

**New and less known Agathidiini and Pseudoliadini  
(Coleoptera: Leiodidae: Leiodinae) from China, Nepal and India**

Zdeněk ŠVEC

Kamenická 4, 170 00 Praha 7, Czech Republic  
e-mail: zd.svec@volny.cz

**Taxonomy, descriptions, Leiodidae, Leiodinae, *Agathidium*, *Dermatohomoeus*, *Colenisia*, China, Nepal, India**

**Abstract.** *Agathidium* (*Neoceble*) *aleseki* sp. nov., *A. (Agathidium) alesmetanai* sp. nov., *A. (A.) smetalesi* sp. nov., *A. (A.) martinklanici* sp. nov., *A. (A.) cheni* sp. nov., *A. (A.) grebennikovi* sp. nov., *A. (Macroceble) fui* sp. nov., *A. (Macr.) oui* sp. nov., *A. (Macr.) caoi* sp. nov., *A. (Macr.) janruzickai* sp. nov., from China, *Agathidium. (Microceble) schmidtii* sp. nov. from Nepal, *A. (A.) zbyneki* sp. nov. from India, *Dermatohomoeus schuelkei* sp. nov., *Colenisia castanea* sp. nov. and *C. schuelkei* sp. nov. from China, are described and distinguished from similar species. The aedeagus of lesser known Chinese species *Agathidium (Cyphocele) wangianum* Angelini, 2002; spermatheca of *A. (A.) acutum* Angelini, 2000 and *A. (A.) acuticorne* Angelini, 2002 are figured for the first time. *Agathidium (A.) acutum* and *A. (C.) wangianum* from Sichuan, *A. (A.) xianggangense* Angelini & Cooter, 1999 and *A. (Neoceble) abbreviatum* Angelini, 2002 from Yunnan, *A. (A.) montanum* Angelini & De Marzo, 1981 from Nepal and *Dermatohomoeus indicus* Daffner, 1988 from Nepal are recorded for the first time.

INTRODUCTION

The tribe Agathidiini Westwood, 1838 includes 12 genera. Among them the genus *Agathidium* Panzer, 1797 is the most numerous one with currently 800 *Agathidium*. Angelini's concept (1993, 1995, 2004, 2010) of the genus *Agathidium* is followed in this work. In the present paper, twelve new species of *Agathidium* are described.

The tribe Pseudoliadini Portevin, 1929 comprises 11 genera including the genus *Colenisia* Fauvel, 1902 currently with 49 species (Daffner 1986a, 1987, 1988a, 1989 and 1991, Angelini & Švec 1994 and 1998, Hoshina 1999, Leschen 2000, Perkovsky 2000, Cooter & Švec 2002, Švec 1997) and *Dermatohomoeus* Hlisnikovský, 1963 currently with 40 species (Daffner 1986b, 1988b and 1990, Cooter & Švec 2002, Hoshina 1999, Švec 1996, 1997, 2004). In this work, two species of *Colenisia* and one species of *Dermatohomoeus*, all new to science, are described.

MATERIAL AND METHODS

Thanks to the courtesy of Aleš Smetana (Ottawa, Canada) the author was provided with very rich and interesting material, recently collected by Aleš Smetana and Vasily Grebennikov (Ottawa, Canada) in China. Also included in this study is Chinese leiodid material collected by Michael Schülke (Berlin, Germany), other material by Jiří Hájek, David Král and Jan Růžička (all Prague, Czech Republic). Further studied material was collected in India by Zbyněk Kejval (České Budějovice, Czech Republic) and Miloš Trýzna (Děčín, Czech

Republic); additionally various leiodid material from South-East Asia was made available for study by the Museum of Natural History, Erfurt, Germany.

Abbreviations:

- CNCO The Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada;  
JRPC Jan Růžička, Prague, private collection, Czech Republic;  
MSBC Michael Schülke, Berlin, private collection, Germany;  
NKME Natural History Museum, Erfurt, Germany;  
ZSPC Zdeněk Švec, Prague, private collection, Czech Republic.

The examined material has been compared with the type and other material of the relevant genera deposited in the author's collection. The material mentioned in this paper is deposited in the collections of CNCO, MSBC, NKME, JRPC and in ZSPC. Indication of the place of the deposition CNCO added to the locality data at the type and other examined species should be considered as temporary; it means that the holotypes and a part of the paratypes series and of other studied material temporarily deposited in CNCO will be eventually deposited in a public collection in China.

If it is not stated otherwise the descriptions of the new species are based on the holotypes only. The measurements of total body length were taken from all the specimens examined. Specific measurements of the individual body parts were taken from the holotypes only. They were measured to the first decimal place. The description of the variability is based on the paratype specimens.

The dissected male and female genitalia were mounted in gum Arabic on the same plate or on a transparent plate added to the same pin as the relevant specimen.

Each type specimen is indicated by a red label bearing the status of the specimen (holotypus or paratypus respectively) added to the same pin as the type.

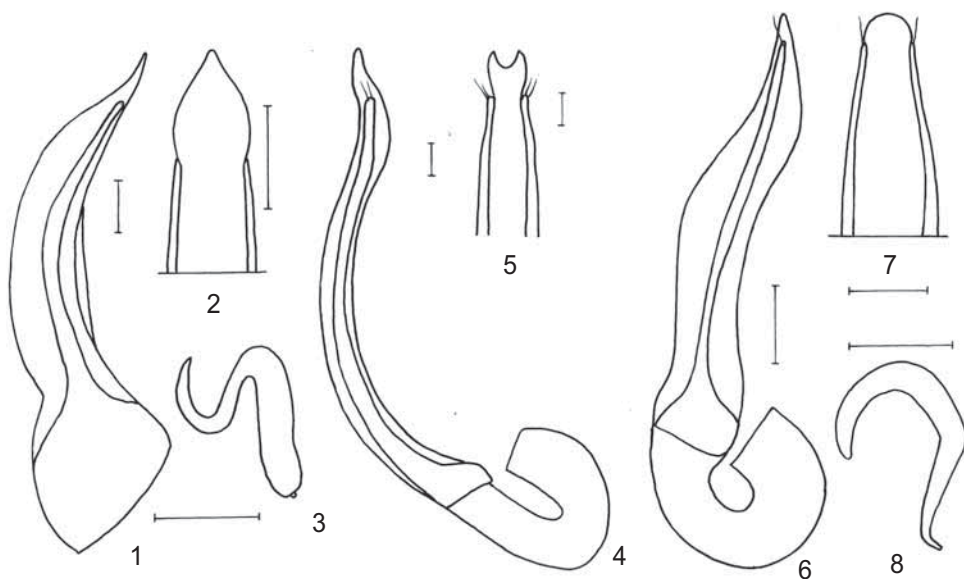
## DESCRIPTIONS AND FAUNISTIC RECORDS

**Agathidiini Westwood, 1838**  
**Genus *Agathidium* Panzer, 1797**  
**Subgenus *Neoceble* Gozis, 1886**  
***Agathidium nigripenne* species group**

***Agathidium (Neoceble) aleseki* sp. nov.**  
(Figs 1-3, 46)

**Type material.** Holotype (♂): "China: N-Yunnan, Diqing Tibet Aut. Pr. Zhongdian Co. Xue Shan near lake, 23 km S Zhondian, 27°37.1' N, 99°38.5' E, 3895 m, 15.vi.2005 A. Smetana [C161]"; (ZSPC); Paratype (♀): "China: N-Yunnan, Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000-3050 m, 27°47.90' N, 98°30.19' E, 21.vi.2005, A. Smetana [C169]"; (ZSPC).

**Description.** Length of body 2.4-2.7 mm, in holotype 2.7 mm. Length of body parts in holotype: head 0.5 mm, pronotum 0.7 mm, elytra 1.5 mm. Maximum width of body parts in holotype: head 0.9 mm, pronotum 1.5 mm, elytra 1.5 mm.



Figs 1-8. Figs 1, 4, 6: aedeagus lateral; Figs 2, 5, 7: apex of aedeagus dorsal; Figs 3, 8: spermatheca. 1, 2, 3- *Agathidium (Neoceble) aleseki* sp. nov.; 4, 5- *A. (Agathidium) alesmetanai* sp. nov.; 6, 7, 8- *A. (A.) martinklanici* sp. nov. Scale = 0.1 mm.

Oval (Fig. 46). Dorsum bicolored - head and pronotum black, pronotum with lighter margins, elytra, legs and antennomeres I-VIII dark red, antennal club dark. Dorsum without microreticulation.

Head. Maximum width of head just behind posterior margin of eyes. Eyes moderately convex, ratio of length : maximum width of eyes = 3.5 in dorsal view. Clypeus slightly emarginate, clypeal line very fine, superficial. Head anterolaterally with shallow depression on each side of clypeus. Ratio of length of antennal segments III:II = 1.4. Distinctly punctured, punctures of two sizes, larger punctures separated by about 3-7 times their own diameters, smaller ones sparsely interposed.

Pronotum. Widest shortly before straight base, lateral margins roundly narrowed anteriorly. Punctuation similar to that on head.

Elytra. Widest approximately at anterior third. Punctuation stronger and denser than on pronotum, punctures separated approximately by 3 times their own diameters; larger punctures tend to become seriate in some places, between them smaller punctures irregularly distributed. Interspaces with very rare extremely small and fine punctures. With superficial large irregular cells formed by very fine lines, each cell with one or more punctures inside. Sutural stria distinct, confined to apical two thirds of elytral length, prolonged anteriorly by row of punctures.

Legs. Anterior tarsomeres I and II slightly thickened in male. Tarsi slender in female. Male femora without specific characters. Tarsal formula: 5-5-4 in male; 5-4-4 in female.

Mesosternum. Longitudinal mesosternal carina distinct, lateral lines complete. Membranous wings missing.

Metasternum. With small central depression bearing several recumbent setae in male.  
Genitalia. Aedeagus as in Figs 1, 2, spermatheca as in Fig. 3.

**Variation.** The length ratio of antennomeres III:II varies between 1.3-1.4 in the type series.

**Differential diagnosis.** *Agathidium* (*N.*) *aleseki* sp. nov. is similar to the Chinese *A.* (*N.*) *shaanxiense* Angelini et Švec, 2000 in the type of dorsal punctuation, lack of microsculpture, possession of clypeal and sutural striae, head widest behind posterior margin of eyes and the dark antennal club. It differs by a smaller ratio of antennomeres III:II, which is of 1.7 in *A.* *shaanxiense*. Also the shape of the apex of aedeagus shows distinct differences.

