

## NOTA CIENTÍFICA

**First record of the genus *Homalodisca* (Hemiptera: Cicadellidae) from Argentina and redescription of the female of *H. ignorata***

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**Primer registro del género *Homalodisca* (Hemiptera: Cicadellidae) en Argentina y redescrípción de la hembra de *H. ignorata***

■ **RESUMEN.** El género *Homalodisca* Stål y la especie *H. ignorata* Melichar son citados por primera vez en Argentina, a partir de ejemplares colectados en la provincia de Misiones. En esta contribución, se adicionan caracteres diagnósticos de la hembra de *H. ignorata* y se reúne información acerca de la distribución geográfica y la asociación con enfermedades de todas las especies conocidas del género.

**PALABRAS CLAVE.** Cicadelinos. Proconiini. *Homalodisca*. *Xylella fastidiosa*.

■ **ABSTRACT.** The genus *Homalodisca* Stål and the species *H. ignorata* are recorded for the first time in Argentina, from specimens collected in Misiones province. This contribution adds diagnostic characters of the female of *H. ignorata* and compiles information about the geographical distribution and association with diseases of all known species of the genus.

**KEY WORDS.** Sharpshooters. Proconiini. *Homalodisca*. *Xylella fastidiosa*.

The subfamily Cicadellinae comprises exclusively phytophagous insects, many of which are involved in the transmission and spread of pathogens in cultivated and wild plants (Nielson, 1968).

The tribe Proconiini Stål includes 58 genera and 422 species, all distributed in the continental Americas (Wilson *et al.*, 2009). So far, about 30 species are represented mainly in the northwest, east and center of Argentina (Paradell *et al.*, 2008).

Sharpshooters are well-known because of their particular feeding habits, sucking the xylem of a wide variety of plants. As a consequence, they have economic

significance because of their ability to transmit diseases, especially to fruit, vegetable and ornamental plants. The main transmitted organism is the pathogenic bacterium *Xylella fastidiosa* Wells *et al.*, causal agent of "Phony Peach Disease", "Pierce's Disease" of grapes, "Coffee Leaf Scorch" and "Citrus Variegated Chlorosis" among others. The main vectors are species in the genera *Homalodisca* Stål, *Oncometopia* Stål, *Cuerna* Melichar and *Acrogonia* Stål (Redak *et al.*, 2004).

Sampling in Misiones province resulted in the capture of numerous specimens belonging to the genus *Homalodisca*. The purpose of this contribution is to formally record this

genus for Argentina, add characters for the diagnosis of the female of *H. ignorata* Melichar and compile information on the geographic distribution and association with diseases of all species of the genus.

The specimens studied are deposited in the Entomology Collection of Museo de Ciencias Naturales de La Plata (MLPA). Other specimens were studied from Illinois Natural History Survey (INHS).

### *Homalodisca* Stål, 1869

Stål, 1869: 63. Type species: *Cicada triangularis* Fabricius.

**Diagnosis.** According to Young (1968), this genus is characterized by the following diagnostic features: length 15 mm or less, head strongly produced, anterior margin rounded in dorsal aspect, usually with a slight angle at transition from crown to face, disc of crown flattened; proepimeron without ventral depressed region, metepimeron with shelflike projection upon which forewings rest when in rest position, forewing at rest exposing meron of hindleg, hindwing with vein R2+3 incomplete; abdomen not constricted basally; male genitalia without paraphyses, and plates separate throughout their length.

*Homalodisca* includes 18 species distributed from USA to Brazil found on several cultivated, ornamental and wild plants (Takiya, 2008).

### *Homalodisca ignorata* Melichar, 1924 (Figs.1-10)

*Homalodisca ignorata* Melichar, 1924: 240.

**Diagnosis.** Crown and pronotum light brown with black areas; claval veins fused for considerable distance; posterior margin of female abdominal sternite VII with broad median lobe, abdominal sternite VIII of female with two pairs of conspicuous lateral plates sclerotized; shaft of aedeagus robust with gonopore conspicuously visible, aedeagus with pair of ventral processes, processes of pygofer not attaining pygofer apex (Young,

1968; Azevedo & Carvalho, 2006).

