

A NEW SPECIES OF *MEGACHILE (EUTRICHARAEA)* FROM WESTERN SAUDI ARABIA RELATED TO *MEGACHILE WALKERI* (HYMENOPTERA: MEGACHILIDAE)

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Abstract – A new species of leaf-cutter bee, *Megachile (Eutricharaea) ventrisi* sp. n., is described and figured from western Saudi Arabia. The species is remarkably similar to *M. walkeri* Dalla Torre from the same region but differs strikingly in the structure of the metafemoral setae, metasomal scopa, and clypeal integument.

KEY WORDS: Hymenoptera, Apoidea, Anthophila, Saudi Arabia, new species, *Megachile*, *Eutricharaea*, taxonomy.

Izvešček – NOVA VRSTA RODU *MEGACHILE (EUTRICHARAEA)* IZ ZAHODNE SAVDSKE ARABIJE, SORODNA VRSTI *MEGACHILE WALKERI* (HYMENOPTERA: MEGACHILIDAE)

Opisana in prikazana je nova vrsta čebele listorezke, *Megachile (Eutricharaea) ventrisi* sp. n. iz zahodne Savdske Arabije. Vrsta je izjemno podobna vrsti *M. walkeri* Dalla Torre iz istega področja, vendar se opazno razlikuje v zgradbi ščetin na zadnjih stegnih, zadkove krtačke in klipealne površine.

KLJUČNE BESEDE: Hymenoptera, Apoidea, Anthophila, Savdska Arabija, nova vrsta, *Megachile*, *Eutricharaea*, taksonomija.

Introduction

The *Megachile* fauna of the Arabian Peninsula is rather diverse and interesting, yet the fauna has not received the systematic or biological attention it deserves, largely because there are few entry points into identifying and understanding these species. In addition to some well known species, several infrequently encountered and chal-

lenging to identify species complicate the problem, perhaps hindering work on the regions riches despite there being some fascinating new species. Herein I provide a brief, preliminary foray into this fauna and highlight one such interesting new species that is almost cryptically similar to an otherwise well known one, *Megachile walkeri* Dalla Torre, 1896, which is known from various localities through the Arabian Peninsula and into Africa and elsewhere. The new species was collected near Taif, east of Jeddah and Mecca along the western coast of Saudi Arabia on the Red Sea. Morphological terminology follows that of Engel (2001) and Michener (2007).

Systematics

Genus *Megachile* Latreille

Megachile (*Eutricharaea*) *ventrisi* Engel sp. n.

(Figs. 1–4)

Holotype: ♀; Saudi Arabia: Taif, 2000 m, 8.iv.1980, K.M. Guichard (given by the late Kenneth Guichard to the late Donald B. Baker); Baker Collection; deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas.

Diagnosis: The new species is very similar to *M. walkeri* (almost cryptically so!), but can be readily distinguished by the thin, long, and simple metafemoral setae (Fig. 4) [these setae are strikingly modified in *M. walkeri* in which each seta is thickened, shortened, and with a characteristically clavate or subclavate apex (Fig. 5)], the largely deep orange metasomal scopa (the scopal setae in *M. walkeri* are white to off-white, sometimes yellowish, while *M. ventrisi* only has some lighter setae basally), and the clypeus lacking a defined medio-longitudinal, impunctate strip (a distinctly impunctate area runs longitudinally across the clypeus in *M. walkeri*).

Description: ♀ Typical *Eutricharaea* with total body length ca. 9.9 mm; forewing length 6.13 mm. Head wider than long [width 3.58 mm, length (as measured from top of vertex to apical clypeal margin) 2.73 mm]; compound eyes slightly converging below, upper interorbital distance 2.00 mm, lower interorbital distance 1.77 mm; vertex relatively short, distance from posterior border of lateral ocellus to rounded preoccipital ridge slightly longer than lateral ocellar diameter. Intergular distance 2.75 mm.

Head with distinct, contiguous or nearly contiguous punctures, integument between (where evident) apparently imbricate (most evident near vertex), clypeus without median longitudinal impunctate strip (such a distinct strip present in *M. walkeri* and with a width approximately 2–3 times a puncture width). Integument of mesosoma with distinct punctures, punctures contiguous or nearly so, integument otherwise appearing imbricate, except basal area of propodeum imbricate and impunctate. Anterior-facing surface of first metasomal tergum impunctate and faintly imbricate, remainder of first tergum with shallow, nearly contiguous punctures;



Figs. 1–3:
Photomicrographs of *Megachile ventrisi* Engel sp. n., female; 1) Lateral habitus; 2) Facial aspect; 3) Dorsal habitus.

