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TAXONOMIC NOTES ON OLD WORLD STEPHANIDAE (HYMENOPTERA): DESCRIPTION OF *PARASTEPHANELLUS MATSUMOTOI* SP. N. FROM JAPAN, REDESCRIPTION OF *COMMATOPUS XANTHOCEPHALUS* (CAMERON) AND KEYS TO THE GENERA *PROFOENATOPUS* VAN ACHTERBERG AND *MEGISCHUS* BRULLÉ

Achterberg, C. van & D.L.J. Quicke, 2006. **Taxonomic notes on Old World Stephanidae** (Hymenoptera): description of *Parastephanellus matsumotoi* sp. n. from Japan, redescription of *Commatopus xanthocephalus* (Cameron) and keys to the genera *Profoenatopus* van Achterberg and *Megischus* Brullé. – Tijdschrift voor Entomologie 149: 215-225, figs. 1-16. [ISSN 0040-7496]. Published 1 December 2006.
Parastephanellus matsumotoi, a new species of Stephanidae (Hymenoptera: Stephanoidea) from Japan, is described and illustrated. It is the first report of *Parastephanellus* Enderlein, 1906 from the Palaearctic region. Two new combinations are proposed in the genus *Profoenatopus*: *P. oberthueri* (de Saussure, 1890) and *P. xanthocephalus* (Cameron, 1912). *Profoenatopus. comma* (Morley, 1917) is considered to be a valid species and not a synonym of *Commatopus xanthocephalus* (Cameron). A key to the known species of the genus *Profoenatopus* van Achterberg, 2002, and a partial key to the genus *Megischus* Brullé, 1846, is added to allow better identification and to include additional species described by van Achterberg & Yang (2004).
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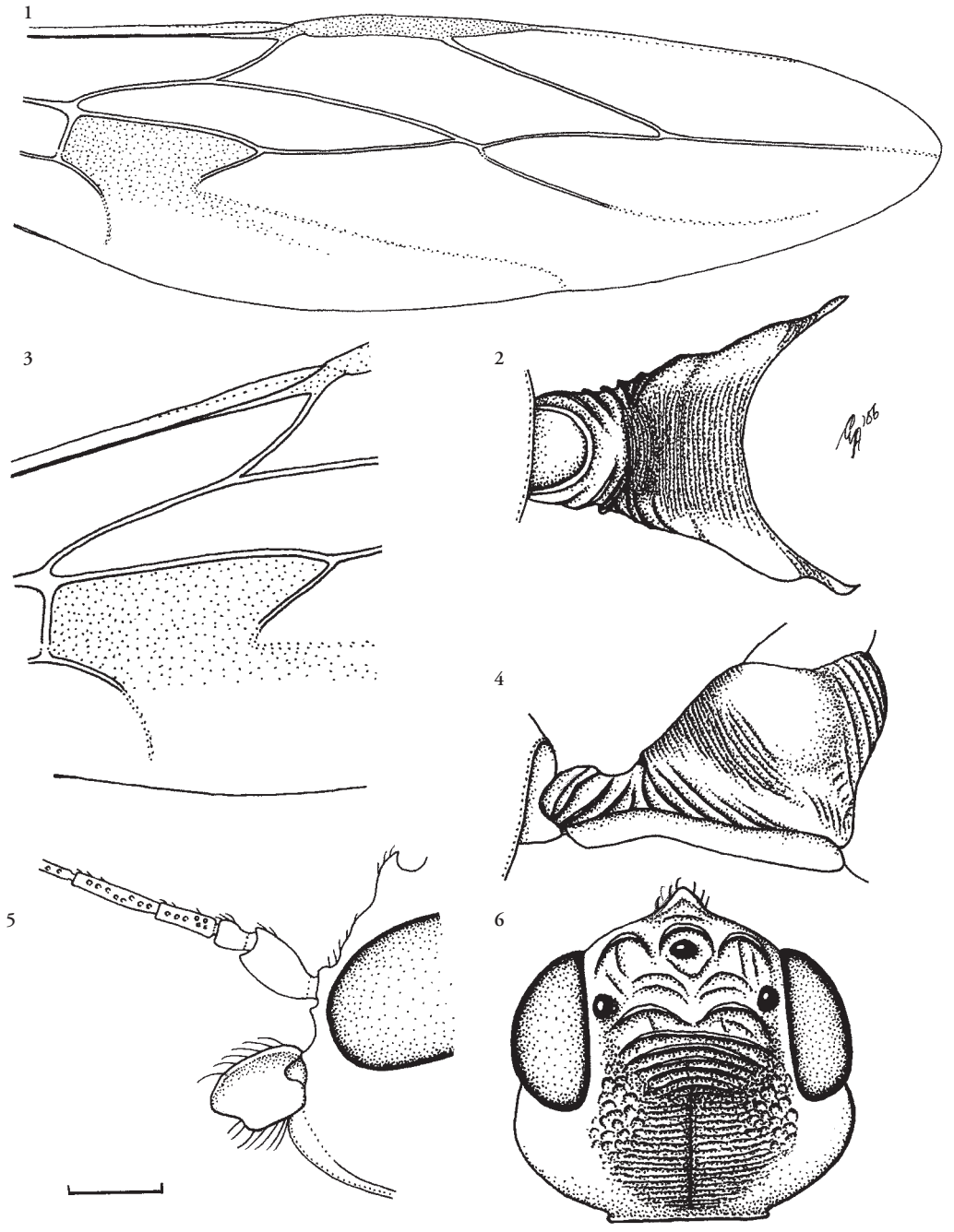
Key words. – Hymenoptera; Stephanoidea; Stephanidae; *Profoenatopus*; *Parastephanellus*; Uganda; Afrotropical; Japan; Palaearctic; new species; key.

