

New species and records of *Agathidium* from Himalaya : expeditions of Basel Natural History Museum (Coleoptera, Leiodidae)

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**New species and records of *Agathidium* from Himalaya:
expeditions of Basel Natural History Museum
(Coleoptera, Leiodidae)**

by **F. Angelini & L. De Marzo**

Abstract: The authors give collecting data on 8 species of *Agathidium* from Himalayan Regions and describe 3 new ones: *A. sikkimense* n. sp., *A. garhwalense* n. sp. and *A. taru* n. sp. *Agathidium* (s. str.) *ceylanicum* Hlisnikovsky is considered as a synonym of *A.* (s. str.) *laticorne* Port. *A. brancuccii* Ang. & Dmz. is recorded for the first time from Nepal, *A. subopacum* Ang. & Dmz. from Bhutan, Uttar Pradesh and Darjeeling, and *A. laticorne* Port. from Nepal, Bhutan and Assam. Male hind femur and copulatory organ of *A. quaterfoveatum* Ang. & Dmz. are figured.

Thanks to the courtesy of Dr M. Brancucci we have obtained the possibility of studying a new amount, about sixty specimens (11 species) of *Agathidium* from Himalaya, collected by researchers of Basel Museum in 29 localities of Nepal (8 loc), Bhutan (3 loc.), Uttar Pradesh (1 loc.), Sikkim (3 loc.), Darjeeling (13 loc.), and Assam (1 loc.). This material includes 3 new species, 3 new records and males, hitherto unknown, of *A. quaterfoveatum* Ang. & Dmz.

Further 28 specimens, here included into the description of a new species, *A. sikkimense* n. sp., have been collected by researchers of Geneva Natural History Museum.

The specimens are deposited in Basel Museum (NHMB), Geneva Museum (GM) and Angelini collection (AC).

***Agathidium* (s. str.) *quaterfoveatum* Ang. & Dmz.** Figs 10, 16, 17.

Agathidium (s. str.) *quaterfoveatum* ANGELINI & DE MARZO 1981, Ent. Bas. 6: 263

Material: India: Darjeeling, Lava, 2035 m, 8. IX. 1980, Bhakta B. (1 ex., NHMB); Darjeeling, Monshong, 1400 m, 13. IX. 1980 (1 ex., AC).

Distribution: India (Darjeeling).

Remarks: The new material includes 2 males of *A. quaterfoveatum* Ang. & Dmz., of which only 1 female was known. Tarsal formula ♂: 5-5-4; male hind femur and copulatory organ: Figs 10, 16, 17.

***Agathidium* (s. str.) *brancuccii* Ang. & Dmz.**

Agathidium (s. str.) *brancuccii* Angelini & De Marzo 1981, Ent. Bas. 6: 269

Material: Nepal: Alagara, 1700 m, 5. IX. 1980, Bhakta B. (1 ex.,

NHMB). India, Darjeeling, Garoo Bathan, 840 m, 24. XII. 1980, Bhakta B. (2 ex., NHMB).

Distribution: Nepal; India (Darjeeling and Sikkim).

Remarks: New record from Nepal.

Agathidium (s. str.) **sikkimense** n. sp. Figs 1, 4, 5, 11, 14, 18, 19.

Length: 2.2–2.5 mm (holotype ♂: 2.4 mm). Dorsum uniformly reddish-brown. Venter reddish-brown, paler on mesosternum. Antennae and legs testaceous. Microreticulation nearly absent at all (some traces on elytra). Whole dorsum finely and sparsely punctate.

Head: Puncturation very fine and sparse: punctures very small and superficial, spaced from each other by 1–4 times their own diameter. Clypeal line absent. 3rd antennal segment 1.4 times as long as the 2nd and longer than 4th+5th (Fig. 1). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Abb. 1–3

Pronotum: Punctures smaller and more superficial than on head, spaced from each other by 3–6 times their own diameter. Just a little broader than head, moderately broader than long ($W/L = 1.55$) and much convex ($W/H = 1.44$). Anterior margin scarcely bent (Fig. 4). Lateral outline broadly rounded (Fig. 5). Holotype: length: 0.74 mm, width: 1.14 mm, height: 0.79 mm.

Elytra: Some traces of microreticulation. Punctures as small and superficial as on pronotum, spaced from each other by 3–4 times their own diameter. As broad as pronotum, nearly as broad as long ($W/L = 0.98$) and moderately convex ($W/H = 1.65$). Lateral outline with slight and broadly rounded humeral angle. Sutural striae absent. Holotype: length: 1.13 mm, width: 1.11 mm, height: 0.68 mm.

