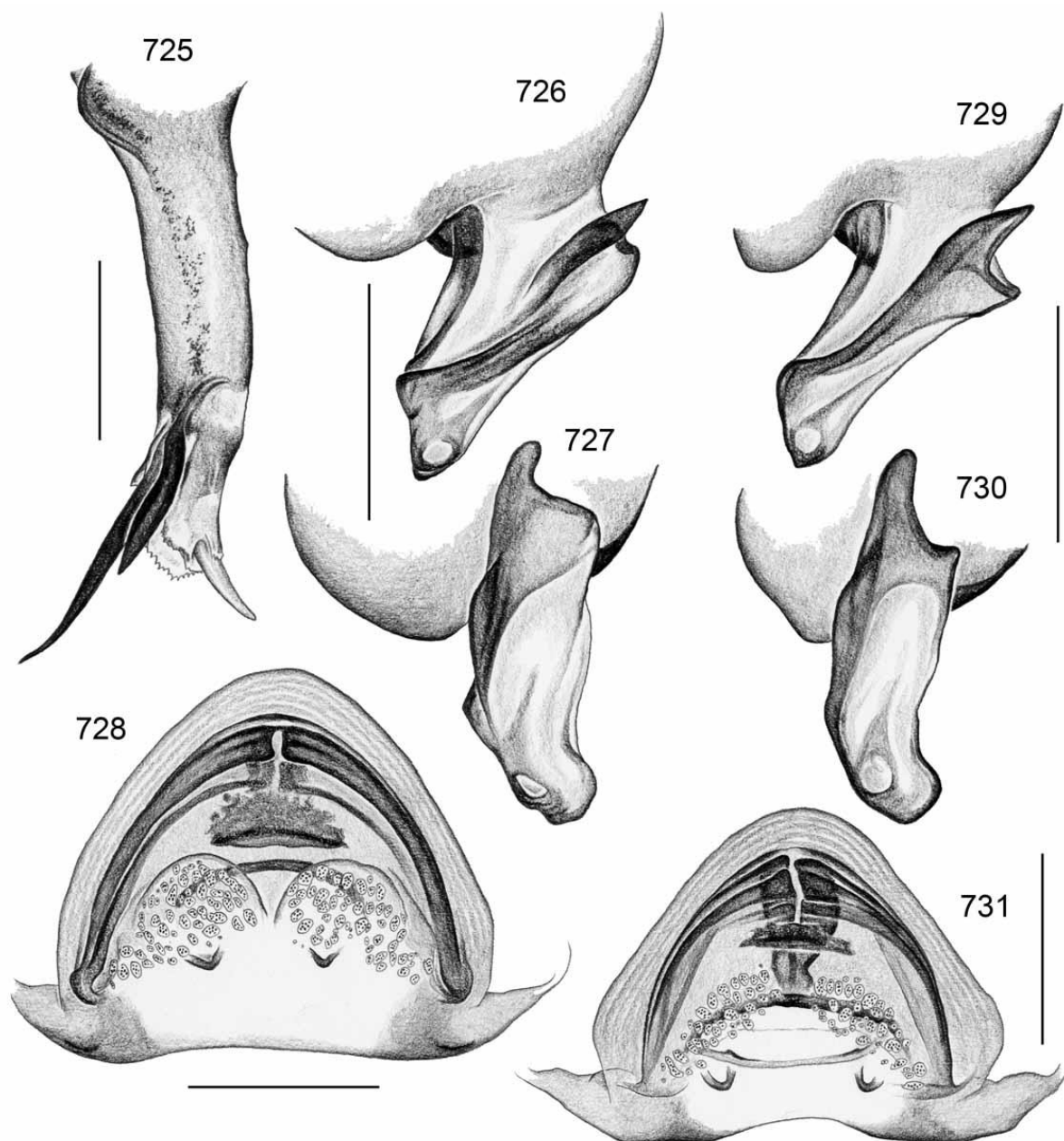


FIGURE 718. Known distributions of the *thomensis* and *roeweri* groups. “?”: unknown type locality of *S. roeweri* in Rwanda. Squares: further undescribed species.



FIGURES 719–724. *Smeringopus thomensis*. 719. Left cymbium and procurus, retrolateral view. 720. Left procurus, prolateral view. 721. Male chelicerae, frontal view. 722–723. Left embolus, prolateral and dorsal (slightly distal) views. 724. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.



FIGURES 725–731. *Smeringopus princeps* (725–728) and *S. mayombe* (729–731). 725. Left procursus, prolateral view. 726–727, 729–730. Left emboli, prolateral and dorsal (slightly distal) views. 728, 731. Cleared female genitalia, dorsal views. Scale lines: 0.3 mm.

***Smeringopus princeps* new species**

Figs. 702–704, 707–708, 725–728, 741–744

Type. Male holotype from São Tomé and Príncipe, Príncipe Island, forest on road to Sundi Plantation, 3.55 air km NW Santo Antonio de Príncipe (1°39.6'N, 7°23.7'E), 195 m a.s.l., sifting leaf litter, 21.iv.2001 (C.E. Griswold), in CAS.

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *thomensis* species group) by dorsal projection on procursus tip (Figs. 725, 742) and much wider pore plates (Figs. 728, 743); also by shape of embolus (only one rounded apophyses arising from embolus; Figs. 726, 727; similar *S. mayombe*); from *S. thomensis* also by pair of sclerotized areas on posterior rim of epigynum (Fig. 712). Easily distinguished from all other congeners by distinctive color pattern dorsally on abdomen (figure composed of three black elements on posterior half; in Fig. 703 the frontal part of this figure appears fragmented).

Male (holotype). Total body length 5.8, carapace width 1.9. Leg 1: 51.7 (14.0 + 0.8 + 12.4 + 21.7 + 2.8), tibia 2: 9.5, tibia 3: 6.8, tibia 4: 9.1; tibia 1 L/d: 54. Habitus as in Fig. 703. Carapace ochre-yellow with median dark mark restricted to frontal part, wide lateral marks, clypeus distal half darker, with pair of lines also restricted to distal half, sternum dark brown with small light spots, legs ochre-yellow, femora and tibiae with dark subdistal rings and light tips, abdomen grey with distinctive dorsal pattern, ventrally with dark anterior and posterior plates and three indistinct bands in median section. Distance PME-PME 125 μm , diameter PME 175 μm , distance PME-ALE 70 μm , distance AME-AME 45 μm , diameter AME 135 μm . Ocular area slightly elevated, secondary eyes with small dark 'pseudo-lenses'; deep thoracic pit. Chelicerae with pair of small distal apophyses as in *S. thomensis* (cf. Fig. 721). Palps as in Figs. 707 and 708, coxa with distinct retrolateral apophysis, trochanter barely modified, femur with deep retrolateral furrow, proximal rim distinct, procurcus with distinctive distal structures including semitransparent dorsal process (Figs. 725, 742), bulb with sclerotized embolus with one rounded dorsal process (Figs. 726, 727, 741). Legs without spines, few vertical hairs, without curved hairs, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 6 other males: 11.1–12.4 (mean 11.9).

Female. In general similar to male; tibia 1 in 3 females: 9.5, 10.7, 11.2. Epigynum a simple, roughly triangular plate with pair of pockets and pair of sclerotized areas on posterior rim, with distinct transversal internal structure visible through cuticle, posterior plate semicircular (Figs. 712, 713); internal genitalia as in Figs. 714 and 728.

Distribution. Known from Príncipe Island only (Fig. 718).

Material examined. SÃO TOMÉ AND PRÍNCIPE: *Príncipe*: forest on road to Sundi Plantation, 3.55 air km NW Santo Antonio de Príncipe: type above; same data, 1♂1♀ 1 juv. in CAS; same data but without "sifting litter", 4♂1♀ + juvs in CAS; same data but beating/sweeping forest understory, 1♀ in CAS. Agua Doctor, degraded forest north of Santo Antonio de Príncipe on road to airport (1°39.3'N, 7°25.0'E), 19.iv.2001 (C.E. Griswold), 1♂1♀ + juvs in CAS. 1.72 air km 241° W of Santo Antonio de Príncipe town centre (1°38.0'N, 7°24.4'E), 120 m a.s.l., forest understory, 20.iv.2001 (C.E. Griswold), 1♂1♀ 2 juvs in CAS. Portinho, trail to Praia Salgada (1°37.9'N, 7°27.1'E), 16.v.2001 (J.M. Ledford), 1♂1♀ 2 juvs in CAS.

Smeringopus mayombe new species

Figs. 701, 715–717, 729–731

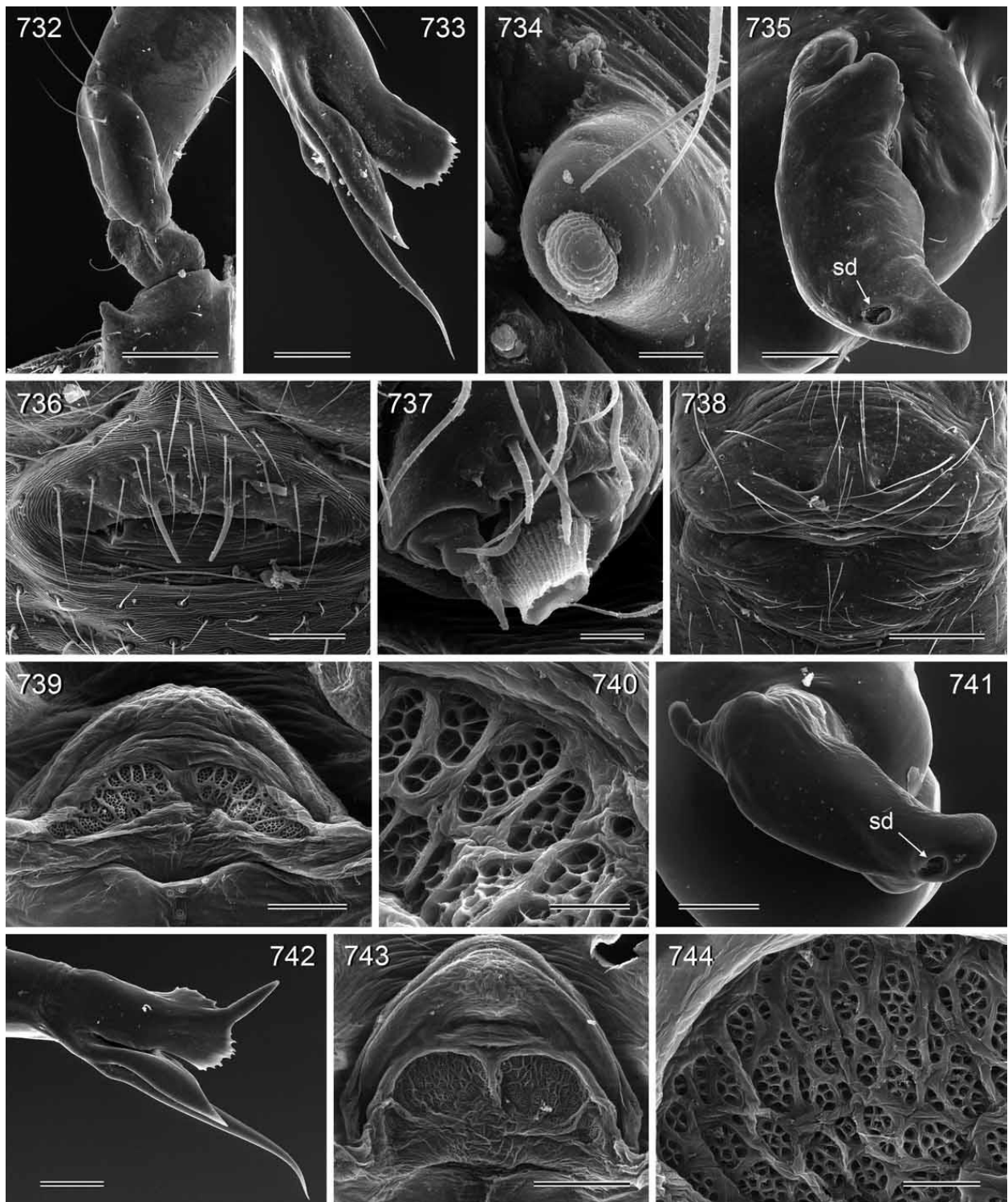
Type. Male holotype from Congo D.R., Congo Centrale Prov. ("Bas-Congo"), Mayombe, Luki Forest Reserve (5°37.3'S, 13°05.9'E), hand catch, edge of road near guest house, 4.xi.2006 (D. de Bakker, J.P. Michiels), in MRAC (221613 part).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar congeners (other species of the *thomensis* species group) by shape of embolus (one large and one tiny apophysis arising from embolus; Figs. 729, 730; similar *S. principe*); from *S. thomensis* also by pair of sclerotized areas on posterior rim of epigynum (Fig. 715) and wider pore plates (Fig. 731); from *S. principe* also by absence of dorsal projection from procurcus tip (procurcus as in *S. thomensis*, cf. Figs. 719, 720). Easily distinguished from all other congeners by distinctive color pattern dorsally on abdomen (figure composed of three black elements on posterior half; Fig. 701).

