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## Revision of the *Ceratogyrus* spp. Formerly Included In *Coelogenium* (Araneae: Theraphosidae, Harpactirinae)

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**ABSTRACT.** *Coelogenium* Purcell, 1902 is synonymized with *Ceratogyrus* Pocock, 1897. The species previously included in *Coelogenium* are revised, keyed, and their distributions mapped. One new species is proposed: *Ceratogyrus ezendami*. The following new synonymies and transfers are proposed: *Ceratogyrus cornuatus* De Wet & Dippenaar-Schoeman, 1991 = *Ceratogyrus marshalli* Pocock, 1897; *Coelogenium nigrifemur* Schmidt, 1995 = *Pterinochilus junodi* Simon, 1904; *Coelogenium raveni* Smith, 1990 is transferred to *Pterinochilus* and *Pterinochilus meridionalis* Hirst, 1907 is transferred to *Ceratogyrus*. The female of *Ceratogyrus meridionalis* (Hirst, 1907) and the male of *C. pillansi* (Purcell, 1902) are described for the first time.

### Introduction

The genus *Coelogenium* was created by Purcell (1902) to accommodate a single specimen from Zimbabwe which differed from all other known Harpactirinae by the possession of a strongly procurved fovea. The type species, *Coelogenium pillansi* Purcell, 1902, was based on a small, possibly immature female specimen. *Ceratogyrus dolichocephalus* Hewitt, 1919, was described a few years later and was characterized by the fact that its foveal protuberance was merely a posterior extension of the caput surrounded by a procurved fovea. Hewitt also described what he tentatively thought to be the male of this species, which was collected in the vicinity of an adult female *C. dolichocephalus* at Salisbury (=Harare). Hewitt also suggested that the male specimen may actually be *Ceratogyrus marshalli* Pocock, 1897.

*Coelogenium* remained monotypic until Smith added two other species: *Coelogenium hillyardi* Smith (1990) and *Coelogenium raveni* Smith (1990). An additional species, *Coelogenium nigrifemur* Schmidt (1995), was added five years later. Smith (1990) redescribed *Ceratogyrus dolichocephalus* from material in the BMNH. He expressed the opinion that Hewitt's male was not *C. dolichocephalus*, but instead, an undescribed species of either *Pterinochilus* or *Ceratogyrus*, which was conspecific with a dry female held in his private collection. Smith described what he considered to be the male of *C. dolichocephalus* from a specimen collected from Umtali (=Mutare). The carapace protuberance was well developed and discrete in this male and apparently an extension of the caput.

De Wet & Dippenaar-Schoeman (1991) published a thorough revision of the genus *Ceratogyrus* Pocock, 1897. They synonymized *Ceratogyrus schultzei* Purcell, 1908 with *Ceratogyrus bechuani-*

*cus* Purcell, 1902, and established a new species: *Ceratogyrus cornuatus* De Wet & Dippenaar-Schoeman (1991). The male of *Ceratogyrus cornuatus* was unknown at the time and females of the sympatric *Ceratogyrus marshalli* Pocock, 1897, were unavailable for study. The prominent conical, subvertical foveal protuberance of *C. cornuatus* was cited as the key distinguishing feature (c.f. *C. marshalli* possessing a low, rounded dome). Other *Ceratogyrus* species were found to display little sexual dimorphism with regards to the foveal protuberance structure; this observation supported the distinction of *C. cornuatus*. De Wet & Dippenaar-Schoeman identified numerous female specimens of *Ceratogyrus dolichocephalus*, but were unable to locate males.

Charpentier (1993) suggested that *Coelogenium* was a junior synonym of *Pterinochilus*. He incorrectly stated that *C. pillansi* and *C. hillyardi* possess straight foveae, citing this as the sole reason for the synonymy. Smith (1996) and Platnick (1997) both rejected Charpentier's synonymy, highlighting the fact that Charpentier did not consult the original literature or examine type material.

This present work deals with the *Ceratogyrus* species formerly included in the genus *Coelogenium* and updates the *Ceratogyrus* revision produced by De Wet & Dippenaar-Schoeman (1991).

### Material & Methods

This revision is based on the examination of approximately 70 specimens from several museum collections (see below). Type material was consulted where necessary to confirm identifications, but where possible the species were described from a range of specimens to account for intraspecific variation. All appendage and body measurements (sclerotized dorsal aspect) were made using a dial caliper ( $\pm 0.1$  mm). Total length was taken to be the summation of

chelicera, carapace and abdominal lengths, excluding spinnerets. Eye measurements were determined microscopically from photographs (after Edwards 1996) and represent the maximum length/diameter measured dorsally ( $\pm 0.01$  mm). Clypeus length was taken as the distance between the anterior margins of the carapace and ocular tubercle. Palpal bulbs were removed from the cymbia, where permitted by museums, and examined from three different positions. The first position is a retrolateral view where the bulb was examined on a flat surface. The second is a ventral position such that the bulb rested on a flat surface, balanced on its embolic tip and basal sclerite. The third dorsal view was obtained by fixing the embolus onto Blue-Tak. Spermathecae were dissected as outlined by Smith (1990). All measurements are in mm and are presented in the form range (mean  $\pm$  standard deviation; sample size). Coloration was determined, where possible, from live material. Where live material was unavailable, coloration was described from the most recently preserved alcohol material. Divided tarsal scopulae was taken to mean scopulae divided by a thick band of stiffened setae, as described by Pérez-Miles (1994). Leg spination is presented as modal data and follows De Wet & Dippenaar-Schoeman (1991) with additions. Male maturity periods are given for mature, wild caught material. The distribution map was generated using the computer program DMAP written by Dr. Alan Morton.

**Abbreviations.** -- Eyes: AME = anterior median; ALE = anterior lateral; PME = posterior median; PLE = posterior lateral. Leg spines: DMV = distal midventral; DPD = distal prodorsal; DPV = distal proventral; DRD = distal retrodorsal; DRV = distal retroventral; MPL = medial prolateral; MPV = medial proventral; MRD = medial retrodorsal; MRV = medial retroventral; PPV = proximal proventral. Spinnerets: DS = distal segment. Immature = imm. Collections: BMNH = The Natural History Museum, London, United Kingdom; MHNG = Muséum d'Histoire Naturelle, Geneva, Switzerland; MMUE = Manchester Museum, Manchester, United Kingdom; NMZA = Natural History Museum of Zimbabwe, Bulawayo, Zimbabwe; NM = Natal Museum, Pietermaritzburg, South Africa; PPRI = Plant Protection Research Institute, Pretoria, South Africa; SAM = South African Museum, Cape Town, South Africa; TM = Transvaal Museum, Pretoria, South Africa; ZMB = Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.

***Ceratogyrus* Pocock, 1897**

*Ceratogyrus* Pocock, 1897: 754; Smith, 1990: 67; De Wet & Dippenaar-Schoeman, 1991: 43.

*Coelogenium* Purcell, 1902: 338; Smith, 1990: 75.

**NEW SYNONYMY.**

**Type species.** -- *Ceratogyrus darlingi* Pocock,

1897.

**Species included.** -- *Ceratogyrus bechuanicus* Purcell, 1902, *C. brachycephalus* Hewitt, 1919, *C. darlingi* Pocock, 1897, *C. dolichocephalus* Hewitt, 1919, *C. ezendami* n. sp., *C. hillyardi* (Smith, 1990) n. comb., *C. marshalli* Pocock, 1897, *C. meridionalis* (Hirst, 1907) n. comb., *C. pillansi* (Purcell, 1902) n. comb., *C. sanderi* Strand, 1906.

**Comments.** -- The holotype of *Coelogenium pillansi* (type species of *Coelogenium*) was described as possessing a strongly procurved fovea, which Purcell (1902) cited as the key feature of the genus. The holotype was in a highly fragmented state (Cochrane pers. comm.) and its size was indicative of an immature (Smith pers. comm.). Unfortunately this specimen was lost in transit between SAM and MMUE and all attempts to trace the material were unsuccessful. Fortunately, Purcell had labeled a mature male specimen from Umtali (=Mutare), Zimbabwe (SAM-ENW-X010065) as a member of this species, which is here designated as the **NEOTYPE**. This specimen, like the original, possesses a strongly, procurved fovea.

Examination of the neotype and approximately 60 *Coelogenium* specimens from several museums (BMNH, NMZA, NM, SAM and ZMB) suggests that *Coelogenium* is a junior synonym of *Ceratogyrus*. *Coelogenium* shares its procurved fovea with *C. darlingi*, *C. bechuanicus*, and *C. dolichocephalus*. Where *Coelogenium* apparently differs is in the lack of a distinct protuberance. However, in *C. dolichocephalus* an intermediate state can be observed where the protuberance merges anteriorly into the carapace. Further evidence is found when considering the protuberance development in immature *C. bechuanicus*. Up to the 4<sup>th</sup> or 5<sup>th</sup> instar, the fovea strongly resembles that of *Coelogenium*; the distinct protuberance developing over subsequent molts. All *Ceratogyrus* and *Coelogenium* species possess a pale yellow, transverse, sub-abdominal band over, or in some below, the epigastric region. This feature is distinct, as it contrasts with the typically brown coloration of the rest of the ventral abdominal surface. This character state is absent in all other Harpactirinae except *Pterinochilus junodi* Simon, 1904. The spermathecae of *Ceratogyrus* spp. and *Coelogenium* spp. are also similar in form, as is the palpal bulb morphology, and the form of the tibial spur in the males. No differences could be found which reliably separate the two genera, so it is proposed here that *Coelogenium* is a junior synonym of *Ceratogyrus*.

**Diagnosis.** -- *Ceratogyrus* is readily distinguished from all other African theraphosid genera by the combined presence of a retrolateral cheliceral scopula composed of plumose, stridulatory setae and the strongly procurved fovea. The fovea is typically strongly procurved and in some species surrounds a

distinct protuberance. This protuberance may take the form of a simple posterior extension of the caput, a low-set plug or a prominent, discrete conical projection. All *Ceratogyrus* spp. possess a pale yellow, anteriorly placed, transverse, sub-abdominal band. This feature is not distinct in other Harpactirinae except *Pterinochilus junodi*. The absence of dense, ventral femoral fringes on the palpi and legs I and II distinguish *Ceratogyrus* spp. from female *P. junodi*.

**Description.** -- Medium to large Harpactirinae (females ~30-60 mm, males ~20-30 mm in body length) with dorsal abdominal markings displaying pattern consisting of bars, spots and reticulations. Carapace with or without pale radial striae. Transverse, pale yellow, anterior, sub-abdominal band present. Palpi and legs I, II typically black prolaterally and ventrally (extent dependent on species). Chelicerae with retrolateral scopulae composed of plumose setae acting as stridulatory organ against similar scopulae on palpal trochanters. Stridulatory setae typically absent from other areas. Distal segment of posterior spinneret digitiform. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae. Spines present on metatarsi and distal portion of tibiae of all appendages, absent from all other segments. Fovea strongly procurved with foveal protuberance in some species. Sternum with three pairs of oval submarginal sigilla, decreasing in size anteriorly. Spermathecae paired, unlobed. Palpal bulbs pyriform with elongated, typically acuminate embolus. Conductor absent. Male tibial spur present on leg I and composed of single DPV apophysis surmounted by single, well-developed megaspine.

