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Ulugombakia, a new eucerine bee from Malaya

(Hymenoptera: Apoidea: Apidae)

With 3 figures

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Summary

Ulugombakia platytarsus **gen. nov., sp. nov.**, is described from Malaya. *Tetralonia erythrocera* CAMERON, 1909, and *Tetralonia kohatensis* COCKERELL, 1917, are synonymized with *Eucera cassandra* NURSE, 1904, = *Tetraloniella cassandra* (NURSE, 1904), **synn. nov., comb. nov.** A lectotype is designated for *Eucera cassandra* NURSE.

Zusammenfassung

Ulugombakia platytarsus **gen. n., sp. n.** wird aus Malaysia beschrieben. *Tetralonia erythrocera* CAMERON, 1909, **syn. n.**, und *Tetralonia kohatensis* COCKERELL, 1917, **syn. n.**, werden mit *Tetraloniella casandra* (NURSE, 1904), **comb. n.**, synonymisiert. Für *Eucera cassandra* NURSE wird ein Lectotypus designiert.

Keywords

Eucerini, taxonomy, synonymy, biogeogeography, SE Asia, biodiversity

Introduction

The Eucerini are poorly represented in tropical Asia and not unexpectedly a female eucerine from the Malay Peninsula differs in various respects from all of the few eucerine genera known from India and continental South-East Asia. The single specimen now described, included in a collection of Oriental bees received some years ago from the late Prof. Sh. F. Sakagami, remains the only one encountered among some thousands of SE Asian bees examined over the past thirty years, and further to defer description on the chance that a male of the species might come to light would seem pointless. Although a special search for eucerines was made by the author during a visit to Malaya in 1982, none was collected. Unfortunately, the nature of the scopa, which did not suggest specialization in pollen collecting (as does, for example, the scopa in *Tetralonia*), and the absence from the only specimen of pollen grains that might have proved identifiable, meant that a more directed search could not be made.

Some salient characters are italicized in the generic description.

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Systematics

Ulugombakia gen. nov.

Etymology. From the type locality, Ulu Gombak, in Selangor, Malaysia.

Description.

♀. A medium-sized eucerine superficially similar to *Tetraloniella.*

Head. Head in frontal aspect transverse, width/length ratio 1 : 0,71, the vertex weakly convex, not markedly depressed between ocellar area and eyes; in dorsal aspect short, the eye and gena forming an uninterrupted semicircular curve. Face transverse, inner orbits parallel, eyes separated by 1,06x eye length. Ocelli of normal proportions; median ocellus little advanced, lateral ocelli separated from vertex by about their own diameter. Antennal fossae equidistant from each other and from eyes. Paraocular carinae becoming lamelliform and convergent anteriorly before dropping to join, inwardly from the mandibular acetabula, the lateral margins of the clypeus. Clypeus in normal aspect not greatly produced beyond lower margin of eye, in lateral aspect protruding by less than 0,5 eye width; clypeus laterally closely approaching eye, *the greater part of its surface a raised, flattened, glossy, weakly punctate, sparsely and inconspicuously pubescent trapezoidal area*; anterior margin of clypeus in apical aspect weakly convex, only very gently and briefly curved backwards laterad, no distinct lateral sections developed. Supraclypeal area raised to same plane as clypeus. Labrum strongly transverse, width/length ratio 1 : 0,36, its apical margin broadly rounded with median notch. A distinct malar area present, its length half basal diameter of first flagellar segment. Mandible broad, with well developed, blunt, preapical inner tooth. Galeal blade longer than eye; *maxillary palpi longer than maximum width galeal blade, 4-segmented*, segments 1-3 subequal, cylindrical, segment 4 minute; labial palpi with segments 1 and 2 elongate, flattened, apically setose, segments 3 and 4 minute. First flagellar segment shorter than scape, shorter than segments 2 and 3 combined.