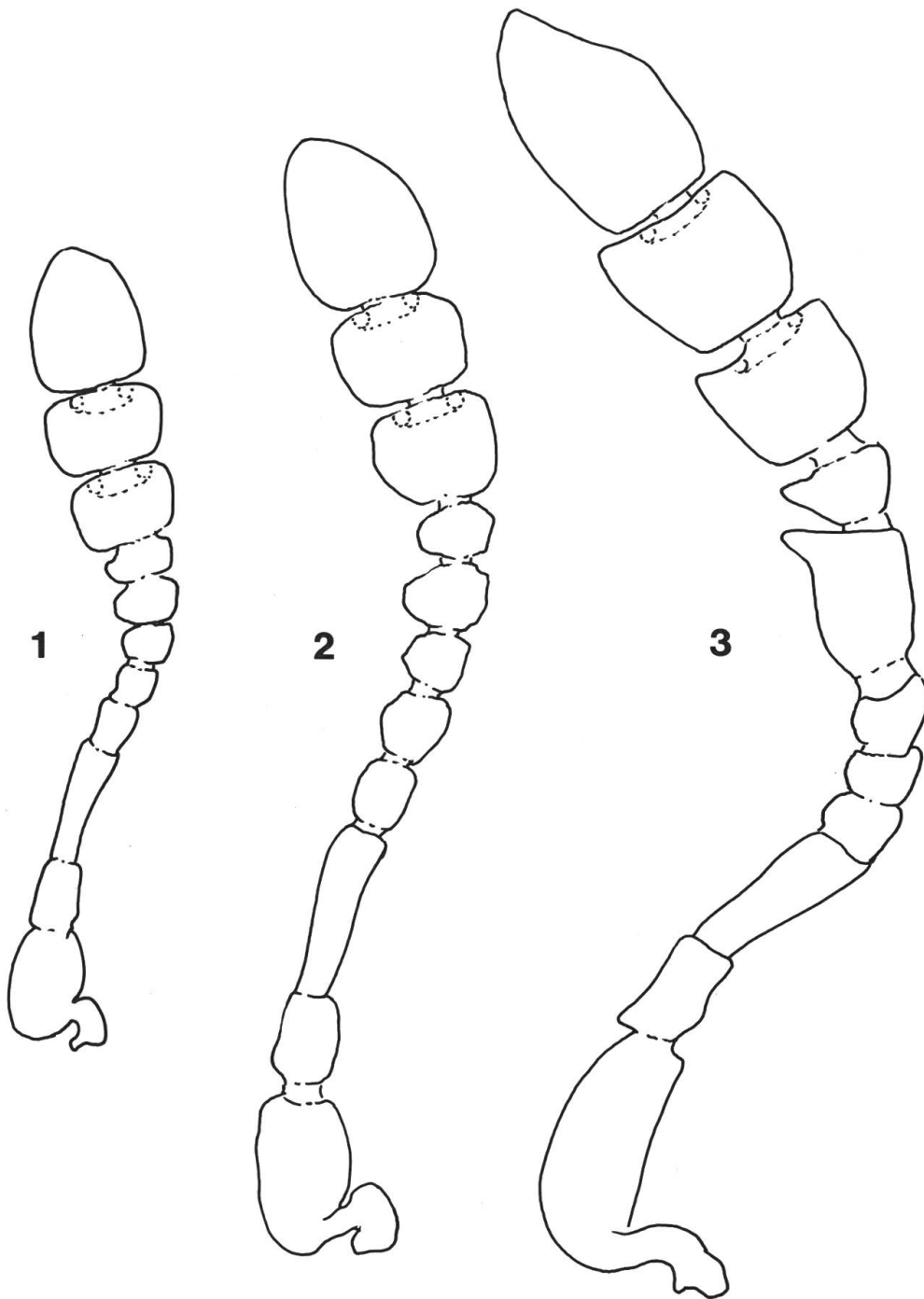
Metathoracic wings absent. Meso and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Posterior margin of male hind femura with slight distal tooth (Fig. 11). Tarsal formula: ♂: 4–4–1, ♀: 4–4–4.

Male copulatory organ (Figs 18–19): Aedeagus very slender, with hook-like proximal part, lateral margins subparallel and abruptly approached into a small rounded tip; ventral piece not bifid. Parameres gently tapered towards apex.

Spermatheca (Fig. 14): Basal part pear-shaped; apical part slender and gently tapered towards apex.

Types: India: Sikkim, Balawa Khani, 1800 m, 11. IX. 1980, Bhakta B: (holotype ♂ N.3061 in NHMB, 1 paratype ♀ N.3062 in AC);



Figs 1-3: Antenna of: 1, *Agathidium sikkimense* n. sp. 2, *A. garhwalense* n. sp. 3, *A. taru* n. sp.