The Stephanidae Leach, 1815, is a rather small cosmopolitan family, members of which occur mainly in subtropical and tropical forests. The species are usually medium-sized to large: length of the fore wing ranging from 2 to 20 mm, the length of the body of the largest species reach (including ovipositor) up to 75 mm (in the genera *Megischus* Brullé, 1846, and *Profoenatopus* van Achterberg, 2002). Up to now 325 extant species are known, including the species in this paper (Aguiar 2004, Achterberg & Yang 2004). Stephanids are conspicuous in having a 'crown' or 'corona' on the head (figs. 6, 15), the pronotum being more or less modified (figs. 2, 4, 12, 13), the propodeal spiracle slit-like and situated subapically next to the condylus of the first tergite, and the hind femur and tibia modified (figs. 7, 8). Nearly all species known from forested habitats are black or dark brown, frequently with some parts (especially of head and legs) yellowish-, orange- or reddish-brown. Small parts of the body may be ivory and often the ovipositor sheath has a silvery white or ivory subapical band.

The scanty biological information indicates that Stephanidae are idiobiont ectoparasitoids of wood boring larvae (van Achterberg 2002). Stephanids are often found around tree trunks or branches of trees that are dead for about one year, inhabited by beetle larvae and not yet heavily infested by fungi. Stephanidae are nearly always reported as parasitoids



Figs. 1-6. *Profoenatopus (Commatopus) xanthocephalus*, ♀, holotype. – 1, fore wing; 2, pronotum, dorsal aspect; 3, detail of veins 1-SR and 1-M of fore wing; 4, pronotum, lateral aspect; 5, base of antenna; 6, head, dorsal aspect. 1: scale-line (= 1.0×); 2, 4-6: 1.5×; 3: 1.7×.

of coleopterous larvae, mainly Buprestidae (van Achterberg 2002).

In this paper the most northern distributed member of the genus *Parastephanellus* Enderlein is described and illustrated. *Profoenatopus xanthocephalus* (Cameron, 1912) comb. n. is redescribed, a key to the species the Afrotropical genus *Profoenatopus* van Achterberg is given and a modified and improved part of the key to *Megischus* Brullé (van Achterberg 2002) is included.

For the identification of the genera of Stephanidae and for the used morphological terms, see van Achterberg (2002, 2004). KBIN stands for Koninklijk Belgisch Instituut voor Natuurwetenschappen (Brussels), KMMA for Koninklijk Museum voor Midden-Afrika (Tervuren), OMNH for Osaka Museum of Natural History (Osaka), and RMNH for Nationaal Natuurhistorisch Museum (Leiden).

Taxonomic part

Profoenatopus van Achterberg
(figs. 1-7, 9, 10)

Profoenatopus van Achterberg, 2002: 191-195, figs. 296-304, 662-664. **Type species (by original designation):** *Stephanus elliotti* Ceballos, 1926.

Diagnosis. – See van Achterberg (2002).
Distribution. – Afrotropical.

Key to species of the genus *Profoenatopus* van Achterberg

1. Vein 1-SR of fore wing shorter than vein 1-M (figs. 1, 3; fig. 665 in van Achterberg 2002); hind femur parallel-sided, not inflated (fig. 667 l.c.); ovipositor sheath without ivory subapical band; vein 3-CU1 of fore wing strongly reclivous (figs. 1, 3); continental Africa; subgenus *Commatopus* van Achterberg 2
– Vein 1-SR of fore wing longer than vein 1-M (fig. 10; fig. 303 l.c.); hind femur distinctly convex dorsally, inflated (fig. 298 l.c.); ovipositor sheath with ivory subapical band (fig. 302 l.c.); vein 3-CU1 of fore wing subvertical (fig. 10; fig. 303 l.c.); Madagascar; subgenus *Profoenatopus* van Achterberg 3
2. Hind femur superficially obliquely striate and shiny (fig. 667 l.c.); mesopleuron and metapleuron not densely setose dorsally; ventral half of mesopleuron rugulose; hind coxa 0.8 times as long as hind femur; second metasomal tergite latero-basally, complete third tergite, fore femur and hind femoral teeth reddish- or yellowish-brown ..... *P. comma* (Morley, 1917)

   Note. – In the Natural History Museum (London) is a specimen from Kenya belonging to a third species with the pronotum posteriorly yellowish and anteriorly more concave (van Achterberg 2002).
– Hind femur very finely curved acciculate and matt (fig. 7); mesopleuron and metapleuron conspicuously densely setose dorsally; ventral half of mesopleuron nearly smooth or superficially coriaceous; hind coxa 0.9 times as long as hind femur (fig. 7); second tergite latero-basally, third tergite medially narrowly and posteriorly, fore femur (except apically) and hind femoral teeth (except for the apical one) black or dark brown ..... *P. xanthocephalus* (Cameron, 1912) comb. n.
3. Hind femur moderately swollen (fig. 9); scutellum bluish-black; vein cu-a of fore wing about as long as vein 1-M (fig. 10); ivory part of ovipositor sheath about 1.2 times as long as dark apical part ..... *P. oberthueri* (de Saussure, 1890) comb. n.
– Hind femur strongly swollen (fig. 298 l.c.); scutellum dark reddish-brown; vein cu-a of fore wing longer or shorter than vein 1-M (figs. 303, 681 l.c.); relative length of ivory part of ovipositor sheath variable 4
4. Middle part of pronotum with several strong transverse carinae dorsally (figs. 296, 297, 299, l.c.); vein cu-a of fore wing postfurcal and shorter than vein 1-M (fig. 303, l.c.); vein 1-SR of fore wing more curved and about 1.5 times vein 1-M (fig. 303 l.c.); third antennal segment slender (fig. 354); ivory part of ovipositor sheath about 0.7 times as long as its dark apical part ..... *P. elliotti* (Ceballos, 1926)
– Middle part of pronotum smooth dorsally, except for some rugulosity antero-medially (fig. 683); vein cu-a of fore wing antefurcal and longer than vein 1-M (fig. 681 l.c.); vein 1-SR of fore wing nearly straight and about 1.1 times vein 1-M (fig. 681 l.c.); third antennal segment comparatively robust (fig. 679 l.c.); ivory part of ovipositor sheath about 1.6 times as long as its dark apical part ..... *P. paulyi* van Achterberg, 2002