#### Amended key to the genus *Ceratogyrus*

1. Fovea procurved without distinct, laterally visible protuberance. . . . . 2
  - Fovea with a low-set plug or laterally visible protuberance . . . . . 10
2. Fovea surrounds a sunken, angled, hemispherical plane. Spermathecae not medially constricted as in Fig. 21 . . . . . *C. hillyardi*
  - Fovea does not surround a sunken, angled, hemispherical plane. Spermathecae medially constricted as in Figs. 4, 13, 37 and 46. . . . . 3
3. Male specimen . . . . . 4
  - Female specimen . . . . . 7
4. Embolus strongly curved (Fig. 48) *C. pillansi*
  - Embolus not strongly curved as in Figs. 6, 7, 15, 39 and 40. . . . . 5
5. Embolus relatively thick and squat with two parallel retroventral sub-keels as in Fig. 15. . . . . *C. ezendami* n. sp.
  - Embolus relatively slender and long without two parallel retroventral sub-keels as in Figs. 6, 7,

- 39 and 40. . . . . 6
6. Embolic tip flexed when viewed retrolaterally as in Figs. 6 and 7. . . . . *C. dolichocephalus*
  - Embolic tip not flexed when viewed retrolaterally as in Figs. 39 and 40. . . . . *C. meridionalis*
7. Sub-abdominal band across anterior booklung covers only as in Fig. 3. Region between posterior booklung covers same color as posterior region of abdomen. . . . . *C. dolichocephalus*
  - Sub-abdominal band across anterior and posterior booklung covers as in Figs. 12, 36 and 45. Region between posterior booklung covers paler (may be grizzled) than posterior abdominal coloration . . . . . 8
8. Prolateral and ventral darkening absent on leg II as in Fig. 36. . . . . *C. meridionalis*
  - Prolateral and/or ventral darkening present on leg II as in Figs. 12 and 45. . . . . 9
9. Ventral darkening on legs I and II as in Fig. 12 and fovea crescentic (Fig. 11.) *C. ezendami* n. sp.
  - Ventral darkening on legs I and II as in Fig. 45 and fovea 'U' shaped as in Fig. 44. . . . . *C. pillansi*
10. Fovea bounds a low-set plug . . . . . 11
  - Fovea bounds a laterally visible protuberance. . . . . 12
11. Low-set plug rectangular and positioned anteriorly. . . . . *C. sanderi*
  - Low-set plug round, domed and positioned medially as in Fig. 25 . . . . . *C. marshalli*
12. Protuberance a simple posterior extension of the caput. . . . . *C. dolichocephalus*
  - Protuberance discrete, not a posterior extension of the caput . . . . . 13
13. Protuberance conical and sub-vertical as in Fig. 22. . . . . *C. marshalli*
  - Protuberance inclined posteriorly or anteriorly. . . . . 14
14. Protuberance inclined posteriorly . . . . . 15
  - Protuberance inclined anteriorly. . . . . *C. brachycephalus*
15. Protuberance broad and obtuse, strongly inclined posteriorly with anterior slope slightly curved. . . . . *C. bechuanicus*
  - Protuberance slender, straight, conical, inclined posteriorly with anterior slope not curved. . . . . *C. darlingi*

**Note.** -- Key adapted from De Wet & Dippenaar-Schoeman (1991). It is advisable to note the sub-abdominal coloration prior to spermathecae dissection. Spiderlings of *C. darlingi* and *C. bechuanicus* resemble *C. dolichocephalus*. The male of *C. hillyardi* is unknown.

***Ceratogyrus dolichocephalus* Hewitt, 1919**

(Figs. 1-9)

*Ceratogyrus dolichocephalus* Hewitt, 1919: 104, pl. I, fig. d (D♀ only); Smith, 1988: 128 (♀); Smith, 1990: 73, figs. 343-346, 348-350 (♀ only); De Wet & Dippenaar-Schoeman, 1991: 57, figs. 4c, 13a-c (♀).

*Coelogenium pillansi*: Smith, 1990: 75, figs. 366-376a, 376c-376j (♂♀ misidentifications in part - illustrated ♂♀ only, not ♀ Caia specimen); Schmidt, 1993: 116, figs. 361-363 (♂♀ misidentifications); Gallon, 1999: 8, figs. 1-2 (♂ misidentification).

**Types.** -- Lectotype ♀ (TM 2990) from Zimbabwe, Victoria (assumed to be Fort Victoria =Masvingo), 20°05'S, 30°50'E (S. E. A. Ambrose & R. H. Ambrose); not examined. Paralectotype ♀ (TM 2991) from Zimbabwe, Victoria (assumed to be Fort Victoria =Masvingo), 20°05'S, 30°50'E (S. E. A. Ambrose & R. H. Ambrose); not examined.

**Comments.** -- The male attributed to this species by Hewitt (1919) is *Ceratogyrus marshalli* and Smith's male (1990) is *C. bechuanicus*.

**Diagnosis.** -- Female readily separated from congeners by the large, deep '⊥' shaped fovea surrounding a protuberance formed from a posterior extension of the caput (refer to De Wet & Dippenaar-Schoeman 1991). Occasionally small females resemble *C. meridionalis* in carapace profile, but are distinguished by the absence of a pale yellow region between the posterior booklung covers and the presence of ventral darkening on the anterior appendages. Males are separated from other *Ceratogyrus* species by their large, deep '⊥' shaped fovea (without a foveal protuberance) and flexed embolus with inflected tip. The absence of a pale yellow region between the posterior booklung covers further distinguishes males from other non-protuberate *Ceratogyrus* species.

**Female (n = 2).** -- Total length 29.3-47.7. Carapace profile domed at caput stepped at fovea (Fig. 1), length 11.2-16.7, width 8.4-12.7. Abdomen length 14.0-24.7, width 9.1-15.8. Fovea procurved, '⊥' shaped, deep slit typically with protuberance formed from posterior extension of caput, width 2.11-3.62 (Fig. 2). Ocular tubercle length 1.36-1.90, width 1.71-2.27. Clypeus 0.33-0.65. Eye sizes: AME 0.49-0.56, ALE 0.49-0.61, PME 0.38-0.42, PLE 0.46-0.51. Sternum with three pairs of oval sub-marginal sigilla. Labium with about 60 cuspules. Maxilla with approximately 120 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9-10 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. On large specimens plumose setae may extend onto proximal, prolateral region of palpal femur. Leg and palp seg-

ment lengths in Table 1. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae.

**Spination:** Palp tibia 2DRV, 4 or 2 DPV; legs I and II tibiae 1DRV, 1DPV; leg III tibia 2DRV, 1 or 2 DPV, 1 or 0 PPV, 1MPV, 1DRV, 1DMV, 1DPV; leg III metatarsus 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, 1MPV, 1DRV, 1DMV, 1DPV; leg IV metatarsus 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

**Coloration:** Dorsum of legs, palpi and abdomen brown/beige. Leg and palp joints pale yellow. Chelicerae gray with long emergent setae. Carapace brown/beige with yellow/brown radial striae and dark 'mask' around ocular tubercle. Dorsum of abdomen with dark reticulate pattern, but without spots or bars (faded?). Venter of abdomen dark brown with pale yellow, transverse band over and between anterior booklung covers. Posterior booklung covers light brown (Fig. 3). Sternum and coxae velvety black. Trochanters of palpi and legs I, II black. Prolateral and ventral surfaces of palpi black. Prolateral and ventral surfaces of legs I, II black up to distal region of tibiae. Remaining legs brown/beige.

**Spermathecae** (Fig. 4): Paired, unlobed and flattened with medial constriction.

**Male.** -- Total length 19.3-37.7 (30.5 ± 7.1; 5). Carapace profile low, length 9.8-17.0 (14.3 ± 2.8; 5), width 7.6-13.0 (11.4 ± 2.2; 5). Abdomen length 7.3-15.9 (12.5 ± 3.3; 5), width 5.0-11.6 (8.5 ± 2.4; 5).

Fovea procurved, '⊥' shaped, deep slit without protuberance, width 1.65-4.53 (2.93 ± 0.94; 6). Ocular tubercle length 1.29-1.72 (1.53 ± 0.16; 6), width 1.49-2.13 (1.89 ± 0.23; 6). Clypeus 0.22-0.67 (0.55 ± 0.17; 6). Eye sizes: AME 0.39-0.52 (0.48 ± 0.05; 6), ALE 0.32-0.71 (0.49 ± 0.13; 6), PME 0.31-0.41 (0.37 ± 0.04; 6), PLE 0.38-0.56 (0.47 ± 0.06; 6). Sternum with three pairs of oval sub-marginal sigilla. Labium with about 60 cuspules. Maxilla with approximately 120 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9-10 (9 ± 1; 5) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 2. Femur of leg III not incrassate. Metatarsus of leg I laterally flexed. Tarsal and metatarsal scopulae as in female.

**Spination:** Leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

**Tibial spur** (Fig. 5): DPV apophysis robust. Surmounting megaspine strong, curved, inflected from DPV apophysis, protrudes proventrally.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	7.3-12.3	6.5-10.8	5.9-8.7	7.3-11.8	5.5-8.4
<b>Patella</b>	4.8-7.5	4.3-6.7	3.5-6.0	4.1-6.7	3.1-5.6
<b>Tibia</b>	5.1-8.7	4.2-6.7	3.1-5.5	5.2-8.2	3.2-5.4
<b>Metatarsus</b>	4.5-7.2	3.9-6.8	4.3-7.1	6.3-10.3	-
<b>Tarsus</b>	3.8-5.7	3.5-5.5	3.6-5.4	4.5-5.8	4.1-6.9

Table 1. -- *Ceratogyrus dolichocephalus* Hewitt, 1919. Lengths of leg and palp segments. Females NMZA 5432 and NMZA 6244, respectively.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	9.4-13.7 (12.5 ± 1.8)	7.2-11.9 (10.6 ± 1.9)	6.5-10.0 (9.0 ± 1.4)	7.5-12.6 (11.2 ± 2.1)	5.3-8.4 (7.2 ± 1.2)
<b>Patella</b>	4.3-7.7 (6.6 ± 1.4)	4.1-7.0 (6.0 ± 1.1)	3.6-5.5 (4.8 ± 0.8)	4.0-6.2 (5.4 ± 0.9)	3.4-5.3 (4.5 ± 0.7)
<b>Tibia</b>	6.5-10.3 (9.2 ± 1.5)	5.0-8.0 (7.2 ± 1.2)	4.2-6.4 (5.7 ± 0.9)	5.7-9.5 (8.2 ± 1.5)	4.5-6.8 (5.9 ± 0.9)
<b>Metatarsus</b>	6.0-9.0 (8.2 ± 1.2)	5.1-8.4 (7.4 ± 1.3)	5.6-8.8 (7.8 ± 1.3)	7.8-12.2 (10.7 ± 1.7)	-
<b>Tarsus</b>	3.8-6.7 (5.7 ± 1.1)	4.2-6.3 (5.5 ± 0.8)	3.7-6.1 (5.3 ± 0.9)	4.7-7.3 (6.2 ± 1.0)	1.8-3.6 (2.8 ± 0.6)

Table 2. -- *Ceratogyrus dolichocephalus* Hewitt, 1919. Lengths of leg and palp segments. Males (n = 5). Range above, mean ± standard deviation below.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	12.0	10.6	8.7	10.9	8.5
<b>Patella</b>	8.0	6.9	5.5	6.2	5.5
<b>Tibia</b>	8.7	6.9	5.5	8.2	5.5
<b>Metatarsus</b>	7.6	7.0	6.8	9.9	-
<b>Tarsus</b>	5.5	5.3	4.8	5.8	6.0

Table 3. -- *Ceratogyrus ezendami* **NEW SPECIES**. Lengths of leg and palp segments of paratype female.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	11.3	10.0	8.2	10.4	6.7
<b>Patella</b>	6.8	6.0	4.5	5.7	4.5
<b>Tibia</b>	8.5	7.1	5.6	8.4	5.5
<b>Metatarsus</b>	7.6	7.3	7.5	9.8	-
<b>Tarsus</b>	5.3	5.3	5.1	5.6	2.9

Table 4. -- *Ceratogyrus ezendami* **NEW SPECIES**. Lengths of leg and palp segments of holotype male.

