

Revision of the Psephenoidinae Genus *Micreubrianax* (Coleoptera: Psephenidae)

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Ming-Luen Jeng, Manfred A. Jäch, and Ping-Shih Yang (2006) Revision of the Psephenoidinae genus *Micreubrianax* (Coleoptera: Psephenidae). *Zoological Studies* 45(1): 67-74. *Micreubrianax* Pic (Coleoptera: Psephenidae) is reestablished as a valid genus. The name "*Microeubrianax*" is regarded as an incorrect subsequent spelling and thus unavailable in the sense of the *International Code of Zoological Nomenclature*. The genus *Micreubrianax* is revised taxonomically, and 4 species, *M. flabellicornis* (Pic), *M. bellus* sp. nov., *M. siamensis* sp. nov., and *M. nepalensis* sp. nov., are included. A lectotype is designated for *M. flabellicornis*. <http://zoolstud.sinica.edu.tw/Journals/45.1/67.pdf>

Key words: Validity, Incorrect subsequent spelling, Redefinition, New species.

The Psephenoidinae Bollow are one of the 4 subfamilies of the Psephenidae. The subfamily is restricted to the Old World and is now composed of 5 genera (see Jeng and Jäch 2003). *Micreubrianax* Pic (1922) was originally described as a subgenus of *Eubrianax* (Psephenidae: Eubrianacinae) by Pic (1922). Eventually, Pic (1954) raised it to generic level and changed the spelling into "*Microeubrianax*". Neither of these 2 spellings was cited in the *Nomenclator Zoologicus* (Neave 1940 1950, Edwards and Hopwood 1966, Edwards and Verers 1975, Edwards and Tobias 1993, Edwards et al. 1996). Subsequently, this genus became ill-defined, and its validity was denied due to a series of confusions caused by subsequent authors in the 20th century (Brown 1981, Yang 1993 1994, Jäch and Jeng 1995, Lee and Jäch 1995). In this paper, we clarify the nomenclature of *Micreubrianax* and provide a taxonomic revision of the genus.

MATERIAL AND METHODS

The type material examined is deposited in the following collections: Staatliches Museum für Naturkunde, Stuttgart, Germany (SMNS); Muséum national d'Histoire naturelle, Paris, France (MNHN); Naturhistorisches Museum Wien, Vienna, Austria (NMW); and National Taiwan University, Taipei, Taiwan (NTU, in Yang's collection). Terms and measurements are identical to those provided by Jeng and Jäch (2003).

The following abbreviations are used: BL, body length; BW, body width; EL, elytral length; EW, elytral width; FW, frontal width (shortest distance between eyes in frontal aspect); HW, head width (largest distance across eyes); PL, pronotal length; PW, pronotal width; S, sternite; T, tergite; V, ventrite.

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Micrebrianax Pic, 1922

Micrebrianax Pic 1922: 5 (subgenus of *Eubrianax*, conditionally proposed). Jeng and Jäch 2003: 265.

"*Microeubrianax*" Pic 1954: 64 (elevated to generic rank); Brown 1981: 143 (Eubrianacinae); Yang 1993: 455; Yang 1994: 379; Lee and Jäch 1995: 351 (syn. of *Psephenoides*); Jäch and Jeng 1995: 164 (unavailable name).

TYPE SPECIES (by monotypy): *Eubrianax (Micrebrianax) flabellicornis* Pic 1922: 5.

Nomenclature: Pic (1922) described *Eubrianax flabellicornis* from Vietnam and conditionally established a new subgenus, *Micrebrianax*, for it. The spelling of the name *Micrebrianax* on the labels of the type specimen of *Eubrianax flabellicornis* agrees with that of the original description (Fig. 1). Therefore, the name *Micrebrianax* must be regarded as the correct original spelling. The name "*Microeubrianax*", introduced by Pic (1954) in the description of *M. subopacus* from China, cannot be regarded as an emendation, but it is in fact an incorrect subsequent spelling, which is unavailable according to the rules (ICZN 1999, Articles 33.1, 33.2.1, and 33.3).

Obviously, none of the subsequent authors in the 20th century (Brown 1981, Yang 1993 1994, Lee and Jäch 1995, Jäch and Jeng 1995) were aware of the original description of *Micrebrianax* published by Pic (1922), which had never been cited in the *Zoological Record* or in the *Nomenclator Zoologicus* (Neave 1940 1950, Edwards and Hopwood 1966, Edwards and Verers

1975, Edwards and Tobias 1993, Edwards et al. 1996). Brown (1981) was the 1st subsequent author to mention "*Microeubrianax*", which he placed in the Eubrianacinae (probably simply because of its name). Yang (1994) uncritically followed Brown's opinion.

