

A New Species of *Ctenocolletes* (Hymenoptera: Stenotritidae)

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Abstract

Ctenocolletes tigris sp. nov. is described from the Great Victoria Desert of Western Australia.

Introduction

The species described herein was discovered just too late for inclusion in my revision of the genus *Ctenocolletes* Cockerell (Houston 1983) in which eight species were recognized. This ninth species was discovered during a field trip to the Great Victoria Desert in September 1982. Specimens are lodged in the Western Australian Museum, Perth (WAM), and the Australian National Insect Collection, CSIRO, Canberra (ANIC).

Terminology used here is explained in my revision (l.c.).

Systematics

Family Stenotritidae

Genus *Ctenocolletes* Cockerell

Ctenocolletes tigris sp. nov.

Figures 1-10

Holotype

In WAM (82/1877), ♂, 36 km NNE of Neale Junction, Western Australia, 28°03'S, 126°02'E, 18-20 September 1982, B. Hanich and T.F. Houston, on flowers of *Dicrastylis exsuccosa*.

Paratypes

Western Australia (collected by B. Hanich and T.F. Houston, September 1982; in WAM unless stated otherwise): 37 km NE of Laverton, 28°21'S, 122°37'E, 10-12th, on flowers of *Baeckea stowardii* (1 ♂, 1 ♀, in copula), *Dicrastylis exsuccosa* (2 ♂), *Wehlia thryptomenoides* (3 ♂, 3 ♀), and sleeping on *Acacia* flower, 6.20 a.m. (1 ♂); same data as for holotype, 4 ♂, 4 ♀, ANIC, WAM; 65 km NNE of Neale Junction, 28°47'S, 126°07'E, 17-18th, sleeping on *Ptilotus obovatus* flower, early morning, 1 ♂; 98 km NNE of Neale Junction (28°18'S,

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Figure 1 *Ctenocolletes tigris* sp. nov.; holotype male (top) and paratype female (WAM 82/1872). Scale line = 1 cm.

125°49'E), 17th, on flowers of *Solanum*, 1 ♀; 4 km WSW of Tugaila Rockhole, NE of Lake Throssell, 27°10'S, 124°32'E, 13th, on flowers of *Dicrastylis exsuccosa*, 1 ♀.

Diagnosis

Differs from other *Ctenocolletes* in having light yellow, enamel-like integumental bands across metasoma, cream clypeus, finely pectinate fore tibial spur and relatively large, serrate mid tibial spur of female, and distinctive genitalia and apical metasomal sterna of male.

Description

Male (holotype)

