Zootaxa 3860 (3): 291–297
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3860.3.7
http://zoobank.org/urn:lsid:zoobank.org:pub:6CBDCD0E-5016-4737-BC1B-80A409C996E6

Moczariella, a bizarre new genus of Mesitiinae (Hymenoptera, Bethylidae) from Arab Peninsula

DIEGO N. BARBOSA[1] & CELSO O. AZEVEDO

Universidade Federal do Espírito Santo, Departamento de Biologia, Av. Fernando Ferrari 514, Goiabeiras, 29.075-910, Vitória, ES, Brazil. E-mail: barbosa.laelius@gmail.com; bethylidae@gmail.com

[1]Corresponding author. E-mail: barbosa.laelius@gmail.com

Abstract

Mesitiinae include 203 species classified in 22 genera and four tribes. In this work we proposed a new genus. *Moczariella centenaria* Barbosa & Azevedo **gen. et sp. nov.** are described from United Arab Emirates. The main diagnostic characteristics is body wholly unfoveolate, clypeus without lateral lobes, post-occipital depression present, propodeum with discal carinae incomplete, and without posterior one, propodeal spiracle placed laterally, claws single, and genital basal ring with dorsal half distinctly longer than ventral one.

Key words: Bethylidae, Mesitiinae, new genus

Introduction

While sorting more than 40,000 specimens of flat wasps Bethylidae from United Arab Emirates, we found a sample containing a single unusual specimen which attracted our attention. Our first impression is that this bizarre specimen could represent something between Epyrinae and Mesitiinae. That is because it has the general sculpture weak and the propodeal disc without posterior spine as Epyrinae. However a second look we addressed it to Mesitiinae mainly because it has the second metasomal segment large, the occiput depressed, the propodeal disc with median depression, and the notauli strongly convergent posterad. Besides, this specimen has the clypeus without lateral lobes and head subtriangular in profile. Thus it displays a combination of characters which does not fit any of the known genera Mesitiinae.

Given this scenario, the primary aim of this work is to describe this new genus, as well as to compare it with the other genera of the Mesitiinae.

Material and methods

The material was collected in a desert area of Arab Peninsula, as part of the project "*United Arab Emirates Insect Inventory*", which was coordinated by Anthonius van Harten. It will be deposited at Entomological Collection of Universidade Federal do Espírito Santo in Vitória, Brazil.

Terminology. The terms applied to the structures follow Barbosa and Azevedo (2009), DuPorte (1965), Evans (1964), Gibson (1986), Mikó *et al.* (2007), Móczár (1970a), Richards (1977), and Ronquist and Nordlander (1989). The ones related to the integument follow Harris (1979). The abbreviation: VOL, vertex-ocular line in dorsal view.

Description. The descriptions and key were elaborated with DELTA (Descriptive Language for Taxonomy) according to Dallwitz *et al.* (1993). The genera of Mesitiinae are identified using the key proposed by Argaman (2003).

Illustration. The illustrations were obtained using Leica MZ80 Stereo Microscope. Images were obtained using Leica MD2500 Microscope magnifying glass attached to a Leica DFC 495 video camera captured using

Accepted by A. Lelej: 22 Aug. 2014; published: 5 Sept. 2014

The specimen here studied has all the characters cited above, so that we concluded it is a Mesitiinae.

Argaman (2003) proposed a tribal classification for Mesitiinae. He divided the subfamily into four tribes, namely Domonkosini, Heterocoelini, Mesitiini and Triglenusini. Thus the second step was to recognize in which tribe the genus belongs.

The specimen has the body surface slightly foveolate, the head longer than wide, the ocelli very small, the pronotal and mesoscutal without longitudinal sulcus, the propodeal disc with lateral carinae parallel to median one, without posterior spines, the metasoma with tergite II coriaceous, the hypopygium with posterior margin convex, and the genitalia with paramere dorsal arm wider than ventral. This combination of characteristics addresses it to Triglenusini. This genus is very distinct from the other three genera of the tribe. It has only 10 species distributed in *Triglenus*, *Pseudomesitius* and *Bradepyris*, genera already cited above by their unusual features.

The final step was to recognize the genus of the specimen in the tribe. *Triglenus*, *Pseudomesitius* and *Bradepyris* have the clypeus with lateral lobes, the post-occipital depression absent, the propodeal disc with all discal carinae complete, with lateral sublateral and posterior carinae, the propodeal spiracle placed dorsally, the claws bifid, and the genitalia with basal ring with dorsal half almost as long as ventral half. Our specimen instead has the clypeus without lateral lobes, the post-occipital depression present, the propodeal disc with all discal carinae incomplete, without lateral sublateral and posterior carinae, the propodeal spiracle placed laterally, the claws single, and the genitalia with basal ring with dorsal half distinctly longer than ventral half. Thus we concluded to be a new genus.

