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Notes on the African species of the genus *Harmochirus* SIMON, 1885 (*Aranei: Salticidae*)

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ABSTRACT. Redescriptions of African species of the genus *Harmochirus* SIMON, 1885 are presented. The genus *Velloa* PECKHAM et PECKHAM, 1903 is synonymized with *Harmochirus*. *Partona duboscqi* BERLAND et MILLOT, 1941 is transferred to the genus *Harmochirus*. Three species (*Harmochirus rufescens*, *Partona africana* and *Velloa modesta*) are considered nomina dubia.

INTRODUCTION

Though rather poor in species, the genus *Harmochirus* SIMON, 1885 is quite widely distributed. It occurs in Australian, Oriental, Eastern Palearctic and Afrotropical regions. The genus is characterised by a considerable morphological uniformity. The African species have very similar structure of copulatory organs, thus analysis of this feature is of rather limited diagnostic value here. Presumably, small differences in colouration and leg spination may be found to be more useful diagnostic characters in this group of species (e.g. presence of dense white hairs on tip of the cymbium constitutes the most characteristic feature of male of *H. albibarbis*). Unfortunately, due to scarcity of material, a more detailed analysis of this issue is impossible at the moment. Due to rather poor preservation of the type specimens, the identification of species described so far is rendered difficult. Further, more detailed studies of freshly collected materials are badly needed, to improve our knowledge of this genus.

MATERIALS

The material forming the basis of this paper originates from the following collections:

MCZ - Museum of Comparative Zoology, Harvard University, Cambridge, Mass.;

MHN - Muséum d'Histoire Naturelle, Geneva;

MNHN - Muséum National d'Histoire Naturelle, Paris;

MRAC - Musée Royal de l'Afrique Centrale, Tervuren;

SMF - Forschungsinstitut und Museum Senckenberg, Frankfurt a. M.

DESCRIPTION OF THE GENUS

Genus *Harmochirus* SIMON, 1885

Harmochirus SIMON, 1885: 387.

Velloa PECKHAM et PECKHAM, 1903: 216-217 (in genus *Velloa*, in species *Velloa*), **syn. n.**

Partona SIMON, 1904: 443, (part.: African species), **syn. n.**

Type species: *Ballus brachiatus* THORELL, 1877, by original designation.

Small spiders, length about 3-5 mm, coloured dark brown or black.

Carapace convex, distinctly broader at third row of eyes. Cephalic part of carapace distinctly elevated. Very large trapeziform eye field occupies two thirds of cephalothorax length. Clypeus rather high. Cheliceral dentition: in females one tooth on retromargin, in males tooth with two cusps, but occasionally males of some species have single tooth. Abdomen spherical with distinct large scutum, especially pronounced in males. First legs much bigger than the remaining ones with very much swollen tibiae and rather long metatarsi. On femur, patella and especially on tibia of first legs very long and bushy black hairs and flattened bristles. Male palps small with single straight tibial apophysis. Epigyne weakly sclerotized, more or less rounded with oval shallow depression with single pocket in its central part, in some species with large crescentic depression. Internal structure of epigyne complicated; seminal ducts long loop-shaped twisted.

This genus is characterized by the general body proportions. Structure of genitalia very similar to the genus *Bianor* PECKHAM et PECKHAM, 1885.

REVIEW OF THE SPECIES

***Harmochirus albibarbis* PECKHAM et PECKHAM, 1895**

(Figs 1-3)

Harmochirus albibarbis PECKHAM et PECKHAM, 1895: 171, t. 16, f. 3.