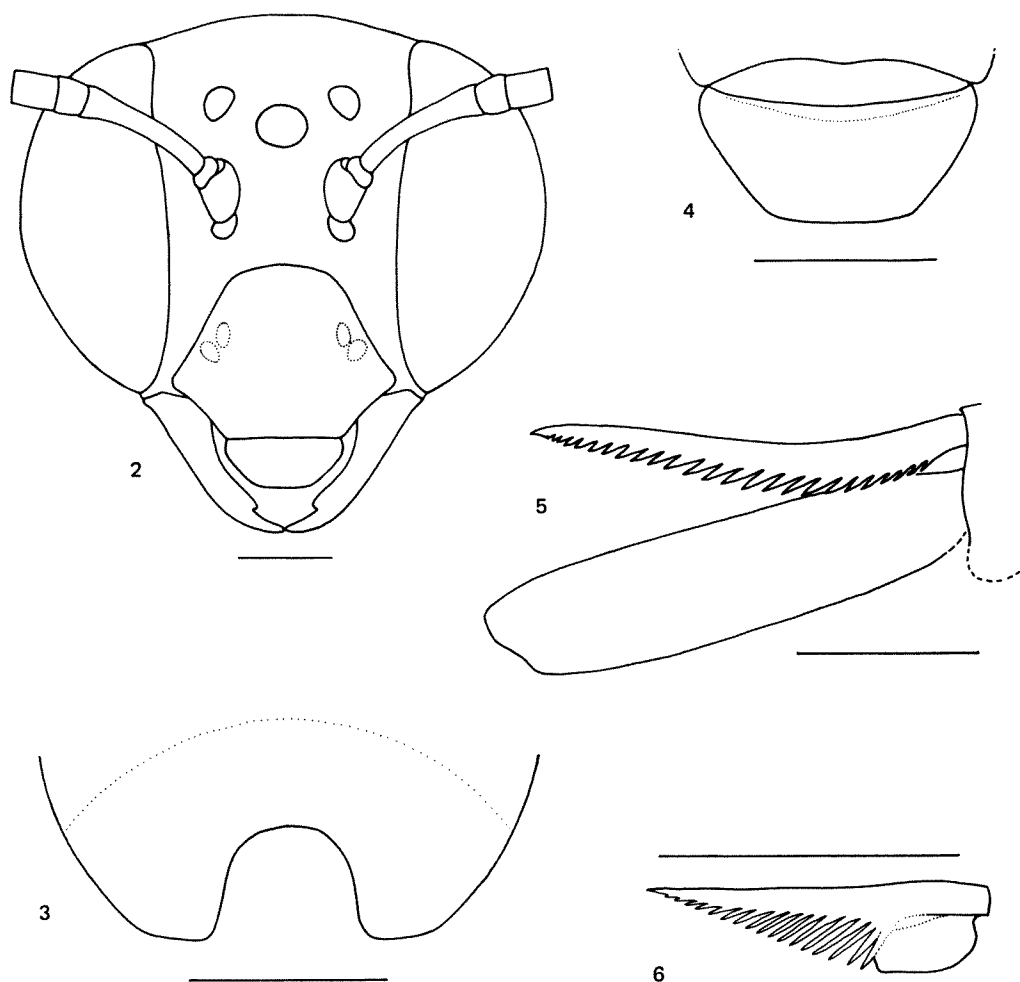
Body length 16.5 mm; head width 5.0 mm.

Relative dimensions: head width (HW) 100; head length (HL) 79; upper interocular distance (UID) 48; lower interocular distance (LID) 57; median ocellus diameter (MOD) 9; ocellocular distance (OOD) 10; scape length (SL) 12; scape width (SW) 8; length first segment of flagellum (F1L) 26; length remainder of flagellum (FRL) 90; mandible length (ML) 37; basal width of mandible (MBW) 13.

Inner margins of eyes sinuate but approximately parallel, eyes not convergent dorsally (Figure 2); vertex elevated above summits of eyes; face narrowest below level of antennal insertions; clypeus strongly convex in upper part; labrum deep as in female (Figure 4) but without a basal elevation; mandibles slender, bidentate; attenuated first segment of flagellum as long as next 3½ segments together; first recurrent vein distal to first intercubitus by 44% of posterior length of second cubital cell; propodeal enclosure large enough to contain only one median ocellus; metasomal sternum 6 smooth, posterior margin broadly rounded except for large U-shaped median emargination (Figure 3); apex of eighth (apical) sternum acute (Figure 8); pygidial plate smooth; legs without conspicuous modifications (Figure 1); arolia well-developed; hind distitarsus (excluding claws) c. 90% as long as distance from its insertion to base of segment 2.

Integument black except as follows. Cream to light yellow: clypeus (except pair of brown spots each side), labrum, mandibles proximally, wide apical and lateral bands on metasomal terga 1-6 (Figure 1) and paler scalloped bands on sterna 1-6. Orange-brown: flagella ventrally, translucent tegulae, bases of wing veins, legs (except coxae and trochanters) and pygidial plate. Cream to yellow areas almost impunctate, glossy and enamel-like; remaining areas generally dull to faintly shining.

Pubescence of head (except clypeus and vertex) and mesosoma long, dense, erect, plumose and largely obscuring integument; buff dorsally (without patches of blackish setae), white elsewhere. Clypeus bare except laterally. Vertex, metasomal terga 1 and 2 and sterna 1-6 with sparser, erect plumose setae. Terga 3-6 with only sparse simple setae coloured like underlying integument; seventh with long plumose buff setae laterally.



Figures 2-6 *Ctenocolletes tigris* sp. nov. (2-3) holotype male: (2) head (anterior view); (3) 6th metasomal sternum (ventral view). (4-6) Female (anterior views): (4) labrum and mid-ventral margin of clypeus; (5) mid tibial spur and basitarsus; (6) fore tibial spur. Setation omitted. Scale lines = 1 mm.

