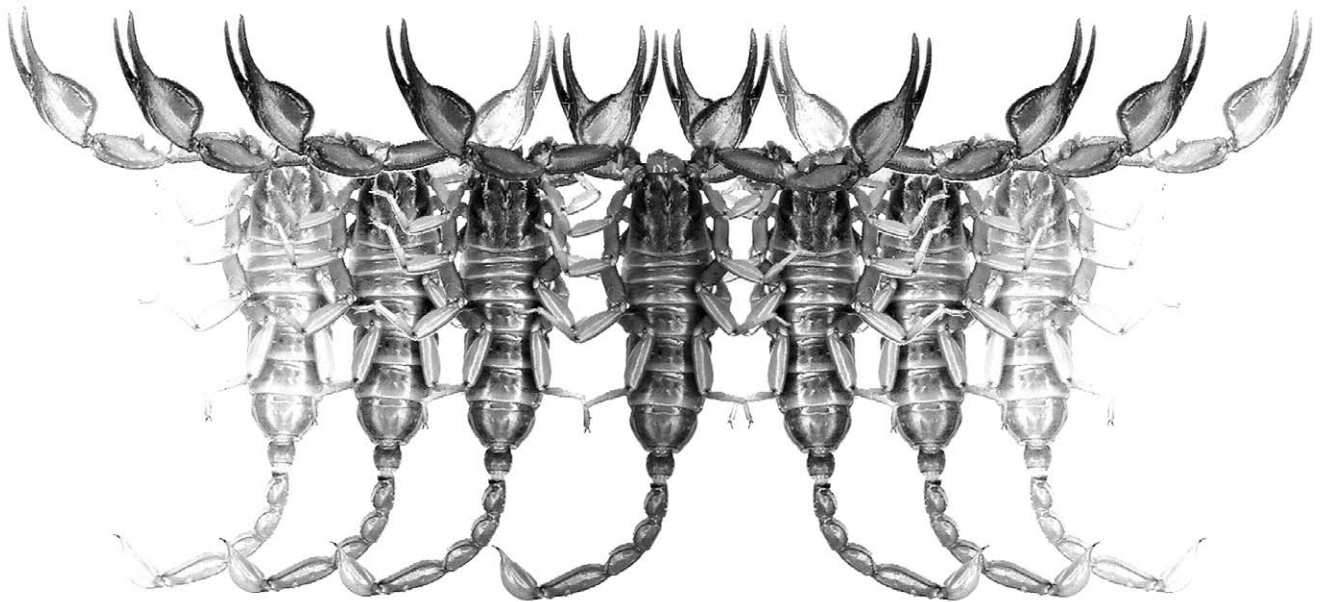


Euscorpius

Occasional Publications in Scorpiology



**Scorpions of Sri Lanka (Arachnida, Scorpiones). Part II.
Family Hormuridae**

**František Kovařík, Kithsiri B. Ranawana, V. A. Sanjeewa Jayarathne,
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<http://zoobank.org/urn:lsid:zoobank.org:pub:C9EFE1F7-D1E6-4820-A5A7-5FE940A9033>

Scorpions of Sri Lanka (Arachnida, Scorpiones). Part II. Family Hormuridae

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Summary

Liocheles australasiae (Fabricius, 1775) is reported for the first time from Sri Lanka. Sri Lankan population is fully complemented with color photos of live and preserved females, as well as its habitat.

Introduction

Kovařík et al. (2016) summarized data about all 18 known scorpion species of Sri Lanka. These species are members of three families; Buthidae (13 species of genera *Buthoscorpio* Werner, 1936; *Charmus* Karsch, 1879; *Hottentotta* Birula, 1908; *Isometrus* Ehrenberg, 1828; *Lychas* C. L. Koch, 1845; and *Reddyanus* Vachon, 1972), Chaerilidae Pocock, 1893 (one species, *Chaerilus ceylonensis* Pocock, 1894), and Scorpionidae Latreille, 1802 (4 species of the genus *Heterometrus* Ehrenberg, 1828).

Alexander Ullrich near a hotel in the coastal town of Bentota during his vacation in October 2016 discovered and photographed (Fig. 13) scorpion specimens, which are members of family Hormuridae Laurie, 1896. This family has not been found in Sri Lanka yet. He contacted the first author who informed Prof. Ranawana from University of Peradeniya who arranged permissions for collecting and exporting three specimens from the population. V. A. Sanjeewa Jayarathne from the Wildlife Research Laboratory, University of Peradeniya visited the locality and collected three females from there. He observed more specimens and tried to find a male but all specimens that he saw were females or juveniles. Therefore we can assume that this is a parthenogenetic population, which is common in this species. The first author has a lot of specimens of the species from the area between India and Australia in his collection, but he has males only from Havelock Island (India, Andaman Islands) and Myanmar (Mt. Victoria).