Sikkim, Soroong, 15. XI. 1980, Bhakta B. (1 ♂ paratype N. 3063 in NHMB); Sikkim, Malli, 960 m, 11. XII. 1980, Bhakta, B. (2 ♂ paratypes N. 3064, 3065 in NHMB, 1 ♂ and 1 ♀ paratypes N. 3066, 3067 in AC); Darjeeling, Rosi Kholā, 9. XI. 1980, Bhakta B. (2 ♂ paratypes N. 3069–3070 in NHMB, 1 ♀ paratype N. 3071 in AC); Darjeeling, Mangshong, 1100 m, 23. XI. 1980, Bhakta B. (1 ♀ paratype N. 3072 in NHMB); Darjeeling, Lava, 2035 m, 20. III. 1980, Bhakta B. (1 ♀ paratype N. 3073 in NHMB); Darjeeling, Budubara, 1600 m, 28. XI. 1980, Bhakta B. (1 ♂ paratype N. 3074 in NHMB); Darjeeling, Alganah, 1700 m, 12. III. 1980, Bhakta B. (1 ♀ paratype N. 3075 in NHMB). Darjeeling, Pedong, 1180 m, 3. XI. 1980, Bhakta B. (2 ♂ and 2 ♀ paratypes N. 3077–3080 in NHMB, 1 ♂ and 1 ♀ paratypes N. 3076, 3081 in AC); Darjeeling, 29. XII. 1980, Bhakta B. (1 ♂ and 5 ♀ paratypes N. 3082–3087 in NHMB, 1 ♂ and 2 ♀ paratypes N. 3068, 3088, 3089 in AC); Darjeeling, Mirik, 22. XI. 1980, Bhakta B. (1 ♂ and 1 ♀ paratypes N. 3090, 3091 in NHMB); Darjeeling, Algarah, 1800 m, C. Besuchet & I. Löbl (11 ♂ and 7 ♀ paratypes N. 3454–3471 in GM, 3 ♂ and 3 ♀ paratypes N. 3472–3477 in AC); Darjeeling, between Algarah and Labha, 7 km from Algarah, 1900 m, 11. X. 1978, C. Besuchet & I. Löbl (1 ♂ and 1 ♀ paratypes N. 3478, 3479 in GM, 2 ♀ paratypes N. 3480, 3481 in AC). Nepal: Langtang, 3350–3470 m, 10. VI. 1979, Bhakta B. (1 ♂ paratype N. 3092 in NHMB).

Distribution: India (Sikkim and Darjeeling); Nepal.

Discussion: *A. sikkimense* n. sp. is similar to *A. pusillum* Ang. & Dmz. in size, colouring, habitus and puncturation characters, but it is clearly separate from the latter by shape of aedeagus. A paper which includes drawings of the male copulatory organ of *A. pusillum* is in preparation.

Agathidium (s. str.) **nivale** Ang. & Dmz.

Agathidium (s. str.) *nivale* ANGELINI & DE MARZO 1981, Ent. Bas. 6: 223.

Agathidium (s. str.) *nivale*, ANGELINI & DE MARZO 1983, Senkenbergiana biol. 64.

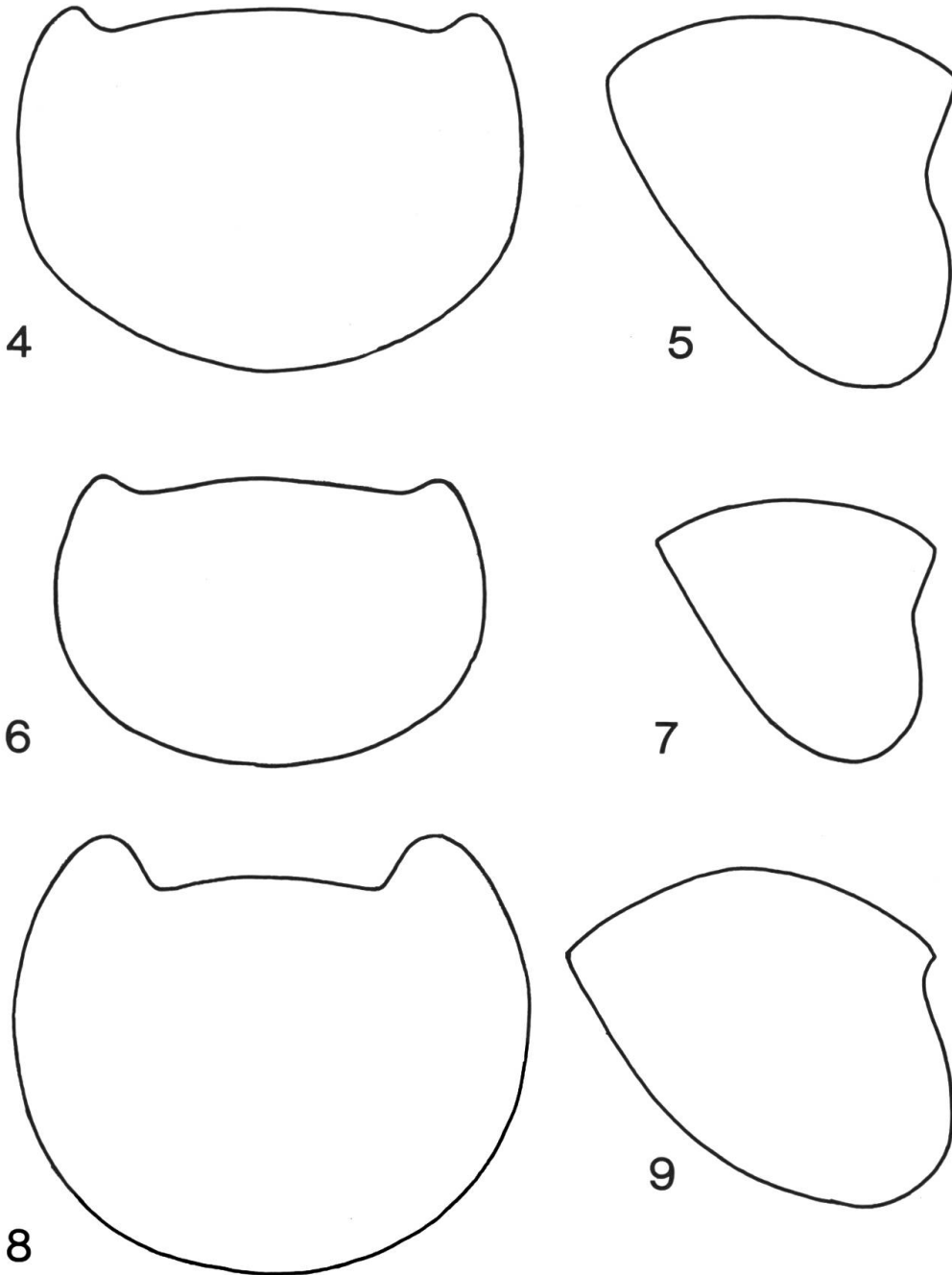
Material: Nepal: Danda Pakhar, 1600–2500 m, 1. VI. 1977 M. Brancucci, (1 ex., NHMB).

