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## Apterogyninae (Hymenoptera: Bradynobaenidae) from Saudi Arabia, with description of a new species

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### Abstract

Eleven species in three genera from Saudi Arabia are listed. *Macroocula riyadha* Gadallah & Pagliano, **spec. nov.** is described and figured. *Apterogyna mateui* Giner Marí, 1945, *Macroocula nitida nitida* (Bischoff, 1920) are newly recorded from Arabian Peninsula and Saudi Arabia, *Macroocula magna* (Invrea, 1965) is newly recorded from Saudi Arabia.

**Key words:** Apterogyninae, new species, new records, Ibex Reserve National Park, Riyadh, Saudi Arabia

### Introduction

Bradynobaenidae is a widely distributed family, but predominant in the tropical region and absent in the Australian region. It contains 10 genera, 188 species in four subfamilies (Apterogyninae, Bradynobaeninae, Chyphotinae, and Typhoctinae) (Goulet & Hubert 1993, Lelej 2003). Sexual dimorphism is very conspicuous: males alate (rarely with short wings); with mesoscutum, scutellum, metanotum and propodeum are distinct and usually articulating; antenna long; hypopygium (S8) is entirely exposed and usually with three spines, median one usually forms upcurved hook; females apterous, with mesoscutum, scutellum, metanotum and propodeum are indistinct and fused; antenna short; last metasomal tergum with pygidial plate, dentate laterally (Goulet & Hubert 1993, Pagliano 2008). The species of this family are apparently solitary. The natural history of species is unknown, the larvae of single somewhat atypical species are ectoparasitoids of Solifugae (Arachnida), pupation was occurring within the shelter of the host (Goulet & Hubert 1993).

The subfamily Apterogyninae is distributed in the Old World, mainly in Afrotropical region; a few are known from South Europe (Pagliano 2008). Little is known on their biology, some species, particularly of the genus *Macroocula* Panfilov 1954, are nocturnal or crepuscular (Pagliano 2008). Apterogyninae is represented in Arabian Peninsula by three genera: *Apterogyna* Latreille, 1809, *Macroocula* Panfilov, 1954 and *Micatagla* Argaman, 1994 and 16 species, seven of them are distributed in Saudi Arabia (Pagliano 2002, 2004, 2008, 2011).

In the present study a new species, *Macroocula riyadha* Gadallah & Pagliano, **sp. nov.** and *Apterogyna mateui* Giner Marí, 1945, *Macroocula magna* (Invrea, 1965), *M. nitida nitida* (Bischoff, 1920) are newly added to the Arabian fauna from Saudi Arabia.

### Material and methods

The present study is based on 22 specimens collected from the Ibex Reserve National Park, Hutet Beni Tamim, 180 km south of Riyadh region (23°27'N, 46°30'E) and Baha, Amadan Bandaq (20°13'N, 41°14'E) in 2007–2010. The

