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New data on African *Heliophanus* species with descriptions of new species  
(Araneae: Salticidae)

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ABSTRACT. Descriptions of eighteen new species of *Heliophanus* from Africa are presented: *aethiopicus*, *anyphos*, *bolensis*, *brevis*, *charlesi*, *kovacsi*, *leucopes*, *marala*, *megae*, *nanus*, *papyri*, *pistaciae*, *proszynskii*, *rutrosus*, *sororius*, *splendidus*, *tristis* and *xanthopes*. Some new data on distribution of five species (*cassinicola*, *demonstrativus*, *nobilis*, *pauper* and *trepidus*) are given. The females of *H. hastatus* and *H. insperatus* are described for the first time. The female classified incorrectly hitherto as *H. gladiator* is recognised as *H. imperator*. *Natta immemorata* WESOŁOWSKA, 1993 is newly synonymised with *H. falcatus*.

Key words: arachnology, taxonomy, Araneae, Salticidae, *Heliophanus*, new species, Africa.

INTRODUCTION

The genus *Heliophanus* C. L. KOCH, 1833 is one of better known among salticids. It is represented both in the Palaearctic and Ethiopian Regions, recently one species was recorded from the Kashmir in the Orient (PRÓSZYŃSKI 1992). After the last revision by WESOŁOWSKA (1986) it included 109 species. Subsequently fourteen additional species were described (PRÓSZYŃSKI 1989, XIAO & YIN 1991, LOGUNOV 1992a, SONG & CHAI 1992, WESOŁOWSKA & VAN HARTEN 1994, WUNDERLICH 1995, PENG & XIE 1996, RAKOV & LOGUNOV 1996, WESOŁOWSKA & RUSSELL-SMITH 2000, ROLLARD & WESOŁOWSKA 2002, WESOŁOWSKA & HADDAD 2002), and two specific names were synonymised (LOGUNOV 1992b, WESOŁOWSKA 1996); thus *Heliophanus* is large genus, one of the most speciose in the family.

Despite the relatively good taxonomic knowledge of the genus, it probably still contains many more undescribed species. Besides ranges of numerous species are very poorly known.

New materials (majority collected in the recent years) will help to fill these gaps to some extent. Below I present descriptions of eighteen new species, and descriptions of unknown sexes of another two species, from Africa. I add also new distributional data on some other African species.

#### Depositories:

AMNH - American Museum of Natural History, New York;  
 CAS - California Academy of Sciences, San Francisco;  
 HNHM - Hungarian Natural History Museum, Budapest;  
 MEUU - Museum of Evolution, Uppsala University;  
 MNH - Museum of Natural History, Wrocław University;  
 MRAC - Musée Royal de l'Afrique Centrale, Tervuren;  
 NHM - Natural History Museum, London;  
 NMB - Nasionale Museum, Bloemfontein;  
 NMZ - National Museum (Natural History) of Zimbabwe, Bulawayo;  
 PPRI - Plant Protection Research Institute, Pretoria;  
 SMN - State Museum of Namibia, Windhoek.

All measurements are given in millimetres.

#### TAXONOMY

### *Heliophanus* C. L. KOCH, 1833

Generic synonymy: see WESOŁOWSKA (1986: 5).

Type species: *Aranea cuprea* WALCKENAER, 1802 [by monotypy].

The definition and the diagnoses of the genus, the subgenera and the group of species have been given by WESOŁOWSKA (1986).

### *Heliophanus (Helafricanus) aethiopicus* n. sp.

(Figs 1-9)

#### MATERIAL

Holotype: male, Ethiopia, Addis Ababa, 2380 m a.s.l., ILCA headquarters, on wall in laboratory, 13.V.1987, leg. A. RUSSELL-SMITH (MRAC, 211393).

Paratypes: Ethiopia, Addis Ababa, 2380 m a.s.l., ILCA headquarters, on wall in laboratory, 1 male, 1 female (in copula), 20.IV.1983 (MRAC); same locality, 1 male, 11.X.1984 (AMNH); same locality, 1 female, 4.II.1986 (MRAC); same

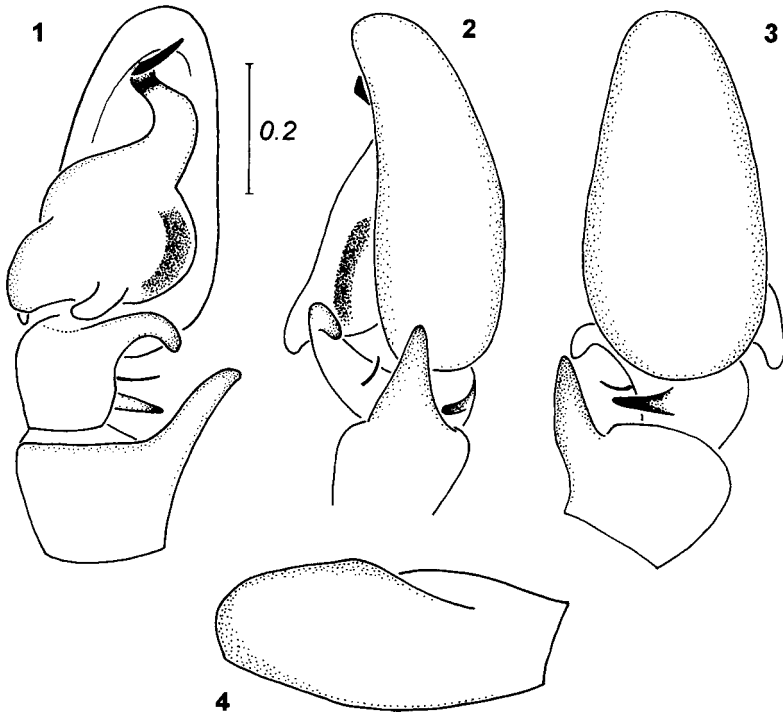
locality, 1 male, III.1988 (MNH); 12 km E of Addis Ababa, 2500 m a.s.l., in grass below *Juniperus*, 1 male, 21.VI.1987 (MRAC); Ethiopia: Shoa Prov., 10 km W of Debre Sina, 3200 m a.s.l., under stones in grazed moorland, 1 male, 1 female, 19.VI.1988 (CAS). All specimens leg. A. RUSSELL-SMITH.

#### DIAGNOSIS

This species is closely related to *H. edentulus* SIMON, 1871. The male may be distinguished by details of the pedipalp structure; a bigger patellar apophysis and position of a posteroventral apophysis of tibia (cf. Fig. 1 and Fig. 96 in WESOŁOWSKA 1986). The female has very thick walls of the seminal ducts and small spermathecae.

#### ETYMOLOGY

The species is named after its *terra typica* (Aethiopia).

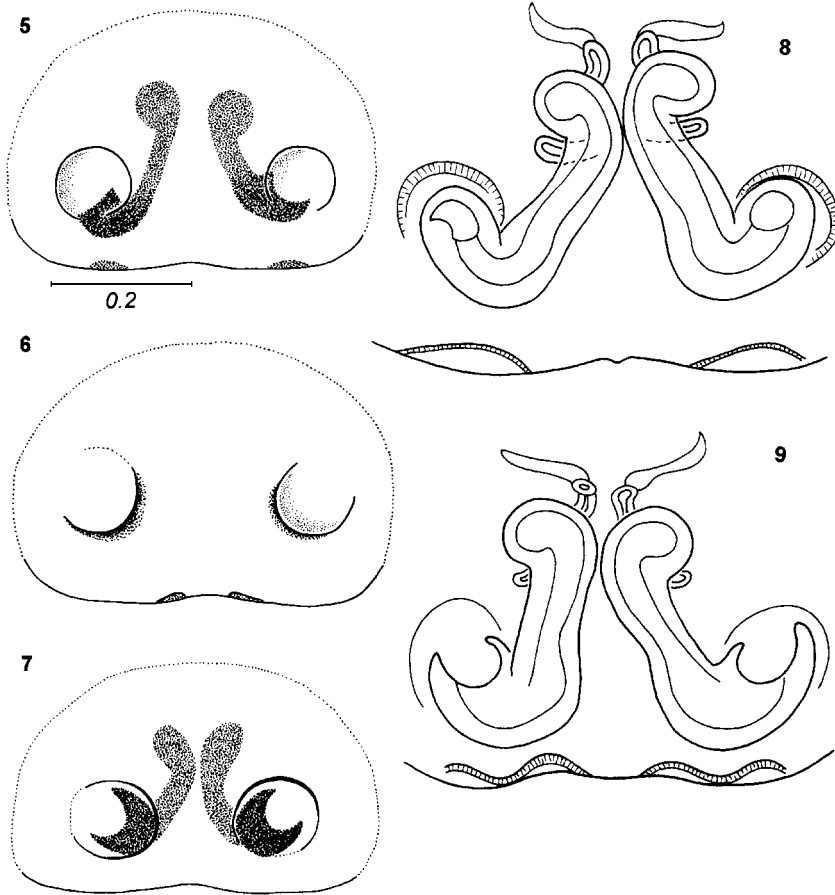


1-4. *Heliophanus aethiopicus* n. sp.: 1-3 - palpal organ, ventral, lateral and dorsal views, 4 - palpal femur

## DESCRIPTION

Measurements (male/female): Carapace length 1.5-2.0/2.0-2.3, width 1.2-1.4/1.5-1.8, height 0.6-0.8/0.9. Abdomen length 1.5-1.9/2.7-3.3, width 1.0-1.3/2.0-2.4. Eye field length 0.7-0.9/0.8-0.9, anterior width 1.0-1.1/1.1-1.3, posterior width 1.1-1.2/1.2-1.4.

Male. Carapace dark brown, eye field darker, vicinity of eyes black. Brown hairs cover carapace, long brown setae near eyes. White hairs form median posterior stripe on thorax, and narrow lines along lateral margins of carapace. Chelicerae and sternum brown, labium and maxillae brownish with light tips. Abdomen dark brown with median streak formed by white hairs. Venter yellow. Anterior spinnerets yellowish, posterior brown. First legs brown, remaining yellow.



5-9. *Heliophanus aethiopicus* n. sp.: 5-7 - epigyne, 8-9 - internal structure of epigyne ventral and dorsal views

low but bases and tips of their segments brownish. Pedipalps brown. Embolus bent (Fig. 1). Dorsal tibial apophysis rather long and narrow, posteroventral tibial apophysis very thin, like big bristle (Figs 1-3).

Female. Carapace dark brown, eye field darker. Whole carapace clothed in dense short greyish hairs, brown bristles only on ocular area. Abdomen brownish with lighter streak medially. Dense brown and grey hairs on abdomen. Venter yellowish with two dark longitudinal lines. Spinnerets brown. Legs dark yellow, only femora to their mid length brown. Epigyne large, with two rounded depressions far from each other (Figs 5-7). Walls of seminal ducts and spermathecae very thick (Figs 8-9).

## REMARK

This species belongs to the *marshalli* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) anymphos* n. sp.**

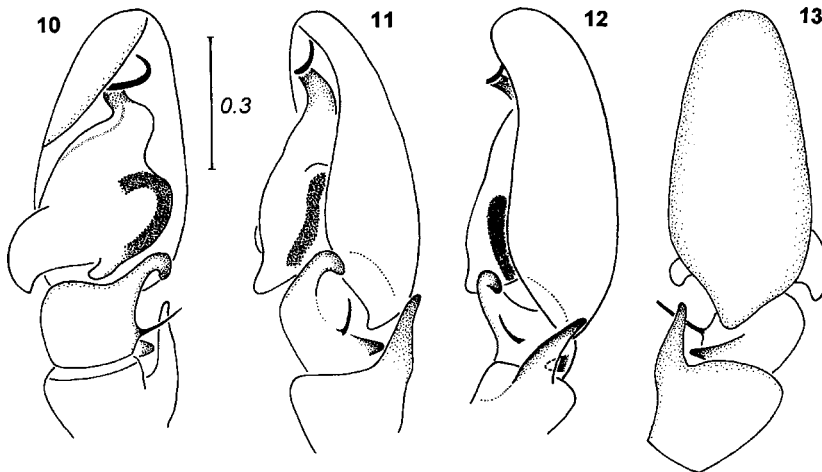
(Figs 10-13)

## MATERIAL

Holotype: male, Kenya, Mt. Elgon, Kaptega, 2010 m a.s.l., 21-22.I.1979, leg. T. PALM (MEUU).

## DIAGNOSIS

This species is closely related to *H. megae* but may be distinguished by details of the pedipalp structure; a shorter embolus and a patellar apophysis bent to the back of the cymbium (cf. Figs 10, 12 and Figs 71, 73).



10-13. *Heliophanus anymphos* n. sp. (holotype), palpal organ, ventral, ventrolateral, lateral and dorsal views

## ETYMOLOGY

The specific name is Greek for "unmarried", referring to the fact that the female remains unknown.

## DESCRIPTION

Measurements: Carapace length 2.0, width 1.4, height 0.8. Abdomen length 2.1, width 1.3. Eye field length 0.9, anterior width 1.2, posterior width 1.3.

Male. Carapace brown with darker ocular area. Narrow white lines along lateral edges of carapace. Long brown bristles in vicinity of eyes, sparse whitish hairs on carapace. Chelicerae, labium and sternum brown, maxillae brown with pale tips. Abdomen brown with light, ill-defined, median streak posteriorly. Brown hairs cover abdomen. Venter light brown. Spinnerets dark. Legs yellowish orange, leg hairs and spines brown. Pedipalps brownish. Embolus turned, patellar apophysis bent (Figs 10-12). Dorsal tibial apophysis near base of tibia; posteroventral tibial apophysis very thin, spiniform; small outgrowth at base of cymbium (Fig. 13).

Female unknown.

## REMARK

This species belongs to the *marshalli* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) bolensis* n. sp.**

(Figs 14-20)

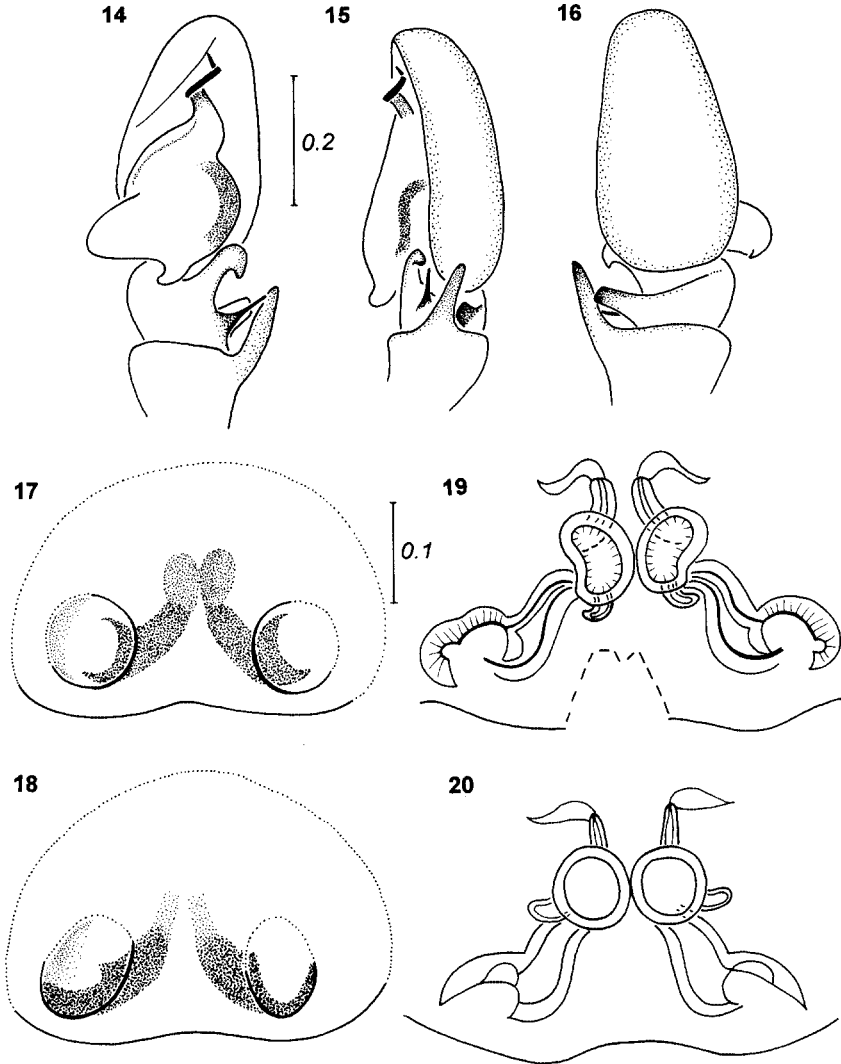
## MATERIAL

Holotype: male, Ethiopia, Shoa Prov., 2.5 km E of Addis Ababa, gorge of Bole stream, in litter under scrub, 22.VIII.1982, leg. A. RUSSELL-SMITH (MRAC, 211398).