In this contribution, we describe and add the following additional diagnostic characters of the female genitalia: abdominal sternite VII (Fig. 2) with microsetae distributed throughout disc; pygofer (Figs. 3, 4) rectangular in lateral view, microsetae distributed irregularly on disc, posterior margin truncate. First valvifer (Fig. 5) subquadrate, with microsetae along posterior margin, small dots irregularly distributed on its caudoventral surface; first valvulae of ovipositor (Fig. 6) with apical area denticulate on ventral margin, apex acute, slightly curved downward. Second valvifer (Fig. 7) rectangular, with slightly concave ventral margin and microsetae distributed in one small group on caudoventral area. Second valvulae of ovipositor (Figs. 8, 9, 10) with blade bearing approximately 32 teeth, each tooth subtriangular, declivous posteriorly, with uncountable denticles throughout entire dorsal margin; preapical ventral prominence present; apical portion with denticles on ventral margin, apex rounded.

The type-specimen is deposited in Moravian Museum (Brno, Czech Republic).

**Remark.** *H. ignorata* is most similar to *H. ignota* Melichar in having the pygofer of male with a ventral process well developed; morphology and microsetae of pygofer of female and teeth of second valvulae of ovipositor. *H. ignorata* can be distinguished from other *Homalodisca* species by the large black spot on the basal area of the clypeus and by its aedeagal morphology.

**Material examined.** ARGENTINA. Misiones: Eldorado, 31-X-2008, Logarzo-Palottini legs., 1 male, 4 females (MLPA). BRAZIL. Sao Paulo: Bebedouro, 14-V-1998, Roberto S. leg., 3 males, 1 female. Determined by R.C. Marucci and C. Dietrich (INHS).

**Distribution.** Brazil (Minas Gerais, Cafelandia, Comendador Gomes, Paraná, Fenix, Reserva Estadual de Vila Rica, Rio de Janeiro, Niteroi, Rio Grande do Sul, Cerro Largo, Montenegro, Porto Alegre, São Leopoldo, Taquari, Viamao, Santa

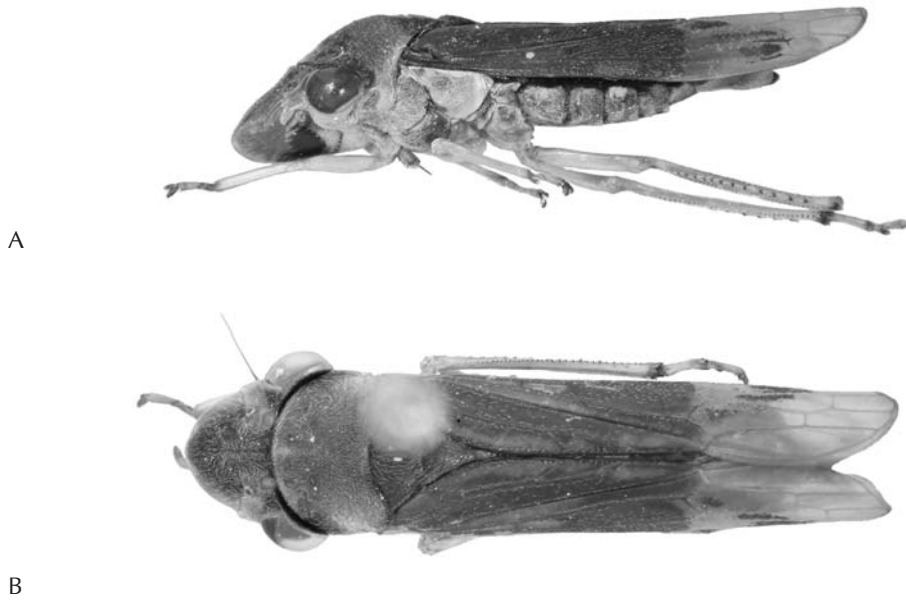
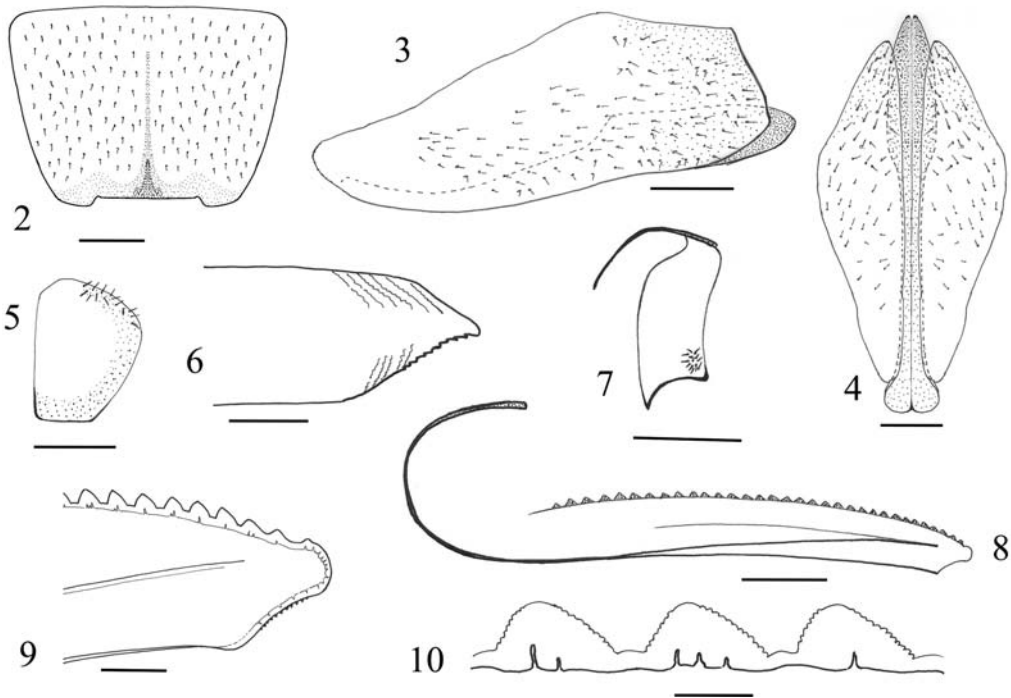