Male (holotype). Total body length 6.1, carapace width 1.8. Leg 1: 53.3 (13.7 + 0.8 + 12.8 + 23.7 + 2.3), tibia 2: 8.7, tibia 3: 6.1, tibia 4: 8.5; tibia 1 L/d: 60. Habitus as in Fig. 701. Carapace ochre-yellow with light brown median mark and narrow lateral marks, clypeus distal half darker, sternum dark brown with small light spots, legs ochre-yellow, femora and tibiae with dark subdistal rings and light tips, abdomen grey with distinctive dorsal pattern, ventrally with dark anterior and posterior plates and three indistinct bands in median section. Distance PME-PME 125 μm , diameter PME 160 μm , distance PME-ALE 60 μm , distance AME-AME 25 μm , diameter AME 135 μm . Ocular area slightly elevated, secondary eyes with small dark 'pseudo-lenses'; deep thoracic pit. Chelicerae with pair of small distal apophyses as in *S. thomensis* (cf. Fig. 721). Palps in general as in *S. thomensis* (cf. Figs. 705, 706), procurcus not distinguishable (cf. Figs. 719, 720), only bulb different, with one large and one tiny dorsal processes (Figs. 729, 730). Legs without spines, few vertical hairs, without curved hairs, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Variation. Tibia 1 in 3 other males: 10.9, 11.3, 11.3. Posterior part of median mark on carapace sometimes barely visible.

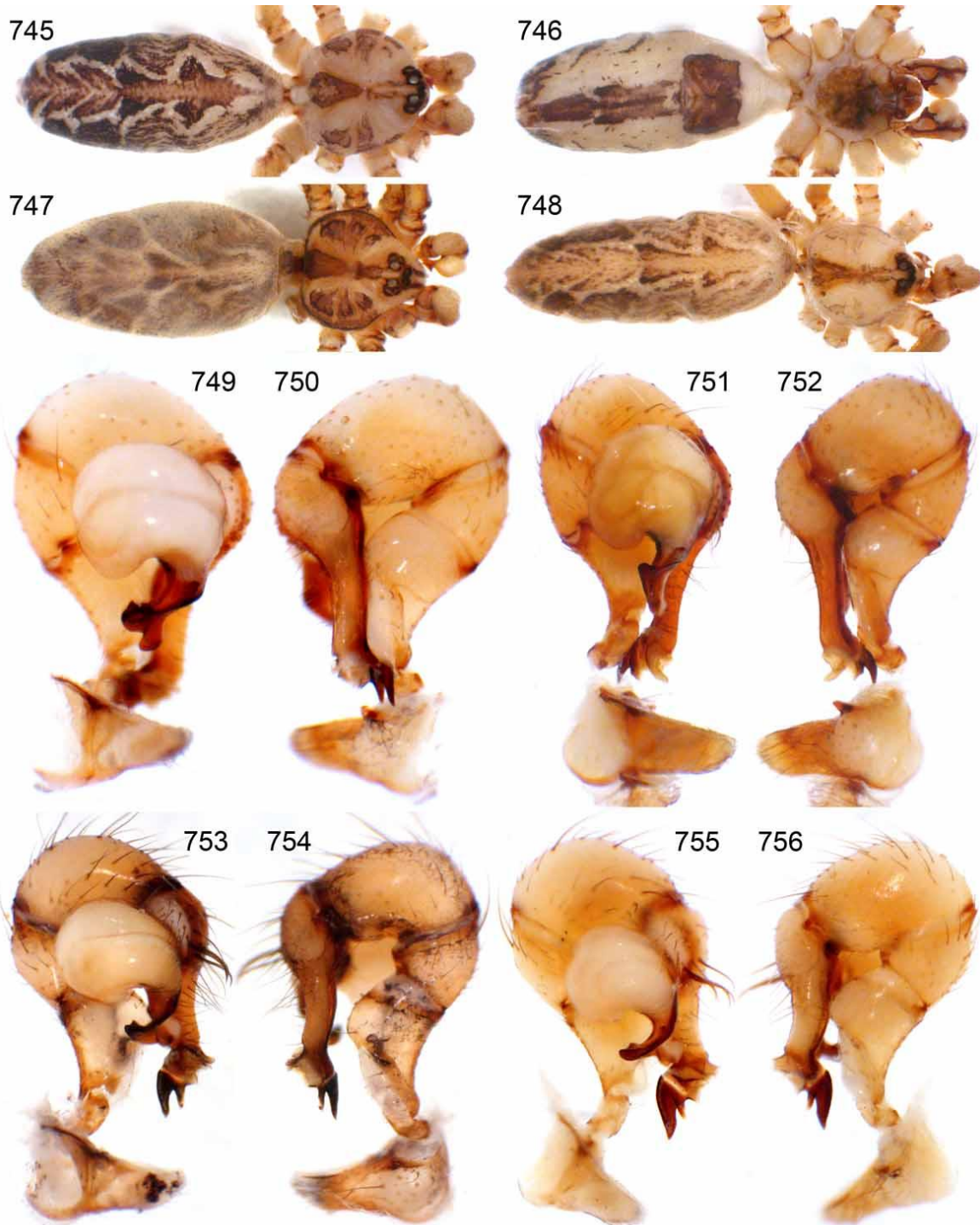


FIGURES 732–744. *Smeringopus thomensis* (732–740) and *S. principe* (741–744). 732. Left male palpal femur, retrolateral view. 733. Left procrurus tip, prolateral view. 734. Male cheliceral apophysis. 735. Left embolus, distal view. 736. Male gonopore. 737. Female ALS. 738. Epigynum. 739. Cleared female genitalia, dorsal view. 740. Detail of pore plate. 741. Left embolus, distal view. 742. Left procrurus tip, prolateral view. 743. Cleared female genitalia, dorsal view. 744. Detail of pore plate. Scale lines: 10 μm (734, 737), 20 μm (740), 30 μm (744), 80 μm (733, 735–736), 100 μm (739, 741–742), 200 μm (732, 738, 743).

Female. In general similar to male; tibia 1 in 11 females: 6.7–11.3 (mean 9.7). Epigynum a simple, roughly triangular plate with pair of pockets and pair of sclerotized areas on posterior rim, transversal internal structure variably well visible, posterior plate semicircular (Figs. 715, 716); internal genitalia as in Figs. 717 and 731.

Distribution. Only known from type locality in western Congo D.R. (Fig. 718).

Material examined. CONGO D.R.: *Congo Centrale Prov.*: Mayombe, Luki Forest Reserve: type above, together with 2♀; same locality, fogging in primary rainforest, 4.–13.xi.2006 and 26.ix.–4.x.2007 (8 vials) 5♂13♀ in MRAC (parts of 219850, 219852–53, 219855, 224312, 224315, 224318–19); fogging in old secondary rainforest, 18.–25.ix.2007 (5 vials), 9♀ in MRAC (parts of 224304–07, 224311); beating in old secondary rainforest, 17.ix.2007 and 22.ix.2007 (2 vials), 3♂ 2♀ 1 juv. in MRAC (parts of 223120, 224308); beating in primary rainforest, 29.ix.2007, 1♀ in MRAC (223842 part); beating along trails near guest house, 9.xi.2006 and 19.ix.2007 (2 vials), 3♀ in MRAC (parts of 221618, 223761); central zone of Luki F.R., 26.–27.ix.2007 (W. Hubau), 1♀ in MRAC (222155 part).



FIGURES 745–756. *Smeringopus roeweri* group, habitus and left male palps, prolateral and retrolateral views. 745–746. *S. roeweri*, male, dorsal and ventral views. 747. *S. lubondai*, male, dorsal view. 748. *S. carli*, male, dorsal view. 749–750. *S. roeweri*. 751–752. *S. lubondai*. 753–754. *S. carli*. 755–756. *S. sambesicus*.

***Smeringopus roeweri* Kraus, 1957**

Figs. 745–746, 749–750, 757–758, 765–773, 791–800

Smeringopus roeweri Kraus 1957: 226–228, pl. 21, figs. 23–27.

