

Three new species of *Scaphidema* Redtenbacher (Coleoptera: Tenebrionidae) from China¹

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Abstract

Three new species of the genus *Scaphidema* Redtenbacher, 1849 (Coleoptera: Tenebrionidae: Scaphidemini) are described from China: *Scaphidema emeishanum* **n. sp.** from Sichuan Province, *Scaphidema shaanxicum* **n. sp.** from Shaanxi, and *Scaphidema turnai* **n. sp.** from Hubei. New synonyms and combinations: *Microbasanus* Pic, 1921 **n. syn.** of *Scaphidema* Redtenbacher, *Scaphidema khnzoriani* Kaszab, 1975 **n. syn.** of *Scaphidema jureceki* (Pic, 1921) **n. comb.** A key and remarks to all known Chinese and Korean species are included.

Key words: Coleoptera, Tenebrionidae, *Scaphidema*, new species, China.

Zusammenfassung

Drei neue Arten der Gattung *Scaphidema* Redtenbacher, 1849 (Coleoptera: Tenebrionidae: Scaphidemini) aus China werden beschrieben: *Scaphidema emeishanum* **n. sp.** aus der Provinz Sichuan, *Scaphidema shaanxicum* **n. sp.** aus Shaanxi, und *Scaphidema turnai* **n. sp.** aus Hubei. Neue Synonyme und Kombinationen: *Microbasanus* Pic, 1921 **n. syn.** von *Scaphidema* Redtenbacher, *Scaphidema khnzoriani* Kaszab, 1975 **n. syn.** von *Scaphidema jureceki* (Pic, 1921) **n. comb.** Ein Bestimmungsschlüssel und Anmerkungen zu allen bekannten chinesischen und koreanischen Arten sind beigelegt.

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1 Introduction

The genus *Scaphidema* Redtenbacher, 1849 (type species *Mycetophagus metallicus* Fabricius, 1792) as yet contains 21 species, distributed in the Holarctic Region, with the bulk of the species living in eastern Asia. KASZAB (1975) revised the Palaearctic species and SCHAWALLER (2003) described two species from Nepal and Sichuan/China, including a general discussion of the specific characters and a check-list of all species. Subsequently, MASUMOTO et al. (2007) added a further species from Taiwan. Only shortly after the cited paper, I received further congeners from mainland China, described herein. The key (chapter 4) for the Chinese species includes for zoogeographical reasons also two species from adjacent Korea, described recently by CHŪJŌ & LEE (1992, 1993), but not those from Taiwan. During a visit to the Muséum d'Histoire Naturelle de Lyon I found type material of the doubtful taxon *Microbasanus* Pic, 1921, described from the Russian Far East (see PIC 1921), which is now considered as a new junior synonym of *Scaphidema* Redtenbacher, 1849.

The shape of the aedeagus of *Scaphidema* is quite simple and similar in all species, thus not very helpful for

the species identification. The dorsal colour pattern, however, is surprisingly constant and displays only minute infraspecific variability. Here we face the same situation as in the closely related genus *Basanus* Lacordaire, 1859 (SCHAWALLER & ANDO 2006). It therefore seems justified to describe new species in *Scaphidema* based on female holotypes only.

Acronyms of depositories

CJTK	Collection JAROSLAV TURNA, Kostelec na Hané, Czech Republic
CVTT	Collection Dr. VLADIMIR TICHY, Trebon, Czech Republic
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Dr. OTTÓ MERKL)
MHNL	Muséum d'Histoire Naturelle, Lyon, France (Dr. HAROLD LABRIQUE)
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany

Acknowledgements

I am indebted to JAROSLAV TURNA (Kostelec na Hané, Czech Republic), who entrusted me with the study of several Chinese tenebrionids from his collection and who generously donated the holotypes of two of the newly described species to the SMNS. Dr. HAROLD LABRIQUE (Lyon) promptly loaned upon request type

¹ Contributions to Tenebrionidae, no. 68. – For no. 67 see: Entomologica Basiliensia 29: 171–175 (2007).

material of *Microbasanus*. The hospitality of Dr. OTTÓ MERKL (Budapest) during my visits for comparative studies was greatly appreciated. The photographs were taken by JOHANNES REIBNITZ (Stuttgart) with a Leica DFC320 digital camera on a Leica MZ16 APO microscope, and were then processed by him with Auto-Montage (Syncroscopy) software.