Terminalia: see Figures 7-9; eighth metasomal sternum with very dense, plumose buff pubescence lateroapically.

Variation: little evident. Body length 15.5-17.0 mm; head width 4.8-5.2 mm (n 13). Relative dimensions — UID 47-50, F1L 24-26, FRL 85-93, ML 33-39. Posterior margins of metasomal sterna 1 and 6 vary from wholly opaque cream to partially or wholly transparent brown. One paratype (WAM 82/1860) has

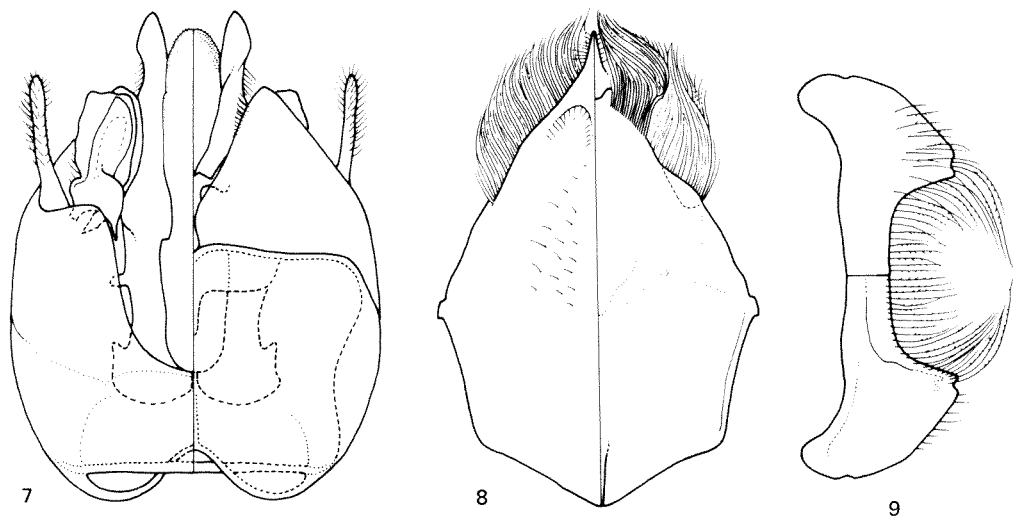
abnormal metasoma with terga 4 and 5 fused medially and yellow band of former broken.

Female

Body length 16-19 mm; head width 5.5-5.9 mm (n 9).

Relative dimensions: HW 100; HL 75-78; UID 54; LID 65; MOD 8; OOD 14; SL 12; SW 7; F1L 24-25; FRL 58-62; ML 40-45; MBW 15-16; mid tibial spur length 35-40.

Head distinctly wider than long; face as wide as long between compound eyes; inner margins of eyes approximately parallel; mid ventral margin of clypeus concave (in most, weakly biconcave — Figure 4); labrum three-fifths as long as wide, its basal elevation occupying about one-third of length and flange rather trapezoidal (Figure 4); mandibles moderately slender, bidentate; attenuated first segment of flagellum as long as next $4\frac{1}{4}$ to $4\frac{1}{2}$ segments together; spine of fore-tibial spur with 12-16 long fine teeth (Figure 6); mid tibial spur almost as long as mid basitarsus with 19-28 short stout teeth or serrations (Figure 5); inner hind tibial spurs with 4-6 very long coarse teeth; hind distitarsus (excluding claws) slightly longer than distance from insertion to base of segment 2; arolia absent; venation as in male; propodeal enclosure too small to accommodate a median ocellus; lateral portions of metasomal terga unmodified (not convex and hollow beneath); pygidial plate acutely triangular with an even surface.



Figures 7-9 *Ctenocolletes tigris* sp. nov.; terminalia of paratype male (WAM 82/1856) (dorsal aspect on right half of each figure, ventral on left; Figure 9 rotated 90° clockwise): (7) genital capsule; (8-9) 8th and 7th metasomal sterna, respectively. Scale line = 1 mm.

