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GENUS *SINGHALESIA* CHINA AND CARVALHO, 1952 (HEMIPTERA: HETEROPTERA: MIRIDAE) NEW FROM IRAQ

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Abstract

The genus *Singhalesia* China and Carvalho, 1952, is reported from the Iraq- Baghdad for the first time, with a representative species, *Singhalesia indica* Poppius, 1913, belongs to Subfamily Bryocorinae and to the Family Miridae and to the suborder of Heteroptera of order Hemiptera, which collected 16 sixteen insects from Baghdad, Ameria Collected from a rose plant and Abu-Gharib in light traps, this species are a new record in Iraq during the study at 2018 – 2019. Diagnostic characters for the genus are provided with the morphological characters and male genitalia. Used camera Lucida to draw bodies' part and picture by Dino- Lite microscope camera.
Keyword*: Singhalesia,* Bryocorinae, Miridae, Hemiptera, Iraq.

Introduction

The genus *Singhalesia* China and Carvalho, 1952 was erected by China and Carvalho based on the type species: *Engytatus indicus* Poppius, 1913. This little-known plant bug genus contains five species in Sri Lanka and two of which occur in India *Singhalesia obscuricornis* (Poppius) and *S. indicus* (Poppius) (Yeshwanth, 2013). The insect under the study belongs order: Hemiptera, sub order Heteroptera, to family Miridae (Plant bugs), subfamily Bryocorinae. This subfamily is the fourth largest in Miridae with about 170 genera and nearly 1,100 species worldwide (Schuh, 1995). In the Oriental region are known by 60 and 61 genera followed Bryocorinae and Phylinae (Cassis and Schuh, 2012). No single character defines the subfamily as noted by Schuh (1976), but the following combination of characters help in recognition of the group tarsi swollen distally, claws comb-like, membrane of hemelytra with single cell (Schuh and Slater, 1995). In IndiaThe species of the genus *Singhalesia* was associated with Fabaceae (*Stylosanthes fruticosa*) which is a new host record (Yeshwanth, 2013).

Material and Methods

Adult insects were collected by sweeping on herbs, shrubs and trees (Basnagala, *et al*., 2002) and by using light traps (220 volts, 20 watt Black light UVB tubes in Baghdad province, Ameria Collected from a rose plant in and Abu-Gharib in light traps, during 2018-2019, Samples were transferred to lab by plastic case by used smooth brush. date of collection were recorded. Insects Indented by used taxonomic keys, depending on morphological characters and described as in (Linnavuori, 1997; and (Yeshwanth, 2013), Use a Dino- Lite microscope camera to photograph insects, drawing the male genitalia parts by camera Lucida, the measurements of the body were taken by role, as well as in the digital image analysis program (Image J,) (Alsaad & Albahidly, 2018) to compared it in both method.

Preparation of Male genitalia

Male genitalia were dissected using the technique described by (Kelton, 1959; Kerzhner and Konstantinov, 1999). The specimens were used for the study of genitalia. The male specimen was gently supported on a cork piece on its back and with the help of a fine needle the abdomen was detached from the thorax at the junction of the two the abdomen was then transferred to a test tube containing a little milliliters of 10% KOH. This was heated slowly in a water bath till the convection currents were observed in the solution. The abdomen was transferred to a glass cavity dish containing water and the macerated soft tissues were pressed out with the help of a pair of bent needles. After repeated washings in water, the abdomen was transferred to glycerine in a glass cavity dish for further dissection (separation of genital parts from the genital capsule) and observation under a Compound microscope with camera Lucida.

Results and Discussion

Taxonomic status

Order	:	Hemiptera
Suborder	:	Heteroptera
Superfamily	:	Miroidea
Family	:	Miridae
Subfamily	:	Bryocorinae
Genus	:	*Singhalesia*
Species	:	*indica*

Genus: *Singhalesia* China and Carvalho, 1952

Type species: *Engytatus indicus* Poppius, 1913.

Diagnosis: Elongate bugs with base color yellow or testaceous, with reddish markings; eyes black or reddish brown; first segment of antennae barrel shaped, with red or brown band, second segment anteriorly and distally with brown band, mesoscutum and hemelytra with reddish brown markings; dorsal margin of male pygophore with stout erect setae, left paramere S-shaped, vesica narrow, tube-like.

Species *Singhalesia indica* Poppius, 1913

Synonyms:

***Engytatus indicus* Poppius, 1913; *Campyloneuropsis rhianos* Linnavuori, 1997**

- **Adult**: body length 2.37-2.4 mm, Macropterous, small, elongate species, base colour testaceous, with short suberect dense setae, (Fig. 1- A).