**Name derivation.** The new species is named in honour of Aleš Smetana. Alešek is the diminutive of Aleš.

### *Agathidium marginatum* species group

#### *Agathidium* (*Neoceble*) *abbreviatum* Angelini, 2002

**Material examined.** “China: N-Yunnan, Diqing Tibet Aut. Pr. Zhongdian Co. Xue Shan near lake, 23 km S Zhondian, 27°37.1' N, 99°38.5' E, 3895 m, 15.vi.2005 A. Smetana [C161]”, 13 specimens, (ZSPC).

**Distribution:** P.R. China (Sichuan, Yunnan). New for Yunnan.

#### Subgenus *Agathidium* s. str. *Agathidium dentatum* species group

#### *Agathidium* (*Agathidium*) *alesmetanai* sp. nov. (Figs 4, 5, 47)

**Type material.** Holotype (♂): “China: N-Yunnan, Dali Bai Nat. Aut. Pr. Diancang Shan 3 km W Dali old town, ‘Cloud road’, 25°41.1' N, 100°06.8' E, 2700 m, 17.vi.05, A. Smetana [C162]”, (ZSPC); Paratype. (♂): “China: N-Yunnan, Dali Bai Nat. Aut. Pr. Diancang Shan 5 km W Dali, 25°41.1' N, 100°06.8' E, 2750 m, 1.ix.03, A. Smetana [C144]”, (ZSPC).

**Description.** Length of body 3.7-3.8 mm, in holotype 3.7 mm. Length of body parts in holotype: head 0.4 mm, pronotum 1.6 mm, elytra 1.7 mm. Maximum width of body parts in holotype: head 1.5 mm, pronotum 2.1 mm, elytra 2.2 mm.

Oblong oval (Fig. 47). Dorsum black, antennae reddish, legs red-brown. Ventral surface red-brown. Dorsum without microreticulation.

Head. Maximum width of head at posterior fifth of eye length. Eyes slightly convex, ratio of length : maximum width of eyes = 5.0 in dorsal view. Clypeus feebly emarginate, clypeal line lacking. Relative length of antennal segments III:II = 2.6. Finely punctured, punctures separated by about 5-6 times their own diameters, punctuation denser on clypeus.

Pronotum. Strikingly large. Widest at basal third, base simply strongly curved; convex posteriorly. Lateral margins near base first roundly then straight, converging anteriorly. Punctures finer sparser and smaller than those on head; separated by about 6-8 times their own diameters.

Elytra. Widest approximately at the anterior fourth. Punctured stronger than on pronotum, punctures separated by 5-7 times their own diameters. Sutural stria missing.

Legs. Anterior tarsomere I distinctly enlarged, densely setose beneath, mid- tarsomere I slightly widened. Male femora with small tooth at distal third of their posterior margin. Tarsal formula: 5-5-4 in male; female unknown.

Mesosternum. Longitudinal mesosternal carina and lateral lines fully developed. Membranous wings missing.

Metasternum. Femoral lines incomplete. With central smooth area equipped with bush of long setae in male.

Genitalia. Aedeagus as in Figs 4, 5.

**Variation.** The length ratio of antennomeres III:II varies between 2.5-2.6 in the type series.

**Differential diagnosis.** *Agathidium* (*A.*) *alesmetanai* sp. nov. is similar to the Chinese *A.* (*A.*) *smetanaicum* Angelini, 2002 in the size and colour of the body and antennae, shape of eyes, puncturation of head and pronotum and emarginated top of tegmen. It differs by the ratio of antennomeres III:II that is 2.5-5.6 in *A. alesmetanai* while the same is 1.7 in *A. smetanaicum* and by stronger puncturation on elytra than on head.

**Name derivation.** The new species is named in honour of my friend Aleš Smetana.

***Agathidium* (*Agathidium*) *martinklanicai* sp. nov.**

(Figs 6-8, 48)

**Type material.** Holotype (♂): "China: N-Yunnan, Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000-3050 m, 27°47.90' N, 98°30.19' E, 21.vi.2005, A. Smetana [C169]", (ZSPC); Paratype. (♀): the same locality data, (ZSPC).

**Description.** Length of body 2.0 mm. Length of body parts in holotype: head 0.3 mm, pronotum 0.7 mm, elytral 1.0 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.2 mm, elytra 1.2 mm.

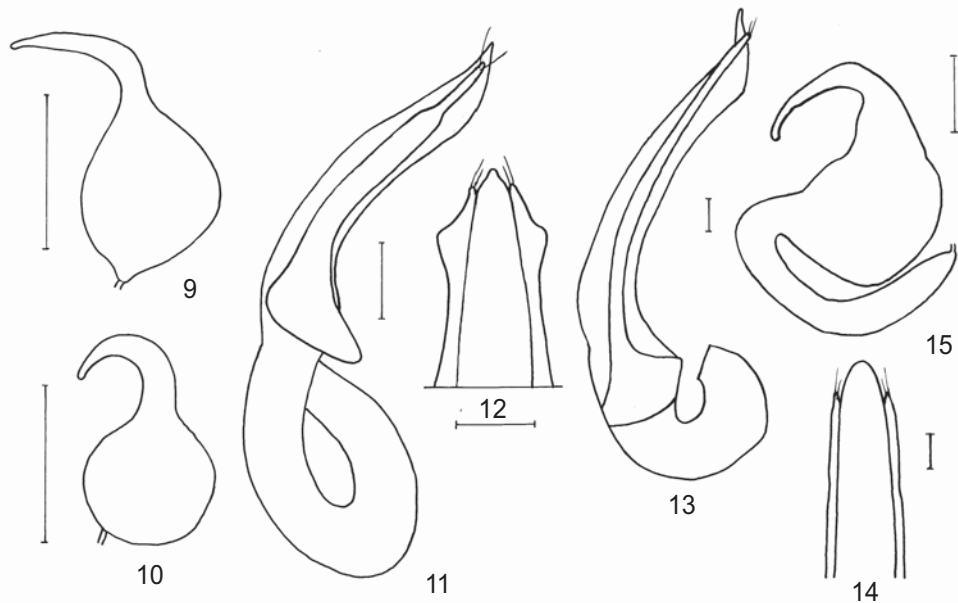
Oval (Fig. 48). Dorsum red-brown. Antennomeres I-VI and legs light chestnut, antennomeres VIII-XI dark, antennomere VII infusate. Ventral surface red-brown metasternum and femora paler. Dorsum without microreticulation.

Head. Maximum width of head at posterior margin of eyes. Eyes moderately convex, ratio of length : maximum width of eyes = 4.0 in dorsal view. Clypeus feebly emarginate, clypeal line lacking. Relative length of antennal segments III:II = 1.4. Finely very sparsely punctured, punctures separated by about 10 or more times their own diameters.

Pronotum. Widest shortly before base, lateral margins roundly narrowed anteriorly. Puncturation similar as on head; some shallow larger punctures disseminated before base.

Elytra. Widest approximately at the anterior third. Punctured stronger than on pronotum, punctures separated by 5-8 or more times their own diameters; some larger punctures present along suture. With very slightly marked large irregular cells each with central puncture formed by very fine lines. Sutural stria missing.

Legs. Anterior tarsomeres I and II slightly thickened in male. Tarsi slender in female. Hind femora with large obtuse tooth apically in both sexes. Tarsal formula: 5-5-4 in male; 5-4-4 in female.



Figs 9-15. Figs 9, 10, 15: spermatheca; Figs 11, 13: aedeagus lateral; Figs 12, 14: apex of aedeagus dorsal. 9- *Agathidium (Agathidium) acutum* Angelini, 2000; 10- *A. (A.) acuticorne* Angelini 2002; 11, 12- *A. (A.) smetalesi* sp. nov.; 13, 14, 15- *A. (A.) cheni* sp. nov. Scale = 0.1 mm.

Mesosternum. Longitudinal mesosternal carina present, lateral lines absent. Membranous wings developed.

Metasternum. Femoral lines incomplete, shortened. With central bump in male, simple in female.

Genitalia. Aedeagus as in Figs 6, 7, spermatheca as in Fig. 8.

**Variation.** The length ratio of antennomeres III:II varies between 1.4-1.6 in the type series.

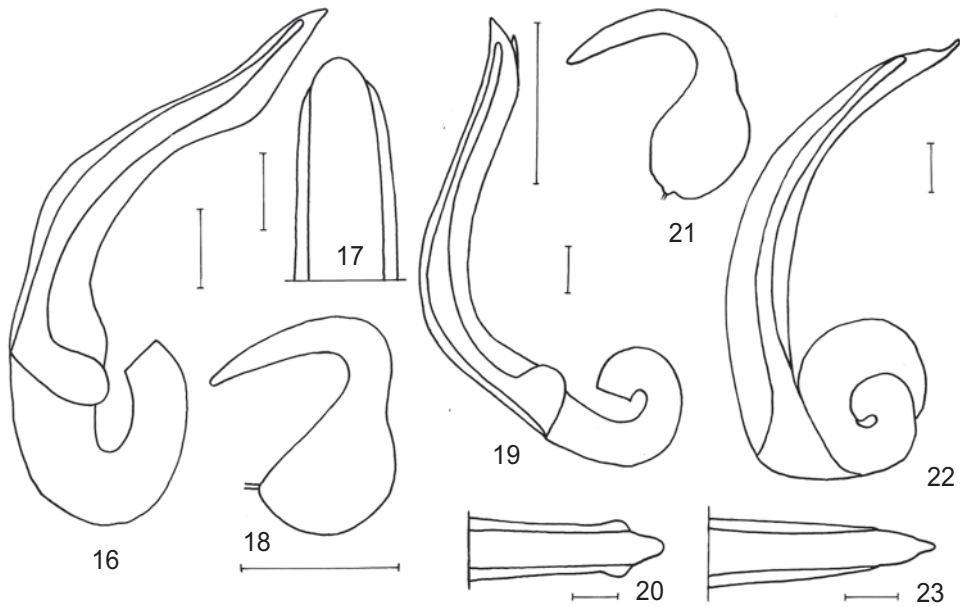
**Differential diagnosis.** *Agathidium (A.) martinklanicai* sp. nov. is similar to the *A. (A.) senile* Angelini et De Marzo, 1998 from Pakistan in the size of its body, lack of microsculpture, absence of sutural striae, the head widest at posterior margin of eyes and in the ratio of antennomeres III:II. It differs by the dark antennal club, by female tarsal formula 5-4-4, while in *A. senile* the same is 4-4-4 and by the presence of mesosternal carina. Also both the male genitalia and spermatheca show specific features in both the compared species.

