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Pear psylla *Cacopsylla bidens* (Šulc, 1907): a new pest on pear trees in Egypt (Hemiptera: Psylloidea)

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ABSTRACT

Cacopsylla bidens (Šulc, 1907), feeding on pear trees, is recorded for the first time in Egypt. A short taxonomic presentation of the species is given, as well as some elements of biology.

Key Words: Taxonomy – Psylloidea – Psyllidae – *Cacopsylla bidens* – New record

INTRODUCTION

The psyllids or jumping plant-lice (Hemiptera: Psylloidea) are a group of small sap-feeding insects.

This superfamily of sternorrhynchous insects comprises ca. 3850 described species (Li, 2011) classified in 8 families (Burckhardt & Ouvrard, 2012). Only Four families are known to occur in Egypt, with 21 species belonging to 13 genus (Mohammed, 1998; Ouvrard, 2013).

Pear psyllids belong to the large genus *Cacopsylla* (Psyllidae, Psyllinae) and Palaearctic species were formerly placed in *Psylla* s. l.

33 psyllid species have been collected on cultivated pear trees around the world (Burckhardt, 1994; Luo *et al.*, 2012).

This pear psylla *Cacopsylla bidens* (Šulc, 1907) is a very small sap-feeding insect and is considered as a serious insect pest of pear trees *Pyrus communis* L., *P. pyraster* (L.) and *P. syriaca* Boiss. in Central Asia (Burckhardt, 1994).

Damage to pear trees is twofold: first, the nymphs excrete large quantities of honeydew, an excellent medium for the growth of a black sooty mold. The presence of this mold on fruit renders it unsalable. Second, heavy infestations can cause trees to wilt and lose their leaves as the psyllids ingest large amounts of sap and inject their toxic saliva into the plant tissues and vessels. However, the pear psylla C. *bidens* is not known as a vector of the phytoplasma responsible for the pear decline disease. Pear decline is one of the most dangerous diseases of pear trees, transmitted by *C. pyricola* (Foerster, 1848) and *C. pyri* (Linné, 1758) in Europe.

Before the revision of west Palaearctic pear psyllids by Burckhardt & Hodkinson (1986), confusion has occurred on the real identity of species in several former studies.

MATERIAL AND METHODS

During May 2013, pear leaves and buds of *Pyrus communis* (cv. Le Conte) from Menoufia Governorate infested by psyllids were collected and transferred to the laboratory for identification. Also the specimens sent to Natural History Museum, UK, to confirm this species and photographed.

The keys provided by Burckhardt & Hodkinson (1986) for both adults and fifth-instar larvae were used for identification of the pear psyllid.

RESULTS AND DISCUSSION

Results indicated that the psyllid collected on heavily infested pear trees in May 2013 at Menoufia Governorate was *C. bidens*. This is the first record of *C. bidens* in Egypt.

Diagnosis: See Burckhardt & Hodkinson (1986). The fifth instar is called the hard shell stage and is green to dark brown with distinct wing pads (Plate 1, A). Indistinguishable from *C. pyri* and *C. pyricola*. Distinguished from *C. permixta* Burckhardt & Hodkinson, (1986) by the absence of longer capitate setae on the abdominal margin.

Adult body (male and female) have coloration multicoloured, orange, red, and brown with white longitudinal stripes on dorsum of thorax (Plate 1, A). Genal cones (Plate 1, D) conical with blunt apex, forewing either clear (summer form) or with infuscation in center of cells (winter form), with a brown patch on clavus, veins brown (Plate 1, A).

Males (Plate 1, B) of this species can be differentiated mainly by the shape of the parameres, bearing two minute teeth forward- (anterior tooth) and inwards- (posterior tooth) oriented (Plate 1, E). Female terminalia (Plate 1, C) is very close to other pear psylla species (except *C. pyri*) (Plate 1, F).

Biology: It has been shown that host-plants were located by females using olfactory cues in this species, whereas female odorants are used for male attraction (Soroker *et al*., 2004). Hodkinson (2009) defines the species as characteristic of the temperate moist climatic zone. It is overwintering as adults on the host tree. This is a multivoltine species with 3 to 7 generations a year (Lauterer, 1979).

Repartition: Originally described from France, it has been reported from Armenia, Bulgaria, Estonia, Greece, Iran, Israel, Italy, Jordan, Kazakhstan, Kyrgyzstan, Latvia, Lebanon, Moldova, Mongolia, Romania, Slovakia, Slovenia, Turkmenistan, Ukraine and Uzbekistan, and introduced in Argentina and Chile.