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## References

- André, E. (1909) Mutillides nouveaux ou imparfaitement connus au Musée royale d'histoire naturelle de Leide. *Notes from the Lyden Museum*, 31, 171–180.
- Argaman, Q. (1994) Generic synopsis of Apterogyninae (Hymenoptera: Apterogynidae). *Folia entomologica Hungarica*, 55, 41–58.
- Bischoff, H. (1920–1921) Monographie der Mutilliden Afrikas. *Archiv für Naturgeschichte*, (1920) 86A (1–3), 1–480; (1921) 86A (4–5), 481–830.
- Dover, C. (1924) The Indian species of *Apterogyna* (Mutillidae). *Entomological Monthly Magazine*, 2, 254–256.
- Harris, R.A. (1979) A glossary of the surface sculpturing. *Occasional Papers of Entomology of the California Department of Food and Agriculture*, 28, 1–31.
- Invrea, F. (1932) Missione scientifica del prof. E. Zavattari nel Fezzan (1931). Mutillidae e Chrysididae (Hymen). *Bollettino della Società Entomologica Italiana*, 64, 96–98.
- Invrea, F. (1950) Nuove forme di *Apterogyna* (Hymenoptera—Apterogyninae). *Doriana*, 1, 1–8.
- Invrea, F. (1953) *Apterogyna* del Sahara francese e di regioni adiacenti (Hymenoptera—Apterogynidae). *Annali del Museo Civico di Storia Naturale di Genova*, 66, 215–235.
- Invrea, F. (1963) Seconda nota su Apterogynidi e Mutillidi dell'Egitto con descrizione di nuovi specie (Hymenoptera: Apterogynidae et Mutillidae). *Memoire della Società Entomologica Italiana*, 42, 5–23.
- Invrea, F. (1965) Missione 1962 dell'Prof. Giuseppe Scorticci nell'Arabia meridionale (Hymenoptera: Apterogynidae, Mutillidae et Chrysididae). *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano*, 104 (1), 59–66.
- Giner Marí, J. (1945) Himenópteros del Sáhara Español. Familias: Sphecidae, Psammocharidae, Apterogynidae y Mutillidae. *Eos*, 21, 215–257.
- Goulet, H. & Hubert, J.F. (1993) *Hymenoptera of the world. An identification guide to families*. Canada Communication Group Publishing, Ottawa, 668 pp.
- Klug, J.C.F. (1829) *Symbolae Physicae seu Icones et Descriptiones Insectorum quae ex Itinere per Africam Borealem et Asiam Occidentalem Friderici Guilelmi Hemprich et Cristiani Godofredi Ehrenberg Studio Novae aut Illustratae redierunt. III, Insectorum. Hymenoptera, Decas Prima*. Berolini, [17] pp. and *Symbolae Physicae seu Icones et Descriptiones Insectorum quae ex Itineribus per Libyam, Aegyptum, Nubiam, Dongalam, Syriam Arabiam et Habbesiniam Publico Institutis sumptu Friderici Guilelmi Hemprich et Cristiani Godofredi Ehrenberg Medicinae et Chirurgiae Doctorum, Studio Annis MDCCXX–MDCCCXXV redierunt. III, Insectorum. Hymenoptera, Decas Prima*. Berolini, 10 pls.
- Latreille, P.A. (1809) Genera Crustaceorum et Insectorum, ecc. *Parisiis et Argentorati*, 4, 121–123.
- Lelej, A. (2003) Review. G. Pagliano. Revisione della sottofamiglia Apterogyninae (Hymenoptera: Bradynobaenidae) Museo Regionale di Scienze Naturali. Torino, 2002, 387 pp. *Entomologicheskoe obozrenie*, 82, 526–527. [in Russian]
- Pagliano, G. (2002) *Revisione della sottofamiglia Apterogyninae (Hymenoptera: Bradynobaenidae)*. Museo Regionale di Scienze Naturali, Torino, 387 pp. [Monografie 34]
- Pagliano, G. (2004) Descrizione di due nuove specie di *Apterogyna* Latreille, 1809 della Penisola Arabica (Insecta, Hymenoptera, Bradynobaenidae). Naturalista Valtellinese. *Atti del Museo Civico di Storia Naturale di Morbegno*, 15, 61–70.
- Pagliano, G. (2008) Order Hymenoptera, family Bradynobaenidae. *Arthropod Fauna of UAE*, 1, 393–402.
- Pagliano, G. (2011) New species and subspecies of Apterogyninae (Insecta, Hymenoptera, Bradynobaenidae) from the Arabian Peninsula. II. Naturalista Valtellinese. *Atti del Museo Civico di Storia Naturale di Morbegno*, 22, 71–89.
- Panfilov, D.V. (1954) [Apterogins (Hymenoptera: Apterogynidae) of the USSR fauna]. *Trudy Zoologicheskogo Instituta AN SSSR*, 15, 146–153. [in Russian]