**Name derivation.** The new species is named in honour of my friend Martin Klanica (Brno, Czech Republic).

***Agathidium (Agathidium) zbyneki* sp. nov.**

(Figs 19-21, 52)

**Type material.** Holotype (♂): "N-India Uttaranchal State, ca 30 km N of Bageshwar, SE of Dhakuri vill., 2600-2800 m, 25.-26.vi. 2003, Z. Kejval & M. Trýzna lgt." (ZSPC); Paratypes. (17 ♂♂, 20 ♀♀): the same locality data, (ZSPC).



Figs 16-23. Figs 16, 19, 22: aedeagus lateral; Figs 17, 20, 23: apex of aedeagus dorsal; Figs 18, 21: spermatheca. 16, 17, 18- *Agathidium (Agathidium) grebennikovi* sp. nov.; 19, 20, 21- *A. (A.) zbyneki* sp. nov.; 22, 23- *A. (Cyphocele) wangianum* Angelini, 2002. Scale = 0.1 mm.

**Description.** Length of body 1.9 – 2.6 mm, in holotype 2.1 mm. Length of body parts in holotype: head 0.4 mm, pronotum 0.6 mm, elytra 1.1 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.1 mm, elytra 1.1 mm.

Oblong oval (Fig. 52). Dorsum light yellow-brown. Legs and antennomeres I-VIII yellowish, antennomeres IX-XI darker. Ventral surface yellowish, margins of coxae and trochanters darker. Dorsum without microreticulation.

Head. Maximum width of head just behind posterior margin of eyes. Eyes slightly convex, ratio of length : maximum width of eyes = 5 in dorsal view. Clypeus very feebly emarginate, clypeal line lacking. Feebly punctured, punctures separated by about 4-10 or more times their own diameters. Relative length of antennal segments III:II = 1.6.

Pronotum. Widest shortly before base, lateral margins conically narrowed anteriorly. Punctures finer and much more sparsely distributed than those on head.

Elytra. Widest approximately at the anterior fifth, then strongly narrowed posteriorly. Punctuation a little stronger than that of head, separated by about 5-8 times their own diameters. Some larger punctures tending to become seriate present along suture. Surface with superficial sculpture consisting of very fine lines forming large irregular cells. Sutural stria lacking.

Legs. Anterior tarsomere I strikingly enlarged equipped with dense setae ventrally; anterior tarsomeres II and III distinctly widened in male. Tarsi slender in female. Tarsomere I half as long as the rest of anterior tarsus. Hind femora on posterior margin with small obtuse tooth in both sexes. Femora and tibiae stout. Tarsal formula: 5-5-4 in male; 5-4-4 in female.

Mesosternum. Longitudinal mesosternal carina feeble; lateral lines missing. Membranous wings missing.

Metasternum. Femoral lines incomplete. With central shallow depression equipped with bush of long setae in male, without specific characters in female.

Genitalia. Aedeagus as in Figs 19, 20, spermatheca as in Fig. 21.

**Variation.** The length ratio of antennomeres III:II varies between 1.5-1.6 in the type series.

**Differential diagnosis.** *Agathidium (A.) zbyneki* sp. nov. is habitually similar to the Chinese *A. (A.) tianmuoides* Angelini et Cooter, 1999 in the shape, size and colour of the body, very feebly punctured dorsum, the same tarsal formula, the shape of the median lobe of aedeagus and parameres; it differs by longer antennomere III and by the shape of spermatheca. The ratio of antennomeres III:II is 1.5-1.6 in the new species, while the same is 0.9. in *A. tianmuoides*.

**Name derivation.** Named after one of its collectors Zbyněk Kejval.

### *Agathidium (Agathidium) xianggangense* Angelini et Cooter, 1999

**Material examined.** "China, Yunnan Province, 32 km N Lijiang, 21.vi.2007, Maoniuping [Yak meadows] 27°09.9'N, 100°14.5' E, 3540 m, J. Hájek & J. Růžička leg. [CH 41]; sifted detritus, leaves and moos, steep slope, wet mixed forest [with Pinus, Abies, Rhododendron], ♂, (JRPC).

**Distribution:** P.R. China (Hong Kong, Yunnan). New for Yunnan.

### *Agathidium (Agathidium) acutum* Angelini, 2000

(Fig. 9)

**Material examined.** "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", 36 ♂♂, 43 ♀♀, (24 ♂♂, 30 ♀♀ CNCO, rest ZSPC).

Up to now only known from the male holotype; the spermatheca is figured here for the first time (Fig. 9). Tarsal formula is 5-4-4 in female.

**Distribution:** P.R. China (Yunnan, Sichuan). New to Sichuan.

### *Agathidium (Agathidium) acuticorne* Angelini, 2002

(Fig. 10)

**Material examined.** "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", 10 ♂♂, 10 ♀♀, (7 ♂♂, 7 ♀♀ CNCO, rest ZSPC).

Up to now only the males included in the type series have been known; the spermatheca is figured here for the first time (Fig. 10). Tarsal formula is 5-4-4 in female.

**Distribution:** P.R. China (Sichuan).



*Agathidium (Agathidium) montanum* Angelini & De Marzo, 1981

**Material examined.** "Nepal, Kathmandu, Shivapuri Lekh, 2000-2300 m, slope W of Bagmati River, 22/23.v.2005, leg. J. Schmidt", 2 ♂♂, 1 ♀, (1 ♂, 1 ♀ NKME, 1 ♂ ZSPC).

**Distribution:** India, Nepal. New for Nepal

*Agathidium laevigatum* species group

*Agathidium (Agathidium) smetalesi* sp. nov.

(Figs 11, 12, 49)

**Type material.** Holotype (♂): "China: N-Yunnan, Nujiang Lisu Aut. Pr. Gongshan Co. Gaoligong Shan, valley at 3000-3050 m, 27°47.90' N, 98°30.19' E, 21.vi. 2005, A. Smetana [C169]", (ZSPC); Paratype. (♂): the same locality data, (ZSPC).

**Description.** Length of body 2.0-2.1 mm, in holotype 2.0 mm. Length of body parts in holotype: head 0.4 mm, pronotum 0.7 mm, elytra 0.9 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.1 mm, elytra 1.1 mm.

Oblong oval (Fig. 49). Dorsum brown-red, elytra a little darker, antennae and legs reddish. Ventral surface yellow-red. Dorsum with traces of microreticulation on head and pronotum, distinct microreticulation on elytra.

Head. Maximum width of head at posterior margin of eyes. Eyes flat, narrow, ratio of length : maximum width of eyes = 6.0 in dorsal view. Clypeus very feebly emarginate, clypeal line lacking. Relative length of antennal segments III:II = 1.5. Distinctly punctured, punctures separated by about 4-6 times their own diameters.

Pronotum. Widest just before straight base. Lateral margins roundly narrowed anteriorly. Punctures finer sparser and smaller than those on head; separated by about 8-10 or more times their own diameters.

Elytra. Widest approximately at middle. Puncturation stronger and denser than that on pronotum; punctures spaced by about 5 or more their own diameters. Beside distinct regular microreticulation with traces of extreme fine lines forming irregular large cells. Sutural stria lacking.

Legs. Anterior tarsomeres I-III distinctly widened; mid- tarsomeres I and II slightly widened in male. Male femora without specific characters. Tarsal formula: 5-5-4 in male; female unknown.

Mesosternum. Longitudinal mesosternal carina and lateral lines not developed. Membranous wings missing.

Metasternum. With central fovea bearing bush of erect setae. Femoral lines incomplete.

Genitalia. Aedeagus as in Figs 11, 12.

**Variation.** The length ratio of antennomeres III:II varies between 1.5-1.6 in the type series. The irregular large cells on elytra more distinct in the paratype.

**Differential diagnosis.** *Agathidium (A) smetalesi* sp. nov. is habitually similar to the Chinese *A. (A.) armatum* Angelini, 1999 in the shape and colour of the body and appendages, shape of

eyes, feebly emarginate clypeus, lack of both clypeal line and sutural striae and in possession of distinct microreticulation of elytra. The shape of aedeagus of the new species is similar to *A. (A.) subnitidum* Angelini et De Marzo, 1998 from Taiwan. *A. smetalesi* differs from *A. armatum* by presence of elytral puncturation and smaller ratio of the length antennomeres III:II. The two species differ distinctly one from another by the shape of tegmen that is bumped in *A. smetalesi* while it is emarginated in *A. armatum*. From *A. subnitidum* the new species differs by simple anterior-lateral bead of head that is raised in the compared species and by distinctly microreticulate elytra that are microsculptured only in traces in *A. subnitidum*.

**Name derivation.** The name of the new species is abbreviated combination of the name Aleš Smetana to whom is the new species dedicated.

***Agathidium (Agathidium) cheni* sp. nov.**

(Figs 13-15, 50)

**Type material.** Holotype (♂): "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", (CNCO); Paratypes. (6 ♂♂, 2 ♀♀): the same locality data (4 ♂♂, 1 ♀♀ CNCO, rest ZSPC).

**Description.** Length of body 2.9-3.3 mm, in holotype 3.3 mm. Length of body parts in holotype: head 0.4 mm, pronotum 1.6 mm, elytra 1.3 mm. Maximum width of body parts in holotype: head 1.3 mm, pronotum 1.9 mm, elytra 1.8 mm.

Oblong oval (Fig. 50). Dorsum black, pronotal margins lighter, head brown-black; antennae and legs reddish. Head and pronotum opalescent. Ventral surface chestnut. Dorsum with microsculpture.

Head. Maximum width of head at posterior third of eyes. Eyes moderately convex, ratio of length : maximum width of eyes = 4.0 in dorsal view. Clypeus very feebly emarginate, almost straight; clypeal line lacking. Relative length of antennal segments III:II = 2.5. Distinctly punctured, punctures separated by about 4-6 times their own diameters. Microsculptured with extremely fine short transverse strigosites.

Pronotum. Strikingly large. Widest at basal third, base simply strongly curved, convex posteriorly. Lateral margins roundly narrowed anteriorly. Punctures finer sparser and smaller than those on head; separated by about 6-8 times their own diameter. Microsculpture as on head.

Elytra. Widest approximately at the anterior fifth. Punctured with fine rare punctures. Microsculptured by extremely dense, very small fine stitches. Beside them large, superficial, irregular cells formed by very feeble lines present on elytral dorsum. Sutural stria lacking.