2 Descriptions of new species from China

Scaphidema emeishanum n.sp.

(Figs. 2, 7)

Holotype (♀): China, Sichuan, Emei Shan, 600–1050 m, 5.–19.V.1989, leg. L. BOČÁK, SMNS.

Etymology: Named after the isolated mountain Emei Shan, where the holotype was collected.

Description: Dorsal side (Fig. 2) ferrugineous with colour pattern, without any metallic shine, pronotum plain reddish, elytron with a ferrugineous posterior half and with a lighter anterior half; in the anterior half with two dark basal spots and a discal spot. Head and pronotum with large punctures of similar size, but head with distinctly denser punctuation; shape of the antennomeres see Fig. 7 (distal 3 antennomeres lacking in the holotype), antennomere 3 longer than wide, antennomere 4 short and widened. Pronotum with rough but separate punctuation; anterior margin unbordered in the middle, lateral margin straight, with an apical tooth, completely bordered, the border not prolonged to the basal margin; anterior corners not protruding; propleura with a similar punctuation as the disc. Elytron with 8 irregular rows of punctures without striae; these rows do not completely reach the base of the elytron; third row with about 40 punctures, which are slightly smaller than those on the pronotum; intervals flat, with scattered punctures which are smaller than those in the rows; lateral margin visible nearly along the complete length when seen from above, only hidden at the apex; epipleura without punctuation. Abdominal ventrites with similar punctuation as metasternum; metasternum with a short setation, abdominal ventrites without setation; last visible ventrite unbordered. Legs without peculiarities. Aedeagus unknown, only female available. Body length 3.6 mm.

Diagnosis: Characterized by a light dorsal colour pattern with a reddish pronotum, pronotum with a straight lateral margin bearing an apical tooth and with large but separate punctures, elytra with 8 irregular rows of fine punctures without striae, and widened antennomeres 4–11. Comparison to other species see identification key (chapter 4).

Scaphidema shaanxicum n.sp.

(Figs. 3, 8)

Holotype (♀): China, S Shaanxi, road Wanyuan to

Zhenba, 30 km S Zhenba, 1000 m, 23.VI.2000, leg. J. TURNA, SMNS.

Etymology: Named after the Chinese province Shaanxi, where the holotype was collected.

Description: Dorsal side (Fig. 3) blackish with a feeble metallic shine; elytron with a narrow, crenate, light yellow band behind the shoulders which does not reach the suture, and with a small light spot near the apex. Head with distinctly denser and coarser punctuation than pronotum; shape of the antennomeres see Fig. 8, antennomere 3 short, antennomere 4 short but not widened. Pronotum with a fine and equal punctuation; anterior margin unbordered and swollen in the middle, lateral margin rounded, without any tooth, completely bordered, border not extending on the basal margin; anterior corners not protruding; propleura with punctuation similar to disc. Elytron with just 6 irregular rows of punctures without striae; these rows irregularly before the base of the elytron, third row with about 45 punctures, which are similar in size to those on pronotum; intervals flat, with scattered punctures which are smaller than those on pronotal disc; lateral margin visible nearly along the complete length when seen from above, only hidden at the apex; epipleura without punctuation. Abdominal ventrites with a punctuation similar to the metasternum; metasternum with a short setation; abdominal ventrites without setation; the last visible ventrite unbordered. Legs without peculiarities. Aedeagus unknown, only female available. Body length 4.0 mm.

Diagnosis: Characterized by a dark dorsal colour pattern with a blackish pronotum, pronotum with a rounded lateral margin without an apical tooth and with fine and widely separate punctures, elytra with just 6 irregular rows of fine punctures without striae, and widened antennomeres 5–11. Comparison to other species see identification key (chapter 4).