Lee and Jäch (1995) examined a syntype of *M. subopacus*, which they erroneously believed to be the type species of the genus and consequently synonymized "*Microeubrianax*" with *Psephenoides* Gahan. In the same year, Jäch and Jeng (1995) considered "*Microeubrianax*" as an unavailable name due to the absence of a formal description. "*Microeubrianax*" was cited by the *Zoological Record* as a junior synonym and unavailable name in 1995 according to Jäch and Jeng (1995) and Lee and Jäch (1995).

However, after reading the original description of *Micrebrianax* (Pic 1922) and after examining a syntype of its true type species, *E. flabellicornis*, we are able to correct the nomenclature and confirm the validity of the genus.

Diagnosis: Adults of *Micrebrianax* resemble those of *Psephenoides*, but can be distinguished from the latter by the morphology of the male genitalia and aedeagal sheath, and by the toothed claws of both sexes. The male genitalia of *Micrebrianax* are similar to those of *Heteropsephenoides* Jeng and Jäch but lack the fibula of the median lobe. For separation of *Micrebrianax* from the other Psephenoidinae genera refer to Jeng and Jäch (2003).

Description: Adults. Body length 1.4-2.4 mm. Coloration brown to dark brown, with very weak

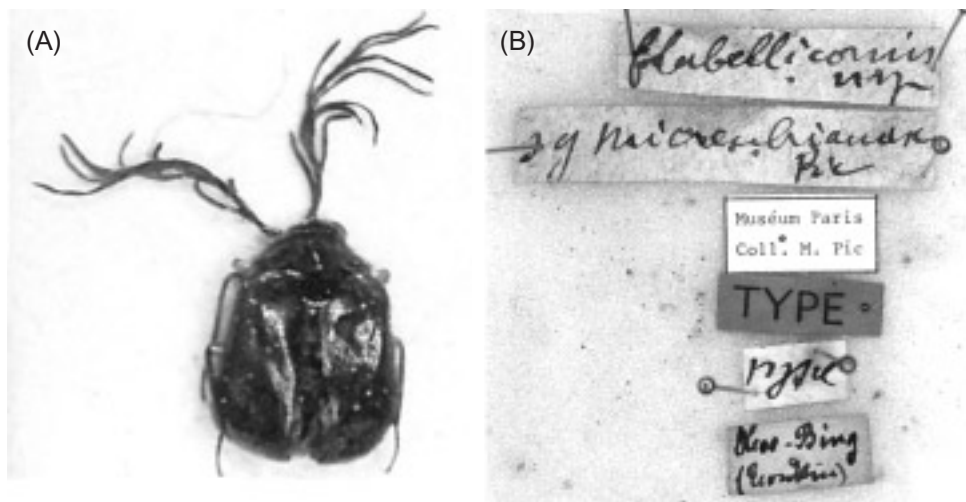


Fig. 1. Lectotype of *Micrebrianax flabellicornis*; habitus (A) and labels (B).

bronze luster in some species. Head 0.7-0.8 times as broad as pronotum in male and 0.6 in female. Eyes large. Frons distinctly convex posterior to antennal sockets in male and weakly so in female, narrowly separated from each other; rami of male antennae quite long; segment 3 short; ramus of segment 10 slightly shorter than or as long as segment 11; female antennae serrate. Clypeus semi-circular and roundly emarginate apically, or elongate and projecting ventrally. Labial and maxillary palpi blunt or bifurcate apically. Mesonotum with anterior margin very broadly rounded; scutellum subtriangular, larger in female. Elytra contiguous from apex of scutellum to near apex. Prosternal process somewhat vertical to body axis, blunt or acute apically. Mesoventrite short, with a broadly rounded apex and central suture. Metacoxa with coxal suture complete or nearly so; metatrochanter jointed with femur lateroapically; claws moderately toothed in both sexes. Abdominal T-8 subtrapezoid; T-9 broadly banded and V-shaped, weakly sclerotized with a short central suture near apex. S-VIII of male flat V-shaped or crescent; S-IX of male shovel-like, with a short basal arm. S-VIII of female partially exposed, transverse and short, truncate apically. Male genitalia modified trilobed, with parameres fused to basal piece; median lobe located medially in lateral aspect, quite broad and slightly longer than parameres; parameres slender dorsally and broad laterally, fused to each other at base dorsally and at basal 1/3 ventrally. Basal piece broadly rounded and bent apically.

So far, we have seen only 1 female specimen (*M. bellus* sp. nov.), which we did not dissect. A supplement of the female characters is necessary when more material is available.