Legs. Anterior tarsomere I strikingly enlarged densely setose beneath; more than half of long as the rest of tarsus; mid- tarsomere I widened in male; tarsi slender in female. Anterior tarsomere I a little wider than II in female. Femora without specific characters in both sexes. Tarsal formula: 5-5-4 in male; 5-4-4 in female.

Mesosternum. Longitudinal mesosternal carina and lateral lines superficial. Membranous wings missing.

Metasternum. Femoral lines incomplete.

Genitalia. Aedeagus as in Figs 13, 14, spermatheca as in Fig. 15.

**Variation.** The length ratio of antennomeres III:II varies between 2.5-2.8 in the type series. The microsculpture absent on head, superficial on pronotum, with very feeble opalescence and puncturation of pronotum similarly developed as on head in one of the females paratype.

**Differential diagnosis.** *Agathidium (A.) cheni* sp. nov. is similar to the Chinese *A. (A.) nigerrimum* Angelini, 2000 in the size and colour of the body, opalescent surface, the shape of eyes, feebly emarginated clypeus, lack of clypeal line, lack of sutural striae and in long antennomere III. It differs by strongly curved pronotal base, the shape of hind femora in males that are simple in *A. cheni* while the same bear a tooth on the posterior margin in *A. nigerrimum*. The new species differs also by rounded apex of the median lobe of aedeagus while the same is pointed in *A. nigerrimum*. The differences can be detected also in the length of basal process of the spermatheca that is distinctly longer in the new species.

**Name derivation.** According to the wish of the collector, the new species is named after CHEN Xianshu (the top leader of the Management Committee of Mount Emei and Leshan Giant Buddha, Leshan, China) who importantly helped the collector of the new species during his expedition in China.

### *Agathidium madurensis* species group

#### *Agathidium (Agathidium) grebennikovi* sp. nov.

(Figs 16-18, 51)

**Type material.** Holotype (♂): "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", (CNCO); Paratypes. (5 ♂♂, 8 ♀♀): the same locality data (3 ♂♂, 6 ♀♀ CNCO, rest ZSPC).

**Description.** Length of body 2.4-2.5 mm, in holotype 2.4 mm. Length of body parts in holotype: head 0.3 mm, pronotum 0.9 mm, elytra 1.2 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.3 mm, elytra 1.4 mm.

Oval (Fig. 51). Dorsum light reddish with head a little darker. Antennae yellow-red. Ventral surface red-yellow. Dorsum without microreticulation.

Head. Maximum width of head just at posterior margin of eyes. Eyes moderately convex, ratio of length : maximum width of eyes = 3.3 in dorsal view. Clypeus feebly emarginate, clypeal line lacking. Antero-lateral margin of head raised. Distinctly, sparsely punctured, punctures separated by about 10 or more times their own diameters. Relative length of antennal segments III:II = 1.3.

Pronotum. Widest shortly before base, lateral margins roundly narrowed anteriorly. Punctures finer and smaller than those on head; separated by about 7-8 times their own diameter. Some larger punctures rarely interposed.

Elytra. Widest approximately at anterior third. Punctured with fine very sparse punctures separated by about 10 or more times their own diameter; with tendency to become seriate in some places. Sutural stria absent.

Legs. Anterior and mid- tarsomeres I and II feebly widened in male; slender in female. Male hind femora on posterior margin with small obtuse, bump; simple in female. Hind

tibiae widened shortly behind knee; widest approximately in the middle of its length. Tarsal formula: 5-5-4 in male; 4-4-4 in female.

Mesosternum. Longitudinal mesosternal carina and lateral lines developed. Membranous wings missing.

Metasternum. Femoral lines incomplete.

Genitalia. Aedeagus as in Figs 16, 17, spermatheca as in Fig. 18.

**Variation.** The length ratio of antennomeres III:II varies between 1.2-1.3 in the type series.

**Differential diagnosis.** *Agathidium* (*A*) *grebennikovi* sp. nov. is similar to the Chinese *A.* (*A.*) *kejvali* Angelini et Švec, 1994 in the shape, size and colour of the body, the shape of eyes, by feebly emarginated clypeus, lack of clypeal line and sutural striae. It differs by shorter antennomere III. The ratio of antennomeres III:II is 1.2-1.3 in the new species, while the same is 1.5. in *A. kejvali*. Hind tibiae are broader; broadest at the middle of tibial length in *A. grebennikovi*, while tibiae are more slender and widest at the apex in *A. kejvali*. The apex of the tegmen is broadly rounded in the new species while the apex of the tegmen is closely rounded in *A. kejvali*.

**Name derivation.** Named after its collector, Vasily Grebennikov.

#### Subgenus *Cyphocele* Thomson, 1859

#### *Agathidium* (*Cyphocele*) *wangianum* Angelini, 2002

(Figs 22, 23)

**Material examined.** "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", 6 ♂♂, 22 ♀♀, (4 ♂, 15 ♀♀ CNCO, rest ZSPC).

Only the female of this species has been known up to now. Aedeagus is figured here for the first time (figs 22, 23). Tarsal formula in male: 5-5-4.

**Distribution:** PR China (Hubei, Sichuan). New for Sichuan.

#### Subgenus *Microcele* Angelini et De Marzo, 1986

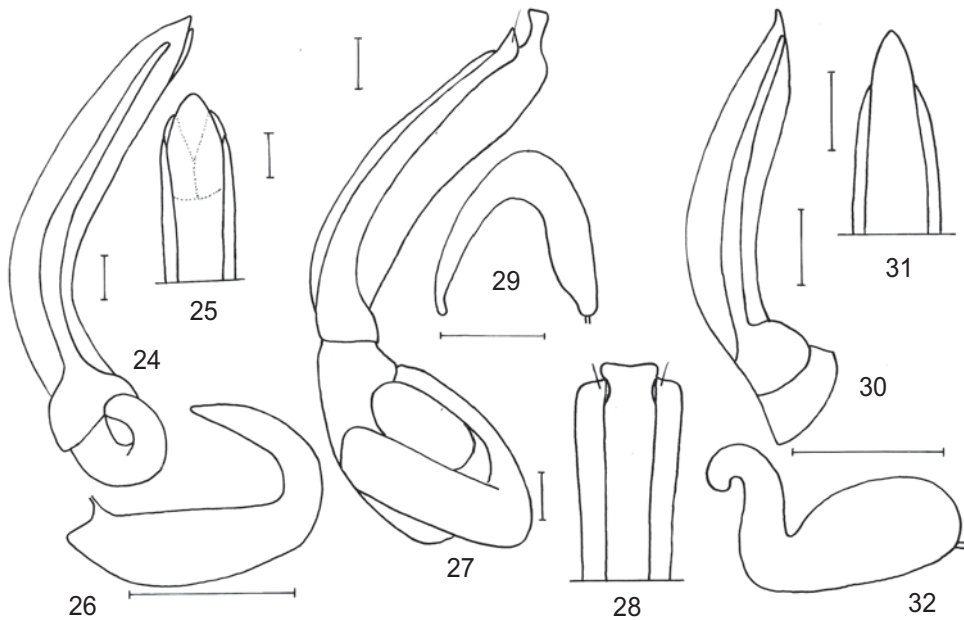
#### *Agathidium* (*Microcele*) *schmidti* sp. nov.

(Figs 24-26, 53)

**Type material.** Holotype (♂): "Nepal, Manaslu Mts., 22.iv.2003, Dudh Pokhari Lekh, below Helam Pokhari, 2000 m NN, leg. J. Schmidt"; (NKME); Paratypes. (1 ♂, 2 ♀♀): the same locality data. (1 ♀ NKME, rest ZSCP).

**Description.** Length of body 2.8-3.2 mm, in holotype 3.0 mm. Length of body parts in holotype: head 0.5 mm, pronotum 1.2 mm, elytra 1.3 mm. Maximum width of body parts in holotype: head 1.1 mm, pronotum 1.7 mm, elytra 1.7 mm.

Oval (Fig. 53). Dorsum black with reddish pronotal margin and small ill-defined reddish spot located on head just above articulation of antennae. Legs and antennomeres I-VI reddish, antennomeres VII – X darker, antennomere XI lighter coloured than antennal club. Ventral



Figs 24-32. Figs 24, 27, 30: aedeagus lateral; Figs 25, 28, 31: apex of aedeagus dorsal; Figs 26, 29, 32: spermatheca. 24, 25, 26- *Agathidium (Microceble) schmidti* sp. nov.; 27, 28, 29- *A. (Macroceble) caoi* sp. nov.; 30, 31, 32- *A. (Macr.) janruzickai* sp. nov. Scale = 0.1 mm.

surface dark brown. Dorsum without microreticulation.

Head. Small, narrow. Maximum width of head approximately at posterior third of eyes length. Eyes almost hemispherical, ratio of length : maximum width of eyes = 2.5 in dorsal view. Clypeus feebly emarginate, clypeal line lacking, clypeus bordered laterally by very short unobtrusive oblique lateral grooves. With small bumps above antennal articulation. Latero-anterior margin of head distinctly raised. Punctured, punctures separated by about 2-6 times their own diameters. Relative length of antennal segments III:II = 1.6.

Pronotum. Widest at basal third, then straightly narrowed anteriorly. Punctures smaller finer and sparser than those on head, separated by about 6-10 times of their own diameter.

Elytra. Widest approximately at middle. Puncturation a little stronger than that of head and pronotum, separated by about 6-8 times their own diameter. Surface with feeble sculpture consisting of very fine lines forming large irregular cells each with central puncture. Sutural stria lacking.

Legs. Male anterior tarsomeres feebly widened. Tarsi slender in female. Femora without striking characters. Tarsal formula: 5-5-4 in male; 5-4-4 in female.

Mesosternum. Longitudinal mesosternal carina present; lateral lines developed, complete. Membranous wings missing.

Metasternum. Femoral lines incomplete.

Genitalia. Aedeagus as in Figs 24, 25, spermatheca as in Fig. 26.

**Variation.** The ratio of width of pronotum : head varies between 1.6-1.7. The length ratio of antennomeres III:II varies between 1.5-1.6 in the type series. Also the puncturation of head varies; it is sparser in the paratypes; head beside usual puncturation with pair of very large punctures between eyes in one of the paratypes.

