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Melanagromyza obtusa* (Diptera: Agromyzidae), a new record for ColombiaMelanagromyza obtusa* (Diptera: Agromyzidae), nuevo registro para ColombiaJavier O. Martínez-Alava¹, Francisco Serna¹, and A. Lucía Pérez B.¹**ABSTRACT**

Melanagromyza obtusa (Diptera: Agromyzidae) is recorded for the first time in Colombia. Distribution of this species is mainly Asiatic although it has been recently reported in Florida (The United States of America), the Dominican Republic, Puerto Rico, Haiti, Panama, and Peru. In countries such as India, Indonesia (Java) and Malaysia, it is recognized as an important pest in economic crops of *Cajanus cajan* (Fabaceae) and, to a lesser degree, in other Fabaceae, such as *Flemingia macrophylla*.

Key words: taxonomy, geographic distribution, invasive species.

RESUMEN

Melanagromyza obtusa (Diptera: Agromyzidae) se registra por primera vez para Colombia. Esta especie de distribución principalmente asiática presenta registros recientes para Florida (Estados Unidos), República Dominicana, Puerto Rico, Haití, Panamá y Perú. En países como India, Indonesia (Java) y Malasia se conoce como plaga de importancia económica en cultivos de *Cajanus cajan* (Fabaceae) y en menor grado en otras Fabáceas como *Flemingia macrophylla*.

Palabras clave: taxonomía, distribución geográfica, plaga introducida.

Melanagromyza Hendel, 1920 is distributed worldwide, being one of the more species-rich genus among the family, with more than 380 described species (Boucher, 2010; Koçak and Sasakawa, 2010; Shi and Gaimari, 2015). Approximately 160 species of this genus are recorded from the New World (Shi and Gaimari, 2015). They are borers in roots, stems, trunks, branches, flower petioles, fruits, ovaries or seeds (Korytkowski, 2014; Shi and Gaimari 2015).

Characteristics used to recognize this genus can be found in Shi and Gaimari (2015). *Melanagromyza obtusa* (Fig. 1) is characterized by a green-coppery color; ocellar triangle green, well developed, anteriorly limiting with the margin of the lunule, and with its anterior edge blunt and flat; fronto-orbital bristles numerous, with the anterior ones proclinate; arista long, with conspicuous pubescence; wing length 2.4 to 2.8 mm; hypandrium and aedeagal apodeme long; apodeme of the hypandrium very long. Projection at tip of epandrium rounded, with long hairs; aedeagus hyaline; basiphallus with unusual long side arms, which are extending up to the distiphallus; dorsal bridge of basiphallus seems to be missing (Malloch, 1914; Spencer, 1961, 1973; Dempewolf, 2004).

Melanagromyza obtusa (Malloch, 1914) is recognized as an important economic pest in crops of *Cajanus cajan* (L.) Huth (Fabaceae) in India, Indonesia (Java) and Malaysia,

and in a lesser degree in other Fabaceae, including *Flemingia macrophylla* (Willd.) Kuntze ex Merr., and *Phaseolus radiatus* L. (Kulkarni, 1966; Spencer, 1973; Ipe, 1974; Singh and Gupta, 1981; Shanower *et al.*, 1998; Sharma *et al.*, 2003; Moudgal *et al.*, 2008; Palacios-Torres *et al.*, 2010; Araúz *et al.*, 2013; Korytkowski, 2014; EPPO, 2016).

Larvae of *M. obtusa* are borer of seeds and pods of *F. macrophylla*. Adults were obtained from the seeds inside pods of *F. macrophylla*, maintained in the Lab of the UNAB museum. Biological material was collected at the Macagual Research Center of the Universidad de la Amazonia (Uniamazonia), in the municipality of Florencia, department of Caqueta, Colombia.

Morphological characteristics of the specimens were studied with the aid of a NIKON SMZ-1 stereomicroscope (Nikon GmbH, Düsseldorf, Germany). For taxonomic identification, keys, descriptions and diagnosis in Spencer (1961, 1963, 1983, 1984), Spencer and Steyskal (1986), Sanabria (1994), Boucher (2010), Korytkowski (2014), Lonsdale (2014), and Shi and Gaimari (2015) were employed; and for the species level identification, Malloch (1914) and Spencer (1961, 1973) were followed.

In order to examine the male genitalia, the methodology in Korytkowski (2014) and Shi and Gaimari (2015) was

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FIGURE 1. *Melanagromyza obtusa* (Malloch, 1914). A, female, lateral view; B, male phallic complex, lateral view.

employed. In the UNAB museum, voucher specimens were deposited, following the curatorial procedures suggested in Martínez and Serna (2015).

This is the first record of *M. obtusa* for Colombia. The species distribution is known from Asia (China-Taiwan), Flores Island (Indonesia), India (Assam, Bihar, Delhi, Maharashtra, Uttar Pradesh), Java (Indonesia), Malaysia, Sri Lanka, Bangladesh, Burma, Nepal, Pakistan, Philippines, Thailand, Vietnam, New Guinea, and Japan); also it is known in Australia (Queensland), Papua New Guinea, and in recent years records of this species are known from Florida (USA), the Dominican Republic, Puerto Rico, Haiti, Panama, and Peru (Kulkarni, 1966; Spencer, 1973; Ipe, 1974; Singh and Gupta, 1981; Shanower *et al.*, 1998; Spencer, 1999; Sharma *et al.*, 2003; Palacios-Torres *et al.*, 2010; Araúz *et al.*, 2013; Korytkowski, 2014; EPPO, 2016).

Material examined: *Melanagromyza obtusa*, 6♀♀ 5♂♂, **COLOMBIA, Caqueta**, Florencia, Macagual Research Center, 1°29'58.70" N and 75°39'46.49" W, 12-Sep-2014, In *Flemingia macrophylla* (Willd.) Kuntze ex Merr. (Fabaceae), J. Martinez [UNAB No. Catal. 1826]; 1♀ 1♂, **Putumayo**, Villagarzon, Vda. San Rafael, Fca. El Escondite, 0°47'41" N 76°35'8" W, 317 m a.s.l., In: *Flemingia macrophylla* (Fabaceae), 29-Feb-2016, J. Martinez [UNAB No. Catal. 1833].

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