Scaphidema turnai n.sp.

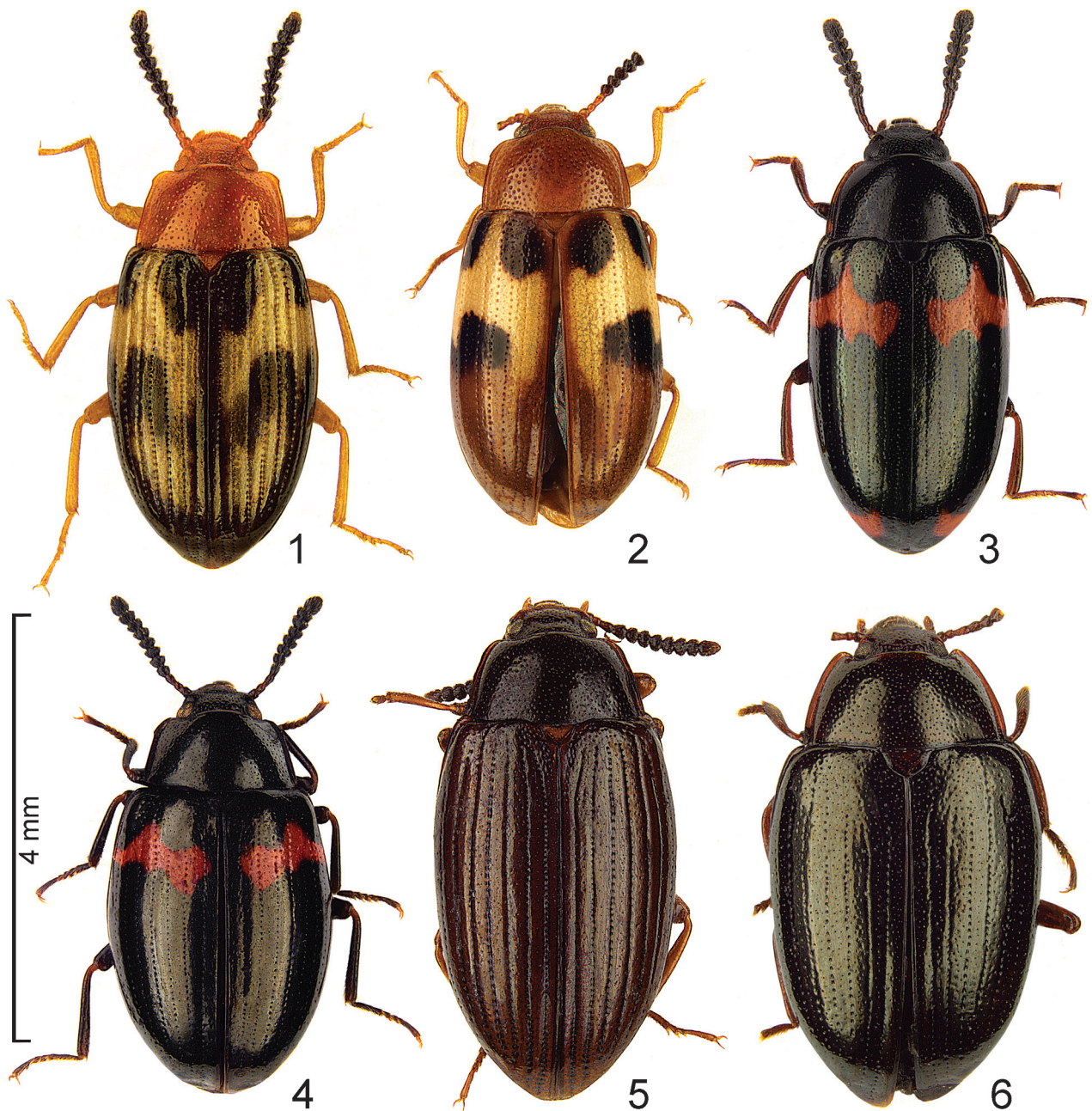
(Figs. 1, 9–10)

Holotype (♂): China, W Hubei, road from Badong to Yesanguan, Tiechanghuang, 1300 m, 27.–28.VI.2003, leg. J. TURNA, SMNS.