Profoenatopus (Commatopus) comma (Morley) **stat. n.**

Stephanus comma Morley, 1917: 105; Aguiar 2004: 16 (as synonym of *Commatopus xanthocephalus* (Cameron, 1912)).
Profoenatopus (Commatopus) comma; van Achterberg 2002: 193-194, figs. 665-667.

Note. – As indicated in the key above, *P. comma* (Morley) is considered a valid species; the male type specimen is from Ghana (Ashanti) and in BMNH is a female from Uganda (van Achterberg 2002).

Profoenatopus (Commatopus) xanthocephalus (Cameron) **comb. n.**
(figs. 1-8)

Stephanus xanthocephalus Cameron, 1912: 358.
Commatopus xanthocephalus; Aguiar, 2004: 16.

Material. – Holotype, ♀ (KMMA), 'Holotypus', 'Musée du Congo, [D. R. Congo], Dima, 18.ix.[19]08, A. Koller', 'R. dét., N 188', '*Stephanus xanthocephalus* Cam., Type'; 1 ♀ (RMNH), Uganda, Kibale Forest N.P., forest near Kanyawara, viii.2004, D.L.J. Quicke & N.M. Laurenne, RMNH'05.

Holotype, ♀, length of body 27.0 mm, and of fore wing 13.0 mm.

Head. – Third and fourth antennal segments moderately slender, 2.6 and 4.6 times as long as wide, respectively, third segment 0.7 times as long as fourth segment (fig. 5), antenna incomplete (of ♀ from Uganda with 44 segments, ventrally with numerous conspicuous round sensilla except on scapus, pedicellus and three terminal segments (but on third segment from apex with small sensillum)); three anterior lobe-shaped coronal teeth of head large, stronger than both curved and distinctly protruding posterior coronal lobes; with six curved carinae behind level of both posterior coronal lobes, medio-dorsally remainder of vertex with deep median groove with its surroundings coarsely and regularly transversely carinate-rugose (rugae more or less curved laterally) and posteriorly transversely striate (fig. 6); frons coarsely and regularly rugose, rugae up curved laterally, temples smooth (except for some striae dorsally in ♀ from Uganda), with some punctures ventrally, shiny and roundly narrowed posteriorly in dorsal view (fig. 6); dorsally occipital carina evenly curved and distinctly developed, carina ventrally weaker than laterally and subparallel to hypostomal carina and reaching base of mandible; postgenal bridge slightly depressed and distinctly striate, in ♀ from Uganda one stria parallel with occipital carina, but indistinct in holotype.

Mesosoma – Neck robust and rather short, anteriorly distinctly concave (fig. 2), lateral length of neck 0.9 times its maximum width, neck postero-dorsally at lower level than medial part of pronotum, flattened and smooth medio-posteriorly, without a medio-longitudinal carina, and with five coarse carinae, widely interrupted but one medio-anteriorly present; without cavity at middle part of pronotum (fig. 4); pronotal fold absent, but laterally weakly developed; middle part of pronotum robust, rather coarsely transversely striate, without median carina, middle part not differentiated from posterior part of pronotum (in lateral view without 'step' between these parts; fig. 4); lateral oblique groove of pronotum obliquely striate, shallow and wide, pronotum distinctly obliquely striate latero-dorsally, but partly smooth and with a few large punctures, postero-dorsally pronotum densely transversely striate, dorsally and latero-dorsally glabrous except for a few setae and postero-ventral area densely setose with setae moderately long; mesoscutum coarsely transversely carinate posteriorly and with weak punctate median groove, medially with coarse punctures and anteriorly superficially coriaceous; axillae and scutellum largely smooth except for a few punctures; propleuron largely nearly flat and moderately shiny, coriaceous and posteriorly superficially rugose; mesopleuron with satiny shine, convex part very finely coriaceous with some punctures (and in ♀ from Uganda anteriorly with a few rugulae), largely covered with short whitish and dense setosity; flat dorsal part largely densely setose and superficially coriaceous; mesosternum shiny, nearly smooth, with a few punctures; medially metapleuron rather robust and convex, dorsal half densely and rather short whitish setose, and superficially coriaceous, and with pair of deep and large anterior pits, dorsal one smaller than ventral one; propodeum posteriorly and medially reticulate-rugose, anteriorly and laterally foveolate, with most of coriaceous interspaces smaller than diameter of punctures (or fovae).

Wings. – Fore wing (fig. 1): vein 1-M twice as long as vein 1-SR and 1-SR curved; wing basally (except below anal vein) and area near veins 1-SR and 1-M largely glabrous; vein 3-CU1 strongly reclivous (fig. 3). Hind wing: vein M+CU unpigmented; margin of wing slightly concave baso-posteriorly.

