

## NEW RECORD FOR TWO SPECIES OF *Psallopsis reuter*, 1901 (HEMIPTERA: HETEROPTERA: MIRIDAE) FROM IRAQ

Hussein Ali Mutney Al-Anbaki<sup>1</sup> Iman Mohammed Al-Malo<sup>2</sup>

<sup>1</sup>Dept of Soil Sciences and Water Resources, College of Agriculture, University of Diyala. Iraq.

<sup>2</sup>Dept of Plant Protection, College of Agricultural Engineering Sciences, Univ. of Baghdad, Iraq.

<sup>1</sup>Corresponding author: [humamalanbaki@gmail.com](mailto:humamalanbaki@gmail.com)

### ABSTRACT

New record of two species of genus *Psallopsis* Reuter, 1901 belongs to Subfamily phylinae and to the Family Miridae and to the suborder of Heteroptera of order Hemiptera, these species as *Psallopsis minimus* (Wagner, 1967) and *P. kalidiicola* Konstantinov, 1997, which collected 23 twenty three insects from Baghdad / Al- Husayniya and Abu-Gharib, the other collected 20 twenty insects from Baghdad / Taji and Abu-Gharib and Al- Rashdiya, this species are a new record in Iraq during the study at 2018 – 2019. The insects Indented by used taxonomic keys depended on morphological characters and male genitalia. Used camera Lucida to draw bodies' part and picture by Dino-Lite microscope camera.

**Key word:** *Psallopsis*., phylinae, Miridae, Hemiptera, Iraq.

### تسجيل جديد لنوعين من بق النبات التابع للجنس *Psallopsis reuter*, 1901 (HEMIPTERA:HETEROPTERA: MIRIDAE) في العراق

ايمان محمد المالو<sup>2</sup>

حسين علي مطني<sup>1</sup>

<sup>1</sup>قسم علوم التربة والموارد المائية، كلية الزراعة، جامعة ديالى، العراق.

<sup>2</sup>قسم وقاية النبات، كلية علوم الهندسة الزراعية، جامعة بغداد، العراق .

<sup>1</sup>الباحث المراسل: [humamalanbaki@gmail.com](mailto:humamalanbaki@gmail.com)

### المستخلص

تسجيل جديد لنوعين من حشرات البق والتابعة للجنس *Psallopsis* Reuter, 1901 والذي يتبع عويلة phylinae ضمن عائلة بق النبات Miridae - رتيبة مختلفة الاجنحة Heteroptera - رتبة نصفية الاجنحة Hemiptera، النوع الاول *Psallopsis minimus* (Wagner, 1967) والثاني *P. kalidiicola* Konstantinov, 1997، تم جمع 23 حشرة للنوع الاول من مناطق محافظة بغداد (الحسينية وابو غريب) وجمعت للنوع الثاني 20 حشرة من محافظة بغداد (التاجي، ابو غريب والراشدية) خلال موسم 2018 – 2019، شخصت الحشرات وفق المفاتيح التصنيفية وذلك بالاعتماد على صفات الشكل الخارجي والاعضاء التكاثرية الذكرية male genitalia، استخدمت الكاميرا اللوسيدا لرسم اجزاء الجسم المختلفة وصورت الاجزاء الاخرى بكاميرة مجهر الدينو.

الكلمات المفتاحية: *Psallopsis*، phylinae، Miridae، نصفية الاجنحة، العراق .

## INTRODUCTION

Miridae (Plant bugs) are the largest family of Heteroptera and the members exhibit wide diversity in morphology, biology and host associations, The world fauna of Miridae at present contains about 1300 genera with approximately 11,000 described species comprising about 25% of all described species of Heteroptera (Cassis and Schuh, 2012). The majority of plant bugs are herbivorous and often closely associated with particular host plants (Wheeler, 2001). Subfamily Phylinae, being the second largest subfamily of plant bugs, remains a taxonomically challenging group with many genera lacking adequate diagnoses. The subfamily is especially species-rich in the Mediterranean ecosystems, steppes, shrublands, and deserts. In the Palearctic Region phylines are represented by more than 1300 described species (Kerzhner and Josifov, 1999) and many more remain undescribed. The first of described this genus Reuter (1901), this genus can be characterized as lengths not exceeding 4 mm, protrusion tylus, macroptera, male reproductive organs Characterized if the right side piece is right spoon shaped (Konstantinov, 1997). the Species *Psallopsis minimus* distribution in Central and Eastern Kazakhstan, Mongolia and North China (Qi and Nonnaizab, 1996). *P. kalidiicola* distribution in Turkmenistan, Kazakhstan, Kirgizia, Mongolia. (Konstantinov, 1997).

## MATERIALS AND METHODS

Adult insects were collected by using light traps (220 volts, 20 watt Black light UVB tubes in Baghdad province / Al- Husayniya, Abu-Gharib / Taji and Al- Rashdiya 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 (Qi and Noonazab, 1996; Konstantinov , 1997) , 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 : phylinae

Genus : *Psallopsis*

### Genus : *Psallopsis* Reuter, 1901

Green - yellowish color, body covered with white silvery setae, medium in size less than 4 mm, Macropterous, elongate or oval species, male genitalia with Right paramere spoon shaped.