Immature stages: Unknown.

Distribution: Oriental region (India, Nepal, Thailand, and Vietnam).

Key to the *Micrebrianax* species (male)

1. Body size large (BL, 2.4 mm) ...*M. flabellicornis* (Vietnam)
- Body length less than 2.1 mm.....2
2. Maxillary palpus not bifurcate apically.....*M. siamensis* sp. nov. (Thailand)
- Maxillary palpus bifurcate apically.....3
3. Body size small (BL, 1.4 mm); prosternal process acute apically.....*M. nepalensis* sp. nov. (Nepal)
- Body size larger (BL, 1.9-2.1 mm); prosternal process broadly rounded apically.....*M. bellus* sp. nov. (India)

Micrebrianax flabellicornis (Pic, 1922)

Eubrianax (*Micrebrianax*) *flabellicornis* Pic 1922: 5.

Micrebrianax flabellicornis (Pic): Pic 1954: 64.

Type material: Lectotype ♂ (designated here, MNHN, Fig. 1): “Hoa Bing [= Hoa Binh] (Tonkin)/ type/ TYPE (red)/ Muséum Paris Coll. M. Pic/ sg *Micrebrianax* Pic/ *flabellicornis* n sp.”. The number of type specimens is not indicated in the original description. We saw no other type specimens.

Additional specimens examined: One ♂, “Vietnam, Hoa Binh, ex. Coll. Pic/ mit Typus verglichen [= compared with type]” (NMW).

Diagnosis: We did not dissect the specimens for detailed examination. However, *M. flabellicornis* can be readily identified by its large size.

Redescription: Male. BL, 2.4 mm; BW, 1.6 mm. Coloration dark brown, with weak luster. Head about 0.7 times as broad as pronotum. Eyes moderate in size. Antennal sockets moderately separated from each other; frons distinctly convex posterior to antennal sockets; ramus of antennomere 3 reaching base of antennomere 7. Pronotum broadly arched apically and broadest at base. Scutellum 1.5 times as broad as long, 0.4 times as broad as pronotum, broadly rounded apically. Elytra elongate oval, slightly expanded toward apex, well contiguous. Metatarsus 0.67 times as long as its tibia. HW/FW, 2.3; PW/PL, 2.5; EL/EW, 2.4; EL/PL, 4.3; BW/PW, 1.5.

Male genitalia (Fig. 2): About 780 μm long (somewhat deformed due to dehydration, which might cause inaccurate description). Median lobe located medially; broad at apex and hooked apico-laterally, thence gradually diminishing toward apical 1/2 and then widening toward apex. Parameres with slender dorsum at apical 1/3 and

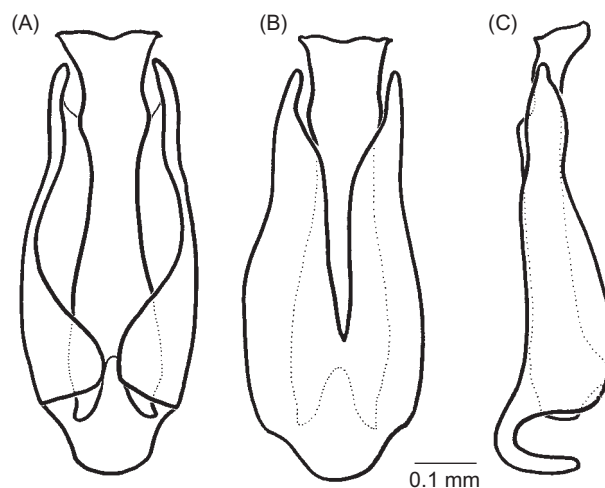


Fig. 2. Male genitalia of *Micrebrianax flabellicornis*; dorsal (A), ventral (B), and lateral (C) views.

strongly sinuate at inner margin (artificial?), broad in ventral aspect, gradually tapering toward apex and dull apically in lateral view. Basal piece fused with parameres, with broadly rounded and strongly bent apex.

Female: Unknown.

Distribution: Northern Vietnam (Hoa Binh).

***Micreubrianax bellus* Jeng and Jäch, sp. nov.**

Type series

Holotype ♂ (NMW): "NE. INDIA: Meghalaya, W. Garo Hills, Nokrek NP; ca. 1100 m/ 25°29'6"N 90°19'5"E 9.-17.5.1996 leg. Jendek and Sausa". Paratypes: 4 ♂♂ and 1 ♀, data same as for holotype (NMW, NTU).

Etymology: The specific name, *bellus* (Latin, beautiful), indicates the beautiful body shape of the species.