**Differential diagnosis.** *Agathidium (Microceble) schmidti* sp. nov. is habitually similar to the Indonesian *A. nitidum* Angelini et De Marzo, 1993 - both belonging to the *Agathidium (Microceble) andrewesi* species group. The species are similar in the size and colour of body, the colour of antennae, lack of microreticulation on the dorsal surface, lack of sutural stria, the ratio of antennomeres III:II, possession of mesosternal carina and lateral lines, incomplete femoral lines and the same tarsal formula in both sexes. The new species differs by sparser and finer punctured dorsum and by the absence of membranous wings. Also the shape of tegmen having larger ventral piece detectable from dorsal view and the shape of spermatheca clearly shows specific characters different from that in *A. nitidum*.

**Name derivation.** Named after its collector, Joachim Schmidt (Marburg, Germany).

### **Subgenus *Macroceble* Angelini, 1993**

#### ***Agathidium (Macroceble) caoi* sp. nov.**

(Figs 27-29, 54)

**Type material.** Holotype (♂): "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", (CNCO); Paratypes. (38 ♂♂, 53 ♀♀): the same locality data, (26 ♂♂, 35 ♀♀ CNCO, rest ZSPC).

**Description.** Length of body 1.7-2.1 mm, in holotype 1.9 mm. Length of body parts in holotype: head 0.2 mm, pronotum 0.8 mm, elytra 0.9 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.2 mm, elytra 1.2 mm.

Very short oval (Fig. 54), dark brown with lighter clypeus and lateral and basal margins of pronotum, antennae and legs red-yellow. Venter light brown-red. Dorsum without microreticulation.

Head. Maximum width of head approximately at posterior margins of eyes. Eyes very flat, very narrow strip-shaped in dorsal view. Clypeus feebly emarginate, clypeal line lacking. Mandibles without striking characters. Tempora with oblique cranio-medially oriented depression behind eyes on each side of the head. Relative length of antennal segments III:II = 1.5. Dorsal surface with very sparse scattered, fine, punctures separated by about 6-15 or even more their own diameters.

Pronotum. Widest at basal third, then lateral sides roundly tapered anteriorly. Puncturation sparser and finer than that of head.

Elytra. Broadest at basal fourth. Punctures of two sizes, sparse, shallow. Sutural stria absent.

Legs. Anterior tarsomere I enlarged and almost as long as rest of tarsus; tarsomere I of mid-tibiae a little enlarged in males. Tarsi slender in females. Femora without specific characters. Tarsal formula: 4-4-4 in both sexes.

Mesosternum. Neither longitudinal mesosternal carina nor lateral lines developed. Membranous wings missing.

Metasternum. Femoral lines absent,

Genitalia. Aedeagus as in Figs 27, 28, spermatheca as in Fig. 29.

**Variation.** The length ratio of antennal segments III:II varies between 1.3-1.5 in the type series. The colour of dorsum varies from light chestnut to dark brown. The shape of median lobe of aedeagus varies from straightly truncate to slightly concave apical margin.

**Differential diagnosis.** *Agathidium (Macroceble) caoi* sp. nov. is similar to the Chinese *A. (M.) truncatum* Angelini, 2000 in the size, colour of dorsum and antennae, dorsal sculpture, the same ratio of antennomeres III:II and shape of eyes. It differs by possessing of the oblique depressions behind the eyes that missing in *A. truncatum*. The median lobe in *A. caoi* lacking the ventral carina that is present on median lobe of aedeagus in *A. truncatum*.

**Name derivation.** According to the wish of the collector, the new species is named after CAO Chengquan (College of Chemistry and Life Science, Leshan Teachers College, Leshan, China) for facilitating field work resulting in the discovery of this new species.

*Agathidium (Macroceble) janruzickai* sp. nov.

(Figs 30-32, 55)

**Type material.** Holotype (♂): “China Gansu Province, Lazikou valley, 2120-2510 m, 34°09.9-10.1' N, 10348.2-51.9' E (GPS); 28.vi.2005, J. Hájek, D. Král & J. Růžička leg. [CH8], wet rotten wood, old tree stumps and logs”, (ZSPC); Paratypes. (2 ♂♂, 5 ♀♀): the same locality data, (2 ♂♂, 3 ♀♀ JRPC, rest ZSPC).

**Description.** Length of body 1.8-2.1 mm, in holotype 2.1 mm. Length of body parts in holotype: head 0.4 mm, pronotum 0.7 mm, elytra 1.0 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.1 mm, elytra 1.3 mm.

Very short oval (Fig. 55), dorsum and legs light chestnut, antennomeres I-VIII reddish, IX-XI black. Ventral surface reddish. Dorsum without microreticulation.

Head. Eyes slightly convex. Ratio of length : maximum width of eyes = 4.5 in dorsal view. Maximum width of head approximately in posterior third of eyes length. Left mandible enlarged with vertical tooth dorsally. Clypeus very feebly emarginate, clypeal line lacking. Relative length of antennal segments III:II = 1.0. Dorsal surface with very sparse scattered fine punctures separated by about 10 or more their own diameters.

Pronotum. Widest shortly before base, lateral sides roundly tapered anteriorly. Punctuation even sparser and finer than that of head.

Elytra. Broadest at basal third. Almost impunctate; punctures very sparse; very small, unobtrusive. Sutural stria absent.

Legs. Femora, tibia and tarsi slender. Femora without specific characters. Tarsal formula: 5-5-4 in male; 4-4-4 in female.

Mesosternum. Longitudinal mesosternal carina developed; lateral lines lacking. Membranous wings missing.

Metasternum. With central fovea equipped with long setae in male; simple in female. Femoral lines absent.

Genitalia. Aedeagus as in Figs 30, 31, spermatheca as in Fig. 32.

**Variation.** The colour of antennae lighter in one of the paratypes - antennomeres I-VIII yellow-red, antennomeres IX-XI black-brown. Pronotum with several larger punctures beside the fine sparse puncturation in one paratype."

**Differential diagnosis.** *Agathidium (Macroceble) janruzickai* sp. nov. is similar to *A. (Macr.) fraternum* Angelini, 1992 (from Thailand) and *A. (Macr.) oui* sp. nov. in the colour, shape and size of body, lack of microsculpture of the dorsal surface, lacking sutural stria, in having maximum width of head at the eyes and in the tarsal formula of the both sexes. From the both mentioned species *A. janruzickai* differs by the dark antennal club while antennomere XI in *A. fraternum* and *A. oui* is light. The new species differs from *A. fraternum* also by the simple parameres that are bifid in the species compared; it differs from *A. oui* by more slender tegmen and oblong oval basal part of spermatheca.

**Name derivation.** The new species is named after one of the collectors Jan Růžička.

***Agathidium (Macroceble) oui* sp. nov.**  
(Figs 33-35, 56)

**Type material.** Holotype (♂): "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", (CNCO); Paratypes. (19 ♂♂, 50 ♀♀); the same locality data, (13 ♂♂, 34 ♀♀ CNCO, rest ZSPC).

**Description.** Length of body 1.6-1.9 mm, in holotype 1.8 mm. Length of body parts in holotype: head 0.3 mm, pronotum 0.8 mm, elytra 0.7 mm. Maximum width of body parts in holotype: head 0.7 mm, pronotum 1.0 mm, elytra 1.0 mm.

Very short oval (Fig. 56), dorsum, legs and antennomeres I-VII and XI light chestnut, antennomeres IX and X brown. Ventral surface yellow-brown. Dorsum without microreticulation.

Head. Eyes developed, slightly convex. Ratio of length : maximum width of eyes = 4.5 in dorsal view. Maximum width of head just before posterior margin of eyes. Left mandible enlarged with vertical tooth dorsally. Clypeus not emarginate, clypeal line lacking. Relative length of antennal segments III:II = 1.0. Dorsal surface with very sparse scattered fine punctures separated by about 5-8 or more their own diameters.

Pronotum. Widest at basal third, lateral sides roundly tapered anteriorly. Puncturation rare - much sparser and finer than that of head.

Elytra. Broadest at basal third. Puncturation as on pronotum. Sutural stria not developed.

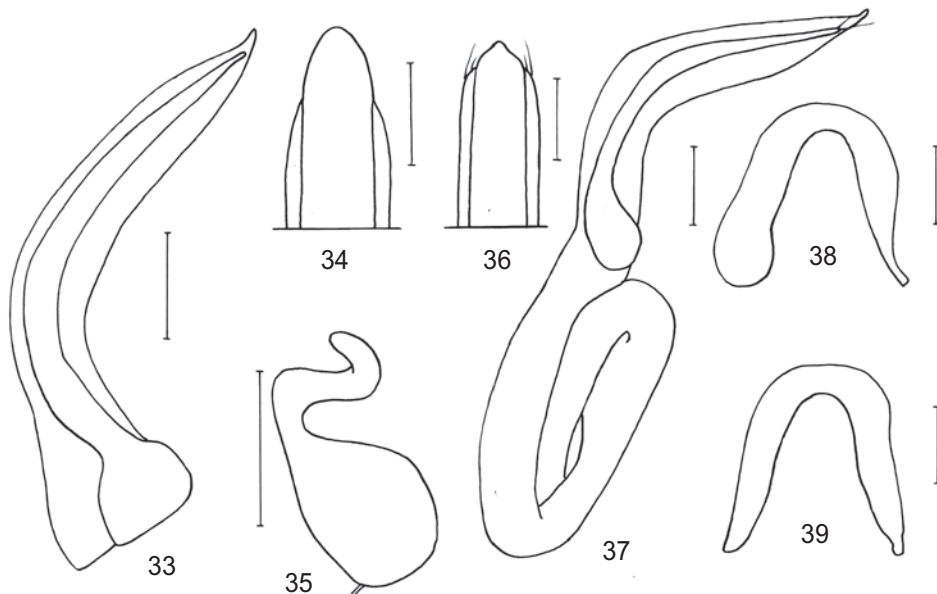
Legs. Both femora and tibia slender. Anterior tarsi slightly thickened in male, slender in female. Posterior femora angled in mid-length in male; slightly emarginated in distal half in female. Tarsal formula: 5-5-4 in male; 4-4-4 in female.

Mesosternum. Longitudinal mesosternal carina developed; lateral lines lacking. Membranous wings missing.

Metasternum. With central bump equipped with bush of setae in male, simple in female. Femoral lines absent.

Genitalia. Aedeagus as in Figs 33, 34, spermatheca as in Fig. 35.





Figs 33-41. Figs 33, 37: aedeagus lateral; Figs 34, 36: apex of aedeagus dorsal; Figs 35, 38-39: spermatheca. 33, 34, 35- *Agathidium (Macroceble) oui* sp. nov.; 36-39- *A. (Macr.) fui* sp. nov. Scale = 0.1 mm.

