

A new *Amegilla* (Hymenoptera: Anthophoridae) from Western Australia

Robert W. Brooks*

Abstract

Amegilla paracalva sp. nov. is described here in response to studies of Houston (1991). It belongs to the subgenus *Asaropoda* which is endemic to the Australian region (not Tasmania or New Zealand). Descriptive morphology follows that of Brooks (1988).

Amegilla (Asaropoda) paracalva sp. nov.

Figures 1-6

Holotype

Male: *Western Australia*, 16 km WSW of Lyons River Homestead, (24°38'S, 115°20'E), 30 August-1 September 1980, C.A. Howard and T.F. Houston collection numbers 344-27, reared from brood cell. Became adult 5 September 1983, Western Australian Museum Collection (WAMC) 90/879.

Paratypes

Allotype with same data but collection number 344-14/ex: nest burrow in breakaway hollow, WAMC 90/880; 2 female paratypes with same data except first specimen with collection number 344-27, ex: nest in clay flat, WAMC 91/179 and second reared from cell taken from ground nest, pupated prior to 12 October 1981, adult by 6 November 1981, WAMC 91/180. Holotype, allotype and one paratype at the Western Australian Museum, Perth and one paratype at the Snow Entomological Museum, Lawrence, Kansas.

Diagnosis

Body covered with buff to light orange hair; integumental facial marks cream-coloured (Figures 1,2); male genitalia and metasomal stema as Figures 3-6.

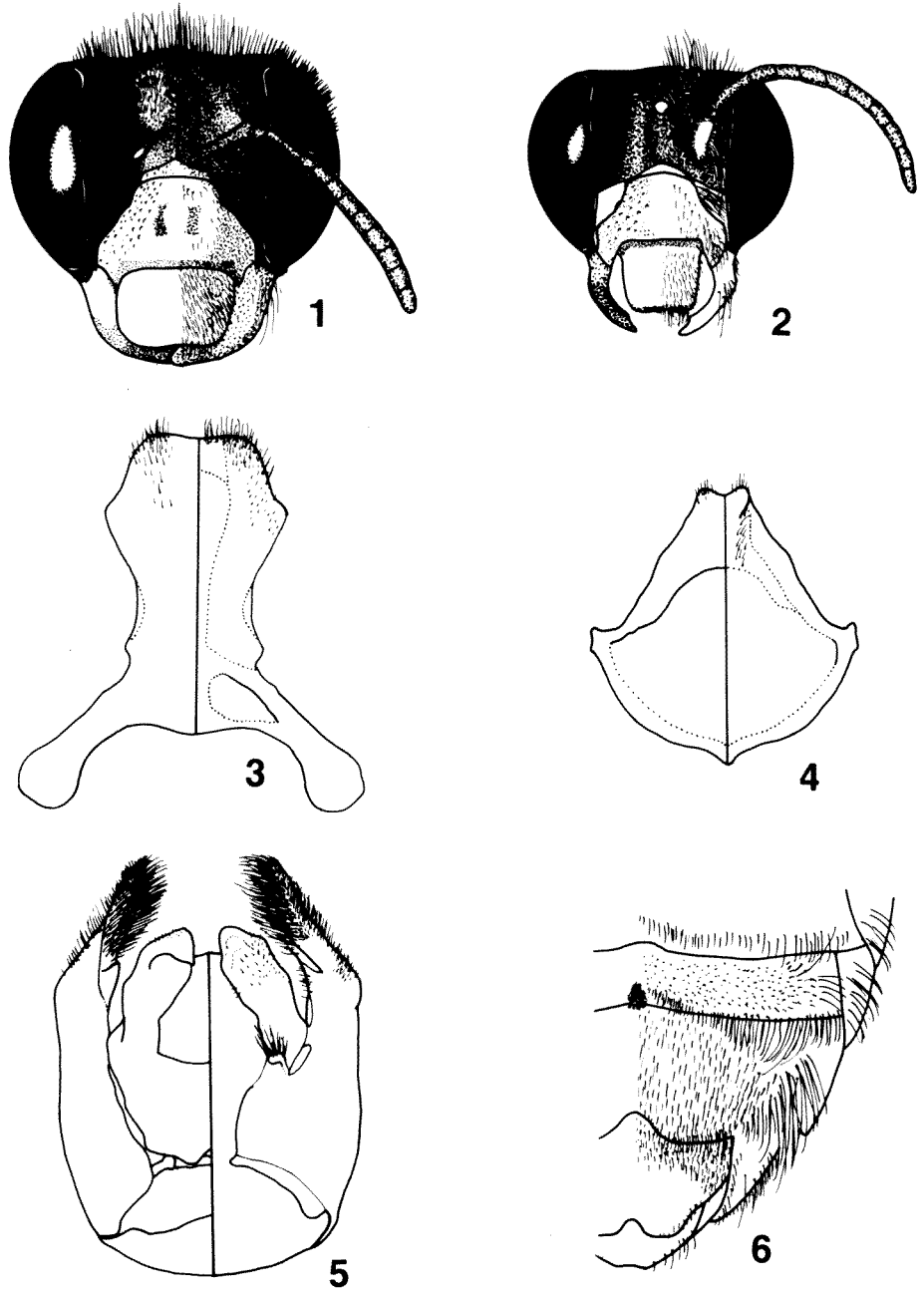
Amegilla (Asaropoda) paracalva sp. nov. can be separated from *A. calva* and *A. preissi* in that it has white to cream-coloured integumental facial marks while those of the latter two are lemon yellow. Also in male *A. paracalva* the apicomedian emargination of S5 is much wider than deep, the base of the emargination is rounded the sides being at a 90° angle and S6 is apicomediaally emarginate. S5 of *A. calva* and *A. preissi* has an apicomedian emargination about as wide as deep, emargination basally angulate not rounded with the sides about 60° and S6 is apically simple to very slightly emarginate. *A. calva* and *A. preissi* are restricted to New South Wales and Queensland, *A. paracalva* to Western Australia.

