

DESCRIPTION OF A NEW SPECIES OF *HARMOCHIRUS* SIMON (ARANEAE: SALTICIDAE) FROM SOUTH INDIA

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ABSTRACT: A new species of jumping spiders from the genus *Harmochirus* Simon, namely *Harmochirus exaggeratus* sp.nov. is described from Chennai, India. Morphological characters and illustrations of the genitalia are provided.

KEY WORDS: *Harmochirus exaggeratus* sp. nov., new species, Salticidae, South India.

Genus *Harmochirus* has been placed under the group Harmochireae (Zabka, 1991; Logunov, 2001). Genus *Harmochirus* is currently known by eight species worldwide (WSC, 2014) of which three species are known from India namely *Harmochirus brachiatus* (Thorell, 1877), *Harmochirus lloydi* Narayan, 1915 and *Harmochirus zabkai* Logunov, 2001 (Keswani et al., 2012). See Logunov (2001) for diagnostic characters of this genus.

Specimens were collected as part of spider diversity study within the Madras Christian College campus. The campus encloses a scrub jungle with an expanse of 365 acres. In this paper a new species *Harmochirus exaggeratus* sp. nov. is being described from Chennai, South India.

MATERIALS AND METHODS

Live specimens were photographed using DSLR Nikon D60, 18-55mm. Specimens were preserved in 70% alcohol and later examined using a Leica S8APO stereoscopic microscope, photographs were obtained using Leica MC120 HD camera with LAS core software. Male palps were detached, examined and studied. Female genitalia were excised using fine surgical scalpel. The epigyne was then cleared in 10% KOH aqueous solution. USB digital microscope with micro-measure software was used for making measurements. All specimens are deposited in National Centre for Biological Sciences (NCBS), Bangalore, Karnataka, India. Descriptions are based on fresh specimen. All measurements are in mm (millimeters). Leg measurements are given as total length (femur, patella, tibia, metatarsus, tarsus).

Abbreviations used: ALE - anterior lateral eyes, AME - anterior median eyes, PLE - posterior lateral eyes, PME - posterior median eyes, AME-AME - mutual distance between eyes, E - embolus, MP - membranous peak, RTA - retrolateral tibial apophysis, S - spermathecae, SD - sperm duct, CO - copulatory opening, CD - copulatory duct, FD - fertilization ducts.

RESULTS

Genus *Harmochirus* Simon *Harmochirus exaggeratus* sp. nov.

(Figs. 1-26)

Type material: Holotype - male, Scrub jungle regions, Madras Christian

College, Tamil Nadu, India (12°91'60.41" N, 80°12'59.61" E, 32m), 27.ii.2014, coll. John Caleb T.D. (NCBS-QA471).

Allotype: female, 12.viii.2013 (NCBS-QA472) coll. John Caleb T.D. (GPS data same as holotype).

Paratypes: 1 male, 10.vi.2013 (NCBS-QA468); 1 male 19.vii.2013 (NCBS-QA470); 1 female 27.vi.2013 (NCBS-QA473) coll. John Caleb T.D. (GPS data same as holotype).

Diagnosis: This species is related to *H. brachiatus* (Thorell) and *H. zabkai* Logunov but can be distinguished by the palp structure with short and slightly thick embolus (Figs. 21, 24) (whereas longer in *H. brachiatus* and *H. zabkai*), position of the membranous peak on tegulum situated at retrolateral region (Figs. 21, 24) (whereas near base of origin of sperm duct in *H. brachiatus* and *H. zabkai*) and by structure of spermathecae and path of copulatory ducts in females (Fig. 26). General body morphology differs in coloration, the carapace with two spots of shining scales dorsally (Figs. 1-3, 7-8) (absent in other known species). Abdomen with faint chevron shaped markings (Figs. 2, 8). Femur I with transverse white stripe ventrally (Figs. 4, 10). In males, clypeus covered with sparse, loose golden scales, devoid of white hairs (Figs. 4, 5) (white hairs present in *H. luculentus* Simon, 1885); metatarsus I almost as long as femur I (Figs. 17, 18) (metatarsus comparatively shorter in other known species); retrolateral spines on tibia I placed distally (whereas arranged across tibia in *H. brachiatus*).

Etymology: Specific name refers to the 'exaggerated' characters of the genus *Harmochirus* which the species bears.