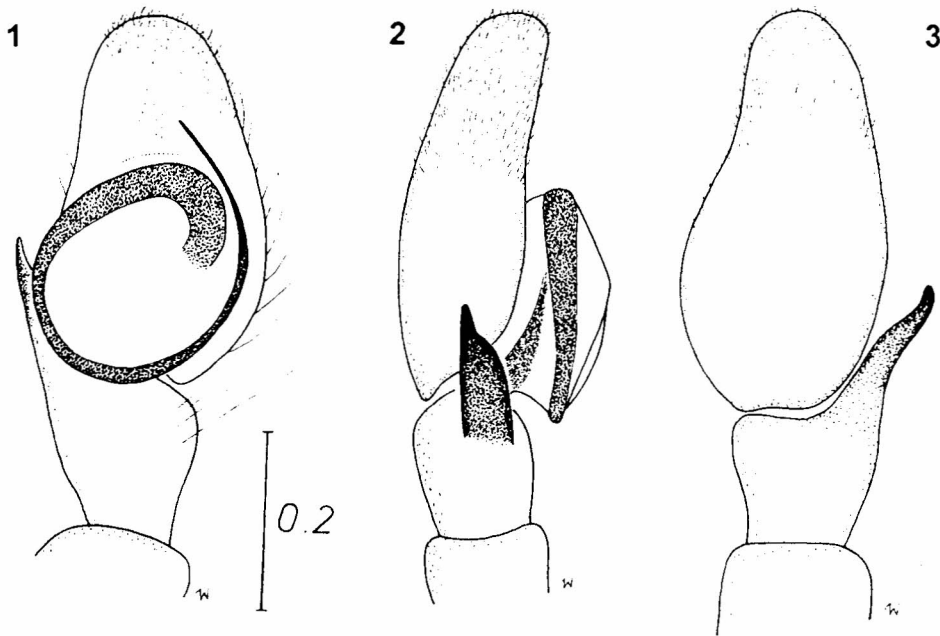
Harmochirus albibarbis: SIMON 1903: 867.

Material: Tanzania: Zanzibar, 1 M (holotype), MCZ 891.

Measurements: length of carapace 1.5 mm, length of abdomen 1.2, length of eye field 1.0, width of eye field I 1.1, width of eye field III 1.4.

Male: Body shape as in *H. bianoriformis*, colouration dark brown. Pedipalp very similar to *H. bianoriformis* but apex of cymbium covered with bushy short white hairs (Figs 1-3).

Female: Unknown.



1-3. *Harmochirus albibarbis* PKH. et PKH., holotype - palp organ, ventral, lateral and dorsal views

***Harmochirus bianoriformis* (STRAND, 1907) comb. n.**
(Figs 4-13)

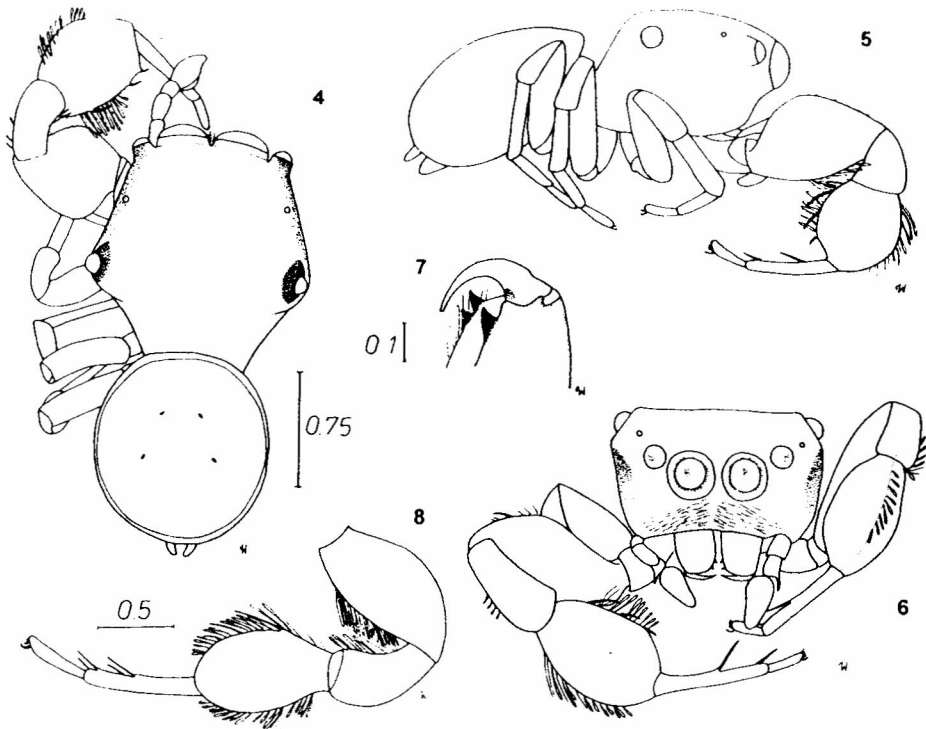
Velloa bianoriformis STRAND, 1907: 746.