Legs. – Hind coxa very slender, subparallel-sided, densely and finely transversely striate (fig. 7; but more coarsely so basally and apically) and rather shiny; hind femur largely matt and very finely and densely concentric aciculate (fig. 7), with two large teeth, two intermediate ones more basally, a few small teeth basally and between apical and subapical teeth, femur 4.1 times as long as its maximum width (fig. 7), antero-dorsally gradually widened, largely glabrous, with some setae; basal narrow part of hind tibia parallel-sided, compressed and 1.2 times as long as widened part, and without ventral carina or striae, outer side of hind tibia superficially coriaceous, widened part convex, and parallel-sided apically, inner side flattened and widened part largely densely bristly setose, and with a shallow triangular depression at base of widened part; hind basitarsus parallel-sided, basally weakly curved, its ventral length 8.6 (♀ Uganda: 9.2) times its width (fig. 7).

Metasoma. – First tergite slender, parallel-sided, 12.6 times as long as its apical width and its maximum width, and largely regularly and very finely and densely transversely striate, basally hardly weaker than apically; second tergite nearly smooth basally, superficially coriaceous as remainder of metasoma, matt; pygidial area distinctly differentiated, moderately

wide and triangular, not lamelliform posteriorly and area in front of it irregularly granulate-coriaceous; length of ovipositor 3.2 times as long as fore wing.

Colour – Black; temple, malar space and tegulae pale yellowish, paler than frons and vertex; frons (except coronal area), face, vertex narrowly laterally, apices of fore and middle femora, apical 0.3 of hind femur (including apical tooth), trochantelli, fore and middle tibiae largely, widened part of hind femur, hind basitarsus, second hind tarsal segment, pair of large basal patches of third tergite, eighth tergite and apical quarter of metasoma ventrally yellowish-brown; antenna basally, (palpi missing but present in ♀ from Uganda) and remainder of tarsi dark brown; ovipositor sheath without a subapical silvery white to ivory band; wing membrane subhyaline or nearly so, but first subdiscal cell of fore wing infuscate; pterostigma and most veins dark brown.

Biology. – Unknown.

Distribution. – Afrotropical (D.R. Congo, Uganda (first record)).

Notes. – The specimen from Uganda is very similar to the holotype: it has the stemmaticum (= in front of posterior tubercles of head) black; the posterior half of the third tergite laterally black, a pair of small yellowish-brown patches on fourth metasomal segment, the length of the body 30.0 mm and of the fore wing 16.5 mm, the ovipositor sheath 2.9 times as long as the fore wing, the axillae nearly smooth and the mesoscutum with some very coarse oblique carinae posteriorly.

Profoenatopus (P.) oberthueri (de Saussure) **comb. n.**
(figs. 9, 10)

Megischus oberthüri deSaussure, 1890: pl. 16-9.
Megischus oberthuri: Aguiar 2004: 60.

Notes. – The holotype of *Profoenatopus oberthueri* could not be found by the first author and may be lost; the interpretation is based on the figures published by de Saussure (1890) and partly reproduced in this paper (figs. 9 and 10). In the catalogue by Aguiar (2004) this species is incorrectly listed as '*Megischus oberthuri*'; according to the ICZN Code (Art. 27 and 32.5.2.1) the name '*oberthüri*' has to be changed into '*oberthueri*' and the species certainly does not belong to the genus *Megischus* because of its venation. For instance, the long vein I-SR and the wide first subdiscal cell of the fore wing exclude it (fig. 10).

Parastephanellus Enderlein
(figs. 8, 11-16)

Parastephanellus Enderlein, 1906: 301; Aguiar, 2004: 64-72 (catalogue). Type species (by original designation): *Stephanus pygmaeus* Enderlein, 1901.

Diagnosis. – See van Achterberg (2002).

Distribution. – Indo-Australian and East Palaearctic (viz., Japan, which is the first report for the Palaearctic region).

Parastephanellus matsumotoi van Achterberg, **sp. n.**
(figs. 8, 11-16)m

Material. – Holotype, ♀ (RMNH), 'J[a]p[a]n: Kyushu, Kagoshima, Makizono t., Takachiho, 29.vii.2005, 31º52'33'N, 130º53'26'E, R. Matsumoto'. Paratypes (10♀): 7♀ (OMNH (3), RMNH (4)), topotypic and same date; 1♀ (OMNH), id., but 28.vii.2005; 2♀ (OMNH, RMNH), id., but 27.vii.2005.

Holotype, ♀, length of body 12.8 mm, and of fore wing 7.6 mm.

Head. – Antenna with 33 segments, 4th-28th segments with conspicuous circular sensilla; length of third and fourth antennal segments 3.4 and 5.0 times their maximum width, respectively, and third segment 0.8 times as long as fourth segment, third segment distinctly wider than fifth segment, and fourth segment slightly wider (fig. 16); frons coarsely reticulate-rugose; three anterior coronal teeth large, lobe-shaped, both posterior ones as sinuate transverse and wide lamella; after coronal area two widely spaced coarse transverse carinae followed by coarse irregularly rugose flattened area, transversely striate posteriorly and very finely aciculate near occipital carina (fig. 15); temple narrowed near eye, strongly convex medially and narrowed posteriorly (fig. 15), smooth (except for some fine punctures) and shiny; occipital carina distinctly developed and reaching anterior level of postgenal bridge, absent below this level and near hypostomal carina; postgenal bridge gradually reclivous dorsally, smooth; hypostomal flange wide and smooth.

