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Two new species of *Alocanthesdon* from Indonesia and Malaysia (Hymenoptera: Megachilidae)

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Abstract

Two new species of *Chalicodoma* LEPELETIER DE SAINT FARGEAU subgenus *Alocanthesdon* ENGEL & GONZALEZ are described and figured from Indonesia and Malaysia. *Chalicodoma (Alocanthesdon) indonesicum* ENGEL & SCHWARZ, nov.sp., is described from two males collected on Siberut Island (Mentawai Island Chain) and Central Java (Indonesia). From Sarawak (Malaysian Borneo) is described *C. (A.) trusanicum* ENGEL, nov.sp., also only known from the male. Both species are superficially similar to *C. (A.) memecylona*e ENGEL 2011 from Peninsular Malaysia.

Zusammenfassung

Zwei neue Arten der Gattung *Chalicodoma* LEPELETIER DE SAINT FARGEAU Untergattung *Alocanthesdon* ENGEL & GONZALEZ aus Indonesien und Malaysia werden beschrieben und vorgestellt. *Chalicodoma (Alocanthesdon) indonesicum* ENGEL & SCHWARZ, nov.sp. basiert auf zwei Männchen gesammelt auf der Insel Siberut (Westküste Sumatras) sowie Zentral Java (Indonesien). *C. (A.) trusanicum* ENGEL nov.sp. stammt aus Sarawak (im Nordwesten der Insel Borneo) und ist bisher erst nur durch ein Männchen belegt. Beide Arten sind oberflächlich betrachtet ähnlich der *C. (A.) memecylona*e ENGEL 2011, die ihr Vorkommen auf der Halbinsel Malaysia hat.

Introduction

The subgenus *Alocanthesdon* ENGEL & GONZALEZ is one of the more distinctive Southeast Asian bee lineages allied to the subgenera *Callomegachile* MICHENER and *Eumegachiliana* MICHENER. Presently the subgenus comprises five species – *C. (A.) apoicola* ENGEL (Mindanao), *C. (A.) aterrimum* (SMITH) (Sulawesi), *C. (A.) atratiforme* (MEADE-WALDO) (Peninsular Malaysia, Myanmar, Thailand), *C. (A.) memecylonae* ENGEL (Peninsular Malaysia), and *C. (A.) odontophorum* ENGEL (Myanmar, Thailand) (ENGEL & GONZALEZ 2011).

Herein we provide the description of two new species from Sarawak (Malaysia) and Indonesia. Like all males of *Alocanthesdon*, the new species possess the distinctive juxtamandibular lamellae and deep postgenal concavities. However, the new species are superficially most similar to *C. memecylonae* in the absence of the otherwise typical patch of dense black setae in the forewing medial cell (vide ENGEL & GONZALEZ 2011). Brief descriptions are provided for these two species in order to make their names available for continuing work on the Asian fauna of Megachilidae. Morphological terminology follows that of ENGEL (2001) and MICHENER (2007), while the format for the description is taken from ENGEL & GONZALEZ (2011).

It should be noted that the coloration of setae on the face and legs is often challenging to interpret owing to the state of preservation. In specimens where the setae have been matted and covered with residues (presumably plant oils or resins), they can appear dark, nearly black at times (e.g., clypeal setae depicted in figure 11), but when cleaned can be revealed to be truly reddish or even tawny in color. Given that all of the known species of *Alocanthesdon* are based on small series, owing to the rarity of these bees in collections, it is unclear whether the observed color differences are truly of specific value. For the moment we retain such characters as they appear to be correlated with the more significant structural traits such as the male protarsus.

Repository abbreviations are

NHMLDepartment of Entomology, The Natural History Museum, London, UK.

MSCA.....Maximilian Schwarz Collection, Ansfelden, Austria.