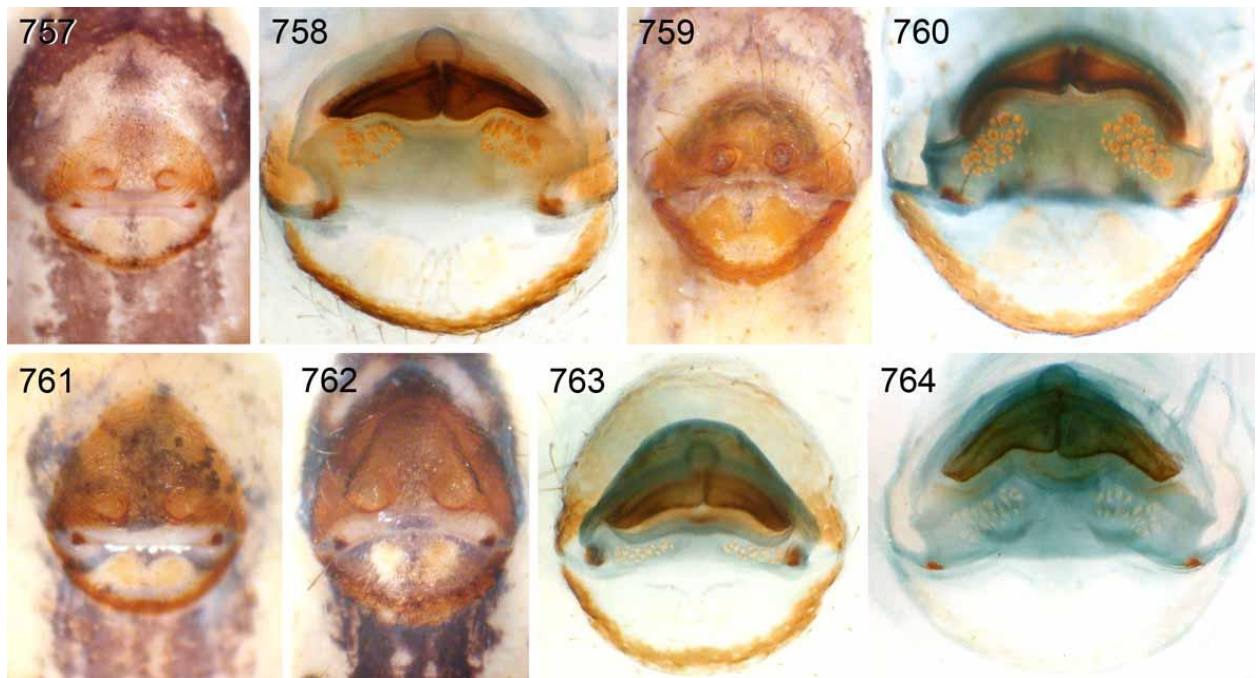
Type. Male holotype from Rwanda, no further data, in SMF (RII 7770), examined.

Diagnosis. Distinguished from similar species with proximal and distal cheliceral apophyses (*S. carli*, *S. sambesicus*, *S. lubondai*) by shapes of procurus (distal blade-shaped apophyses, Figs. 765–767), bulb (processes of embolus, Figs. 768–770), and cheliceral apophyses (Figs. 771, 772); from *S. carli* and *S. sambesicus* also by shorter frontal epigynal plate (Fig. 757).

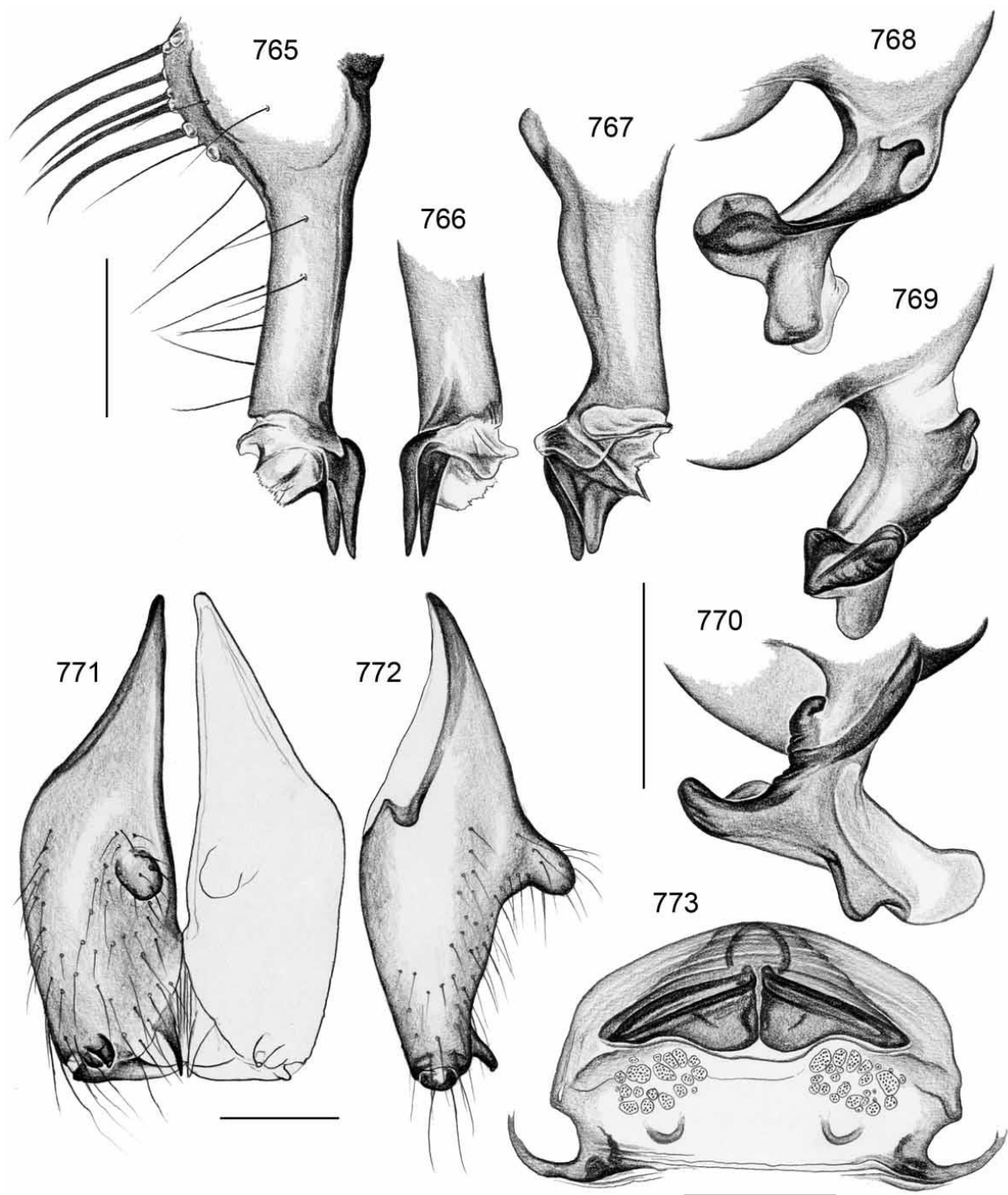
Male (Bendera). Total body length 6.9, carapace width 2.1. Leg 1: 51.3 (14.3 + 0.9 + 13.7 + 19.7 + 2.7), tibia 2: 9.9, tibia 3: 7.5, tibia 4: 10.1; tibia 1 L/d: 52. Habitus as in Figs. 745 and 746. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of brown stripes, sternum brown with light marks near coxae 2–4 and more medially, legs light brown, tips of femora and tibiae lighter, darker rings on femora and tibiae distally and in patella area, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 205 µm, diameter PME 175 µm, distance PME-ALE 60 µm, distance AME-AME 45 µm, diameter AME 170 µm. Ocular area slightly elevated, secondary eyes with small ‘pseudo-lenses’ (Fig. 796); deep thoracic pit. Chelicerae as in Figs. 771 and 772, with prominent proximal apophyses and small distal apophyses. Palps as in Figs. 749 and 750, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with ventrally distinct rim, procurus with distinctive distal blade-shaped processes (Figs. 765–767, 792, 793), bulb with distinctive complex embolus (Figs. 768–770, 794). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 2%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots (Fig. 795).

Variation. Tibia 1 in 41 males: 9.6–15.2 (mean 12.2). The holotype is in fair condition but chelicerae and right palp are missing; tibia 1 missing, tibia 2: 9.3; color pattern indistinct (light areas artificially darkened).

Female. In general similar to male; tibia 1 in 80 females: 8.4–13.2 (mean 9.8). Epigynum a simple plate, round pockets posteriorly deeper but also anteriorly with distinct rim (Figs. 757, 798); internal genitalia as in Figs. 758 and 773. ALS with eight spigots each (Fig. 799); PMS with two spigots each (Fig. 800). Females from Tatanda (Tanzania) remind of *S. peregrinus* (anterior rim indistinct, pockets closer together) and are assigned tentatively.



FIGURES 757–764. *Smeringopus roeweri* group, epigyna, ventral views and cleared female genitalia, dorsal views. 757–758. *S. roeweri*. 759–760. *S. lubondai*. 761–763. *S. carli*. 764. *S. sambesicus*.



FIGURES 765–773. *Smeringopus roeweri*. 765. Left cymbium and procurus, retrolateral view. 766–767. Left procurus, prolateral and dorsal views. 768–770. Left embolus, prolateral, prolatero-ventral, and prolatero-dorsal views. 771–772. Male chelicerae, frontal and lateral views. 773. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm.

Distribution. Known from Rwanda, southeastern Congo D.R. (Tanganyika), western Tanzania, and Malawi (Fig. 718).

Material examined. RWANDA: 1♂ type above.