Distribution: Nepal.

Agathidium (s. str.) **subopacum** Ang. & Dmz.

Agathidium (s. str.) *subopacum* ANGELINI & DE MARZO 1981, Ent. Bas. 6: 227.

Agathidium (s. str.) *subopacum*, ANGELINI & DE MARZO 1983, Senkenbergiana biol. 64.



Figs 4-9: Pronotum (dorsal and lateral outline) of: 4-5, *Agathidium sikkimense* n. sp. 6-7, *A. garhwalense* n. sp. 8-9, *A. taru* n. sp.

Material: India; Uttar Pradesh, Chaubattia, 1900–2100 m, 25.V.1981, M.Brancucci, (1 ex., NHMB); Darjeeling, Pedong, 1180 m, 3.XI.1980, Bhakta B. (1 ex., NHMB). Bhutan, Wangdi Phodrang, 1300 m, 26.VI.1972, Dorjee K. (1 ex., NHMB).

Distribution: Nepal; Bhutan; India (Uttar Pradesh, Darjeeling).

Remarks: New record from Bhutan, Uttar Pradesh and Darjeeling.

Agathidium (s. str.) **garhwalense** n. sp. Figs 2, 6, 7, 15, 20, 21.

Length: 3.1–3.2 mm (holotype ♂: 3.1 mm). Dorsum uniformly black. Venter reddish-brown. Antennae testaceous, sometimes with darker club. Legs testaceous. Microreticulation absent. Whole dorsum with very small and sparse punctures.

Head: Punctures very small, spaced from each other by 8–10 times their own diameter. Clypeal line absent. 3rd antennal segment nearly twice as long as the 2nd and longer than 4th + 5th (Fig.2). Hamann's organ: gutter without vesicles in both 9th and 10th antennal segments.

Pronotum: Punctures as small as on head, spaced from each other by 2–10 times their own diameter. 1.3 times as broad as head, moderately broader than long (W/L = 1.5) and moderately convex (W/H = 1.66). Anterior margin scarcely bent (Fig.6). Lateral outline much broadly rounded (Fig.7). Holotype: length: 1.06 mm, width: 1.60 mm, height: 0.96 mm.

Elytra: Punctures as small as on head, spaced from each other by 4–12 times their own diameter. A little less broad than pronotum, a little broader than long (W/L = 1.13) and scarcely convex (W/H = 1.86). Lateral outline with slight and broadly rounded humeral angle. Sutural striae slight, within the apical third. Holotype: length: 1.36 mm, width: 1.55 mm, height: 0.83 mm.

