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NEW SPECIES AND RECORDS OF AMMOBATINE BEES FROM PAKISTAN, KYRGYZSTAN, AND SRI LANKA (HYMENOPTERA: APIDAE)

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Abstract – Four new cleptoparasitic bees of the tribe Ammobatini (Apidae: Nomadinae) are described and figured from southeastern Pakistan and Sri Lanka. *Ammobates maxschwarzi* sp. n. (Pakistan) is known from a series of females, while *A. cinnamomeus* sp. n. (Pakistan), *Parammobatodes craterus* sp. n. (Pakistan), and *Chiasmognathus taprobanicola* sp. n. (Sri Lanka) are known from males and females. The species are distinguished from their congeners and comments made on potential hosts. In addition, *C. gussakovskii* (Popov), previously known only from Tajikistan, is newly recorded from southern Kyrgyzstan.

KEY WORDS: Hymenoptera, Apoidea, Anthophila, Pakistan, Sri Lanka, Kyrgyzstan, new species, *Ammobates*, *Parammobatodes*, *Chiasmognathus*, taxonomy.

Izvleček – NOVE VRSTE IN NAJDBE ČEBEL PLEMENA AMMOBATINI IZ PAKISTANA, KIRGIZISTANA IN ŠRI LANKE (HYMENOPTERA: APIDAE)

Opisane in prikazane so štiri nove kleptoparazitske čebele plemena Ammobatini (Apidae: Nomadinae) iz jugovzhodnega Pakistana in s Šri Lanke. Vrsto *Ammobates maxschwarzi* sp. n. (Pakistan) poznamo po vrsti samic, medtem ko poznamo tako samce kot samice vrst *A. cinnamomeus* sp. n. (Pakistan), *Parammobatodes craterus* sp. n. (Pakistan) in *Chiasmognathus taprobanicola* sp. n. (Šri Lanka). Vrste so razlikovane od drugih svojega rodu, omenjeni so morebitni gostitelji. Poleg tega je vrsta *C. gussakovskii* (Popov), predhodno poznana le iz Tadžikistana, na novo odkrita v južnem Kirgizistanu.

KLJUČNE BESEDE: Hymenoptera, Apoidea, Anthophila, Pakistan, Šri Lanka, Kirgizistan, nova vrsta, *Ammobates*, *Parammobatodes*, *Chiasmognathus*, taksonomija.

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Introduction

The nomadine bee tribe Ammobatini (including Pasitini Robertson) consists of 112 species of cleptoparasites whose hosts range from short-tongued (Colletinae, Panurginae, Nomiinae, Nomioidini) to long-tongued (Eucerini, Ancylini, Anthophorini) bees. The tribe is quite diverse morphologically with relatively large bees (*ca*. 20 mm in length) such as those of *Melanempis* Saussure ranging down to some of the smallest bees in the world near 2 mm in total length (*e.g*., some species of *Pasites* Jurine, *Oreopasites* Cockerell, *Parammobatodes* Popov, and *Chiasmognathus* Engel). The greatest portion of ammobatine diversity exists in the Old World, particularly in the xeric regions of northern Africa, Arabia, the Middle East, and central Asia. Herein I provide descriptions of four new ammobatines along with new records for one other species from Asia. Morphological terminology generally follows that of Engel (2001) and Michener (2007).

Systematics

Genus *Ammobates* Latreille
Ammobates* (*Ammobates*) *maxschwarzi Engel sp. n.
(Figs. 1–2)

Holotype: ♀, Pakistan: Baluchistan: Pishin, 40 km N of Quetta, 27 May 1984, Rozen, Lodhi, Stupakoff; deposited in the Division of Invertebrate Zoölogy, American Museum of Natural History, New York.

Paratypes: 4♀♀ with same data and repository as holotype. 2♀♀ with same data as holotype except 25 May 1984, same repository as holotype. 7♀♀ with same data as holotype except 23 May 1984, same repository as holotype. 3♀♀ with same data as holotype except 23 May 1984, deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas.

Diagnosis: The new species is noteworthy for the combination of coarse mesoscutal punctures separated by a puncture width or less except more widely spaced around the medial line, contiguous pleural punctures, broadly truncate and appendiculate marginal cell, and its coloration and metasomal pubescence as described below (*vide etiam* Figs. 1–2).

Description: ♀ Total body length approximately 5.0–5.5 mm; forewing length approximately 4.0–4.3 mm. Head wider than long (length 1.5–1.6 mm; width 1.7–1.8 mm). Labrum elongate, *ca*. 1.8 times longer than basal width, slightly tapering apically, apex bluntly rounded. Median carina of face high, nearly lamellate between antennal toruli. Intertegular distance 1.0–1.2 mm. Forewing with 1rs-m basad 1m-cu; 2rs-m distad 2m-cu (Fig. 1).