Integument generally like that of male except as follows. Labrum orange-brown; clypeus cream only medially (brown to black laterally); metasomal terga 1-4 only with yellow apical bands (Figure 1); hind margins of metasomal sterna only very narrowly cream or (in some specimens) orange-brown; legs predominantly black, only tibiae and distitarsi orange-brown.

Pubescence much as in male; clypeus bare only medially; labrum sparsely setose without a dense fringe beneath elevation; scopa (on hind tibiae and basitarsi) of long silvery white to buff setae; metasomal tergum 1 with only very sparse erect plumose setae, 2-4 with inconspicuous short simple setae, 5 and 6 with long, dense, plumose, buff setae.

Distribution

Great Victoria Desert of Western Australia (Figure 10).

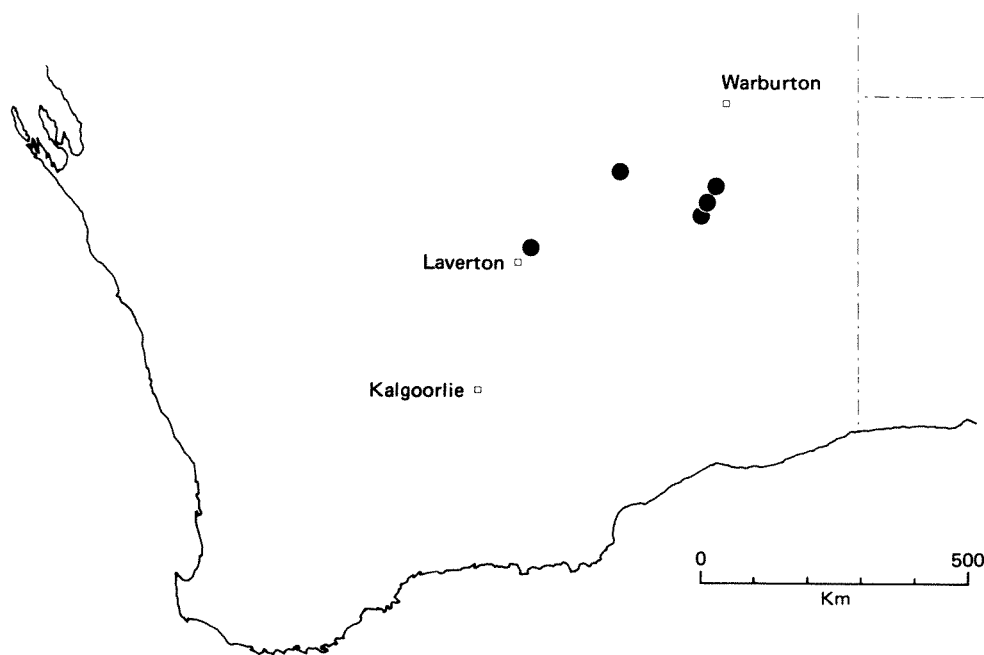


Figure 10 Map of southern Western Australia showing collection localities of *Ctenocolletes tigris* sp. nov.

Remarks

The specific epithet (Latin for 'tiger' and alluding to the black and yellow banding) is used as a noun in apposition.

In my revision of *Ctenocolletes*, the interrelationships of the 8 species known then were analysed cladistically on the basis of 20 characters and a cladogram

devised (Houston 1983, Table 2, Figure 58). The character states of *C. tigris* would place it with *C. ordensis* Michener and *C. smaragdinus* (Smith) in clade E of my cladogram supported by synapomorphies 1, 2b and 15 but not 19. This last is black pubescence on metasomal terga 5 and 6 of the female (not a character I would weight heavily). There is an additional synapomorphy I had earlier overlooked — absence of arolia in females (a character I would weight heavily). Within this group of three, relationships are less certain and very diverse characters are exhibited. Although *C. tigris* shares some features with *C. ordensis* (such as plain buff pubescence over dorsum of thorax, and orange-brown legs), the latter species agrees more with *C. smaragdinus* in the form of the tibial spurs of females and sixth metasomal sternum of males and the presence of black pubescence on metasomal terga 5 and 6 of females.

Reference

- Houston, T.F. (1983). A revision of the bee genus *Ctenocolletes* (Hymenoptera: Stenotritidae). *Rec. West. Aust. Mus.* 10 (3): 269-306.