Coloration: As in female, except black coloration on legs I, II restricted to prolateral region of femorae, due to presence of denser, long, emergent, brown/beige setae. Coxae and trochanter coloration as in female. Carapace striae golden and metallic.

Palpal bulb (Figs. 6-9): Pyriform with weakly flexed, curved embolus. Embolic tip slightly in-flected when viewed retrolaterally.

**Material examined.** -- **Zimbabwe:** BMNH 14.10.21.6, 1♂, Balla Balla, 20°27'S, 29°03'E (Mrs. Spencer James); NM 9765, 1♂, Hunyani Hills Hotel, Lake McIlwane-Kariba, 30m from Salisbury (=Harare), 17°52'S, 30°40'E, XI-1966 (P. Hulley); NM 16002, 1♂, under a rock had a large tunnel like rest using the bottom of the rock as a roof, Warren Hills, Salisbury (=Harare), 17°50'S, 31°02'E, 4-VII-1969; NMZA 162, 1imm., Bulawayo, Matsheamhlope, 20°10'S, 28°43'E, 24-31-VIII-1979 (D. K. B. Wheeler); NMZA 311, 1♀ 2imms., REP's Matopos, 20°27'S, 28°30'E, 18-23-IX-1979 (S. Higgins); NMZA 1227, 1♂, Bulawayo, Waterford, 20°10'S, 28°43'E, 18-IV-1971 (P. Lee); NMZA 1228, 1♂, Bulawayo, 20°10'S, 28°43'E, IV-1965; NMZA 1229, 1♂, Bulawayo, 20°10'S, 28°43'E, IV-1973; NMZA 1234, 2♂, Nyamandhlovu, Bonisa Farm, 19°50'S, 28°16'E, III-1980 (T. Gibbs); NMZA 1260, 1♂, Bulawayo, 20°10'S, 28°43'E, 3-IV-1978 (Mr. Dicks); NMZA 1264, 1♂, Harare, 17°50'S, 31°03'E, 7-IV-1961 (C. K. Brain); NMZA 1266, 1imm. ♂, Mashaba, 20°03'S, 30°29'E, IV-1972 (Kotz'e); NMZA 1268, 1♂, Bulawayo, 20°10'S, 28°43'E, III-1933; NMZA 1270, 1imm. ♀, Bulawayo, 20°10'S, 28°43'E (G. Dally); NMZA 1273, 1♂, Bulawayo, 20°10'S, 28°43'E, 10-IV-1973; NMZA 1277, 1♂, Bulawayo, 20°10'S, 28°43'E, III-1980; NMZA 1285, 1♀, South of Bulawayo, R.E.P. school, 20°27'S, 28°30'E, 1-XI-1979 (S. Higgins); NMZA 1292, 1♀, South of Bulawayo, REP school, Matopos, 20°27'S, 28°30'E, 13-XI-1979 (S. Higgins); NMZA 1495, 1♂ with re-grown palpi, Harare, Marlborough, 17°50'S, 31°03'E, 23-IV-1968 (M. Bowker); NMZA 1590, 1imm. ♂, Bulawayo, 20°10'S, 28°43'E, 18-I-1982 (H. van Rheede); NMZA 1631, 1♂, Bulawayo, Hillside, 20°10'S, 28°43'E, 19-II-1982 (I. N. Terry); NMZA 1632, 1♂, Bulawayo, 20°10'S, 28°43'E, 18-V-1981 (G. H. French); NMZA 1697, 1imm. ♀, Bulawayo, 20°10'S, 28°43'E, 20-XII-1982 (G. Kaufman); NMZA 1738, 1♂, Bulawayo, 20°10'S, 28°43'E, 11-IV-1983 (J. Hoffman); NMZA 1739, 1♂, Bulawayo, 20°10'S, 28°43'E, IV-1983 (G. Laity); NMZA 1741, 1♂, Bulawayo, 20°10'S, 28°43'E, 7-IV-1983 (Mr. Ashley); NMZA 2200, 1♂, Bulawayo, Kumalo, 20°10'S, 28°43'E (Mr. Duly); NMZA 2201, 1♂, Bulawayo, 20°10'S, 28°43'E, 7-V-1984 (L. Barker); NMZA 2739, 1♂, Bulawayo, Hillside, 20°10'S, 28°43'E, 7-III-1985 (R. Howe); NMZA 2894, 1imm. ♂, Noelvale, Zvishavane, 20°20'S, 30°02'E, 15-16-

XII-1984 (M. Bing); NMZA 3539, 1♂, Bulawayo, Burnside, 20°10'S, 28°43'E, IV-1985 (B. Kaufman); NMZA 4693, 1♂, Bulawayo, 20°10'S, 28°43'E, 7-IV-1986 (D. G. Broadley); NMZA 4694, 1imm., Bulawayo, 20°10'S, 28°43'E, II-1986 (B. Bennefield); NMZA 5348, 1imm., Chipinda pool, Gona-Re-Zhou National Park, 21°05'S, 31°55'E, 6-II-1985 (P. Kgoro); NMZA 5431, 1♀, Bulawayo, Sunninghill, 20°10'S, 28°43'E, 30-XI-1986 (M. McElroy); NMZA 5608, 1♀, Bulawayo, Sunninghill, 20°10'S, 28°43'E, 22-III-1987 (Mrs. Johnston); NMZA 5609, 1♂, Bulawayo, Luveve, 20°10'S, 28°43'E, 20-IV-1987 (C. Ndebele); NMZA 5696, 1♂, Bulawayo, Montgomery, 20°10'S, 28°43'E, 31-V-1987 (J. Masuku); NMZA 5771, 1♂, Bulawayo, 20°10'S, 28°43'E, 27-III-1984 (Mrs. Wild); NMZA 6200, 1imm. ♂, Douglasdale Kennels, Bulawayo, 20°10'S, 28°43'E, XII-1987 (M. & R. McElroy); NMZA 6244, 1♀, Douglasdale Kennels, Bulawayo, 20°10'S, 28°43'E, XII-1988 (M & R McElroy); NMZA 6395, 1♂, Bulawayo, Matsheumhlope, 20°10'S, 28°43'E, V-1988 (D. G. Broadley); NMZA 7251, 1♂, Bulawayo, Ascot Mews, 20°10'S, 28°43'E, 6-IV-1989 (P. Matheson); NMZA 7423, 1♂, Bulawayo, 20°10'S, 28°43'E, XII-1988 (D. Jones); NMZA 7753, 1♂, Harare, Borrowdale, 17°50'S, 31°03'E, 20-V-1972 (D. Simleit); NMZA 8790, 1♂, Beacon Hill, 19°17'S, 30°32'E, 12-V-1991 (A. Murray); NMZA 9042, 2imm. ♀, Gumtree, Tuli road, 22-VII-1979 (D. K. B. Wheeler); NMZA 9352, 2imms., Maleme rest camp, Matopos National Park, 20°34'S, 28°43'E, 10-15-II-1991 (J. Minshull); NMZA 9468, 1imm., Maleme rest camp, Matopos National Park, 20°34'S, 28°43'E, 13-16-II-1990 (J. Minshull); NMZA 9949, 1imm. ♂, Gutu Mission, 19°41'S, 31°09'E, caught in house, 1-2-XI-1989 (T. Volpers); NMZA 10369, 1imm. ♂, Lushongwe platform, Matopos game Park, 20°34'S, 28°43'E, 15-XII-1992 (F. Nyathi); NMZA 10421, 1imm. ♂, Lushongwe platform, Matopos game Park, 20°34'S, 28°43'E, 11-XII-1992 (F. Nyathi); NMZA 10471, 1♂, Bulawayo, Riverside, 20°10'S, 28°43'E, 21-IV-1993 (S. Gardener); SAM-ENW-B003287, 1♀ 4imms., Salisbury (=Harare), 17°50'S, 31°03'E, IV-1917 (R. W. Tucker).

**Distribution.** -- Known only from the southeastern part of Zimbabwe (Map 1). Also refer to De Wet & Dippenaar-Schoeman (1991).

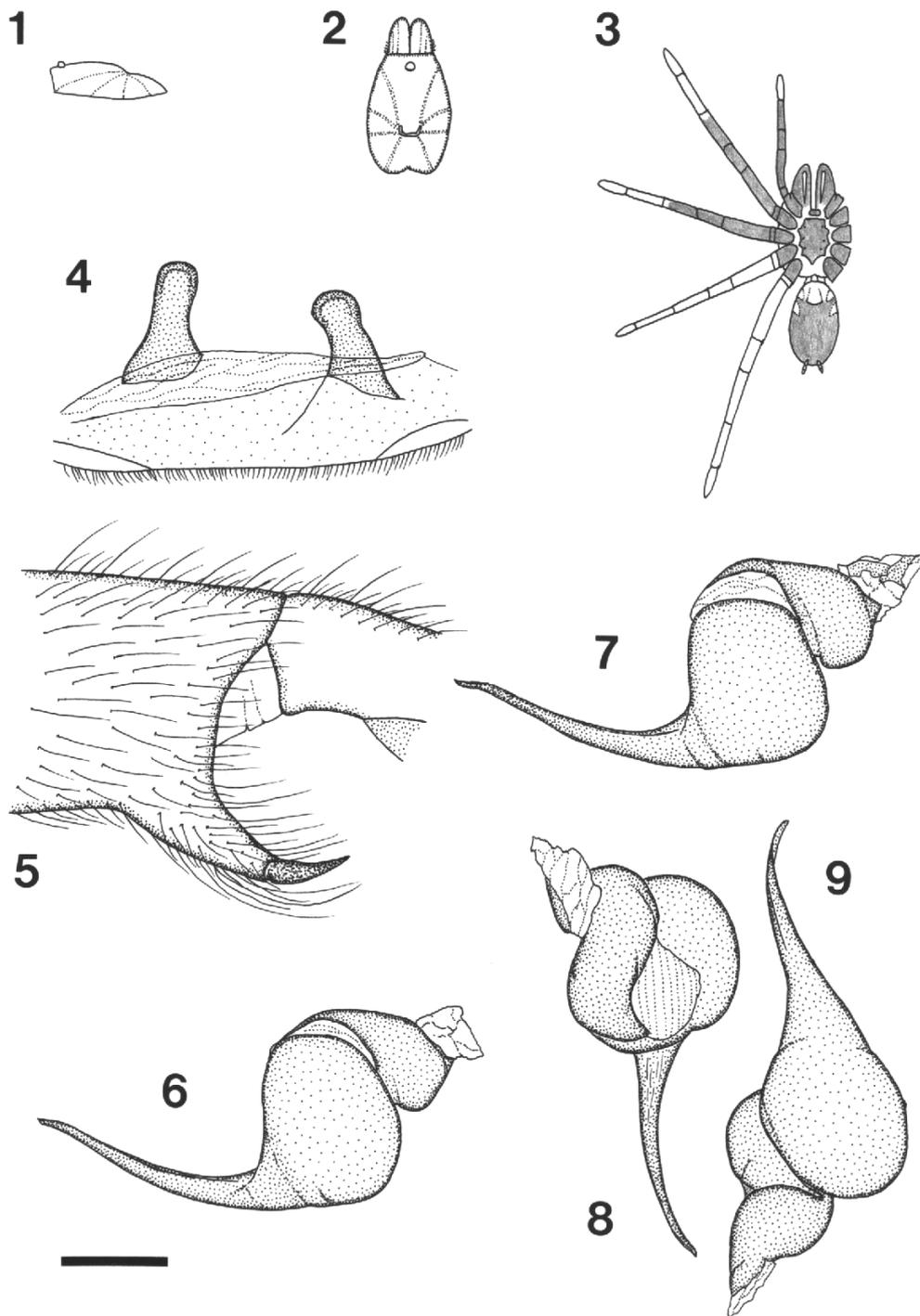
**Ecology.** -- Fossorial according to data with NM 16002. Males mature between November and July.