Labrum with weak, minute punctures scattered over surface, integument otherwise faintly imbricate. Clypeus and supraclypeal area with minute punctures sepa-

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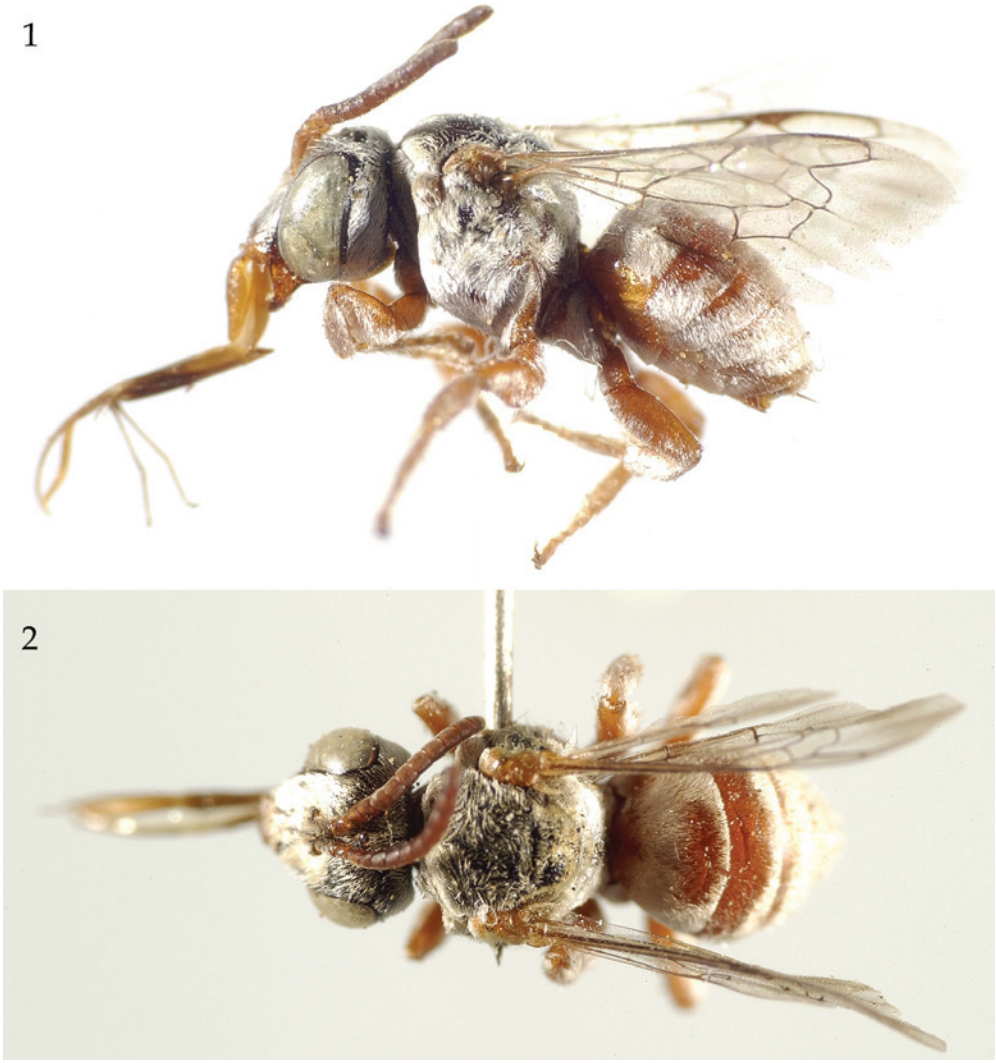
rated by 1–2 times a puncture width, integument between punctures smooth. Face and remainder of head with minute punctures separated by 1–3.5 times a puncture width, integument between punctures smooth. Mesoscutum with coarse punctures separated by less than a puncture width except along midline punctures separated by 0.5–1 times a puncture width, integument otherwise smooth. Mesoscutellum sculptured as on mesoscutum. Pleura with coarse, contiguous punctures. Metasomal terga with small punctures either contiguous or nearly so except apicalmost margins imbricate.



Figs. 1–2: Photomicrographs of *Ammobates maxschwarzi* Engel sp. n., female; 1) Lateral habitus; 2) Dorsal habitus.

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Labiomaxillary complex light brown; mandible dark amber basally, apically reddish brown; labrum amber; apical half of clypeus amber, basal half reddish brown; antenna brown; remainder of head dark reddish brown. Mesosoma dark reddish brown, nearly black in some places (Figs. 1–2) except legs and pronotal lobe reddish orange, tegula amber. Wing veins dark brown, membrane hyaline. Metasoma reddish orange (Figs. 1–2).

Pubescence silvery white. Head covered with dense, appressed, plumose setae (Figs. 1–2) intermingled with longer, simple, suberect setae. Pubescence of mesosoma as described for head except such dense setae more sparse medially on mesoscutum and posterior surface of propodeum. Metasoma with broad apical fasciae composed of appressed, plumose, silvery white setae (Fig. 1) except fascia of second metasomal tergum relatively narrow in comparison to succeeding terga (Figs. 1–2); apical fascia of first metasomal tergum medially narrowed dramatically or sometimes interrupted (Fig. 2); anterior surface of first metasomal tergum densely covered with appressed, silvery white, plumose setae (Fig. 2); sterna with relatively numerous, appressed or suberect, white setae with a few branches, not obscuring integument.

♂ unknown.

Derivatio nominis: The specific epithet is a patronymic honoring Dr. Maximilian Schwarz (Austria), the world's leading authority on Old World parasitic Anthophila.