Fig. 1. Female *Homalodisca ignorata* Melichar. A, Lateral view, B, dorsal view.



Figs. 2-10. *Homalodisca ignorata* Melichar. 2, Sternite VII; 3, pygofer, lateral view; 4, pygofer and third valvulae of ovipositor, ventral view; 5, first valvifer; 6, apex of first valvulae of the ovipositor; 7, second valvifer; 8, second valvulae of ovipositor, lateral view; 9, apex of second valvulae; 10, teeth of median portion of second valvulae of ovipositor. Scale: Figs. 2-5 and 7-8 = 0,5mm; Figs. 6 and 9 = 0,1mm; Fig.10 = 0,05mm.

**Table I.** Geographic distribution and disease association of all species of the genus *Homalodisca* Stål (Data compiled from Young, 1968; Takiya, 2008 and Redak *et al.*, 2004). References. AD: Alfalfa Dwarf Disease; ALS: Almond Leaf Scorch; CLS: Coffee Leaf Scorch; CVC: Citrus Variegated Chlorosis; PD: Pierce's Disease of grapevine; PPD: Phony Peach Disease.

Species	Geographic distribution	Disease association
<i>H. admittens</i> Walker	México	
<i>H. apicalis</i> Schmidt	Costa Rica	
<i>H. cornuta</i> Young	Guatemala	
<i>H. elongata</i> Ball	USA	
<i>H. excludens</i> Walker	Venezuela	
<i>H. hambletoni</i> Young	Mexico	
<i>H. ichthyocephala</i> Signoret	USA, México, Guatemala, Salvador, Costa Rica	
<i>H. ignorata</i> Melichar	Brazil, Paraguay	CLS, CVC
<i>H. ignota</i> Melichar	Brazil	
<i>H. indefensa</i> Melichar	Costa Rica	
<i>H. insolita</i> Walker	USA, México, Guatemala, Salvador, Costa Rica, Panamá	PPD
<i>H. liturata</i> Ball	USA, México, Guatemala, Costa Rica	AD, PD
<i>H. lucernaria</i> Linnaeus	Colombia, Venezuela, French Guiana, Guyana, Suriname, Trinidad & Tobago, Brazil	
<i>H. nitida</i> Signoret	Guatemala	
<i>H. noressa</i> Young	Colombia, Venezuela	
<i>H. robusta</i> Schröder	Salvador	
<i>H. spottii</i> Takiya, Cavichioli et McKamey	Brazil	
<i>H. vitripennis</i> Gemar	USA, México	ALS, PD, PPD

Catarina, Chapeco, São Paulo, Araraquara, Bebedouro, Colina, Olimpia, Paulo de Faria); Paraguay (Central, Santa Clara, Jaguaron) (See distribution map in the Sharpshooters database <http://ctap.inhs.uiuc.edu/takiya/taxahelp.asp?hc=815&key=Proconia&lng=En>).

*H. ignorata* is a vector of Citrus Variegated Chlorosis and Coffee Leaf Scorch in Brazil (Yamamoto *et al.*, 2000; Marucci *et al.*, 2002) and is the only species of the genus *Homalodisca* considered a vector of *X. fastidiosa* in South America (Table I).

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