- **Head**: 0.38-0.4 mm in length and 0.8-0.84 mm in width, pale brown, vertical shape, transverse, broader than long, frons weakly (fig. 1-B). Rostrum extending to second abdominal segment 0.89-0.9 mm is long.
- **Antenna**: 1.41- 1.51 mm in length, the first segment is 0.16-0.18 mm, barrel-shaped, basal half reddish brown, subequal to width of vertex shorter than the second; second segment is 0.6-0.62 mm, with basal and anterior regions brown, medially yellow; third segment is 0.4-0.44 mm, brown, twice length of first; fourth segment is 0.25-0.27 mm, brown, slightly longer than first segment of antennae, (Fig. 1-C).
- **Thorax**: pronotum 0. 32- 0. 34 mm In length and 0.8-0.84 mm in width, trapezoidal, testaceous color, with prominent collar; lateral margin linear, posterior angles broadly rounded, posterior margin excavate medially across scutellum; scutellum triangular, brown mesally, weakly raised; mesoscutum reddish brown color, broadly exposed, (fig. 1-B).
- **The legs**: testaceous - yellowish in color with short spine-like semierect setae; hind femora flat, tibiae elongate, and claws brown or black, small, recurved, pseudopulvilli broad.
- **The wings**: Hemelytra is 2.24-2.4 mm width, parallel sided, testaceous, shining, markings on cuneal fracture and on posterior region of cuneus, reddish fuscous; wing membrane fuliginous, with small outer triangular and elongate inner cell, (fig.1-D).
- **Abdomen**: is 0.66- 0.7 mm in length, pale green - greenish yellow color, the Pygophore dorsal margin weakly dissected, with long stout setae, (Fig.1-E).
- **Male genitalia**: right paramere small, linear (Fig. 1-F); left paramere S-shaped (Fig. 1-G); Endosome elongate, narrow, conical, tube-like; ductus seminalis narrow reaching apex (Fig. 1-H).
- **Distribution** : Yemen and Iran (Linnavuori, 1997), india and Sri Lanka (Yeshwanth, 2013).
- **Material exam** : 16 adult is Collected from Baghdad province / Ameria Collected from a rose plant in 2/10/2019 and Abu-Gharib in light traps in 6/10/2019.

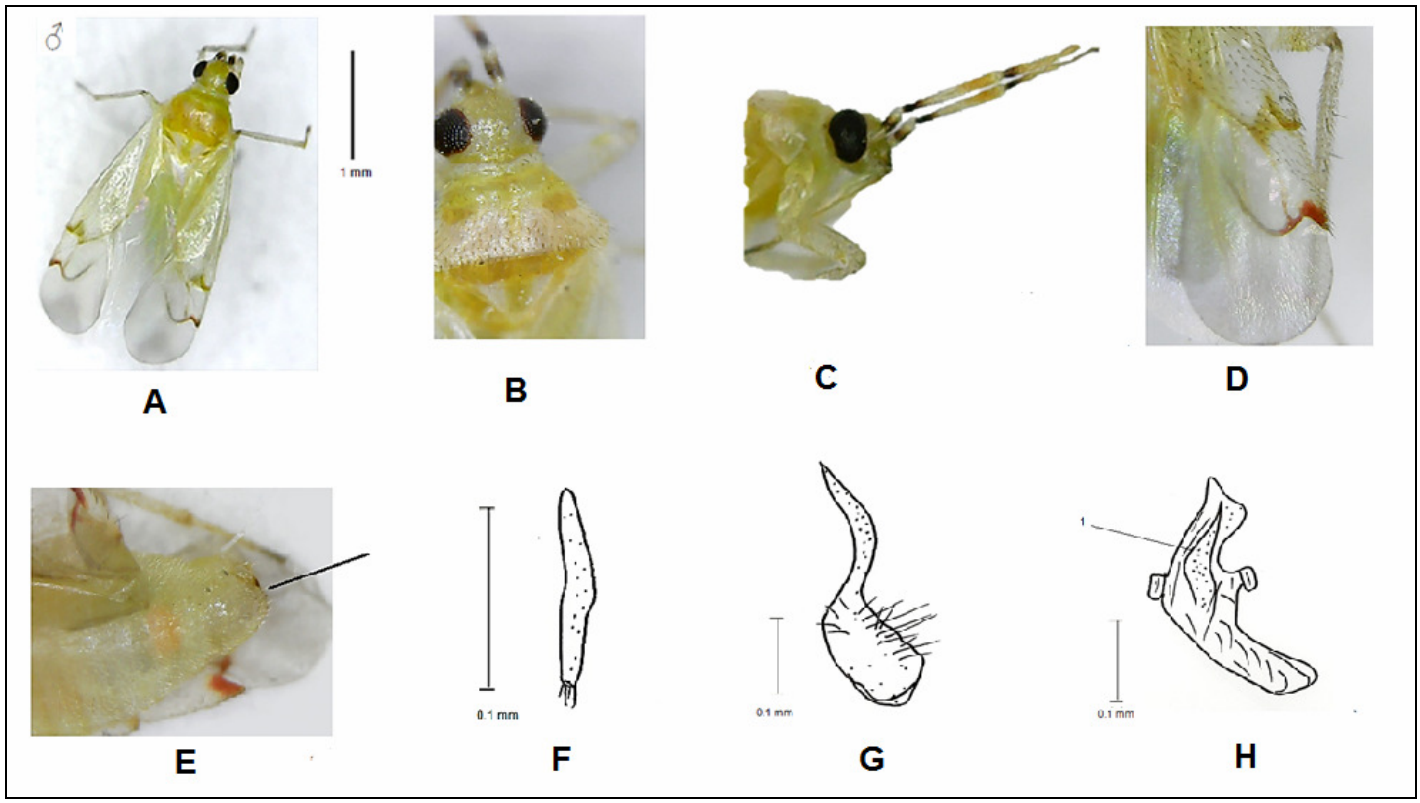

Fig. 1: ***Singhalesia indica*** A- Adult insect (50X); B- Head and pronotum (100X); C- antenna (80X); D- membrane of Hemelytra; E- Pygophore (100X); F- Right paramere; E- Left paramere; F- Endosome 1- ductus seminalis.

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