Comments: *Ammobates maxschwarzi* sp. n. can be most readily confused with females of *A. solitarius* Nurse which occur in the same region. The species can be distinguished however by the uniformly reddish orange head, mesosomal, and metasomal integument; the more narrowly truncate marginal cell; the punctures of the mesoscutum separated by less than a puncture width and not more widely spaced around the midline; the first metasomal tergum entirely covered in dense, appressed, silvery white, plumose setae; and the remaining metasomal terga entirely covered in similar setae except for a narrow, transverse, medial band of exposed integument on the second metasomal tergum.

Ammobates* (*Ammobates*) *cinnamomeus Engel sp. n.
(Figs. 3–8)

Holotype: ♂, Pakistan: Baluchistan: Pishin, 40 km N of Quetta, 27 May 1984, Rozen, Lodhi, Stupakoff; deposited in the Division of Invertebrate Zoölogy, American Museum of Natural History, New York.

Paratypes: 3♀♀ with same data and repository as holotype. 1♂, 1♀ with same data as holotype, deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas.

Diagnosis: The new species can be recognized by the following combination of features: female with head and mesosoma reddish orange (Fig. 3); head and meso-

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Figs. 3–4: Lateral habitus photomicrographs of *Ammobates cinnamomeus* Engel sp. n.; 3) Female; 4) Male (setae of mesosoma largely matted in specimen and some were removed to examine underlying integumental sculpturing).

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soma largely clothed in dense, appressed, plumose, golden setae that largely obscure the integument (Figs. 3–4); punctures separated by less than a puncture width on the mesoscutum and pleura (rather than truly contiguous); and in the structure of the male terminalia (Figs. 5–8).

Description: ♂ Total body length 10.0 mm; forewing length 7.26 mm. Head wider than long (length 2.33 mm, width 2.83 mm). Labrum elongate, *ca*. 1.7 times longer than basal width, slightly tapering apically, apex bluntly rounded. Intertegular distance 2.1 mm. Intertegular distance 1.0–1.2 mm. Forewing with 1rs-m basad 1m-cu; 2rs-m distad 2m-cu. Terminalia as in figures 5–8.

Clypeus with small, coarse, shallow punctures separated by a puncture width or less, integument between punctures shining and smooth. Similar punctures slightly larger and separated by a puncture width or frequently less on face, such punctures separated by 0.5–1.5 times a puncture width on vertex and separated by less than a puncture width on gena and postgena, integument between punctures shining and smooth. Mesoscutum with distinct, coarse punctures separated by a puncture width or frequently less, although punctures slightly more dense around midline, integument between punctures shining and smooth. Punctures of mesoscutellum and pleura as on mesoscutum except separated by less than a puncture width, integument between punctures smooth and shining. Lateral surface of propodeum with shallow, faint, small punctures separated by a puncture width or less, integument between punctures faintly imbricate; posterior surface of propodeum faintly imbricate and impunctate. Metasomal terga with small, shallow punctures separated by a puncture width or less, integument between punctures faintly imbricate, apical margins of terga weakly imbricate with exceedingly faint, shallow, sparse punctures or largely impunctate; sterna imbricate with scattered shallow punctures.

Head black except brown on labrum, labiomaxillary complex, basal half of mandible, apical two-thirds of clypeus, and antenna, and dark reddish brown on apical half of mandible. Mesosoma black except legs and pronotal lobe reddish orange, tegula amber. Wing membranes lightly infuscate; veins dark brown. Metasoma reddish orange.

Pubescence generally golden. Head with short, branched, subappressed or appressed setae largely obscuring integument on basal part of clypeus, supraclypeal area, around toruli, and relatively dense on vertex and gena, otherwise such setae more scattered and intermingled with subappressed, short setae with fewer branches; apicolateral corners of clypeus with pronounced, dense, patches of elongate, sinuous setae. Mesosoma with setae like those described as obscuring portions of face, such setae obscuring integument on pronotum, anteriormost margin of mesoscutum, metanotum, basal area of propodeum, preëpisternal area, hypoepimeral area, and metepisternum, and relatively dense, although less so than in preceding areas, on mesoscutellum and lateral and posterior surfaces of propodeum. Metasoma with scattered, short, appressed or suberect setae, such setae either simple or with a few, minute branches; terga without apical fasciae except weak, medially-interrupted fas-