**Variation.** The ratio of the length of antennomeres III:II varies in the range 1.0-1.1. Females without tooth on left mandible, in some female paratypes left mandible larger than right one. In some male paratypes the mandibles similar to those in females.

**Differential diagnosis.** *Agathidium (Macroceble) oui* sp. nov. is similar to *A. (Macr.) fraternum* Angelini, 1992 (from Thailand) and *A. (Macr.) janruzickai* sp. nov. in the colour, shape and size of body, lack of microsculpture of the dorsal surface, absence of sutural stria, in having maximum width of head at the eyes and in the tarsal formula of the both sexes. *A. oui* differs from *A. janruzickai* by the light antennomere XI while entire antennal club is dark in *A. janruzickai*; it differs also by the shape of tegmen that is wider and by the shape of basal part of spermatheca that is subhemispherical while the same is oblong oval in *A. janruzickai*. From *A. fraternum* the new species differs also by the simple parameres that are bifid in the species compared.

**Name derivation.** According to the wish of the collector, the new species is named after OU Dingxiang (Deputy Secretary of the Environmental Protection Agency, Management Committee of Scenic Spots of Mount Emei and Leshan Giant Buddha, Leshan, China) for facilitating fieldwork resulting in the discovery of this new species.

***Agathidium (Macroceble) fui* sp. nov.**

(Figs 36-39, 57)

**Type material.** Holotype, male, "P.R. China, Sichuan, Emei Shan, N 29°33.6' E 103°20.6', 27.vi.-5.vii.2009, 1800-2400 m, siftings 11-17, V. Grebennikov", (CNCO); Paratypes. (118 ♂♂, 131 ♀♀): the same locality data, (79 ♂♂, 87 ♀♀ CNCO, rest ZSPC).

**Description.** Length of body 1.5-1.8 mm, in holotype 1.9 mm. Length of body parts in holotype: head 0.4 mm, pronotum 0.7 mm, elytra 0.8 mm. Maximum width of body parts in holotype: head 0.8 mm, pronotum 1.1 mm, elytra 1.1 mm.

Very short oval (Fig. 57), light chestnut, antennomeres I, IX-XI and ventral surface chestnut. Dorsum without microreticulation.

Head. Maximum width of head approximately at posterior margin of eyes. Eyes very flat; ratio of length : maximum width of eyes = 7 in dorsal view. Clypeus feebly emarginate, clypeal line lacking. Mandibles without striking characters. Relative length of antennal segments III:II = 1.1. Dorsal surface with very sparse scattered, extremely fine, punctures separated by about 6-8 or even more their own diameters.

Pronotum. Widest shortly before base, then lateral sides almost straightly tapered to anterior pronotal angles. Puncturation finer and sparser than that of head with punctures separated by about 10 times or more their own diameters.

Elytra. Broadest at basal third. Punctures as fine as and a little sparser than those of pronotum. Along suture with few larger punctures. Sutural stria absent.

Legs. Anterior tarsomeres I-III and mid- tarsomeres I and II slightly but detectably widened in male, slender in female. Femora without specific characters. Tarsal formula: 5-5-4 in male; 4-4-4 in female.

Mesosternum. Neither longitudinal mesosternal carina nor lateral lines developed. Membranous wings missing.

Metasternum. With central fovea equipped with long setae in male, simply convex in female. Femoral lines absent.

Genitalia. Aedeagus as in Figs 36, 37, spermatheca as in Figs 38-39.

**Variation.** The length ratio of antennal segments III:II varies between 0.9-1.1 in the type series. The colour of dorsum varies from light chestnut to chestnut. In a minority (approximately 5%) of the paratypes can be detected infusate antennomeres IX and X or even IX-XI. The shape of spermatheca varies in a broader range as it is indicated in the Figs 38-39.

**Differential diagnosis.** *Agathidium (Macroceble) fui* sp. nov. is similar to the Chinese species *A. (M.) hlavaci* Angelini et Cooter, 2003 in lack of microsculpture of the dorsal surface, lacking sutural stria, in having maximum width of head at the hind margin of eyes and in similar lightly coloured dorsum. It differs by punctured elytra and also by the shape of tegmen that is gradually narrowed apically to a small bump at the tip in *A. fui* while tegmen is distinctly abruptly narrowed far before bumped apex in *A. hlavaci*. Also spermatheca show specific characters different from that in *A. hlavaci*. The shape of aedeagus in *A. fui* is very similar to that in *Agathidium (Macroceble) dissimile* Angelini et De Marzo, 1986. The new species can be easily distinguished from *A. dissimile* by shorter antennomere III - the ratio of length of antennomeres III:II = is 1.7 in *A. dissimile* and despite the variation the new species differs also by the shape of the spermatheca.

**Name derivation.** According to the wish of the collector, the new species is named after FU Xinhua (College of Plant Science and Department, Huazhong Agricultural University, Wuhan, Hubei, China) for facilitating fieldwork resulting in the discovery of this new species.

## Pseudoliadini Portevin, 1929

### Genus *Dermatohomoeus* Hlisnikovský, 1963

#### *Dermatohomoeus schuelkei* sp. nov.

(Figs 40, 43, 58)

**Type material.** Holotype (♂): “China: Yunnan, Baoshan Pref., Gaoligong Shan, 65 km NNE Tengchong, 1750 m, 25°35'20" N, 98°40'21" E, sec. mixed forest, overgrown stone debris, litter and moss sifted, 31.viii. 2009, leg. M. Schülke [CH09-10b]”, (MSBC); Paratypes. (20 ♂♂, 10 ♀♀): the same locality data, (11 ♂♂, 5 ♀♀ MSBC, rest ZSPC); (3 ♂♂): the same locality data but “27.viii.2009, [CH09-10]”, (2 ♂♂ MSBC, rest ZSPC).

**Description.** Length of body 2.4-2.7 mm, in holotype 2.6 mm; length of body parts in holotype: head 0.3 mm, pronotum 0.8 mm, elytra 1.5 mm, antenna 0.9 mm. Maximum width of head 0.7 mm, pronotum 1.5 mm, elytra 1.5 mm.

Shortly oval (Fig. 58), slightly shining, sparsely pubescent, black-brown, head and pronotal margin lighter, clypeus yellow-red, antennomeres I-VI red-yellow, antennomeres VII-XI red-brown, legs lightly brown-red, tarsi lighter coloured. Ventral surface red-brown with metasternum, mesosternal process including carina and abdominal sternites darker. Anterior part of clypeus, vertex near pronotal margin and elytra transversally strigose.

Head. Eyes normally developed, ratio of eye width : antennomere II width = 1.5. Antennomeres II:III equally long, antennomeres X:XI equally wide. Antennomere VII twice as long as wide. Transversal strigosity on clypeus and vertex dense. Dorsal surface with very distinct strong dense puncturation, punctures spaced by 1-3 times their own diameter.

Pronotum. Broadest at base. Base straight; posterior angles acute, shortly rounded in dorsal view; rectangular shortly rounded on tip in lateral view. Sides evenly curved from base to anterior angles. Puncturation dense, distinct, punctures drop-shaped with tip oriented anteriorly, spaced by about their own diameter.

Scutellum. Smooth.

Elytra. Broadest shortly behind base; roundly curved to apex. Surface transversely strigose; strigosity connecting elytral punctures. Punctures separated by 1-2 times their own diameter, irregularly arranged. Sutural stria extending approximately to elytral mid-length.

Legs. Anterior tarsomere I distinctly dilated and elongate in male, slender in female. Ratio of length of tarsomere I: tarsomeres II-V (without claws) of anterior tarsus = 0.8. Genitalia. Aedeagus as in Fig. 40, spermatheca as in Fig. 43.

**Variation.** The type series grades from light chestnut specimens to specimens brown-black.

**Differential diagnosis.** The new species is most closely similar to *D. punctatus* Daffner, 1988, *D. strigellus* Daffner, 1988 and *D. obscuratus* Daffner, 1988. In general, many of the species of the genus *Dermatohomoeus* are extraordinary uniform in their appearance. Thus the best way to separate them is to compare the shape of aedeagi, internal sacs and the shape of spermatheca. Male and female genitalia in *D. schuelkei* sp. nov. and genitalia of all similar species mentioned above in this paragraph exhibit differences. The parameres are distinctly stout in *D. schuelkei* sp. nov., while the same are slender in the species compared. The differences can also be detected in the relative length of the median lobe in comparison

to the length of dorsally visible part of ventral piece of the aedeagus and the parameres. Distal part of the spermatheca is longer in the new specie than in *D. strigellus* and *D. obscuratus*. Female of *D. punctatus* is unknown.

**Name derivation.** The new species is dedicated to its collector, Michael Schülke.

### ***Dermatohomoeus indicus* Daffner, 1988**

**Material examined.** “Nepal c. Prov. Naraniani Sauraha Rapti River, 27°34’51’’ N, 84°29’30’’ E, 14.-15.07.2001, LF, 180 m, river side, leg. A. Kopetz”, 1♂; “E Nepal, Dhankuta Arun-Valley, Lamobagar Gola, 1000-1400 m, 27.v.3.vi. 1980, leg. C Holzschuh”, 1♀; “Nep: Mahakali/Darchula Latinath 1030 m, 29°44’01’’ N, 80°46’00’’ E, 31.v.-1.vi.2005, leg. A.Weigel GSB”, 1♀; (all NKME).

**Distribution:** India, Nepal. New to Nepal.

### **Genus *Colenisia* Fauvel, 1902**

#### ***Colenisia castanea* sp. nov.**

(Figs 42, 45, 59)

**Type material.** Holotype (♂): “China: Zhejiang [CH07-37], Tianmu Shan, pass 25 km NNW Lin’an, 620-820 m, 30°25’40’’ N, 119°35’30’’ E, creek valley with bamboo and mixed forest, litter, sifted, 16.vi.2007, M. Schülke”, (MSBC); Paratypes. (18 ♂♂, 22 ♀♀): the same locality data, (10 ♂♂ 10 ♀♀ MSBC, rest ZSPC).

**Description.** Length of body 1.5-1.9 mm, in holotype 1.5 mm; length of body parts in holotype: head 0.2 mm, pronotum 0.4 mm, elytra 0.9 mm, antenna 0.5 mm. Maximum width of head 0.5 mm, pronotum 0.9 mm, elytra 1.0 mm.