Mesosoma. – Neck short (its lateral length twice its maximum width; fig. 13) and anteriorly distinctly emarginate, neck postero-dorsally much lower than level of middle part of pronotum (fig. 12), narrowly smooth postero-medially and with four oblique lateral carinae and only anterior carina complete, medio-posteriorly smooth and flat; pronotal fold and concavity absent; medially middle part of pronotum not differentiated from posterior part, dorsally irregularly striate, laterally with indistinct oblique groove and striate, medially and ventrally superficially coriaceous; posterior part of pronotum only laterally distinctly convex and with some coarse punctures, evenly convex postero-laterally and posteriorly smooth (fig. 12), dorsally glabrous laterally with some setae; propleuron largely flat, nearly smooth(slightly coriaceous), shiny; convex part of mesopleuron co-

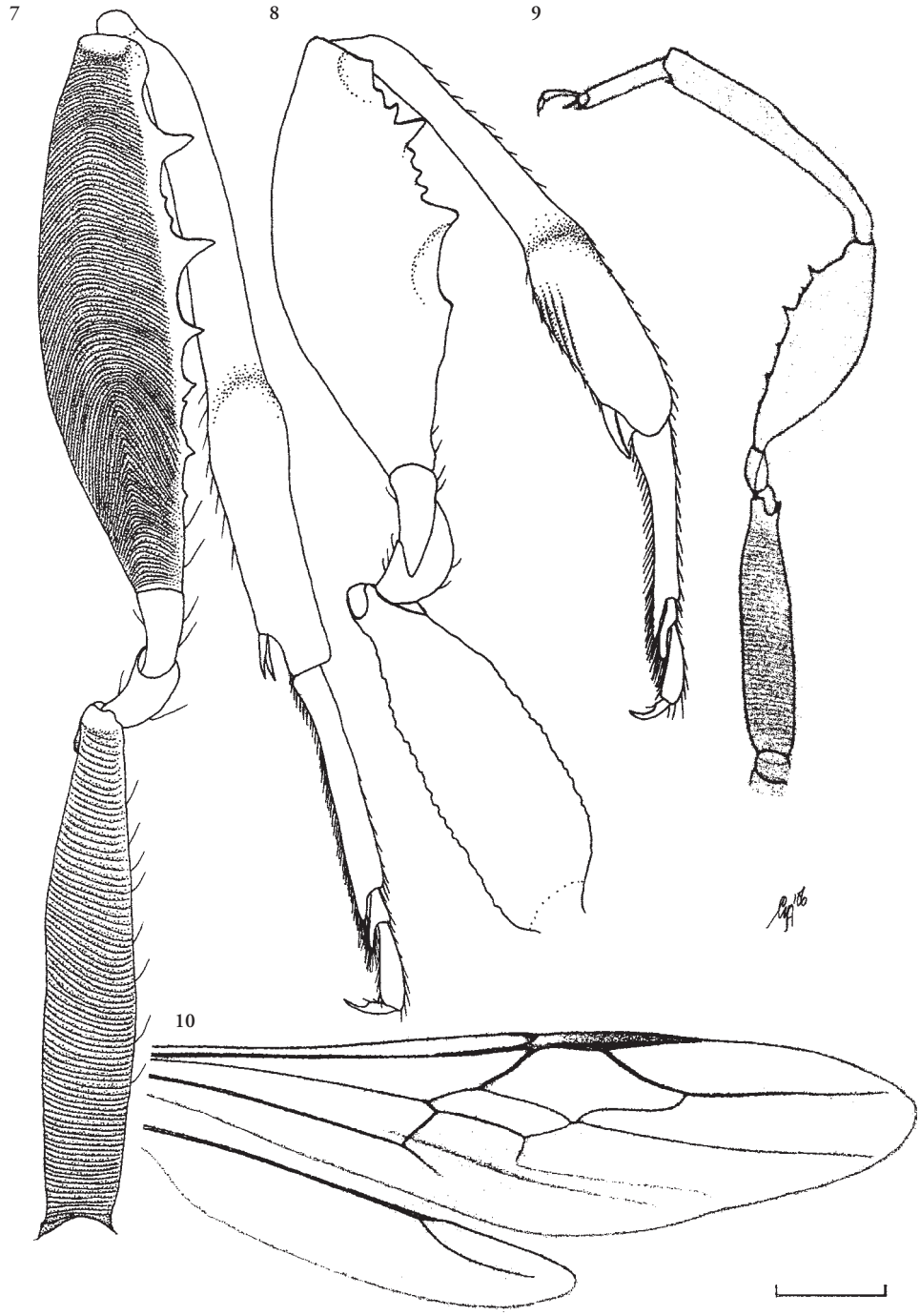


Fig. 7, *Profoenatopus (Commatopus) xanthocephalus*, ♀, holotype. 8, *Parastephanellus matsumotoi*, ♀, holotype. 9, 10, *Profoenatopus (P.) oberthueri,* ♀, holotype. 7-9, hind leg, outer lateral aspect; 10, wings. 7: scale-line (= 1.0×); 8: 1.7×; 9, 10: after de Saussure (1890).

riaceous and superficially foveolate, only anteriorly densely short whitish setose, dorsal part superficially coriaceous; mesosternum superficially coriaceous, with some superficial punctures laterally, shiny, and glabrous; convex part of metapleuron coarsely reticulate, rather slender and without dense short whitish setosity, only ventral anterior depression present, deep and large; propodeum remotely foveolate, with coriaceous interspaces mostly wider than diameter of punctures.

Wings. – Fore wing (fig. 11): vein 1-M 1.5 times as long as vein 1-SR and 1.1 times vein m-cu; vein cu-a just antefurcal and subvertical (fig. 14); vein 2-SR 1.4 times as long as vein r; vein r ends 0.15 times length of pterostigma behind level of apex of pterostigma; vein 1-SR 1.4 times as long as parastigmal vein.

