

## A Peculiar New Genus and Species of Entedoninae (Chalcidoidea: Eulophidae) from Southeast Asia

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**Abstract.**—*Ambocybe petiolata* Ubaidillah and LaSalle gen. and sp. n. from Peninsular Malaysia, Sulawesi and Papua New Guinea is described and illustrated and placed in the Entedoninae (Hymenoptera: Eulophidae). In addition to having several unique features, *Ambocybe* lacks important characters that have been used previously as defining characters of the Entedoninae. Possible relationships of the new genus to other entedonine genera are discussed.

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Sorting of mass-collected material from Southeast Asia revealed a peculiar genus of Entedoninae (Eulophidae). This genus differs from other entedonines in having a strong ridge surrounding the frons on the front of the head, and a similar one surrounding the entire occipital region on the back of the head. In addition, it differs from most entedonines in having several pairs of setae on the scutellum, having a single dorsal seta on the submarginal vein, and lacking a frontal sulcus.

We are describing this genus as part of an interest among the authors to, (1) describe the eulophid fauna of Southeast Asia, and (2) provide a necessary framework for understanding variation within the Eulophidae, including exceptions to characters used for subfamily definition.

A single diagnosis and description are offered for this new genus and new species. Without additional species it is impossible to distinguish between species level and genus level characters.

Acronyms used in the text are as follows. Collections: ANIC, Australian National Insect Collection, CSIRO, Canberra,

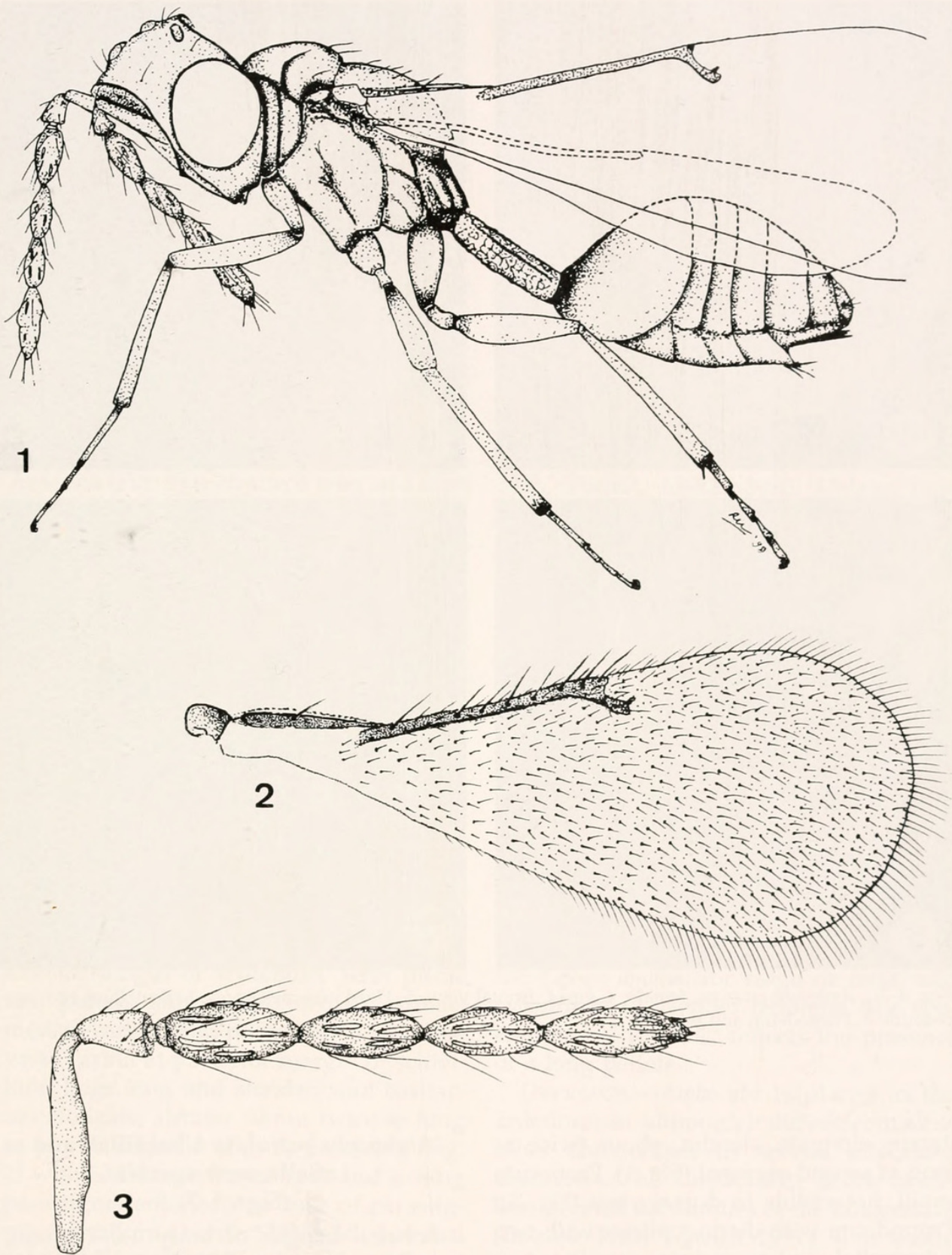
Australia; BMNH, The Natural History Museum, London, UK; MZB, Museum Zoologicum Bogoriense, Bogor, Indonesia; UCR, University of California, Riverside, California, USA; USNM, United States National Museum of Natural History, Washington, D.C., USA. Terminology: MV, marginal vein; OOL, oculo-ocular length, the distance between the lateral ocellus and eye margin; POL, postero-ocular length, the distance between the lateral ocelli; PMV, postmarginal vein; SMV, submarginal vein; and SV, stigmal vein.