Diagnosis: This species is slightly larger than *M. siamensis* and much larger than *M. nepalensis*. It can be distinguished from *M. siamensis* by the shorter antennal ramus of antennomere 3 of the male and by the bifurcate palpi in the former species; from *M. nepalensis* it differs in having a broadly rounded prosternal process, larger male genitalia, and longer basal arm of S-IX of the male.

Description: Male. (Fig. 3) BL, 1.9-2.1 mm; BW, 1.2-1.5 mm. Coloration dark brown, with weak luster; antennomere 2, femora to tibiae, apical margins of pronotum brown. Head (Fig. 4) 0.8 times as wide as pronotum. Eyes large. Frons distinctly convex posterior to antennal sockets, which are moderately separated from each other; antenna about 1.3 times as long as body length; ramus of antennomere 3 not surpassing apex of antennomere 6. Maxillary palpus (Fig. 6) as long as head height, sharply bifurcate apically; relative lengths of segments 2-4, 1: 0.75: 0.6. Labial palpus about 1/2 as long as maxillary palpus, surpassing segment 2 of maxillary palpus. Pronotum (Fig. 7) broadly arched apically, broadest at basal 2/5. Scutellum about 1.4 times as wide as long, 0.35 times as broad as pronotum. Elytra subquadrate, subparallel, well contiguous from basal 1/2 of metanotal groove to near apex. Metanotal groove very weakly convex centrally. Prosternal process everted, at an angle of about 100° and rounded apically. Mesoventrite (Fig. 9A) narrowly banded, V-shaped and blunt apically, with central suture near apex. Metacoxa with complete coxal suture; metatarsus about 0.7 times as long as hind

tibia. Tarsal claw as in figure 10. Abdominal T-8 roundly subtriangular (Fig. 11), about as broad as long; T-9 as in figure 14; V-5 broadly roundly emarginate apically (Fig. 12); S-VIII flat V-shaped (Fig. 13); S-IX about 0.5 length of male genitalia, its basal arm about as long as plate (Fig. 14). HW/FW, 2.6-2.8; PW/PL, 2.4; EL/EW, 2.6; EL/PL, 4.5; BW/PW, 1.4.

Male genitalia (Fig. 15): About 740 μm long, elongate and subparallel. Median lobe truncate apically and hooked apicolaterally, distinctly dilated at apical 0.25. Parameres slender at apical 1/2 dorsally, gradually broadened toward basal 1/2 and thence joined together; joining with each other in a narrow V-shape ventrally; pointed apically from lateral view; basal piece thick and strongly bent.

Description: Female BL, 2.0 mm; BW, 1.5 mm. Head about 0.6 times as wide as pronotum. Frons distinctly convex posterior to antennal sockets; antenna (Fig. 5) 1.5 times as long as pronotal width, serrate. Pronotum (Fig. 8) very transverse, subquadrate. Scutellum large, 1.5 times as wide as long, 0.5 times as broad as pronotum, broadly rounded apically. Mesoventrite transverse and with complete central suture (Fig. 9B). Metatarsus about 0.75 times as long as its tibia. HW/FW, 2.4;

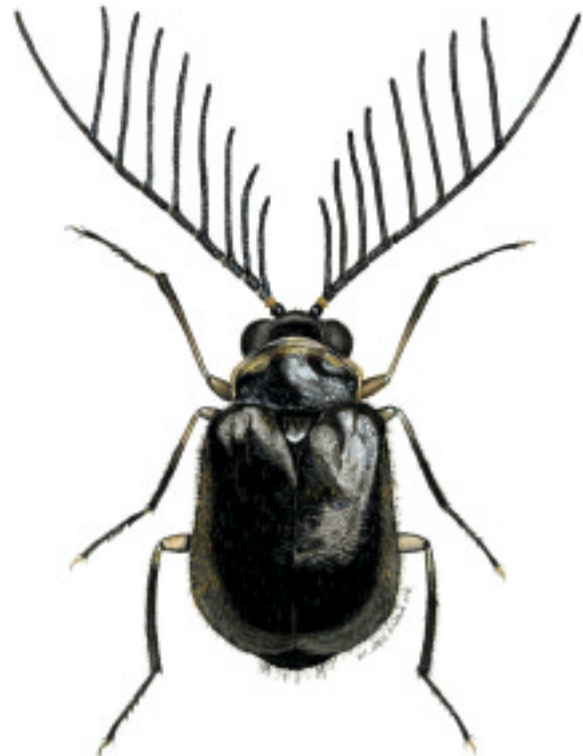


Fig.3. *Micreubrianax bellus* sp. nov., male.