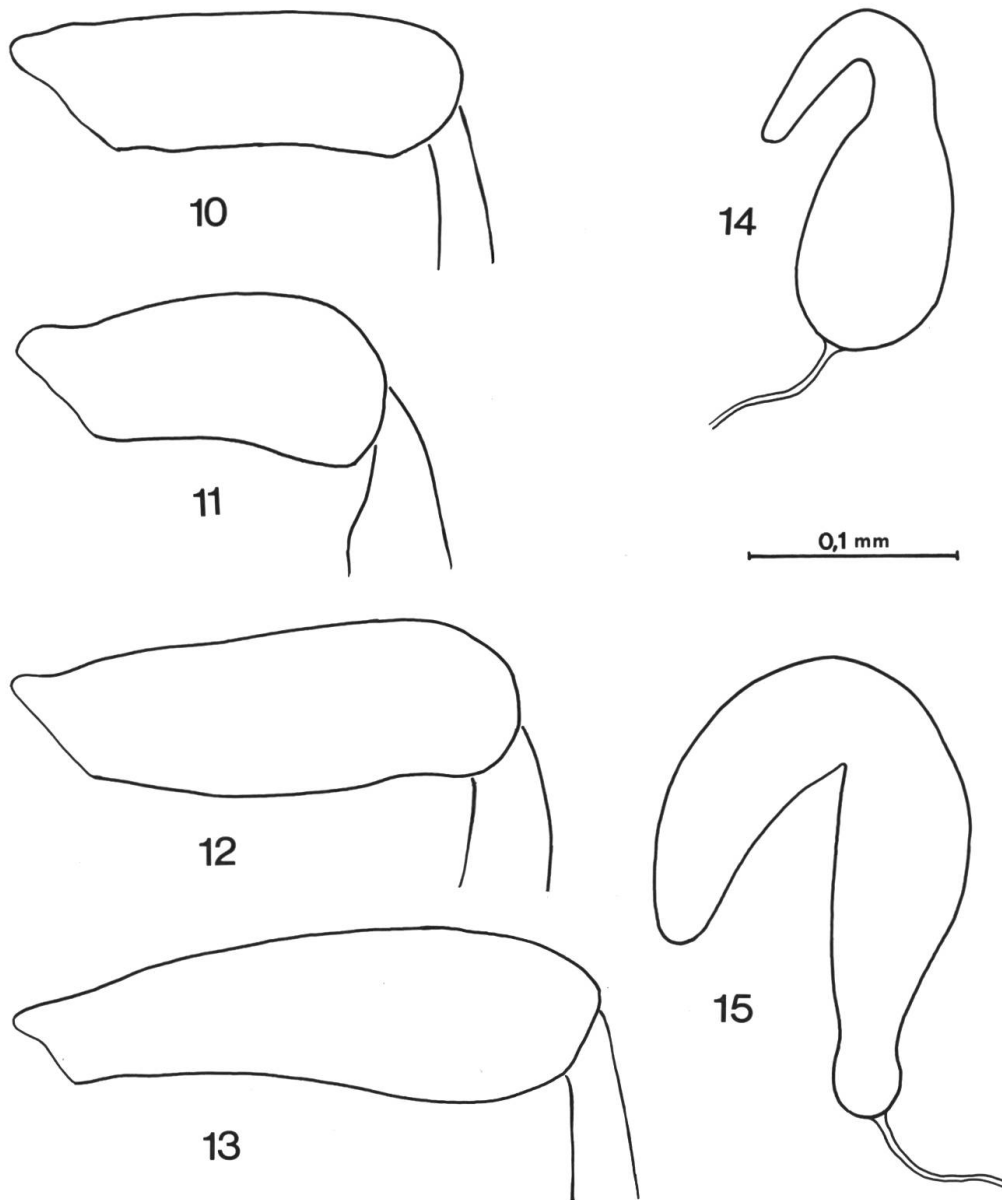
Metathoracic wings absent. Meso and metasternum: median carina absent, lateral lines absent, femoral lines complete.

Legs: Male hind femura simple (Fig.12). Tarsal formula: ♂: 5–5–4, ♀: 4–4–4.

Male copulatory organ (Figs 20–21): Aedeagus slender, with spiral-like proximal part, lateral margins gently approached into a small rounded tip; ventral piece bifid. Parameres gently tapered towards apex.

Spermatheca (Fig.15): Basal and apical parts rather similar in shape and caliber; the basal part longer.

Types: India: Uttar Pradesh, Garhwal, Chaubattia, 1900–2100 m,



Figs 10–15: 10–13. Male hind femur of: 10, *Agathidium quaterfoveatum* Ang. & Dmz. 11, *A. sikkimense* n. sp. 12, *A. garhwalense* n. sp. 13, *A. taru* n. sp. 14–15. Spermatheca of: 14, *A. sikkimense* n. sp. 15, *A. garhwalense* n. sp.

25. V. 1981, M. Brancucci, (holotype ♂ N. 3413 and ♀ paratype N. 3415 in NHMB, 1 ♂ paratype N. 3414 in AC).

Distribution: India (Uttar Pradesh).

Discussion: *A. garhwalense* n. sp. is similar to *A. dinguaricum* Ang. & Dmz. in habitus, but it differs from the latter by the length of the sutural striae (shorter), by the absence of mesosternal carina, by the

metasternum with complete femoral lines and by the aedeagus shape (ANGELINI & DE MARZO, 1981, Figs 151–152). It is close to *A. kashmirensis* Ang. & Dmz. by the aedeagus shape, but it is separated by the ratio $3^{\text{rd}}/2^{\text{nd}}$ in antennal segments and by the shape of the spermatheca (1. c.: Fig. 137).