Paratypes: together with holotype, 2 males, 2 females (MRAC); together with holotype, 1 male, 1 female (CAS); Ethiopia: 16 km E of Addis Ababa, 2400 m a.s.l., stream valley, under stones in grass, 2 males, 20.VI.1987 (MRAC); same locality, 1 male, 1 female, 28.V.1988 (MNH); 12 km E of Addis Ababa, 2500 m a.s.l., in grass below *Juniperus* tree, 1 female, 21.VI.1987 (MRAC); 8 km E of Addis Ababa, in *Pennisetum schimperi* tussocks, 5 males, 8.VI.1986 (MRAC); 10 km E of Addis Ababa, 2400 m a.s.l., wet grassland by stream, 1 female, 25.X.1987 (AMNH); same locality, evergreen bushland, 1 male, 13.III.1987 (MRAC); 2 km E of Addis Ababa, Bole stream, in grass, 1 male, 9.III.1986 (MRAC); Ethiopia, Shoa Prov., Hora Crater Lake, Debre Zeit, 1900 m a.s.l., in bush, 1 male, 9.VIII.1986 (MRAC); Ethiopia: Shoa Prov., near Sheno, 2900 m a.s.l., on rocky ground on rift valley wall, 1 male, 7.V.1983 (AMNH). All specimens leg. A. RUSSELL-SMITH.

## DIAGNOSIS

This species is closely related to *H. insperatus* WESOŁOWSKA, 1986. The male may be distinguished by details of the pedipalp structure; a longer embolus and lack of a cymbial process (cf. Figs 14, 16 and Figs 50, 52). The female is characterised by the strong sclerotization of neighbourhood of the copulatory openings.



14-20. *Heliophanus bolensis* n. sp.: 14-16 - palpal organ, ventral, lateral and dorsal views, 17-18 - epigyne, 19-20 - internal structure of epigyne

## ETYMOLOGY

The species is named after its *locus typicus* (gorge of Bole stream).

## DESCRIPTION

Measurements (male/female): Carapace length 1.4-1.7/1.8-2.1, width 1.0-1.3/1.3-1.6, height 0.6/0.6-0.7. Abdomen length 1.5-1.8/1.9-2.9, width 1.0-1.2/1.5-2.0. Eye field length 0.6/0.8-1.0, anterior width 0.9-1.0/1.0-1.1, posterior width 1.0-1.1/1.1-1.3.

Male. Carapace dark brown, almost black, white lines composed of light hairs only along lateral margins. Brown setae near eyes, in some specimens traces of white streak on thorax. Chelicerae, labium, maxillae and sternum dark brown. Abdomen black with longitudinal median white band. Venter dark. Spinnerets brown. First pair of legs brown, remaining legs yellow, only their femora light brown. Pedipalps brown. Embolus rather long and slightly convolute, dorsal tibial apophysis rather long, bluntly ended (Figs 14-16).

Female. Slightly bigger than male. Carapace dark brown, with white lateral borders, eyes surrounded by black rings. Carapace clothed in brown and light grey hairs, longer brown bristles near eyes. Labium and maxillae brown, only their tips yellowish, sternum dark. Abdomen brown with traces of lighter pattern posteriorly. Dense, brownish hairs cover abdomen. Venter brownish grey with two narrow light streaks. Spinnerets dark. Legs yellowish grey, bases of their segments darker. Epigyne with two rounded depressions (Figs 17-18). Vicinity of copulatory openings heavily sclerotized (Figs 19-20).

## REMARK

This species belongs to the *marshalli* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) brevis* n. sp.**

(Figs 21-24)

## MATERIAL

Holotype: male, Ethiopia, Sidamo Prov., between Dilla and Yirga Chefe, 1900 m a.s.l., grassy bottom-land, 25.VI.1988, leg. A. RUSSELL-SMITH (MRAC, 211385).

## DIAGNOSIS

This species slightly resembles *H. giltayi* LESSERT, 1933, but may be easily recognised by the shorter embolus and the presence of a dorsal tibial apophysis (cf. Figs 21, 24 and Fig 201-203 in WESOŁOWSKA 1986).

## ETYMOLOGY

The specific name is Latin for “short”, and refers to the embolus length.



## DESCRIPTION

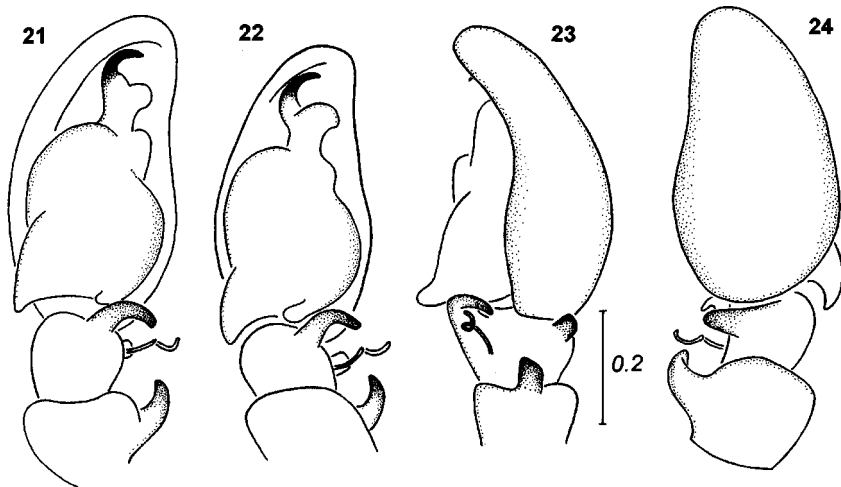
Measurements: Carapace length 1.7, width 1.2, height 0.7. Abdomen length 1.7, width 1.1. Eye field length 0.7, anterior width 1.0, posterior width 1.1.

Male. Body rather low. Carapace dark brown, eye field black with punctate reticulate microsculpture. Sparse dark hairs on carapace, longer bristles near eyes. Narrow light lines composed of white hairs along lateral margins of carapace. Chelicerae bark brown, labium and maxillae brown with pale tips, sternum brown. Abdomen black, only a few white hairs at its anterior edge. Venter dark. Spinnerets brownish. Legs yellowish with dark brown femora, first pair darkest. Pedipalps brown. Embolus hooked, rounded lobe of bulbus at base of embolus (Figs 21-22). Three tibial apophyses, dorsal one truncate, posteroventral - very thin and long (Figs 22, 24). Apophysis of patella short (Figs 23).

Female unknown.

## REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).



21-24. *Heliophanus brevis* n. sp. (holotype), palpal organ, ventral, posteroventral, lateral and dorsal views

***Heliophanus (Heliophanus) cassinicola* SIMON, 1909**

(Figs 25-29)

*Heliophanus cassinicola* SIMON, 1909: 424.

*Heliophanus cassinicola*: WESOŁOWSKA 1986: 28.

*Heliophanus milloti* DENIS, 1955: 118.

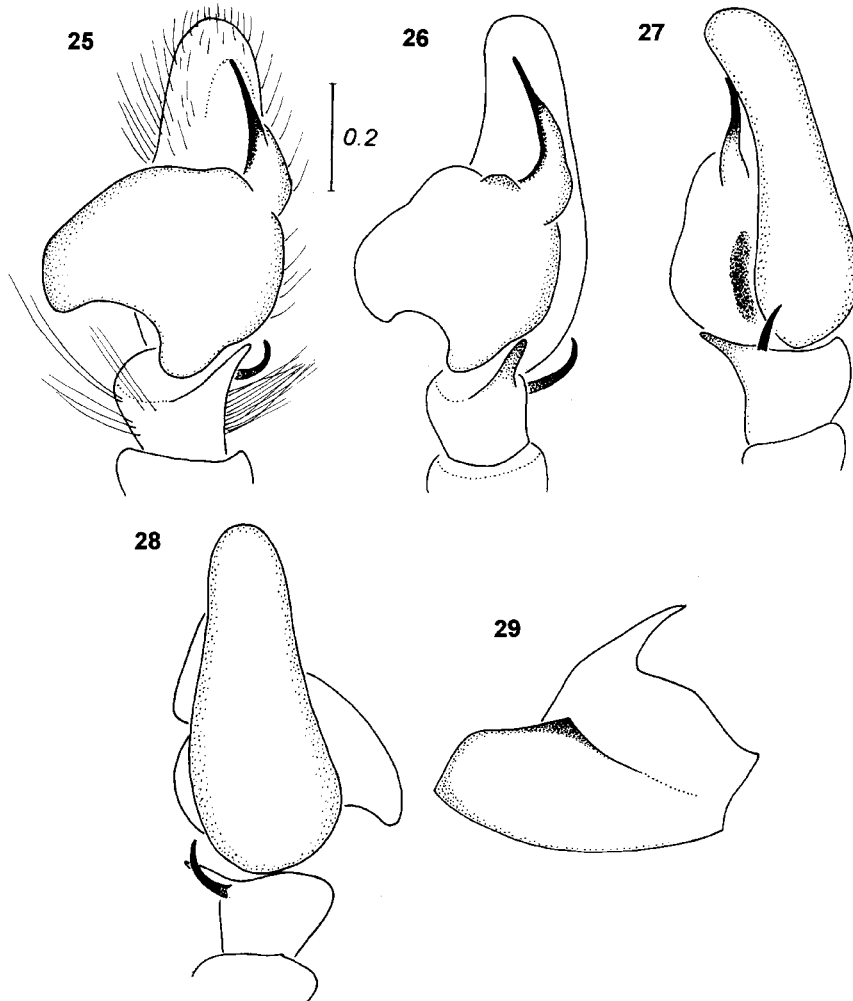
*Trapezocephalus aelurilliformis* BERLAND et MILLOT, 1941: 358.

## MATERIAL

Ethiopia: Shoa Prov., near Sheno, rift valley wall, on sisal plantation, 2 males, 7.V.1983, leg. A. RUSSELL-SMITH (MRAC); Kenya: Mt. Elgon, *Acacia* steppe, Salt lake, 2100 m a.s.l., 1 female, 1 juv. 17.XII.1937, leg. A. HOLM (MEUU, 23).

## DESCRIPTION

Measurements (male/female): Carapace length 2.6-2.7/2.9, width 2.1/2.3, height 1.2/1.1. Abdomen length 2.6-2.8/3.3, width 1.9-2.0/2.3. Eye field length 1.1/1.1, anterior width 1.4-1.5/1.5, posterior width 1.5-1.6/1.6.



25-29. *Heliophanus cassinicola*: 25-28 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 29 - palpal femur

Male. Medium sized spider. Carapace pear-shaped with short, punctate reticulate eye field. Coloration of carapace dark brown, vicinity of eyes black. Sparse long hairs on thorax, long dark bristles near eyes. Chelicerae, labium, maxillae and sternum brown. Abdomen dark brown, covered with dark hairs. Some white hairs form light band at anterior margin of abdomen. Venter dark. Spinnerets brown. First pair of legs slightly thicker than the remaining ones. Femora, tibiae and patellae of all legs brown, distal segments lighter, orange brownish. Leg hairs and spines brown. Pedipalps brown, clothed in long dense hairs. Bulbus short and wide (Fig. 25). Dorsal apophysis of tibia thin (Figs 26-28). Femoral apophysis large, strongly curved (Fig. 29).

Female. Resembles male, but slightly larger. Whole body clothed in dense greyish hairs. Epigyne shown in Figs 284-288 in WESOŁOWSKA (1986).

#### DISTRIBUTION

Species widely distributed in equatorial Africa, but for the first time reported from Ethiopia and Kenya.

### *Heliophanus (Heliocapensis) charlesi* n. sp.

(Figs 30-35)

#### MATERIAL

Holotype: male, South Africa, Northern Cape Prov., Prieska, from *Pistacia* nut trees, 19.III.2001, leg. C. HADDAD (MRAC).

Paratypes: together with holotype, 1 female (MRAC); South Africa, 40 km NE of Ceres, Touwsriver road, 1 male, 2 females, 18-27.XI.1981, leg. A. DIPPENAAR-SCHOEMAN (PPRI, 81/1017).

#### DIAGNOSIS

This species is closely related to *H. deserticola* SIMON, 1901. The male may be recognised by the bifurcate ventral tibial apophysis, whereas *H. deserticola* has a single, very small apophysis (cf. Figs 31-33 and Figs 4-6 in WESOŁOWSKA 1986). The female may be separated from *H. deserticola* by the shorter seminal ducts (cf. Fig. 35 and Fig. 9 in WESOŁOWSKA 1986).

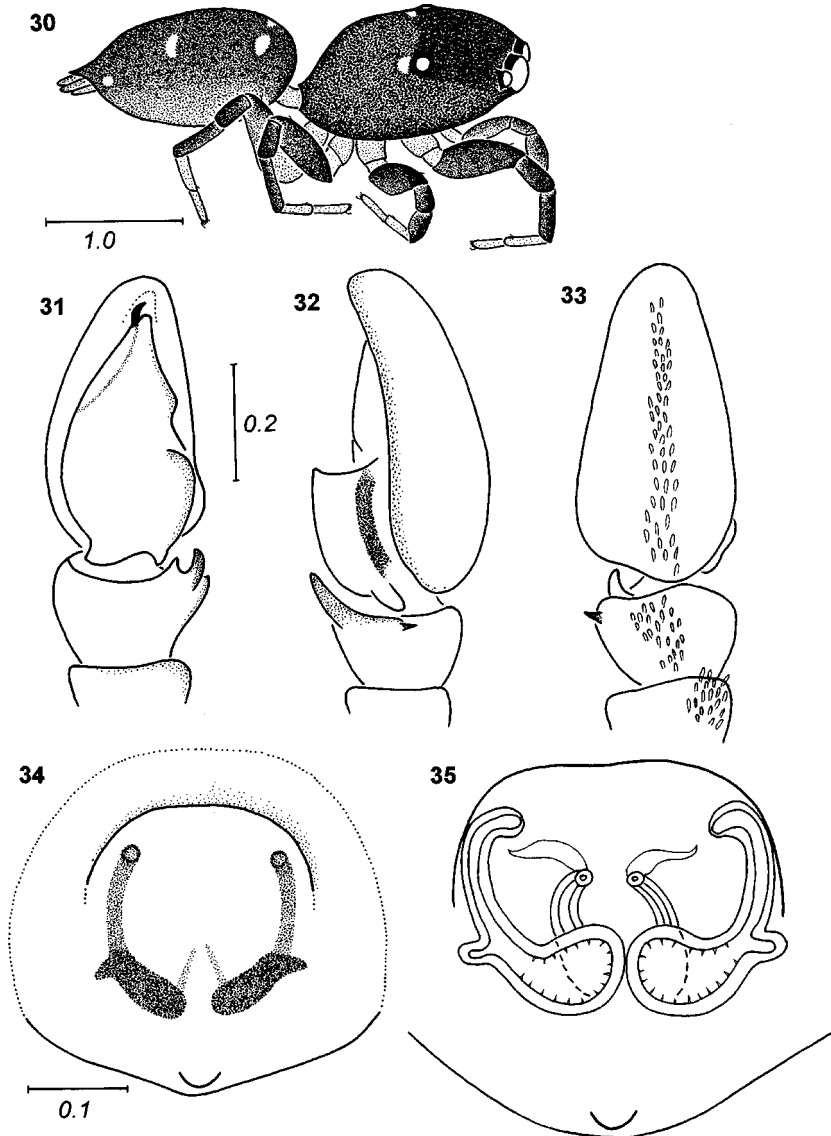
#### ETYMOLOGY

The species is dedicated to the collector - Charles HADDAD, an arachnologist from the Nasionale Museum in Bloemfontein.