### *Ambocybe* Ubaidillah and LaSalle, new genus (Figs. 1–7)

Type species: *Ambocybe petiolata* Ubaidillah and LaSalle

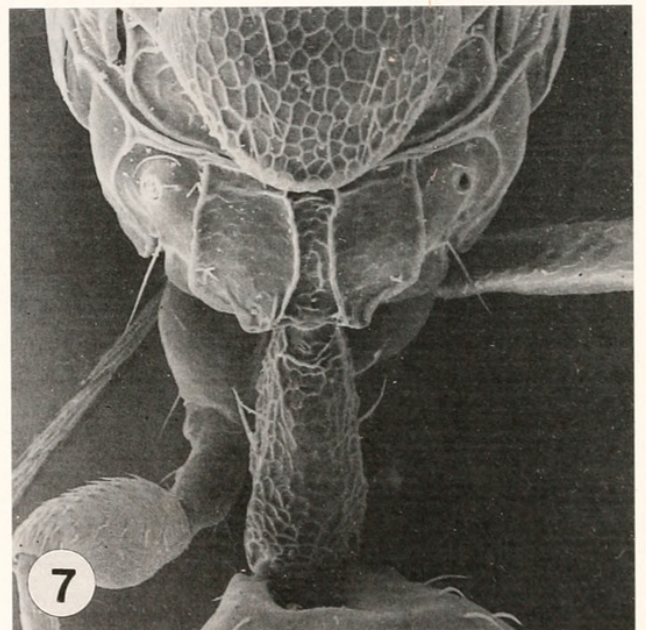
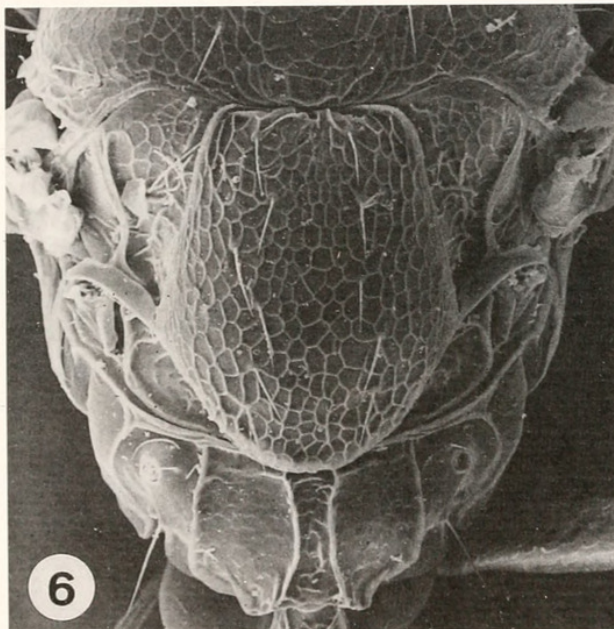
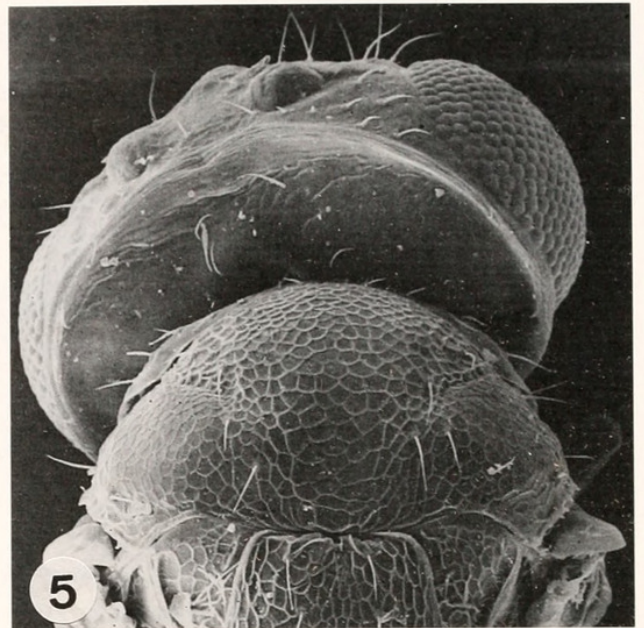
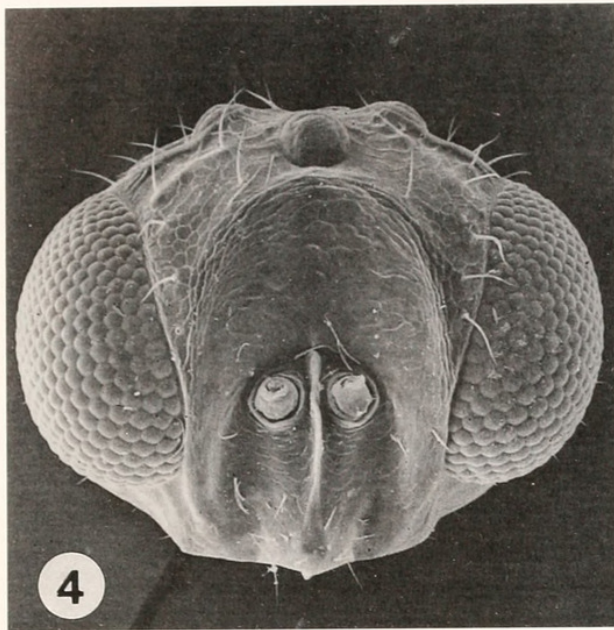
**Diagnosis.**—Head with a strong, inverted U-shaped ridge surrounding the frons (Fig. 4), and a similar one surrounding entire occipital region (Fig. 5). Scutellum with 5–6 pairs of setae (Fig. 6). Submarginal vein with single dorsal seta (Fig. 2). Forewing with speculum absent. Fore bas-





Figs. 1-3. *Ambocybe petiolata*, female. 1. Habitus. 2. Forewing. 3. Antenna.





Figs. 4-7. *Ambocybe petiolata*, female: 4. Head, frontal view. 5. Head and mesosoma. 6. Scutellum and propodeum. 7. Propodeum and petiole.

itarsus elongate, slender, about twice as long as second segment (Fig. 1). Pronotum small, not visible in dorsal view (Fig. 5). Propodeum with distinct plicae; with two subparallel median carinae; area between median carinae slightly depressed and sculptured; plicae converging along posterior margin of propodeum and ending at arcuate adpetiolar carinae (Fig. 6). Petiole long and slender, reticulate dorsally (Fig. 7).