Legs. – Hind coxa rather robust, elliptical, coarsely and more or less transversely rugose, outer side partly coriaceous; hind femur strongly swollen, only with some setae, sinuate aciculate and with two large teeth, one smaller basal tooth and several minute teeth (fig. 8); basal subparallel part 1.4 times as long as widened apical part, outer side of hind tibia gradually depressed at base of widened part, ventrally distinctly obliquely striate (fig. 8) and no ventral carina, inner side convex and with numerous long yellowish setae, narrow part with irregular single row of punctures and dorsal row of long setae, medially with deep triangular depression; hind basitarsus subparallel-sided, moderately slender, somewhat widened basally (fig. 8), its ventral length 7.1 times its middle width and apically oblique.

Metasoma. – First tergite 6.8 times as long as its maximum width (and 7.4 times its apical width and 0.8 times as long as remainder of metasoma), and densely coarsely and rather regularly transversely striate, basally irregularly so and apically narrowly smooth; basally second tergite largely smooth except for some rugae, rather shiny; remainder of tergites microsculptured and with satin shine; pygidial area shallowly impressed, apically with pair of truncate horns and deeply emarginate in between, eighth tergite rather coarsely coriaceous, without coarse punctures and with row of medium-sized straight setae; length of ovipositor sheath 2.57 times fore wing and 1.8 times body.

Colour. – Black; face ventrally, apices of hind coxa and of femur narrowly, base of hind tibia narrowly, clypeus, malar space above malar suture and wide streak behind eye ivory, strongly contrasting with remainder of temple and vertex; tegulae largely, veins, parastigma and pterostigma dark brown, but base of pterostigma ivory; frons ventrally and face dorsally and largely four basal segments of antenna, fore tibia and tarsus, trochantelli more or less, middle tibia (but basally ivory) and tarsus (but basal half of basitarsus ivory), hind tibia (but widened part partly dark brown), and hind tarsus brown; fore wing membrane largely slightly brownish; ovipositor sheath completely black.

Variation. – Length of body 7.5-16.0 mm, and of fore wing 5.2-9.0 mm, antenna of ♀ with 30 (1), 31 (2), 33 (3), 34 (2), or 36 (2) segments; length of ovipositor sheath 2.57-2.91 times fore wing; large specimens may have an extra medium-sized tooth on the hind femur; apex of the first tergite and base of the second tergite often dark reddish-brown.

Biology. – Unknown.

Distribution. – Japan (Kyushu).

Notes. – This species is named in honour of the collector of the type series, Dr R. Matsumoto (Tokyo) who was so kind to present the specimens to the first author.

The new species does not run in the key by Elliott (1922) because of the combination of the coarsely reticulate frons, the first tergite distinctly shorter than the remainder of the metasoma and the ovipositor longer than the body. Of the recently described species (Aguiar 2004), the new species resembles most *P. mufeedae* Narendran & Sureshan, 2001, from India. *P. mufeedae* has the pterostigma comparatively robust, the frons transverse rugose, the posterior half of the vertex smooth, the fore tibia largely black, the hind basitarsus pale yellowish and the base of the middle tibia slightly paler than the blackish remainder of the tibia, and without a conspicuous ivory patch.

Runs in the key to North East Asian Stephanidae by Belokobylskij (1995) to *P. austrochinensis* Belokobylskij, 1995 (which is a replacement name for *P. politus* Chao, 1964 (not Elliott, 1928) from China (Yunnan)) because it shares the largely blackish head, the ovipositor sheath being about 1.7 times as long as the body and the comparatively short first tergite. *P. austrochinensis* differs by having the pronotum in dorsal view nearly completely smooth, the propodeum partly strongly rugose and vein SR1 of fore wing slightly curved and about 4 times as long as vein r and vein 1-M of fore wing about twice as long as vein 1-SR (1.4 times in new species). *P. brevistigma* Enderlein, 1913, is the only other known species from China (Taiwan) and differs from the new species in having the head pale yellowish (but dorsally somewhat darkened and without distinctly contrasting ivory streak on the temple), the anterior half of pronotum brownish-red, the base of the second tergite brownish-yellow, the hind leg more or less brownish, the first tergite about as long as the remainder of the metasoma, the frons transversely rugose, length of the fore wing about 4.5 mm and the hind coxa very finely transverse striate.

Genus *Megischus* Brullé
(figs. 25-32)

Megischus Brullé, 1846: 537; van Achterberg 2002: 53-168 (Old World species); Aguiar & Johnson 2003: 469-482 (Nearctic species); Aguiar 2004: 46-47 (catalogue). Type species (designated by Viereck, 1914): *M. annulator* Brullé, 1846 [= *M. furcatus* (Lepeletier & Serville, 1835)].
Megiseleus Cameron, 1902: 32. Lapsus calami.
Bothriocerus Sichel, 1860: 759. Type species (by monotypy): *Bothriocerus europaeus* Sichel, 1860 [= *Stephanus anomalipes* Foerster, 1855, according to Madl 1991].

Diagnosis. – See van Achterberg (2002).

Distribution. – Cosmopolitan (but absent in the Afrotropical region); mainly in tropical and subtropical regions.

Megischus saussurei (Schulz)

Megischus ruficeps de Saussure, 1904: 201 (primary homonym of *Megischus ruficeps* Cameron, 1887); Chao 1964: 378-9, 387-388; Belokobylskij 1995: 22; Aguiar, 2004: 5, 61-61.
Stephanus ruficeps; Elliott 1922: 717, 737-738.
Stephanus saussurei Schulz, 1907: 322 (replacement name for primary homonym).
Megischus saussurei; van Achterberg 2002: 153-155, figs. 215-222, 560-563.

