Diospyros digyna (Ebenaceae): A New Host Record for Bephratelloides ablusus (Hymenoptera: Eurytomidae) in Mexico

Authors: Alvaro Castañeda-Vildózola, Cristian Nava-Díaz, Omar Franco-Mora, José Refugio Lomeli-Flores, and Jorge E. Peña

Source: Florida Entomologist, 94(4) : 1071-1072

Published By: Florida Entomological Society

URL: https://doi.org/10.1653/024.094.0451
The genus Bephratelloides Girault (Hymenoptera: Eurytomidae) is composed of 7 species widely distributed in the neotropics (Grissell & Schauff 1990; Grissell & Foster 1996; Chang 1998). Four species, B. pomorum (F.), B. cubensis (Ashmead), B. paraguayensis (Crawford) and B. petiolatus Grissell & Schauff, develop strictly in seeds of Annona (Magnoliaceae: Annonaceae) (i.e., Annona muricata L., A. cherimola Mill., A. squamosa L., A. diversifolia Saff., A. reticulata L. and A. squamosa × A. cherimola) (Nadel & Peña 1991; Castañeda-Vildózola et al. 2010). Bephratelloides are considered to be the main pest of Annona spp. in Florida (USA), Mexico and Brazil (Peña & Bennett 1995; Moura et al. 2006; Hernández-Fuentes et al. 2007).

While most Bephratelloides develop in Annona spp., B. ablusus and B. duguetiphagus develop in the seeds of Cymbopetalum mayanum Lundell and Duguetia panamensis Standl. respectively, both Annonaceae (Grissell & Foster 1996; Chang 1998). These records contradict the hypothesis that Bephratelloides spp. was restricted to Annona (Grissell & Foster 1996; Chang 1998).

Bephratelloides ablusus Grissell & Foster and B. cubensis have been recorded in Mexico (Grissell & Foster 1996; Castañeda-Vildózola et al. 2010). B. ablusus develop on the seed of C. mayanum (Magnoliaceae: Annonaceae) in Chiapas state, a region close to Central America. This fruit has no commercial value, but is considered a main food source of migratory birds and it may be an alternative host of other species of Bephratelloides (Grissell & Foster 1996).

During a technical visit to Tepalcingo, Morelos, México (18°35'N, 98°50'W, 1169 meters above sea level) on 3 Nov 2007, we observed that black sapote fruits were examined, and 8 fruits showed exit holes. Twenty apparently healthy fruits (around 6 cm in diam) were also collected and taken to “Laboratorio de Parasitología de la Fundación Salvador Sánchez Colín CICTAMEX, S.C” at Coatepec Harinas, México state, México. Fruits were placed individually inside plastic containers (15 × 8 cm), covered with cheese cloth and incubated at 26 ± 2 °C and 60-70% RH.

Fruits were checked on a daily basis. Six days after collection, 2 fruits showed several 1.5 mm exit holes. A total of 26 (19 females and 7 males) Bephratelloides emerged. Adults were collected and preserved in 70% ethanol for identification. According to our observations, 4 seeds were able to supply enough food for 26 wasps. The adult Eurytomidae were identified using the taxonomic keys of Grissell & Schauff (1990) and Grissell & Foster (1996) as Bephratelloides ablusus Grissell & Foster (Hymenoptera: Eurytomidae) (Figs. 1a and 1b). A detailed description of the species may be found in Grissell & Foster (1996). Specimens were deposited at the Colección Entomológica del Colegio de Posgraduados, located in Montecillo, Texcoco, México.

This is the first report of B. ablusus on Diospyros digyna (Éricales: Ebenaceae) in Mexico, and provides a new host record for the genus Bephratelloides outside Magnoliaceae (Annonaceae). This report extends our knowledge of the host range of the genus Bephratelloides.

We express deep thanks to Jorge Valdez-Carrasco M.Sc. for taking the photographs, and to Ing. Pedro Mijares-Oviedo, technical secretary of Fundación Salvador Sánchez Colín CICTAMEX, S.C. for his help and advice to develop this research.

**SUMMARY**

Black sapote Diospyros digyna Jacq. (Éricales: Ebenaceae) is recorded as a new host of Bephratelloides ablusus Grissell & Foster (Hymenoptera: Eurytomidae). This pest has been found in Mex-
ico, and is generally associated with Annona (Magnoliales: Annonaceae). We present evidence that supports the hypothesis that Bephratelloides spp. has host species outside the Annonaceae.

REFERENCES CITED