#### DESCRIPTION

Measurements (male/female): Carapace length 1.4-1.5/1.5-1.6, width 1.0-1.1/1.1-1.2, height 0.5/0.5-0.6. Abdomen length 1.4-1.5/1.7-1.9, width 0.9-1.0/1.2-1.5. Eye field length 0.6-0.7/0.7-0.8, anterior width 0.9/0.9-1.0, posterior width 0.9-1.0/1.0-1.1.

Male. General appearance in Fig. 30. Carapace brownish black, eye field black with metallic lustre. Brown bristles near eyes. Behind eyes of III row white patches composed of light hairs. Chelicerae, sternum and coxae dark brown, labium and maxillae brown with whitish tips. Abdomen black, covered by gleam-



30-35. *Heliophanus charlesi* n. sp.: 30 - general appearance of male (holotype), 31-33 - palpal organ, ventral, lateral and dorsal views, 34 - epigyne, 35 - internal structure of epigyne

ing scales. A few protruding brown hairs at anterior margin of abdomen. Two pairs of white patches - median and anterior - on dorsal surface of abdomen. Third pair of small patches on abdominal sides, near spinnerets. Venter blackish. Spinnerets dark. Legs orange brownish to dark brown, only metatarsi and tarsi slightly lighter. Leg hairs and spines brown. Pedipalps brown, with median light streak formed by white hairs along dorsal surfaces of cymbium and tibia (Fig. 33). Bulbus elongated, triangle; embolus very short (Fig. 31). Two tibial apophyses; ventral bifurcate, retrolateral very small (Figs 31-33).

Female. Like male, but slightly larger. Coloration of carapace as in male, but carapace covered with dense greyish hairs. Anterior pair of abdominal patches joined in transverse stripe. Coxae light. Legs greyish yellow, only femora brown. Dark streak on prolateral surfaces of tibiae I. Patellae and tibiae III and IV with darker rings at their bases and tips. Pedipalps yellowish with brown femora. Epigyne weakly sclerotized, with shallow central depression (Fig. 34). Internal structure simple (Fig. 35).

***Heliophanus (Helafricanus) demonstrativus* WESOŁOWSKA, 1986**

(Figs 36-42)

*Heliophanus demonstrativus* WESOŁOWSKA 1986: 19; 1999: 153; WESOŁOWSKA & RUSSELL-SMITH 2000: 36.

**MATERIAL**

Zimbabwe: 60 km E of Harare, Roraima Farm, 18°08'S 31°28'E, 2 males, 1 female, 6.VI.2000 (CAS); same locality, 2 males, 30.VII.2000 (NMZ); Lake Chivero, 15°55'S 30°50'E, 1400 m a.s.l., on granite, 1 male, 28.I.2001 (AMNH). All specimens leg. M. CUMMING.

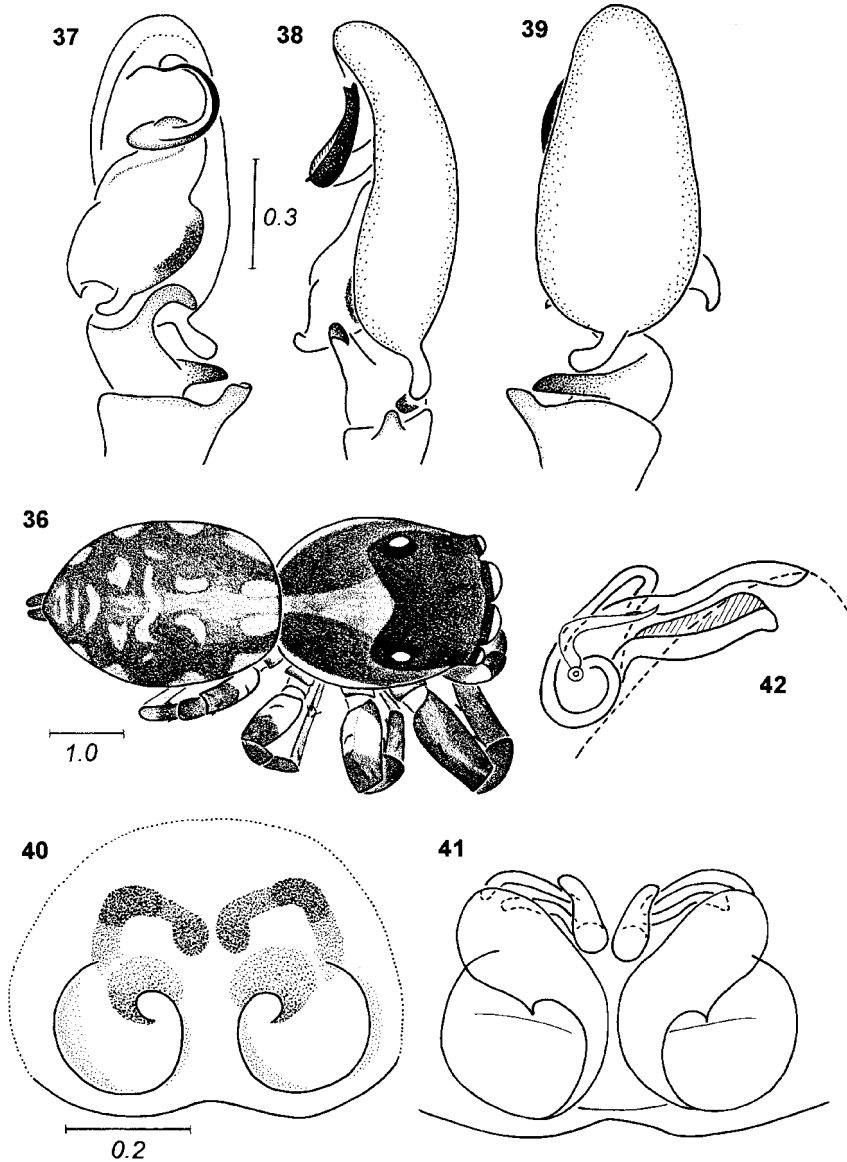
**DESCRIPTION**

Measurements (male/female): Carapace length 2.3-2.5/2.6, width 1.7-1.9/2.0, height 0.8-0.9/0.7. Abdomen length 2.6-2.7/3.9, width 2.0/3.0. Eye field length 1.1-1.2/1.0, anterior width 1.3-1.4/1.5, posterior width 1.3-1.4/1.5.

Male. Medium sized spider. General appearance in Fig. 36. Carapace dark brown, eye field black, punctate reticulate. Long brown bristles on eye field anteriorly. White hairs compose streak along thorax and at lateral margins of carapace. Clypeus low, brown. Chelicerae, labium, maxillae and sternum dark brown. Abdomen dark brown with yellowish pattern (Fig. 36). Delicate brown hairs cover abdomen, longer and denser at anterior margin, lighter hairs along middle of abdomen. Venter yellowish grey with longitudinal, wide, brown streak. First legs dark brown, remaining legs brown also, but their basal segments (coxae, trochanters and proximal half of femora) very light, yellowish white. Long brown hairs on legs, spines dark brown. Pedipalps brown with white hairs on distal part of

femur. Very large and coiled embolus (Fig. 37), long process on basal edge of cymbium, patellar apophysis short (Figs 38-39).

Female. Like male, but slightly lighter. Hairs covering body denser, especially on carapace. White hairs on clypeus. Pedipalps light with darker rings at bases of



36-42. *Heliophanus demonstrativus*: 36 - general appearance of male, 37-39 - palpal organ, ventral, lateral and dorsal views, 40 - epigyne, 41 - internal structure of epigyne, 42 - left spermatheca, dorsal view

their segments. Epigyne as in Fig. 40. Copulatory openings situated in very deep entrance bowls (Fig. 41). Seminal ducts rather short and straight, their walls thick (Fig. 42).

DISTRIBUTION

This species was recorded from South Africa, Zimbabwe and Tanzania.

REMARK

Ventral structure of female copulatory organ of this species is presented for the first time here.

***Heliophanus (Heliophanus) falcatus* WESOŁOWSKA, 1986**

*Heliophanus falcatus* WESOŁOWSKA 1986: 35.

*Natta? immemorata* WESOŁOWSKA 1993: 30, **syn. n.**

MATERIAL

Angola: environs of Dundo, Mussungue river, gallery forest near road to Turismo, 1 female, allotype of *H. falcatus* 19.IX.1946, leg. A. MACHADO (NHM, Ang. 23.4.); Zaire: Kivu, near Butembo, 1 female, holotype of *Natta immemorata*, IX-X.1965, leg M. CELIS (MRAC, 130131).

REMARK

Comparison of the internal structure of epigynes and coloration of both specimens suggests that they are conspecific (cf. Figs 374-376 in WESOŁOWSKA 1986 and Figs 43-44 in WESOŁOWSKA 1993).

***Heliophanus (Helafricanus) hastatus* WESOŁOWSKA, 1986**

(Figs 43-48)

*Heliophanus hastatus* WESOŁOWSKA 1986: 24.

MATERIAL

South Africa: Eastern Cape, way to Port Elizabeth, golfcourse st. at Jeffrey's Bay, 1 male, 1 female, 25.III.1978, leg. A. DIPPENAAR-SCHOEMAN (PPRI, 78/413).

DESCRIPTION

Measurements (male/female): Carapace length 1.9/1.6, width 1.3/1.4, height 0.6/0.6. Abdomen length 1.7/3.1, width 1.1/2.0. Eye field length 0.8/0.8, anterior width 1.1/1.1, posterior width 1.2/1.2.

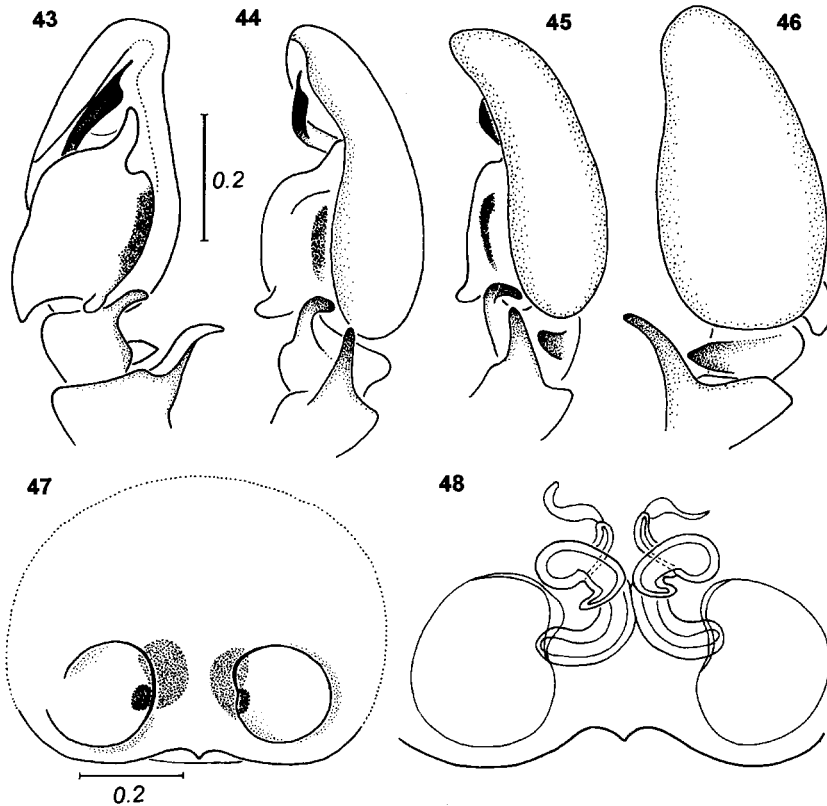
Male. Carapace dark brown, ocular area punctate reticulate. Long brown bristles near eyes. White hairs form transverse line behind first row of eyes and two patches: at posterior margin of eye field and on thorax centre. Light streaks

along lateral margins of carapace. Chelicerae, labium, maxillae and sternum brown. Abdomen brown, shining, with white longitudinal median stripe and thin lines on lateral surfaces. Brown hairs cover abdomen. Venter greyish beige. Spinnerets dark. Legs yellow, leg hairs and spines brown. Embolus wide and abruptly pointed, big process at its base (Fig. 43). Patellar apophysis bent aside (Fig. 46).

Female. Slightly bigger and lighter than male. Carapace brown, two very thin lines formed by white hairs at anterior and posterior edge of eye field. Abdomen greyish beige with median light streak composed of a few pairs of patches. Anterior and lateral margins of carapace light. Venter yellowish. Legs yellowish orange. Epigyne with two large rounded depressions far from each other (Fig. 47). Internal structures as in Fig. 48.

#### DISTRIBUTION

Species known from South Africa only.



43-48. *Heliophanus hastatus*: 43-46 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 47 - epigyne, 48 - internal structure of epigyne



## REMARK

It is the first description of female of this species.

***Heliophanus (Helafricanus) imperator* WESOŁOWSKA, 1986**

(Figs 49-54)

*Heliophanus imperator* WESOŁOWSKA 1986: 25.

*Heliophanus gladiator* WESOŁOWSKA 1986: 38, part: female only.

## MATERIAL

Kenya: Cherangany Hills, Kalelaikelat, 1030 m a.s.l., dry leaves at *Senecio cheranganiensis*, 2 males, 1 female, 17.II.1983 (MEUU, 470); same locality, 3150 m a.s.l., forest litter, 1 male, 15.II.1983 (MEUU, 467); same locality, 3070 m a.s.l., under giant *Lobelia*, 1 male, 13.II.1983 (MEUU, 461a); Mt. Elgon Nat. Park, 3900 m a.s.l., 1 male, 14.II.1948 (MEUU, 148); Mt. Kenya, Teleki valley, Macinders camp, among dry leaves on *Senecio*, 1 female, 3.I.1976 (MEUU, 351); same locality, 4200 m a.s.l., under stones, 1 female, 3.I.1976 (MEUU, 354). All specimens from col. A. HOLM.

## DESCRIPTION

Measurements (male/female): Carapace length 1.7-2.0/1.8-2.0, width 1.4-1.5/1.5-1.6, height 0.6/0.7. Abdomen length 1.7-2.0/2.3-3.6, width 1.4-1.6/1.7-2.4. Eye field length 0.8-1.0/0.8, anterior width 1.0-1.1/1.1-1.2, posterior width 1.1-1.2/1.2-1.3.

Male. Carapace flat, brown to blackish, ocular area black. White stripes formed by light hairs along lateral margins of carapace. Short brown hairs on carapace, longer bristles in vicinity of eyes. Chelicerae, labium and sternum dark brown, maxillae brown with pale tips. Abdomen very dark, almost black, covered with dark hairs, denser at anterior margin. Median streak composed of white hairs on abdomen and thoracic part of carapace. Ventral surface of abdomen dark brown. Spinnerets brown. First legs slightly bigger than remaining, dark brown, only tarsi slightly lighter. Legs II - IV light brown. Pedipalps dark brown. Embolus short, all apophyses robust (Figs 49-52).