Description

Male (holotype)

Body length about 15 mm; forewing length about 10 mm. Inner orbits parallel; shortest distance between eyes 0.83 frontal length of eye; head wider than long; clypeal

* Snow Entomological Museum, University of Kansas, Lawrence, Kansas 66045-2119, U.S.A.



Figures 1-6 *Amegilla paracalva* sp. nov.; 1, female face; 2, male face; 3-5, male S7, S8 and genital capsule, left side is dorsal, right is ventral; 6, male S5-7, ventral view.

protuberance in profile 0.67 eye width; mandible with weak subapical tooth; flagellomere 1 equal to combined lengths of next 1.5 flagellomeres and 0.68 as long as scape (excluding basal bulb); flagellomere 2 equal to 0.77 length of flagellomere 3; flagellomeres 3-10 gradually increasing in length; last flagellomere subequal to length of flagellomere 1; distance between posterior ocelli 1.1 ocellocular distance; distance from median ocellus to posterior ocellus equal to 0.68 ocellocular distance. Marginal cell length equal to 0.82 distance from apex of cell to wing tip; cu-v of hind wing about equal to length of second abscissa of M+Cu; jugal lobe about half as long as vannal lobe. S5 and S6 with narrow apicomedian emargination (Figure 6); S7, S8 and genital capsule as in Figures 3-5.

Pubescence. Head with pale buff hair, lighter on lower half; scutum with light orange-brown and scattered black hairs; metanotum and scutellum with light orange-brown hair, rest of thorax with pale hair; foreleg with pale hair on outer surface, dark orange-brown hair on inner surfaces of tibia and tarsus; midtibia pale with mixture of dark and pale hair on tarsus and all dark on inner tarsal surface; hindleg pale only on outer surface of femur and tibia, rest dark. Metasomal terga with appressed orange-brown hair that is lighter and longer laterally but with a few dark hairs laterally on T6 and dark dense pile apicolaterally on T7; S1-5 with pale apical fringes which are longer laterally; S4 with apicomedian patch of black apically directed bristles (Figure 6); S6 with basal band of pale hair.

Colouration. Black except integumental facial marks, mandibular base, labrum, clypeus, paraocular and supraclypeal areas and anterior portion of scape cream coloured as in Figure 2; apical half of mandible, maxilla, glossa, tegula, legs, apices of metasomal sterna and terga reddish-brown.

Punctuation. Punctures on clypeus 0.5-1.0 puncture-widths apart, rather dull basally to shiny apically; rest of punctuation typical of *Amegilla*.

Female

Body length 16 mm, forewing length 13 mm. Agrees with description of male except for sex-limited characters including facial marks (Figure 1) and as follows: flagellomere 1 equal to combined length of next 2.7 flagellomeres, about as long as scape (excluding basal bulb) and 1.7 as long as last flagellomere; distance between posterior ocelli about equal to ocellocular distance, from median to posterior ocellus 0.64 ocellocular distance.

Pubescence. Outer posterior surface of foretarsus with long curved dark hairs; inner surface of midleg with dark hair; anterior and posterior surfaces of midfemur pale; outer surface of midtibia pale with dark band on apicoposterior surface; midtarsus with scattered white hairs on anterior surface and white posterior band; inner surfaces of hindleg black, outer surfaces white except anterior edge of tarsus black; metasomal terga with scattered inclined dark hairs, T5 with apicomedian tuft of dark hair; T6 all black; metasomal sterna with long dark hairs medially, pale hairs laterally.

Remarks

Amegilla paracalva sp. nov. is most closely related to *Amegilla calva* (Rayment) and *A. preissi* (Cockerell). Among *Asaropoda* these three species are uniquely characterized

by hair pale to gray evenly covering thoracic and metasomal areas; midtibial spur strongly hooked apically and S6 of female simple without U-shaped carina delimiting median area.

References

- Brooks, R.W. (1988). Systematics and Phylogeny of the Anthophorine Bees (Hymenoptera: Anthophoridae; Anthophorini). *Univ. Kansas Sci. Bull.* **53**: 436-575.
- Houston, T.F. (1991). Ecology and behaviour of the bee *Amegilla (Asaropoda) dawsoni* (Rayment) with notes on a related species (Hymenoptera: Anthophoridae). *Rec. West. Aust. Mus.* **15**: 535-553.

