

## A new species of genus *Philbyella* China, 1938 (Nogodinidae, Fulgoromorpha, Hemiptera) from Gabal Elba, Egypt

Rawda M. Badawy; Hayam El Hamouly and Rabab F. Sawaby

Entomology Department, Faculty of Science, Ain Shams University  
[rbadawi90@hotmail.com](mailto:rbadawi90@hotmail.com)

**Abstract:** *Philbyella adeiba* is described as a new species from two males and one female which collected from Wadi Adeib (Gabal Elba), family Nogodinidae is recorded as a new from Egypt. The species is characterized by the patches and spots on vertex, pronotum, mesonotum, frons, antennae and ovipositor. The structure of male and female genitalia has distinct features. Detailed description accompanied with figures were given.

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**Key words:** Fulgoromorpha, *Philbyella*, new species, new recorded family and colored images.

### 1. Introduction

Family Nogodinidae faced many changes over 100 years ago; it has been treated by a number of authors as a subfamily of the Issidae up to Emeljanov, 1999 which recognised it as a separate family. Many genera of Nogodinidae transferred to and from other families such as Issidae, Tropicuchidae and Ricaniidae (Gnezdilov & Wilson, 2006) and (Gnezdilov, 2009).

Nogodinidae separated from other 21 planthopper families by cryptically coloured, its reticulate wing venation with the clear patches and the style without lateral tooth (Emeljanov 1999); (Fennah 1982, 1984, 1987); (Gnezdilov 2003, 2007) and (Szwedo & Ski 2010).

Most nogodinids are forest-dwelling insects, commonly found in moist coastal forests. They are plant feeding; some are important pests of crop plants either by direct feeding or by spreading virus and phytoplasma diseases (Wilson & Turner, 2010 and Holzinger et. al. 2003).

According to Fennah, 1987 Family Nogodinidae contains two subfamilies: Gastrininae, a monotypic group (*Gastina* Stall) & Nogodininae that contains 5 tribes (Nogodinini, Bladinini, Pisachini, Varcini & Epacriini). Genus *Philbyella* China, 1938 belongs to the tribe Epacriini, which is differentiated by the triangular shape of the third valvulae of the female ovipositor (Fennah, 1978).

### 3. Material and Methods

Three specimens (2 males & 1 female) are collected from Wadi Adeib (Gabal Elba, 2\6\2010) by malaise trap. Male and female genitalia dissected by using 10% warm KOH solution 10-15 minutes to macerate the abdomen, the rest of the dissected parts was preserved in 70% ethyl alcohol plus few drops of glycerin. The determination of genus used key of Fennah 1978 and the confirmation of new species by Dr. Werner E. Holzinger, Institute for Animal Ecology

and Landscape Planning and Dr. Vladimir M. Gnezdilov, Zoological Institute, Russian Academy of Sciences, Universitetskaya, Petersburg, Russia. The styles, anal tube, aedeagus and ovipositor are figured.

### 3. Results

#### Family Nogodinidae Melichar 1898

Melichar L. 1898 Annalen des k.k. Naturhistorischen Hofmuseums. Wien 13: 197-359.

Diagnosis: Size from 3-13 mm, the antennal base clubbed, separated from the lower margin of eye, flagellum not segmented; lateral ocelli situated outside lateral margins of frons; frons and clypeus with lateral carinae, genae narrow; anterior margin of pronotum usually surpassing level of middle of eye, posterior margin concave or excavate, rarely straight; tegmen broad, with large basal cell, venation dense and regular; 2<sup>nd</sup> hind tarsomere with one apical spine on each side, hind tibiae with subapical spines and lateral ones; 9<sup>th</sup> abdominal tergite long, depressed medially; female anal tube short, ovipositor with third valvulae triangular and flattened, hemispherical, subovoid or wedge-shaped; male genital styles usually longer than broad and flattened in ventral view.

#### Genus *Philbyella* China, 1938

China (1938): Zoological series of field Museum of Natural History XX (32): 427-437.

Diagnosis: Dull brown colour; pronotum slightly wider than head, broader than long (nearly three times as wide as long in middle); tegula large and exposed; tegmina ochraceous about 2.5 times as long as wide at apex of clavus, almost parallel-sided, costal vein and anterior margin of tegmina parallel, apical margin rounded and surpassing the abdomen; ovipositor with third valvulae large, well exposed, rather elongate and triangular, parallel with axis of the body, apical margin long, thin, smooth throughout its length.

This genus is represented in the Middle East by five species.