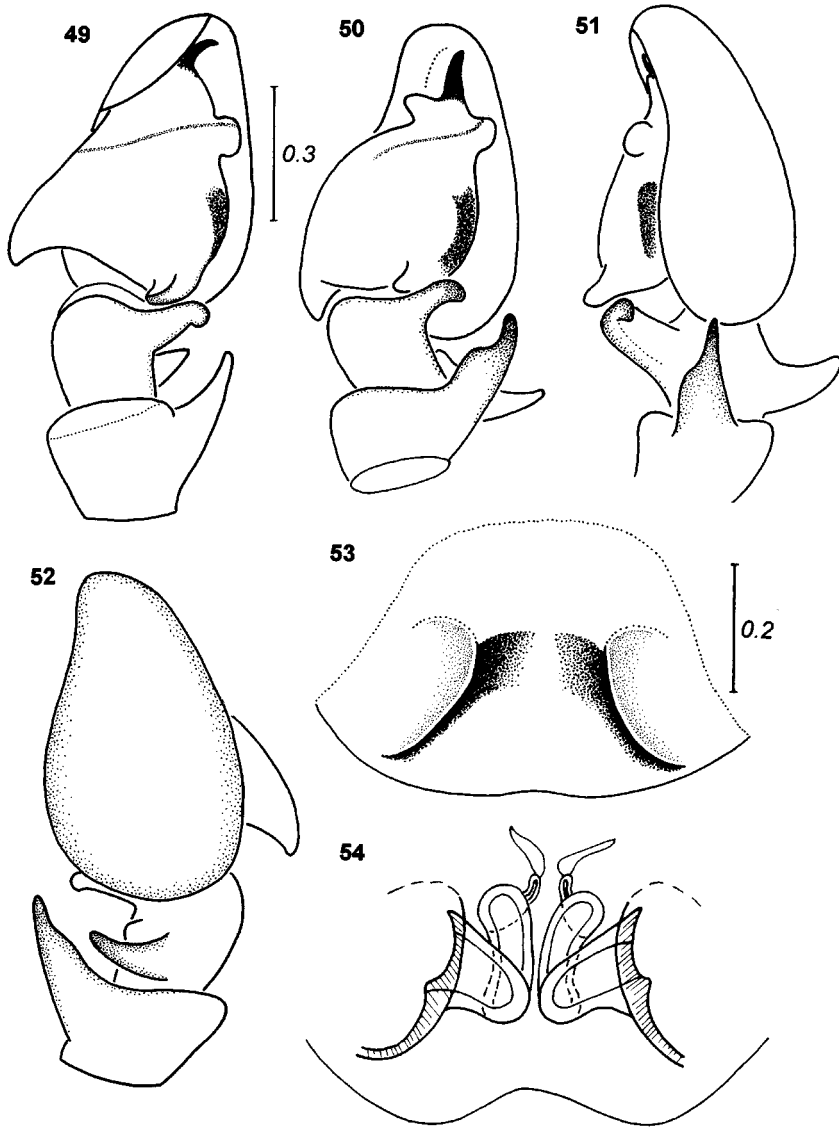
Female. Like male, but in some specimens lack of white streak on carapace and abdomen. Epigyne very strongly sclerotized, with two depressions laterally, median part elevated (Fig. 53). Internal structures as in Fig. 54, extremely strongly sclerotized.

## DISTRIBUTION

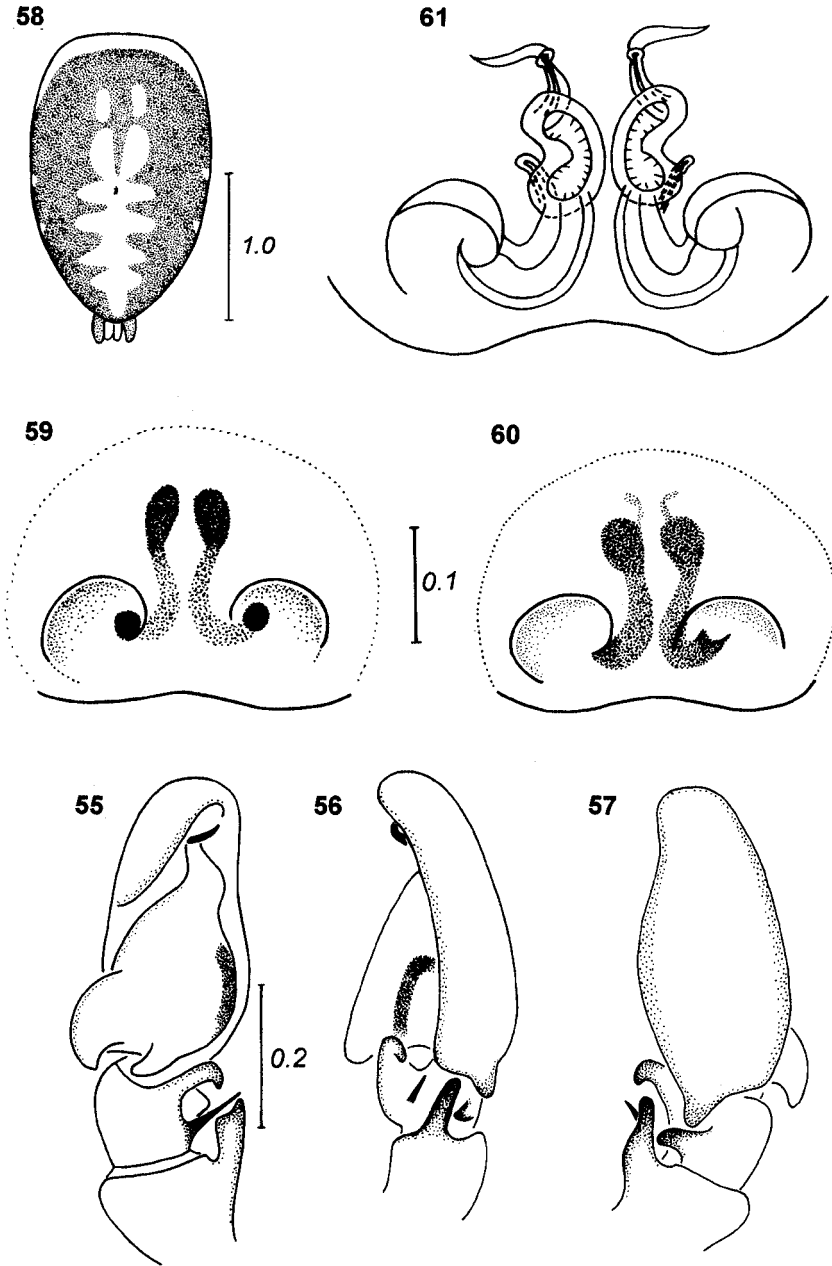
Species known from Kenya and Malawi.

## REMARK

The female of this species has been incorrectly connected to the male of *H. gladiator* (WESOŁOWSKA 1986).



49-54. *Heliophanus imperator*: 49-52 - palpal organ, ventral, posteroventral, lateral and dorsal views, 53 - epigyne, 54 - internal structure of epigyne



55-61. *Heliophanus insperatus*: 55-57 - palpal organ, ventral, lateral and dorsal views, 58 - abdominal pattern of female, 59-60 - epigyne, 61 - internal structure of epigyne

***Heliophanus (Helafricanus) insperatus* WESOŁOWSKA, 1986**

(Figs 55-61)

*Heliophanus insperatus* WESOŁOWSKA 1986: 17; 1999: 154.

## MATERIAL

Angola: Malange, 2 males, 5 females, 2 juv., 11.IX.1949, leg. B. MALKIN (CAS).

## DESCRIPTION

Measurements (male/female): Carapace length 1.6/1.7, width 1.1/1.2, height 0.7/0.6. Abdomen length 1.4/1.8-2.4, width 1.0/1.1-1.5. Eye field length 0.8/0.8, anterior width 1.0/1.0, posterior width 1.1/1.1.

Male. Small spider. Carapace brown, near eyes black. Long brown bristles in vicinity of eyes, a few white hairs between anterior median eyes. White hairs composing thin light lines along sides of carapace posteriorly. Clypeus low, brown. Chelicerae and labium brown, maxillae brown with pale anterior edges, sternum light brown. Abdomen greyish brown, its anterior edge whitish, medially leaf-shaped pattern composed of six pairs of light spots. Legs yellow, first pair with brown lateral surfaces of femora. Male copulatory organ shown in Figs 55-57. Patellar apophysis short. Posteroventral apophysis of tibia as long needle. Posterior edge of cymbium with lobe-shaped process.

Female. Like male. Abdominal pattern (Fig. 58) more contrasting than in male. Spinnerets greyish beige. Legs yellow, their hairs and spines brown. Epigyne with two big rounded depressions posteriorly (Figs 59-60). Its internal structure its shown in Fig. 61. Delicate spiral borders in front of copulatory openings, spermathecae heavily sclerotized bean-shaped, accessory glands fall into seminal ducts (Fig. 61).

## DISTRIBUTION

Species known from Angola, Zaire and South Africa, recently reported also from Zimbabwe (WESOŁOWSKA 1999).

## REMARK

It is the first description of female of this species.

***Heliophanus (Helafricanus) kovacsi* n. sp.**

(Figs 62-66)

## MATERIAL

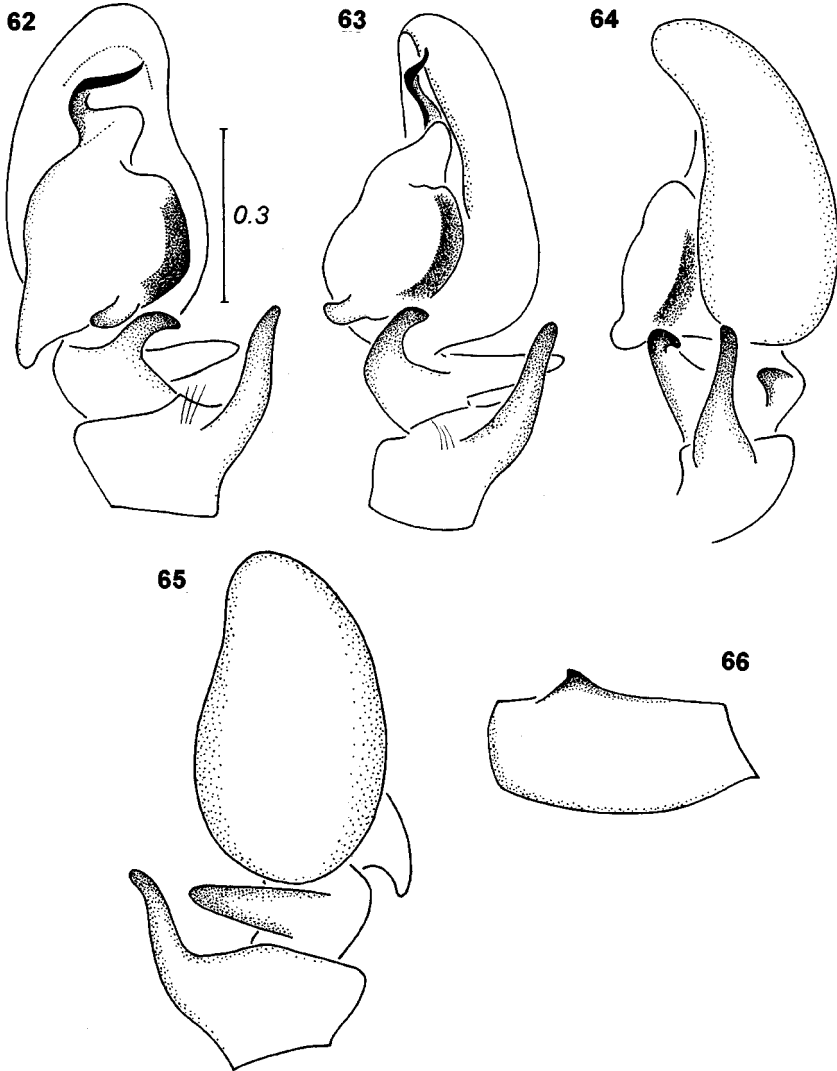
Holotype: male, Ethiopia, Jerer river valley, VI.1912, leg. Ö. KÖVÁCS (HNHM).

## DIAGNOSIS

A distinctive species, the male easily recognised by the presence of a small protuberance on the palpal femur.

## ETYMOLOGY

This species is named after the collector, Ö. KÖVÁCS.



62-66. *Heliophanus kovacsi* n. sp. (holotype): 62-65 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 66 - palpal femur

## DESCRIPTION

Measurements: Carapace length 1.8, width 1.4, height 0.7. Abdomen length 1.7, width 1.2. Eye field length 0.9, anterior and posterior width 1.1.

Male. Body robust. Carapace widest at half its length. Coloration of carapace dark brown, ocular area darker, vicinity of lateral eyes black. A few brown bristles near anterior eyes, some brownish hairs on thorax. Maxillae, labium and sternum brown, inner margin of maxillae and labial tip lighter. Abdomen light brown, posteriorly with lighter central band. Narrow light line on anterior edge of abdomen and on its lateral surfaces. Venter light. Abdomen clothed in sparse thin hairs. Anterior spinnerets brown, posterior yellow. Legs yellow, their hairs and spines light. Pedipalp brown. Embolus rather long, curved (Fig. 62). Dorsal tibial apophysis wide and long, patellar apophysis robust (Figs 62-65). Femur with conspicuous protuberance (Fig. 66).

Female unknown.

## REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) leucopes n. sp.***

(Figs 67-72)

## MATERIAL

Holotype: male, Ethiopia, Jerer river valley, I.1912, leg. Ö. KÖVÁCS (HNHM).

Paratype: Morocco (without accurate locality), 1 male, Ö. KÖVÁCS (HNHM).

## DIAGNOSIS

This species resembles *H. fasciatus* WESOŁOWSKA, 1986, but may be separated by the shape of the embolus, partially enveloped by the large anterior lobe of the bulbus (cf. Figs 67-68, 72 and Figs 186, 192-193 in WESOŁOWSKA 1986).

## ETYMOLOGY

The specific name is derived from Greek word "leucos" meaning "white" and Latin word "pes" meaning "leg" and refers to the leg coloration.

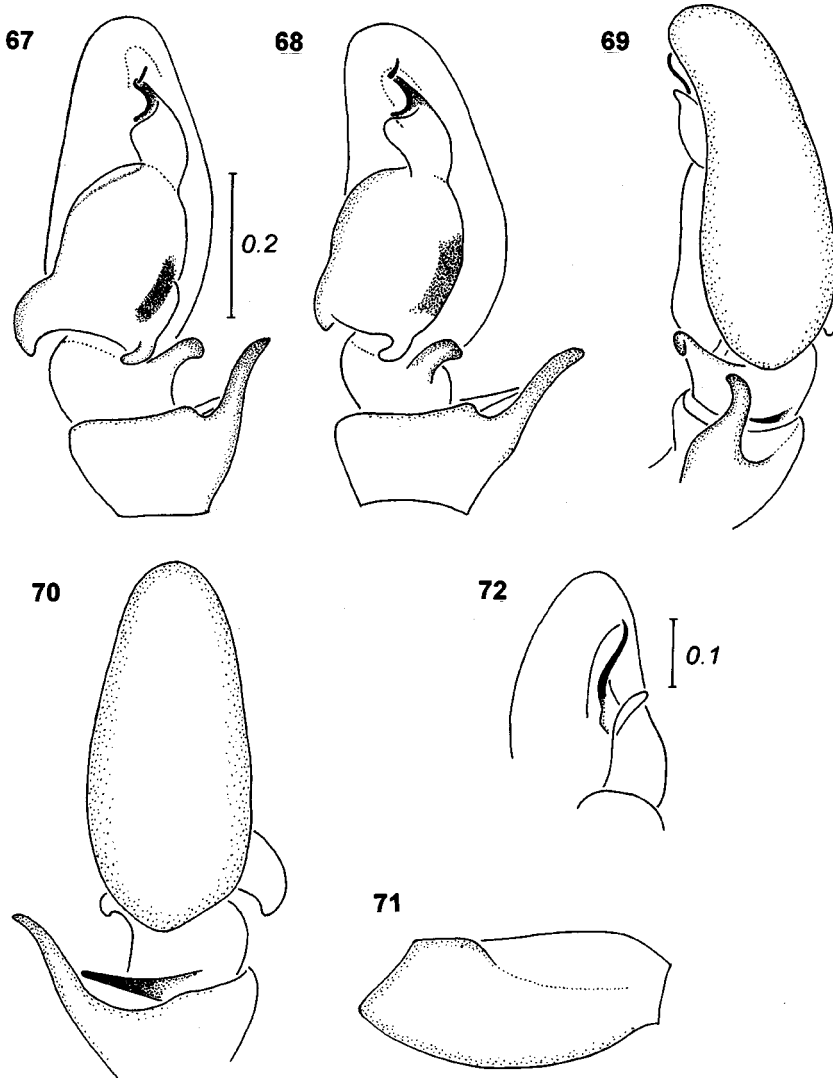
## DESCRIPTION

Measurements: Carapace length 1.6-1.7, width 1.0-1.2, height 0.5-0.6. Abdomen length 1.4-1.7, width 0.8-1.0. Eye field length 0.7-0.8, anterior width 1.0, posterior width 1.1.