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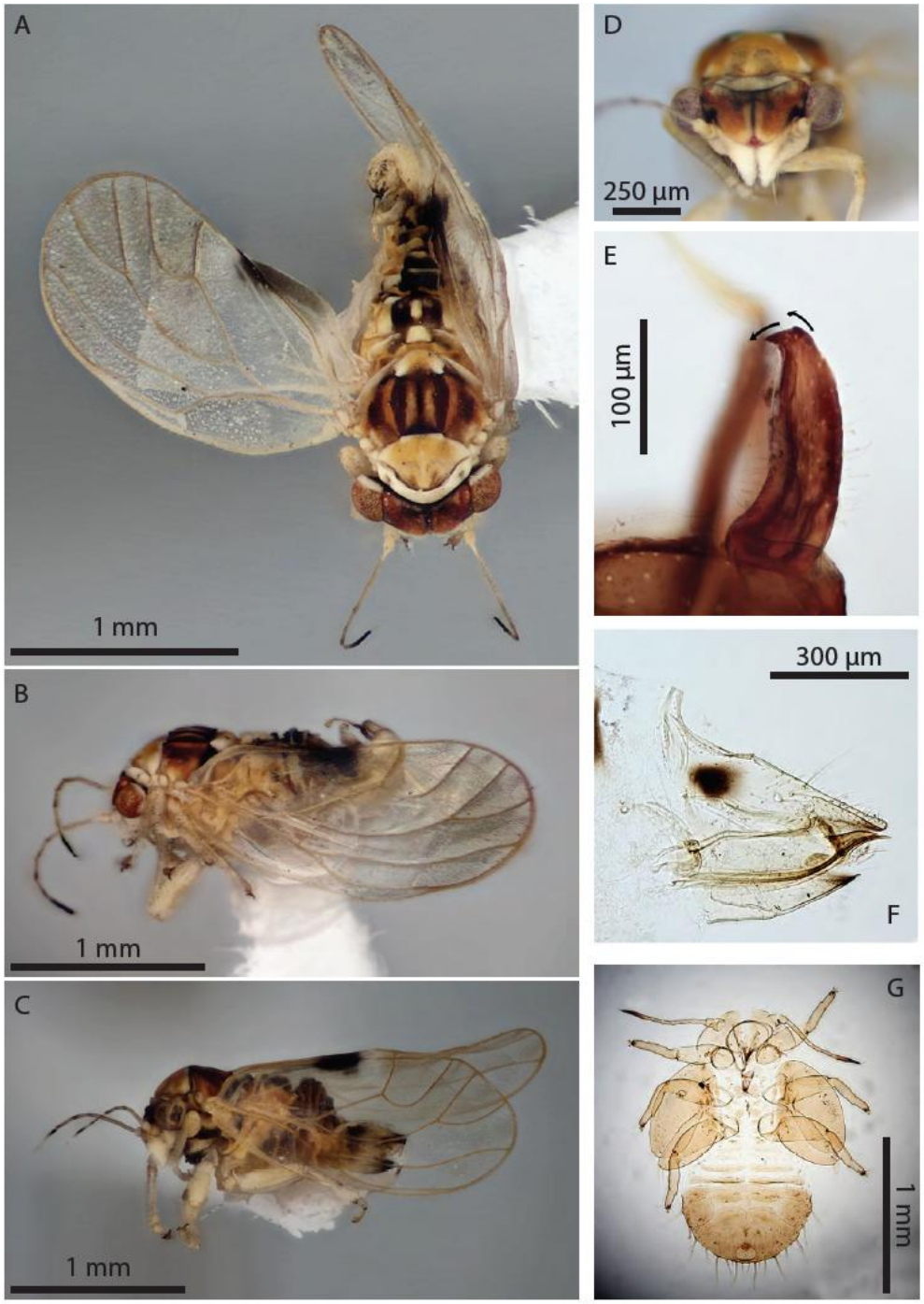

Plate 1: *Cacopsylla bidens* (Šulc) A= Habitus, dorsal view, B= lateral view (male), C= lateral view (female), D= Head, frontal view, E. Left male paramere, lateral view. Arrows show the orientation of the two apical teeth: anterior tooth forward-oriented and posterior tooth inward-oriented, F= Female terminalia, lateral view, G= 5th Instar nymph, dorsal view.

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ARABIC SUMMARY

1907) *Cacopsylla bidens* (Šulc بسيلا الكمثرى ،
آفة جديدة على أشجار الكمثرى في مصر (فوق فصيلة بسيللوديا : رتبة نصفية الاجنحة)

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Cacopsylla bidens تتغذى على أشجار الكمثرى، وسجلت لأول مرة في مصر. وقد اعطى عرض تصنيفي قصيرلهذا النوع، فضلا عن بعض البيولوجى