Very short oval (Fig. 59), slightly shining, sparsely pubescent, lightly chestnut, legs and antennomeres I-VI yellow, antennomeres VII-XI light yellow-brown. Ventral surface yellow-red with metasternum between coxae, mesosternal process including carina, margins of coxae and trochanters darker. Entire dorsum transversally microsculptured.

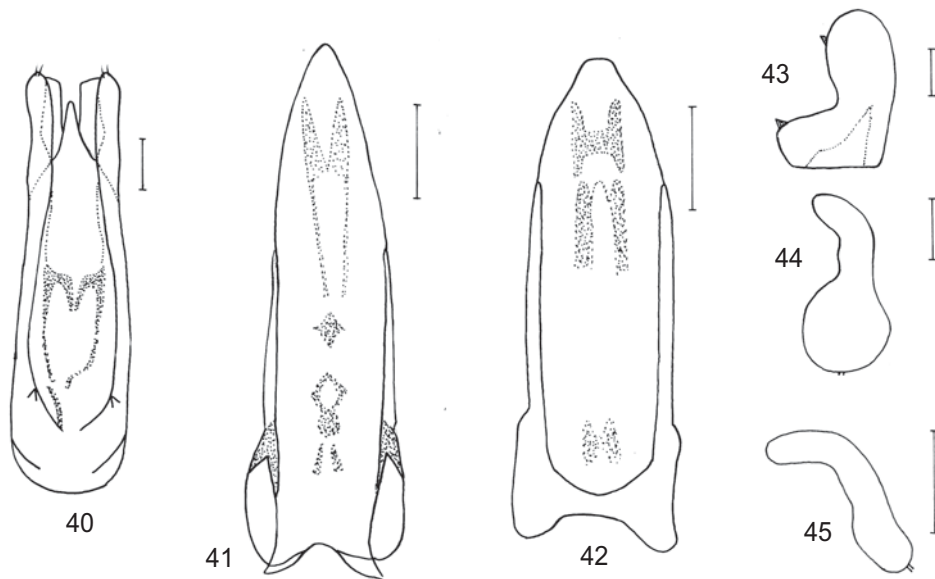
Head. Eyes normally developed, ratio of width of front between eyes : eye = 1:9. Microsculpture distinct, consisting of transverse very elongate cells. Antennomeres II:III equally long, antennomeres X:XI equally wide. Puncturation fine, punctures small, sparse, spaced by 10 or more times their own diameters.

Pronotum. Broadest at base. Base straight; posterior angles acute, with pointed tip in dorsal view; slightly acute with pointed tip in lateral view. Sides evenly curved from base to anterior angles in dorsal view, almost straight up to mid-length than roundly tapered anteriorly in lateral view. Transverse strigosity finer, less distinct than those of head, rarely connected to and there with its neighbours. Punctures very sporadic; of two sizes.

Scutellum. Microsculptured as on pronotum.

Elytra. Broadest at basal third; ovately curved to apex. Surface transversely strigose; strigosity twice as sparse as on pronotum. Punctures separated by about 6 times their own diameters, irregularly arranged. Sutural stria extending approximately to elytral apical quarter.

Legs. Anterior tarsomeres I-III slightly widened in male, slender in female.



Figs 40-45. Figs 40-42: aedeagus dorsal; Figs 43-45: spermatheca. 40, 43- *Dermatohomoeus schuelkei* sp. nov.; 41, 44- *Colenisia schuelkei* sp. nov.; 42, 45- *C. castanea* sp. nov. Scale = 0.1 mm.

Genitalia. Aedeagus as in Fig. 42, spermatheca as in Fig. 45.

**Variation.** The type series grades from yellow-red specimens to specimens light chestnut . Tarsi of females slender.

**Differential diagnosis.** The new species is most closely similar to *C. rotunda* Daffner, 1988 in the dorsal structures, in size and colour of body; it is similar also to *C. schuelkei* sp. nov. in the type of dorsal microsculpture. *C. castanea* sp. nov. differs from *C. rotunda* mainly by darker antennal club and by larger eyes; from *C. schuelkei* the new species differs by a little smaller eyes, finer and sparser puncturation of elytra and by acute hind angles of pronotum while the same are blunt in *C. schuelkei*. Differences can also be detected in the shape of the aedeagus and the spermatheca as well.

**Name derivation.** The name of the new species points to the colour of the dorsum.

***Colenisia schuelkei* sp. nov.**

(Figs 41, 44, 60)

**Type material.** Holotype (♂): "China: Yunnan, Dali Bai Aut. Pref., Wuliang Shan, 11 km SW Weishan, 25°08'46.7" N, 100°14'14.1" E, 2520 m, pine forest, litter & dead wood sifted, 14.ix.2009, leg. M. Schülke [CH09-52]" (MSBC); Paratypes. (1 ♂): the same locality data, (ZSPC); (3 ♂♂, 4 ♀♀): "China: Yunnan, Baoshan Pref., Gaoligong Shan, E pass 36 km SE Tengchong, 2200 m, 24°49'32" N, 98°46'06" E, farm land, dead wood, moss & mushrooms sifted, 28.viii.2009, leg. M. Schülke [CH09-13]" (1 ♂, 3 ♀♀ MSBC, rest ZSPC); (6 ♂♂, 1 ♀): "China: Yunnan, [CH07-11A], Baoshan Pref., Gaoligong Shan, nr. Xiaoheishan N.R., 35 km SE Tengchong, 2110 m, 24°50'16" N, 98°45'43" E, farm land, decid. forest, fungi sifted, 4.vi.2007, leg. M. Schülke"; (3 ♂♂, 1 ♀ MSBC, rest ZSPC); (1 ♂): "China: Yunnan, Baoshan Pref., Gaoligong Shan, W pass 32 km SE Tengchong, 1600 m, 24°51'11" N, 98°44'27" E, cleft with devast. primary forest, litter & mushrooms sifted, 28.viii. 2009, leg. M. Schülke [CH09-

14]”, (ZSPC); (1 ♂, 2 ♀♀): “China: Yunnan, [CH07-14] Baoshan Pref., Gaoligong Shan, 33 km SE Tengchong, 2100-2200 m, 24°51'22" N, 98°45'36" E, decid. forest, litter, wood, fungi sifted, 31.v.2007, leg. M. Schülke”, (2 ♀♀ MSBC, 1 ♂ ZSPC); (1 ♂): “China: Yunnan [CH07-17], Baoshan Pref., mountain range 25 km S Tengchong, 1900 m, 24°48'28" N, 98°32'03" E, dev. primary decid. forest, litter, fungi sifted, 2.vi.2007, M. Schülke”, (MSBC); (3 ♀♀): “China: Yunnan [CH07-30], Nujiang Lisu Pref., Nu Shan, 7 km NNW Coajian, 25°43'29" N, 99°07'57" E, 2420 m, second. pine forest with shrubs, litter, bark sifted, 11.vi.2007, M. Schülke”, (2 ♀♀ MSBC, rest ZSPC); (5 ♀♀): “China: Yunnan, [CH07-13] Baoshan Pref., Gaoligong Shan, E pass 36 km SE Tengchong, 2200 m, 24°49'32" N, 98°46'06" E, decid. forest, litter, wood, fungi sifted, 31.v.2007, leg. M. Schülke”, (2 ♀♀ MSBC, rest ZSPC).

**Description.** Length of body 1.6-1.9 mm, in holotype 1.8 mm; length of body parts in holotype: head 0.2 mm, pronotum 0.5 mm, elytra 1.1 mm, antenna 0.6 mm. Maximum width of head 0.6 mm, pronotum 1.1 mm, elytra 1.2 mm.

Very short oval (Fig. 60), slightly shining, sparsely pubescent, dark chestnut, pronotum dark red-brown, strip along suture, shoulders, pronotal and elytral margins lighter, legs and antennomeres I-VI yellow, antennomeres VII-XI infusate. Ventral surface yellow-red with trochanters darker. Whole dorsum transversally microsculptured.

Head. Eyes normally developed, ratio of width of front between eyes : eye = 1:8. Ratio of length of antennomeres III : II = 1.1, antennomere XI a little narrower than antennomere X. Transverse strigosity distinct, sometimes forming transverse very elongate cells. Punctuation fine, punctures small, sparse, spaced by 4-10 or more times their diameter.

Pronotum. Broadest at base. Base straight; tapered to hind blunt shortly rounded angles. Hind angles blunt shortly rounded also in lateral view. Sides evenly curved from base to anterior angles in both dorsal and lateral views. Transverse strigosity finer, less distinct than those on head, connected here and there with its neighbours, thus forming irregular elongate transverse cells. Punctures very fine separated by 6-10 or more their own diameter.

Scutellum. Microsculptured as on pronotum.

Elytra. Broadest at basal third; roundly curved to apex. Surface transversely strigose; strigosity twice as sparse as on pronotum. Punctures separated by about 3-5 times their own diameter, irregularly arranged. Sutural stria extending approximately to elytral apical third.