#### 1- Species *Psallopsis minimus* (Wagner, 1967)

##### Synonyme:

*Malthucosoma minima* Wagner, 1967 ; *Psallopsis minimus* Kerzhner, 1970; *Solenoxyphus viridulus* Qi & Nonnaizab, 1996 .

**Adult:** body length 2.9-3 mm, body, green- yellowish in color, (Fig. 1- A).

**Head:** 0.42-0.44 mm in length. Greenish yellow covered with long white pale setae 0.15 mm length, eyes black, (fig. 1-B). Rostrum extending to second abdominal segment 1.15 mm is long.

**Antenna:** 2.2- 2.27 mm in length, the first is 0.24-0.25mm shorter than the second 1-1.02mm, the third is 0.58-0.6mm, fourth is 0.38-0.4mm, All antennal segments pale.

**Thorax:** pronotum 0.41- 0.43 mm In length, without distinct collar, greenish yellow with long semierect setae, lateral margins linear, rounded, posterior margin medially concave, mesoscutum yellow pale, flat, scutellum greenish yellow color, (fig. 1-B).

**The legs:** white- yellowish in color with long white pale setae and claws brown or black.

**The wings:** Hemelytra is 2.54-2.57 mm length, white pale and Fuscous spots on it; wing membrane with two cell and fuscous spots on it, Oblique fuscous macula at base of membrane, (fig.1-A).

**Abdomen:** is 0.95- 0.97 mm in width, pale green - greenish yellow color, the Pygophore is conical or triangular with the protruding phallotheca, (Fig.1-C).

**Male genitalia:** - Right paramere small, (Fig.1-D); Left paramere small, boat shaped, with posterior process finger-like (Fig.1-E); Endosome S-shaped, large, (Fig.1-F); phallotheca L-shaped with apex tapering, (Fig.1-G).

**Distribution :** Central and Eastern Kazakhstan, Mongolia and North China (Qi and Nonnaizab, 1996).

**Material exam :** 23 adult is Collected from Baghdad province in 9/9/2019 and 19/9/2019 in Al- Husayniya and Abu-Gharib Respectively .

## **2- Species: *Psallopsis kalidiicola* Konstantinov, 1997**

**Adult:** body length 3.1-3.4 mm, green- greenish pale in color, (Fig. 2- A).

**Head:** 0.3-0.33 mm in length , nearly parallel - sided. greenish yellow covered with long white pale setae 0.13 mm length, eyes projecting black, (fig. 2-B). Rostrum extending to third abdominal segment 1.11 mm is long.

**Antenna:** 1.61- 1.61 mm in length, the first is 0.22-0.24 mm shorter than the second 0.87- 0.92 mm, the third is 0.034-0.34 mm, fourth is 0.18-0.2 mm, All antennal segments pale.

**Thorax:** pronotum 0.47- 0.5 mm In length, without distinct collar, greenish yellow with long semierect setae, lateral margins linear, rounded, posterior margin medially concave, mesoscutum greenish yellow pale, flat, scutellum greenish pale color, (fig. 2-B).

**The legs:** white- yellowish in color with long white pale setae and and claws brown or black.

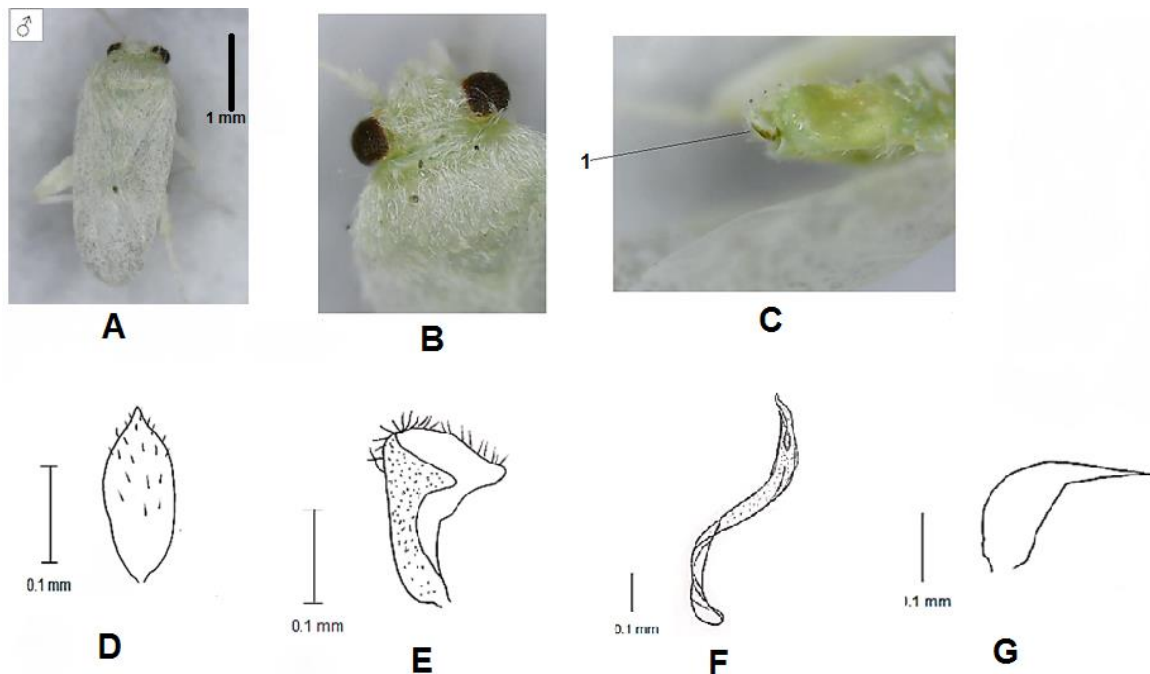
**The wings:** Hemelytra is 2.75-2.85 mm length, white pale and density Fuscous spots on it; wing membrane with two cell and fuscous spots on it, Density of spots on membrane, (fig.2-A).

