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A new species of the rare African wool-carder bee genus *Anthidioma* (Hymenoptera: Megachilidae) from Namibia

T.L. Griswold & V.H. Gonzalez*

USDA-ARS Bee Biology & Systematics Laboratory, Utah State University, Logan, Utah 84322-5310, U.S.A.

The African bee genus *Anthidioma* Pasteels is a rare representative of the megachilid tribe Anthidiini that occurs in Namibia and the Western Cape Province, South Africa (Michener 2007). The genus was proposed by Pasteels (1984) based upon a female with long, abundant hairs and without the common yellow maculations found on the body of most anthidiine bees (i.e. *Anthidioma chalicodomoides* Pasteels; Figs 1–4). He also included another species in the genus, *Anthidioma murinum* Pasteels, based on a single female but it was tentatively transferred to *Afranthidium sensu stricto* by Michener & Griswold (1994). Such a taxonomic change as well as the generic rank of *Anthidioma* could be clarified once the male is found and a cladistic analysis is undertaken (Michener & Griswold 1994; Michener 2007). *Anthidioma* belongs to a derived clade of Anthidiini that includes *Afranthidium* Michener, *Anthidium* Fabricius, *Gnathanthidium* Pasteels, *Indanthidium* Michener and Griswold, *Neanthidium* Pasteels, *Pseudoanthidium* Friese, and *Serapista* Cockerell (Gonzalez *et al.* 2012). The clade is characterized by the female mandible, which has at least four small, acute teeth on the distal margin and by the outer surfaces of the labrum and mandible, which lack velvet hairs (Gonzalez *et al.* 2012). Michener (2007) referred to this clade as series B or wool-carder bees because the multidentate mandible and the absence of velvet hairs are presumably associated with the use of plant trichomes to build cotton-like brood cells, instead of the resin used in nest building in series A.

Herein we describe a second species of *Anthidioma* from Namibia that has been known to us for several years. The description of the species has been delayed in the hope of finding more specimens, but despite a thorough search for material from the region as a part of a large, on-going research programme on anthidiine bees, no other

specimens have been found. For this reason, we have decided to document such a finding now to bring it to the attention of melittologists working in the area. We hope that additional specimens might eventually be discovered and that more can be learned about these rare bees.

Morphological terminology follows that of Michener (2007). Measurements were taken using an ocular micrometer on a Leica MZ12 stereomicroscope. Photomicrographs were taken using a Keyence® VHX-500F Digital Imaging System.

Tribe Anthidiini Ashmead, 1899

Genus *Anthidioma* Pasteels, 1984

Anthidioma chalicodomoides Pasteels,

Figs 1–4

Anthidioma chalicodomoides Pasteels, 1984: 34 [Holotype: ♀, South Africa, Cape Province, Clanwilliam, B. Don (Biedouw) Valley; Iziko South African Museum, Entomology, Cape Town, South Africa]

Diagnosis

This species can be easily recognized by the following combination of characters: body integument mostly black with pubescence white to greyish (Fig. 1); clypeus abruptly flattened distally, with strong ridges medially on the disc and without a thickened distal margin (Figs 2, 3); scutum, scutellum, and terga densely punctate; and sixth tergum vertical in profile, with the distal margin medially projected (Fig. 4).