Velloa bianoriformis: STRAND 1908: 192, LESSERT 1936: 291-293, ff. 87-90; CAPORIACCO 1940a: 862.

Material: Zaire: Kisantu, 2 M, 3 F, leg. R. P. VANDERYST, det. R. LESSERT, MRAC 16 454, 1 M, 1 F, MNH; Mozambique: Chimoio, 1 M, leg. P. LESNE, det. R. LESSERT, MNH.

Measurements (male/female): length of carapace 1.4-1.6/1.4-1.6, length of abdomen 1.1-1.4/1.9-2.4, length of eye field 0.9-1.1/1.0-1.1, width of eye field I 0.9-1.0/1.1, width of eye field III 1.2-1.4/1.4-1.5.

Male. General appearance shown in Figs 4-6. Very small spider. Carapace rather high, widest at eyes of III row. Trapezial large eye field occupies bigger part of carapace. Carapace dark brown, eye field punctured-reticulate. Some brown bristles near eyes, a few little white scales on thoracic part of carapace. Clypeus high covered with white hairs. Chelicerae brown with two teeth on promargin and single retromarginal tooth (Fig. 7). Maxillae, labium and sternum brown. Abdomen rounded brownish-fawn, dorsally covered with large scutum. Scutum with four dots placed on corns of trapezium. Ventrally abdomen brown. Scarce long light brown hairs on abdomen. Spinnerets dark, very short. First legs distinctly bigger than the remaining ones, tibiae strongly swollen, metatarsi long thin. Very bushy long and flattened bristles on femora, patellae and tibiae, three spines on ventral surface of tibia and two pairs of spines on metatarsus (Fig. 8). First legs dark brown, the remaining light brown or orange with two longitudinal brown stripes along their segments. Pedipalp small, dark brown with long brown hairs and a few white scales. Single big straight tibial



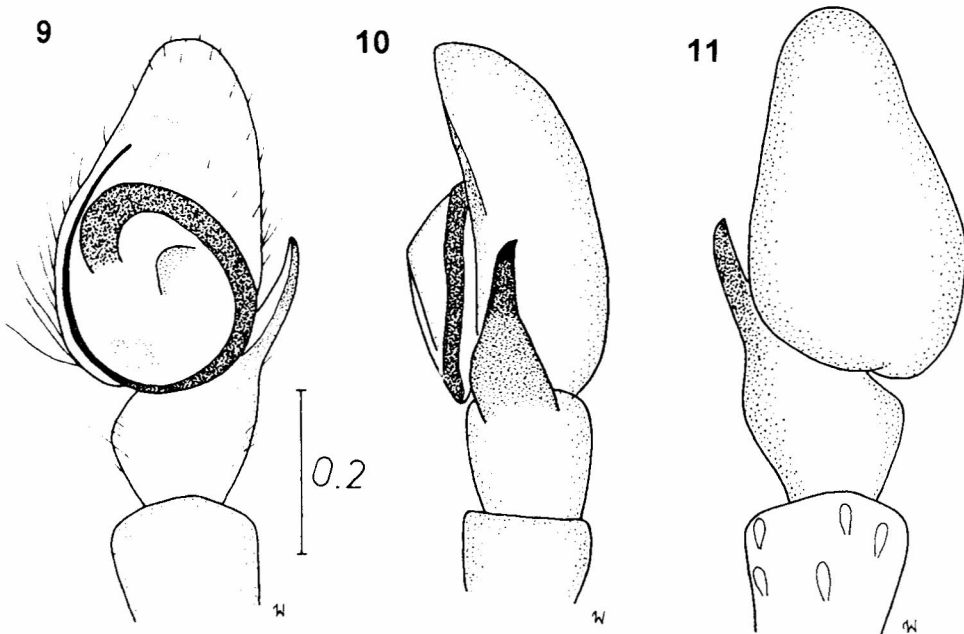
4-8. *Harmochirus bianoriformis* (STR.), male: 4-6 - general appearance, dorsal, lateral and frontal views, 7 - cheliceral dentition, 8 - first leg

apophysis, bulbus rounded, embolus rather short, very thin (Figs 9-11).

