



ARTÍCULOS ORIGINALES

FIRST REPORT OF *Brachyrhynchus Membranaceus* (HEMIPTERA: ARADIDAE) IN COLOMBIA

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Abstract

In this communication, we report the presence of the flat bug, *Brachyrhynchus membranaceus* for the first time in Colombia. The finding of this species is significant for two reasons: 1. this introduced species (first recorded from the western hemisphere in 2013) is expanding its distribution in the new world, and 2. according to some reports, this species can be a pest of certain crops, particularly mushrooms, which are grown in parts of the departamento of Antioquia (where the specimens were collected).

Key words: flat bugs, introduced species, agricultural pest, Antioquia, distribution

Resumen

Se reporta por primera vez la especie de chinche plano, *Brachyrhynchus membranaceus* en Colombia. El hallazgo de esta plaga potencial es importante por dos razones: 1. esta especie (reportada por primera vez para el hemisferio occidental por Thomas et. al. 2013) está expandiendo su rango de distribución en el nuevo mundo y 2. de acuerdo a algunos reportes esta especie puede ser una plaga en ciertos cultivos, en particular de hongos, que son cultivados en algunas partes del departamen-

to de Antioquia (donde se colectaron los especímenes).

Palabras clave: chinches planos, especies introducidas, plagas agrícolas, Antioquia, distribución

Introduction

The Aradidae, known as flat bugs, includes eight families, 211 genera, and almost 1800 described species distributed worldwide (Kormilev and Froeschner 1987). Most of the species whose biology has been studied feed on fungi and live under bark (a habit to which their flattened bodies are well-adapted) or in leaf mold on the forest floor (Monteith 1997, Usinger and Matsuda 1959).

Most aradids are not considered to be of phytosanitary significance because of their primarily mycophagous feeding habits, although Jin et al. (1998) showed that *Brachyrhynchus membranaceus* may become a pest on cultivated mushrooms. There is also one species, *Aradus cinnamomeus* Panzer, that feeds on pine trees in Europe (Heliövaara 1982, Schuh and Slater 1995, E. Heiss in litt.; Henry et al. 2013) and is considered to pose a moderate risk of establishment in North America (Lattin 1999).

Regardless of their agricultural significance, aradids are moved in international commerce, and Henry et al. (2013) provided evidence of the establishment of the Old World aradid *Brachyrhynchus membranaceus* (Fabricius) in the Western Hemisphere. Here, we report this species from Colombia for the first time, showing that it has expanded its distribution into

South America.

Materials and methods

During the review of material in the Entomology collections for the workshop on Pest of Quarantine Importance for Colombia (offered July, 2014 by the Postgraduate Program in Entomology of the Universidad Nacional de Colombia, Medellin (UNALMED)), one of the authors of this contribution (G. G-C) found three specimens of flat bugs among the material that was submitted by students of the general Entomology course (at the same university) as part of their evaluation and which were posteriorly identified as *Brachyrhynchus membranaceus* by A.H.S-P.

As noted on the collecting labels, all three specimens of the species *B. membranaceus* were manually collected by different students and on different dates the previous year (2013).

As a way to facilitate the identification of this species, we provide some of the key diagnostic characters for the family, subfamily, and genus to which the species belongs (taken from Smith-Pardo and Beucke, in press):

Family Aradidae: true bugs of the family Aradidae can be recognized by the following combination of characters: body flattened dorso-ventrally, with the dorsal surface frequently granulose or rugose (Fig.1); mouth parts with a short, stout, four-segmented labium and with stylets elongated and coiled within head (Fig. 1f); ocelli absent (Fig. 1c); tarsi two-segmented (Fig. 1e, see left hind leg); and all abdominal spiracles situated ventrally (last three visible on Fig. 1h).

Subfamily Mezirinae: specimens of the subfamily *Mezirinae* can be distinguished by the following combination of characters: body strongly sculptured, granulate and punctate; labium arising from atrium behind apex of clypeus (Fig. 1f); mandibular plates surpassing clypeus and forming a cleft and emarginate apex (Figs. 1a-f). Hemelytra, when present, with two prominent longitudinal veins on corium usually reaching apex of scutellum (Fig. 1d); metathoracic scent-gland orifices with

a well-developed channel. Abdominal tergites usually distinct (Figs. 1d-e).

Genus Brachyrhynchus: species of the genus *Brachyrhynchus* can be separated from other genera of flat bugs by the following combination of characters: presence of well-developed genae, labium short and arising from a closed atrium, hind margin of pronotum deeply sinuate, metathoracic scent gland channels well-developed, and first abdominal scent gland enlarged.



Figure 1. Photographs of *Brachyrhynchus membranaceus* collected on the campus of the Universidad Nacional de Colombia, Medellin. a. habitus and scale (in millimeters), b. dorsal view of head and thorax, c. dorsal view of head, d. habitus dorsal view, e. habitus ventral view, f. ventral view of head, g. pygidium dorsal view, h. pygidium ventral view.

Results and additional remarks

Figure 1 shows photographs of the specimens of *B. membranaceus* found at UNALMED.

Additional remarks

An analysis of aradids intercepted at ports-of-entry in the United States by Smith-Pardo & Beucke in (press) showed a total of six interceptions of *Brachyrhynchus membranaceus* since 2006 (one from China, one from Costa Rica, one from Honduras, one from the Dominican Republic, one from Hawaii, and the most recent, in 2013, from Vanuatu Island). Those intercepted from Latin America and the Caribbean were also associated with agricultural products (various fruits for consumption) and apparently arrived in shipments as hitchhikers.

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