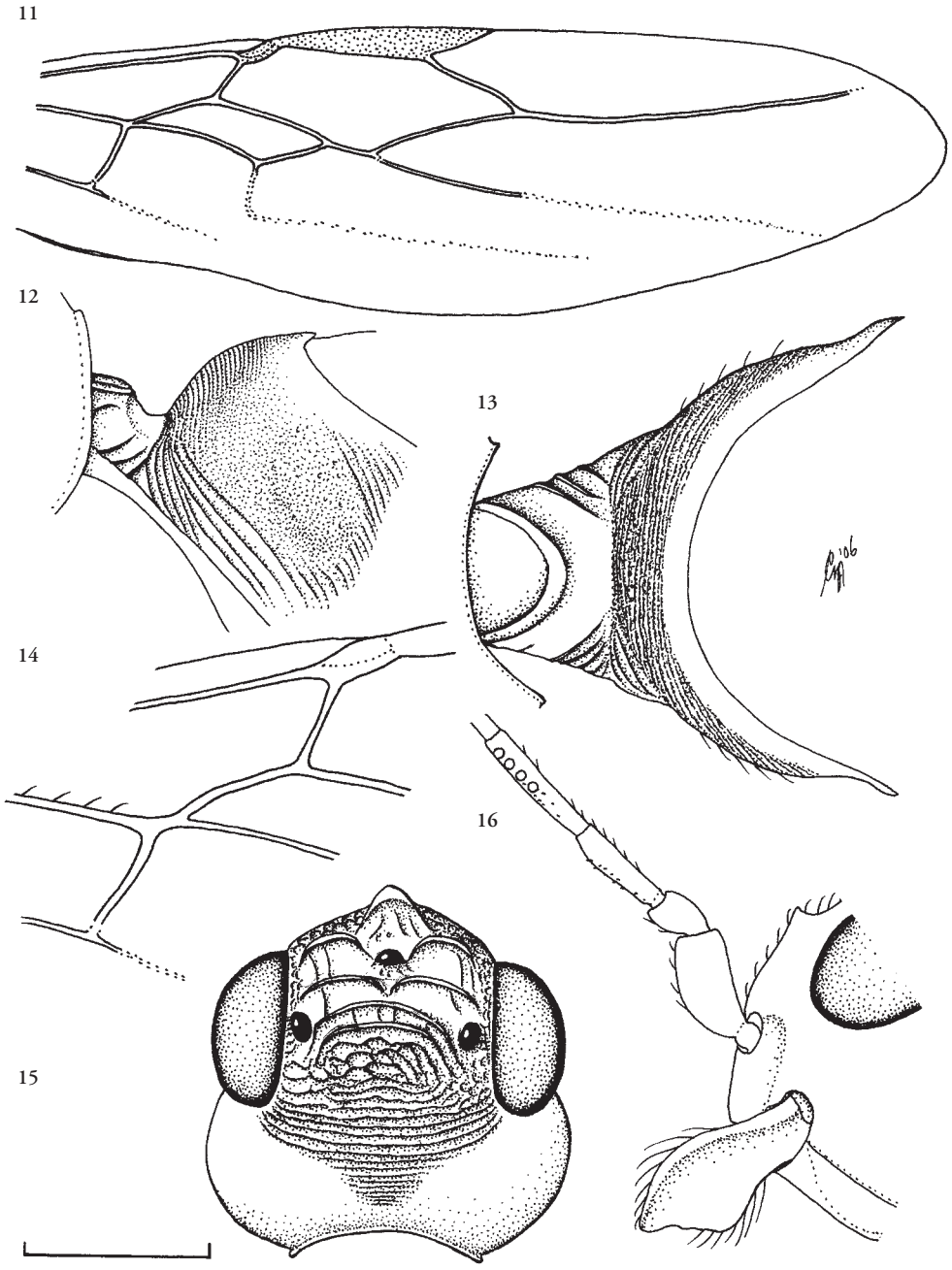
Material.– 3♀ (KBIN, RMNH), CAMBODIA: Siem Reap, Angkor Thom, net catching, 2-16.vi.2003, IG 30.192, Daniel R. Jump.

Notes. – The re-instatement of the name '*Megischus ruficeps*' for this species by Aguiar (2004: 'invalidating *M. saussurei* (Schulz)') is unwarranted. It is obvious from the existing literature (e.g. van Achterberg 2002) that *Megischus ruficeps* de Saussure, 1904, is a primary homonym and, therefore, invalid according to the present ICZN Code (1999). Recently, the first author has examined recently collected material of this species from Cambodia (see above).

Partial key to species of the genus *Megischus* Brullé

The key by van Achterberg (2002) may be improved and extended with the recently named species (van Achterberg & Yang 2004) by changing the couplets 10-17 as follows:

10. Temple largely black or brownish-black; postgenal bridge usually gradually depressed; malar space ivory, contrasting with temple; hind basitarsus dark brown or dark yellowish-brown 11
– Temple orange-brown or dark chestnut-brown; shape of postgenal bridge, colour of malar space and of hind basitarsus variable 14
11. Hind basitarsus of ♀ robust (figs. 508, 579 in van Achterberg 2002); hind tibia deeply concave ventrally (figs. 506, 580 l.c.) 12
– Hind basitarsus of ♀ comparatively slender (figs. 463, 464, 523 l.c.); hind tibia shallowly concave ventrally (figs. 463, 524 l.c.); Sri Lanka 13
12. Temples gradually rounded behind eyes (figs. 502, 514 l.c.); ivory part of ovipositor sheath 2.2-3.5 times as long as its dark apical part; first metasomal tergite and propodeum black; postgenal bridge steeply impressed medially; Moluccas (Ternate; Halmahera; Ceram) .... *M. maxi* Schönmann, 1991
– Temples parallel-sided behind eyes before narrowed posteriorly (fig. 577 l.c.); ivory part of ovipositor sheath about 0.7 times as long as its dark apical part; first tergite dark reddish-brown, contrasting with blackish propodeum; postgenal bridge gradually depressed medially; Sri Lanka [= *M. tortus* (Morley, 1917)] .... *M. hornianus* (Enderlein, 1912)
13. Ivory part of ovipositor sheath 1.3-1.6 times as long as its dark apical part (fig. 519); pronotum behind pronotal fold distinctly striate (fig. 517 l.c.); neck less concave anteriorly (fig. 516 l.c.); mesopleuron especially anteriorly distinctly rugose-punctate or coarsely rugose .... *M. nigricans* Sichel, 1866
– Ivory part of ovipositor sheath about 0.7 times as long as its dark apical part; pronotum behind pronotal fold weakly sculptured or smooth (figs. 458, 460, 461 l.c.); neck more concave anteriorly (figs. 459, 461 l.c.); mesopleuron largely smooth, except some sparse punctures .... *M. krombeini* van Achterberg, 2002
14. Postgenal bridge gradually depressed; hind basitarsus of ♀ robust and rather widenend apically (figs. 41, 330 l.c. & fig. 31 in van Achterberg & Yang 2004) 15
– Postgenal bridge steeply, more or less groove-like impressed; hind basitarsus of ♀ comparatively slender and hardly or not widenend apically (figs. 61, 85, 540 l.c.) 17
15. Ivory part of ovipositor sheath about 3 times as long as its dark apical part (fig. 43 l.c.); posterior half of vertex indistinctly sculptured (fig. 37 l.c.); pronotal fold small and laterally as strong as carinae of neck and with small concavity below it (figs. 36-41 l.c.); occipital carina reduced ventrally, remain far removed from hypostomal carina (fig. 40 l.c.); Moluccas (Halmahera) .... *M. breviannulatus* van Achterberg, 2002
– Ivory part of ovipositor sheath 1.0-1.5 times as long as its dark apical part (fig. 562 l.c.); posterior half of vertex distinctly sculptured



Figs. 11-16, *Parastephanellus matsumotoi*, ♀, holotype. – 11, fore wing; 12, pronotum, lateral aspect; 13, pronotum, dorsal aspect; 14, detail of veins 1-SR and 1-M of fore wing; 15, head, dorsal aspect; 16, base of antenna. 11: scale-line (= 1.0×); 12, 13, 15: 1.5×; 14: 2.0×; 16: 2.1×.

(figs. 215, 218 l.c.); pronotal fold large and laterally stronger than carinae of neck and with large concavity below it (figs. 215-218 l.c.); occipital carina complete ventrally, close to hypostomal carina (fig. 222 l.c.) 16

16. First submarginal cell of fore wing comparatively short, moderately surpassing level of apex of pterostigma (fig. 26 in van Achterberg & Yang 2004); third antennal segment of ♀ with conspicuous circular sensilla (fig. 32 in van Achterberg & Yang 2004); vertex comparatively densely rugose and no differentiated medial area (fig. 25 in van Achterberg & Yang, 2004); malar space pale yellowish, distinctly contrasting with temple; pronotal fold less elevated above level of neck and below fold somewhat less concave; area behind pronotal fold comparatively wide (fig. 28 in van Achterberg & Yang 2004); S China .... *M. ptosimae* Chao, 1964

- First submarginal cell of fore wing longer, far surpassing level of apex of pterostigma (fig. 221 in van Achterberg 2002); third antennal segment of ♀ without conspicuous circular sensilla; vertex comparatively sparsely reticulate-rugose and differentiated regular medial area (fig. 218 l.c.); malar space pale more or less brown, weakly or not contrasting with temple; pronotal fold strongly elevated above level of neck and below fold deeply concave; area behind pronotal fold comparatively slender (fig. 215 l.c.); continental SE Asia (Cambodia, Vietnam, West Malaysia, Thailand) .... *M. saussurei* (Schulz, 1907)

17. Postgenal bridge with a pair of teeth above steep depression (fig. 178 l.c.); hind tibia comparatively weakly concave ventrally (fig. 173 l.c.); neck densely carinate (fig. 172 l.c.); hind tibia black; India ..... *M. alveolifer* van Achterberg, 2004

- Postgenal bridge without teeth above depression; hind tibia more concave ventrally (figs. 58, 83 l.c.); neck largely smooth (fig. 24 l.c.) or hind tibia yellowish-brown (fig. 57 l.c.); Philippines 17a

Note. – If latero-posteriorly vertex is hardly sculptured (fig. 205 l.c.) and neck largely smooth medio-anteriorly (fig. 206 l.c.), pronotum without median carina behind reduced pronotal fold and no carinae laterally (figs. 207, 214 l.c.), and propodeum reticulate (fig. 211 l.c.), cf. *M. rufus* (Elliott, 1927) from Philippines, of which only a male is known.

17a. Hind tibia distinctly concave ventrally (fig. 83 l.c.); vertex (except anteriorly) smooth (figs. 79, 87 l.c.); anteriorly and medially pronotum largely smooth (figs. 79-81, 84 l.c.); pronotal fold vertical and without concavity below it (fig. 81 l.c.); hind tibia and tarsus black (figs. 83, 85 l.c.) ..... *M. glabricephalus* van Achterberg, 2002

- Hind tibia shallowly concave ventrally (figs. 57, 58 l.c.); vertex nearly completely reticulate (fig. 53 l.c.); anteriorly and medially pronotum striate (figs. 53, 54 l.c.); pronotal fold rather reaching over concavity below it (fig. 55 l.c.); hind tibia and tarsus yellowish-brown (figs. 57, 58, 61 l.c.) ..... *M. carolinae* van Achterberg, 2002

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