Female. Shape of body and colouration as in male, only some specimens slightly lighter. Epigyne very small, weakly sclerotized with single central pocket (Fig. 12). Internal structure rather complicated, seminal ducts long and twisted (Fig. 13).

The type-specimens have been lost.

CLARK (1974) suggested that *H. bianoriformis* was identical with *H. luculentus* (without formal synonymization) but the detailed structure of male pedipalps of both species is different.



9-11. *Harmochirus bianoriformis* (STR.) - palpal organ, ventral, lateral and dorsal views

***Harmochirus duboscqi* (BERLAND et MILLOT, 1941) comb. n.**
(Figs 16-20)

Partona Duboscqi BERLAND et MILLOT: 1941: 365, f. 65.

Material: Senegal: 1 M, 1 F (labelled *Tacuna duboscqi*), det. ROEWER 1960, SMF.

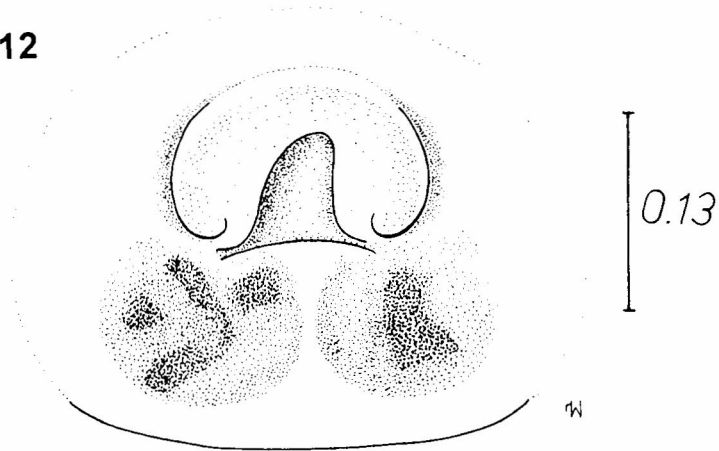
Measurements (male/female): length of carapace 1.9/1.7, length of abdomen 1.7/2.2, length of eye field 1.1/1.1, width of eye field I 1.2/1.2, width of eye field III 1.7/1.6.

Male: Shape of body and colouration as in *H. bianoriformis*. Pedipalp is shown in Figs 16-19. Probably conspecific with *H. bianoriformis*, but comparison is very difficult because sperm duct is filled, so bulbus is in unnatural position.

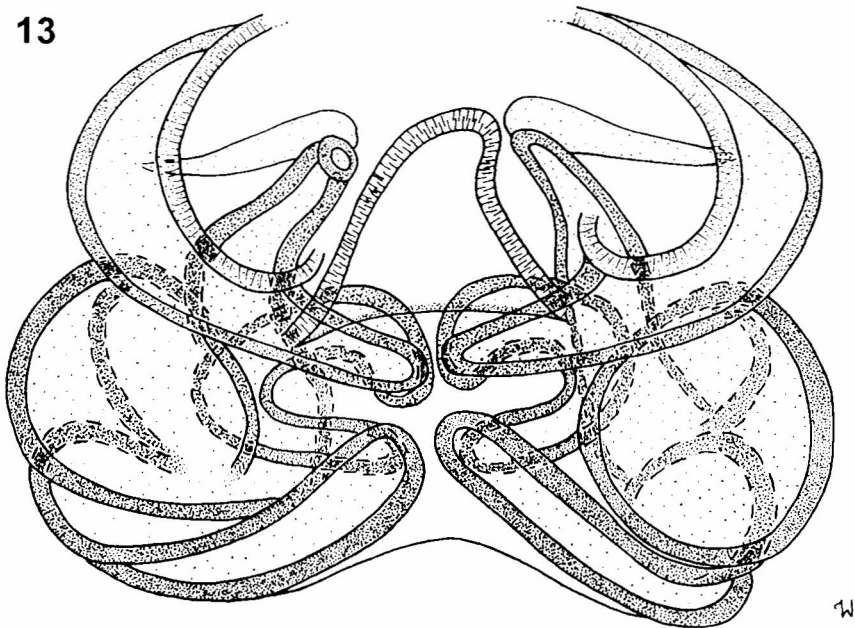
Female: Epigyne typical for the genus (Fig. 20).

