

ENDOBIA DONACIS ERDÖS (HYMENOPTERA: EURYTOMIDAE) NEWLY REPORTED FROM THE WESTERN HEMISPHERE, AND A REVIEW OF THE GENUS

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Abstract.—The distribution of *Endobia* Erdös (Hymenoptera: Eurytomidae), containing the nominal taxa *E. donacis* Erdös and *E. indica* Mani and Kaul, is reviewed. *Endobia donacis* is reported for the first time from the Western Hemisphere (Fairfax Co., Virginia, USA). This species is discussed and its host associations summarized. *Endobia indica* is synonymized with *E. donacis* (**n. syn.**).

Key Words: Hymenoptera, Chalcidoidea, Eurytomidae, *Endobia*, new record, new synonymy, Western Hemisphere

The genus *Endobia* Erdös is known from two species, *E. donacis* Erdös (Fig. 1; Erdös 1964) and *E. indica* (Mani and Kaul) (Mani et al. 1974), found in the Mediterranean Basin, southeastern Asia, and the Indian subcontinent (Bouček 1983). No definitive host records have been reported for this genus, only host associations as recorded in the specific treatment below.

Endobia indica, known from India, was initially described in *Isosoma* Walker, later transferred to *Tetramesa* Walker (Farooqi and Subba Rao 1986), and finally to *Endobia* from *Tetramesa* (Narendran 1994). The holotype was supposed to be deposited in the National Museum of Natural History, Smithsonian Institution (USNM). However, only two co-mounted cotypes, mislabeled as “Holotype,” were found in the type collection. Examination of the Smithsonian Institution’s Department of Entomology accession records in its museum catalog indicate that only a holotype is

recorded as having been received. Colleagues in various institutions in India (University of Calicut [Kerala] and St. John’s College [Agra]) have had no success in locating this specimen. The two paratypes deposited in the USNM bear a Bouček identification label that reads “♀ *Endobia donacis* Erdös, det. Z. Bouček 1986.” Given that Bouček (1983) does not mention this material as part of his treatment of this genus and that it was not transferred to *Endobia* until 1994, we suspect that he discovered the specific synonymy and simply never published this information.

The type species, *E. donacis*, is known from southern France, southern India, Burma, and Thailand (Bouček 1983). This species was originally described from southern France where it has been associated with dry stems of the giant reed *Arundo donax* L. (Cyperales: Poaceae) and a eurytomid feeding on its stems, *Tetramesa romana* (Walker) (Erdös 1964). *Endobia donacis* was thought



Fig. 1. *Endobia donacis*, female habitus.

to have been introduced through the activities of man to the Mediterranean Basin from its native range in southern Asia (Bouček 1983). It remains possible that this species is native to both the Mediterranean basin and the Indian subcontinent (Delvare, personal communication). Records reported by Bouček (1983) indicate that possible hosts are bostrichid beetles, possibly *Dinoderus minutus* F. or *D. brevis* Horn. Both of these bostrichids commonly attack various bamboos and are widely distributed throughout southern Asia, the Pacific Basin, and have been introduced numerous times in the New World (Fisher 1950). Further, *D. minutus* has been intercepted in stems of *A. donax* and the reported host range of *D. brevis* indicates that *A. donax* may be an acceptable host (Fisher 1950).

Narendran's (1994) redescription of *Endobia donacis* and, presumably, his key separating it from *E. indica*, are based on a plesiotype of *E. donacis* from India, rather than material from the type locality in France or the type specimen. After examination of the paratypes of *E. indica*, our measurements indicate that the postmarginal vein is longer than the stigmal vein (28:18), the postmarginal vein is just shorter than the marginal vein (28:30), and the funicle possesses five segments. This information contradicts all of the characters used to separate the two species offered by Narendran (1994). Narendran reported that, after examining the USNM's "holotype" of *E. indica*, it possessed a postmarginal vein distinctly shorter than the marginal vein, a stigmal vein that was as long as the postmarginal vein, and six funicular

segments. He indicated he examined the holotype from the USNM. If this is true, then he measured the same specimens we have studied. After examining paratype material of *E. indica* and the holotype of *E. donacis*, we consider the former a junior subjective synonym of the latter (**n. syn.**).

Diagnosis.—*Endobia* is readily separated from other Nearctic genera of Eurytomidae by first funicular $\sim 3\times$ length second funicular, chalice-shaped; pro- and metafemora enlarged, approximately 2.5 and $2.1\times$ as long as broad, respectively; propodeum finely sculptured and biconvex, convexities separated medially by complete, deep median furrow. In the key to genera of Eurytomidae in the Nearctic (DiGiulio 1997), *Endobia* keys to the second half of couplet 9 with *Tetramesa*. The aforementioned diagnostics serve to separate *Endobia* from *Tetramesa* as the latter never possesses a chalice-shaped first funicular, enlarged pro- and metafemora, or distinctly biconvex propodeum.

First New World record.—The newly discovered specimens reported in this paper represent the first Western Hemisphere record of *Endobia donacis*. Only seven specimens have been collected, but they correspond well with the cotypes, although there is some color variation ranging from medium to very dark brown. Two females were first recovered in August 2005 and five additional females were taken in July–August 2006 from a Malaise trap located in the backyard of one of us (DRS) in a suburban residential neighborhood in eastern Fairfax County, Virginia. The Malaise trap has been used in the same spot every year since 1980 and is emptied weekly from the end of February through the end of October.

Habitat and hosts.—The subdivision, Holmes Run Acres, is located $< 1/4$ mile east of the Gallows Road (Rt. 650) and the Interstate 495 interchange. The yard

and adjacent lots where *E. donacis* was collected are relatively well maintained and landscaped with gardens and various ornamental plants and shrubs. Within 7 m of the trap is a woodpile consisting of maple (*Acer* spp.; Sapindaceae), redbud (*Cercis canadensis* L.; Fabaceae), dogwood (*Cornus* spp.; Cornaceae), and pine (*Pinus* spp.; Pinaceae) in various stages of decay. Silver maples (*Acer saccharinum* L.), a holly bush (*Ilex* sp., Aquifoliaceae), cherry trees (*Prunus serotina* Ehrh., Rosaceae), dogwood (*Cornus* spp.), and forsythia (*Forsythia* sp., Oleaceae) also grow in the immediate vicinity of the trap ($38^{\circ}50'N$, $77^{\circ}12'W$). Various grasses, ferns, and weeds also grow next to the trap. A planting of bamboo, growing approximately 25 m uphill from the trap location, is infested with boring insects and serves as a nesting substrate for other arthropods. The bamboo has been identified as *Pseudosasa japonica* (Siebold & Zucc. ex Steud.) Makino ex Nakai (Poaceae) and has occupied its present location since before 1965. During 2006, MWG caged approximately 150 infested stems of *P. japonica*, 75 from each of two collection events in April and August, to determine if *Endobia* was present. Unfortunately, no specimens emerged from the samples. A specimen of *P. japonica* (voucher: MWG-bamboo; SI Accession # US-3459116) has been deposited in the Smithsonian Institution Herbarium.

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