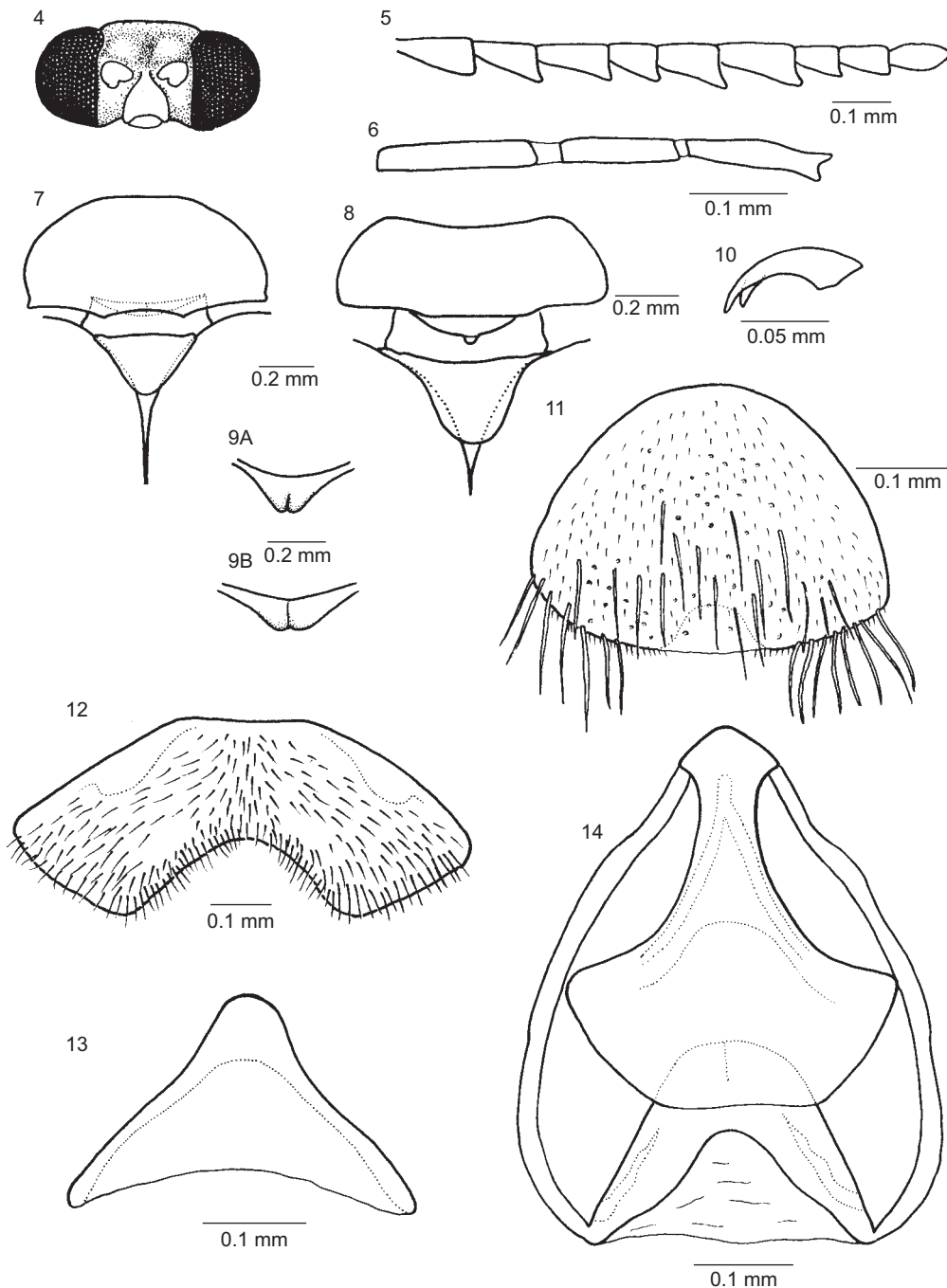
PW/PL, 2.6; EL/EW, 2.2; EL/PL, 5.1; BW/PW, 1.7.
Distribution: Northern India (Meghalaya).

***Micrebrianax nepalensis* Jeng and Yang,
 sp. nov.**

Type series

Holotype ♂ (SMNS), “215 Dhading Dist. Ankhu Khola Tal, Ankhu, Sangu, 650m, Kulturland, Waldreste, 24/25Jul 83 MARTENS and SCHAWALLER”.