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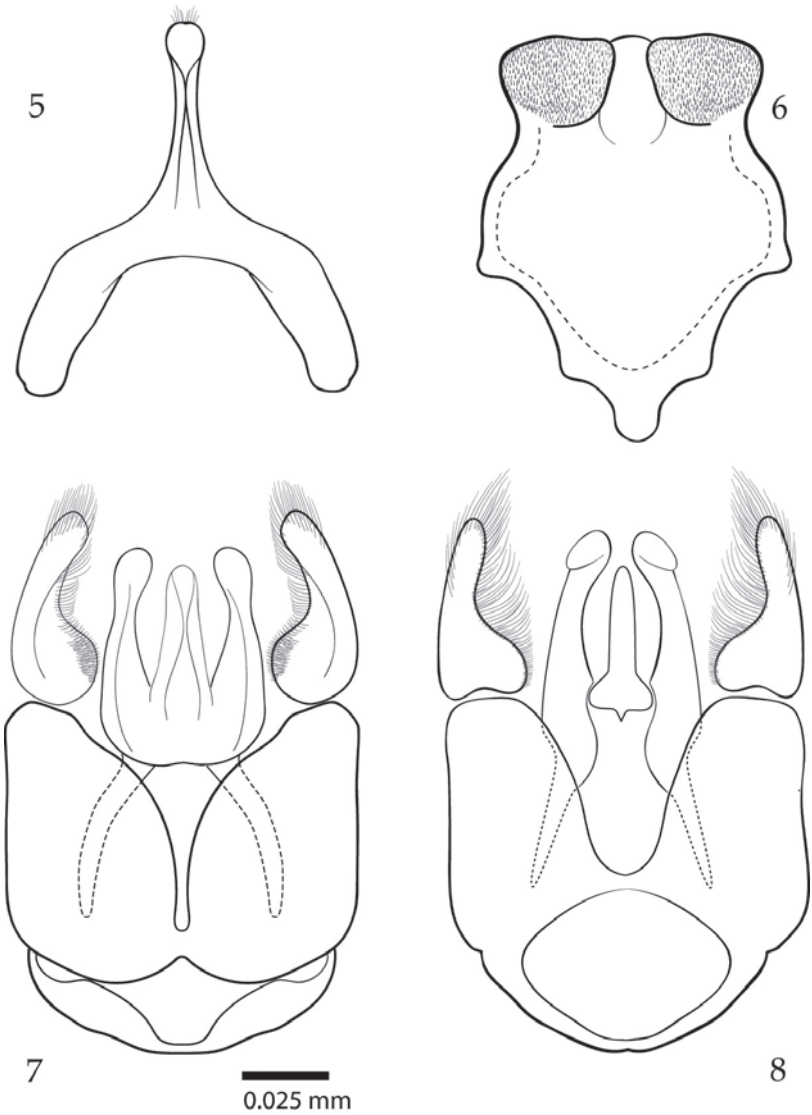

Figs. 5–8: Male terminalia of *Ammobates cinnamomeus* Engel sp. n.; 5) Seventh metasomal sternum; 6) Eighth metasomal sternum; 7) Genital capsule, dorsal aspect; 8) Genital capsule, ventral aspect.

cia on fifth metasomal tergum and thin, relatively complete fascia on sixth metasomal tergum.

♀ As described for the male except as follows: Total body length 11.1 mm; forewing length 7.98 mm. Head wider than long (length 2.40 mm, width 3.23 mm).

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Intertegular distance 2.50 mm. Integument reddish orange throughout although slightly darker and appearing brownish on head. Pubescence as in the male except patches on apicolateral corners of clypeus absent and metasomal terga without apical fasciae except very weak fascia on fifth metasomal tergum.

Derivatio nominis: The specific epithet is taken from the Latin *cinnameus* and is a reference to the general integumental coloration of the species.

Comments: The new species is superficially most similar to *A. syriacus* Friese which occurs further west in the Middle East. *Ammobates syriacus* is slightly smaller overall and has a uniformly black head and mesosoma in both the male and female, contiguous punctation over the head and mesosoma, and is not densely covered by appressed, plumose, golden pubescence on the head and mesosoma.

Genus *Parammobatodes* Popov
Parammobatodes craterus Engel sp. n.
(Figs. 9–17)

Figs. 9–10: Dorsal habitus photomicrographs of *Parammobatodes craterus* Engel sp. n.; 9) Female; 10) Male.

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Figs. 11–12: Lateral habitus photomicrographs of *Parammobatodes craterus* Engel sp. n.; 11) Female; 12) Male.

Holotype: ♀, Pakistan: Baluchistan: Jalogir, 32 km N of Quetta, 16 May 1984, Rozen, Lodhi, Stupakoff; deposited in the Division of Invertebrate Zoölogy, American Museum of Natural History, New York.

Paratypes: 3♂♂, 1♀ with same data and repository as holotype. 1♀, 1♂ with same data as holotype, deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas.

Diagnosis: The new species is noteworthy for the combination of a narrow, impunctate zone bordering the lateral ocelli; a relatively densely and evenly punctured mesoscutum; an angulate labrum that is about 1.35 times as long as wide; the wide, uninterrupted, silvery tergal fasciae on the second through fifth metasomal terga; and for the structure of the male terminalia (Figs. 13–17).

Description: ♀ Total body length 6.2 mm; forewing length 4.0 mm. Integument largely castaneous except labiomaxillary complex and labrum amber; mandible amber except apex reddish brown; frons, gena, and postgena dark reddish brown to black; dorsal-facing surface of pronotum, mesopleuron, mesoscutum, mesoscutellum, metanotum, and propodeum black; tegula amber; wing membrane hyaline, veins dark brown.

