1980b

The female *Aha evansi* Menke, 1977 (Hymenoptera: Sphecidae, Larrinae)

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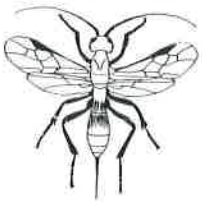
Lomholdt, O. C.: The female *Aha evansi* Menke, 1977 (Hymenoptera: Sphecidae, Larrinae).
Ent. scand. 11: 241–244. Lund, Sweden 7 July 1980. ISSN 0013-8711.

Ent. scand.



Aha—comprising two species endemic to Australia—was previously known from male specimens only. The female *A. evensi* Menke, 1977 is described here for the first time. The single specimen available originated from very near to the type-locality of the species. The female has the general habitus of *Lyroda*.—The following autapomorphic traits characterize the genus: 1) Dimorphic claws in both sexes (the outer claw is much enlarged while the inner claw is atrophied); 2) labiomaxillary complex compressed; 3) loss of volsellar sclerite; 4) loss of aedeagal teeth; 5) pronotal collar with a strong median sulcus; 6) Media of fore wing diverges from M + Cu proximally to cu-a. The possesion of the following characters includes *Aha* in the Larrini: 1) Second submarginal cell receives both recurrent veins; 2) propodeal synsclerite elongate; 3) posterior propodeal face transversely carinate; 4) lateral ocelli deformed.

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A single female *Aha evansi* Menke, 1977 was found among undetermined material sent to me from the Museum of Comparative Zoology (Dept. of Entomology), Harvard University, U.S.A. It bears the label: "Australia, VIC (toria) 15–20 mi. S. Ouyen. 24 Feb. 1970. Coll. H. Evans. R. W. Matthews". Through the kind assistance of I. Naumann, Australian National Insect Collection, Canberra, a male *A. evansi* became available for the present study. It bears the following labels: "Lowan Sta., 4 ml. S. of Sherlock, S.A. 21.12.1954. L. J. Chinnick"/"Aha evansi Menke. Det. Menke 1979".

Dr. W. J. Pulawski, Poland kindly commented on the manuscript.

Aha is endemic to Australia and includes two species, both of which were described on male material only.

Description

Figs. 1–6.

Colour: Black except anterior margin of clypeus, middle part of mandibles (ferrugineously transparent), and distal part of the tarsomeres (brownish).

Vestiture: Frons, genae, pronotal collar, posterior scutellum, metanotum, mesopleuron, propodeum, fasciae on terga I–IV, and legs with a thin, silvery, appressed pubescence. Posterior head, genae, mesopleuron, and postero-lateral propodeum with numerous long, erect whitish setae. Anterior pronotum, scutum, scutellum, anterior 3/4 of terga I–IV with brownish pubescence. Frontal setal pattern as in Figs. 2, 3.

Structure: Inner orbits diverging ventrally (Fig. 2). Frontal line distinct. Lateral ocelli slightly deformed (Fig. 3). Clypeus (Fig. 2) with a median, rounded triangular lobe and three lateral teeth. Mandibles slightly widened subapically. Inner subbasal double-tooth present. Antennae long and slender, comparative lengths to widths of flagellomeres I, II, and III: 29: 8.5, 26: 8, 23: 8. Pronotal collar with a distinct, longitudinal, median furrow. Posterior face of propodeal synsclerite with four transverse carinae dorsally. Pygidial plate (Fig. 4) plane, densely setose, apex broadly rounded. Foremetatarsus with five

Fig. 1. *Aha evansi*. Scale: 10 mm.

long spines (Fig. 5), the distal spine much longer than the second tarsomere. Claws strongly dimorphic (Fig. 6), the larger with a ventral gutter-like concavity proximally, subdentate medially. Otherwise like the male.