#### *Ceratogyrus ezendami* NEW SPECIES

(Figs. 10-17)

**Types.** -- Holotype ♂ and paratype ♀ (BMNH) from Mozambique; examined.

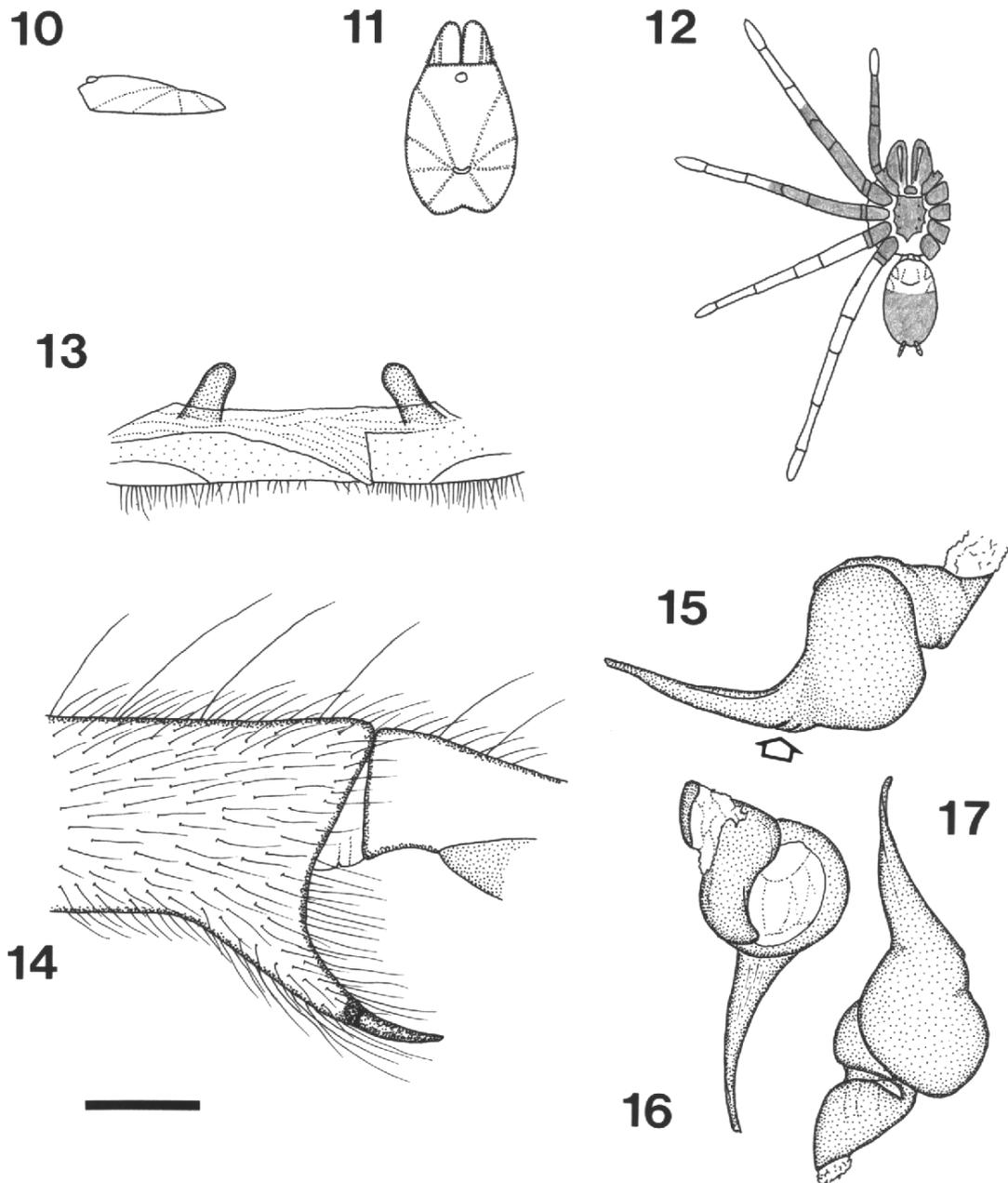
**Etymology.** -- A patronym in honor of Thomas Ezendam who has generously provided the author with numerous preserved theraphosid specimens.



***Ceratogyrus dolichocephalus* Hewitt, 1919**

Figures 1-9.--*Ceratogyrus dolichocephalus* Hewitt, 1919. 1, ♀ carapace profile (NMZA 6244); 2, ♀ carapace (ditto), dorsal view; 3, ♀ ventral coloration diagram; 4, ♀ spermathecae (NMZA 6244), dorsal view; 5, ♂ tibial spur of left leg I (NMZA 1234), prolateral view; 6, ♂ left palpal bulb (NMZA 5696), retrolateral view; 7, ♂ left palpal bulb (NMZA 1632), retrolateral view; 8, Ditto, dorsal view; 9, Ditto, ventral view. Scale bar = 13 mm (1, 2); 1 mm (4, 6-9); 1.4 mm (5).





***Ceratogyrus ezendami* NEW SPECIES**

Figures 10-17.--*Ceratogyrus ezendami* NEW SPECIES. 10, ♀ carapace profile (paratype); 11, ♀ carapace (paratype), dorsal view; 12, ♀ ventral coloration diagram; 13, ♀ spermathecae (paratype), dorsal view; 14, ♂ reversed tibial spur of right leg I (holotype), prolateral view; 15, ♂ left palpal bulb (holotype), retrolateral view (sub-keels arrowed); 16, Ditto, dorsal view; 17, Ditto, ventral view. Scale bar = 13 mm (10, 11); 1 mm (13, 15-17); 1.4 mm (14).

**Diagnosis.** -- Both sexes differ from protuberate *Ceratogyrus* species by the absence of a foveal protuberance. Distinguished from *C. dolichocephalus* by the presence of a pale, yellow region between the posterior booklung covers. The female is separated from those of *C. meridionalis* and *C. hillyardi* by the presence of ventral darkening on the anterior appendages. Differs from *C. pillansi* by the reduced curvature of the fovea and more extensive ventral darkening on the anterior appendages. The male is separated from its congeners by its squat embolus with two parallel retroventral sub-keels.

**Female paratype.** -- Total length 33.6. Carapace profile domed, raised at caput (Fig. 10) length 15.9, width 12.0. Abdomen length 12.6, width 9.0. Fovea procurved, without protuberance, width 2.07 (Fig. 11). Ocular tubercle length 1.73, width 2.27. Clypeus 0.54. Eye sizes: AME 0.57, ALE 0.66, PME 0.46, PLE 0.60. Sternum with three pairs of oval submarginal sigilla. Labium with about 30 (abraded) cuspules. Maxilla with approximately 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Small stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Leg and palp segment lengths in Table 3. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae.

Spination: Palp tibia 3DRV, 2DPV (3 on left side); legs I and II tibiae 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; legs III and IV metatarsi 1MPV, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD. Remaining leg segments aspinose.

Coloration: Dorsum of legs, palpi and abdomen gray/beige. Leg and palp joints pale yellow. Chelicerae gray and velvety in appearance. Carapace gray/beige with black 'mask' present around ocular tubercle. Dorsum of abdomen with dark pattern of bars, spots and reticulations. Venter of abdomen gray/beige with pale transverse band covering both booklung cover pairs and genital sclerite (Fig. 12). Sternum, coxae and trochanters velvety black. Prolateral and ventral surfaces of palpi black. Prolateral and ventral surfaces of legs I and II black up to proximal region of tibiae. Remaining legs gray/beige.

Spermathecae (Fig. 13): Paired, unlobed, flattened with slight medial constriction. Spermathecae turn inwards.

**Male holotype.** -- Total length 26.2. Carapace profile low, length 13.0, width 10.0. Abdomen length 9.6, width 6.3. Fovea procurved, without a protuberance, width 2.76. Ocular tubercle length 1.39, width 1.82. Clypeus 0.47. Eye sizes: AME 0.46, ALE 0.55, PME 0.40, PLE 0.50. Sternum with three pairs of

oval sub-marginal sigilla. Labium with about 70 cuspules (abraded). Maxilla with approximately 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 4. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female.

Spination: Leg I tibia 1DRV; legs II and III tibiae 1DRV, 1DPV; leg III metatarsus 1MPV, 1MPL (left side only), 1DRV, 1DMV, 1DPV, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV; leg IV metatarsus 1MPV, 1MRL, 1DRV, 1DMV, 1DPV, 1DPD, 1DRD. Remaining leg segments aspinose.

Tibial spur (Fig. 14): DPV apophysis long, cylindrical. Surmounting megaspine strong, curved. Protrudes ventrally.

Coloration: As in female, but black coloration extending only as far as patella on leg I and distal portion of femur on leg II.

Palpal bulb (Figs. 15-17): Pyriform with thick, squat, curved embolus. Two distinct retroventral sub-keels on embolus.

**Comments.** -- Examination of two conspecific exuviae indicates that some female specimens possess a radial pattern of gray/beige striae emanating from the fovea. The carapace base color is brown in these specimens. These conspecifics also possess a shallow dimple like fovea.

**Material examined.** -- **Mozambique:** BMNH, 1♂ (holotype); BMNH, 1♀ (paratype).

**Distribution.** -- Precise Mozambique locality unknown.

**Ecology.** -- Unknown. The male maturity period is not known.

***Ceratogyrus hillyardi* (Smith, 1990)**

**NEW COMBINATION** (Figs. 18-21)

*Coelogenium hillyardi* Smith, 1990: 77, figs. 365a-k (D♀).

**Type.** -- Holotype ♀ (BMNH 1902.4.6.1) from Malawi, Zomba, 15°22'S, 35°22'E (Alfred Sharpe); examined.

**Diagnosis.** -- Differs from protuberate *Ceratogyrus* species by the absence of a foveal protuberance. Further distinguished from all *Ceratogyrus* species by the form of the spermathecae (not medially constricted) and the presence of an angled, hemispherical plain bounded by the procurved fovea. The convexed sternum is also species-specific.

**Holotype female.** -- Total length 46.7. Carapace profile domed, raised at caput (Fig. 18) length 20.3, width 16.4. Abdomen length 19.5, width 11.5. Fovea procurved surrounding angled, hemispherical plain, width 4.50 (Fig. 19). Ocular tubercle length 2.23, width 2.70. Clypeus 0.93. Eye sizes: AME 0.73, ALE 0.73, PME 0.50, PLE 0.56. Sternum convexed with three pairs of oval submarginal sigilla.

Labium with about 70 cuspules. Maxilla with approximately 100 cuspules. DS of posterior spinneret digitiform. Chelicerae with 9 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Leg and palp segment lengths in Table 5. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae.

Spination: Palp 1DRV (2 on right), 2DPV; legs I and II tibiae 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DPD, 1DRD.

Coloration (in alcohol): Legs and palpi brown. Leg and palp joints pale yellow. Chelicerae gray with long emergent setae. Carapace brown with dark 'mask' present around ocular tubercle and evidence of paler carapace striae. Dorsum of abdomen dark brown with dark pattern of bars, spots and reticulations. Venter of abdomen dark brown with pale transverse band covering genital sclerite and anterior booklung covers. Posterior booklung covers orange with grizzled pale band in-between them (Fig. 20). Sternum, coxae and trochanters velvety black. Prolateral and ventral surfaces of palpi and legs brown with no evidence of darkening.

Spermathecae (Fig. 21): Paired, unlobed, flattened without medial constriction (obtuse).