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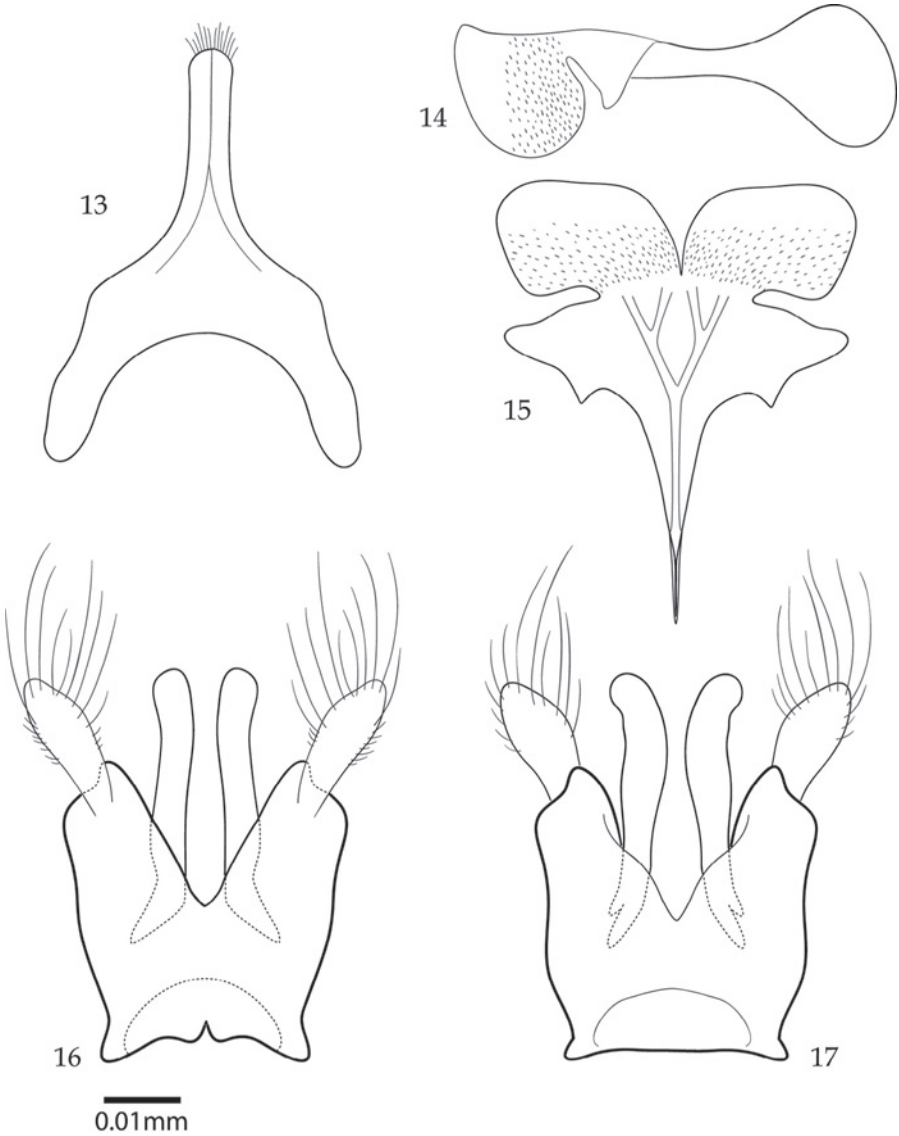

Figs. 13–17: Male terminalia of *Parammobatodes craterus* Engel sp. n.; 13) Seventh metasomal sternum; 14) Eighth metasomal sternum, lateral aspect; 15) Eighth metasomal sternum, ventral aspect; 16) Genitalic capsule, ventral aspect; 17) Genitalic capsule, dorsal aspect.

Head distinctly wider than long [length 1.54 mm (as measured from vertex to clypeal apex), width 1.77 mm]. Labiomaxillary complex relatively long (Fig. 11), extending past procoxae when in repose, longer than head and mesosoma

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when extended from hypostomal fossa; labrum 1.35 times as long as wide, basal two-thirds gently convex and weakly angulate relative to apical third in profile, apical third relatively flat in profile, basal half with shallow, coarse, nearly contiguous punctures, such punctures faint (nearly absent) and more widely spaced apically, integument faintly imbricate; clypeus with minute punctures separated by 1–2 times a puncture width, integument between shiny and smooth; supraclypeal area and frons with punctures separated by 0.5–1 times a puncture width, integument between punctures smooth and shiny; punctures of vertex somewhat more dense than on frons (separated by less than a puncture width), with narrow, slightly-impressed, impunctate zone bordering outer margin of lateral ocellus, impunctate zone less than 0.5 ocellar diameters in width; gena and postgena with strong punctures separated by a puncture width or frequently less, integument between smooth and shiny; pubescence silvery white, head covered with dense, appressed, plumose setae intermingled with longer, simple, suberect setae. Mesoscutum with strong punctures separated by a puncture width or less, integument between shiny and smooth, punctures evenly spaced across mesoscutum, punctures as coarse as those on frons; mesoscutellum sculptured as on mesoscutum except punctures slightly shallower and separated by less than a puncture width, except those medially slightly more widely spaced; intertegular distance 1.12 mm; pubescence of mesosoma as described for head except such dense setae more spaced medially on mesoscutum, otherwise largely obscuring integument. Metasomal terga with distinct, minute punctures separated by 1–2 times a puncture width on first metasomal tergum, more shallow and indistinct on remaining terga, integument between punctures shiny and faintly imbricate on first metasomal tergum, less shiny and imbricate on remaining terga; tergal margins impunctate and strongly imbricate; second through fifth metasomal terga with wide, uninterrupted, silvery apical fasciae composed of appressed plumose setae (Figs. 9, 11), first metasomal tergum with apicolateral silvery patches of appressed plumose setae (Fig. 9); terga with scattered white, erect to suberect setae, such setae rather long although intermingled with shorter such setae; sixth metasomal tergum densely covered with fine, simple, white setae, apical margin concave; sterna imbricate and with numerous, subappressed, fine, white, simple setae.