The type-specimen lost. Original description refers only to female.

12



13

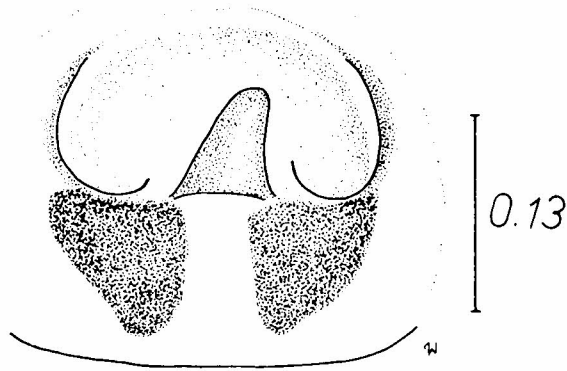


12-13. *Harmochirus bianoriformis* (STR.): epigynes and their internal structure

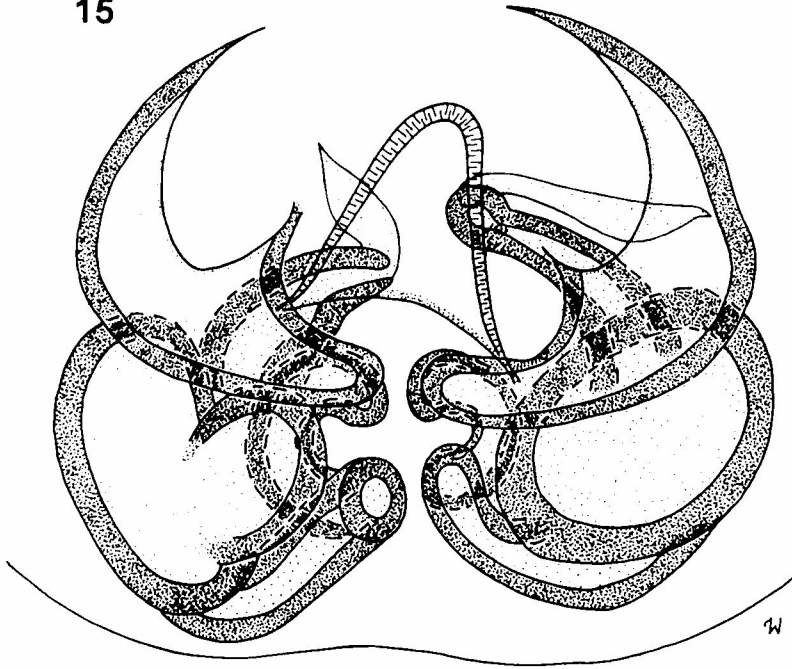
***Harmochirus elegans* (PECKHAM et PECKHAM, 1903) comb. n.**
(Figs 14-15)

Velloa elegans PECKHAM et PECKHAM, 1903: 218, t. 24, f. 10.

14



15



14-15. *Harmochirus elegans* (РКН. et РКН.), holotype: epigynes and their internal structure

Material: Zimbabwe: Mashlonaland, Gazaland, 1F (holotype?), MCZ 594.