**Male.** -- Unknown.

**Material examined.** -- **Malawi:** BMNH 1902.4.6.1, 1♀ (holotype), Zomba, 15°22'S, 35°22'E (Alfred Sharpe).

**Distribution.** -- Known only from Zomba, Malawi (Map 1).

**Ecology.** -- Unknown. The male maturity period is not known.

***Ceratogyrus marshalli* Pocock, 1897**

(Figs. 22-33)

*Ceratogyrus marshalli* Pocock, 1897: 754, pl. XLIII, figs. 2-2b (D♂); Smith, 1988: 128, figs. 55, 55d, 55h (♂); Smith, 1990: 74, figs. 356-365 (♂ D♀); De Wet & Dippenaar-Schoeman, 1991: 60, figs. 3a, 4a, 15a-c (♂).

*Ceratogyrus dolichocephalus* Hewitt, 1919: 104, pl. II, fig. a (♂ only misidentification).

*Ceratogyrus cornuatus* De Wet & Dippenaar-Schoeman, 1991: 52, figs. 3b, 4h, 10a-d (D♀). **NEW SYNONYMY.**

**Types.** -- Lectotype ♂ and paralectotype ♂ (BMNH 1897.4.6.1) of *C. marshalli* from Zimbabwe, Salisbury (=Harare), 17°50'S, 31°03'E; examined. Holotype ♀ (NMZA 2269) of *C. cornuatus* from Zimbabwe, Cross Kopje, Mutare, 18°58'S, 32°40'E;

not examined. Paratype ♀ (SAM B9126) of *C. cornuatus* from Zimbabwe, Penhalonga, Umtali (=Mutare), 18°58'S, 32°40'E; not examined. Paratype ♀ (NMZA 2270) of *C. cornuatus* from Zimbabwe, Hillcrest School, Mutare, 18°58'S, 32°40'E; not examined.

**Comments.** -- Adult male specimens were reared from spiderlings produced by wild caught *Ceratogyrus cornuatus* material imported for the pet trade. These males possessed a low, round domed foveal protuberance identical to that of *C. marshalli*. Palpal bulb and tibial spur morphology were also consistent with *C. marshalli*. Female siblings were consistent with their mothers, displaying sub-vertical, conical foveal protuberances. Distribution maps and data presented by De Wet & Dippenaar-Schoeman (1991) indicate that both *C. marshalli* and *C. cornuatus* occur sympatrically in eastern Zimbabwe. In light of this evidence, and the fact that no male *C. cornuatus* or female *C. marshalli* were identified by De Wet & Dippenaar-Schoeman (1991), it is suggested that both species are synonymous.

**Diagnosis.** -- Distinguished from all congeners by the shape of the foveal protuberance. In females this is typically rounded at the base, forming a sub-vertical conical protuberance (Figs. 22-23), but can also take the form of a low, circular dome in some specimens. Males possess a round, domed foveal plug (Figs. 24-26). In some female specimens (Fig. 22) the foveal protuberance can resemble that of *Ceratogyrus bechuanicus* and *C. darlingi*. In such cases the female of *C. marshalli* is distinguished by the fact that the pale sub-abdominal band lays over and between the anterior and posterior booklung covers (Fig. 27). In both *C. bechuanicus* and *C. darlingi* the band is confined to the anterior booklung covers and genital sclerite.

**Note.** -- Descriptions based on single specimens of each sex. For additional data refer to De Wet & Dippenaar-Schoeman (1991).

**Female BMNH.** -- Total length 61.5. Carapace profile domed, raised at caput (Fig. 22) length 26.3, width 20.0. Abdomen length 28.3, width 20.2. Fovea circular encompassing sub-vertical protuberance (Figs. 22-23). Ocular tubercle length 2.13, width 3.05. Clypeus 1.39. Eye sizes: AME 0.74, ALE 0.78, PME 0.55, PLE 0.67. Sternum with three pairs of oval sub-marginal sigilla. Labium with approximately 70 cuspules. Maxilla with approximately 140 cuspules. DS of posterior spinneret digitiform. Chelicerae with 10 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on the retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Several plumose setae present on proximal prolateral surface of palpal femur. Leg and palp segment lengths in Table 6. All tarsi with

integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae.

Spination: Palp tibia 2DRV, 2DPV; legs I and II tibiae 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

Coloration: Dorsum of legs, palpi and abdomen gray/beige. Leg and palp joints pale yellow. Chelicerae gray with long emergent setae. Carapace gray/brown with black 'mask' present around ocular tubercle and golden radial striae. Foveal protuberance black. Dorsum of abdomen with dark pattern of bars, spots and reticulations. Venter of abdomen dark brown with pale yellow transverse band covering both booklung cover pairs and genital sclerite (Fig. 27). Sternum, coxae and trochanters velvety black (except trochanters of legs III & IV). Prolateral and ventral surfaces of palpi black. Prolateral and proventral surfaces of legs I and II black up to distal region of femorae. Remaining legs gray/beige.

Spermathecae (Fig. 28): Paired, unlobed and flattened with a slight medial constriction.

**Male BMNH.** -- Total length 35.4. Carapace profile low, length 15.9, width 12.3 (Figs. 24 & 26). Abdomen length 15.2, width 9.9. Fovea circular, encompassing low, round domed plug (Figs. 24-25). Ocular tubercle length 1.67, width 1.95. Clypeus 0.60. Eye sizes: AME 0.50, ALE 0.61, PME 0.38, PLE 0.50. Sternum with three pairs of oval submarginal sigilla. Labium with about 50 cuspules. Maxilla with approximately 120 cuspules (obscured by regurgitate). DS of posterior spinneret digitiform. Chelicerae with 11 teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 7. Femur of leg III not incrassate. Metatarsus of leg I straight. Tarsal and metatarsal scopulae as in female.

Spination: Leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1MRV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

Tibial spur (Fig. 29 of lectotype): DPV apophysis inflected and sub-cylindrical. Surmounting megaspine strong, curved. Protrudes proventrally.

Coloration: As in female, but darker overall and carapace striae metallic golden. Region between posterior booklung covers grizzled.

Palpal bulb (Figs. 30-33): Pyriform with curved, embolus. Embolic tip inflected when viewed retrolaterally.

**Material examined.** -- **Mozambique:** BMNH, 1♀ (T. Ezendam); BMNH, 1♂, captive bred (T.

Ezendam). **Zimbabwe:** BMNH 1897.4.6.1, 2♂ (lectotype and paralectotype (damaged carapace) of *C. marshalli*), Salisbury (=Harare), 17°50'S, 31°03'E; BMNH 1898.11.20.16, 1♂, Umtali (=Mutare), 18°58'S, 32°40'E (F. Darling); BMNH 1899.5.4.13-14, 1♂ imm. ♂, Salisbury (=Harare), 17°50'S, 31°03'E, 22-IV-1899 (G. A. K. Marshall).

**Distribution.** -- Eastern Zimbabwe and Mozambique, see De Wet & Dippenaar-Schoeman (1991: 56 & 63).

**Ecology.** -- Fossorial. Males are mature between February and May (De Wet & Dippenaar-Schoeman 1991).

***Ceratogyrus meridionalis* (Hirst, 1907)**

**NEW COMBINATION** (Figs. 34-42)

*Pterinochilus meridionalis* Hirst, 1907: 35, fig. 2 (D♂); Smith, 1988: 135, fig. 80h (♂); Smith, 1990: 97, figs. 525-534 (♂).

**Type.** -- Holotype ♂ (BMNH 1907.112) from Malawi, Dowa, 13°40'S, 33°55'E, 1300 m, III-1907 (A. R. Andrew); examined.

**Comments.** -- Material cited as *P. meridionalis* by Laurent (1946) and Roewer (1953) is not conspecific (Gallon in prep.).

Examination of the holotype and conspecific material revealed that this species does not belong within *Pterinochilus*. The possession of a modified fovea (see below), a pale sub-abdominal band (over and between both booklung cover pairs) and the shape of the spermathecae (medially constricted), palpal bulb and tibial spur support the transfer of this species to the genus *Ceratogyrus*.

The fovea of the holotype differs in structure from that of the conspecific material in that it forms a deep depression as opposed to a procurved pit, however *Ceratogyrus* fovea are known to be variable (De Wet & Dippenaar-Schoeman 1991). The ventral coloration of the legs and abdomen are however identical; a characteristic which is stable within *Ceratogyrus* species.

**Diagnosis.** -- Both sexes differ from protuberant *Ceratogyrus* species by the absence of a foveal protuberance. Distinguished from *C. dolichocephalus* by the presence of a pale, yellow region (grizzled in males) between the posterior booklung covers and absence of ventral darkening on the anterior appendages. The female is separated from those of *C. ezendami* and *C. pillansi* by the absence of ventral darkening on the anterior appendages. Differs from *C. hillyardi* by its medially constricted spermathecae and absence of an angled hemispherical plain bounded by the fovea. The elongated embolus with its truncated tip distinguishes the male from other species.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	14.5	13.0	10.4	13.5	9.3
<b>Patella</b>	9.4	7.9	6.6	7.3	6.0
<b>Tibia</b>	10.4	8.2	6.4	10.0	6.3
<b>Metatarsus</b>	8.8	7.8	7.8	11.5	-
<b>Tarsus</b>	6.3	5.7	5.5	6.5	7.2

Table 5. -- *Ceratogyrus hillyardi* (Smith, 1990). Lengths of leg and palp segments of holotype female.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	19.5	16.3	13.5	17.2	12.1
<b>Patella</b>	12.2	10.5	8.5	9.9	8.0
<b>Tibia</b>	13.3	10.4	8.0	12.0	8.0
<b>Metatarsus</b>	11.7	10.8	10.2	15.3	-
<b>Tarsus</b>	8.2	7.5	7.2	8.2	9.0

Table 6. -- *Ceratogyrus marshalli* Pocock, 1897. Lengths of leg and palp segments of female BMNH.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	14.5	12.3	10.5	12.9	8.1
<b>Patella</b>	7.8	6.5	5.5	5.9	5.1
<b>Tibia</b>	10.9	8.3	6.1	9.3	6.4
<b>Metatarsus</b>	9.2	8.2	8.2	12.0	-
<b>Tarsus</b>	6.5	5.9	5.6	6.4	2.0

Table 7. -- *Ceratogyrus marshalli* Pocock, 1897. Lengths of leg and palp segments of male BMNH.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	14.3-16.9 (15.4 ± 1.3)	12.1-14.5 (13.4 ± 1.2)	10.7-12.0 (11.4 ± 0.7)	12.5-14.5 (13.6 ± 1.0)	9.0-11.0 (10.0 ± 1.0)
<b>Patella</b>	9.0-11.1 (10.2 ± 1.1)	7.7-9.5 (8.7 ± 0.9)	6.3-7.6 (7.0 ± 0.7)	7.1-9.2 (8.0 ± 1.1)	6.0-7.8 (6.9 ± 0.9)
<b>Tibia</b>	9.8-12.4 (11.2 ± 1.3)	7.7-9.8 (8.8 ± 1.1)	6.4-7.6 (7.0 ± 0.6)	8.8-10.8 (10.1 ± 1.1)	6.4-7.8 (7.0 ± 0.7)
<b>Metatarsus</b>	8.4-11.7 (10.1 ± 1.7)	7.5-10.4 (8.9 ± 1.5)	7.5-9.4 (8.7 ± 1.0)	10.1-13.7 (12.1 ± 1.8)	-
<b>Tarsus</b>	5.8-7.2 (6.7 ± 0.8)	5.6-7.2 (6.6 ± 0.9)	5.5-7.2 (6.5 ± 0.9)	5.9-7.6 (6.9 ± 0.9)	7.3-9.1 (8.2 ± 0.9)