♂ As described for female except as follows: Total body length 5.2 mm; forewing length 3.4 mm. Head wider than long (length 1.33 mm, width 1.56 mm). Intertegular distance 0.96 mm. Integument of head and mesosoma black (Fig. 12) except brown on labiomaxillary complex, labrum amber, basal half of mandible, apicalmost margin of clypeus, antenna, pronotal lobe, tegula, and legs; apical half of mandible dark reddish brown. Apicolateral corners of clypeus with patches of dense, elongate, sinuous, white setae. Metasoma brown (Fig. 12) except anterior-facing surface of first metasomal tergum castaneous; first and second metasomal terga with apicolateral silvery patches of appressed plumose setae; third through sixth metasomal terga with apical fasciae composed of similar setae, although fasciae of third through fifth terga weak medially. Terminalia as figured (Figs. 13–17).

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Derivatio nominis: The specific epithet is taken from the Greek *krateros* meaning, "strong" and is also a reference to the Macedonian general, Craterus (*ca*. 370–321 B.C.), one of the generals and Diadochi (sometimes also known as the Epigonoi) of Alexander the Great.

Comments: Five species of *Parammobatodes* have been previously described. *Parammobatodes indicus* (Cockerell) is known from central India (♀ only), *P*. *minutus* (Mocsáry) from Europe (Greece, Ukraine, Hungary, Bulgaria, Romania) into the Caucasus and Turkey (♀♂), *P*. *rozeni* Schwarz from Israel (♀ only), *P*. *nuristanus* (Warncke) from Afghanistan (♀ only), and *P*. *maroccanus* (Warncke) from Morocco and the Canary Islands (♀♂, but apparently female has been only recorded, not formally described: Hohmann *et al*., 1993). Other species once assigned to *Parammobatodes* have been transferred to *Chiasmognathus* (Engel, 2006). The male terminalia of *P*. *maroccanus* and *P*. *minutus* were figured by Warncke (1983) and Popov (1931).

Among the previously named species *P*. *craterus* is most similar to *P*. *nuristanus* in that both species have an angulate labrum (in profile), albeit more weakly so in the former species, a noticeable impunctate zone along the outer lateral margin of the lateral ocelli, relatively dense mesoscutal punctures, and similar body size. *Parammobatodes craterus* can be most readily differentiated by the much narrower impunctate zone bordering the lateral ocelli (zone narrow, distinctly less than 0.5 ocellar diameter in width *versus* as large as or larger than lateral ocellus in *P*. *nuristanus*: *vide* figure in Schwarz, 2003), the more coarse and evenly-spaced punctures of the mesoscutum (separated by a puncture width or less across entire surface *versus* separated by about a puncture width and more widely spaced around weakly impressed parapsidal lines), parapsidal lines strongly impressed (weakly impressed in *P*. *nuristanus*), and second through fifth metasomal terga with wide, uninterrupted, silvery, apical fasciae and apicolateral silvery patches on first metasomal tergum (Fig. 9) (tergal fasciae on third through fifth metasomal terga in *P*. *nuristanus*). As noted above, males have been previously described for only *P*. *minutus* and *P*. *maroccanus*. The seventh metasomal sternum for these species, as well as *P*. *craterus*, do not differ dramatically although *P*. *minutus* and *P*. *craterus* apparently share a similarly more setose apical process (Fig. 13) relative to that of *P*. *maroccanus* (*cf*. Warncke, 1983). The eighth sternum and genitalic capsule of *P*. *craterus*, however, embodies more pronounced differences from both species in the size and shape of the mid-lateral processes relative to the discal surfaces (Figs. 14–15, *cf*. Warncke, 1983) and the form and setation of the gonostylus (Figs. 16–17, *cf*. Warncke, 1983).

Genus *Chiasmognathus* Engel
Chiasmognathus taprobanicola Engel sp. n.
(Figs. 18–24)

Holotype: ♀ Sri Lanka: Man. Dist. [Northern Province, Mannar District], Cashew Corp., Ma Villu, 18 February 1979, K.V. Krombein; deposited in the

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Figs. 18–19: Lateral habitus photomicrographs of *Chiasmognathus taprobanicola* Engel sp. n.; 18) Female; 19) Male.

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Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Paratypes: Six paratypes deposited in the Department of Entomology, National Museum of Natural History, Smithsonian Institution and with the following label data: ♀ Sri Lanka: Mon. Dist. [Uva Province, Moneragala District], Angunakolapelessa, 18 June 1978, K.V. Krombein. ♀ Sri Lanka: Han. Dist. [Southern Province, Hambantota District], Palatupana, tank 30–50 feet, on or in leaf litter, 24–26 August 1980, K.V. Krombein, P.B. Karunaratne, T. Wijesinhe, L. Jayawickrema, L. Weeratunge. ♀ Ceylon [Democratic Socialist Republic of Sri Lanka]: Anu. Dist. [Anuradhapura District], Wildlife Soc. [Society] Bungalow, Hunuwilagama, Wilpattu [National Park], 10–19 March 1970, Davis & Rowe, 200 feet. 2♀♀ Sri Lanka: Man. Dist. [Northern Province, Mannar District], Kokmotte Bungalow, 0.5 mi NE Wilpattu NP [National Park], 25 May 1976, K.V. Krombein. ♂ Sri Lanka: Mon. Dist. [Uva Province, Moneragala District], Angunakolapelessa, 100 m, 23 January 1979, K.V. Krombein.