**Abdomen:** is 0.8-0.9 mm in width, pale green - greenish yellow color, the Pygophore is conical or triangular, (Fig.2-C).

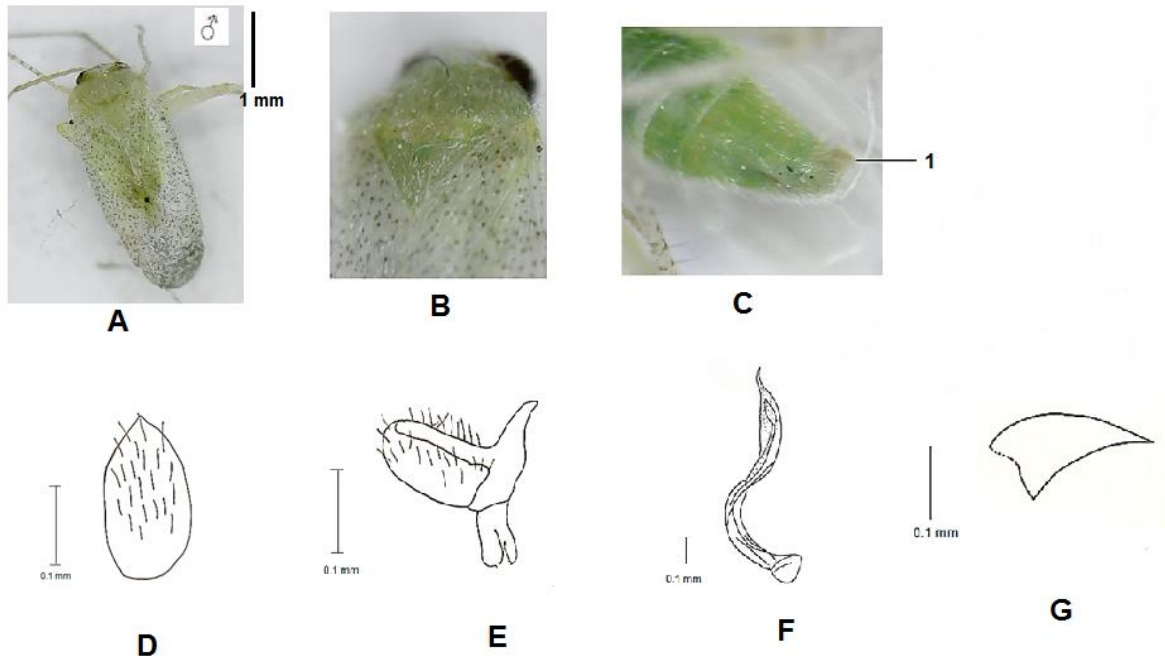
**Male genitalia:** - Right paramere small, (Fig.2-D); Left paramere large, boat shaped, (Fig.2-E); Endosome S-shaped, large, (Fig.2-F); phallotheca curved triangle -shaped with apex tapering, (Fig.2-G).

**Distribution:** Turkmenistan, Kazakhstan, Kirgizia, Mongolia. (Konstantinov, 1997). Iran (Linnavuori and Modarres, 1999).

**Material exam :** 20 adult is Collected from Baghdad province - Taji in 4/4/2019, Abu-Gharib in 13/5/2019 and Al- Rashdiya in 16/9/2019.



**Fig.1** *Psallopsis minimus* A- Adult insect (50X); B- Head and pronotum (100X); C- Pygophore (100X) 1- phallotheca; D- Right paramere; E- Left paramere; F- Endosome; G- phallotheca.



**Fig.2** *Psallopsis kalidiicola* A- Adult insect (50X); B- Head and pronotum (100X); C- Pygophore (100X) 1- phallotheca; D- Right paramere; E- Left paramere; F- Endosome; G- phallotheca

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