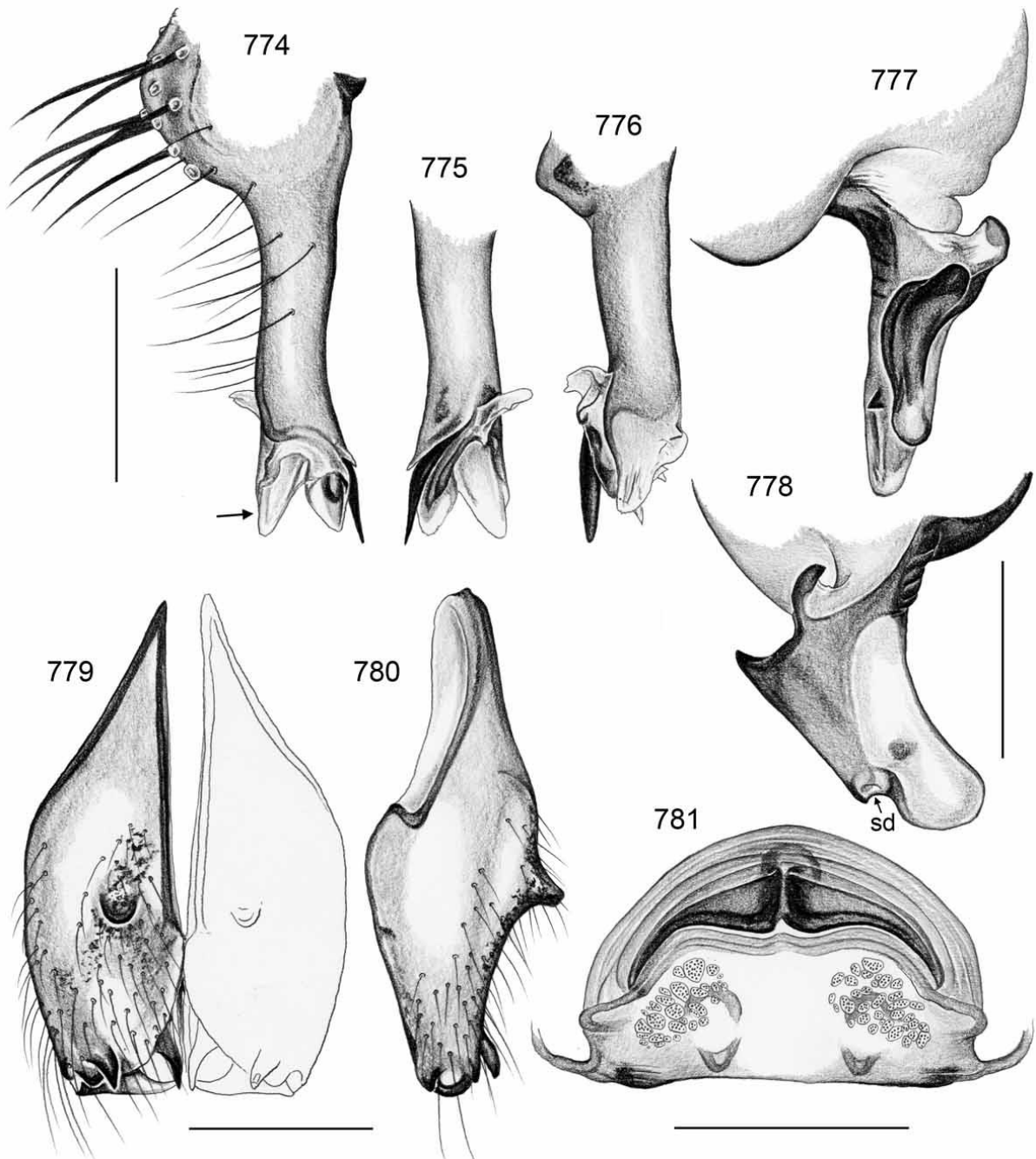
CONGO D.R.: *Tanganyika Prov.*: Terr. d’Albertville, Bendera [5°03’S, 28°54’E], 950 m a.s.l., in *Macrotermes* nest, x.1958 (N. Leleup), 2♂2♀ in MRAC (112886). Kapona [7°11.0’S, 29°08.7’E], iii.1966 (J. Bafort), 1♂2♀ 2 juvs. in MRAC (129785 part). Albertville [=Kalemie, 5°56’S, 29°11’E], 1959 (J. Verhoustraete), 1♂2♀ in MRAC (115067 part). Mpala, bord lac Tanganika [~6°44’S, 29°30’E], 11.vii.1953 (H. Bomans), 45♂79♀ in MRAC (75869–918).

TANZANIA: *Rukwa Region*: Sumbawanga Distr., Tatanda, 80 km S of Sumbawanga (8°29.6'S, 31°30.2'E), 1800 m a.s.l., around houses, 3.–4.ii.1997 (P.P. Bjørn, L. Sørensen), 2♂4♀ 1 juv. (females assigned tentatively; see above) in ZMUC.

MALAWI: *Northern Region*: Mzimba Distr., 10 mi N Mzimba [~11°45'S, 33°35'E], 1610 m a.s.l., 23.ii.1958 (E.S. Ross, R.E. Leech), 1♂1♀ in CAS. 41 mi N Mzimba [~11°30'S, 33°30'E], 1360 m a.s.l., 23.ii.1958 (E.S. Ross, R.E. Leech), 1♀ in CAS. *Southern Region*: Mpepwe near Monkey Bay [~14°05'S, 34°55'E], 24.ii.1976 (R. Jocqué), 1♀ in MRAC (148103).

***Smeringopus lubondai* new species**

Figs. 747, 751–752, 759–760, 774–781



FIGURES 774–781. *Smeringopus lubondai*. 774. Left cymbium and procurus, retrolateral view (arrow points to variable structure; see text). 775–776. Left procurus, prolateral and dorsal views. 777–778. Left embolus, prolateral and dorsal views. 779–780. Male chelicerae, frontal and lateral views. 781. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm (777–778), 0.5 mm (774–776, 779–781).

Type. Male holotype from Congo D.R., Lulua Prov., Lubondai [6°54'S, 22°36'E], Mission protestante, date unknown, leg. Rev. Stegall ("T49/3347"), in MRAC (65956).

Etymology. The name is a noun in apposition, derived from the type locality.

Diagnosis. Distinguished from similar species with proximal and distal cheliceral apophyses (*S. roeweri*, *S. carli*, *S. sambesicus*) by shapes of procurus (only one distal blade-shaped apophysis, Figs. 774–776), bulb (processes of embolus, Figs. 777, 778), cheliceral apophyses (short proximal apophyses, Figs. 779, 780); from *S. carli* and *S. sambesicus* also by shorter frontal epigynal plate (Fig. 759).

Male (holotype). Total body length 8.3, carapace width 2.6. Leg 1: 56.6 (15.3 + 1.1 + 14.8 + 23.1 + 2.3), tibia 2: 10.4, tibia 3: 7.7, tibia 4: 10.8; tibia 1 L/d: 51. Habitus as in Fig. 747. Carapace ochre-yellow with brown median and lateral marks, clypeus with pair of brown stripes, leg femora and tibiae with light tips and distinct dark subdistal rings, patellae also darkened, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 195 µm, diameter PME 195 µm, distance PME-ALE 80 µm, distance AME-AME 60 µm, diameter AME 195 µm. Ocular area slightly elevated, secondary eyes with distinct 'pseudo-lenses'; deep thoracic pit. Chelicerae with relatively small proximal apophyses and distal apophyses (Figs. 779, 780). Palps as in Figs. 751 and 752, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with shallow retrolateral furrow with ventrally distinct rim, procurus with distinctive sclerotized and membranous processes (Figs. 774–776), bulb with distinctive embolus (Figs. 777, 778). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots.

Variation. Extent and intensity of carapace pattern varies widely. In some males, the membranous flap dorso-distally on the procurus (arrow in Fig. 774) is slightly bent towards dorsal. Tibia 1 in 5 males: 12.3–14.5 (mean 13.7).

Female. In general similar to male; tibia 1 in 12 females: 9.1–12.8 (mean 10.7). Epigynum a simple plate, round pockets posteriorly deeper but also anteriorly with distinct rim (Fig. 759), similar *S. roeweri* but pockets slightly closer together; internal genitalia as in Figs. 760 and 781.

Distribution. Widely distributed in southern Congo D.R. (Fig. 718).

Material examined. CONGO D.R.: *Lulua Prov.*: Lubondai: 1♂ type above. *Lualaba Prov.*: Sandoa [=Sanduwa, 9°41'S, 22°53'E], 1932 (Denis), 1♂7♀ in MRAC (26871–79); same locality, no date (G.F. Overlaet), 1♂1♀ in MRAC (26922–27 part). *Kasai Prov.*: Tshikapa [6°24'S, 20°48'E], "Tshaka", 1930 (Fourche), 1♂2♀ in MRAC (25681–82). Tshikapa, "Tshemanginda", 1930 (Fourche), 1♂3♀ in MRAC (25683–86). *Tanganyika Prov.*: Kapona [7°11.0'S, 29°08.7'E], iii.1966 (J. Bafort), 1♂ in MRAC (129785 part). *Haut-Katanga Prov.*: Lusinga, riv. Ntumbwa [8°56'S, 27°13'E], 9./11.iv.2001 (PNU staff), 2♀ (2 vials) in MRAC (211723, 29). *Sankuru Prov.*: Komi [=Ekomi; 3°23'S, 23°46'E], 19.i.1930 (J. Ghesquière), 1♂ in MRAC (25691). *Haut-Lomami Prov.*: Mulongo (Nyunzu) [7°50'S, 27°00'E?], v.1930 (P. Gerard), 1♂1♀ in MRAC (25671–72); same locality, 20.–30.v.1930 (P. Gerard), 3♀ 1 juv. in MRAC (25667–70).

***Smeringopus carli* Lessert, 1915**

Figs. 748, 753–754, 761–763, 782–790, 801–804

Smeringopus carli Lessert 1915: 6–8, pl. 1, figs. 1–2.

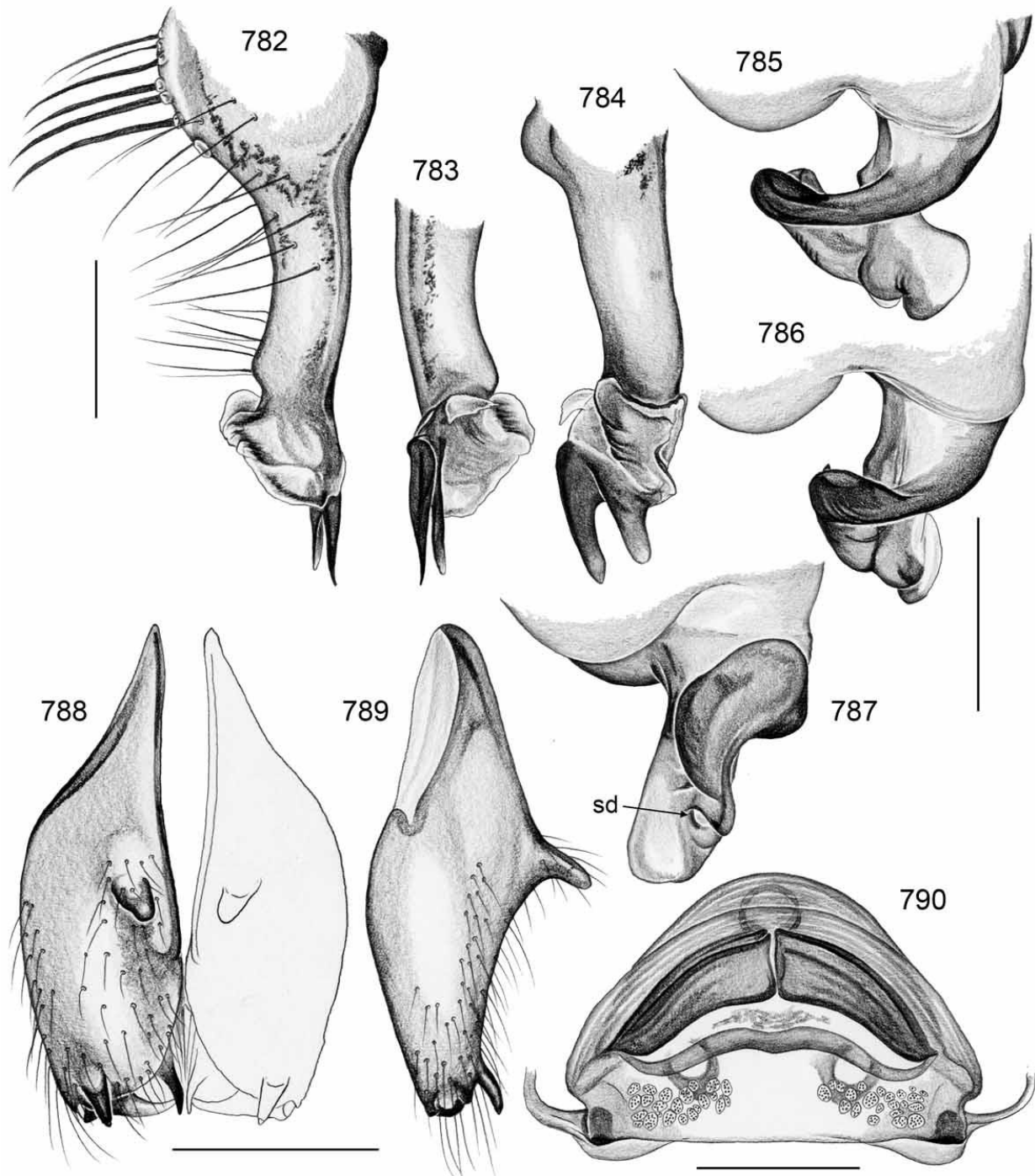
Smeringopus madagascariensis Millot, 1946: 150–153, figs. 25b, 26a–d, 27, 28a–c. **New synonymy.**