Methods, Material & Abbreviations

Nomenclature and measurements follow Stahnke (1971), Kovařík (2009), and Kovařík & Ojanguren Affilastro (2013), except for trichobothriotaxy (Vachon, 1974).

Specimens examined here were collected and exported legally, via permit No. WL/3/2/79/14 issued by the Department of Wildlife Conservation, Head Office, No. 811/A, Jayanthipura Road, Battaramulla from 24 October 2017. We collected only three specimens needed for taxonomic study of the species.

Systematics

Family **Hormuridae** Laurie, 1896
= Hadogenidae Lourenço, 1999
= Liochelidae Fet & Bechly, 2001 (substitute name for Ischnuridae Simon, 1879)

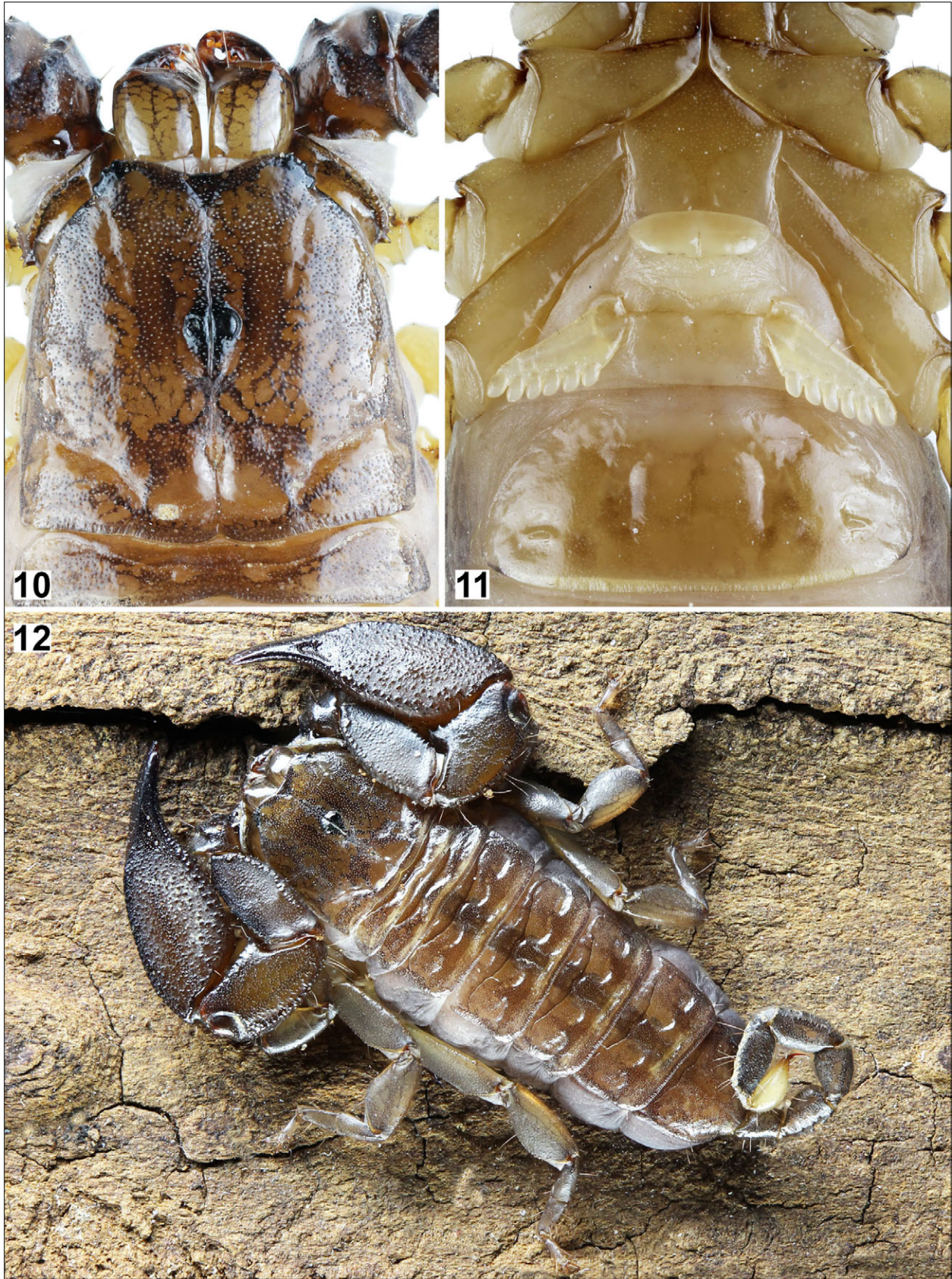
Genus ***Liocheles*** Sundevall, 1833
= *Ischnurus* Koch, 1837
= *Tibetiomachus* Lourenço & Qi, 2006

Liocheles australasiae (Fabricius, 1775)
(Figs. 1–14)

Liocheles australasiae: Fet, 2000: 395–397 (in part, complete reference and synonymy list until 2000); Monod & Prendini, 2014: 25–26.