*Ambocybe petiolata* Ubaidillah and LaSalle, new species  
(Figs. 1-7)

*Female*.—Length of body 1.0–1.3 mm; length of forewing 0.75–0.95 mm. Head and body dark brown, lower face and metasoma paler. Antenna yellow-brown. Legs pale yellow except coxae yellow-brown. Sculpture on mesosoma reticulate, shiny.



Head (Figs. 4, 5) broad with shiny, weak coriaceous to imbricate sculpture and inconspicuous pilosity. Compound eyes convex and large. Frons defined by an inverted U-shaped ridge extending from anterior ocellus along eye margin to lower face. Lower face produced medially, concealing clypeus, which is reduced and inflected. Strong longitudinal median carina present between toruli. Back of head with strong ridge forming a large curve from vertex to gena and defining a large, smooth occiput. Temple narrow. Vertex shiny, although finely wrinkled, with fine transverse carina between lateral ocellus and compound eyes. POL/OOL = 1.6. Antenna (Fig. 3) with scape long and slender, about 5 times as long as wide, reaching above vertex. Pedicel short, slender, about 2 times as long as wide. Two transverse anelli. Funicle with three segments, all longer than wide. Club with two segments.

Mesosoma (Figs. 5–6) except propodeum reticulate. Pronotum reduced and not visible in dorsal view. Mesoscutum transverse; midlobe with 2–3 pairs of setae; notaulus incomplete, but indicated posteriorly by wide shallow depression. Scutellum longer than broad, with 5–6 pairs of setae; slightly produced posteriorly so dorsellum concealed in dorsal view. Propodeum medially 0.40–0.50 as long as length of scutellum, with plicae and paired, subparallel median carinae; median carinae and plicae joined by transverse carina at posterior margin of scutellum. Legs long and slender; fore basitarsus elongate, slender, about twice as long as second segment (Fig. 1). Forewing (Fig. 2) with SMV tapering at apex and joining parastigma anteriorly to base of parastigma. Speculum absent. SMV with 1 dorsal seta. PMV very reduced, almost absent. MV/SMV 1.5–1.75; MV/SV 4.45–5.4.

Metasoma. Petiole (Fig. 7) unusually long, about three times as long as wide; broader distally; with 2 setae on each lateral margin; reticulate dorsally, with lon-

gitudinal dorso-lateral carina. Gaster smooth, elongate elliptical. Ovipositor short, apex not visible in dorsal view. Hypopygium extending 0.75–0.90 length of gaster.

*Male*.—Unknown.

*Biology and host*.—Unknown.

*Distribution*.—Currently known from Peninsular Malaysia, Sulawesi (Indonesia) and Papua New Guinea. The somewhat disjunct distribution spans both sides of Wallace Line, and suggests that this species may be more widespread through Southeast Asia and Australasia.

*Material examined*.—Holotype female: **INDONESIA**, Sulawesi, Dumoga Bone N.P., Toraut, 16–23.v.1985, Malaise trap, J.S. Noyes (MZB) (card mounted). 21 female paratypes (all card mounted): **INDONESIA**: same data as holotype (5 females MZB; 5 females BMNH; 3 females USNM; 3 females ANIC); same data as holotype but v.1985 (2 females BMNH). **MALAYSIA**, Selangor, Serdang, UPM Campus, 25.viii–3.ix.1992, Malaise Trap, J. LaSalle (1 female BMNH). **PAPUA NEW GUINEA**: Central Province, ~45 km NW Port Moresby, 5km NW Brown River Bridge (Hiritano Hwy).29.xii.1985, G. Gordh, rainforest (1 female UCR); Central Province, 20 km SE Port Moresby, 1.i.1986, G. Gordh, forest edge (1 female UCR).