Mesosoma. Fore-wing venation otherwise unremarkable but M strongly curved basad, 2nd abscissa of M+Cu well developed (although shorter than cu-a) and marginal cell unusually broad (1,6x as wide as length of 1r-m). *Stigma longer than prestigma*, margin within marginal cell convex. Lengths of submarginal cells (on Rs + M and M) as 1 : 0,54 : 1,03; wing with microsetae present throughout. Mesoscutum with copious, long, erect, strongly plumose pubescence. *Tibia III with basitibial plate strongly raised, apically free and broadly rounded,* densely clothed with appressed hair that dorsally and apically forms long projecting fringes; tibia slender, dorsal margin downcurved at apex; keirotrichiate area very narrow, extending based to about mid-tibia length; calcaria long, slender, dorsally finely serrate. *Basitarsus III exceptionally broad* (1,3x as wide as maximum breadth of tibia), apically obliquely truncate and dorsally narrowly rounded. *Scopa equally developed on tibia and basitarsus, thin, consisting entirely of long, simple (at 25x) hairs* arising from tubercles that on the tibia are set about one tubercle width apart and on the basitarsus, where they tend to form irregular, oblique, transverse rows, slightly more widely; on the tibia, the scopal hairs clothe the entire surface (apart from the cheirotrichiate area) except for a narrow, glabrous ventral area that becomes narrowed to extinction apicad.

Metasoma. Lateral arms of graduli not strongly cariniform, not prolonged into marginal areas. T1 with basal convexity clothed with long, erect plumose hairs; T2 and 3 with narrow

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fasciae of very short, erect plumose (tomentose) hairs filling postgradular depressions; T4 with broad fascia of short (but beoming longer apicad), decumbent, pale, plumose hairs filling marginal area; T5 with dense apical fascia of more erect, darker hairs. Pygidial plate triangular, straight-sided, apically rather narrowly rounded, transversely aciculate; its sides forming an angle of about 80°. *S2-5 with progressively broader fasciae, on S2 narrow, on S5 nearly filling the exposed area of the disc, of stiff, inclined, branched hairs, forming an even-surfaced pseudoscopa.*

♂. Latet.

Type species *Ulugombakia platytarsus* sp. nov.

Comment.

In Michener's key (2000: 699) to the Eucerini, *Ulugombakia* runs to couplet 3 but agrees with neither alternative: the maxillary palpi are 4-segmented as in *Tetralonia,* but the keirotrichiate area of tibia III internally is much narrower than half the tibial width and the scopa is neither sparse nor composed of plumose hairs. Taken to couplet 5, which depends largely on male characters, *Ulugombakia* agrees with *Tetraloniella* in the little produced and scarcely protuberant clypeus (as in Michener's fig. 110-6b). In Michener's key (2000: 716) to the subgenera of *Tetraloniella,* again necessarily ignoring male characters, it does not run. Of the taxa recognized by Michener as subgenera, only *Glazunovia* and *Tetraloniella* come into consideration (*Pectinapis* and *Loxoptilus* are exclusively New World forms), but *Tetraloniella sensu* Michener is, as Michener makes clear, a commixture of disparate elements. In *Tetraloniella s. str.,* some species of which are superficially very similar to *Ulugombakia*, the paraocular carina is unmodified, the stigma is noticeably shorter than the prestigma, the relative lengths of r and the 3rd and 4th abscissae of Rs are different (r is short in *Tetraloniella*), the basitibial plate apically is entirely obscured by a tract of dense, decumbent hairs that extends for about one third of the tibial length, the scopa is dense and composed of plumose hairs, and there are other differences.