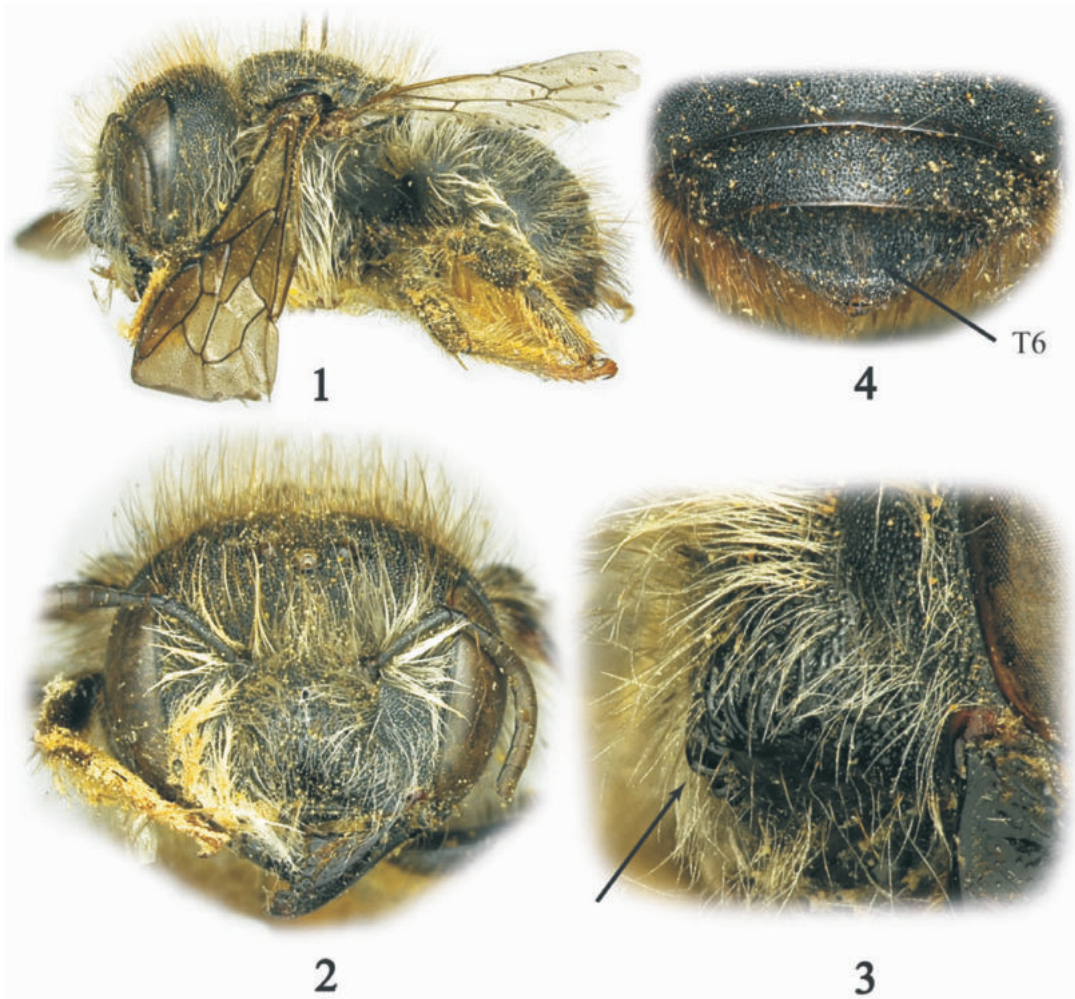
Material examined. ♀, South Africa, CP [Cape Province] Clanwilliam Dist. Biedouw Valley, 32.08°S 19.14°E, 05–07.ix.1987, C.D. Eardley. Deposited in the South African National Collection of Insects, ARC-Plant Protection Research Institute, Private Bag X134, Queenswood Pretoria, 0121 South Africa.

***Anthidioma obibense*, sp. n.**, Figs 5–8

Diagnosis

This species is readily separated from *A. chalicodomoides* (Figs 1–4) by the following combination

*Author for correspondence. Present address: Department of Biological Sciences, Southwestern Oklahoma State University, 100 Campus Drive, SCI 110F, Weatherford, Oklahoma, 73096 & Division of Entomology, Natural History Museum, 1501 Crestline Drive – Suite 140, University of Kansas, Lawrence, Kansas 66045, U.S.A.
E-mail: victorgonzab@gmail.com



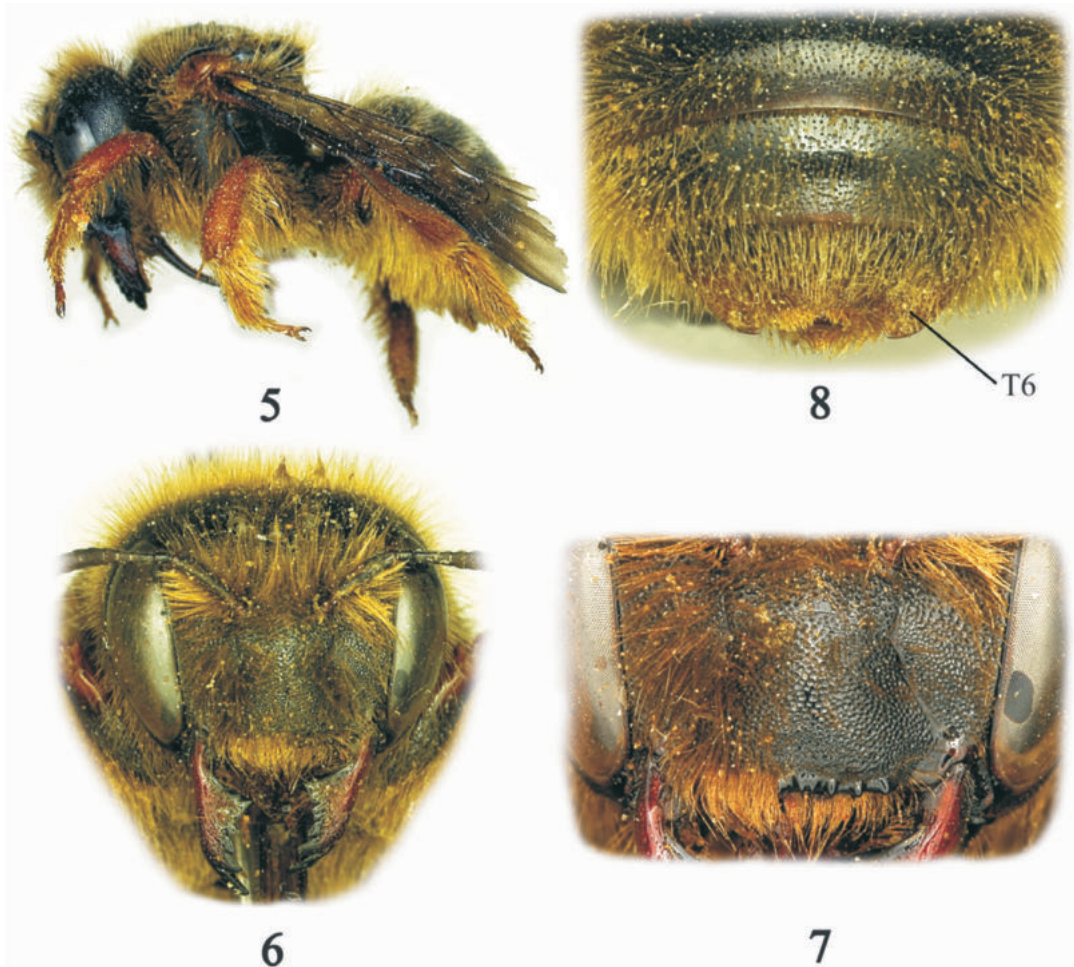
Figs 1–4. *Anthidioma chalicodomoides* from Biedouw Valley, Clanwilliam District, Cape Province, South Africa. **1**, Lateral habitus; **2**, facial aspect; **3**, detail of clypeus in profile with arrow pointing to strong ridges of disc; **4**, metasomal terga four to six.