Types. *Smeringopus carli*: Male holotype from Uganda, Central Region, Entebbe [~0°03'N, 32°28'E], no date (J. Carl), in MHNG, examined.

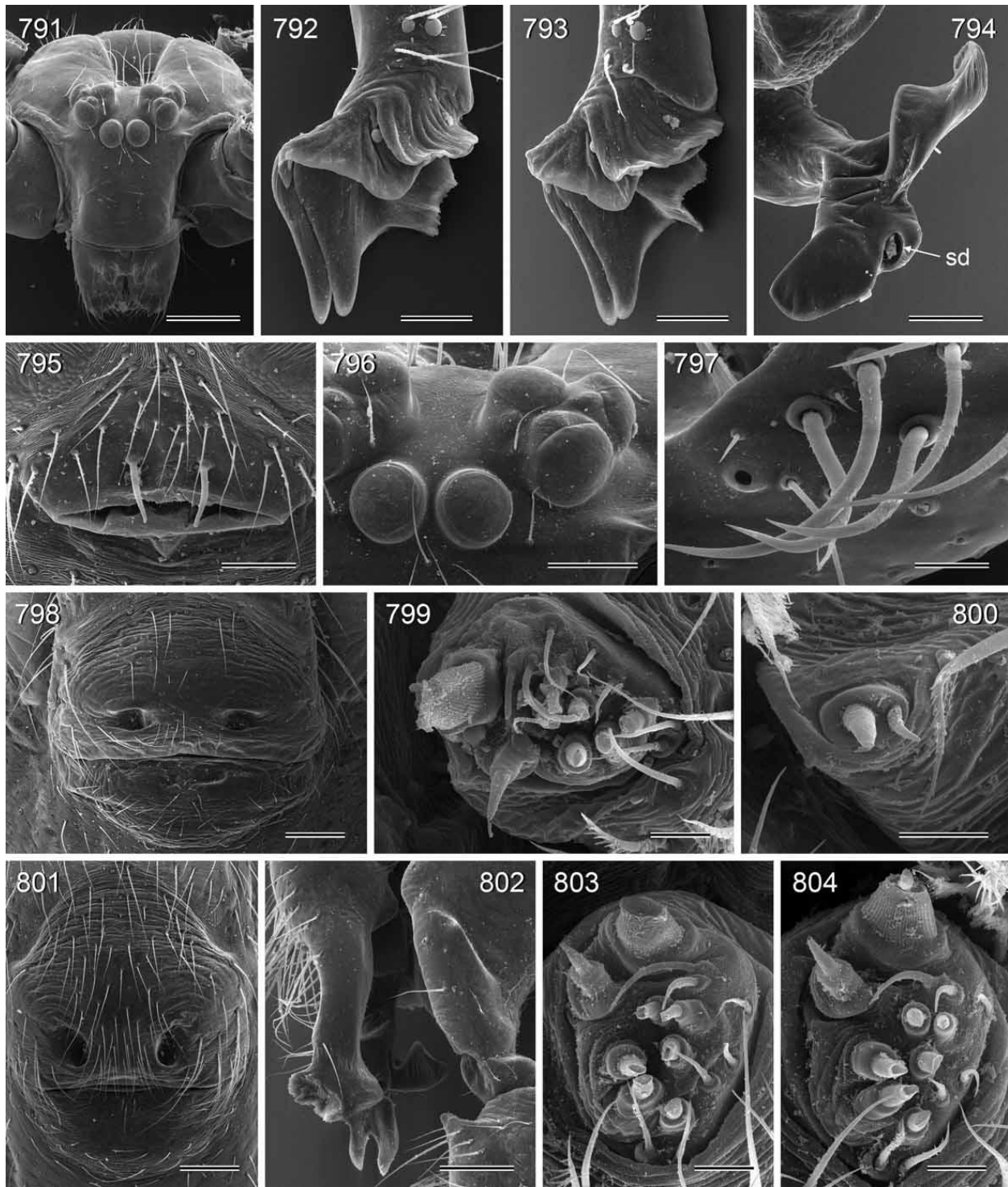
Smeringopus madagascariensis (all types collected by J. Millot, in MNHN, examined): ♂ paralectotype (designated herein) and 2♂1♀ 3 juvs. paralectotypes from Bas-Sambirano [13°36'S, 48°27'E]; 1♀ paralectotype from Anaborano [13°33'S, 48°49'E]; 1 juv. paralectotype from Andranoboka [15°38'S, 46°53'E]; 1♀ paralectotype from Ankarana [12°57'S, 49°06'E]; 2♀ 5 juvs. paralectotypes from Ankify [13°32'S, 48°21'E]; 1♀ paralectotype from Majunga [15°43'S, 46°19'E]; 1♀ 1 juv. paralectotypes from Nossi-Bé [13°24'S, 48°18'E]; 1♂1♀ 1 juv. paralectotypes from Nossi-Komba [13°28'S, 48°20'E].

Justifications of synonymy and lectotype designation. There is slight genital variation among Millot's specimens, with some of them (including the lectotype) identical to the *S. carli* holotype and others with a genital bulb that reminds of *S. sambesicus* and a procurus that reminds of *S. roeweri*. The identity of these latter specimens (especially those from Nossi-Komba, Ankify, and Anaborano) requires further collecting and study.

Diagnosis. Distinguished from similar species with proximal and distal cheliceral apophyses (*S. roeweri*, *S. sambesicus*, *S. lubondai*) by shapes of procurus (distal blade-shaped apophyses, Figs. 782–784), bulb (processes of embolus, Figs. 785–787), cheliceral apophyses (Figs. 788, 789); from *S. roeweri* and *S. lubondai* also by long frontal epigynal plate (Figs. 761, 762, 801).



FIGURES 782–790. *Smeringopus carli*. 782. Left cymbium and procurus, retrolateral view. 783–784. Left procurus, prolateral and dorsal views. 785–787. Left embolus, prolateral, prolatero-ventral, and retrolatero-ventral views. 788–789. Male chelicerae, frontal and lateral views. 790. Cleared female genitalia, dorsal view. Scale lines: 0.3 mm (782–787, 790), 0.5 mm (788–789).



FIGURES 791–804. *Smeringopus roeweri* (791–800) and *S. carli* (801–804). 791. Male prosoma, frontal view. 792–793. Left procurus, prolateral and dorsal views. 794. Left embolus. 795. Male gonopore. 796. Male ocular area. 797. Cymbial macrotrichia. 798. Epigynum. 799. Female ALS. 800. Female PMS. 801. Epigynum. 802. Left palp, retrolateral view. 803–804. Male and female ALS. Scale lines: 20 μm (799–800, 803–804), 50 μm (797), 80 μm (792–793), 100 μm (794–795), 200 μm (796, 798, 801–802), 500 μm (791).

Male (Dar es Salaam). Total body length 7.4, carapace width 2.2. Leg 1: 49.6 (13.5 + 0.9 + 12.8 + 20.0 + 2.4), tibia 2: 9.3, tibia 3: 6.9, tibia 4: 9.6; tibia 1 L/d: 52. Habitus as in Fig. 748. Carapace ochre-yellow with brown median and indistinct lateral marks, clypeus with pair of brown stripes, sternum brown with light marks near coxae

2–4 and more medially, legs light brown, tips of femora and tibiae lighter, darker rings on femora and tibiae distally and in patella area, abdomen ochre-gray with distinct dorsal and ventral pattern. Distance PME-PME 150 µm, diameter PME 195 µm, distance PME-ALE 70 µm, distance AME-AME 45 µm, diameter AME 185 µm. Ocular area slightly elevated, secondary eyes with indistinct ‘pseudo-lenses’; deep thoracic pit. Chelicerae as in Figs. 788 and 789, with slender proximal apophyses and distal apophyses. Palps as in Figs. 753 and 754, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with retrolateral furrow with ventrally distinct rim (Fig. 802), procurus with distinctive distal blade-shaped processes (Figs. 782–784), bulb with distinctive complex embolus (Figs. 785–787). Legs without spines, few vertical hairs, with curved hairs ventrally on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1. Gonopore with two epiandrous spigots; ALS with eight spigots each (Fig. 803).

Variation. Tibia 1 in 18 males: 8.1–12.7 (mean 10.7). In the holotype, the blade-shaped apophyses distally on the left procurus are broken and this artifact was illustrated by Lessert (1915, fig. 1) and used by Kraus (1957) in his identification key. Otherwise the holotype is in fair condition, all legs and both palps are detached, the carapace pattern is largely lost; tibia 1: 11.2.

Female. In general similar to male; tibia 1 in 34 females: 7.7–11.2 (mean 9.1). Epigynum a simple, distinctively long plate, round pockets posteriorly deeper but also anteriorly with distinct rim (Figs. 761, 762, 801); internal genitalia as in Figs. 763 and 790. ALS as in male (Fig. 804).

Distribution. Apparently widely distributed in eastern Africa, the Comoros, and northern Madagascar (Fig. 718), but all mainland localities are in urban areas. For Madagascar, Millot (1946) noted that this species is rather found in natural habitats (in forests, under large rocks, in caves and crevices, under bridges) suggesting that *S. carli* may actually have originated from Madagascar.

Material examined. UGANDA: *Central Region*: Entebbe: 1♂ type above.

