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New species and distribution records of selenopid spiders of the genus *Hovops* Benoit in Madagascar (Araneae, Selenopidae)

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Abstract

Hovops Benoit is a heterogeneous genus of selenopid spiders that was prior to this study represented by seven species that are endemic to Madagascar. Here, we describe four new species: *H. antakarana* **sp. n.** (♀), *H. ikongo* **sp. n.** (♀), *H. menabe* **sp. n.** (♀), and *H. vezo* **sp. n.** (♀). A map of the new species is provided as well as new records on two of the known species *H. pusillus* (Simon, 1897) and *H. legrasi* (Simon, 1887).

Key words: Wall crab spiders, taxonomy, endemism, Afrotropical Region

Introduction

Hovops is a heterogeneous genus proposed by Benoit (1968) endemic to Madagascar to accommodate five species previously listed under *Selenops* Latreille, 1819. Corronca and Rodriguez Artigas (2011) were the first to revise the genus by adding three new species, listing *H. modestus* (Lenz, 1886) as a "*species inquirenda*" and moving *H. dufouri* (Vinson, 1863) to *Selenops.* They provided a taxonomical key for all the known species. Prior to the present study, the seven species recognized in this genus were: *H. pusillus* (Simon, 1887); *H. betsileo* (Corronca & Rodriguez Artigas, 2011); *H. mariensis* (Strand, 1908); *H. madagascariensis* (Vinson, 1863); *H. merina* (Corronca & Rodriguez Artigas, 2011); *H. legrasi* (Simon, 1887) and *H. lidiae* (Corronca & Rodriguez Artigas, 2011).

Many aspects of the biology of the genus and the species are unknown. Several details of the genitalia of the males and the females have been unknown until the last two years. The opportunity to study material obtained from large collections made in the last 20 years on Madagascar by American and European arachnologists permits us to describe four new species, and to give new distributional records of two of the known species, enlarging their distributional range.

Material and methods

Specimens used in this study were provided by the following institutions: CAS—California Academy of Sciences, San Francisco, USA; MCZ—Museum of Comparative Zoology, Harvard University, Cambridge, USA; and USNM—National Museum of Natural History, Smithsonian Institution, Washington, USA. The palp of the males and the epigynes of the females were dissected in alcohol and cleared in lactic acid (90 %) for 15–20 min in a double boiler. The format of the abbreviations, the spine formulae and the terminology used to describe the male and female genitalia follow those proposed by Corronca (1998). All measurements are in millimetres. The specimens were examined and outstanding characters were photographed with a Nikon Coolpix S10 digital camera mounted on an Olympus stereomicroscope and images were montaged using Adobe Photoshop CS2 software.

Abbreviations used are as follows: ALE—anterior lateral eyes, AME—anterior median eyes, CD—copulatory duct, CO—copulatory openings, d—dorsal, EP—secondary epigynal pockets, Fe—femur, LL—lateral lobe, MF—middle field of epigyne, Mt—metatarsus, Pat+Tib—Patella+Tibia, PLE—posterior lateral eyes, PME—posterior median eyes, pr—prolateral, rt—retrolateral, RTA—retrolateral tibial apophysis, Ta—tarsus, Tib—tibia, v—ventral.

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small spermathecae in posterior position (figs 8d-e, Corronca and Rodriguez Artigas 2011) . . . . . *H. pusillus* (Simon)

5. Sub-rhomboidal MF with a sharp and elongated posterior apex, LL of epigyne well developed and near midline; anterior EP situated at the sides of the CO (Figs 3–5) . . . . . *H. antakarana* **sp. n.**
– MF, LL, CO and EP otherwise 6
6. Sub-circular MF; EP in midline; CO near in anterior position; CD initially straight, then divergent (figs 5d–e, Corronca and Rodriguez Artigas 2011) . . . . . *H. merina* Corronca & Rodriguez Artigas
– Sub-pentagonal MF; EP posterior to midline, with anterior and separated CO; CD diverging from beginning (figs 2e–f, Corronca & Rodriguez Artigas 2011) . . . . . *H. betsileo* Corronca & Rodriguez Artigas
7. MF anterior to the midline of the epigyne. 8
– Sub-hexagonal and elongated MF posterior to midline of epigyne; EP separated in midline and CO separated in anterior position of epigyne (figs 6d–e, Corronca & Rodriguez Artigas 2011). . . . . *H. legrasi* (Simon)
8. EP in the middle portion of the epigyne 9
– EP behind the middle portion of the epigyne 10
9. Sub-pentagonal MF anterior to midline; EP widely separated in midline of epigyne by more than a width of the MF, and CO anterior and close together (figs 3f–g, Corronca & Rodriguez Artigas 2011) . . . . . *H. lidiae* Corronca & Rodriguez Artigas
– Sub-hexagonal MF (Fig. 25); EP separated by less than a width of the MF, and anterior CO scarcely separated (Figs 25–26). . . . . *H. menabe* **sp. n.**
10. Sub-circular MF (Fig. 32); anterior CO separated by more than the half of the width of the MF (Fig. 33); oblique EP (Figs 32–33); CD ducts thin in the beginning and later enlarged forming a large internal lobe and external walls nearly straight (Figs 34, 38) . . . . . *H. vezo* **sp. n.**
– Ovoid MF with the greater cross axis (Fig. 15); anterior CO separated by less than half the width of the MF (Fig. 17); straight EP (Figs 15–16); CD thin in the beginning and later with a deep notch that widens to form a large internal lobe and external walls curved (Fig. 17) . . . . . *H. ikongo* **sp. n.**

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