Guide to Authors

Subject Matter:

Reviews, observations and results of research into all branches of natural science and human studies will be considered for publication. However, emphasis is placed on studies pertaining to Western Australia. Full length papers should not normally exceed 30 typed pages. Short communications should not normally exceed three typed pages and this category of paper is intended to accommodate observations, results or new records of *significance*, that otherwise might not get into the literature, or for which there is a particular urgency for publication. All material must be original and not have been published elsewhere.

Presentation:

Authors are advised to follow the layout and style in the most recent issue of the *Rec. West. Aust. Mus.* including headings, tables, illustrations and references.

The title should be concise, informative and contain key words necessary for retrieval by modern searching techniques. Names of new taxa must not be included. An abridged title (not exceeding 50 letter spaces) should be included for use as a running head..

An abstract must be given in full length papers but not short communications, summarizing the scope of the work and principal findings. It should normally not exceed 2% of the paper and should be suitable for reprinting in reference periodicals. Contrary to Recommendation 23 of the International Code of Zoological Nomenclature it may include names of new taxa.

Footnotes are to be avoided, except in papers dealing with historical subjects.

The International System of units should be used.

Numbers should be spelled out from one to nine in descriptive text; figures used for 10 or more. For associated groups, figures should be used consistently, e.g. 5 to 10, not five to 10.

Spelling should follow the *Concise Oxford Dictionary*.

Systematic papers must conform with the International Code of Botanical and Zoological Nomenclature and, as far as possible, with their recommendations.

Synonymies should be given in the short form (taxon, author, date, page) and the full reference cited at the end of the paper.

Manuscripts:

The original and two copies of manuscripts and figures should be submitted to the Editorial Committee, c/-Publications Department, Western Australian Museum, Francis Street, Perth, Western Australia 6000. They must be in double-spaced typescript on A4 sheets. All margins should be at least 30 mm wide. Tables plus headings and legends to illustrations should be typed on separate pages. The desired position for insertion of tables and illustrations in the text should be indicated in pencil. Tables should be numbered consecutively, have headings which make them understandable without reference to the text, and be referred to in the text.

High quality illustrations are required to size (13.5 cm x 18 cm) or no larger than 32 cm x 40 cm with sans serif lettering suitable for reduction to size. Photographs must be good quality black and white prints, 13 cm x 18 cm (5 inches x 7 inches). If scale line and lettering are required on photographs *do not* place directly on to print. They should be positioned on a clear paper or film overlay. Scale must be indicated on illustrations. All maps, line drawings, photographs and graphs, should be numbered in sequence and referred to as Figure/s in the text and captions. Each must have a brief, fully explanatory caption. On acceptance an IBM compatible disk containing all corrections should be sent with amended manuscript. The disk should be marked with programme (e.g. Wordperfect, Windows, etc) and exact catchline used.

In papers dealing with historical subjects references may be cited as footnotes. In all other papers references must be cited in the text by author and date and all must be listed alphabetically at the end of the paper. The names of journals are abbreviated according to *World List of Scientific Periodicals*. The use of 'unpublished data' or 'personal communication' is discouraged.

Processing:

Papers and short communications are reviewed by at least two referees and acceptance or rejection is then decided by an editorial committee.

The senior author is sent one set of galley proofs and one set of page proofs which must be returned promptly.

The senior author will receive fifty free offprints of the paper. Additional offprints can be ordered at page proof stage.

CONTENTS

D.J. Kitchener, I. Maryanto Taxonomic reappraisal of <i>Hipposideros larvatus</i> species complex (Chiroptera: Hipposideridae) in the Greater and Lesser Sunda Islands, Indonesia	119
H.S. Gill Description of a new genus of goby from southern Australia, including osteological comparisons with related genera	175
A.F. Millidge Three new species of the spider family Linyphiidae from Australia (Araneae)	211
J.S. Buckeridge A re-evaluation of the Gondwanan invertebrate <i>Waiparaconus</i> as a coelenterate	221
K.P. Aplin, R.A. How, Boeadi A new species of the <i>Glaphyromorphus isolepis</i> Species Group (Lacertilia; Scincidae) from Sumba Island, Indonesia	235
K.P. Aplin, S.C. Donnellan A new species of blindsnake genus <i>Ramphotyphlops</i> (Typhlopidae, Squamata), from northwestern Western Australia, with a redescription of <i>R. hamatus</i> , Storr 1981	243
H. Dalens Two new genera of terrestrial isopods (Crustacea: Isopoda: Oniscidea) from north-western Western Australia	257
P.L.A. Erfemeijer, G.R. Allen Fish fauna of seagrass beds in south Sulawesi, Indonesia	269
SHORT COMMUNICATION	
R.W. Brooks A new <i>Amegilla</i> (Hymenoptera: Anthophoridae) from Western Australia	279