of characters: tegulae and legs light reddish brown, in contrast to black integument of remaining areas of the body (Fig. 5); pubescence light reddish brown; clypeus gently convex with strong tubercles on distal margin (Figs 6, 7); scutum, scutellum and metasomal terga sparsely punctate on discs; and sixth tergum subhorizontal, with broad, shallow medial emargination on distal margin (Fig. 8).

Description

Female. Body length 12.8 mm; forewing length 10.6 mm. Head broader than long; compound eyes slightly convergent below, each about 3.2 times

longer than broad, 0.6 times width of gena in profile; paraocular carina absent; interantennal distance 1.2 times antennocular distance; interocellar distance 2.3 times median ocellar diameter, 0.8 times ocellocular distance; ocelloccipital distance 3.3 times median ocellar diameter; labrum with distal margin gently concave, weakly tuberculate at base, lateral and distal margins of median furrow sharp, nearly carinate; right mandible with five teeth, left with six; clypeus 1.4 times broader than long, gently convex, distal margin with strong tubercles (Fig. 7); scape 3.8 times longer than wide, 1.3 times alveolocellar distance, pedicel 1.3 times longer than broad, first flagellomere twice as long



Figs 5–8. *Anthidioma obibense*. **5**, Lateral habitus; **6**, facial aspect; **7**, detail of clypeus; **8**, metasomal terga four to six.

as broad, longer than pedicel, slightly shorter than combined lengths of second and third, remaining flagellomeres about as long as broad, apicalmost flagellomere longer than broad. Pronotal lobe with sharp border dorsally. Sixth tergum subhorizontal in profile, gently depressed laterally, distal margin with broad, shallow (~6.5 times broader than deep) median emargination (Fig. 8).

Mandible outer surface smooth and shiny, sparsely punctate; clypeus with small, contiguous punctures, smaller and denser on distal half as on inferior paraocular area; supraclypeus with punctures slightly larger and sparser than on clypeus, punctures becoming smaller and denser on frons and upper paraocular area; vertex and gena with small, shallow punctures separated by a puncture

width, becoming shallower and faint toward preoccipital margin, integument mostly smooth and shiny as on rest of face. Pronotum imbricate, with small punctures separated by more than a puncture width; scutum imbricate, with larger punctures than on vertex, punctures smaller and separated by at most a puncture width laterally, sparser anteriorly and on centre of disc; axilla and scutellum coarsely and densely punctate except on disc of scutellum with small, scattered punctures; mesepisternum with coarse, contiguous punctures; metepisternum imbricate, punctures shallow, contiguous on dorsal half, scattered on ventral half; propodeal triangle imbricate to lineolate, except strongly rugose basally, with scattered punctures laterally, sides of propodeum

with fine, small, nearly contiguous punctures. Terga smooth and shiny, weakly imbricate; basal half of first to fifth terga with small punctures widely separated by more than two times a puncture width, apical half with punctures slightly denser, except distal margins wide, impunctate, weakly imbricate; sixth tergum with coarse, contiguous punctures.

Integument black, except: dark reddish brown on labrum and mandible excluding distal margin; light reddish brown on tegula, legs (except coxae, trochanters and inferior margins of femora basally), sixth sternum and apical half of sixth tergum; dark brown on distal margins of remaining terga. Wings brownish, darker on anterior half of median cell; veins, stigma and prestigma dark brown.

Pubescence light reddish brown, slightly darker on face, paler on discs of scutum and terga; hairs

long, abundant, sparsely covering integument, denser on face, especially on distal margin of clypeus.

Holotype. ♀, [Namibia] Obib dunes S., at 28°10'S 16°48'E., LÜDERITZ, 17 Sept. 1973 // H 14457. Deposited in the State Museum of Windhoek, Windhoek, Namibia.

Etymology. The specific epithet is taken from the area in which the species was collected, Obib Dunes (also known as Obibduine) in southern Namibia.

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