TANZANIA: *Dar es Salaam Region*: Mbagala [6°52.6'S, 39°15.2'E], on outer wall of building, 1.ii.1952 (Knipper), 3♂2♀ in SMF (“Knipper 44”). Dar es Salaam, U.D.S.M. Campus [6°46.5'S, 39°12.5'E], grassland behind Science Faculty workshop, 30.vi.1978 (K.M. Howell), 1♂1♀ in MRAC (159270 part). Dar es Salaam, in botanical garden near museum [6°48.7'S, 39°17.6'E], at base of *Ficus* tree, 19.i.1952 (Knipper), 2♀ in SMF (“Knipper 18”). Dar es Salaam, 2.vii.1980 (M. Stoltze, N. Scharff), 1♀ in ZMUC. *Zanzibar Urban/West Region*: Zanzibar airport [6°14'S, 39°13'E], 21.xi.1975 (M. Saaristo), 1♂ in ZMT (AA 3379 part). Unknown locality (Tanzania?, “Knipper 117”), 1♂1♀ in SMF.

COMOROS: *Grand Comore*: Bahani-Koimbani [11°37'S, 43°20'E], Coulée, under stones, 31.v.2003 (R. Jocqué, D. van den Spiegel), 1♂1♀ in MRAC (213150). *Anjouan*: Bazimini [12°11'S, 44°27'E], under bridge, 6.xii.1983 (R. Jocqué), 1♂ in MRAC (161080). Mutsamudu [12°10'S, 44°24'E], xi.–xii.1983 (“recolté par élèves du lycée”, R. Jocqué), 3♂4♀ (2 vials) in MRAC (161021, 22). Anjouan, no further locality data, v.2003 (R. Jocqué, D. van den Spiegel), 1♀ in MRAC (213430).

MADAGASCAR: 4♂8♀ + juvs types of *S. madagascariensis* above. Ankarana, ix.1946 (J. Millot), 4♂5♀ 1 juv. in MNHN. Ankarana, maison, 1946 (J. Millot), 1♀ in MNHN. “Mahilaka”, ix.1946 (J. Millot), 8♂3♀ in MNHN. Region de Diego [~12°17'S, 49°17'E], tronc d'arbre, 1946 (J. Millot), 1♂1♀ in MNHN. Hell-Ville, Nossi-Bé [13°24'S, 48°16'E], sous pierres, 1946 (J. Millot), 1♀ in MNHN. *Majunga [=Mahajanga] Prov.*: 9 km E Marovoay [~16°06'S, 46°44'E], 31.x.1962 (E.D. Cashatt), 1♂ in USNM. “NW Madagascar”, Hildebrandt leg., no further data, 16♂31♀ in ZMB.

***Smeringopus sambesicus* Kraus, 1957**

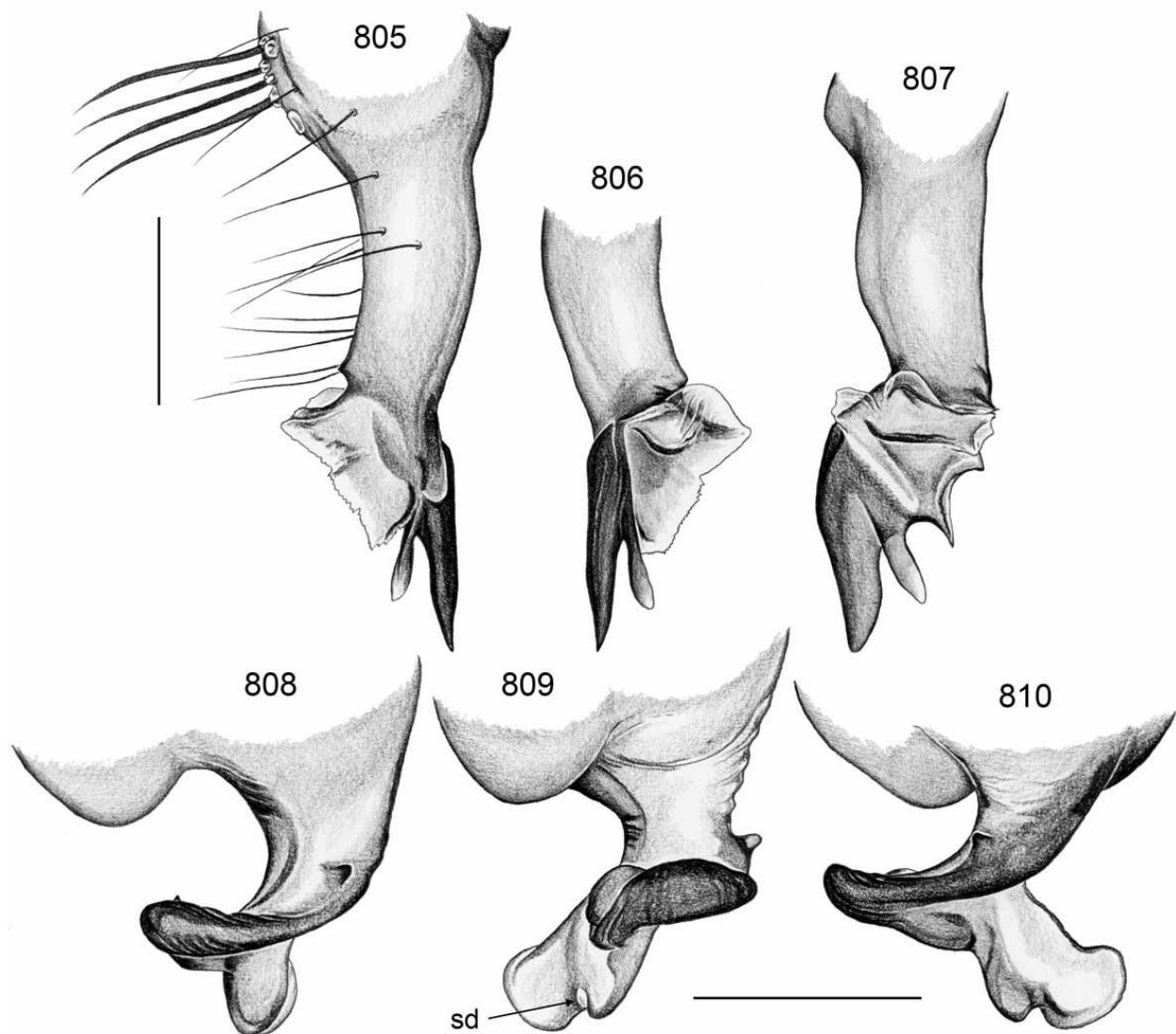
Figs. 755–756, 764, 805–810

Smeringopus sambesicus Kraus 1957: 228–229, figs. 28–33.

Types. Male holotype and 2♀ paratypes from Mozambique, Shire River [~17°42'S, 35°19'E], 1927 (H.B. Cott), holotype and 1♀ in MHNG, 1♀ in SMF (9813/1), cleared epigynum mounted on slide, examined.

Misidentified paratype: 1♀ from Rwanda, no further data, in SMF (RII 11727, ex RII 7771), examined.

Notes. The vial containing the holotype and 1♀ paratype also contained a male with both palps missing and without proximal cheliceral apophyses. The female paratype from Rwanda is a misidentified *S. peregrinoides*.



FIGURES 805–810. *Smeringopus sambesicus*. 805. Left cymbium and procurus, retrolateral view. 806–807. Left procurus, prolateral and dorsal views. 808–810. Left embolus, prolateral, prolatero-ventral, and prolatero-dorsal views. Scale lines: 0.3 mm.

Diagnosis. Distinguished from similar species with proximal and distal cheliceral apophyses (*S. roeweri*, *S. carli*, *S. lubondai*) by shapes of procurus (distal blade-shaped apophyses, Figs. 805–807) and bulb (processes of embolus, Figs. 808–810); from *S. roeweri* and *S. lubondai* also by long frontal epigynal plate (very similar *S. carli*, cf. Figs. 761, 762).

Male (holotype). Total body length 6.1, carapace width 1.9 (slightly deformed). Leg 1: 41.0 (11.1 + 0.8 + 10.7 + 16.3 + 2.1), tibia 2: 7.7, tibia 3: 5.7, tibia 4: 7.9; tibia 1 L/d: 48. Habitus similar *S. carli* (cf. Fig. 748). Carapace ochre-yellow with brown median and indistinct lateral marks, clypeus without brown stripes (present in original description), legs monochromous ochre-yellow, abdomen ochre-gray with very indistinct pattern (probably artificially indistinct). Distance PME-PME 195 μ m, diameter PME 175 μ m, distance PME-ALE 80 μ m, distance AME-AME 60 μ m, diameter AME 150 μ m. Ocular area slightly elevated, secondary eyes with ‘pseudo-lenses’; deep thoracic pit. Chelicerae with slender proximal apophyses as in *S. carli* (cf. Figs. 788, 789), distal apophyses rather like in *S. roeweri* (cf. Figs. 771, 772; more towards frontal and shorter than in *S. carli*). Palps as in Figs. 755 and 756, coxa with distinct retrolateral apophysis and shallow wide furrow, trochanter barely modified, femur with shallow retrolateral furrow with ventrally distinct rim, procurus with distinctive distal blade-shaped processes (Figs. 805–807), bulb with distinctive embolus (Figs. 808–810). Legs without spines, few vertical hairs, with curved hairs on tibiae and metatarsi 1 and 2, retrolateral trichobothrium on tibia 1 at 3%; prolateral trichobothrium present on tibia 1.

Female. In general similar to male; tibia 1 in paratype from Shire River: 9.1; missing in other paratype examined. Epigynum very similar *S. carli* (cf. Figs. 761, 762), also cleared internal view similar *S. carli* (Fig. 764).

Distribution. Only known from type locality in Mozambique (Fig. 718).

Material examined. MOZAMBIQUE: Shire River: 1♂2♀ types above.

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APPENDIX 1. Data matrix for cladistic analysis. Taxa are arranged as in the cladogram in Fig. 1. Terminals and characters are detailed in Appendices 2 and 3; “-” = nonapplicable; “?” = unknown or coding ambiguous; “*” = polymorphic coding [0,1]. *S.*: *Smeringopus*; *S.-ina*: *Smeringopina*.