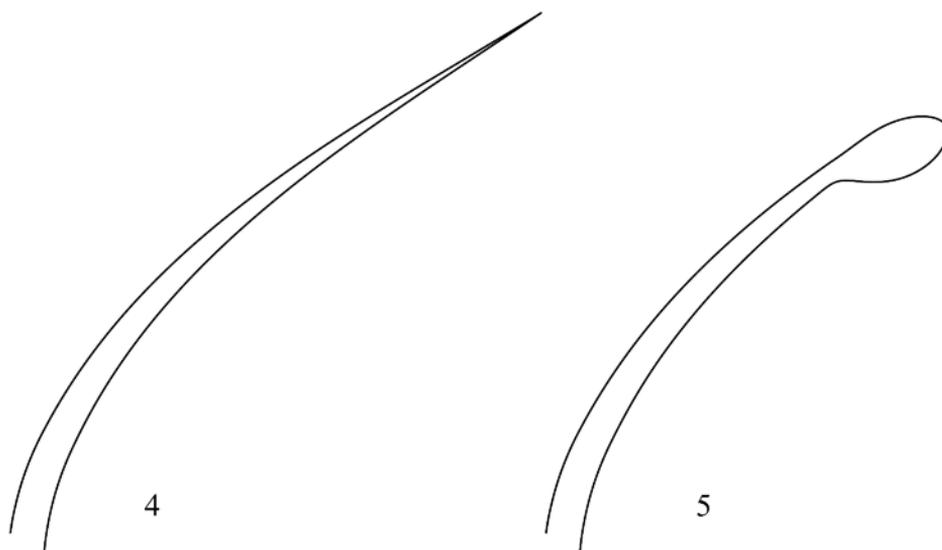
second through sixth metasomal terga sculptured as on dorsal-facing surface of first metasomal tergum except punctures slightly more distinct on discs; metasomal sterna imbricate, with numerous shallow punctures, such punctures even more spaced on sixth sternum.

Integument of head dark brown, nearly black except labrum, antenna, and labio-maxillary complex dark brown, mandible black except apical two thirds of outer surface dark red (Fig. 2). Mesosoma black except tegula brown and legs dark brown; wing membranes hyaline, veins brown to dark brown. First metasomal tergum orange except anterior-facing surface with some brown (Fig. 3); second metasomal tergum largely orange except mottled with dark brown on disc (Fig. 3); third through sixth metasomal terga dark brown; first through fifth metasomal sterna orange with brown transversally on discs, sixth metasomal sternum dark brown.

Setae generally like those of *M. walkeri*, generally white to off-white, sometimes tinged with yellow or lightly brown on vertex or dorsally on mesosoma (Figs. 1–3); face largely covered with dense, white, subappressed, plumose setae obscuring integument except medially on clypeus, supraclypeal area and upper face, vertex, and gena (Fig. 2), such setae intermingled with longer, suberect, simpler, lightly fuscous setae; mesoscutum and mesoscutellum with scattered, dirty-yellowish tomentum, not obscuring the surface (Fig. 3); metafemoral setae unmodified, such setae long, thin, tapering to a pointed apex (Fig. 4), and white. First metasomal tergum with relatively dense, elongate, erect setae largely yellowish orange in color or off-white tinted with yellow on dorsal-facing and lateral surfaces, those laterally more deeply orange (Fig. 1), anterior-facing surface with scattered thin, fine, appressed white setae; second metasomal tergum with setae like those of dorsal-facing surface of first metasomal tergum except less dense and distinctly shorter, although becoming longer, more dense, and more distinctly orange laterally; setae of disc of third metasomal tergum slightly shorter than those of second metasomal tergum and more fuscous or golden in color, also longer laterally; fourth metasomal tergum with setae like those of third metasomal tergum except darker on disc and intermingled with stouter, suberect dark brown setae, such setae progressively more prominent on fifth and sixth metasomal terga which are otherwise like fourth metasomal tergum; first through fifth metasomal terga with dense apical fimbriae composed of appressed, plumose setae, such setae orangish on first through third metasomal terga, off-white or yellowish on fourth metasomal tergum, and largely white on fifth metasomal tergum (Figs. 1, 3); sixth metasomal tergum with fimbria composed of dense, relatively stiff, dark brown setae (Figs. 1, 3), basal two-thirds of disc of sixth metasomal tergum covered with grey tomentum (Fig. 3); metasomal scopa composed of elongate, stiff, posterior-obliquely directed setae, such setae yellowish on first and second metasomal sterna, deep orange on third through fifth metasomal sterna (Fig. 1); sixth metasomal sternum with shorter, stiff, dark brown setae; second through fifth metasomal sterna with apical fimbriae composed of dense, plumose, white setae.

♂ unknown.

Derivatio nominis: The specific epithet is a patronymic honoring Michael G.F. Ventris (1922–1956), decipherer of Linear B.



Figs. 4–5: Diagrammatic representations of metafemoral seta in two *Megachile* species; 4) *Megachile ventrisi* Engel sp. n.; 5) *M. walkeri* Dalla Torre.

Comments: This species is very similar to *M. walkeri* which occurs in the same region and can be easily confused for the species described herein. The strikingly different structure of the metafemoral setae will permit melittologists to segregate this species from the more common *M. walkeri* and may suggest some differences in floral usage, perhaps reflecting some degree of specialization on the part of one or the other species. It is greatly hoped that the documentation of this species will encourage melittologists working in the Arabian fauna to more carefully examine material and populations of “*M. walkeri*” for further individuals of the effectively cryptic *M. ventrisi*, which, like the Linear B script deciphered by its namesake, proved a challenge to decipher from *M. walkeri*.

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References

Dalla Torre, C.G., de [K.W., von], 1896: *Catalogus Hymenopterorum, hucusque descriptorum systematicus et synonymicus. Volumen X: Apidae (Anthophila)*. viii+643 pp. Engelmann, Lipsiae [Leipzig].

- 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.
- Michener, C.D.**, 2007: *The Bees of the World* [2nd Edition]. xvi+[i]+953 pp. Johns Hopkins University Press, Baltimore.

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