Male. Small and rather slender spider. Carapace brown, eye field darker than thoracic part, black rings surrounding eyes. Brown bristles near eyes, sparse dark hairs on thorax. Chelicerae brown, labium and maxillae brownish with pale tips. Sternum light brown. Abdomen slender, brownish grey with irregular median

lighter stripe. Delicate hairs cover abdomen, longer and denser at anterior margin. Venter light yellow tinged with grey. Anterior spinnerets brown, posterior yellow. Legs very light, yellowish white. Pedipalps brown. Embolus bent, its base curtailed by large anterior lobe of bulbus (Figs 67-68, 72). Dorsal tibial apophysis long, pointed (Figs 70).

Female unknown.



67-72. *Heliophanus leucopes* n. sp.: 67-70 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 71 - palpal femur, 72 - embolus, retrolateral view

## REMARK

This species belongs to the *debilis* species group (WESOŁOWSKA 1986).

***Heliophanus (Heliophanus) maralal* n. sp.**

Figs 73-74)

## MATERIAL

Holotype: female, Kenya, Maralal, 2250 m a.s.l., from moss in forest, 5.I.1973, col. A. HOLM (MEUU, 281).

## DIAGNOSIS

A distinctive species, the female easily recognised by the structure of the epigyne, especially by the form of the seminal ducts.

## ETYMOLOGY

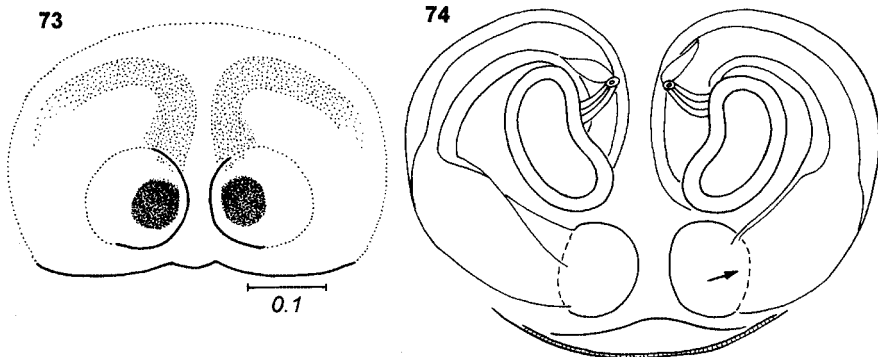
The specific name is a noun in apposition, referring to the type locality.

## DESCRIPTION

Measurements: Carapace length 1.7, width 1.2, height 0.5. Abdomen length 1.8, width 1.3. Eye field length 0.7, anterior width 1.0, posterior width 1.1.

Male unknown.

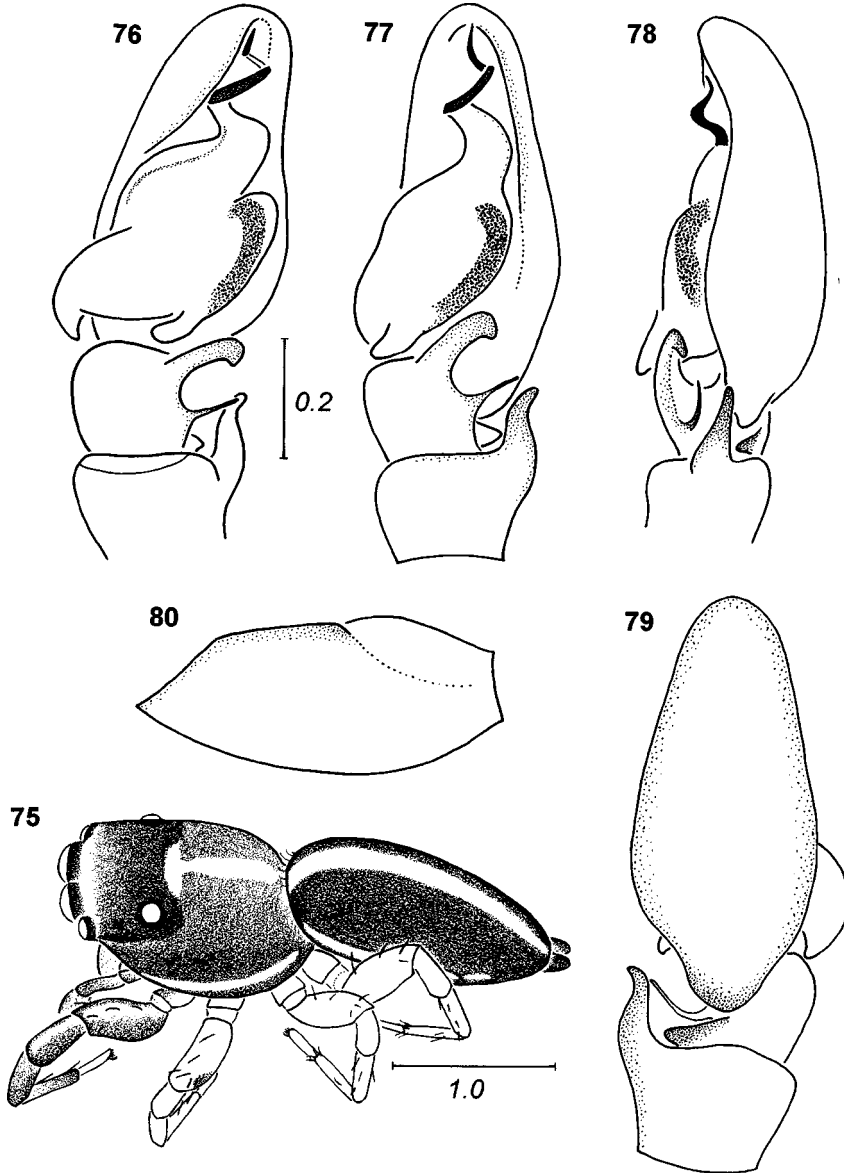
Female. Carapace dark brown, ocular area black. Traces of white lines along lateral margins of carapace. Short brown hairs covered carapace, dense grey hairs on eye field, longer brown bristles in vicinity of eyes. Median light stripe along thorax. Chelicerae and sternum dark brown, labium and maxillae brownish with light tips. Abdomen dark brown, clothed in brown and grey hairs, venter greyish. Spinnerets dark. Legs yellow with darker rings at bases and tips of their segments.



73-74. *Heliophanus maralal* n. sp. (holotype), epigyne and its internal structure



Leg hairs brown. Epigyne oval with two rounded depressions posteriorly (Fig. 73). Walls of seminal ducts very thin in initial part, spermathecae bean-shaped, strongly sclerotized (Fig. 74).



75-80. *Heliophanus megae* n. sp.: 75 - general appearance of male, 76-79 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 80 - palpal femur

***Heliophanus (Helafricanus) megae n. sp.***

(Figs 75-80)

## MATERIAL

Holotype: male, Zimbabwe, Manicaland, Nyanga National Park, Mare Dam, stone fort, on wall of planks, 1-9.XII.1999, leg. M. CUMMING (MRAC).

Paratypes: together with holotype, 2 males (MRAC).

## DIAGNOSIS

This species is closely related to *H. anymphos* but may be distinguished by the clearly longer embolus (cf. Figs 76-77 and Figs 10-11).

## ETYMOLOGY

This species is named after my friend Meg S. CUMMING, keen observer of spiders' life, who collected the type material.

## DESCRIPTION

Measurements: Carapace length 2.1-2.2, width 1.4-1.5, height 0.6. Abdomen length 2.1-2.2, width 1.4. Eye field length 0.9, anterior width 1.2-1.3, posterior width 1.3-1.4.

Male. General appearance as in Fig. 75. Carapace dark brown, eye field darker with metallic sheen. White bands composed of light hairs along lateral margins of carapace. Long brown bristles near eyes, some whitish hairs behind anterior row of eyes. White hairs form path at posterior edge of eye field, from path to end of carapace runs white stripe. Chelicerae, labium and sternum dark brown, maxillae brown with narrow whitish anterior margins. Abdomen dark brown, covered with blackish scale-like hairs. Long brown hairs at anterior edge of abdomen. White streak along abdomen medially, narrow light lines on lateral surfaces (Fig. 75). Venter dark brown, laterally beige. Spinnerets brown. First legs dark brown, their dorsal surfaces slightly lighter. Remaining legs intensely yellow, brownish patch at tip of femora II retrolaterally. Leg hairs and spines brown. Pedipalps dark brown. Cymbium narrow, with large outgrowth at its base, dorsal tibial apophysis near posterior end of tibia (Fig. 79). Embolus coiled, long (Figs 76-77).

Female unknown.

## REMARK

This species belongs to the *marshalli* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) nanus n. sp.***

(Figs 81-86)

## MATERIAL

Holotype: male, South Africa, Swartsrus, 27°45'S 25°30'E, beating, 24.X.1985 (NMB /A 1114).

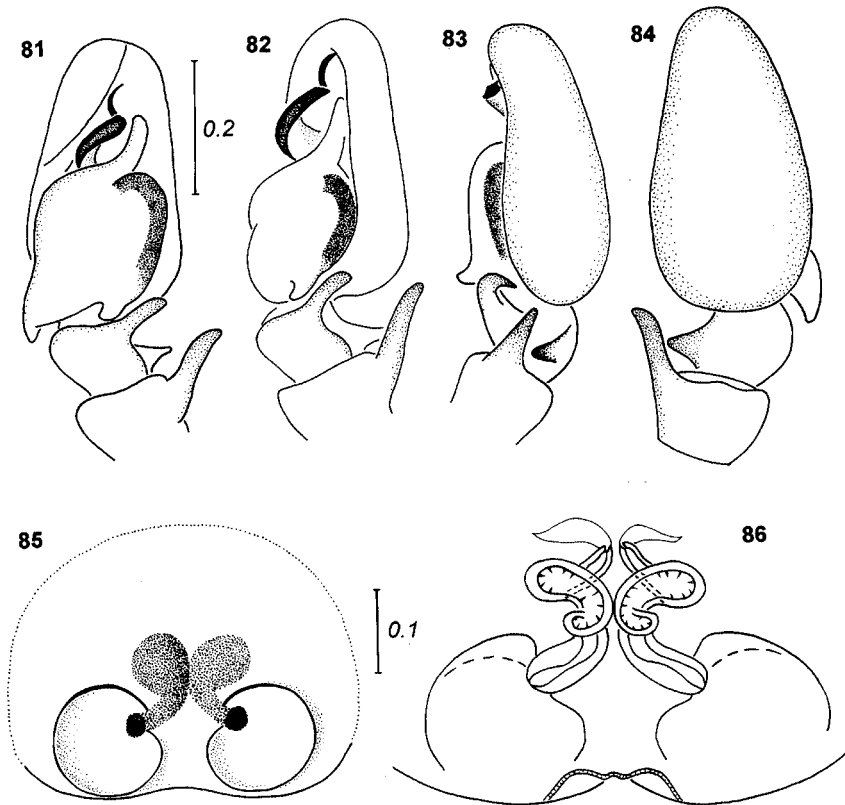
Paratypes: together with holotype, 3 males, 1 female, 4 juv.; South Africa: Free State Prov., Tussen-Die-Riviere, grassland, 2 males, 2 females, 2 juv., 22.III.2001, leg. C. HADDAD (MRAC); same locality, 1 male (MNH); Bloemfontein, 1 female, 1997, leg. G. KOPIJ (MNH).

#### DIAGNOSIS

The male of this species is closely related to *H. hastatus* WESOŁOWSKA, 1986 but may be recognised by the straight patellar apophysis and shape of the embolus (cf. Fig. 81 and Fig. 43). The female is difficult to distinguish from *H. hastatus*, but has a shorter distance between epigynal depressions (cf. Fig. 86 and Fig. 48).

#### ETYMOLOGY

The specific name is Latin for “small”, and refers to the body size.



81-86. *Heliophanus nanus* n. sp.: 81-84 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 85- epigyne, 86 - internal structure of epigyne

## DESCRIPTION

Measurements (male/female): Carapace length 1.4-1.8/1.9, width 1.0-1.3/1.5, height 0.6-0.7/0.8. Abdomen length 1.4-1.9/2.4, width 0.9-1.2/0.9. Eye field length 0.6-0.8/0.9, anterior width 0.9-1.0/1.2, posterior width 1.0-1.1/1.3.

Male. Very small spider. Carapace dark brown, its lateral edges slightly lighter. Eye field black with punctate reticulate microsculpture. Sparse brown hairs cover carapace, long brown bristles in vicinity of eyes, short light grey hairs on eye field anteriorly. Light stripe formed by white hairs along thoracic part, in some specimens only small white patch here. Chelicerae and sternum dark brown, labium and maxillae brown with pale margins. Abdomen dark brown, with median longitudinal stripe composed of whitish hairs. Long brown hairs at anterior margin of abdomen. Venter brownish grey. Spinnerets brown. Legs yellowish orange, their hairs brown. Pedipalps light brown. Patellar apophysis rather long, bent aside (Fig. 82), dorsal tibial apophysis triangular (Fig. 84). Embolus convolute like a cork-screw, wide at its base; bulbus with narrow long anterior lobe (Figs 81-82).

Female. Slightly bigger than male. Carapace dark brown, densely covered with grey hairs. Abdomen brown, with very poorly contrasting median band composed of some pairs of lighter patches. Brown and grey hairs on abdomen. Venter yellowish. Legs brownish, only metatarsi and tarsi slightly lighter. Epigyne with two rounded deep depressions (Fig. 85). Copulatory openings situated in these depressions anteriorly, spermathecae heavily sclerotized (Fig. 86).

## REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).

***Heliophanus nobilis* WESOŁOWSKA, 1986**

(Figs 87-90)

*Heliophanus nobilis* WESOŁOWSKA 1986: 228.

## MATERIAL

Zaire: Ruwenzori, Bundibugyo, 850-900 m a.s.l., 1 male, 17.IV.1948, col. A. HOLM (MEUU, 103).

## DESCRIPTION

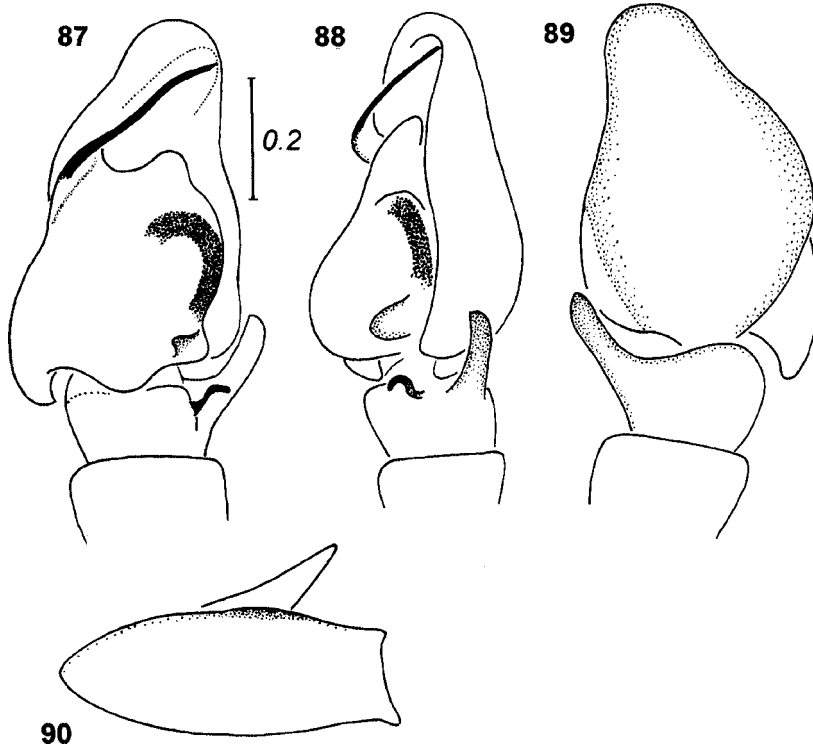
Measurements: Carapace: length 1.7, width 1.2, height 0.7. Abdomen length 1.5, width 1.0. Eye field: length 0.8, anterior width 1.0, posterior width 1.1.