Agathidium (s. str.) **martensi** Ang. & Dmz.

Agathidium (s. str.) *martensi* ANGELINI & DE MARZO 1983, Senckenbergiana biol. 64.

Material: Nepal, Cheavri Bas., 18.IX.1978, Bhakta B. (1 ex., NHMB); Chainpur, 30.IX.1978, Bhakta B. (1 ex., NHMB). Distribution: Nepal; India (Darjeeling).

Agathidium (s. str.) **crassum** Ang. & Dmz.

Agathidium (s. str.) *crassum* ANGELINI & DE MARZO 1981, Ent. Bas. 6: 280.

Material: Nepal, Lamjura, 3200 m, 28. VI. 1979, Bhakta B. (1 ex., NHMB; 1 ex., AC).

Distribution: Nepal; India (Darjeeling).

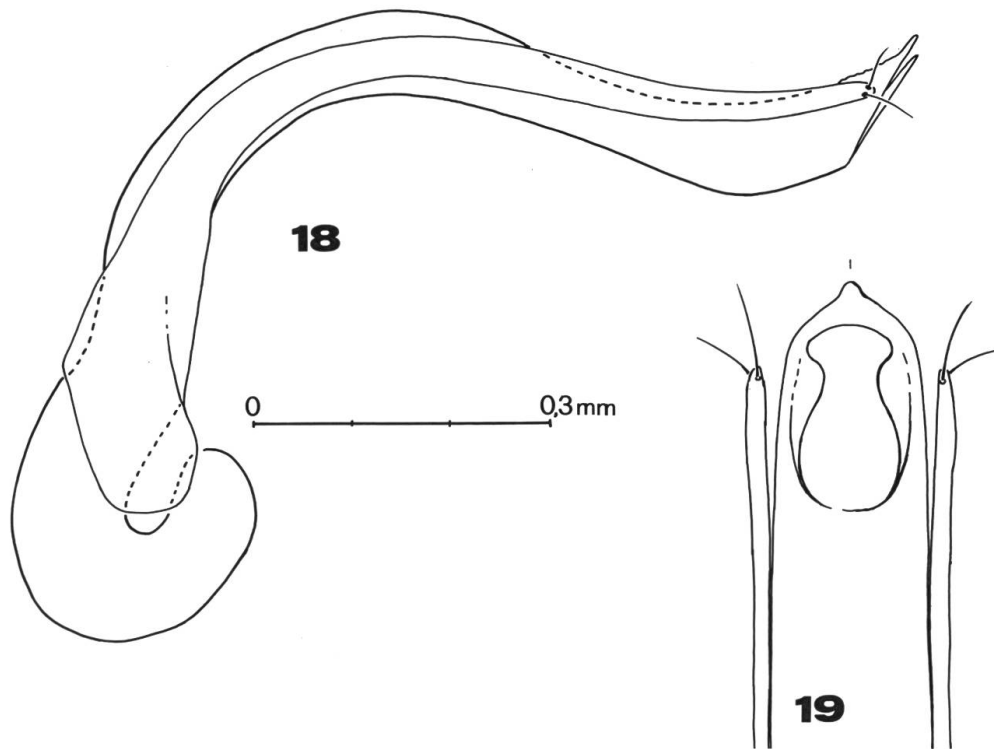
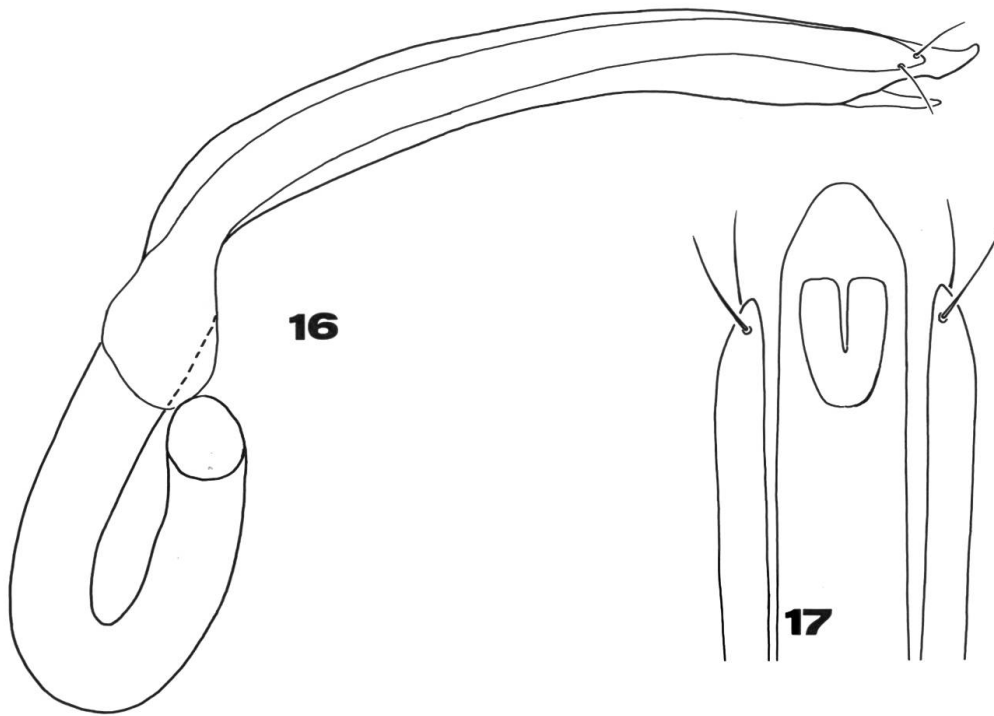
Agathidium (s. str.) **taru** n. sp.