Ulugombakia agrees with the palaearctic *Glazunovia* and *Melissina* (the latter treated by Michener as a synonym of *Tetraloniella*) in the unusually broad marginal cell but differs from both in the developed malar space and in the strong curvature of M. From the Anatolian and Central Asian *Glazunovia* it differs in not having the clypeal margin laterally abruptly bent to the rear, in the form of the paraocular carina (which in *Glazunovia* fails anteriorly), in the four-segmented maxillary palpi, in the stigma not being shorter than the prestigma, in the oblique hindwing m-cu, in the strongly raised, apically free, setose, basitibial plate, in having the claws with inner tooth rudimentary, scarcely detached, in the absence of plumose scopal hairs and in the presence, albeit reduced, of a distinct keirotrichiate area on tibia III. From the SW Asian [Pakistan] *Melissina* it differs in the entirely black face, in the flattened and less protuberant clypeus, in the non-enlarged ocelli, in forewing 2r-m and 2m-cu not being interstitial on M, in the setose, not exposed, basitibial plate, in having the transition between the anterior and dorsal surfaces of T1 abrupt, carinate, and in the thinner scopa which does not possess plumose hairs. It may be expected that the presently unknown male will yield additional diagnostic characters. Common and differential characters of male *Glazunovia* and *Melissina* were given by Baker (1998).

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Of the continental SE Asian species described as *Tetralonia*, the nearest geographically is *T. siamensis* COCKERELL, 1929, described from Doi Sutep in Siam [Thailand: Doi Suthep-Pui, 18°49'N 98°53'E, near Chiang Mai], some 1800 km distant. The holotype of this taxon, B.M. Type Hym. 17 b 810, is badly damaged, having been reduced to the mesosoma, part of the left forewing, the left hindwing, and some leg fragments (Mr G.R. Else, personal communication), and Cockerell's description is hardly more informative. Cockerell compared *siamensis* with *Tetralonia erythrocera* CAMERON, 1909, a species of *Eucera* (*Synhalonia*),[1] *T. pitalomasa* DOVER, 1925, also a species of *Eucera* (*Synhalonia*) and perhaps the same as *metallescens* (MORAWITZ, 1888),[2] and the species he misidentified as *brevipennis* CAMERON, 1898, actually an undescribed species of *Tetraloniella*.[3] While the generic identity of *siamensis* remains uncertain, it is probably a species of *Tetraloniella,* and almost certainly, at a length of 7mm, not the male of *Ulugombakia.*

Ulugombakia platytarsus sp. nov. (Figures 1-3)

Etymology. Gr. πλατυς + ταρσος in allusion to the form of basitarsus III.

Description.

♀. Structural characters as for the genus. Length 10 mm. Black; mandibles obscurely reddish apicad; tegulae castaneous; tarsi I and II, tibiae and tarsi III reddish yellow.

Integument. Clypeus glossy, coarsely but shallowly punctate, the punctures tending to coalesce longitudinally; supraclypeal area more densely and more deeply punctate; mesonotum matt, moderately finely, reticulately punctate; terga glossy, T1 with narrow, impunctate marginal zone occupying about one third of ill-defined marginal area, the marginal area otherwise and the disc posteriorly densely punctate, the disc anteriorly becoming more sparsely and more coarsely punctate towards the basal declivity; T2 and T3 densely, uniformly punctate, T4 and T5 very finely and densely punctate, the punctation of T5 largely obscured by the dense pubescence.

Vestiture. Hair of mesosoma dorsally brownish yellow, of head, mesosoma laterally and ventrally, legs generally and T1 anterodorsally, paler; of scopa pale reddish yellow; T2 and T3 with narrow, pale cream postgradular fasciae, the fine, mostly decumbent, hairs of their postgradular areas dark; T4 and T5 without postgradular fasciae, the dark hairs of their discs more erect, both terga with marginal fasciae of strongly plumose decumbent hairs, that on T4 filling the marginal area, pale cream, that on T5 narrower, fuliginous;T6 with dense, long black hair on either side of pygidial plate; T5 without any indication of a pseudopygidial area (evident in *Tetraloniella*); sternal fasciae pale fuliginous.

Type material: Holotype ♀ labelled 'Ulu Gombak / m. 12 Bentong / rd iv 19' [print, = MALAYA: Selangor, Ulu Gombak [Gombak stream], 12th mile, April 19— (?)], sent by the late Prof. Sh. F. Sakagami. Collector's name not known.[4] The type will be placed in the Oxford University Museum of Natural History.