*Etymology*.—*Ambocybe* is formed from the Greek *ambon*, for ridge or crest, and *kybe* for head. Gender feminine. The specific name, *petiolata*, reflects the presence of a long petiole.

*Discussion*.—*Ambocybe* is placed in the Entedoninae, although it differs from most other entedonines in several important characters. The Entedoninae is one of the best defined subfamilies of the Eulophidae (Bouček 1988, Schauff 1991). It is easily recognised by a variety of characters which include: scutellum with a single pair of setae (as opposed to two or more pairs); submarginal vein with two dorsal setae; mesoscutal midlobe with two pairs of setae; male scape with sensory pores re-



stricted to the ventral edge; face with frontal sulcus distinctly separated from the anterior ocellus; propodeum with subspiracular tubercles; marginal vein relatively long; stigmal vein relatively short (Bouček 1988, Schauff 1991). The most important of these characters are the single pair of setae on the scutellum, the presence of only two strong setae on the submarginal vein, and the position of the frontal sulcus. None of these characters are present in *Ambocybe*, however all of these characters do show variation within the Entedoninae.

A single pair of scutellar setae is one of the best characters for defining the Entedoninae (Schauff 1991), and is found in almost all members of the subfamily. *Ambocybe* has 5–6 pairs of setae on the scutellum. There are a few other entedonines which have more than a single pair of setae on the scutellum. These include *Parahorismenus* Girault (Bouček 1988), two species of *Pediobius* Walker (Kerrich 1973, Bouček 1977), and all members of the *Entedononecremnus* genus group in the Euderomphalini (*Entedononecremnus* Girault, *Aleuroctonus* LaSalle and Schauff, *Dasyomphale* LaSalle and Schauff; see LaSalle and Schauff 1994).

Another important character for defining the Entedoninae is the submarginal vein with two usually strong dorsal setae (Schauff 1991). *Ambocybe* only has a single seta. This character is also known in *Myrmokata* Bouček (Bouček 1972) and two genera in the Euderomphalini, *Pomphale* Husain, Rauf and Kudeshia and *Baeoentedon* Girault (LaSalle and Schauff 1994).

The frontal sulcus in Entedoninae is generally distinctly separated from the anterior ocellus (Schauff 1991). This sulcus is absent in *Ambocybe*. The frontal sulcus is absent from several other Entedoninae, including many species of *Entedon* Dalman and some *Paracrias* Ashmead (Schauff 1991), as well as members of the *Entedononecremnus* genus group (see above).

The mesoscutal midlobe in Entedoninae typically has two pairs of setae (Schauff

1991), but this character is more homoplastic than the preceding three characters, and there are numerous exceptions. *Ambocybe* has 2–3 pairs of setae on the mesoscutal midlobe.

Despite the numerous characters by which *Ambocybe* differs from other Entedoninae, we still feel that it is best placed in this subfamily. Characters to support this are the incomplete notauli, the structure of the carinae and plicae on the propodeum which are similar to those in *Pediobius* Walker, the presence of a small subspiracular propodeal tubercle, the relatively long marginal vein, and the short stigmal vein.

The relationships of *Ambocybe* remain unknown. The presence of distinct plicae on the propodeum would suggest an affiliation with other genera which also have this putatively synapomorphic character (such as *Pediobius* Walker, *Pediobomyia* Girault, *Rhynchentedon* Girault, *Apleurotropis* Girault, *Pleurotroppopsis* Girault, *Parahorismenus* Girault, *Zaommomentedon* Girault, *Schizocharis* Kerrich, *Platocharis* Kerrich, *Kratoysma* Bouček, *Horismenus* Walker, *Paracrias* Ashmead). Within this group of genera, it could be closest to those genera which possess some form of paired median carinae on the propodeum, such as *Pediobius*, *Pediobomyia*, and *Rhynchentedon*. However, it is not at all clear that *Ambocybe* is related to these genera, because all of the above genera possess a distinct transverse carina on the pronotum, and the pronotum is distinct and clearly visible in dorsal view. *Ambocybe* lacks a transverse carina on the pronotum, and the pronotum is short and not visible in dorsal view.

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