*Philbyella adeiba* n.sp. (Figs. 1-11 adult male; 12-15 adult female)

Holotype: 1 male, 2/6/2010, Wadi Adeib (Gabal Elba).

The specimen is housed in the collection of Ain Shams University, Faculty of Science, Entomology Department (ASUC).

Description: 8 mm in length.

Head: Vertex rectangular, strongly concave, brownish in colour with a pale yellow midline and two lateral yellowish spots besides two blackish ones, nearly 3 times as wide as long and about  $\frac{2}{3}$  length of pronotum in middle; antennal base brownish yellow with clear yellow spots; compound eyes reddish brown and kidney shape, ocelli red in color; frons slightly widening towards apex with prominent median carina, brownish with dark patches, 1-1.5 as long as wide, two transverse carinae between vertex and frons distinct; clypeus yellowish in color with characteristic light brown patterns and two dark incomplete stripes laterally, median carina clear; rostrum slightly surpassing hind coxae, the terminal segment shorter and thinner than the preceding one, black at tips.

Thorax: pronotum yellowish in color, with pale median carina and 4-6 dark spots on each side, lateral sides of pronotum concave; mesonotum rhomboid-shaped with median carina, yellowish in colour with characteristic 4 dark brown stripes and yellow spots; tegmen with dark brown veins, and 9 irregular brown patches at costal area, venation regular, basal cell obvious; R1, R2 and M veins arising from one base, R2, M and Cu with 2 branches; hind wing hyaline with pale brown veins; legs yellowish in colour with brown stripes especially in fore and mid one, hind tibia with 3 spines laterally;

Abdomen: strongly dorsoventrally compressed, 3<sup>rd</sup>-7<sup>th</sup> abdominal tergites dark in color, pygofer wide, styles symmetrical, narrow at apex with elongated

process, provided with short yellowish hairs internally and distinctly clubbed apically; anal tube large, narrower at base and longer than wide (3:1) laterally, curving at apex ventrally; aedeagus tubular, strongly recurved dorsally, with 6 sharp elongated spines and outer curved small one.

Female length 8.5 mm similar to male in the external morphology except genital segment which elongated, with brown plate provided with dense tuft of white hairs and yellowish spots, 3<sup>rd</sup> valve of ovipositor triangular with sharp elongated 5 teeth, anal tube dark with dense yellowish hairs and parallel-sided.

Specimen examined: Wadi Adeib, Gabal Elba 2/6/2010 (1 male & 1 female) .....ASUC

Etymology: This species is named after the name of Wadi Adeib, where the specimens have been collected.

Local distribution: Wadi Adeib, Gabal Elba.

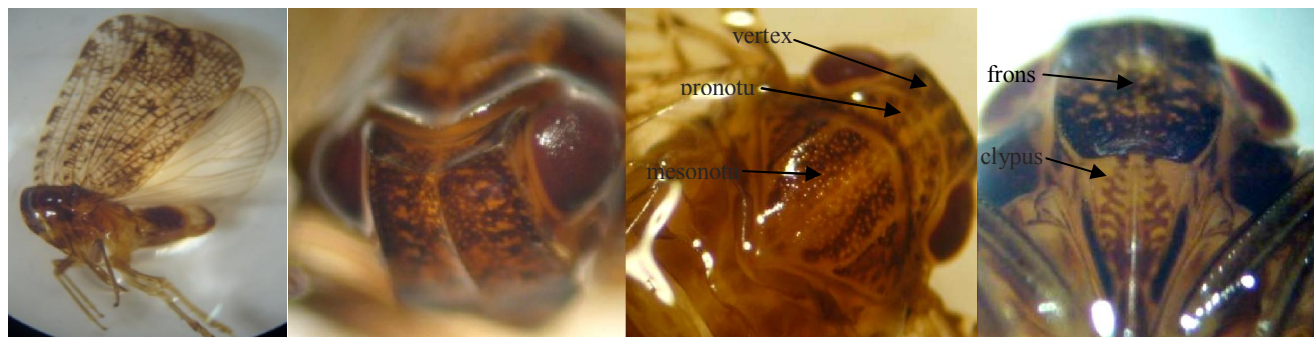
Geographical distribution: Egypt.