Table 8. -- *Ceratogyrus meridionalis* (Hirst, 1907). Lengths of leg and palp segments. Females (n = 3). Range above, mean ± standard deviation below.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	10.5-13.8 (11.9 ± 1.4)	8.9-12.0 (10.2 ± 1.3)	7.7-9.6 (8.6 ± 0.8)	9.3-12.2 (10.6 ± 1.2)	6.0-8.1 (7.0 ± 0.9)
<b>Patella</b>	5.7-7.4 (6.5 ± 0.7)	4.6-6.2 (5.6 ± 0.7)	3.7-5.2 (4.4 ± 0.6)	4.7-6.1 (5.2 ± 0.6)	3.9-5.1 (4.4 ± 0.5)
<b>Tibia</b>	7.7-10.6 (9.0 ± 1.2)	6.1-8.0 (6.9 ± 0.8)	4.8-6.1 (5.4 ± 0.5)	7.1-9.6 (8.2 ± 1.1)	4.9-6.2 (5.5 ± 0.6)
<b>Metatarsus</b>	6.9-9.2 (7.9 ± 1.0)	5.9-8.1 (6.9 ± 1.0)	6.2-8.9 (7.4 ± 1.2)	8.9-12.0 (10.2 ± 1.4)	-
<b>Tarsus</b>	5.3-6.3 (5.8 ± 0.4)	4.6-5.8 (5.3 ± 0.6)	4.5-5.7 (5.2 ± 0.5)	5.2-6.6 (5.9 ± 0.7)	2.5-3.3 (3.0 ± 0.4)

Table 9. -- *Ceratogyrus meridionalis* (Hirst, 1907). Lengths of leg and palp segments. Males (n = 4) including the holotype. Range above, mean ± standard deviation below.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	10.5	9.5	7.5	9.7	6.7
<b>Patella</b>	6.6	5.9	4.7	5.3	4.7
<b>Tibia</b>	7.3	6.0	4.7	7.3	4.4
<b>Metatarsus</b>	6.1	5.7	5.4	9.0	-
<b>Tarsus</b>	4.9	4.9	4.7	5.2	5.4

Table 10. -- *Ceratogyrus pillansi* (Purcell, 1902). Lengths of leg and palp segments of female.

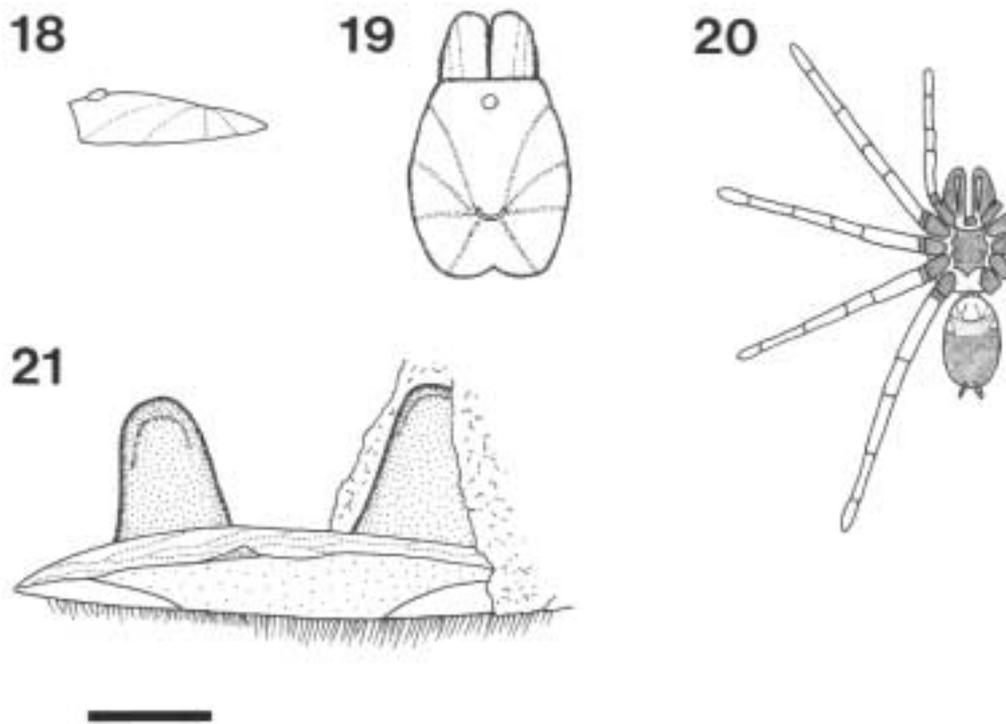
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>Palp</b>
<b>Femur</b>	11.3	9.6	7.6	10.0	6.8
<b>Patella</b>	6.2	5.0	3.9	4.4	4.2
<b>Tibia</b>	8.6	6.8	5.2	7.3	5.4
<b>Metatarsus</b>	7.2	6.9	6.6	9.5	-
<b>Tarsus</b>	5.5	4.9	4.9	5.6	2.7

Table 11. -- *Ceratogyrus pillansi* (Purcell, 1902). Lengths of leg and palp segments of neotype male.

**Female.** -- Total length 42.8-61.2 (51.1 ± 9.3; 3). Carapace profile domed, raised at caput (Fig. 34) length 18.6-24.9 (22.0 ± 3.2; 3), width 14.0-19.8 (16.8 ± 2.9; 3). Abdomen length 18.2-28.6 (22.5 ± 5.4; 3), width 12.9-18.8 (16.4 ± 3.1; 3). Fovea procurved, '⊥' shaped, deep slit without protuberance (Fig. 35). Ocular tubercle length 1.82-2.20 (2.01 ± 0.19; 3), width 2.37-2.77 (2.55 ± 0.20; 3). Clypeus 0.27-1.22 (0.83 ± 0.50; 3). Eye sizes: AME 0.54-0.68 (0.63 ± 0.08; 3), ALE 0.55-0.68 (0.62 ± 0.07; 3), PME 0.43-0.50 (0.46 ± 0.04; 3), PLE 0.51-0.54 (0.53 ± 0.02; 3). Sternum with three pairs of oval submarginal sigilla. Labium with about 50 cuspules. Maxilla with approximately 100 cuspules. DS of pos-

terior spinneret digitiform. Chelicerae with 9-12 (10 ± 2; 3) teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retro-lateral cheliceral face, corresponding with a scopula of similar plumose setae on pro-lateral trochanteral face of palp. In large specimens plumose setae may extend onto the proximal, pro-lateral region of palpal femur. Leg and palp segment lengths in Table 8. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II and III integral. Metatarsal scopula of leg IV bisected longitudinally by band of stiffened setae.

Spination: Palp tibia 2DRV, 2DPV; legs I and II tibiae 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV, 1MPV, 1DRV, 1DMV, 1DPV; leg III meta-



***Ceratogyrus hillyardi* (Smith, 1990)**

Figures 18-21.--*Ceratogyrus hillyardi* (Smith, 1990) holotype ♀. 18, ♀ carapace profile; 19, ♀ carapace, dorsal view; 20, ♀ ventral coloration diagram; 21, ♀ spermathecae, dorsal view. Scale bar = 13 mm (18, 19); 1 mm (21).

tarsus 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

Coloration: Dorsum of legs and palpi dark gray. Leg and palp joints pale yellow. Chelicerae dark gray with long emergent setae. Carapace black with prominent yellow/brown radial striae and dark 'mask' around ocular tubercle. Dorsum of abdomen beige with dark pattern of spots, bars and reticulations. Venter of abdomen dark gray with pale transverse band over and between anterior and posterior booklung covers (Fig. 36). Sternum and coxae velvety black. Trochanters of palpi and legs I, II very dark gray. Remaining legs dark gray.

Spermathecae (Fig. 37): Paired, unlobed with medial constriction. Cross-section of spermathecae rounded or flattened.

**Male.** -- Total length 25.6-31.8 ( $29.1 \pm 2.6$ ; 4). Carapace profile low, length 11.1-13.8 ( $12.9 \pm 1.2$ ; 4), width 8.5-11.6 ( $10.1 \pm 1.3$ ; 4). Abdomen length 11.6-14.5 ( $12.5 \pm 1.4$ ; 4), width 6.5-8.6 ( $7.6 \pm 0.9$ ; 4).

Fovea procurved, '⊥' shaped, deep slit without pro-

tuberance. Ocular tubercle length 1.37-1.46 ( $1.42 \pm 0.04$ ; 4), width 1.72-1.99 ( $1.89 \pm 0.12$ ; 4). Clypeus 0.39-0.50 ( $0.45 \pm 0.06$ ; 4). Eye sizes: AME 0.46-0.58 ( $0.52 \pm 0.05$ ; 4), ALE 0.46-0.65 ( $0.55 \pm 0.08$ ; 4), PME 0.33-0.40 ( $0.37 \pm 0.03$ ; 4), PLE 0.45-0.49 ( $0.46 \pm 0.02$ ; 4). Sternum with three pairs of oval submarginal sigilla. Labium with about 60 cuspsules. Maxilla with approximately 90 cuspsules. DS of posterior spinneret digitiform. Chelicerae with 9 ( $9 \pm 0$ ; 4) teeth on promargin. Stridulatory scopulae as in female. Leg and palp segment lengths in Table 9. Femur of leg III not incrassate. Metatarsus of leg I slightly laterally flexed. Tarsal and metatarsal scopulae as in female.

Spination: Palp tibia 1DPV; leg I tibia 1DRV; leg II tibia 1DRV, 1DPV; leg III tibia 1DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV tibia 2DRV, 1DPV, metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD. Remaining leg segments aspinose.

Tibial spur (Fig. 38): DPV apophysis subcylindrical. Surmounting megaspine curved. Protrudes proventrally.

Coloration: As in female except carapace striae woolly and metallic golden. Dorsal abdominal pattern without reticulations and portion of pale, sub-abdominal band between posterior booklung covers grizzled.

Palpal bulb (Figs. 39-42): Pyriform, with curved embolus. Embolic tip characteristically truncated when viewed retrolaterally.

**Material examined.** -- **Malawi:** BMNH 1907.112, 1♂ (holotype), Dowa, 13°40'S, 33°55'E, 1300 m, III-1907 (A. R. Andrew). **Mozambique:** ZMB 31091b, 1♀ (W. Tiesler). **No data (captive bred):** BMNH, 1♂ (R. Gallon); BMNH, 1♂ (B. Wander); BMNH, 1♀ (T. Ezendam); BMNH, 1♀ (R. Gallon); ZMB 32446, 1♂ (A. Lau).

**Distribution.** -- Known from Dowa, Malawi and an unknown location in Mozambique (Map 1).

**Ecology.** -- Unknown. Males are mature in March.

***Ceratogyrus pillansi* (Purcell, 1902)**

**NEW COMBINATION** (Figs. 43-50)

*Coelogenium pillansi* Purcell, 1902: 338 (D♀); Smith, 1988: 129 (♀); Smith, 1990: 75 (in part, Caia ♀ only).

**Types.** -- Holotype imm. ♀ (SAM 5749) from Zimbabwe (R. Pillans); lost in transit between SAM and MMUE. **NEOTYPE** ♂ (SAM-ENW-X010065) from Zimbabwe, Umtali (=Mutare), 18°58'S, 32°40'E, I-1902 (D. L. Patrick); examined.

**Comments.** -- The jar containing the neotype also contains two immature *Ceratogyrus* spp. which are not considered conspecific with the neotype. The female (BMNH 12.11.26.4) resembles *C. meridionalis* particularly with regards to the ventral coloration of the abdomen. However its fovea bears more resemblance to that of the neotype male of *C. pillansi* and for this reason it is referred to this species. The *Coelogenium pillansi* specimens illustrated by Smith (1990), Schmidt (1993) and Gallon (1999) are misidentified *Ceratogyrus dolichocephalus*.

**Diagnosis.** -- Both sexes differ from protuberate *Ceratogyrus* species by the absence of a foveal protuberance. Differs from all other *Ceratogyrus* species by the strongly curved embolus and small, 'U' shaped procurved fovea.