Systematics

Genus *Chalicodoma* LEPELETIER de SAINT FARGEAU

Subgenus *Alocanthesdon* ENGEL & GONZALEZ

Chalicodoma (Alocanthesdon) indonesicum ENGEL & SCHWARZ nov.sp. (Figs 1-9)

Diagnosis: Like *C. memecylonae*, this species has yellow forewings with a grayish hyaline apex, lacks the otherwise typical patch of dense black setae in the medial cell, and has a weakly and narrowed concave medial apex to the sixth metasomal tergum (Figs. 1, 4). The new species differs most readily in having tawny clypeal setae (rather than reddish orange), a distinctive protarsal structure most notably with a greatly enlarged anterobasal lamellate tooth exceeding the length of the bordering setae and with

a concave apical margin giving the tooth a 'hooked' appearance (Fig. 3) (tooth distinct but not so enlarged, distinctly shorter than bordering setae and with apical margin obliquely straight in *C. memecylona*, vide ENGEL & GONZALEZ 2011), and its generally smaller overall size.

Description: ♂: As described for *C. memecylona* (vide ENGEL & GONZALEZ 2011) except as follows: Total body length 15.5 mm; forewing length 11.9 mm. Head broader than long (width 5.0 mm, length 3.3 mm); intertorular distance 1.5 times torulorbital distance; interocellar distance 1.6 times median ocellar diameter, 1.1 times ocellocular distance; ocellocipital distance 2.6 times median ocellar diameter; compound eye about twice as long as wide, slightly broader than gena in profile. Protibia with strong, outer, posterior carina running along apical two-thirds of length, apically produced into small posteriorly-directed spine, not carinate along transverse apex of protibia, anterior border ridged but not carinate, apical anterior surface faintly depressed; protarsus modified as in figure 3, with anterobasal, lamellate tooth strongly produced, exceedingly length of bordering setae and with apical margin concave (Fig. 3); meso- and metafemora somewhat swollen. Preapical carina of sixth tergum produced, weakly and narrowly concave medially (Fig. 4). Terminalia as in figures 5-9.

Pubescence generally dark fuscous to black except as follows: clypeus apically with dense fringe of long, apically-directed tawny setae (Figs. 2, 4); supraclypeal area with long, numerous, tawny setae, partially fuscous laterally; white and black setae arranged on protarsus and apex of protibia as in figure 3; wing setae generally yellow or tawny yellow, without dense cluster of setae forming spot in medial cell.

Etymology: The specific epithet is based on the country from which the type species was collected.

Material examined: Holotype ♂, N. Central Java, Gunung Moerjo [Gunung Muria], 3000 ft, xii.1935, K.M. Walsh (NHML); 1 paratype ♂, IDN [Indonesia, West Sumatra Province], Mentawai Isl. [Islands], N. Siberut isl. [Island], 50-100 m, 3-4.2005 [March-April 2005], S. Jakl lg. (MSCA).

***Chalicodoma (Alocanthesdon) trusanicum* ENGEL nov.sp. (Figs 10-18)**

Diagnosis: Like *C. memecylona*, this species has yellow forewings with a grayish hyaline apex, lacks the otherwise typical patch of dense black setae in the medial cell, and has a weakly and narrowed concave medial apex to the sixth metasomal tergum (Figs. 10, 13). The new species differs most readily in having reddish or tawny clypeal setae, a distinctive protarsal structure with a very weakly developed anterobasal tooth (Fig. 12), the third metasomal sternum without apicolateral patches of elongate, posteriorly-directed black setae (such setae present in *C. memecylona* and *C. indonesicum*), and the fourth metasomal sternum with dense transverse patch of plumose fuscous setae restricted to apical half of disc and not reaching lateral margins (fourth sternum with elongate, plumose black setae throughout, those medially shorter and with fuscous apices in *C. memecylona* and *C. indonesicum*).