	10	20	30	40
<i>Ninetis subtilissima</i>	00002001100000	-1000?0000?0	-000-0000001000	
<i>Physocylus globosus</i>	10002002100000	-100001000000	-00100000001000	
<i>Stygopholcus absoloni</i>	100020?1100?0	-111010000000	-001000000?????	
<i>Hoplopholcus longipes</i>	100000?1100?0	-111001000000	-0010100000100?	
<i>Hoploph. minotaurinus</i>	10000011100?0	-111011000000	-00101000001001	
<i>Cenemus culiculus</i>	101000111000100	-0010000000	-000-00000?????	
<i>Holocnemus pluchei</i>	100000111000100	-1100000000	-001000000?????1	
<i>Holocnemus hispanicus</i>	101100111000100	-1110000000	-001000000?????1	
<i>Crossopr. johnccloudsleyi</i>	1001001?100111101110000000	-0010000100100?		
<i>Crossopriza lyoni</i>	11010011100011101110000000	-001000010?????		
<i>Crossopriza pristina</i>	1101001?100?110-1110000000	-001000010?????		
<i>Ceratopholcus maculipes</i>	1101?????00?1?1?11?????0?0	-0???00010?????		
<i>S.-ina</i> sp. n. "Cam46"	10100000000100	-11000001000-000-00000?????		
<i>S.-ina cornigera</i>	101000??00100-11000011000-000-00000?????			
<i>S.-ina beninensis</i>	101030??00100-11000001000-100-000000100?			
<i>S.-ina</i> sp. n. "Cam4"	101040??00100-11000001010-100-00000?????			
<i>S.-ina simplex</i>	10104000000100-11000001010-100-00000?????			
<i>S. mpanga</i>	1010000000000-10000100010-0010000010100?			
<i>S. ruhiza</i>	101000??00000-1000010001100010000010100?			
<i>S. rubrotinctus</i>	101000??00000-1000010011100111000010100?			
<i>S. mgahinga</i>	10100000000000-1000010011100111000010100?			
<i>S. bwindi</i>	101000??00000-1000010011100111000010100?			
<i>S. chogoria</i>	1010000000000100-00010001110010000000100?			
<i>S. bujongolo</i>	101000??00000100-00010001110010000000100?			
<i>S. ngangao</i>	1010000000000100-000000110-000-00000*1001			
<i>S. arambourgi</i>	1010010?0000100-000100110-000-000001100?			
<i>S. oromia</i>	101001??0000100-00010011100010000001100?			
<i>S. saruanle</i>	10100??0000100-100100110-0010000001100?			
<i>S. lineiventris</i>	101020??0000100-00010011100010000001100?			
<i>S. turkana</i>	101021??0000100-000100110-0010000001100?			
<i>S. florisbad</i>	101000?00000100-000100110-0010010001100?			

<i>S. lesnei</i>	1010?0??0000100-?00?00110-0010010001100?
<i>S. blyde</i>	101000??0000100-000100110-0010010001100?
<i>S. natalensis</i>	101000000000100-000100110-0010010001110?
<i>S. koppies</i>	101000?00000100-000100110-0010010001110?
<i>S. badplaas</i>	101000??0000100-000100110-0010010001110?
<i>S. mlilwane</i>	101000?00000100-00010011100010010001101?
<i>S. hanglip</i>	101010000000100-00010011100010010001101?
<i>S. lydenberg</i>	101010??0000100-00010011100010010001101?
<i>S. pallidus</i>	101000000000100-00011011100010000001100?
<i>S. lesserti</i>	101000000000100-000110110-0010001001100?
<i>S. dehoop</i>	101000??0000100-000110110-0110001001100?
<i>S. hypocrita</i>	101010?00000100-000110110-0110001001?00?
<i>S. sederberg</i>	101010?00000100-000110110-0110001001100?
<i>S. atomarius</i>	101020000000100-010110110-0110001001100?
<i>S. uisib</i>	101020??0000100-010110110-0110001001100?
<i>S. tombua</i>	101020??0100100-010110110-0110001001100?
<i>S. cylindrogaster</i>	101021000000100-010010110-000-0010011001
<i>S. luki</i>	101021??0000100-010010110-000-001001100?
<i>S. isangi</i>	101021?00000100-010010110-000-001001100?
<i>S. moxico</i>	101000??0000100-010110110-0010001001?00?
<i>S. peregrinoides</i>	101000000000100-000110110-0010001001000?
<i>S. peregrinus</i>	101000000000100-000110110-00100010010001
<i>S. butare</i>	101000000000100-000110110-0010001001000?
<i>S. katanga</i>	101000??0000100-000110110-0010001001000?
<i>S. dundo</i>	101000??0000100-000110110-0010001001000?
<i>S. similis</i>	101000??0000100-000110110-0010001001000?
<i>S. kalomo</i>	101000?00000100-000110110-0010001001000?
<i>S. chibububo</i>	101000??0000100-000110110-0010001001000?
<i>S. thomensis</i>	101000100000100-000010110-0010001001000?
<i>S. principe</i>	1010001?0000100-000010110-0010001001000?
<i>S. mayombe</i>	1010001?0000100-000010110-0010001001000?
<i>S. roeweri</i>	101000000100100-000110110-0010001001000?
<i>S. carli</i>	101000000100100-000110110-0010001001000?
<i>S. sambesicus</i>	101000??0100100-000110110-0010001001000?
<i>S. lubondai</i>	101000??0100100-000110110-0010001001000?

APPENDIX 2. Terminal taxa scored for the cladistic analysis, with origin and depository. Taxa are arranged as in the cladogram in Fig. 1.

Outgroups

Ninetis subtilissima: Yemen, Ja'ar (ZFMK)

Physocyclus globosus: Costa Rica, San José, Ciudad Universitaria (ZFMK)

Smeringopinae

Stygopholcus absoloni: Croatia, Kotlenice (AMNH)

Hoplopholcus longipes: Russia, Krasnodar Terr., nr. Adler (ZMMU)

Hoplopholcus minotaurinus: Greece, Crete, Lasithi, Milatos (collection van Keer)

Cenemus culiculus: Seychelles, Silhouette, Jardin Marron (ZMT)

Holocnemus pluchei: Italy, Sicily, Syracuse (ZFMK)

Holocnemus hispanicus: Spain, Huelva, Alajay/Aracena (CJFM)

Crossopriza johncloudsleyi: Kenya, Lake Bogoria (ZFMK)

Crossopriza lyoni: Guinea, Kindia (ZFMK)

Crossopriza pristina: Yemen, Aden (MNHN)

Ceratopholcus maculipes: no specimens seen; coded according to Spassky (1934)

Smeringopina sp. n. ("Cam 46"): Cameroon, Bamboutos (ZFMK)

Smeringopina cornigera: Cameroon, Limbe, 1.4 km NE Etome (CAS)

Smeringopina beninensis: Benin, no further data (ZMH, types)

Smeringopina sp. n. ("Cam 4"): Cameroon, near Kribi (ZFMK)
Smeringopina simplex: Cameroon, Mt. Koupé (ZFMK)
Smeringopus
S. mpanga: Uganda, Mpanga (ZFMK)
S. ruhiza: Uganda, Buhoma (ZFMK)
S. rubrotinctus: Burundi, Rwegura (MRAC)
S. mgahinga: Uganda, Garama Cave (ZFMK)
S. bwindi: Uganda, Buhoma (ZFMK)
S. chogoria: Kenya, Chogoria Forest (ZFMK)
S. bujongolo: Uganda, Ruwenzori Mts. (ZFMK)
S. ngangao: Kenya, Ngangao Forest (ZFMK)
S. arambourgi: Ethiopia, Arba Minch (SMF)
S. oromia: Ethiopia, Lake Langano (ZFMK)
S. saruanle: Somalia, Sar Uanle (MZF)
S. lineiventris: Yemen, Aden (MNHN)
S. turkana: Kenya, nr. Loperot (MCZ)
S. florisbad: South Africa, Brandford, Florisbad (NMBA)
S. lesnei: Mozambique, Chimoio (MHNG)
S. blyde: South Africa, Blyde River Canyon (MRAC)
S. mlilwane: South Africa, Songimvelo Nat. Res. (CAS)
S. hanglip: South Africa, Hanglip Forest (CAS)
S. lydenberg: South Africa, Misty Mountain (CAS)
S. natalensis: South Africa, Badplaas (ZFMK)
S. koppies: South Africa, Koppiesdam Nat. Res. (NMBA)
S. badplaas: South Africa, Badplaas (CAS)
S. pallidus: Uganda, Bumaga (ZFMK)
S. lesserti: Gabon, Mayebout (ZFMK)
S. dehoop: South Africa, De Hoop Nat. Res. (ZFMK)
S. hypocrita: South Africa, Kap Kap (NMBA)
S. sederberg: South Africa, Ladismith (NMBA)
S. atomarius: Namibia, Windhoek (CAS)
S. uisib: Namibia, Grootfontein (NMBA, ZMH)
S. tombua: Angola, between Namib and Tômbua (SMF)
S. cylindrogaster: Guinea, Dieke (ZFMK)
S. luki: Congo D.R., Luki For. Res. (MRAC)
S. isangi: Congo D.R., Yaekama (MRAC)
S. moxico: Angola, Sandando (SMF)
S. peregrinoides: Rwanda, near Lac Ihema (MRAC)
S. peregrinus: Kenya, Wundanyi (ZFMK)
S. butare: Rwanda, Butare (MRAC)
S. katanga: Congo D.R., Likasi (MRAC)
S. dundo: Angola, nr. Dundo (SMF)
S. similis: Namibia, Otjikoto (ZMH)
S. kalomo: Zambia, Kalomo (CAS)
S. chibububo: Mozambique, Vilankulos and Bartolomeu Dias Point (ZFMK)
S. thomensis: São Tomé and Príncipe, São Tomé, Palha Plantation (CAS)
S. principie: São Tomé and Príncipe, Príncipe, nr. Santo Antonio de Príncipe (CAS)
S. mayombe: Congo D.R., Luki For. Res. (MRAC)
S. roeweri: Congo D.R., Bendera (MRAC)
S. carli: Tanzania, Dar es Salaam (SMF)
S. sambesicus: Mozambique, Shire River (MHNG)
S. lubondai: Congo D.R., Sanduwa (MRAC)

APPENDIX 3. Characters scored

Prosoma

1. Thoracic pit: (0) absent; (1) present. A deep round depression medially on the carapace (Figs. 82, 414) has previously been considered a synapomorphy of Smeringopinae (Huber 2011a). Most other pholcids have either a domed carapace without median indentation (Ninetinae, Pholcinae), or a median groove (Arteminae, Modisiminae). However, the groove of the outgroup taxon *Physocyclus globosus* was found to be fairly wide and not significantly different from the smeringopine pit; it is therefore considered plesiomorphic for Smeringopinae in the present analysis. This character requires reassessment in Arteminae and Smeringopinae.
2. Female with paired stridulatory organ between carapace and abdomen: (0) absent; (1) present. Paired conical elevations that act against sclerotized areas frontally on the abdomen (Huber et al. 1999) characterize two of the three *Crossopriza* species included in the present analysis plus *Ceratopholcus maculipes*. Since the latter is the type species of *Ceratopholcus*, this character strongly suggests that *Ceratopholcus* is a synonym of *Crossopriza*.