Description:

Male: Carapace: 1.68 long, 1.60 wide; Abdomen: 1.68 long, 1.55 wide; Total length: 3.36

Cephalothorax: Short and broad, blackish covered with iridescent hairs and scales (Fig. 1). Clypeus covered with loose golden scales. Anterior eyes surrounded by whitish scales (Figs. 4, 5). Two pale spots, which shine in golden yellow under bright light, present each behind AME's in line with PME's (Figs. 1, 3). Eye size and inter distance between AME 0.36, ALE 0.17, PME 0.07, PLE 0.18; AME-AME 0.03, AME-ALE 0.03, PME-PME 1.39, PME-PLE 0.33, ALE-PLE 0.83. Clypeus height 0.15. Chelicerae black, 2 promargin and 1 retromargin teeth, sternum oval shaped. Leg I robust, long and dark; femur and tibia puffed; femur, patella and tibia with long scale like bristles; metatarsus and tibia thin and long. Femur I with transverse white stripe at its base ventrally (Fig. 4). Tibia I almost as long as Femur I (Figs. 17, 18). Tibia and patella of legs II, III & IV with two longitudinal white stripes, one dorsally and other ventrally (Fig. 1). Leg measurements: I 5.19 (1.41, 0.71, 0.94, 1.37, 0.76); II 2.82 (0.86, 0.37, 0.54, 0.57, 0.48); III 2.90 (1.02, 0.39, 0.56, 0.54, 0.39); IV 3.07 (1.06, 0.32, 0.68, 0.59, 0.42). Leg formula: 1432. Palp reddish brown, covered with paler hairs; palpal patella covered with short white stripes; bulbous almost regular oval, membranous tegular region laterally placed, adjacent to RTA; embolus short and thick; RTA long, strong (Figs. 21, 22).

Abdomen: short, oval with hardened tegument, compressed, covered with sparse white scales. Mid-anterior border with small depression. Faint chevron shaped markings seen on the mid-dorsal line (Figs. 1, 2 & 6).

Female: Carapace: 1.95 long, 1.50 wide; Abdomen 2.43 long, 1.76 wide; Total length 4.38.

Eye measurements: AME 0.43, ALE 0.18, PME 0.07, PLE 0.18, AME-AME 0.05; AME-ALE 0.03; PME-PME 1.52; PME-PLE 0.41; ALE-PLE 1.04; Clypeus height: 0.23. Leg measurements: I 3.94 (1.18, 0.49, 0.78, 0.94, 0.55); II 2.62 (0.77, 0.44,

0.56, 0.53, 0.32); III 2.80 (0.82, 0.54, 0.52, 0.60, 0.32); IV 3.14 (0.96, 0.46, 0.60, 0.74, 0.38) Leg formula: 1432. Coloration pattern as in male but differs in the following (Figs. 7, 8). Clypeus covered by yellowish white hairs, chelicerae with golden scales, sparsely distributed (Fig. 10). Anterior region of abdomen covered with longer hairs. A thin golden line of hairs run along the lateral edge, starting from antero-lateral region to spinnerets (Fig. 11). Epigyne open up in wide pockets leading to long-winded copulatory ducts leading to the spermathecae (Figs. 16, 26)

Distribution: Chennai, India.

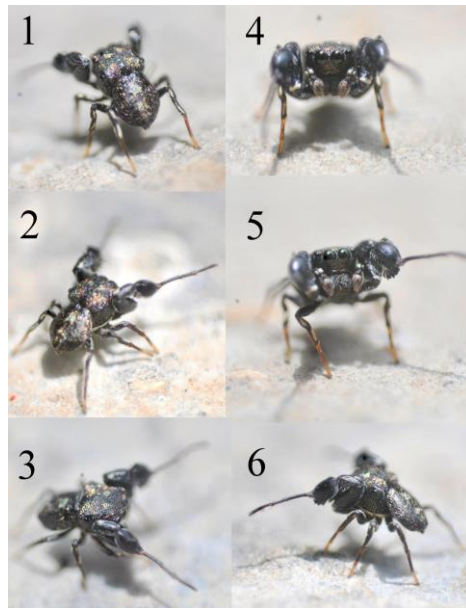
Natural History: Found among grass and litter in the scrub regions of MCC campus.