**Female BMNH 12.11.26.4.** -- Total length 35.6. Carapace profile domed, raised at caput (Fig. 43) length 14.8, width 10.8. Abdomen length 14.9, width 9.7. Fovea small evenly procurved, 'U' shaped, deep slit without protuberance, width 2.37 (Fig. 44). Ocular tubercle length 1.57, width 1.94. Clypeus 0.66. Eye sizes: AME 0.43, ALE 0.55, PME 0.34, PLE 0.40. Sternum with three pairs of oval submarginal sigilla. Labium with approximately 70

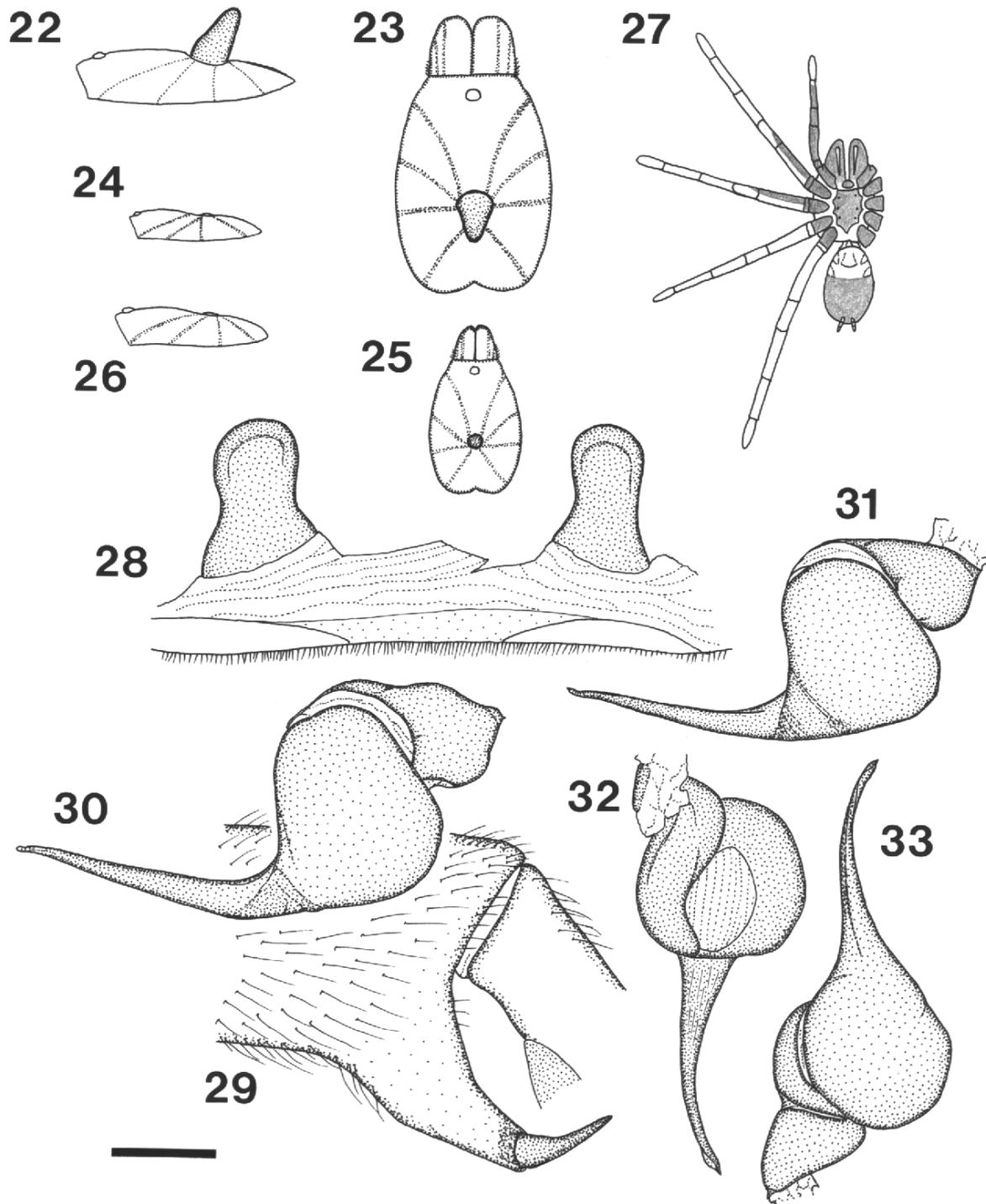
cuspsules. Maxilla with approximately 100 cuspsules. DS of posterior spinneret digitiform. Chelicerae with 10 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Several plumose setae extend onto proximal, prolateral region of palpal femur. Leg and palp segment lengths in Table 10. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopulae of leg IV bisected longitudinally by band of stiffened setae.

**Spination:** Palp tibia 2DRV, 2DPV; legs I and II tibiae 1DRV, 1DPV; legs III and IV tibiae 2DRV, 1DPV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV (2 on left), 1MRD, 1MPL, 1DPD, 1DRD.

**Coloration** (in alcohol): Legs and palpi brown. Leg and palp joints pale yellow. Chelicerae brown with long emergent setae. Carapace brown with evidence of paler carapace striae. Dorsum of abdomen mustard brown with dark pattern of bars, spots and reticulations. Venter of abdomen mustard brown with pale yellow transverse band covering genital sclerite and anterior booklung covers. Posterior booklung covers pale yellow with grizzled pale band in-between (Fig. 45). Sternum, coxae and trochanters velvety black. Prolateral femoral surfaces of palp and legs I, II darkened, with darkening extending to distal prolateral regions of patellae of legs I, II. Remaining prolateral and ventral surfaces of palpi and legs brown with no evidence of darkening.

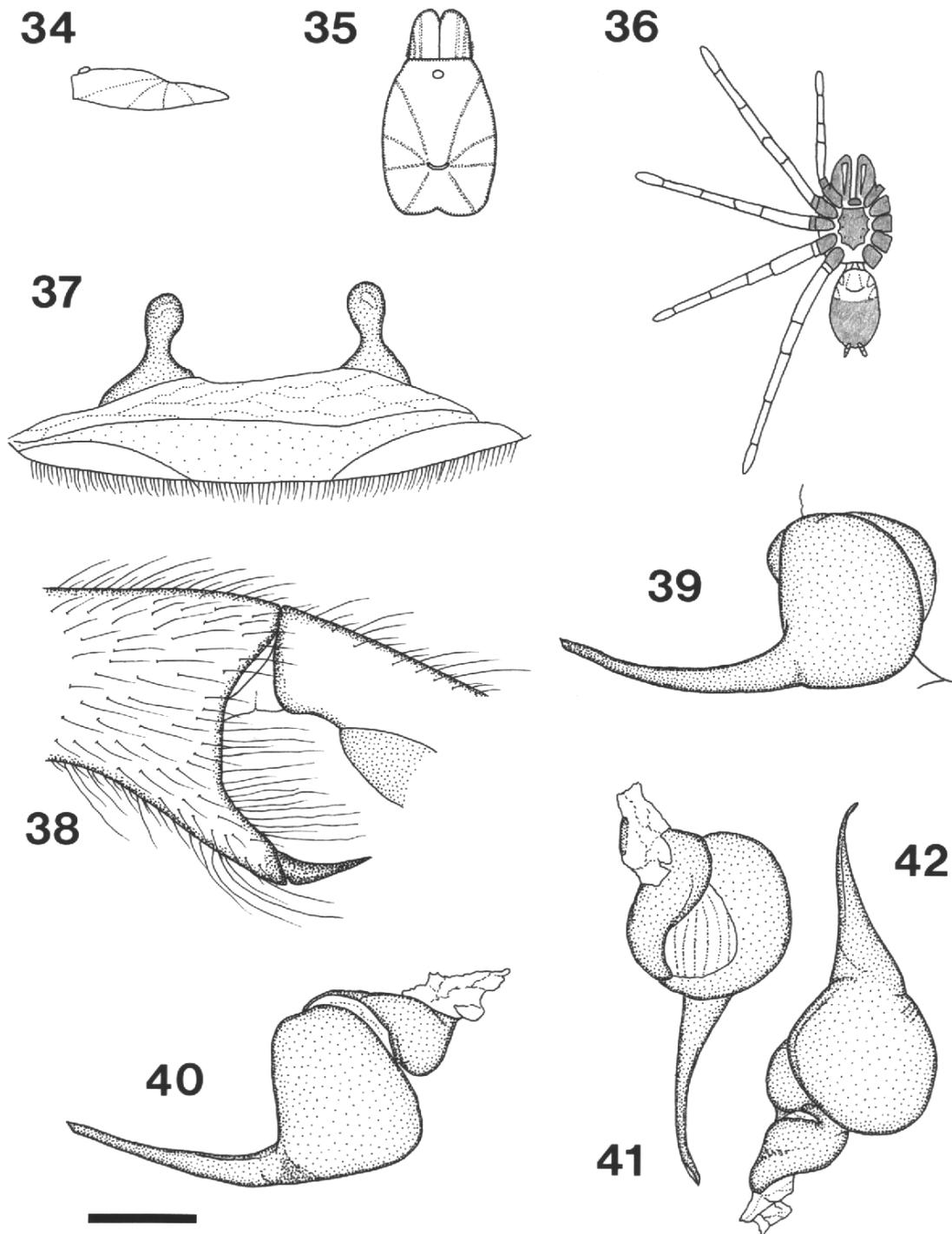
**Spermathecae** (Fig. 46): Paired, unlobed and flattened with medial constriction.

**Neotype male.** -- Total length 28.8. Carapace profile low, length 12.0, width 9.3. Abdomen length 12.8, width 7.0. Fovea small, evenly procurved, 'U' shaped, deep slit without protuberance, width 1.37. Ocular tubercle length 1.48, width 1.73. Clypeus 0.41. Eye sizes: AME 0.40, ALE 0.52, PME 0.39, PLE 0.56. Sternum with three pairs of oval submarginal sigilla. Labium with approximately 50 cuspsules (abraded). Maxilla with approximately 120 cuspsules. DS of posterior spinneret digitiform. Chelicerae with 8 teeth on promargin. Large stridulatory scopula of well-developed plumose setae on retrolateral cheliceral face, corresponding with scopula of similar plumose setae on prolateral trochanteral face of palp. Leg and palp segment lengths in Table 11. Femur of leg III not incrassate. Metatarsus of leg I straight. All tarsi with integral scopulae. Metatarsal scopulae of legs I, II, III integral. Metatarsal scopulae of leg IV bisected longitudinally by band of stiffened setae.