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#### Corresponding author

Rawda M. Badawy  
Entomology Department, Faculty of Science, Ain Shams University, Cairo, Egypt  
[rbadawi90@hotmail.com](mailto:rbadawi90@hotmail.com)

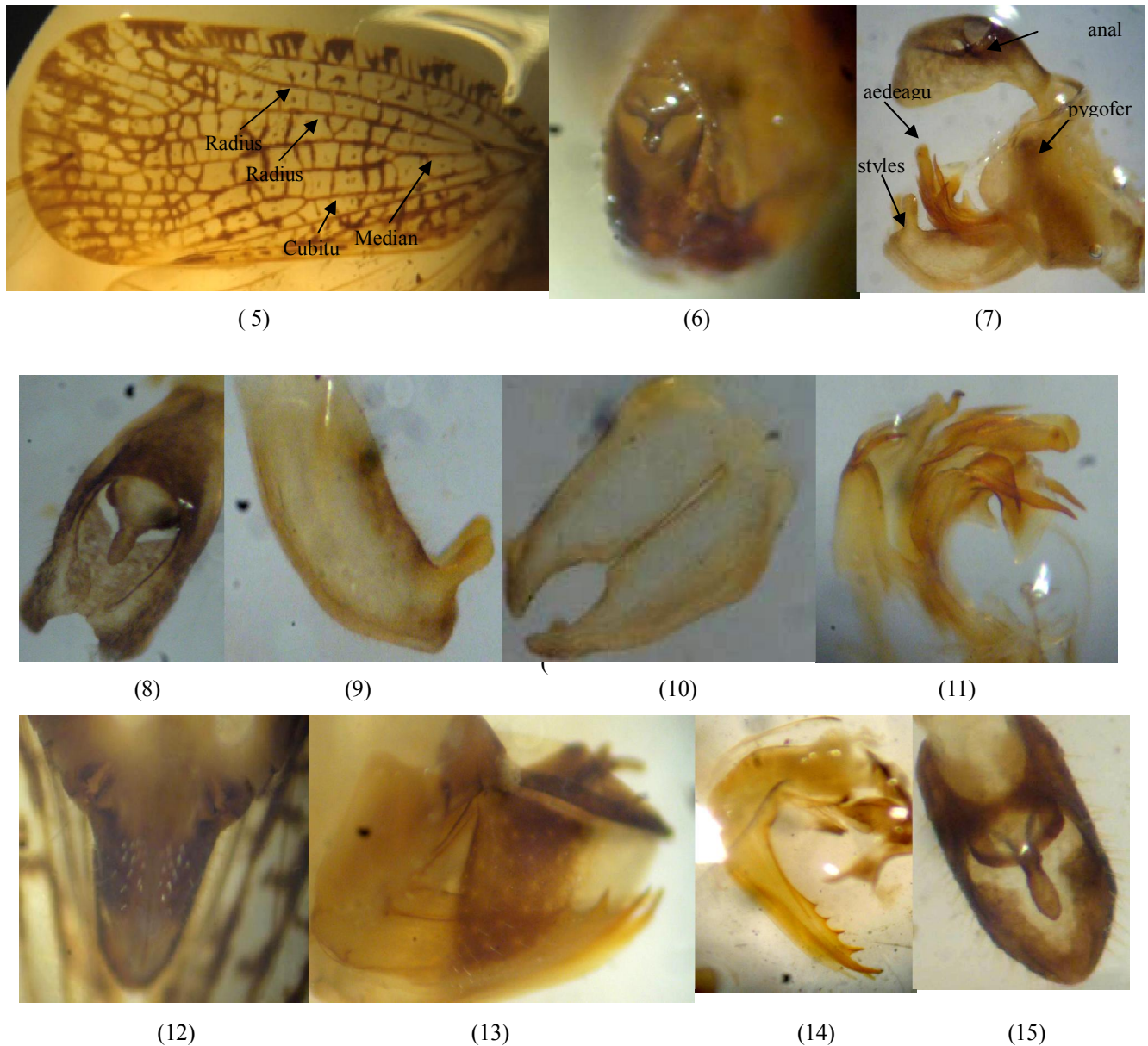


(1)

(2)

(3)

(4)



**Figs. 1-15** *Philbyella adeiba* n.sp. (1-11 adult male; 12-15 adult female): 1. adult lateral view, 2. head anterolateral view, 3. head & thorax dorsal view, 4. frons ventral view, 5. fore wing, 6. abdominal terminalia ventrolaterally, 7. genitalia, 8. anal tube ventrally, 9 & 10. stylus laterally and ventrally, 11. aedeagus, 12. abdominal terminalia ventrally, 13. ovipositor laterally, 14. 3<sup>rd</sup> valve of ovipositor, 15. anal tube ventrally.

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