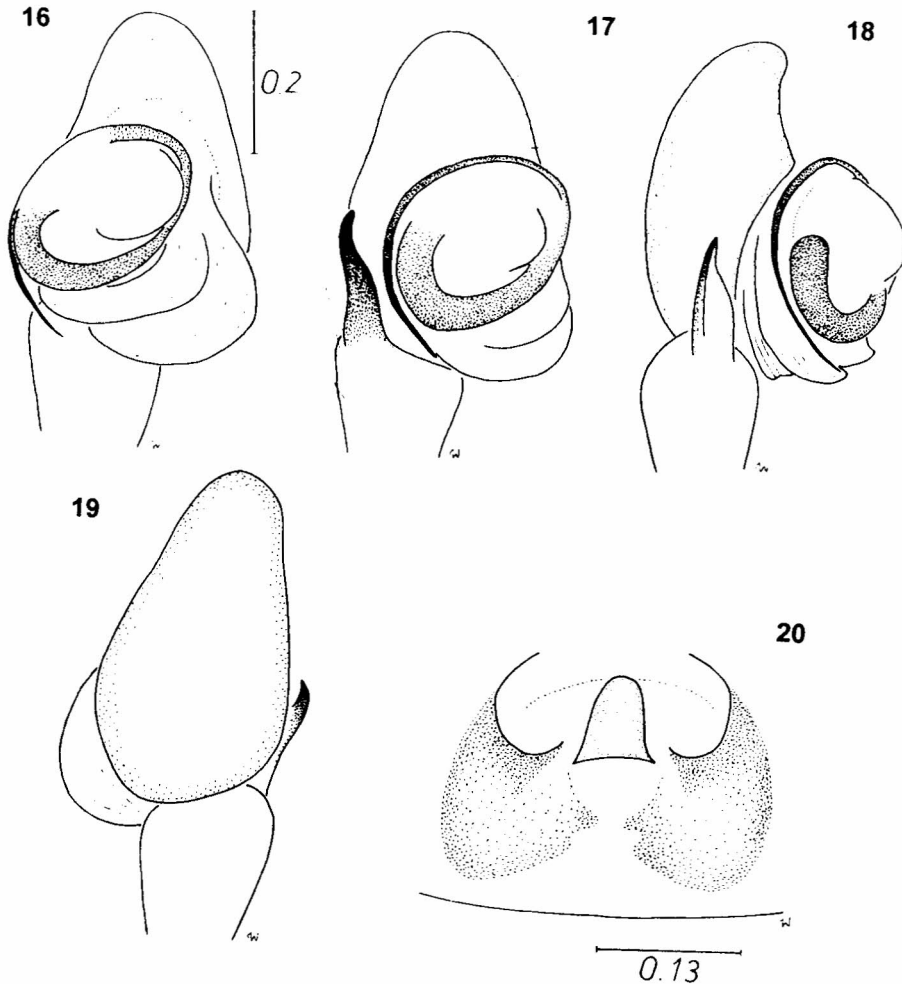
Measurements: length of carapace 1.6, length of abdomen 1.6, length of eye field 1.1, width of eye field I 1.1, width of eye field III 1.5.

Male. Unknown.

Female. Shape of body and colouration as in *H. bianoriformis*. Epigyne small, weakly sclerotized, typical for the genus (Fig. 14). Internal structure shown in Fig. 15.

The PECKHAMS described this species on the basis of a single female from "Cape Colony" but in the collection of MCZ there is only one female from Mashonaland labelled as type.

The species may be conspecific with *H. bianoriformis*.