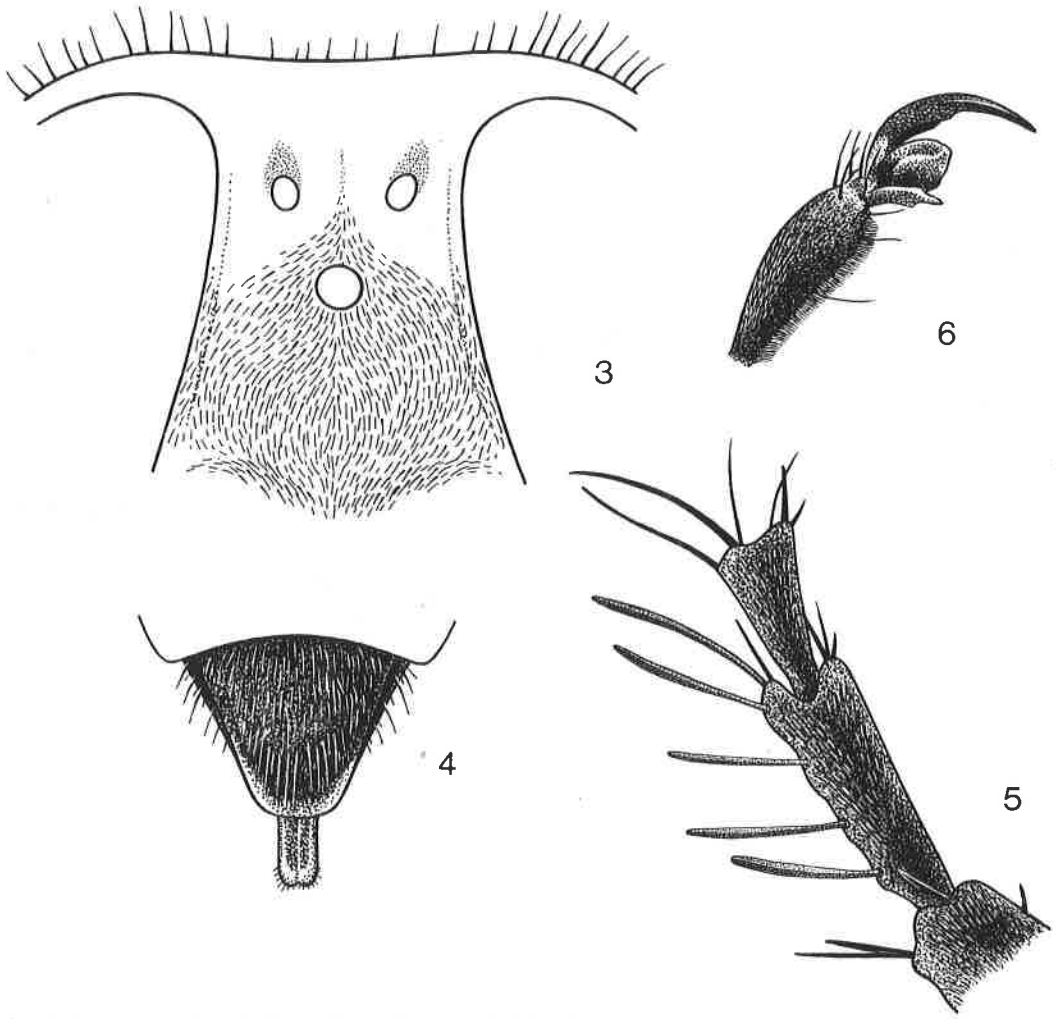
Length: 12.5 mm.