Description: ♂: As described for *C. memecylona* (vide ENGEL & GONZALEZ 2011) except as follows: Total body length 16.7 mm; forewing length 12.5 mm. Head broader than long (width 5.2 mm, length 3.7 mm); intertorular distance 1.5 times torulorbital distance; interocellar distance 1.7 times median ocellar diameter, 1.04 times

ocellocular distance; ocelloccipital distance 3.3 times median ocellar diameter; compound eye about twice as long as wide, slightly broader than gena in profile. Protibia with strong, outer, posterior carina running along apical three-quarters of length, apically produced into small posteriorly-directed spine, not carinate along transverse apex of protibia, anterior border ridged but not carinate, apical anterior surface not depressed; protarsus modified as in figure 21; meso- and metafemora somewhat swollen. Preapical carina of sixth tergum produced, weakly and narrowly concave medially (Fig. 13). Terminalia as in figures 14-18.

Pubescence generally dark fuscous to black except as follows: clypeus apically with dense fringe of long, apically-directed reddish or tawny setae; supraclypeal area with long, numerous, reddish or tawny setae (Fig. 11); setae arranged on protarsus and apex of protibia as in figure 12; wing setae generally yellow or tawny yellow, without dense cluster of setae forming spot in medial cell. Third metasomal sternum without apicolateral patches of elongate, posteriorly-directed black setae; fourth metasomal sternum with dense transverse patch of plumose fuscous setae restricted to apical half of disc, patch not reaching lateral borders of sternum.

E t y m o l o g y : The specific epithet is based on the name of the type locality.

M a t e r i a l e x a m i n e d : Holotype ♂, Borneo, Sarawak, Trusan, Jan. 1915, Prof. H.W. Smith (NHML); 1 paratype ♂, Borneo, Sarawak, Trusan, Jan. 1915, Prof. H.W. Smith (NHML).

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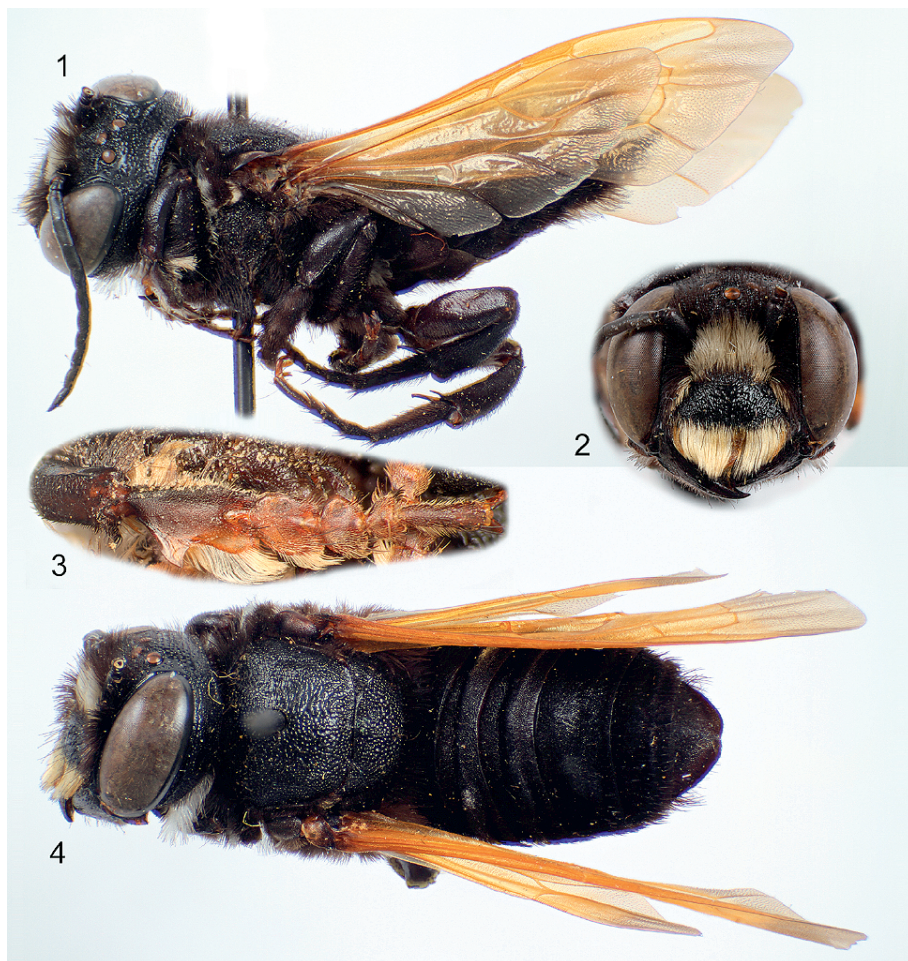
Literature