Figs. 20–21: Dorsal habitus photomicrographs of *Chiasmognathus taprobanicola* Engel sp. n.; 20) Female; 21) Male.

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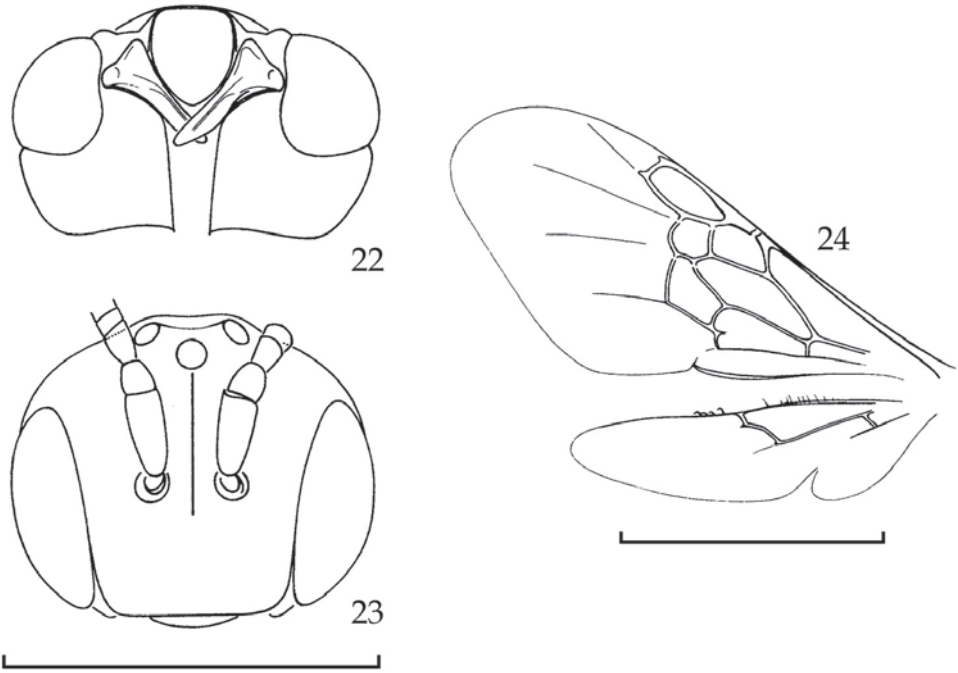

Figs. 22–24: Line drawings of female head and wings for *Chiasmognathus taprobanicola* Engel sp. n. (after Engel, 2006); 22) Ventral aspect of head; 23) Facial aspect of head; 24) Wing venation. Scale bars = 1 mm.

Two further paratypes deposited in the Division of Entomology, University of Kansas Natural History Museum, Lawrence, Kansas and labeled as: ♀, Sri Lanka: Man. Dist. [Northern Province, Mannar District], Cashew Corp., Ma Villu, 18 February 1979, K.V. Krombein. ♂, Sri Lanka: Han. Dist. [Southern Province, Hambantota District], Palatupana, tank 30–50 feet, 24–26 August 1980, K.V. Krombein, P.B. Karunaratne, T. Wijesinhe, L. Jayawickrema, L. Weeratunge.

Diagnosis: The new species can be generally recognized by its darker overall coloration, with reddish brown confined to the first and second metasomal terga in females and the more dense punctation of the head and mesosoma (*cf. Chiasmognathus pashupati* Engel: Engel, 2007).

Description: ♀ Total body length 3.33 mm (2.57–3.33 mm); forewing length 2.60 mm (1.90–2.60 mm). Head wider than long [width 1.23 mm (0.97–1.23 mm), length 1.01 mm (0.82–1.01 mm)]; genae broad such that head is broadly rounded behind compound eyes in ventral aspect; inner margins of compound eyes straight, convergent below; apex of clypeus at lower tangent of compound eyes; clypeus weakly convex, nearly flat; malar space vestigial; mandibles simple, crossing in repose but not covering labrum (Fig. 22). Intertegular distance 0.77 mm (0.61–0.77

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mm). Forewing marginal cell broadly truncate (Figs. 18–19, 24); both m-cu veins entering second submarginal cell.

Head with small, well-defined punctures separated by less than a puncture width, integument between punctures smooth and shining; those punctures of clypeus shallower and apically more widely spaced. Mesoscutum with similar punctures as those on head except separated by 1–2 times a puncture width, although spaced slightly closer together along posterior and lateral borders, integument between punctures smooth and shining; mesoscutellum sculptured as on mesoscutum; tegula impunctate; pleura with punctures similar to those on mesoscutum except separated by less than a puncture width. Metasomal terga faintly imbricate with minute punctures separated by 1–2.5 times a puncture width, such punctures largely absent on anterior-facing surface of first metasomal terga and less well-defined on remaining terga; apical margins of terga imbricate and impunctate; sterna imbricate and impunctate.