ACKNOWLEDGEMENTS

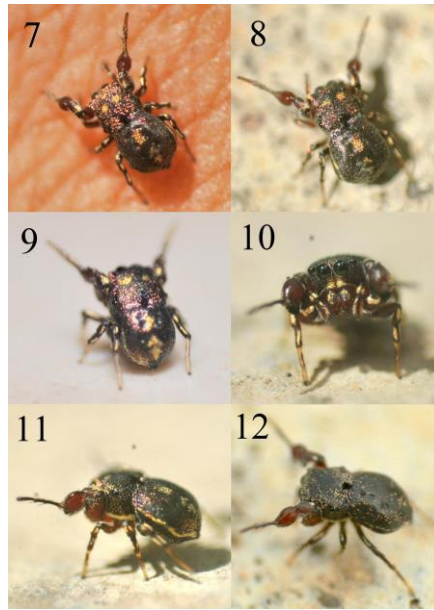
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LITERATURE CITED

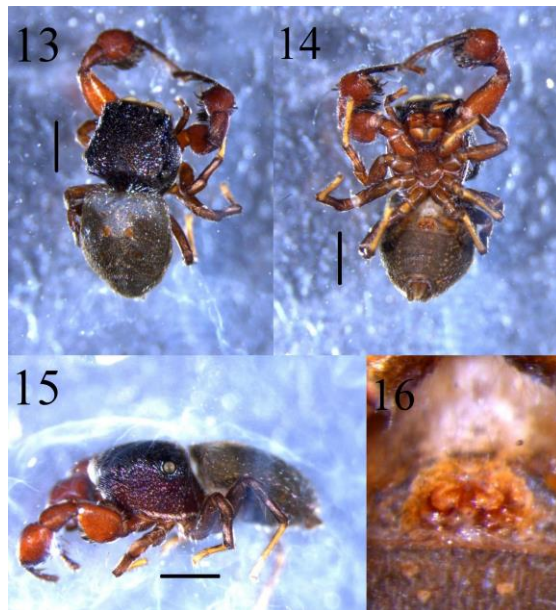
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Figures 1-6. *Harmochirus exaggeratus* sp. nov., 1. Dorsal view of male, 2 & 3. Dorso-lateral view, 4 & 5. Frontal view, 6. Lateral View.



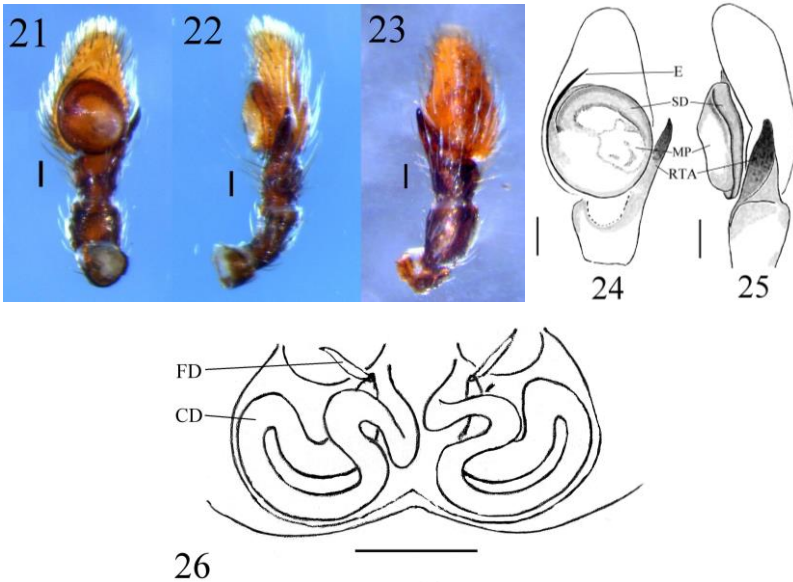
Figures 7-12. *Harmochirus exaggeratus* sp. nov., 7 – 9. Dorsal view of female, 10. Frontal view, 11. Lateral View, 12. Dorso-lateral view of old female.



Figures 13-16. *Harmochirus exaggeratus* sp. nov., 13. Dorsal view of female, 14. Ventral view, 15. Lateral View, 16. Epigyne. Scale bars for Figs. 13-15, 1 mm.



Figures 17-20. *Harmochirus exaggeratus* sp. nov., 17. Male leg I retrolateral view, 18. Male leg I prolateral view, 19. Female leg I retrolateral view, 20. Female leg I prolateral view. Scale bars for Figs. 17-20, 1 mm.



Figures 21-26. *Harmochirus exaggeratus* sp. nov., 21. Male palp ventral view, 22. Palp retro-lateral view, 23. Palp dorsal view, 24. Palp ventral view, 25. Palp retrolateral view, 26. Female, Vulva dorsal view. Scale bars for Figs. 21-26, 0.1 mm.