Male. Carapace reddish brown, only its lateral margins with longitudinal white bands, eye field dark brown. Whole carapace clothed in dense greyish hairs, long brown bristles near eyes. Chelicerae and sternum dark brown, maxillae and labium brown with lighter margins. Abdomen brownish russet, covered with dark brown hairs, venter brownish grey. Anterior spinnerets yellow, posterior - brownish grey. Legs II yellow, remaining pairs yellow with brown femora. Pedipalps

brown. Embolus thin and straight, ventral tibial apophysis very thin (Figs 87-88), femoral apophysis sharp pointed (Fig. 90).

## REMARK

It is the second record of this species. It was described from central Zaire on the basis of a single male.



87-90. *Heliophanus nobilis*: 87-89 - palpal organ, ventral, lateral and dorsal views, 90 - palpal femur

***Heliophanus (Helafricanus) papyri* n. sp.**

(Figs 91-96)

## MATERIAL

Holotype: male, Ethiopia, Shoa Prov., hot springs at Ambo, 2100 m a.s.l., in sedges swampy ground, 31.IX.1987, leg. A. RUSSELL-SMITH (MRAC, 211403).

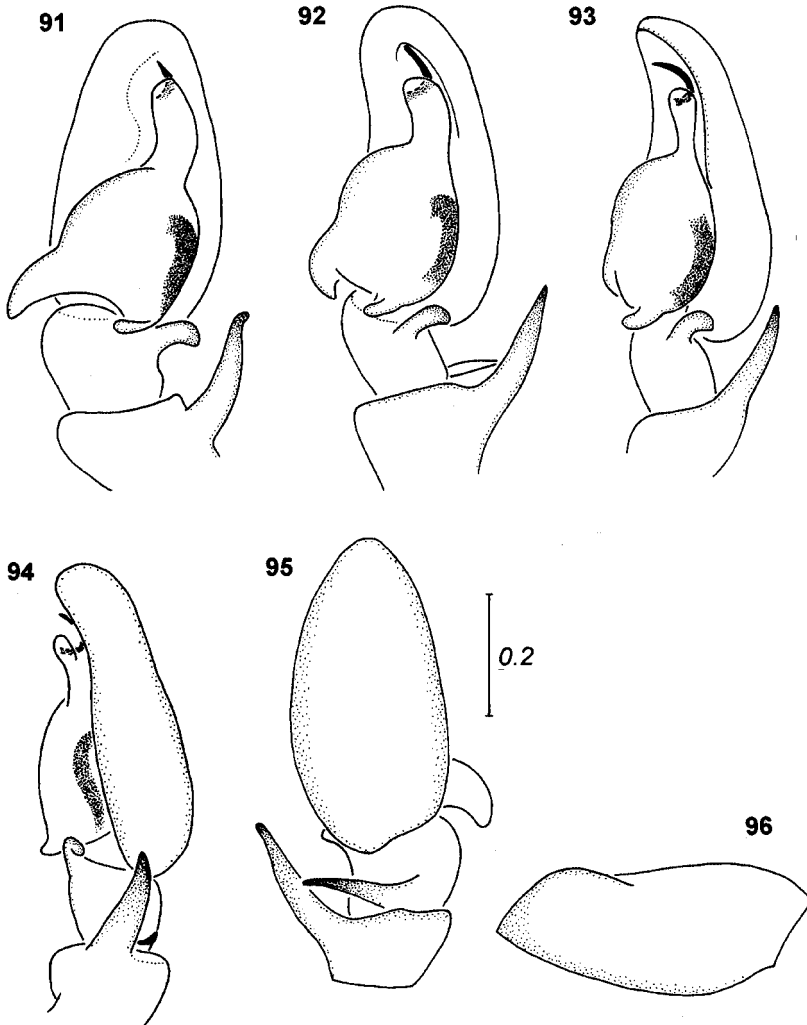
Paratypes: together with holotype, 1 male (CAS); Ethiopia: Shoa Prov., S edge of Lake Zwai, in *Cyperus papyrus* clumps, 1 male, 30.I.1983, leg. A. RUSSELL-SMITH (MRAC).

## DIAGNOSIS

This species resembles *H. paulus* WESOŁOWSKA, 1986 from Botswana, but may be recognised by the shorter embolus and the shape of the patellar apophysis which is pointed whereas *H. paulus* has a wide, spatula-like apophysis (cf. Fig. 91 and Fig. 180 in WESOŁOWSKA 1986).

## ETYMOLOGY

This species is named after the plant from which it was collected.



91-96. *Heliophanus papyri* n. sp.: 91-95 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 96 - palpal femur

## DESCRIPTION

Measurements: Carapace length 2.1, width 1.5, height 0.8. Abdomen length 2.3, width 1.4. Eye field length 0.8, anterior width 1.2, posterior width 1.3.

Male. Carapace dark brown, eye field almost black. Carapace covered with thin greyish hairs, near eyes long brown bristles. Tuft of white hairs posteriorly on thorax. Chelicerae and labium brown, maxillae brown with narrow light margins, sternum brownish. Abdomen brown, with median irregular light stripe formed by white hairs. This stripe clearly visible only in anterior half of abdomen. Delicate hairs cover abdomen, longer and bushier at its anterior edge. Venter dark, with two light streaks laterally. Anterior spinnerets yellowish, posterior - brownish. Legs yellow, only first pair slightly darker. Pedipalps light brown. Embolus short, its base enveloped by anterior lobe of bulbus (Fig. 91-92). Dorsal tibial apophysis long, pointed (Fig. 95). Patellar apophysis long, straight (Figs 92, 95).

Female unknown.

## REMARK

This species belongs to the *debilis* species group (WESOŁOWSKA 1986).

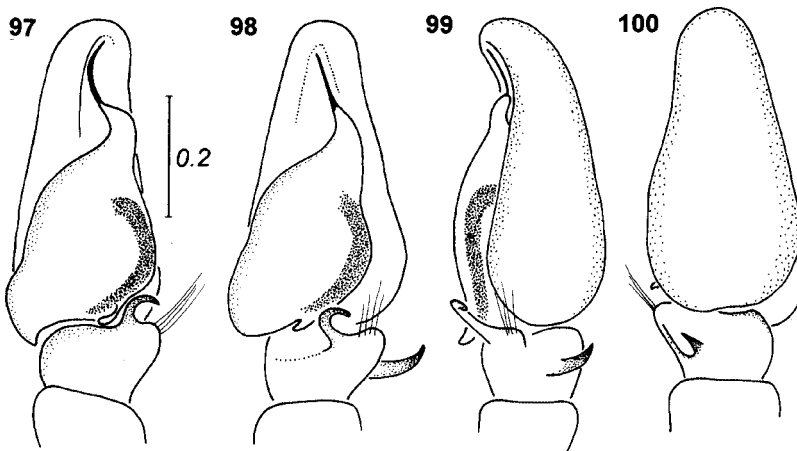
***Heliophanus pauper* WESOŁOWSKA, 1986**

(Figs 97-100)

*Heliophanus pauper* WESOŁOWSKA 1986: 228; 1999: 154.

## MATERIAL

Ethiopia: Sidamo Prov., 30 km SE of Soddo Wolayta, 1700 m a.s.l., in marshy area, 1 male, 4.XII.1983, leg. A. RUSSELL-SMITH (MRAC); Zambia: 5 km SE of



97-100. *Heliophanus pauper*, palpal organ, ventral, ventrolateral, lateral and dorsal views

Livingstone, 17°54'S 25°51'E, 1 male, 1 female, 1 juv., 15.III.1993 (SMN, 43131); Zambia: West Hippo Island East Caprivi, 17°29'S 24°18'E, 5 males, 2 juv., 6.III.1992 (SMN, 43079).

#### DESCRIPTION

Measurements: Carapace length 1.7, width 1.1, height 0.7. Abdomen length 1.6, width 1.0. Eye field length 0.7, anterior width 1.0, posterior width 1.1.

Male. Carapace brown, eye field black with metallic lustre. Delicate hairs on carapace, longer bristles near eyes. Chelicerae, labium and sternum brown, maxillae yellowish with brown bases. Abdomen dark brown, large scutum covers dorsum. Dense, long, brown hairs at anterior margin of abdomen, white longitudinal band on anterior part of dorsal surface. Venter brown. Spinnerets dark. Legs pale yellow. Pedipalp brown, its structure shown in Figs 97-100.

#### DISTRIBUTION

This species were reported hitherto from Kenya (WESOŁOWSKA 1986) and Zimbabwe (WESOŁOWSKA 1999).

### *Heliophanus (Helafricanus) pistaciae* n. sp.

(Figs 101-107)

#### MATERIAL

Holotype: male, South Africa, Northern Cape Prov., Prieska, from *Pistacia* nut trees, 26.V.2001, leg. C. HADDAD (MRAC).

Paratypes: together with holotype, 14 males, 11 females (MRAC); same locality, 4 males, 4 females, 27.I.2001, leg. C. HADDAD (NMB); same locality, 4 males, 4 females, 27.I.2001, leg. C. HADDAD (PPRI); same locality, 4 males, 4 females, 27.I.2001, leg. C. HADDAD (AMNH); same locality, 8 males, 12 females (MNH); same locality, 4 males, 4 females (CAS); South Africa: Free State Prov., Bloemfontein distr., Deelhoek farm, 28°54'S 26°07'E, grassland, 5 males, 2 females, 9.X.2000, leg. C. HADDAD (MNH); South Africa, Swartsrus, 27°45'S 25°30'E, beating, 1 male, 24.X.1985 (NMB /A 1114a); Zimbabwe, Sengwa Wildlife Reserve, 1 male, 19-28.XI.2001, leg. M. CUMMING (NMZ).

#### DIAGNOSIS

A distinctive species, the male easily recognised by the falcate embolus. The female is characterised by the structure of epigyne, especially by the very large, strongly sclerotized cavities enveloping the copulatory openings.

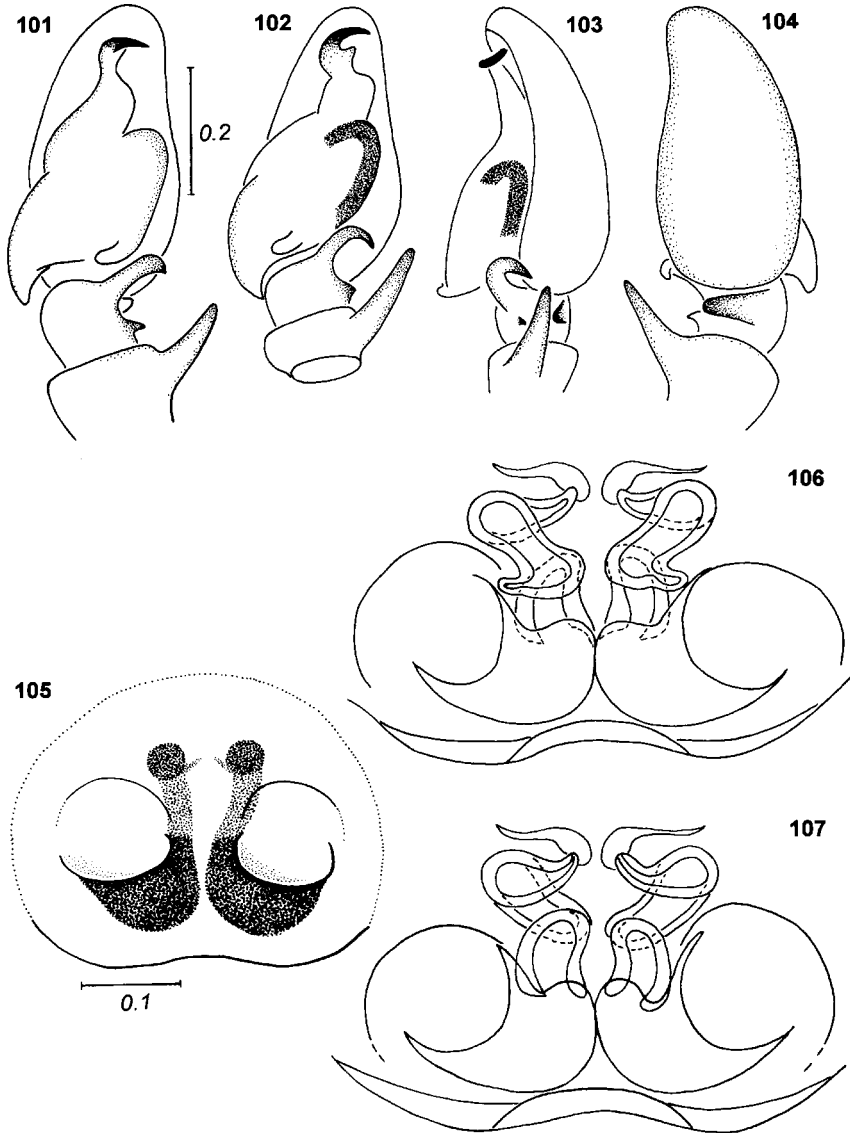
#### ETYMOLOGY

This species is named after the plant from which it was collected.



## DESCRIPTION

Measurements (male/female): Carapace length 1.4-1.6/1.6-1.8, width 1.0-1.1/1.2-1.3, height 0.6-0.7/0.7-0.8. Abdomen length 1.4-1.7/2.0-2.8, width 1.0-1.3/1.4-1.9. Eye field length 0.6-0.7/0.7, anterior width 0.9-1.0/1.0, posterior width 0.9-1.0/1.1.



101-107. *Heliophanus pistaciae* n. sp.: 101-104 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 105 - epigyne, 106-107 - ventral structure of epigyne, ventral and dorsal views

Male. Very small spider. Carapace dark brown to black, with narrow white lines along its lateral margins; eye field black with metallic shine and punctate reticulate microsculpture. Brown and greyish hairs cover carapace, long brown bristles near anterior eyes. Light longitudinal median band on thorax composed of white hairs, in some specimens these hairs lost and band not visible. Chelicerae, labium and sternum brown, maxillae brownish with pale tips. Abdomen brown, whitish stripes on its lateral surfaces. In some specimens light median streak, in others only traces of lighter leaf-shaped pattern posteriorly. Brown hairs cover abdomen, bushier at its anterior edge. Venter yellowish grey. Spinnerets dark. Legs yellow, in some specimens large brown patches on lateral surfaces of femora I. Leg hairs and spines brown. Three or four stronger bristles on prolateral surface of femur I, at its distal end; probably it is stridulatory apparatus, the presence of which in *Heliophaninae* was recorded by MADDISON (1987). Pedipalps blackish. Embolus short, slightly bent (Fig. 101), with small lobe at its base (Fig. 102). Posteroventral apophysis of tibia very short (Figs 101-102).

Female. Carapace brown, clothed in dense grey hairs. Labium, maxillae and sternum light brown. Abdomen brown with lighter leaf-shaped streak medially. Venter yellow. Epigyne with two shallow rounded depressions (Fig. 105), in some specimens plugged by waxy secretion. Copulatory openings hidden in very large, sclerotized "baskets", seminal ducts short (Figs 106-107).

REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) proszynskii n. sp.***

(Figs 108-113)

MATERIAL

Holotype: male, South Africa, Cape Prov., Bredasdorp, Angulhas, 34°50'S 20°01'E, under stones, 29.X.1987 (NMB /A 2669).

