Українська ентомофауністика 2020, 11(2) : 1–3 Дата публікації: 31.08.2019

DOI placeholder

zoobank placeholder

Tetraponera modesta, a new pseudomyrmecine ant record (Hymenoptera: Formicidae) for Sri Lanka

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Dias, R.K.S., Udayakantha, W.S., Thotagamuwa, A. & Akbar, S.A. *Tetraponera modesta*, a new pseudomyrmecine ant record (Hymenoptera: Formicidae) for Sri Lanka. Summary. *Tetraponera modesta* (F. Smith, 1860) is herewith recorded for the first time from Sri Lanka. With this addition number of known Sri Lankan species for the genus becomes five. The other four species are *Tetraponera allaborans* (Walker, 1859), *Tetraponera nigra* (Jerdon, 1851), *Tetraponera nitida* (Smith, 1860), and *Tetraponera rufonigra* (Jerdon, 1851). Among the known regional species, *T. modesta* is easily separable by smaller size, yellow to orange brown colouration of the head and mesosoma, and relatively slender petiole.

Key words: ants, new record, Pseudomyrmecinae, Sri Lanka, *Tetraponera*.

Діас, Р.К.С., Удаяканта, В.С., Тотагамува, А. та Акбар, С.А. *Tetraponera modesta*, перша знахідка виду мурашки-псевдомірміцини (Hymenoptera: Formicidae) на Шрі-Ланці. Резюме. Уперше з Шрі-Ланки зареєстровано *Tetraponera modesta* (Ф. Сміт, 1860). Завдяки цьому кількість відомих з Шрі-Ланки видів роду сягає п'яти. Інші чотири види - *Tetraponera allaborans* (Walker, 1859), *T. nigra* (Jerdon, 1851), *T. nitida* (Smith, 1860) і *T. rufonigra* (Jerdon, 1851). Серед відомих рз регону видів *T. modesta* легко відрізняється меншими розмірами, жовтим до жовтогарячо-коричневого забарвленням голови та мезосоми та відносно тонким стебельцем.

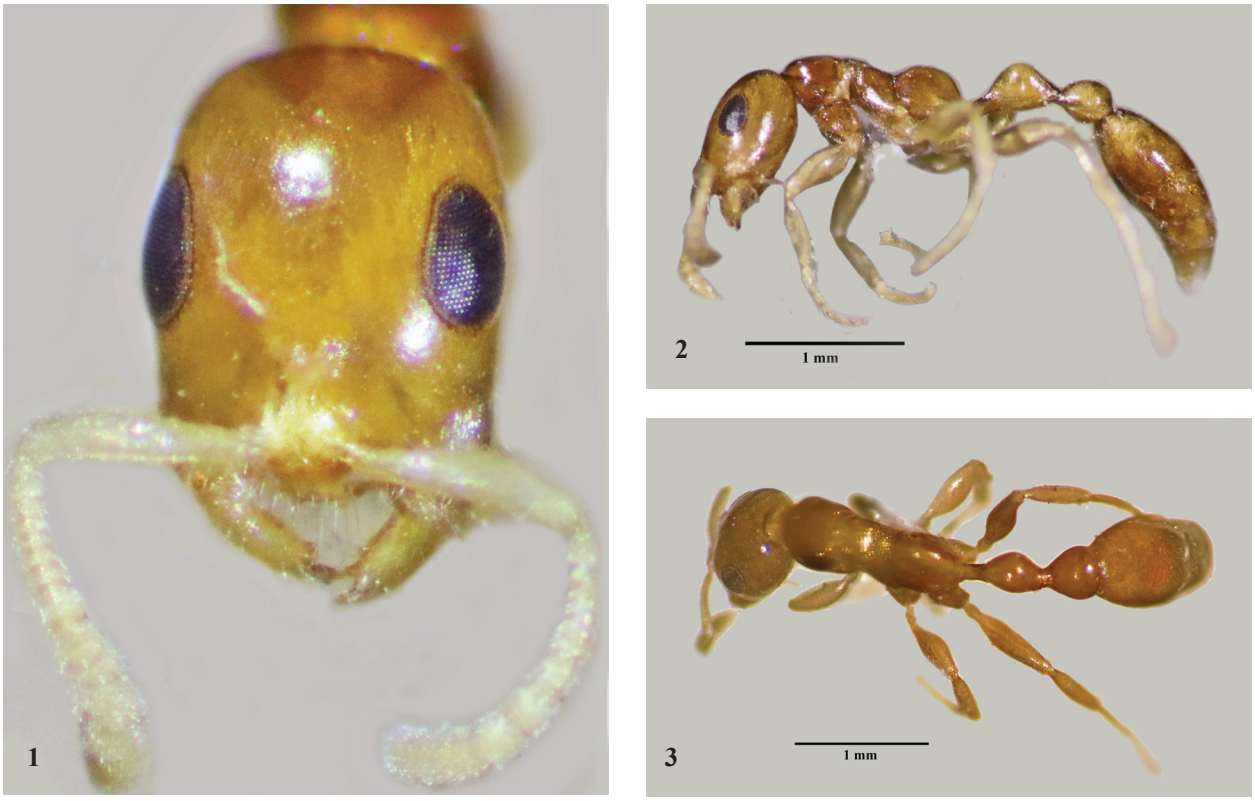
Key words: мурашки, нові знахідки, Pseudomyrmecinae, Шрі-Ланка, *Tetraponera*.