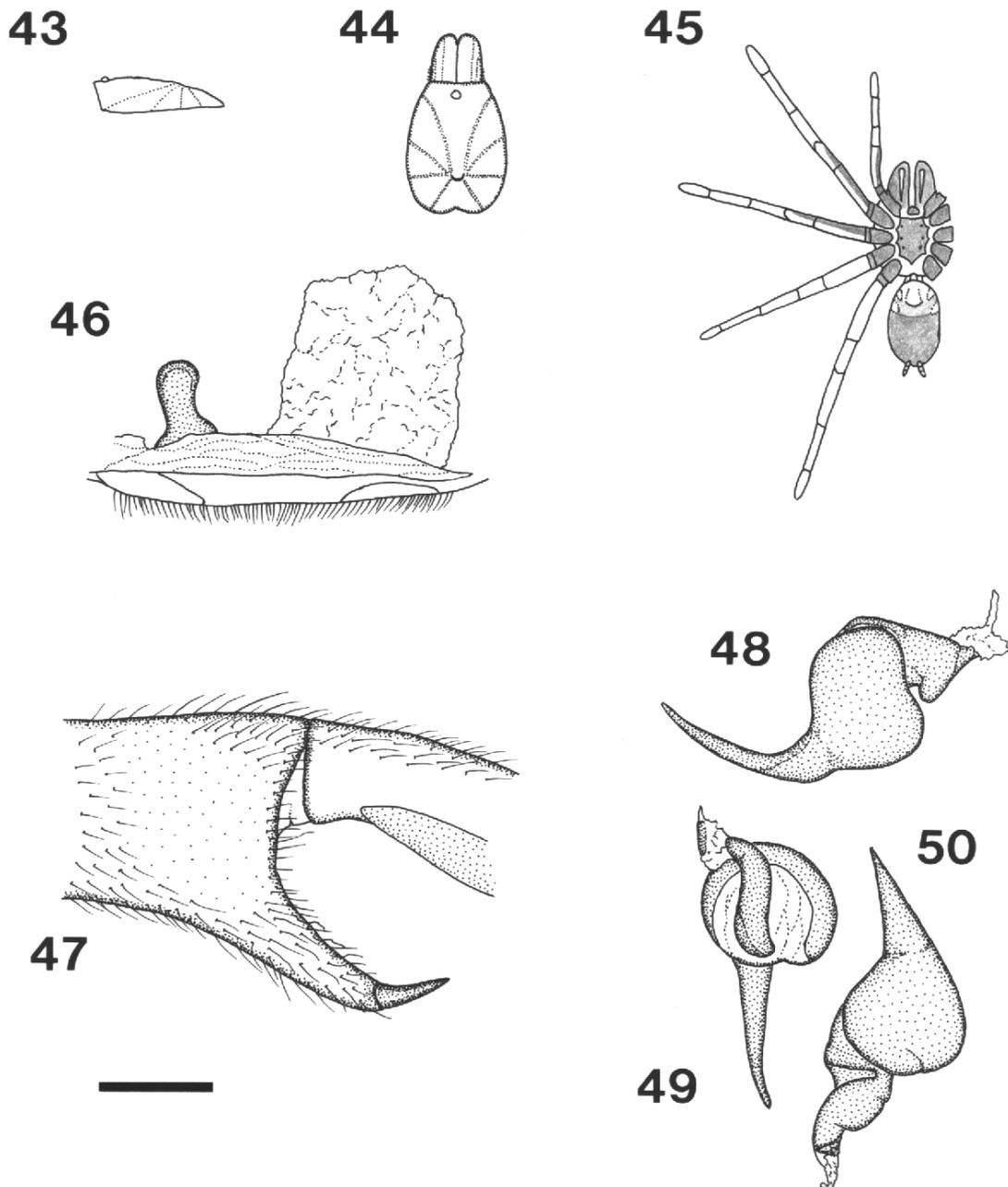
***Ceratogyrus marshalli* Pocock, 1897**

Figures 22-33.--*Ceratogyrus marshalli* Pocock, 1897. 22, ♀ carapace profile (BMNH, T. Ezendam); 23, ♀ carapace (ditto), dorsal view; 24, ♂ carapace profile (BMNH, T. Ezendam); 25, ♂ carapace (ditto), dorsal view; 26, ♂ carapace profile (lectotype); 27, ♀ ventral coloration diagram; 28, ♀ spermathecae (BMNH, T. Ezendam), dorsal view; 29, ♂ tibial spur of left leg I (lectotype), prolateral view; 30, ♂ left palpal bulb (lectotype), retrolateral view; 31, ♂ left palpal bulb (BMNH, T. Ezendam), retrolateral view; 32, Ditto, dorsal view; 33, Ditto, ventral view. Scale bar = 13 mm (22-26); 1 mm (28, 30-33); 1.4 mm (29).



***Ceratogyrus meridionalis* (Hirst, 1907)**

Figures 34-42.--*Ceratogyrus meridionalis* (Hirst, 1907). 34, ♀ carapace profile (ZMB 31091b); 35, ♀ carapace (ditto), dorsal view; 36, ♀ ventral coloration diagram; 37, ♀ spermathecae (ZMB 31091b), dorsal view; 38, ♂ tibial spur of left leg I (holotype), prolatral view; 39, ♂ reversed right palpal bulb (holotype), retrolateral view; 40, ♂ left palpal bulb (BMNH, R. Gallon), retrolateral view; 41, Ditto, dorsal view; 42, Ditto, ventral view. Scale bar = 13 mm (34, 35); 1 mm (37, 39-42); 1.4 mm (38).



***Ceratogyrus pillansi* (Purcell, 1902)**

Figures 43-50.--*Ceratogyrus pillansi* (Purcell, 1902). 43, ♀ carapace profile (BMNH 12.11.26.4); 44, ♀ carapace (ditto), dorsal view; 45, ♀ ventral coloration diagram; 46, ♀ spermathecae (BMNH 12.11.26.4), dorsal view; 47, ♂ reversed tibial spur of right leg I (neotype), prolateral view; 48, ♂ reversed right palpal bulb (neotype), retrolateral view; 49, Ditto, dorsal view; 50, Ditto, ventral view. Scale bar = 13 mm (43, 44); 1 mm (46, 48-50); 1.4 mm (47).

Spination: Palp tibia 1DPV; leg I tibia 1DRV; legs II, III and IV tibiae 1DRV, 1DPV; leg II metatarsus 1DMV; leg III metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1MPL, 1DPD, 1DRD; leg IV metatarsus 1MPV, 1DRV, 1DMV, 1DPV, 1MRD, 1DPD, 1DRD. Remaining leg segments aspines.

Tibial spur (Fig. 47): DPV apophysis long, cylindrical. Surmounting megaspine inflexed from apophysis. Protrudes ventrally.

Coloration: Uniformly mustard brown (faded) except dorsal leg segment joints paler and with distinct pale genital sub-abdominal band over and between anterior booklung covers. Posterior booklung covers pale, but region in-between mustard brown like rest of abdomen.

Palpal bulb (Figs. 48-50): Pyriform with strongly curved embolus.

**Material examined.** -- **Mozambique:** BMNH 12.11.26.4, 1♀, Caia, 17°50'S, 35°21'E (Dr. C. Swale). **Zimbabwe:** SAM-ENW-X010065, 1♂ (neotype), Umtali (=Mutare), 18°58'S, 32°40'E, I-1902 (D. L. Patrick).

**Distribution.** -- Known only from Mutare, Zimbabwe and Caia, Mozambique (Map 1).

**Ecology.** -- Unknown. Males mature in January.

#### Misplaced species

##### *Pterinochilus junodi* Simon, 1904

*Pterinochilus junodi* Simon, 1904: 65 (D♀).

*Coelogenium nigrifemur* Schmidt, 1995: 7, fig. 1 (D♀). **NEW SYNONYMY.**

**Types.** -- Holotype ♀ (MHNG) of *Pterinochilus junodi* from South Africa, Shilouvane (=Silwane), near Leydsdorp, Zoutpansberg, 23°58'S, 31°07'E (H. A. Junod); topotypes examined. Holotype ♀ (live specimen which was not deposited in a museum) of *Coelogenium nigrifemur* from East Africa, (M. Bullmer); not examined.

**Comments.** -- The description of *Coelogenium nigrifemur* was based solely on a female exuvium. In the description (Schmidt 1995) a photograph of a *Coelogenium* sp. (Schmidt 1993, Fig. 355) was cited as being conspecific with this taxa. There is no doubt that this photograph depicts *Pterinochilus junodi*, with its robust front appendages and velvety gray chelicerae. The description of *C. nigrifemur* clearly notes that the palpi and legs I and II are black prolaterally. It also states that the sternum, coxae and trochanters are black. Reference is also made to the procurved fovea. No mention is given to the pale sub-abdominal band, but this is easily explained by the fact that the abdominal portion of theraphosid exuviae are typically twisted, thereby obscuring this key feature. Schmidt's illustration of the spermathecae, like the other cited features, is consistent with *P. junodi*. For these reasons *C. nigrifemur* is synonymised with *Pterinochilus junodi*. A full redescription

of *P. junodi* is in preparation (Gallon in prep.).

##### *Pterinochilus raveni* (Smith, 1990)

##### NEW COMBINATION

*Coelogenium raveni* Smith, 1990: 77, figs. 377-385 (D♂).

**Type.** -- Holotype ♂ (BMNH 18.7.13) of *Coelogenium raveni* from Sudan, Sobat, 09°N, 32°30'E, 18-VII-1913 (H. H. King); examined.

**Comments.** -- *Coelogenium raveni* possesses a weakly procurved fovea, uniformly colored dark legs and lacks a distinct, pale yellow sub-abdominal band (NB. although the booklung covers and genital sclerite are paler than the rest of the abdomen they are grizzled, orange-brown and not pale yellow as in *Ceratogyrus* species). For these reasons and the fact that the type location is extremely extralimital for *Ceratogyrus*, *Coelogenium raveni* is transferred to *Pterinochilus*. A full treatment of *P. raveni* will be included in the *Pterinochilus* and *Eucratoscelus* revision (Gallon in prep.).

##### Acknowledgments

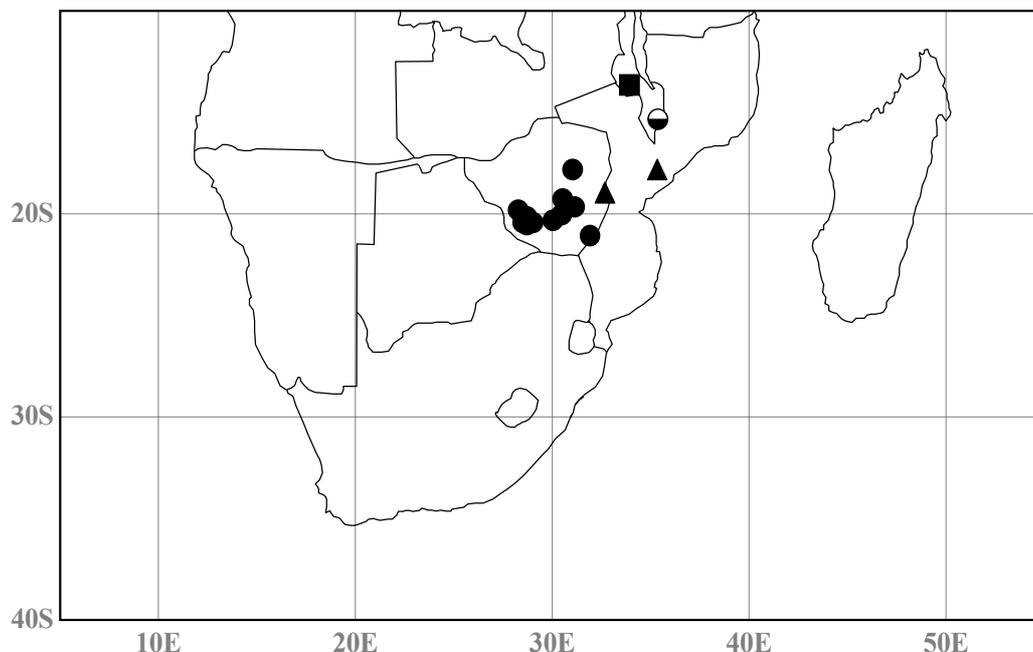
Thanks are due to the following museum curators for access and loan of material: Paul Hillyard and Janet Beccaloni (BMNH), Moira FitzPatrick (NMZA), Michelle Hamer (NM), Ansie Dippenaar-Schoeman, Margie Cochrane (SAM) and Jason Dunlop (ZMB). Particular gratitudes are extended to Mike Hounsome, Henry McGhie and Dave Penney (MMUE) for providing bench-space for the work at their museum.

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Map 1. -- ● *C. dolichocephalus*; ◐ *Ceratogyrus hillyardi*;  
■ *C. meridionalis*; ▲ *C. pillansi*.

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