Paratypes: South Africa, Free State Prov., Bloemfontein distr., Deelhoek farm, 28°54'S 26°07'E, grassland, 1 male, 2 females, 9.X.2000, leg. C. HADDAD (MRAC); Free State Prov., Tussen-Die-Riviere, grass, 1 female, 22.III.2001, leg. C. HADDAD (NMB).

DIAGNOSIS

A distinctive species, the male slightly resembles *H. xanthopes*, but may be recognised by the clearly larger patellar apophysis and the shape of the dorsal tibial apophysis which is longer and truncated at its end cf. Fig. 11 and Fig. 141). The female has a characteristic roofs above copulatory openings.

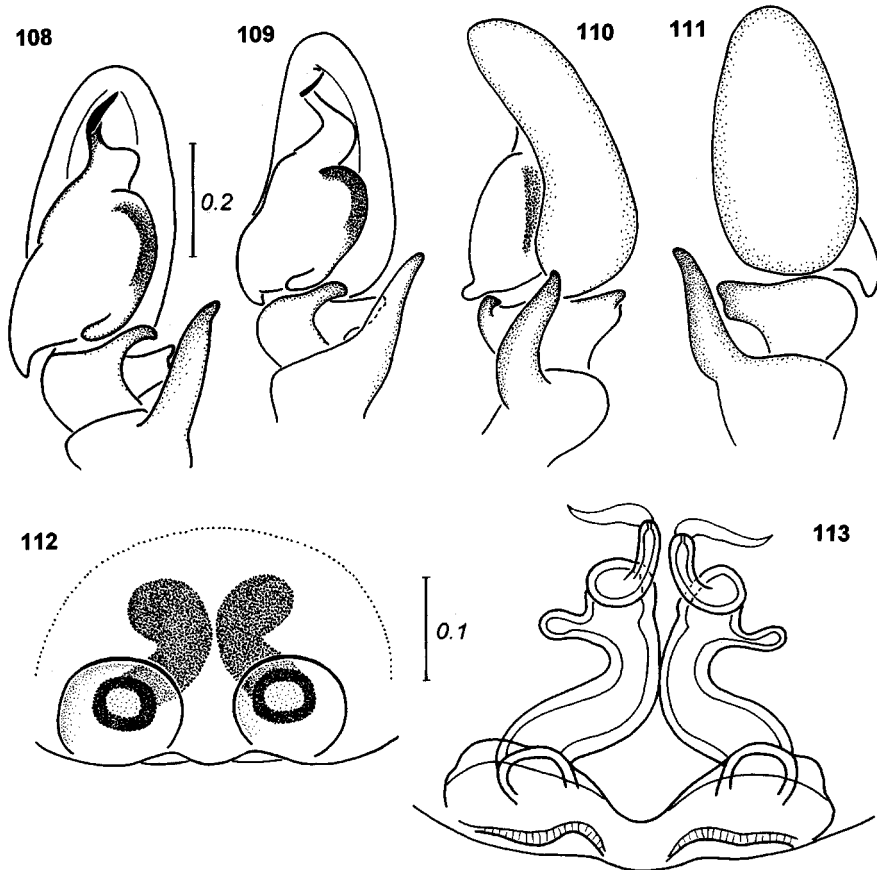
## ETYMOLOGY

This species is named in honour of Jerzy PRÓSZYŃSKI, the prominent specialist on salticids, who encouraged me to study the genus *Heliophanus* years ago.

## DESCRIPTION

Measurements (male/female): Carapace length 1.8/1.7, width 1.4/1.2, height 0.8/0.7. Abdomen length 1.9/2.2, width 1.3/1.4. Eye field length 0.8/0.8, anterior width 1.0/0.9, posterior width 1.1/1.0.

Male. Carapace dark brown, eye field almost black. White narrow stripes along lateral edges of carapace. Long bristles near eyes, a few light hairs at anterior eyes and on thorax. Chelicerae, labium, maxillae and sternum brown. Abdomen light brown, its lateral surfaces whitish. Traces of light median streak on abdomen, at anterior abdominal margin tuft of white hairs. Venter yellowish with



108-113. *Heliophanus proszynskii* n. sp.: 108-111 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 112 - epigyne, 113 - ventral structure of epigyne

three longitudinal wide darker stripes. Spinnerets brownish. Legs yellow, only first pair darker, with brown lateral surfaces of femora and tibiae. Brown hairs on legs. Pedipalps brown. Embolus sickle-shaped (Fig. 108), dorsal apophysis of tibia wide and rather large, patellar apophysis long and robust (Figs 110-111).

Female. Carapace brown with darker eye field. Dense grey hairs on carapace, long brown bristles in ocular area. Chelicerae, labium and sternum light brown, maxillae yellow. Abdomen brown, light band along its anterior and lateral margins. Dense grey hairs cover abdomen. Venter light, yellowish. Spinnerets brown. Legs yellow, their hairs and spines brown. Stridulatory bristles apically on ventral surface of femora I. Epigyne with two rounded depressions (Fig. 112). Seminal ducts wide, spermathecae small (Fig. 113).

#### REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).

### *Heliophanus (Helafricanus) rutrosus* n. sp.

(Figs 114-121)

#### MATERIAL

Holotype: male, Ethiopia, Shoa Prov., 17 km E of Addis Ababa, stream valley, under stones in grass, 28.V.1988, leg. A. RUSSELL-SMITH (MRAC, 211388).

Paratypes: together with holotype, 1 male (MRAC); Ethiopia: 2.5 km E of Addis Ababa, gorge of Bole stream, in litter under scrub, 1 female, 22.VIII.1982, leg. A. RUSSELL-SMITH (MRAC); 51 km E of Addis Ababa, 1 female, 18.VI.1988, leg. A. RUSSELL-SMITH (MRAC).

#### DIAGNOSIS

This species is closely related to *H. saudis* PRÓSZYŃSKI, 1989. The male may be recognised by the shape of the patellar apophysis which is very wide at its tip, whereas *H. saudis* has the apophysis slightly tapering (cf. Fig. 114 and Fig. 86 in WESOŁOWSKA & VAN HARTEN 1994). The female may be separated from *H. saudis* by the copulatory openings, which have sclerotized edge (cf. Fig. 121 and Fig. 92 in WESOŁOWSKA & VAN HARTEN 1994).

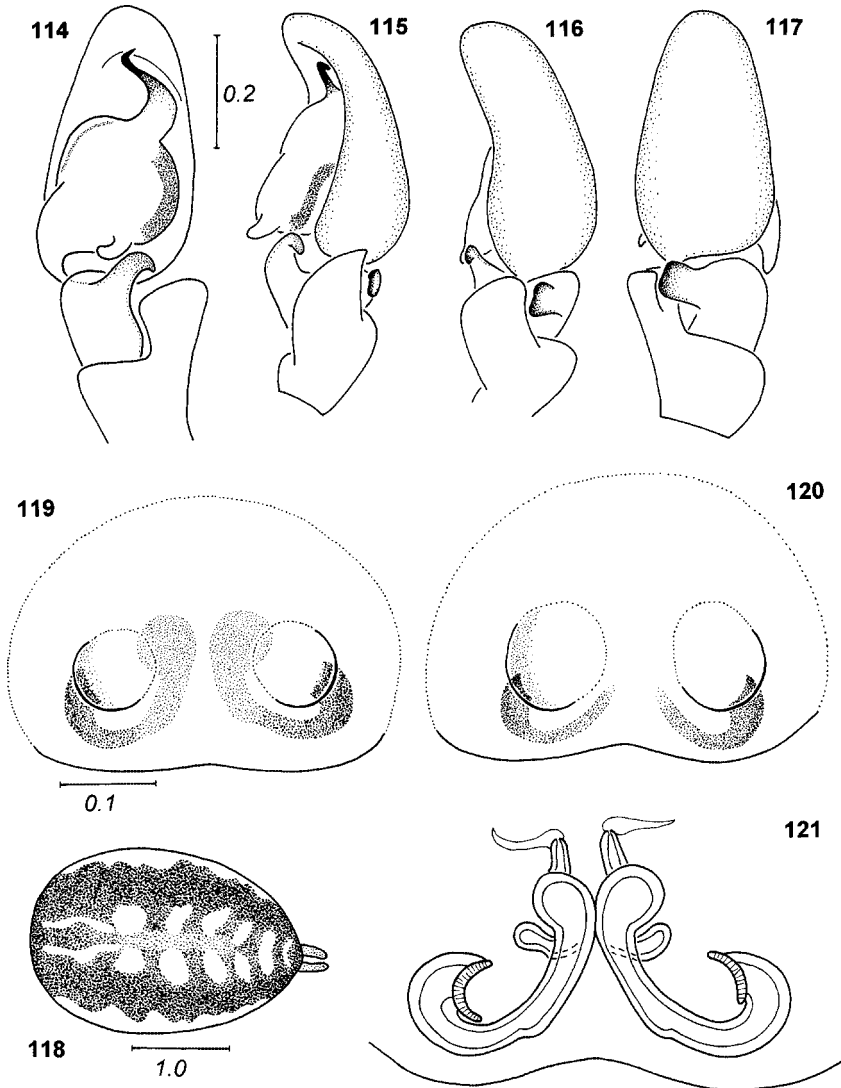
#### ETYMOLOGY

The specific name is derived from Latin word "rutrum" meaning "spatula" and refers to the shape of the patellar apophysis.

#### DESCRIPTION

Measurements (male/female): Carapace length 1.5-1.7/1.8-1.9, width 1.1-1.3/1.2-1.4, height 0.6/0.6-0.7. Abdomen length 1.6-1.8/1.9-2.1, width 1.0-1.2/1.3-1.5. Eye field length 0.6/0.8-0.9, anterior width 0.9-1.0/1.0-1.1, posterior width 1.0-1-1/1.1-1.2.

Male. Carapace dark brown, eye field darker. Narrow white lines along lateral edges of carapace. Brown setae in vicinity of eyes, delicate dark hairs on thorax. Chelicerae and sternum brown, labium and maxillae brownish with pale tips. Abdomen dark brown, with median white streak formed by light hairs. Dark hairs



114-121. *Heliophanus rutrosus* n. sp.: 114-117 - palpal organ, ventral, lateral, dorsolateral and dorsal views, 118 - abdominal pattern of female, 119-120 - epigyne, 121 - ventral structure of epigyne

cover abdomen. Venter yellow, with big greyish patch medially. Spinnerets brownish. Legs yellow. Leg hairs brown. Pedipalps brown. Embolus with bent tip (Fig. 114), dorsal tibial apophysis truncate (Figs 116-117). Patellar apophysis light coloured, big, very wide (Figs 114-116).

Female. Carapace dark brown, eye field black. Brown and light grey hairs on carapace, longer brown bristles near eyes. Labium and maxillae brown, only their tips yellowish, sternum dark. Abdomen dark, greyish brown with light longitudinal band composed of six pairs of patches (Fig. 118). Dense brownish hairs cover abdomen. Sides and venter of abdomen light. Spinnerets dark. Legs yellowish. Pedipalps yellow with dark patch at base of cymbium. Epigyne with two rounded depressions (Figs 119-120). Internal structure weakly sclerotized, seminal ducts thin (Fig. 121).

#### REMARKS

The association of female with male and their conspecificity uncertain. This species belongs to the *debilis* species group (WESOŁOWSKA 1986).

### ***Heliophanus (Heliophanus) sororius* n. sp.**

(Figs 122-126)

#### MATERIAL

Holotype: male, South Africa, Free State Prov., Golden Gate Natural Reserve, 28°30'S, 28°35'E, sweepnet, 6-9.XI.1982, leg. E. VAN DEN BERG (PPRI, 81/1129).

#### DIAGNOSIS

This species is closely related to *H. gladiator* WESOŁOWSKA, 1986 from Kenya, but may be recognised by the presence of an anterior lobe of the bulbus (cf. Fig. 122 and Fig. 434 in WESOŁOWSKA 1986).

#### ETYMOLOGY

The specific name is Latin for "sisterly", and refers to the similarity of this species to *H. gladiator*.

#### DESCRIPTION

Measurements: Carapace length 1.7, width 1.2, height 0.6. Abdomen length 1.8, width 1.1. Eye field length 0.8, anterior width 0.9, posterior width 1.0.

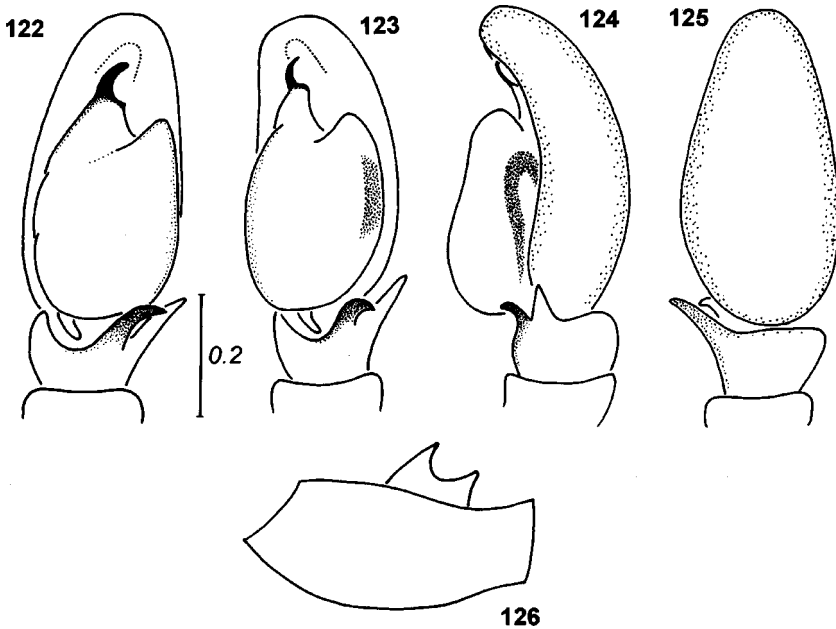
Male. Carapace dark brown, vicinity of eyes black, ocular area punctate reticulate. Brown bristles near anterior row of eyes, scarce brown hairs on thorax. Chelicerae, maxillae and sternum light brown. Labium blackish brown. Abdomen dark brown, some hairs at its anterior edge. Venter dark, two small light patches at base of spinnerets. Spinnerets brown. Legs dark brown, only metatarsi and tarsi slightly lighter. Spines and leg hairs brownish. Pedipalps dark, longitudinal white

streak composed of light hairs on cymbium. Bulbus convex, with clear anterior lobe and small thin posterior one (Figs 122-123). Two tibial apophyses scissor-shaped (Fig. 124). Femoral apophysis wide and short, bicuspid (Fig. 126).

Female unknown.

REMARK

This species belongs to the *pratti* species group (WESOŁOWSKA 1986).



122-126. *Heliophanus sororius* n. sp. (holotype): 122-125- palp organ, ventral, ventrolateral, lateral and dorsal views, 126 - palp femur

***Heliophanus (Heliophanus) splendidus* n. sp.**

(Figs 127-132)

MATERIAL

Holotype: male, Congo, Kindamba, Meya, Louolo river, netted on high grassy burnt savannah, 10.XI.1963, leg. J. BALOGH & A. ZICSI (HNHM, Hung. Soil Exp. No 157).