Introduction

The arboreal ant genus *Tetraponera* consists of ants with large eyes and slender bodies. These mostly inhabit hollow structures like thorns, and branches, of plants known as myrmecophytes (Young et al., 1996); share mutualistic relationships with those plants as well as other organisms (Speight et al., 2008). The genus is currently represented by 93 valid extant species, 16 valid subspecies and 7 valid fossil species (AntCat, 2020), distributed throughout the Paleotropics (Ward, 2001). Among the recent published work on the genus, Ward (2001, 2006, 2009) is the most noteworthy and include comprehensive revisions with detailing of most of the formal species groups. Regional species keys of Xu & Chai, (2004) for China; Terayama (2009) for Taiwan; Bharti & Akbar (2014) for India are also pertinent to the present study. In Sri Lanka several papers have detailed Systematics and ecological behaviour of pseudomyrmecine ants (Dias, 2014; Dias & Rajapaksa, 2016; Dias & Fernando, 2017). Four species belonging to the genus *Tetraponera* are known from Sri Lanka; *Tetraponera allaborans* (Walker, 1859), *Tetraponera nigra* (Jerdon, 1851), *Tetraponera nitida* (Smith, 1860), and *Tetraponera rufonigra* (Jerdon, 1851). We herewith add *Tetraponera modesta* (F. Smith, 1860) to the species list of the country, increasing the number of known species to five. A brief species diagnosis and collection locality of the species is provided.

Material and methods

Specimens collected from colonies were preserved in 85% ethanol and dry mounted. Adult morphology of dry-mounted specimens was examined under Zeiss STEMI 305 stereo-microscope. Terminology and abbreviations are given according to Ward (2001) except for the total length (TL). Total length (TL = total body length from anterior extremity of the clypeus to tip of the gaster), Head length (HL = midline length of head from the posterior margin



Figs 1–3: *Tetraponera modesta* (F. Smith, 1860) 1— head in anterior view; 2 — habitus, lateral view; 3 — same, dorsal view.

of the head to the anterior extremity of the clypeus), Head width (HW = maximum width of the head, including the eyes) and scape length (SL = length of the first antennal segment) were measured in millimeters using a ruler or a calibrated micrometer eye piece fitted to the low power stereomicroscope. Cephalic index (HW/ HL), relative eye length (EL/ HL) and scape index (scape length/ HW) were calculated for each species. Images were produced under Zeiss STEMI 305 stereo-microscope using an attached Axiocam 105 colour digital camera. Images were processed in Adobe Photoshop software. Dry mounted specimens were deposited at the Regional Centre for Asian Ant Research (RCAAR), University of Kelaniya, Sri Lanka.

Results

Hymenoptera: Formicidae: Pseudomyrmecinae

Tetraponera modesta (F. Smith, 1860) (Figs 1-3)

Material examined: Sri Lanka, Kalutara District, Gulana Kanda, 6°35'01.7" N 80°00'36.7" E, 31 m a.s.l., a colony collected from a rubber firewood in 2017, 7 workers (A. Thotagamuwa leg.) (RCAAR).

Smaller species, body colour yellow to light brownish orange, appendages are of pale yellow, body smooth and shiny, pilosity sparse. Pronotal lateral margins convex dorsally and of soft-edged. Metanotal groove distinct. Propodeum relatively raised and narrow. Petiole short and relatively slender. Petiolar node proportionately wider and taller in profile. Post-petiolar node slightly shorter and smaller (appears as a scale) in profile. Gaster stout, elongate with a well-developed sting. Compared with the types, the specimens from Sri Lanka have petiolar node inflated and post-petiole rather narrow.

Measurements: TL: 4.0–4.21, HL: 0.84–0.90, HW: 0.68–0.74, SL: 0.42–0.46, CI: 79.1–85.7, REL: 28.9-33.3, SI: 60–65.7 (n=7).

Discussion: *Tetraponera modesta* belongs to the allaborans species group. Within the species group, *modesta* complex consist of three species (*T. crassiuscula, T. extenuata* and *T. modesta*). The diagnostic features attributed to these three species are rather tenuous (Ward, 2001). Further specimen collection as nest series with all castes will eventually help to diagnose, whether the three species are over-splits or capable of retaining valid status.

Acknowledgements

Mr. Krishan Rajapaksa is thanked for processing the images.

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Received 21.06.2020 Accepted 27.08.2020 Published 31.08.2020