Abdomen

3. Male abdomen shape: (0) short (up to 2x longer than wide); (1) elongate (more than 2x longer than wide). In the present matrix, an elongate abdomen characterizes *Smeringopus* + *Smeringopina*, *Cenemus*, and *Holocnemus hispanicus*.
4. Angular elevation of abdomen posteriorly: (0) absent; (1) present. An elevation of the abdomen above the spinnerets unites *Crossopriza* and *Ceratopholcus* with *Holocnemus hispanicus* (but not with the type species *Holocnemus pluchei*).
5. Abdomen ventral pattern in median section (between epigynum/gonopore and posterior plate): (0) three dark lines; (1) two dark lines; (2) monochromous or dark spots only; (3) one dark line; (4) Y-shaped pattern. Three dark lines are a putative synapomorphy of Smeringopinae, but the variety of patterns among species and variation within species makes this character difficult to code unambiguously.
6. Ventral transversal band on abdomen: (0) absent; (1) present. A distinct transversal dark band ventrally on the abdomen characterizes the representatives of the *cylindrogaster* group (Figs. 531, 535) and some species of the *arambourgi* group (Figs. 170, 172, 174).
7. ALS spigots: (0) each ALS with 7–8 spigots (one widened, one pointed, and 5–6 cylindrically shaped spigots); (1) each ALS with only 2 spigots (one widened, one pointed). ALS spigots have been reduced repeatedly in Pholcidae (e.g., Huber 2000, 2011b), but in the present matrix, the derived condition unites all Smeringopinae genera other than *Smeringopus* and *Smeringopina*, without homoplasy. Only *Smeringopus thomensis* (and possibly its closest relatives in the *thomensis* group) has convergently evolved a reduced spigot number (Fig. 737).
8. Epiandrous spigots at male gonopore: (0) two; (1) four or more; (2) absent. Four epiandrous spigots seem to be plesiomorphic for Pholcidae, but a complete reduction has occurred repeatedly (e.g., Huber 2000). A reduction to two spigots seems to be unique for *Smeringopus* and *Smeringopina*. A multiplication to six or even eight spigots also seems to be restricted to Smeringopinae (confirmed in *Cenemus culiculus*, *Holocnemus caudatus*, *Hoplopholcus minotaurinus*, and *Stygopholcus absoloni*).

Male chelicerae

9. Stridulatory files: (0) absent; (1) present. Previous analyses have interpreted cheliceral stridulation as derived within Pholcidae (e.g., Huber 2000), but this needs to be reevaluated. At least with the present dataset, cheliceral stridulation is considered plesiomorphic for Smeringopinae, and the loss of stridulation characterizes and unites *Smeringopus* and *Smeringopina*.
10. Rounded and light projections frontally: (0) absent; (1) present. Such projections (Figs. 772, 780, 789) characterize the *roeweri* group in *Smeringopus* but they seem to have evolved convergently in *S. tombua* (Fig. 528) and other species of the *hypocrita* group not included in the analysis (*S. lotzi*, *S. ubicki*; Figs. 492, 498).
11. Lateral apophyses directed towards proximal: (0) absent; (1) present. The presence of such cheliceral modifications is a distinctive character of Pholcinae (Huber 1995, 2000, 2011b) and this has been used to argue that *Smeringopina* may be closer to Pholcinae than to *Smeringopus* and other Smeringopinae. The present data as well new molecular data (Dimitrov, Astrin & Huber, in press) strongly suggest that the apophyses of *Smeringopina* have evolved independently from those in Pholcinae.

12. Enlarged hair bases: (0) absent; (1) present. In the present matrix, small but distinct projections at the bases of cheliceral hairs occur in *Crossopriza johncloudsleyi* only, but they are also present in *C. semicaudata* and another undescribed *Crossopriza* species and in *Holocnemus caudatus*. The character may thus be useful for future analyses of *Crossopriza* and *Holocnemus*.
13. Distal frontal apophyses: (0) absent; (1) present. All distal apophyses provided at their tips with a single modified hair each are here considered to be homologous, even if they are in a rather lateral position. Such apophyses occur in *Smeringopus* but not in *Smeringopina*, but they also occur in other Smeringopinae: *Holocnemus*, *Crossopriza*, and *Cenemus*. The cladistic analysis suggests two independent origins.
14. Direction of distal frontal apophyses: (0) towards distal; (1) towards medial. In *Crossopriza* (possibly also in *Ceratopholcus*) the distal frontal apophyses are characteristically directed towards medial.
15. Distal lateral apophyses: (0) absent; (1) present. In contrast to the distal frontal apophyses above (char. 13), these apophyses are not only in a more lateral position but never provided with a single modified hair at their tips. They are either without modified hairs or provided with two or more modified hairs at their inner sides (see char. 16).
16. Modified hairs on distal lateral apophyses: (0) absent; (1) present (two or more on inner side; see char. 15).

Legs

17. Spines on femora of male legs: (0) absent; (1) present. Ventral spines on the frontal male femora (leg 1 or legs 1 and 2) have evolved repeatedly in Pholcidae, and they occur in several genera of Smeringopinae, but they have been found in only one species of *Smeringopus* (*S. saruanle*). They are also absent in *Smeringopina* and in *Cenemus*, but the present analysis considers the absence in *Cenemus* as secondary.
18. Dark spots on leg femora: (0) absent; (1) present. Dark spots on the femora (and sometimes tibiae) unite *Holocnemus*, *Crossopriza* and *Ceratopholcus* but also occur in certain species in *Smeringopus*. In the cladogram in Fig. 1 they support the dubious relationship between the *cylindrogaster* group and part of the *hypocrita* group.
19. Prolateral trichobothrium on tibia 1: (0) present; (1) absent. This trichobothrium is consistently present in *Smeringopus* and *Smeringopina* but absent in most other Smeringopinae. The presence in *Hoplopholcus longipes* and *Holocnemus pluchei* is interpreted as a regain by the cladistic analysis.
20. Curved hairs on legs: (0) absent; (1) present. Curved hairs are a putative synapomorphy of *Smeringopus*, but they have been reduced several times convergently (*S. ngangao*, *cylindrogaster* group, *thomensis* group) and evolved convergently in *Hoplopholcus* and other genera outside Smeringopinae (Huber 2000).

Male palp

21. Retrolateral apophysis on coxa: (0) absent; (1) present. Such an apophysis characterizes the subfamily Modisiminae (New World clade in Huber 2000), but is here found to unite several species groups in *Smeringopus*. The only convergent origin in Smeringopinae known is in *Smeringopina cornigera*.
22. Trochanter apophysis: (0) absent; (1) present. Most Smeringopinae have a barely modified trochanter without apophysis; only *Smeringopina* has such an apophysis, presumably functionally correlated with the lateral cheliceral apophysis (char. 11).
23. Retrolateral furrow on femur: (0) absent; (1) present. A deep furrow with often distinct proximal rim occurs in most species of *Smeringopus*, but it is absent in some species of the *rubrotinctus* group and in both species of the *chogoria* group. The cladogram thus suggests two independent origins in *Smeringopus*.
24. Cymbium macrotrichia: (0) absent; (1) present. Strong hairs dorsally on the cymbium occur in all *Smeringopus* but also in some *Smeringopina*. The cladogram suggests two independent origins.
25. Cymbium process near tarsal organ: (0) absent; (1) present. In the cladogram in Fig. 1, such a process is considered to have evolved six times convergently. By contrast, the analysis using equal character weights considers the apophysis to be a synapomorphy of *Smeringopus* with four reversals.
26. Length of cymbium process: (0) short; (1) very long. A very long and slender process from the cymbium unites the two species of the *chogoria* group.
27. Procurus hinge: (0) absent; (1) present. A hinged procurus is a unique character in Pholcidae that unites some species within *Smeringopina*.
28. Procurus tip direction: (0) more or less straight; (1) strongly bent towards prolateral. A procurus that is distally strongly bent towards prolateral may be a synapomorphy of the *hypocrita* group but the cladistic analysis does not recover this group. A similar procurus tip occurs in *S. rubrotinctus* and close relatives.

29. Pointed apophysis distally on procurus: (0) absent; (1) present. Most Smeringopinae have such an apophysis, but it also occurs in Arteminae (e.g., in the outgroup taxon *Physocyclus globosus*) and is thus probably plesiomorphic for *Smeringopus*, where it has been lost at least three times convergently (*S. ngangao*, *S. arambourgi*, *cyliandrogaster* group). It is also absent in *Smeringopina* and *Cenemus*.
30. Shape of pointed apophysis distally on procurus: (0) simple; (1) bifid. A bifid apophysis characterizes *S. rubrotinctus* and close relatives.
31. Long membranous process on procurus: (0) absent; (1) present. A long semitransparent process at the tip of the procurus unites the two species of *Hoplopholcus* included in the present matrix.
32. Processes arising from genital bulb: (0) one or two; (1) three. Most species in Smeringopinae have either a single often complex process (embolus) arising from the bulb or two basally fused processes (embolus plus dorsal process). The *Smeringopus natalensis* group is characterized by three processes arising from the genital bulb.

Female genitalia

33. Epigynal pockets lying side by side: (0) absent; (1) present. A pair of pockets lying side by side and opening towards ventrally characterizes and unites several species groups in *Smeringopus*.
34. Epigynal pockets on median ridge facing away from each other: (0) absent; (1) present. Such pockets that open towards laterally unite *Crossopriza* and *Ceratopholcus*.
35. Large posterior indentation of epigynum: (0) absent or indistinct; (1) present. In the *rubrotinctus* group, the epigynum has a large posterior indentation or excavation (Figs. 38–54).
36. Arrangement of pores on pore plates: (0) homogeneous; (1) in groups or ‘islands’. In most Smeringopinae, the pores are arranged homogeneously; in most species groups of *Smeringopus* (except *rubrotinctus* and *chogoria* groups) the pores are arranged in groups (e.g., Figs. 349, 744). In *S. ngangao* both states seem to occur; it is therefore coded as polymorphic for this character.
37. ‘Valve’ in internal female genitalia: (0) part of ‘valve’ appears medially widened and divided; (1) simple. A medially widened and divided ‘valve’ (e.g., Figs. 654, 773) unites three species groups in *Smeringopus* (*peregrinus*, *thomensis*, and *roeweri* groups).
38. V-shaped structure in female internal genitalia: (0) absent; (1) present. In some species of the *Smeringopus natalensis* group, a V-shaped structure is clearly visible in cleared preparations of the epigynum (e.g., Figs. 279, 281, 283). It was coded as absent in *S. lesnei* and *S. florisbad* but it may be present (though very indistinct) in these species too.
39. Internal pockets in female genitalia: (0) absent; (1) present. Cleared preparations of epigyna of certain species in the *natalensis* group reveal a pair of internal pockets (e.g. Figs. 342, 361, 366).

Web structure

40. Facultative addition of silk balls to web: (0) absent; (1) present. Such silk balls seem to be widespread in Smeringopinae but they have been documented in a few species only (see Natural history section above). *Hoplopholcus minotaurinus* was coded as present because silk balls have been photographed in the very closely related *H. minous* (J. & F. Murphy, unpubl. data).