DIAGNOSIS

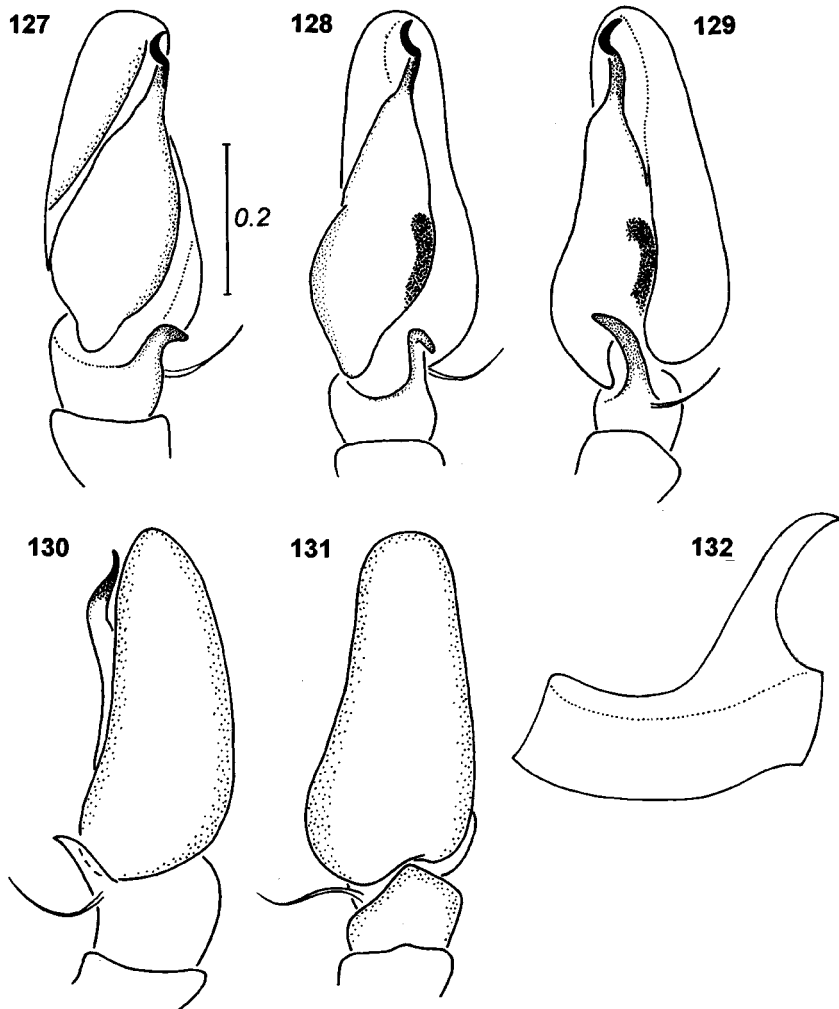
A distinctive species, the male easily recognised by the structure of the copulatory organs, especially by the very long femoral apophysis.

## ETYMOLOGY

The specific name is Latin for “gorgeous”, and refers to the long femoral apophysis of the male palp.

## DESCRIPTION

Measurements: Carapace length 1.3, width 0.9, height 0.6. Abdomen length 1.3, width 0.8. Eye field length 0.6, anterior width 0.8, posterior width 0.9.



127-132. *Heliophanus splendidus* n. sp. (holotype): 127-131- palpal organ, ventral, ventrolateral, lateral, dorsolateral and dorsal views, 132 - palpal femur



Male. Very small spider. Carapace dark brown with metallic lustre, eye field punctate reticulate, eyes surrounded by black rings. Delicate thin hairs on ocular area, brown setae near anterior row of eyes. Clypeus very low. Chelicerae dark brown, maxillae, labium and sternum light brown. Abdomen oval with truncate anterior margin, brown. Dorsal surface of abdomen covered by distinct scutum, some hairs at anterior margin. Venter brownish-grey. Spinnerets dark. Legs yellow, spines brownish, leg hairs light. Pedipalps brown. Bulbus elongated, long and relatively narrow (Fig. 127). Lateral tibial apophysis very thin and long, like big bristle (Figs 128-131). Femoral apophysis very long (Fig. 132).

Female unknown.

***Heliophanus (Heliophanus) tristis* n. sp.**

(Figs 133-134)

MATERIAL

Holotype: female, Ethiopia, Shoa Prov., Ambo Horticultural Farm, Guder, 2100 m a.s.l., in grass in swampy area, 21.X.1986, leg. A. RUSSELL-SMITH (MRAC, 211383).

DIAGNOSIS

This species is related to *H. orchestioides* LESSERT, 1925, but can be distinguished by the larger spermathecae, which are placed more anteriorly (cf. Fig. 134 and Fig. 338 in WESOŁOWSKA 1986).

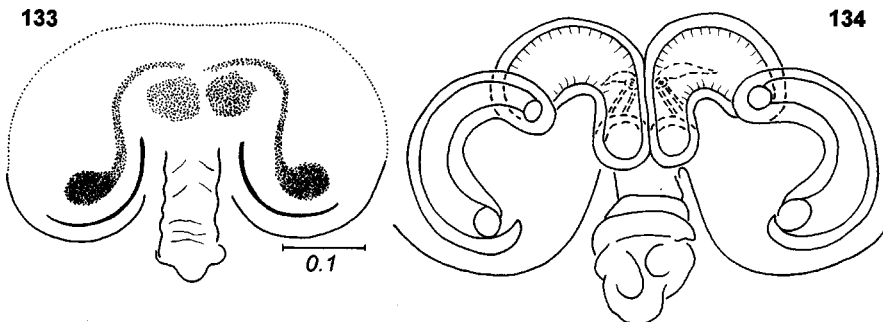
ETYMOLOGY

The specific name is Latin for "gloomy", and refers to the dark coloration.

DESCRIPTION

Measurements: Carapace length 2.5, width 1.9, height 1.0. Abdomen length 3.2, width 2.2. Eye field length 1.0, anterior width 1.4, posterior width 1.5.

Male unknown.



133-134. *Heliophanus tristis* n. sp. (holotype), epigyne and its internal structure

Female. Medium sized spider. Carapace pear-shaped, black, clothed in very dense greyish hairs. Longer brown setae on eye field, denser near anterior eyes. Chelicerae and sternum dark brown. Labium and maxillae brown with yellowish tips. Abdomen black, with dense greyish hairs clinging to its dorsal surface. Venter dark. Spinnerets brownish. Legs yellowish orange, bases of their segments darker. Leg hairs brown. Epigyne oval, with long scapus (Fig. 133). Seminal ducts rather narrow, spermathecae strongly sclerotized (Fig. 134).

## REMARK

This species belongs to the *orchesta* species group (WESOŁOWSKA 1986).

***Heliophanus (Helafricanus) trepidus* SIMON, 1910**

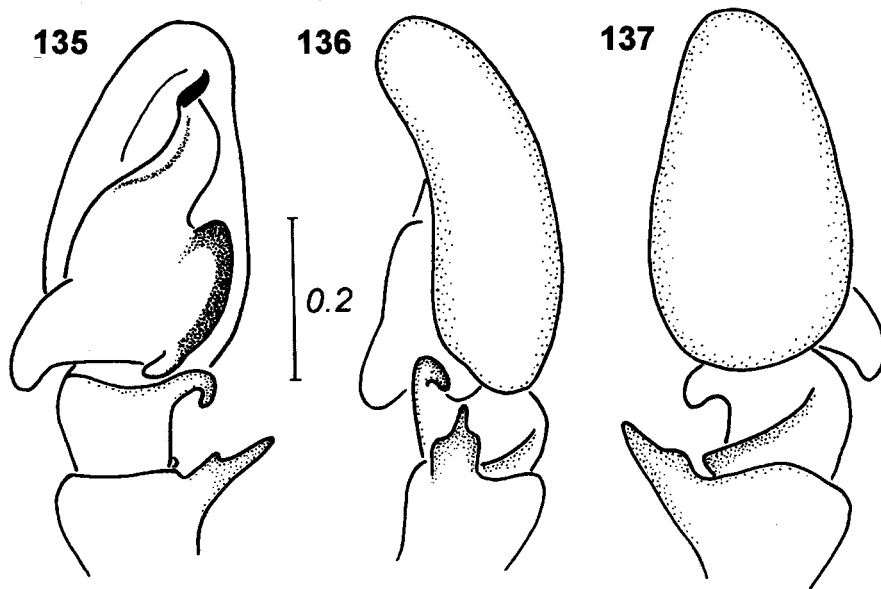
(Figs 135-137)

*Heliophanus trepidus* SIMON 1910: 215.

*Heliophanus trepidus*: WESOŁOWSKA 1986: 20.

## MATERIAL

South Africa, Northern Cape Prov., Prieska, from *Pistacia* nut trees, 1 male, 27.I.2001, leg. C. HADDAD (NMB); same locality, 1 male, 24.II.2001 (MRAC).



135-137. *Heliophanus trepidus*, palpal organ, ventral, lateral and dorsal views

## DESCRIPTION

Measurements: Carapace length 1.8-1.9, width 1.3, height 0.8. Abdomen length 1.9-2.0, width 1.2-1.3. Eye field length 0.9, anterior width 1.1, posterior width 1.1.

Male. Very small spider. Carapace dark brown, eye field black. Brown hairs cover carapace, light bristles near eyes, white hairs form patch behind eye field and lines along lateral edges of carapace. Chelicerae dark brown, labium brownish, maxillae brown with light tips. Sternum dark yellow. Abdomen dark brown with wide longitudinal light streak, ventrally yellowish grey, with two dark patches near base of spinnerets. Whole abdomen clothed in brownish hairs. Spinnerets light. Legs yellow, their hairs and spines brown. Four thick bristles apically on ventral surface of femora I (probably stridulatory apparatus). Pedipalp dark brown. Embolus short, dorsal tibial apophysis small and poorly visible, apophysis of patella short (Figs 135-137).

## DISTRIBUTION

Species known hitherto from Angola, Botswana and Namibia, it is the first record from South Africa.

***Heliophanus (Helafricanus) xanthopes* n. sp.**

(Figs 138-145)

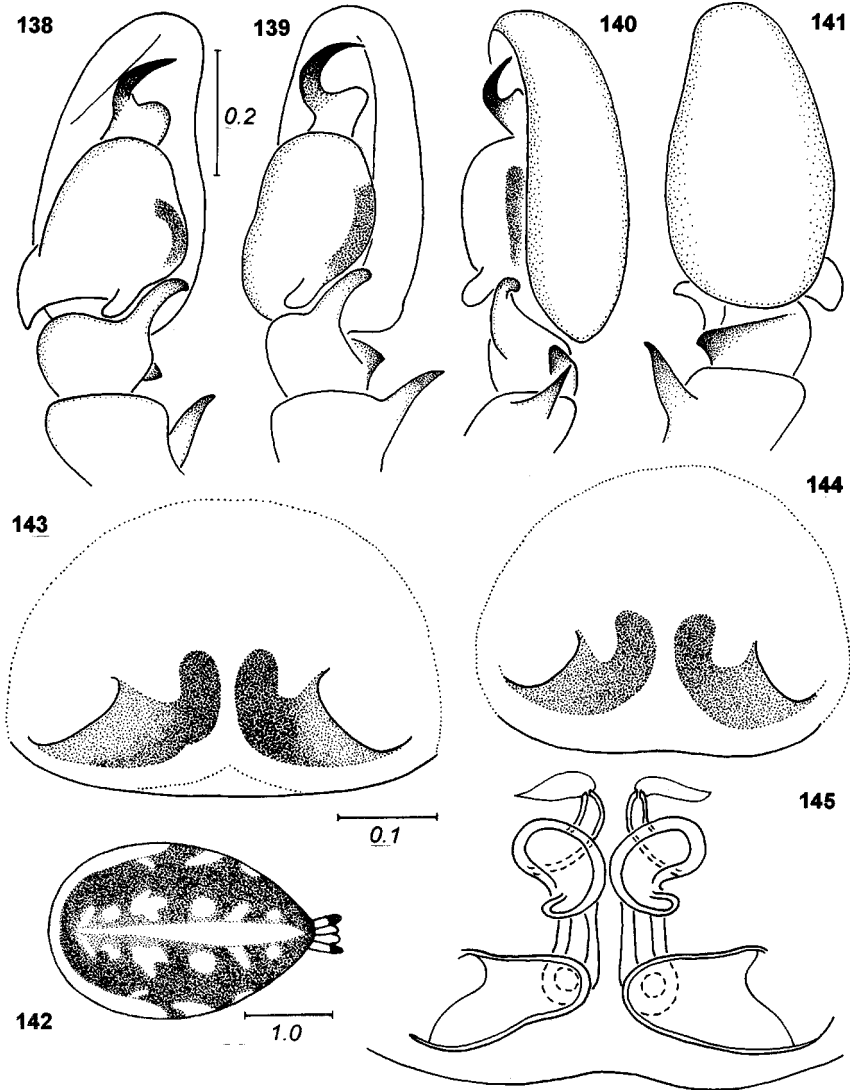
## MATERIAL

Holotype: male, Ethiopia, Shoa Prov., Hora Crater Lake, Debre Zeit, 1900 m a.s.l., on vertical rock face, 6.VI.1986, leg. A. RUSSELL-SMITH (MRAC, 211366).

Paratypes: together with holotype, 2 males, 1 female (MRAC); same locality, in long grass, 1 male, 1.IV.1984 (MRAC); 3 males, 4 females, 2 juv., 28.IX.1985 (MRAC); same locality, under stones in short grass, 2 males, 1 female, 3.IV.1986 (CAS); same locality, 2 males, 9.V.1986 (MRAC); same locality, 1 male, 2 females, 14.IX.1986 (MRAC); same locality, 1 male, 1 female, 2.X.1987 (MNH); same locality, in grass on rock face, 1 male, 22.IV.1988 (MRAC); same locality, 1 female, 21.VI.1988 (MRAC); same locality, 2 males, 5 females, 22.VI.1988 (MRAC); same locality, 4 males, 2 females, 26.VIII.1988 (MRAC); same locality, 6 males, 1 female, 1 subad. female, 26.VIII.1988 (MRAC); same locality, 1 male, 6.X.1988 (MRAC); Ethiopia: Shoa Prov., Abernossa ranch, near Adami Tulu, in grass near farm buildings, 2 males, 1 female, 26.X.1982 (AMNH); Ethiopia: Shoa Prov., Lake Langano, 1600 m a.s.l., in *Cynodon* grass, under stones on lake shore, 1 male, 1 female, 24.X.1982 (MRAC); same locality, 1 male, 1.I.1984 (MRAC); same locality, 1 male, 10.IX.1986 (MRAC); same locality, 1 male, 22.X.1988 (MRAC); same locality, 4 males, 3 females, 1.XI.1988 (MRAC). All specimens leg. A. RUSSELL-SMITH.

## DIAGNOSIS

A distinctive species, the male easily recognised by the wide, crescent-shape embolus and the small patellar apophysis. The female is characterised by the structure of the epigyne, with the copulatory openings situated in deep cavities.



138-145. *Heliophanus xanthopes* n. sp.: 138-141 - palpal organ, ventral, ventrolateral, lateral and dorsal views, 142 - abdominal pattern of female, 143-144 - epigyne, 145 - ventral structure of epigyne

## ETYMOLOGY

The specific name is derived from Greek word “xanthos” meaning “yellow” and Latin word “pes” meaning “leg” and refers to the leg coloration.

## DESCRIPTION

Measurements (male/female): Carapace length 1.5-1.7/1.7-2.2, width 1.2-1.3/1.4-1.6, height 0.6/0.7. Abdomen length 1.7-2.1/1.8-2.6, width 1.2-1.5/1.4-2.3. Eye field length 0.8/0.8, anterior width 1.0/1.1, posterior width 1.1/1.2.

Male. Carapace dark brown to black, eye field punctate reticulate, with metallic lustre. Brown bristles near anterior eyes. White median band on thorax, light lines along lateral margins of carapace. Chelicerae, labium, maxillae and sternum brown. Abdomen dark brown, covered with brownish hairs. White hairs form longitudinal light belt on dorsal surface of abdomen. Venter brownish. Spinnerets dark. Legs rather light, yellowish, only in some specimens orange. Pedipalps brown. Embolus sickle-shaped, at its base rounded lobe of bulbus (Figs 138-139). Dorsal tibial apophysis short, triangular (Fig. 141). Apophysis of patella small, pointed (Fig. 140).

Female. Larger than male. Carapace dark brown, with narrow light bands at lateral margins. Brown and greyish hairs cover carapace, longer setae on ocular area, light median line on thorax. Maxillae and labium brown with yellowish margins. Sternum almost black. Abdomen black with white pattern (Fig. 142). Venter greyish. Anterior spinnerets yellowish, posterior with dark tips. Legs yellow. Epigyne shown in Figs 143-144. Copulatory openings situated in deep sclerotized cavities (Fig. 145).

## REMARK

This species belongs to the *crudeni* species group (WESOŁOWSKA 1986).

## ACKNOWLEDGEMENTS

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