Figs 3, 8, 9, 13, 22, 23.

Length: 3.75 mm (holotype ♂). Dorsum uniformly reddish-brown. Venter paler. Antennae with distal half darker. Legs testaceous. Microreticulation absent; anterior half of head dorsum microwrinkled. Whole dorsum distinctly punctate.

Head: Anterior half of dorsum distinctly microwrinkled. Punctuation distinct and regular: punctures moderately large, impressed, spaced from each other by 2–5 times their own diameter. Dorsum with one large dimple and one short oblique groove at each side of clypeus. Anterior-lateral margins strongly rimmed. 3^{rd} antennal segment 1.4 times as long as the 2^{nd} and longer than $4^{\text{th}}+5^{\text{th}}$ (Fig. 3); 7^{th} antennal segment very much longer than the 8^{th} . Hamann's organ: gutter without vesicles in both 9^{th} and 10^{th} antennal segments.

Pronotum: Punctures a little smaller and more superficial than on head, spaced from each other by 5–10 times their own diameter. Nearly twice as broad as head, moderately broader than long ($W/L = 1.4$) and moderately convex ($W/H = 1.54$). Anterior margin scarcely bent (Fig. 8). Lateral outline much broadly rounded (Fig. 9). Holotype: length: 1.35 mm, width: 1.90 mm, height: 1.23 mm.



Figs 16–19: Male copulatory organ (lateral view and ventral view of the apex) of: 16–17, *Agathidium quaterfoveatum* Ang. & Dmz. 18–19, *A. sikkimense* n. sp.

Elytra: Punctures a little smaller and more superficial than on pronotum, spaced from each other by 10–15 times their own diameter. A little less broad than pronotum, nearly as broad as long ($W/L = 0.95$) and much convex ($W/H = 1.48$). Lateral outline with slight and broadly rounded humeral angle. Sutural striae absent. Holotype: length: 1.70 mm, width: 1.63 mm, height: 1.10 mm.

Metathoracic wings present. Meso and metasternum: median carina present, lateral lines absent, femoral lines incomplete.

Legs: Male hind femura simple (Fig. 13). Tarsal formula: ♂: 5–5–4, ♀: unknown.

Male copulatory organ (Figs 22–23): Aedeagus slender and robust, with proximal part simple, apex bifid and bearing a membranous production; ventral piece bifid, with arms diverging at apex. Parameres robust, increased at apex and fitted for aedeagus sides.

Type: West Nepal, Lamobagar, 400 m, 28. IV. 1980, W. Wittmer, (holotype ♂ N. 3412 in NHMB).

Distribution: West Nepal.

Discussion: *A. taru* n. sp. is very similar to *A. maculicolle* Champ. in habitus and puncturation characters, but it differs from the latter by the aedeagus shape and by the remarkable length of the 7th antennal segment.

Agathidium (s. str.) **semirufum** Ang. & Dmz.

Agathidium (s. str.) *semirufum* Angelini & De Marzo, 1981, Ent. Bas. 6: 252.

Material: India, Darjeeling, Pedong, 800–1200 m, 14. VIII. 1978, Bhakta B. (1 ex., AC); Darjeeling, Nowri Khola, 2200 m, 12. VIII. 1978, Bhakta B. (1 ex., AC). Bhutan, Phuntsholing, 200–400 m, 3. IX. 1981, Bhakta B. (1 ex., NHMB).

Distribution: Nepal; Bhutan; India (Darjeeling and Assam).

Agathidium (s. str.) **laticorne** Port.