Etymology: The species is named in refer-



Figs. 4-14. *Micrebrianax bellus* sp. nov. 4. male head; 5. female antenna; 6. male maxillary palpus; 7. male pronotum; 8. female pronotum; 9A. male mesoventrite; 9B. female mesoventrite; 10. male tarsal claw; 11. male abdominal tergite 8 (T-8); 12. male last ventrite; 13. male sternite VIII (S-VIII); 14. aedeagal sheath (S-IX+T-9), ventral aspect.

ence to its geographical distribution.

Diagnosis: This species resembles *M. bellus* from India but can be separated from the latter by its smaller size and the acute prosternal process.

Description: *Male.* BL, 1.4 mm; BW, 0.9 mm. Coloration brown, with darker head and brownish-black antennae. Head (Fig. 16) 0.8 times as broad as pronotum. Eyes moderate in size. Frons dis-

tinctly convex posterior to antennal sockets; ramus of antennomere 3 reaching base of antennomere 7. Clypeus bell-shaped, deeply and roundly emarginate apically. Labrum membranous. Labial and maxillary palpi bifurcate apically; maxillary palpus (Fig. 17) slightly longer than head height; relative lengths of segments 2-4, 1: 0.6: 1.2. Labial palpus slightly surpassing segment 2 of maxillary palpus. Pronotum (Fig. 18) quite transverse, very broadly rounded apically and rounded laterally. Scutellum 1.6 times as wide as long, 0.3 times as broad as pronotum, rounded apically. Elytra oval, subparallel-sided. Prosternal process (Fig. 19) everted, at an angle of about 70° and acute apically. Mesoventrite (Fig. 20) with slightly notched apex apically and nearly complete central suture. Metacoxa with complete coxal suture; metatarsus 0.5 times as long as tibia. Tarsal claw as in figure 21. Abdominal T-8 (Fig. 22) transverse, subtrapezoidal; V-5 (Fig. 23) with deeply and roundly emarginate apex; S-VIII (Fig. 24) flat V-shaped; S-IX (Fig. 25) about 1/2 length of male genitalia. HW/FW, 2.2; PW/PL, 2.7; EL/EW, 2.5; EL/PL, 4.3; BW/PW, 1.2.

Male genitalia (Fig. 26) 610 μm long. Very similar to those of *M. bellus* but smaller.

Female: Unknown.

Distribution: Nepal (Dhading District).

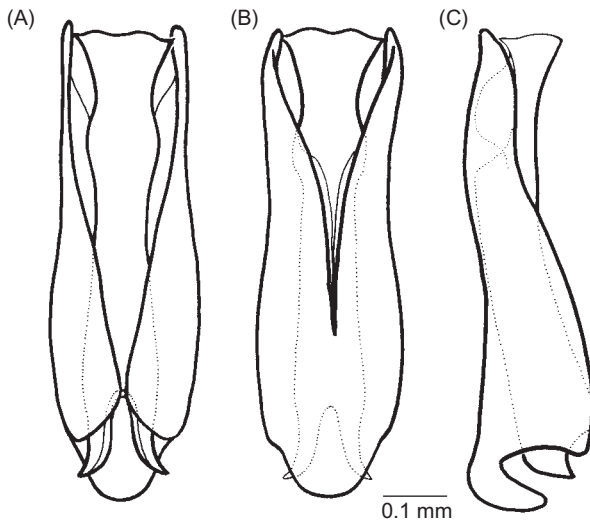
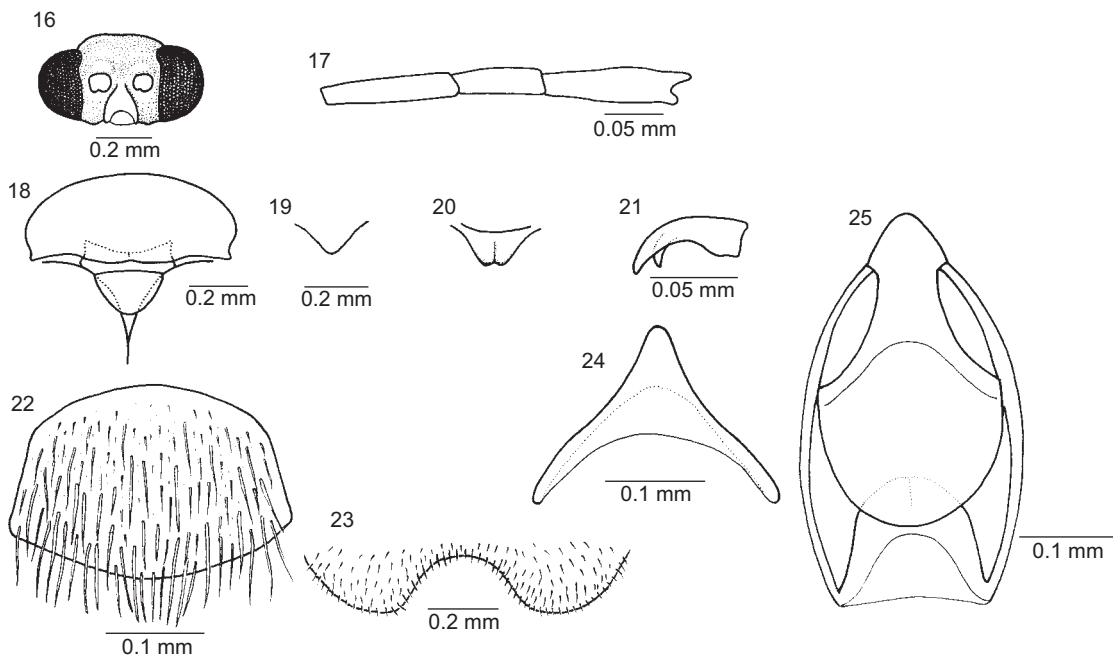