Figures 1-3, *Ulugombakia platytarsus* n. sp. **Fig. 1,** habitus [neg. 0029/36]; **Fig. 2,** face [neg. 0029/35]; **Fig.3,** tibia and tarsus of left posterior leg [neg. 0029/32-34].

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2

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Abbreviations

BMNH	Natural History Museum, London (formerly British Museum (Natural History))
USNM	United States National Museum, Washington

References

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Notes

[1] *Tetralonia erythrocera* Cameron, 1909, = *Eucera (Synhalonia) cassandra* Nurse, 1904. The synonymy of this species may be given as follows:-

cassandra Nurse, 1904 [*Eucera (Macrocera)*]: 581; ♀ ♂; Quetta; Peshin. Lectotype, by present designation, ♀ labelled 'Quetta / 5.03', in BMNH, B.M. Type Hym. 17 b 791b. Paralectotypes, in same collection, all Quetta, 5.[19]02, 1♂ 1♀; 5.03, 5♂ 11♀; 6.03, 2♂; 5.04, 2 ♂ 1♀. In accordance with ICZN, 4th Edn, 1999, Article 74.3, it is stated that the designation is made for the taxonomic purpose of ensuring the consistent and correct application of the name to the species-group entity represented by the lectotype.

erythrocera (Cameron, 1909) [*Tetralonia*]: 49;♂; Ferozepore. Holotype, labelled 'Ferozepore / 3.98', in BMNH, B.M. Type Hym. 17 b 795. **Syn. nov., comb. nov.**

kohatensis (Cockerell, 1917) [*Tetralonia*]: 287; ♂; Kohat, N.W. Provinces, India. Syntypes USNM (examined). **Syn. nov., comb. nov.**

[*duvaucelii* Lepeletier, Dover 1925: 225; misidentification.]

[2] *Tetralonia metallescens* Morawitz, 1888: 233;♀ ♂; in dem Umgebungen von Tschikischljar [see footnote, p. 235]. *Tetralonia pitalomasa* Dover, 1925: 227; ♂ ♀; Peshin, Baluchistan; Quetta: lectotype, by present designation, ♂ labelled 'Peshin / 4.03', B.M. Type Hym. 17 b 797a. In accordance with ICZN, 4th Edn, 1999,

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Article 74.3, it is stated that the designation is made for the taxonomic purpose of ensuring the consistent and correct application of the name to the species-group entity represented by the lectotype.

[3] The Indian species described under the name *Tetralonia* are a mixture of species of *Eucera (Synhalonia)* and *Tetraloniella*. There is extensive unpublished synonymy, and there are numerous undescribed species. On the generic identity of *brevipennis* Cameron, *vide* Baker, 1998.

[4] R.A. Lever (material collected by him partly dispersed), H.T. Pagden (collection substantially in BMNH, some material in Leiden, some in Sh. F. Sakagami's collection, formerly Sapporo), H.M. Pendlebury, and perhaps others among an older generation of collectors, collected Hymenoptera in Selangor, and Pagden and Pendlebury at least are known to have collected at 'Ulu Gombak'. However, no *Ulugombakia* were found in material collected by any of these inspected in BMNH. More recently (December 1970), C.G. Roche also collected at 'Ulu Gombak', but at Mile 18, and in any event his material is not prepared with the wings and legs spread out as in Figure 1. Material in Col. C.T. Bingham's collection was so prepared, but, so far as is known, Bingham had nothing from Selangor. The locality name 'Ulu Gombak' appears to have been used by collectors for various stations along the Kuala Lumpur – Bentong road where it follows the Ulu Gombak ['*ulu*' here = 'stream']. The 'West Malaysia' section of the US BGN gazetteer 'Malaysia, Singapore, and Brunei' (2nd ed., November 1970, printed 1971) gives 'Gombak, sungei ST[REA]M 03 09N/101 42E' [information provided by Mr F. Herbert, RGS-IBG]; the *Encarta* atlas (1998 Edn) has a 'Kampung [i.e., *kampong,* village] Gombak Utara' off the Kuala Lumpur – Bentong road at 3°15'N 101°44'E.

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