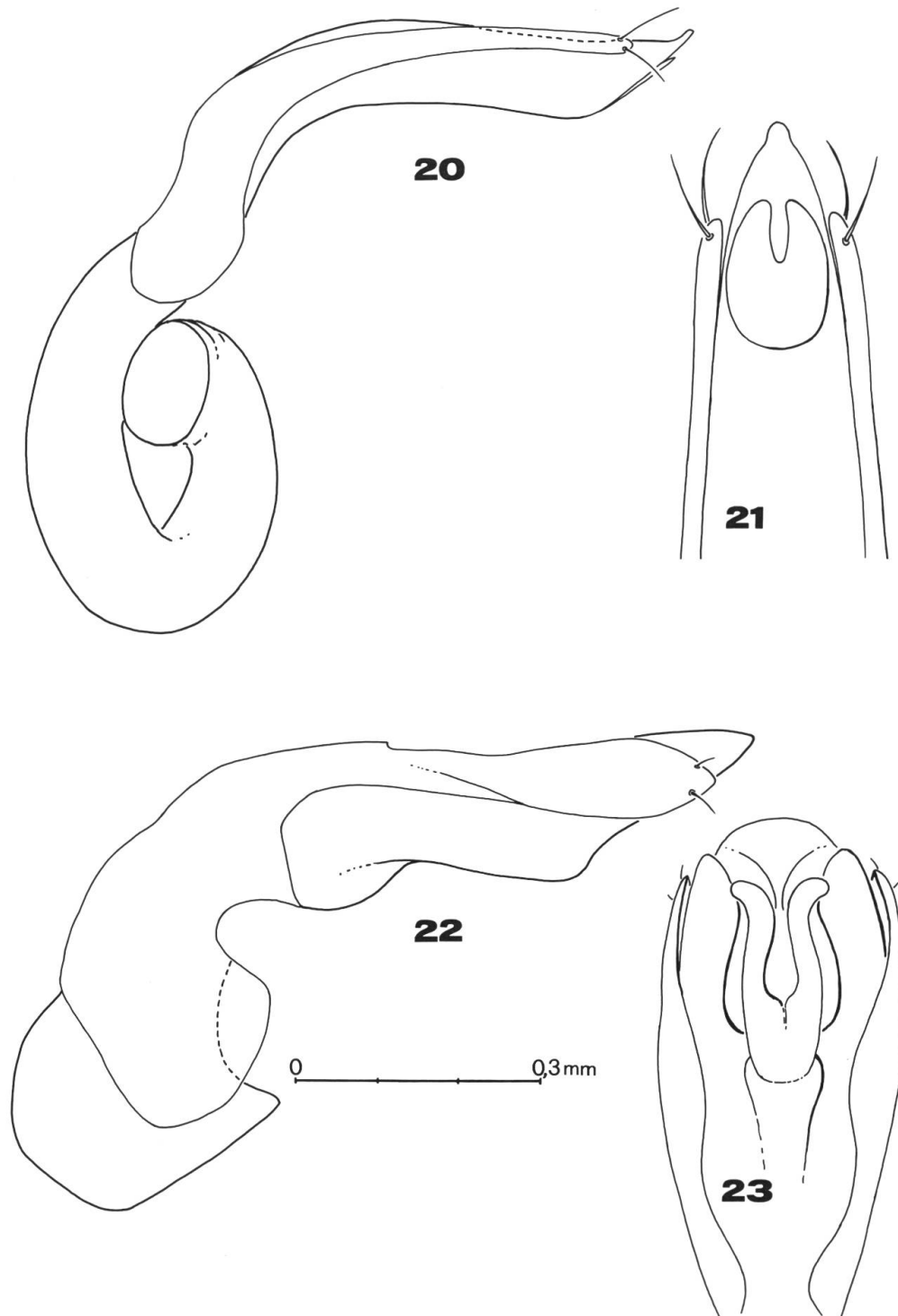
Agathidium (*Cyphocele*) *laticorne* PORTEVIN 1922, Bull. Mus. Hist. Nat. 28: 58.

Agathidium (*Cyphocele*) *laticorne*, PORTEVIN 1928, Treubia, 10: 32.

Agathidium (s. str.) *laticorne*, HLISNIKOVSKY 1964, Acta Ent. Mus. Nat. Pragae, suppl. 5: 200.

Agathidium (s. str.) *ceylanicum* HLISNIKOVSKY 1972, Mitt. Schw. Ent. Ges. 45 (1–3): 131, **n. syn.**

Material: Nepal, Pankha Banglo, 1900 m, 9. VIII. 1978, Bhakta B. 2 ex., NHMB; 1 ex., AC). Bhutan, Sarbhang, 300 m, 31. VIII. 1981,



Figs 20–23: Male copulatory organ (lateral view and ventral view of the apex) of: 20–21, *Agathidium garhwalense* n. sp. 22–23, *A. taru* n. sp.

Bhakta B. (1 ex., NHMB; 1 ex., AC). India, Assam, Kaziranga, 75 m, 7.–9. V. 1976, W. Wittmer & C. Baroni Urbani (1 ex., NHMB).

Distribution: Nepal; Bhutan; India (Assam); Sri Lanka, Indonesia (Java).

Remarks: New record from Nepal, Bhutan and Assam.

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