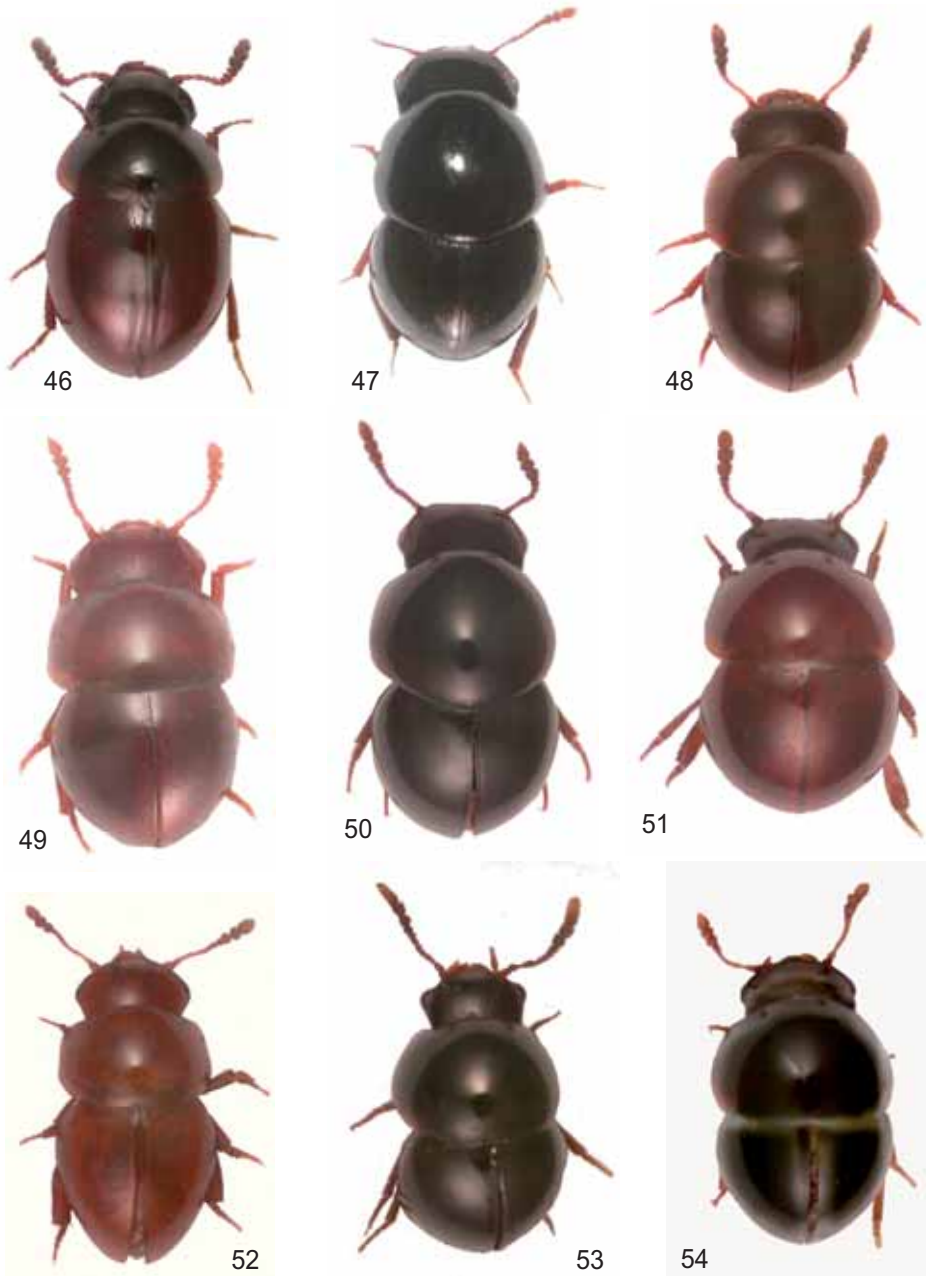
Legs. Anterior tarsomeres I-IV slightly widened in male, slender in female.

Genitalia. Aedeagus as in Fig. 41, spermatheca as in Fig. 44.

**Variation.** The punctuation varies in the type series - the head and pronotal punctuation very rare in some paratypes.

**Differential diagnosis.** The new species is most closely similar to *C. rotunda* Daffner, 1988 in the dorsal structures, in size and colour of body; it is also similar to *C. castanea* sp. nov. in the type of dorsal microsculpture. *C. schuelkei* sp. nov. differs from *C. rotunda* mainly by darker antennal club that is lightly coloured in *C. rotunda* and by larger eyes; it differs from *C. castanea* by a little larger eyes, stronger and denser punctuation of elytra and by blunt hind angles of pronotum while the same are acute in *C. castanea*. The differences can also be detected in the shape of the aedeagus and the spermatheca as well.

**Name derivation.** The new species is dedicated to its collector, Michael Schülke.



Figs 46-54. Dorsal view of body (holotypes except Fig. 53). 46- *Agathidium (Neoceble) aleseki* sp. nov.; 47- *A. (Agathidium) alesmetanai* sp. nov.; 48- *A. (A.) martinklanicai* sp. n.; 49- *A. (A.) smetalesi* sp. nov.; 50- *A. (A.) cheni* sp. nov.; 51- *A. (A.) grebennikovi* sp. nov.; 52- *A. (A.) zbyneki* sp. nov.; 53- *A. (Microceble) schmidtii* sp. nov.; 54- *A. (Macroceble) caoi* sp. nov.



Figs 55-60. Dorsal view of body (holotypes). 55- *Agathidium (Macroceble) janruzickai* sp. nov.; 56- *A. (Macr.) oui* sp. nov.; 57- *A. (Macr.) fui* sp. nov.; 58- *Dermatohomoeus schuelkei* sp. nov.; 59- *C. castanea* sp. nov.; 60- *Colenisia schuelkei* sp. nov.

ACKNOWLEDGEMENTS. I wish to express my sincere thanks to my friend Aleš Smetana (Ottawa) for his great contribution and lasting incentive for my entomological work and for providing or mediation of access to an interesting leiodid material from China as well. My further thanks belong to my entomological friends and colleagues Michael Schülke, Matthias Hartmann (Natural History Museum, Erfurt, Germany), Zbyněk Kejval, Vasily Grebennikov and Jan Růžička for providing me with the valuable leiodid material collected recently in China, Nepal and India. Thanks belong also to the local authorities who enable the collector of some new species Vasily Grebennikov to carry out a field entomological work in Emei Shan, especially to Prof. FU Xinhua, Dr. CAO Chengquan, Mr. OU Dingxiang and last but not least to Mr. CHEN Xianshu. I would also like to thank to my friend Jonathan Cooter for the reviewing of the manuscript.

## REFERENCES

- ANGELINI F. 1993: Studi sugli *Agathidium*. Designazione di un nuovo genere, un nuovo sottogenere e gruppi di specie. *Bollettino della Società Entomologica Italiana* 125: 29-44.
- ANGELINI F. 1995: *Revisione tassonomica delle specie paleartiche del genere Agathidium Panzer (Coleoptera: Leiodidae: Agathidiini)*. *Monografie XVIII, Museo Regionale di Scienze Naturali - Torino*. Torino: Silvestri & Cappelletto, 485 pp.



- ANGELINI F. 2004: Chiavi dicotomiche e Catalogo delle specie di Agathidium Panzer dell'Asia sudorientale e della Cina. *Annali del Museo Civico di Storia Naturale "G. Doria"* 45: 1-577.
- ANGELINI F. 2010: World Catalogue of the tribe Agathidiini (Coleoptera, Leiodidae, Leiodinae). *Annali del Museo Civico di Storia Naturale "G. Doria"* 102: 1-157.
- ANGELINI F. & ŠVEC Z. 1994: Review of Chinese species of the subfamily Leiodinae (Coleoptera: Leiodidae). *Acta Societatis Zoologica Bohemoslovaca* 58: 1-31.
- ANGELINI F. & ŠVEC Z. 1998: Two new species of Leiodinae from India and Vietnam with taxonomic and distributional notes (Coleoptera: Leiodidae). *Acta Societatis Zoologica Bohemoslovaca* 62: 1-5.
- COOTER J. & ŠVEC Z. 2002: New Leiodini, Pseudoliadini and Scotocryptini (Col., Leiodidae, Leiodinae) from Sulawesi, Indonesia. *Entomologist's Monthly Magazine* 138: 173-198.
- DAFFNER H. 1986a: Die Arten der Gattung *Colenisia* Fauvel, 1903 von den Melanesische Inseln (Col. Leiodidae, Pseudoliadini). *Acta Coleopterologica* 2: 9-20.
- DAFFNER H. 1986b: Die Arten der Gattung *Dermatohomoeus* Hlissnikovský, 1963, von den melanesischen Inseln und Australien (Coleoptera, Leiodidae). *Entomofauna, Zeitschrift für Entomologie* 7: 129-150.
- DAFFNER H. 1987: Die Arten der Gattung *Colenisia* Fauvel, 1903 aus Afrika (Coleoptera, Leiodidae, Pseudoliadini). *Mitteilungen der Münchner Entomologischen Gesellschaft* 77: 79-84.
- DAFFNER H. 1988a: Die Arten der Gattung *Colenisia* Fauvel, 1903 aus Südost - Asien und Sumatra (Coleoptera, Leiodidae, Pseudoliadini). *Acta Coleopterologica* 4: 29-42.
- DAFFNER H. 1988b: Die Arten der Gattung *Dermatohomoeus* Hlissnikovský, 1963, aus Asien und Afrika (Coleoptera, Leiodidae, Pseudoliadini). *Revue Suisse de Zoologie* 95: 791-815.
- DAFFNER H. 1989: Die Arten der Gattung *Colenisia* Fauvel, 1903 aus Australien (Coleoptera, Leiodidae, Pseudoliadini). *Acta Coleopterologica* 5: 47-52.
- DAFFNER H. 1990: *Dermatohomoeus alesianus* n. sp. aus Nepal (Coleoptera, Leiodidae, Pseudoliadini). *Acta Coleopterologica* 6: 61-65.
- DAFFNER H. 1991: Die Arten der Gattung *Colenisia* Fauvel, 1903 aus Südindien und Sri Lanka (Coleoptera, Leiodidae, Pseudoliadini). *Revue Suisse de Zoologie* 98: 139-406.
- HOSHINA H. 1999: A taxonomic Study of the genera *Dermatohomoeus* and *Colenis* (Coleoptera, Leiodidae) from Japan. *Entomological Science* 2: 413-423.
- HOSHINA H. & NARUKAVA N. 1998: The subgenus *Macroceble* of the *Agathidium* (Coleoptera: Leiodidae), new record from Honshu, Japan, with descriptions of two new species. *Entomological Review of Japan* 53: 49-57.
- LESCHEN R. A. B. 2000: Pseudoliadini (Coleoptera: Leiodidae: Leiodinae) of New Zealand. *New Zealand Entomologist* 22: 33-44.
- PERKOVSKY E. E. 2000: Die Neue Art der Gattung *Colenisia* Fauvel, 1903 (Coleoptera: Leiodidae: Pseudoliadini) aus Vietnam. *Russian Entomological Journal* 9: 67-68.
- ŠVEC Z. 1996: A report on Leiodinae (Coleoptera: Leiodidae) of India. *Acta Societatis Zoologica Bohemoslovaca* 60: 215-222.
- ŠVEC Z. 1997: New African and Asian species of Leiodinae (Coleoptera, Leiodidae) from the Hungarian Natural History Museum in Budapest. *Acta Zoologica Academiae Scientiarum Hungaricae* 43: 213-224.
- ŠVEC Z. 2004: New taxa of the tribes Pseudoliadini and Scotocryptini from Madagascar and the Ivory Coast (Coleoptera, Leiodidae, Leiodinae). *Acta Musei Moraviae. Scientiae Biologicae (Brno)* 89: 53-95.

Received: 30.4.2011

Accepted: 30.5.2011

