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FIRST RECORD OF *APOLEPTOMASTIX BICOLORICORNIS* (GIRAULT, 1915) (HYMENOPTERA, ENCYRTIDAE), AS PARASITOID OF THE RICE MEALYBUG, *BREVENNIA REHI* (LINDINGER, 1943) (HEMIPTERA, PSEUDOCOCCIDAE) IN IRAQ

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ABSTRACT

Here we report for the first time the presence of *Apoleptomastix bicoloricornis* (Girault, 1915) (Hymenoptera, Encyrtidae), as parasitoid of the rice mealybug, *Brevennia rehi* (Lindinger, 1943) (Hemiptera, Psedococcidae) in Iraq. Brief notes are provided in distinguishing the parasitoid from other closely allied species.

Keywords: *Apoleptomastix, Brevennia, Echinochloa,* Encyrtidae, Iraq**.**

INTRODUCTION

The rice mealybug, *Brevennia rehi* (Lindinger, 1943) (Hemiptera, Pseudococcidae), is a widely distributed insect throughout rice growing areas. It has a huge host range, particularly in the family Poaceae and occurs in all of the zoogeographic regions of the world (Ben-Dove *et al.,* 2015). It was first reported in Iraq by Bodenheimer (1943) under *Rhizoecus cynodontis* Bodenheimer (1943) on *Cynodon dactylon* (L.) Pers. (Poaceae) at Basra province south of Iraq. Beside its distribution, recently it was collected from Baghdad at Al-Khadraa district where it is common on *Echinochloa colona* (L.) Nink (Poaceae) plant that used to grow in a residential garden.

Echinochloa colona, which is a weed, grows widely in Iraq in moist places, lawns, gardens, vegetable patches, irrigated fields and along irrigation ditches (Hassawy *et al*., 1968).

In this work, we report the first record of *Apoleptomastix bicoloricornis* parasitizing *Brevennia rehi* on *Echinochloa colona* in Baghdad, Iraq.

MATERIALS AND METHODS

The mealybug host was identified as *Brevennia rehi* (Lindinger, 1943) using the taxonomic key by Williams and Granara de Willink (1992). In this study, specimens of encyrtid parasitoids were reared from the rice mealybug feeding on twigs of *Echinochloa colona*.

A total of parasitoid adults 49 female sand 36 males were emerged on September 2002. It was identified as *Apoleptomastix bicoloricornis* (Girault, 1915) (Hymenoptera, Encyrtidae) based on the taxonomic characters of the adult female giving by Noyes and Hayat (1994).

The plates were taken with a Samsung galaxy S4, GT-19500 and used binocular dissecting microscope (MB. MARIOBROMA.SRL, Roma) to magnify the morphological features. Mounted specimens are deposited in the collection of Iraq Natural History Museum.

RESULTS AND DISCUSSION

Reviewing the literature revealed that *Apoleptomastix bicoloricornis* was originally described in Australia by Girault (1915) under the name *Leptomastix bicoloricornis* and synonymized by Kerrich (1982) as *Apoleptomastix bicoloricornis.*

This species is an endoparasitoid of mealybugs, widely distributed in the Afrotropical, Australian and Oriental regions where it is common on *Coccidohystrix insolita* (Green, 1908) (Shamim and Shafee, 1984); *Brevennia rehi* (Noyes and Hayat, 1994); *Heterococcus nigeriensis* Williams, 1961 (Noyes, 2017). More recently, it was reported from Tajikistan, Egypt and Saudi Arabia (Hayat *et al*., 2014).

The following are the diagnostic characters of the parasitoid *Apoleptomastix.bicoloricornis*:

Female (Pl.1): Length 1.70-2.10 mm. Body completely dark brown or black; thorax with scutellum, tegulae and mesopleuron completely black or dark brown. flagellum with dark and pale segments; scape cylindrical, with a pattern of dark brown and whitish markings; Pedicle shorter than first funicular segment , at least about four times as long as broad; funicle six-segmented; club three –segmented; all funicular segments longer than wide. Forewings uniformly hyaline or lightly infuscate, without distinct darker areas basally; marginal vein longer than wide; linea clava not reaching half way across wing, broadly closed posteriorly. Legs with at least hind femora dark brown. Gaster mostly dark brown; ovipositor sheath short or hidden.

Male (Pl.2): Length 1.00-1.20 mm; Generally Similar to female except antenna clothed with setae.

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Plate (1): *Apoleptomastix bicoloricornis* Female

Plate (2): *Apoleptomastix bicoloricornis* Male

LITERATURE CITED

Ben-Dov, Y., Miller, D. R. and Gibson, A. P**.** 2015. ScaleNet. (Available at:. http://www.sel.barc.usda.gov/scalenet/scalenet.htm/ .Accessed July 2015).

Bodenheimer, F. S. 1943. A first survey of the Coccoidae of Iraq. Directorate General of Agriculture. Baghdad, Bulletin, No. (28): 33 pp.

Girault, A.A. 1915. Australian Hymenoptera Chalcidoidea-VII. The family Encyrtidae with descriptions of new genera and species. *Memoirs of the Queenland Museum*, 4: 152.

Hassawy, G.S., Tammimi, S.A. and Al-Izzi, H. 1968. Weeds in Iraq. Ministry of Agriculture Botany Division. *Technical bulletin*, No. 167: 256pp.

Hayat, M., Ahmad, Z. and Khan, F. R. 2014. Encyrtidae (Hymenoptera: Chalcidoidea) from the Kingdom of Saudi Arabia. *Zootaxa*, 3793 (1): 001- 059.

Kerrich, G.J. 1982. Further systematic studies on Tetracnemine Encyrtidae (Hym., Chalcidoidea) including a revision of the genus *Apoanagyrus* Compere. *Journal of Natural History*, 16: 399-430.

Noyes, J. S. 2017. Universal Chalcidoidea Database. World Wide Web electronic publication. Available at: http://www.nhm.ac.uk/chalcidoids. (Accessed 6 May 2017).

Noyes, J. S. and Hayat, M. 1994. *O*riental Mealybug Parasitoids of the Anagyrini (Hymenoptera: Encyrtidae). CAB International, Wallingford. Oxon. Viii+554p.

Shamim, S. M. and Shafee, S. A. 1984. Four new species of Encyrtidae (Hymenoptera) from Bihar, India. *Indian Journal of Systematic Entomology*, 1: 23-28.

Williams, D.J. and Granara de Willink, M.C. 1992. Mealybugs of Central and South America. CAB International, London, England. 635 pp.

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تسجيل جديد *Apoleptomastix bicoloricornis* (Girault, 1915) (Hymenoptera, Encyrtidae) للطفيلي من رتبة غشائية الاجنحة في العراق

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الخلاصة

تم تسجيل تواجد الزنبورالطفيلى *Apoleptomastix bicoloricornis* (Girault, 1915) (Hymenoptera, Encyrtidae) للمرة الاولى في العراق متطفلاً على البق الدقيقى للرز، *Brevennia rehi* (Lindinger, 1943) (Hemiptera, Pseudococcidae) في محافظة بغداد، مع ذكر ملاحظات موجزة لتمييز هذا النوع عن الانواع القريبة له فى نفس الجنس.