Discussion

Although Menke based the key characters of *Aha* on male specimens only, the female runs to *Aha* without difficulties in his key (1977: 681). The discovery of the female helps to clarify the systematic position of *Aha*. Thus the general habitus of this specimen certainly points towards the Larrini as does the slightly deformed lateral ocelli. Also, the forewing venation (see also F below) is very similar, for example to *Lyroda* or *Liris*. However, the jugal lobe is large in *Aha*. (According to my analysis of the phylogeny of the larrine tribes (in press), *Lyroda* is a member of the Larrini. *Aha* cannot be regarded as a member of the Miscophini *sensu mihi* because of the nonpetiolate second submarginal cell). The clypeal outlines of female *Aha* and *Lyroda* are very similar, and the flattened, strongly setose pygidial plate is also common to these two genera (symplesiomorphy). *Aha* displays a series of apparent apomorphic traits (see also Menke 1977): A) Dimorphic claws. In the present *Aha* female the outer claw is much enlarged (as also shown in Menke's Fig. 8 despite the author's statement that the inner claw is larger in *Aha*). Dimorphic claws are frequently found in some larrine genera. B) Compressed labio-maxillary complex. A similar condition is displayed in *Larra* (Larrina) and in *Kohliella* (Tachytina). C) Loss of volsella. Within the Larrinae the volsellar sclerite is also lost in *Palarus* and the Miscophini *sensu mihi*. D) Loss of aedeagal teeth. Similar reductions have occurred on several occasions throughout the Larrinae. E) Pronotal collar with a median sulcus. The presence of this character in *Aha* is noteworthy since the median part of the pronotal collar is usually either uniformly thick or swollen in the Larrinae (exceptions in *Larra*). In some *Palarus*, the crabronines, and some *Bothynostethus* (and in several instances outside the Larrinae) a median sulcus is, however, present. F) Media diverges proximally to cu-a. A similar condition is also present in the Scapheutini, in a few cases within the Miscophini (only single species or aberrant specimens), in *Larrisson nedymus* Menke, 1979, and in a single undescribed *Lyroda*.

In haplo-diploid organisms such as the Sphecidae males very often display a series of apparently sex-linked, very conspicuous characters, not at all expressed by the conspecific females. Sexual dimorphism is frequently so extensive that conspecific sexes have been de-

Fig. 2. *Aha evansi*. Scale: 1.0 mm.



Figs. 3–6. *Aha evansi*. — 3. Dorsal frons. Note the slightly deformed lateral ocelli. — 4. Pygidial plate. — 5. Left foremetatarsus and second tarsomere. — 6. Left foretarsal claws.

scribed as different species or even genera. The sexual dimorphism in *Aha* is rather slight, but in the original description of the genus, Menke (1977: 673) wrote that "*Aha* has the general facies of *Tachysphex* (Larrini)." *Aha* was referred to the Miscophini because of 1) the normal ocelli. Within the miscophinine genera (sensu Bohart & Menke 1976) *Aha* was compared with *Plenoculus* (which is a Holarctic genus with a single species in Mexico) and it was found that the two genera share the following characters: 2) Frons simple; 3) 13 articles in the male antenna; 4) notched mandibles; 5) incomplete occipital carina; 6) fine propodeal sculpture, 7) spinose tibiae; and 8) simple foretrochanter. Furthermore, Menke listed a series of characters separating these two genera: 9) Prementum longitudinally folded in *Aha*; 10) last tergum densely setose in *Aha*; 11) dimorphic ("asymmetrical") claws in *Aha*; 12) second submarginal cell not petiolate in *Aha*; 13) second submarginal cell receives both recurrent veins in *Aha*; 14) Media of forewing diverges from M + Cu proximally to cu-a in *Aha*; 15) Sternum 8 ("subgenital plate") bispinose in *Aha*; and 16) body without yellow maculations in *Aha*.

According to my recent analysis of the phylogeny of the larrine tribes (Lomholdt, in press) character Nos. 1–8, 10, 12, 15, and 16 (?) can be considered symplesiomorphies for all larrine genera. 9, 11, and 14 are considered autapomorphies of *Aha*. Character No. 13 is a synapomorphic trait of the Larrini (including *Lyroda*, as mentioned above). *Plenoculus* is probably a member of the "Crabroniformia" sensu Lomholdt (in press). I cannot decide whether or not yellow maculations (character No. 16) are to be considered as belonging to the ground-plan characters of the Larrinae; but on balance they probably are.

Conclusions

The genral habitus of this female (including the presence of an elongated propodeal synsclerite, transversely carinated posterior face, and the structure of the three submarginal cells) strongly indicates a close phylogenetic relationship with *Lyroda* among the Larrini. *Aha* cannot be included in the Larrini s.str. because the lateral ocelli are only very slightly deformed, but as the genus represents a slightly more advanced stage than *Lyroda*, its systematic position is suggested to be low on the evolutionary line giving rise to the Larrini sensu Bohart & Menke 1976 (compare with Fig. 60 on p. 228).

References

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Manuscript received January 1980.