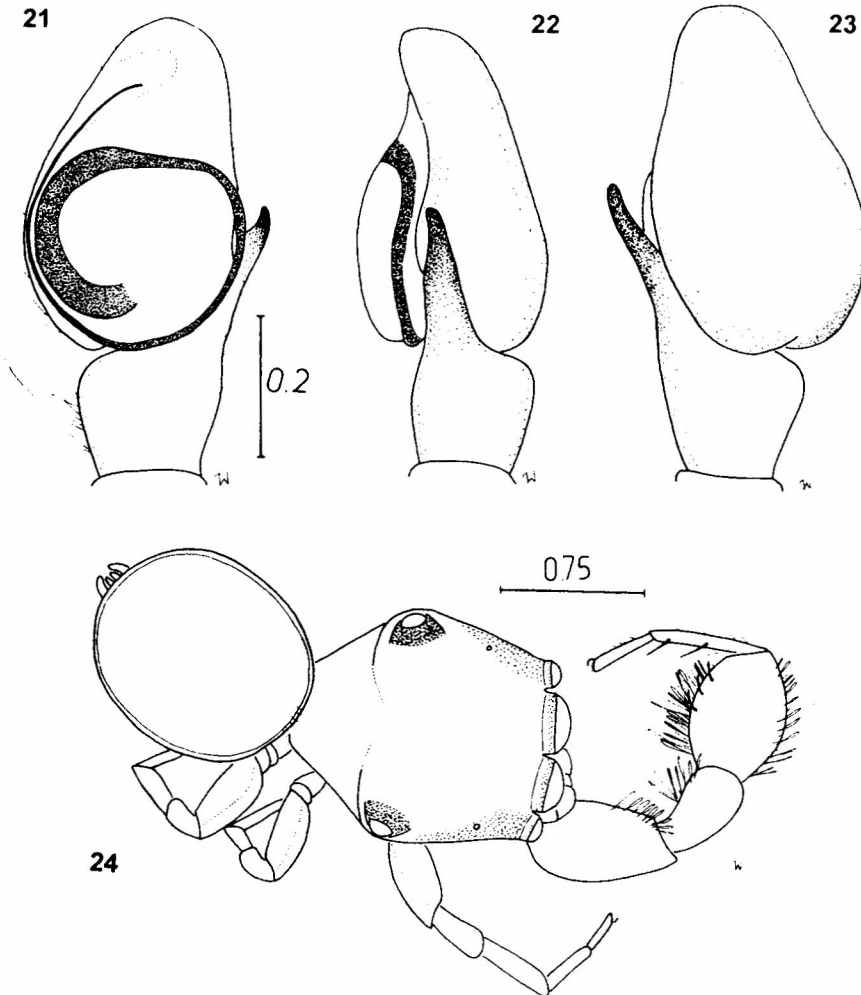
16-20. *Harmochirus duboscqi* (BERL. et MILL.): 16-19 - palpal organ, ventral, ventro-lateral, lateral and dorsal views, 20 - epigyne

***Harmochirus luculentus* SIMON, 1885**
(Figs 21-24)

Harmochirus luculentus SIMON 1885: 387.

Harmochirus luculentus: SIMON 1903: 867, CLARK 1974: 16; PRÓSZYŃSKI 1987: 59, 108 (f.).

Material: Tanzania: Zanzibar, 1 M (holotype), MNHN 7553.



21-24. *Harmochirus luculentus* SIM., holotype: 21-23 - palpal organ, ventral, lateral and dorsal views, 24 - general appearance

Measurements: length of carapace 1.4, length of abdomen 1.2, length of eye field 0.9, width of eye field I 1.1, width of eye field III 1.3.

Male. General appearance shown in Fig. 24. Shape as in *H. bianoriformis*. Colouration of body dark brown, eye field punctured-reticulate. Short white hairs on thoracic part of carapace, long and bushy white hairs on clypeus. Scutum on abdomen clear. First leg bigger than the remaining ones, brown with long flattened bristles on patella and tibia. Remaining legs yellowish-orange with brown femora. On their femora few small scale-like hairs. Pedipalps (Figs 21-23) brown, embolus slightly longer than in *H. bianoriformis*, course of sperm duct different.

Female. Unknown.

NOMINA DUBIA

***Harmochirus rufescens* CAPORIAMO, 1940**

Harmochirus rufescens CAPORIAMO, 1940b: 304-305, f. 4.

Description of this species is based on a single female from Somaliland. The type-specimen has been lost, the original description is inadequate to identify the species, but sufficient to justify its placement in *Harmochirus*.

***Partona africana* SIMON, 1904**

Partona africana SIMON, 1904: 447.

Description of this species was based on a single male from Ethiopia. The type-specimen, which was kept in MNHN, has been lost. The original description is insufficient to identify the species. Remark of BERLAND and MITTOT (1941), who have seen the type, is sufficient to place this species in *Harmochirus*.

***Velloa modesta* PECKHAM et PECKHAM, 1903**

Velloa modesta PECKHAM et PECKHAM, 1903: 217, t. 24, f. 9a-c.

Material: South Africa: Cape Peninsula, Kalk Bay, 1 imm. M (holotype), leg. R. M. LIGHTFOOT, MCZ 589.

Description of this species was based on an immature specimen, therefore *V. modesta* constitutes nomen dubium.

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