Acknowledgments

We thanks to Antonius Van Harten to provide the analyzed material. We also acknowledge grants from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), #473386/2008-9 and #620064/2006-4, the Taxonomy program, #563953/05-5, and #562224/2010-6 Fundação de Amparo à Pesquisa do Espírito Santo (FAPES), #3935842/2007 and #41106407/2008, for the scholarships granted to the first author and CNPq, #306231/2007-7 and #301669/2010-4, for the scholarships granted to the second author. We thank two anonymous reviewers for the useful suggestions.

References

Argaman, Q. (2003) Generic synopsis of Mesitinae [*sic*] Kieffer, 1914 (Hymenoptera: Bethylidae). *Entomofauna*, 24, 61–96.

Barbosa, D.N. & Azevedo, C.O. (2009) *Laelius* Ashmead (Hymenoptera, Bethylidae) from Madagascar, with description of two new species. *Zootaxa*, 2171, 1–14.

Barbosa, D.N. & Azevedo, C.O. (2011) Order Hymenoptera, family Bethylidae, Subfamily Mesitiinae. *In*: van Harten, A. (ed.), *Arthropod fauna of the UAE. Vol. 4.* Dar Al Ummah Printing, Publishing, Distribution & Advertising, Abu Dhabi, pp. 375–404.

Dallwitz, M.J., Paine, T.A. & Zurcher, E.J. (1993) User's Guide to the DELTA System: a General System for Processing Taxonomic Descriptions. 4th Edition. Available from: http://biodiversity.uno.edu/delta/ (accessed 20 August 2006)

DuPorte, E.M. (1965) The lateral and ventral sclerites of the insect thorax. *Canadian Journal of Zoology*, 43, 141–154. http://dx.doi.org/10.1139/z65-012

Evans, H.E. (1964) A synopsis of the American Bethylidae (Hymenoptera, Aculeata). *Bulletin of the Museum of Comparative Zoology*, 132, 183–189.

Gibson, G.A.P. (1986) Mesothoracic skeletomusculature and mechanics of flight and jumping in Eupelminae (Hymenoptera, Chalcidoidea: Eupelmidae). *The Canadian Entomologist*, 118, 691–728. http://dx.doi.org/10.4039/Ent118691-7

Harris, R.A. (1979) A glossary of surface sculpturing. *Occasional Papers in Entomology*, 28, 1–31.

Kieffer, J.J. (1914) Bethylinae. *Das Tierreich*, 41, 228–595.

Mikó, I., Vilhelmsen, L., Johnson, N.F., Masner, L. & Pénzes, Z. (2007) Skelomusculature of Scelionidae (Hymenoptera: Platygastroidea): Head and Mesosoma. *Zootaxa*, 1571, 1–78.

Móczár, L. (1970a) Mesitiinae of world with new genera and species. I. (Hymenoptera: Bethylidae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 16, 175–203.

Móczár, L. (1970b) Mesitiinae of world with new genera and species. II. (Hymenoptera: Bethylidae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 16, 175–203.

Móczár, L, (1970c) New Mesitiinae from Madagascar (Hymenoptera, Bethylidae). *Annales Historico-Naturales Musel*

Nationalis Hungarici, Pars Zoologica, 62, 317–320.
Móczár, L, (1970d) *Parvoculus myrmecophilus* new genus and new species from Kinshasa-Congo (Hymenoptera: Bethylidae). *Opuscula Zoologica*, 10, 151–153.
Móczár, L. (1971a) Mesitiinae of world, genera "*Mesitius* Spinola", *Pilomesitius* Móczár, *Parvoculus* Móczár, *Pycnomesitius* Móczár e *Heterocoelia* Dahlbom. III. (Hymenoptera: Bethylidae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 17, 295–332.
Móczár, L. (1971b) *Pycnomesitius* new genus from Bethylidae (Hymenoptera). *Acta Biologica*, 17, 167–169.
Nagy, C.G. (1972) Taxonomic remarks on Mesitiinae [*sic*] (Hymenoptera, Bethylidae). *Memorie della Societa Entomologica Italiana*, 51, 5–18.
Richards, O.W. (1977) Hymenoptera Introduction and key to families. *In*: *Handbooks for the identification of British Insects*. Vol. 4. Royal Entomological Society de London, Queens Gate, London, pp. 98.
Ronquist, F. & Nordlander, G. (1989) Skeletal morphology of an archaic cynipoid, *Ibalia rufipes* (Hymenoptera: Ibaliidae). *Entomologica Scandinavica*, 33, 1–60.