Fig. 15. *Microbrianax bellus*, male genitalia, dorsal (A), ventral (B), and lateral (C) views.



Figs. 16-25. *Microbrianax nepalensis* sp. nov., male. 16. head; 17. maxillary palpus; 18. pronotum; 19. prosternal process; 20. mesoventrite; 21. tarsal claw; 22. abdominal T-8; 23. apex of last ventrite; 24. S-VIII; 25. aedeagal sheath, ventral aspect.

***Micrebrianax siamensis* Jeng and Yang,
sp. nov.**

Type series

Holotype ♂ (NMW), “THAILAND, Chiangmai Zoo, 400 m, 98°57'E, 18°49'N, 29.8.-5.9.1998, leg. Chantaramongkol, P.”

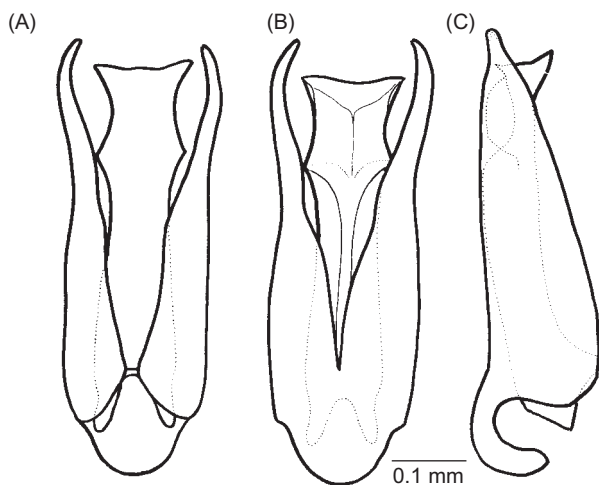
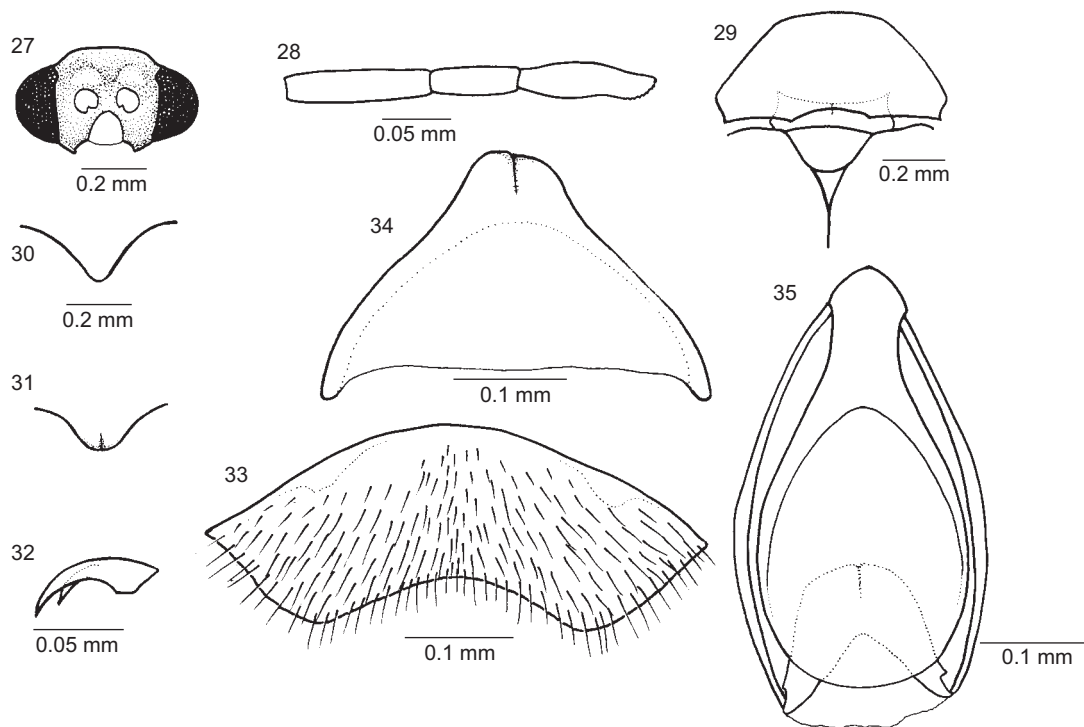