- ENGEL M.S. (2001): A monograph of the Baltic amber bees and evolution of the Apoidea (Hymenoptera). – Bull. Amer. Mus. Nat. Hist. **259**: 1-192.
- ENGEL M.S. & V.H. GONZALEZ (2011): *Alocanthesdon*, a new subgenus of *Chalicodoma* from Southeast Asia (Hymenoptera, Megachilidae). – ZooKeys **101**: 51-79.
- MICHENER C.D. (2007): The Bees of the World [2nd Edition]. – xvi+[i]+953 pp., +20 pls. Baltimore, MD (Johns Hopkins University Press).

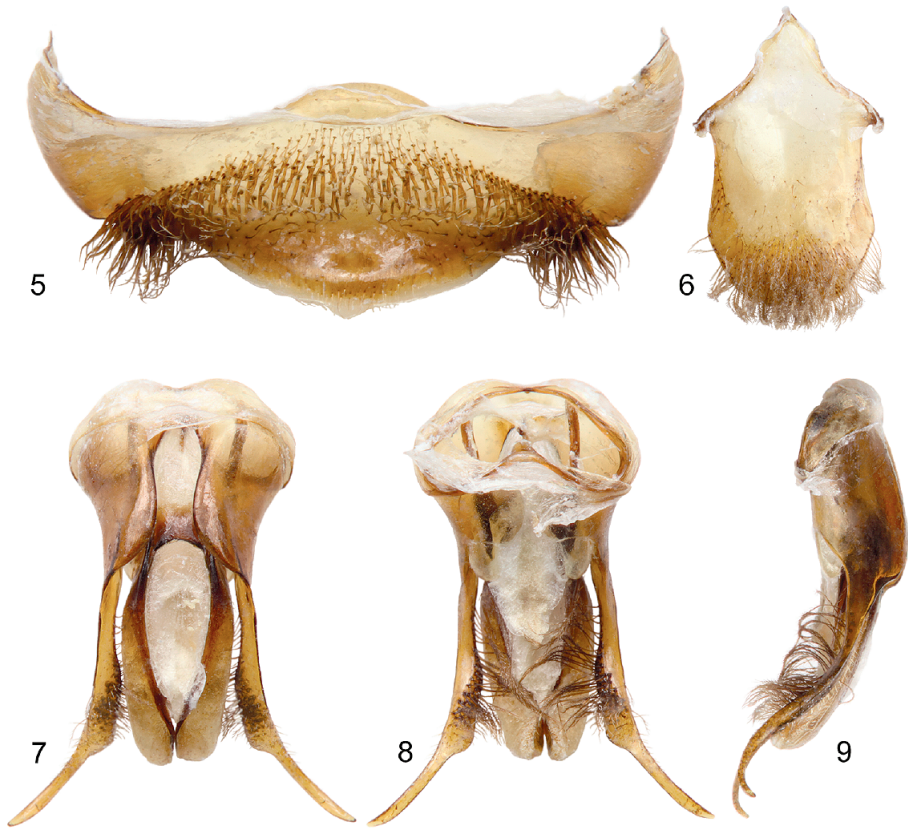
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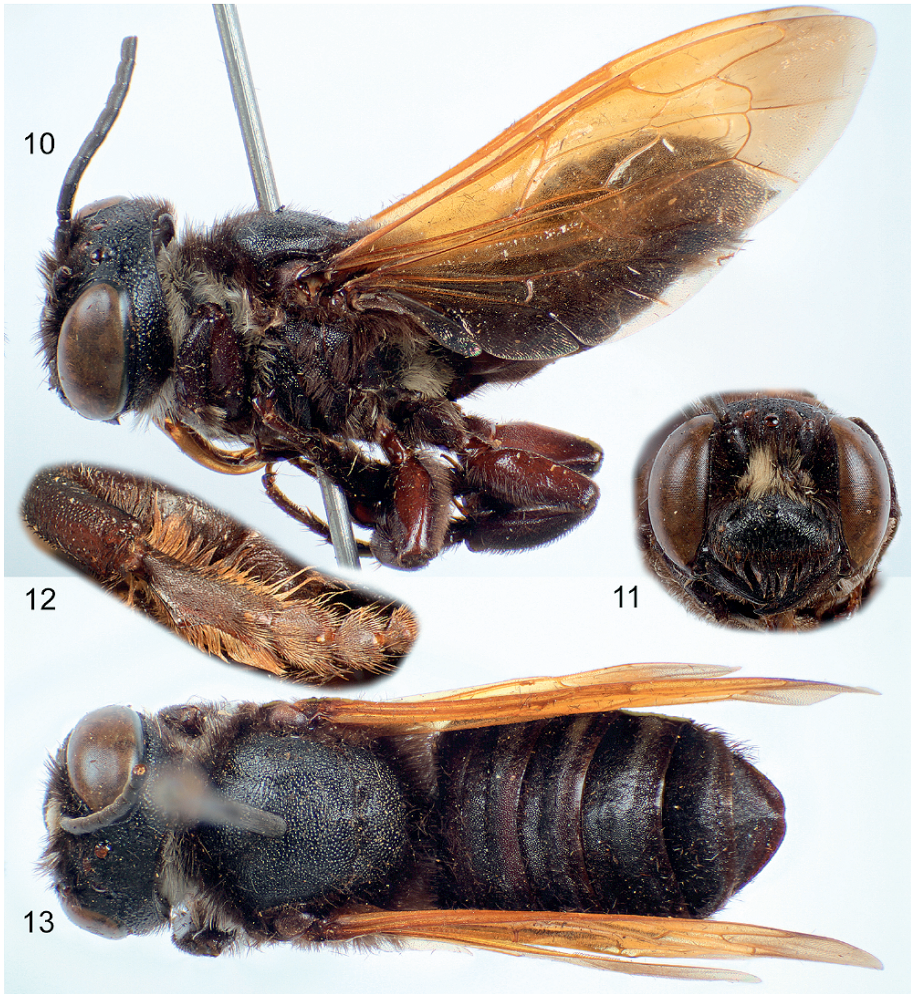
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Figs 1–4: Photomicrographs of holotype male of *Chalicodoma (Alocanthedon) indonesicum* ENGEL & SCHWARZ, sp. n. (1) lateral habitus; (2) facial aspect; (3) probasitarsus; (4) dorsal habitus.



Figs 5–9: Photomicrographs of male terminalia of paratype male of *Chalicodoma (Alocanthedon) indonesicum* ENGEL & SCHWARZ, sp. n. (5) sternum VI; (6) sternum VIII; (7) genital capsule, dorsal aspect; (8) genital capsule, ventral aspect; (9) genital capsule, lateral aspect.



Figs 10–13: Photomicrographs of holotype male of *Chalicodoma (Alocanthedon) trusanicum* ENGEL, sp. n. (10) lateral habitus; (11) facial aspect (note: when cleaned the clypeal setae appear dark reddish); (12) probasitarsus; (13) dorsal habitus.



Figs 14–18: Photomicrographs of male terminalia of holotype male of *Chalicodoma (Alocanthedon) trusanicum* ENGEL, sp. n. (**14**) sternum VI; (**15**) sternum VIII; (**16**) genital capsule, dorsal aspect; (**17**) genital capsule, ventral aspect; (**18**) genital capsule, lateral aspect.

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