Head and mesosoma dark brown, nearly black except amber on tegula; brown on labiomaxillary complex, labrum, and antenna; light brown on basal half of mandible; and dark reddish brown on apical half of mandible and clypeus. Wing membranes hyaline; veins light brown to brown. Metasomal terga dark brown except light reddish brown on first metasomal tergum and basal and lateral margins of second metasomal tergum; sterna light brown.

Pubescence silvery white. Head with numerous, fine, subappressed, suberect, or erect setae, such setae with a few minute branches and nearly obscuring integument on face and gena. Setae of mesosoma like those of head although more sparse centrally on mesoscutum and mesoscutellum, largely obscuring pleura, metanotum and portions of propodeum. Metasoma with scattered, erect to suberect simple setae, with thin fasciae composed of appressed, plumose, white pubescence on second metasomal tergum onward and with such setae laterally and apicolaterally on first metasomal tergum; sterna with scattered subappressed to suberect, simple setae, some setae with a few, minute branches.

♂ As described for the female, with the following exceptions: Total body length 2.64 mm; forewing length 2.08 mm. Head wider than long, length 0.73 mm, width 0.93 mm. Intertegular distance 0.57 mm. Head and mesosoma dark brown, nearly black except light brown on tegula; brown on labiomaxillary complex, labrum, basal half of mandible, antenna, and legs; apical half of mandible dark reddish brown. Metasoma entirely dark brown. Clypeus with small, apicolateral patches of elongate, sinuous, white setae.

Derivatio nominis: The specific epithet is based on Taprobana, an ancient name for Sri Lanka (although sometimes erroneously applied to Sumatra), and the Latin suffix *–cola* (meaning, "inhabitant of"). Sri Lanka went by many names and was surrounded by much confusion in early days (*e.g.*, Marco Polo reported it had a circumference of 2400 miles!). Early Greeks called it Palaesimundum, while in old Arabic its name was Serendib. Marco Polo related a legend that Adam was buried on a Ceylonese mountaintop (Mount Serendib or "Adam's Peak") and some early travelers and Tamil natives believed that Eden was near to Adam's purported burial site.

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Legend held that a bowl used by Adam along with relics of teeth and hair were located on the mountaintop, and that in 1284 Kublai Khan sent men to the peak and had the relics retrieved.

Comments: The genus *Chiasmognathus* was recently established to accommodate four species occurring in eastern Europe, Anatolia, through the Levant to Arabia and northern Africa, and across Central Asia into Southeast Asia (Engel, 2006, 2007). The genus includes minute bees cleptoparasitic on *Nomioides* Schenck (Halictinae: Nomioidini), a genus of equally diminutive bees wide ranging throughout the Old World. As noted by Engel (2006) the diversity of *Chiasmognathus* may grow considerably with more careful collecting in any locations where *Nomioides* are abundant. *Chiasmognathus taprobanicola* is the first species of the genus described from Sri Lanka, although the species was briefly alluded to by Engel (2006).

Only two males are presently known for *C. taprobanicola*, both glued to points and in less than ideal condition for dissection of these exceedingly minute and rare bees. Thus, until more material has been collected I felt it unwarranted to risk damage to the two specimens presently known. Thus, the genitalia remain undocumented for the species and I urge melittologists working in Southeast Asia (and Sri Lanka, in particular) to seek these bees at nesting aggregations of *Nomioides* so that the species may be more completely characterized, that its biology may be elaborated, and we may gain greater insights into these Lilliputian apids. At present the only biological details available for *Chiasmognathus* are those provided by Rozen (2008) who has described the mature larva and pupa for *C. pashupati* in southeastern Pakistan and Rozen & Özbek (2003) who described the mature oöcyte for *C. orientanus* (Warncke) (as *Parammobatodes*). Although they would be amazingly minute, given the diversity of morphologies in ammobatine eggs (*e.g.*, Rozen, 1986; Rozen & Özbek, 2003) it would be considerably interesting and perhaps phylogenetically insightful to recover further oöcytes of additional *Chiasmognathus* species.

Chiasmognathus gussakovskii (Popov)

New records: 3♂♂, Kyrgyzstan: Osh, 8 km SE Aravan, 40º29’30’’N, 72º33’48’’E, 1020 m, 27 June 1999, J.G. Rozen, J.K. Bouseman, #69. Specimens deposited in the Division of Invertebrate Zoölogy, American Museum of Natural History, New York.

Comments: This species has been documented from a few localities in Tajikistan spanning from Ayvadzh in the West to Uzun in the East. The specimens recorded here were collected in southern Kyrgyzstan, not far from Tajikistan.

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ings of the genitalic sclerites (Figs. 5–8, 13–17); to Dr. Jerome G. Rozen, Jr. for permitting me to study the AMNH material discussed herein; to the late Dr. Karl V. Krombein for bringing the Sri Lankan specimens to my attention and forwarding them to me many years ago; and to Dr. Antonín Přidal for constructive comments on the manuscript. Partial support was provided by National Science Foundation (USA) grants EF-0341724 and DEB-0542909. This is a contribution of the Division of Entomology, University of Kansas Natural History Museum.

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