Figures 1–9: *Liocheles australasiae* from Sri Lanka, pedipalp segments. Chela dorsal (1), external (2) and ventrointernal (3). Femur dorsal (4), external (5) and ventral (6). Patella dorsal (7) and ventral (8). Movable finger (9). Trichobothrial pattern is indicated.



Figures 10–12: *Liocheles australasiae* from Sri Lanka. Chelicerae, carapace and tergite I (10). Coxosternal area and sternite III (11). Female in vivo habitus (12).



Figures 13–14: *Liocheles australasiae*, the Sri Lankan locality.

TYPE LOCALITY AND TYPE REPOSITORY. "in insulis Oceani pacifi"; BMNH (The Natural History Museum, London, United Kingdom).

SRI LANKAN MATERIAL EXAMINED. Sri Lanka, Southern Province, Galle District, Bentota, 06°24'27.5"N 80°01'29.2"E, 3 m a.s.l., 18.XII.2016, 3♀, leg. V. A. Sanjeeva Jayarathne, FKCP (the first author collection). The specimens were found inside a stone wall and under old bark of branches and in dry leaves on the land near a domestic tea cultivation field; also under the flower pots in home garden.

DIAGNOSIS. Total length 22–36 mm. Patella of pedipalps with 3 ventral trichobothria (Fig. 3); trichobothrium *Eb3* located in base of chela near trichobothria *Db*, *Eb1*, *Eb2*, and *Esb* (Fig. 2). Color uniformly reddish to yellowish brown, telson always yellow. Not troglobitic, median and three lateral pigmented eyes present. Chelicerae yellowish brown, reticulate. Carapace lacks carinae, punctate and bears straight median longitudinal groove. Pectinal teeth number 4–8. Metasomal segments sparsely setose and finely punctate, with smooth and rounded dorsal and lateral margins. Pedipalps covered by granules, dorsal surface of chela and femur of pedipalp granulated densely by bigger granules. Mainly ventral surface of pedipalp punctate (Figs. 1–8). In contrast to female, in males fingers of chela conspicuously flexed, but most of populations are parthenogenetic.

References

- FET, V. 2000. Family Ischnuridae Simon, 1879. Pp. 383–408 in Fet, V., W. D. Sissom, G. Lowe & M. E. Braunwalder. *Catalog of the Scorpions of the World (1758–1998)*. New York: The New York Entomological Society, 689 pp.
- KOVAŘÍK, F. 2009. *Illustrated catalog of scorpions. Part I. Introductory remarks; keys to families and genera; subfamily Scorpioninae with keys to Heterometrus and Pandinus species*. Prague: Clairon Production, 170 pp.
- KOVAŘÍK, F., G. LOWE, K. B. RANAWANA, D. HOFEREK, V. A. SANJEEVA JAYARATHNE, J. PLÍŠKOVÁ & F. ŠTÁHLAVSKÝ. 2016. Scorpions of Sri Lanka (Arachnida, Scorpiones: Buthidae, Chaerilidae, Scorpionidae) with description of four new species of the genera *Charmus* Karsch, 1879 and *Reddyanus* Vachon, 1972 stat. n.. *Euscorpius*, 220: 1–133.
- KOVAŘÍK, F. & A. A. OJANGUREN AFFILASTRO. 2013. *Illustrated catalog of scorpions. Part II. Bothriuridae; Chaerilidae; Buthidae I. Genera Compsobuthus, Hottentotta, Isometrus, Lychas, and Sassanidotus*. Prague: Clairon Production, 400 pp.
- MONOD, L. & L. PRENDINI. 2014. Evidence for Eurogondwana: the roles of dispersal, extinction and vicariance in the evolution and biogeography of Indo-Pacific Hormuridae (Scorpiones: Scorpionoidea). *Cladistic*, 2014: 1–41.
- STAHNKE, H. L. 1971. Scorpion nomenclature and mensuration. *Entomological News*, 81: 297–316.
- VACHON, M. 1974. Études des caractères utilisés pour classer les familles et les genres des scorpions (Arachnides). 1. La trichobothriotaxie en arachnologie. Sigles trichobothriaux et types de trichobothriotaxie chez les Scorpions. *Bulletin du Muséum national d'Histoire naturelle*, 3e série, 140 (Zoologie, 104): 857–958.