Fig. 26. *Micrebrianax nepalensis*, male genitalia, dorsal (A), ventral (B), and lateral (C) views.

Etymology: The epithet refers to the type locality.

Diagnosis: The species resembles *M. bellus*, from which it can be distinguished by the smaller size. The median lobe of the male genitalia of *M. siamensis* is broader than that of *M. bellus*, while the parameres of *M. bellus* are longer and more slender apically. Labial and maxillary palpi are apically blunt in *M. siamensis* but sharply bifurcate in *M. bellus*.

Description: Male. BL, 1.7 mm; BW, 1.1 mm. Coloration yellowish brown, with lighter pronotum and femora. Head (Fig. 27) 0.7 times as broad as pronotum. Eyes moderate in size. Frons distinctly convex posterior to antennal sockets, which are narrowly separated from each other; antenna about 1.2 times as long as body length; antennal rami very long, ramus of antennomere 3 reaching basal 1/2 of antennomere 8. Clypeus roundly emarginate apically. Labrum membranous. Maxillary palpus (Fig. 28) shorter than head height, with more or less blade-like apex; relative lengths of segments 2-4, 1: 0.7: 0.9. Labial palpus 0.4 times as long as maxillary palpus. Pronotum (Fig. 29) broadly arched apically, widest at basal 0.2. Scutellum 1.7 times as wide as long, with broadly rounded apex. Elytra contiguous and subparallel-



Figs. 27-35. *Micrebrianax siamensis* sp. nov., male. 27. head; 28. maxillary palpus; 29. pronotum; 30. prosternal process; 31. mesoventrite; 32. tarsal claw; 33. last ventrite; 34. S-VIII; 35. aedeagal sheath, ventral aspect.

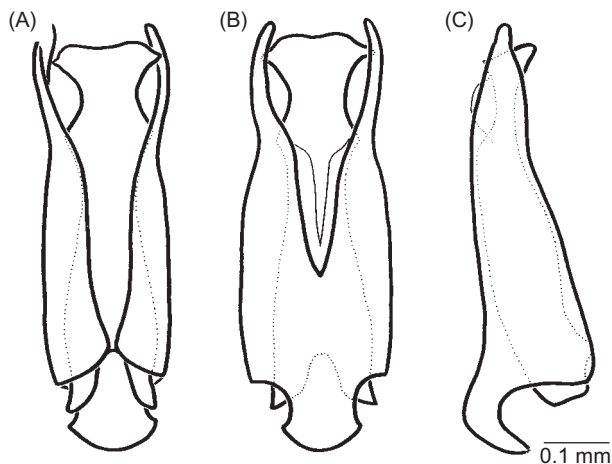


Fig. 36. *Micrebrianax siamensis*, male genitalia, dorsal (A), ventral (B), and lateral (C) views.

sided. Prosternal process (Fig. 30) everted, at an angle of about 80° , and somewhat dull at apex. Mesoventrite (Fig. 31) blunt apically, with a short central suture apically. Coxal suture of metacoxa about 0.6 of coxal length; metatarsus 0.45 times as long as hind tibia. Tarsal claw as in figure 32. Abdominal V-5 (Fig. 33) broadly roundly emarginate; S-VIII (Fig. 34) wide V-shaped, with a short basal central suture; S-IX as shown in figure 35, with lateral appendages slightly longer than sternum and attached to U-shaped T-9. HW/FW, 2.1; PW/PL, 2.5; EL/EW, 2.4; EL/PL, 3.8; BW/PW, 1.3.

Male genitalia (Fig. 36) about $630 \mu\text{m}$ long. Very similar to those of *M. bellus*, but slender portion of parameres shorter, median lobe comparatively robust, inner sides of dorsum joined in a broader V-shaped curve.

Female: Unknown.

Distribution: Thailand (Chiang Mai).

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