Paratype: Same data as holotype, 1 ex. CJTK.

Etymology: Named in honour of JAROSLAV TURNA (Kostelec na Hané, Czech Republic), collector of two of the new species.

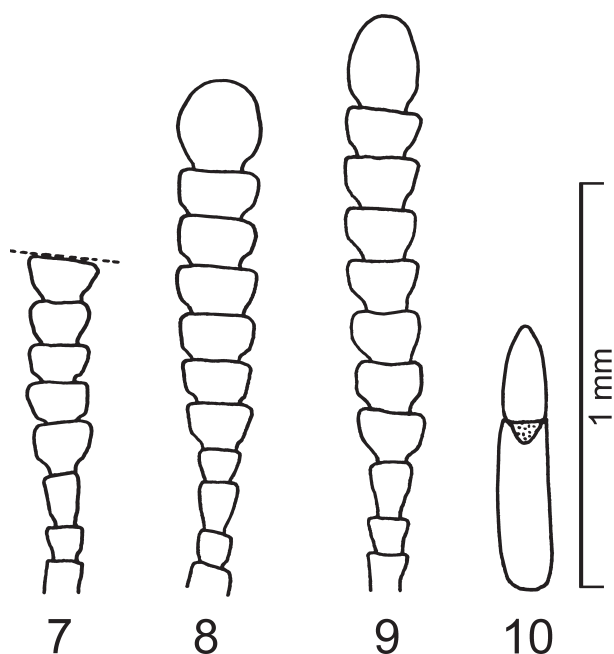
Description: Dorsal side (Fig. 1) ferrugineous with colour pattern, without any metallic shine; pronotum plain reddish; elytron dark, with an X-shaped light marking not reaching the suture. Head with distinctly denser and coarser punctuation than pronotum; shape of the antennomeres see Fig. 9, antennomere 3 short, antennomere 4 short and widened. Pronotum with a fine and equal punctuation; anterior margin unbordered in the middle, lateral margin straight, with an apical tooth, com-



Figs. 1–6. Dorsal views of *Scaphidema* species. – 1. *S. turnai* n. sp., ♂ holotype. 2. *S. emeishanum* n. sp., ♀ holotype. 3. *S. shaanxicum* n. sp., ♀ holotype. 4. *S. sichuanum* Schawaller, 2003, paratype. 5. *S. jureceki* (Pic, 1921) n. comb., paratype. 6. *Scaphidema* sp. ♀, Sichuan.

pletely bordered, border not prolonged to the basal margin; anterior corners not protruding; propleura with a similar punctation as the disc. Elytron with 8 rows of large punctures arranged in striae, which are irregular before the base of elytron; third row with about 45 punctures, which are larger than those on the pronotum; intervals flat, with a few scattered punctures, which are distinctly smaller than those on pronotal disc; lateral margin

visible nearly along the complete length when seen from above, only hidden at the apex; epipleura without punctation. Abdominal ventrites with a slightly denser punctation than on metasternum; metasternum laterally with a short setation; abdominal ventrites without setation; the last visible ventrite unbordered. Legs without peculiarities. Aedeagus see Fig. 10; joint parameres spade-like. Body length 3.8–4.0 mm.



Figs. 7–10. Antennae (7–9) and aedeagus (10) of *Scaphidema* species. – 7. *S. emeishanum* n. sp., ♀ holotype (distal antennomeres lacking). 8. *S. shaanxicum* n. sp., ♀ holotype. 9–10. *S. turnai* n. sp., ♂ holotype.

Diagnosis: Characterized by a light dorsal colour pattern with reddish pronotum, pronotum with a straight lateral margin bearing an apical tooth and with fine and widely separate punctures, elytra with 8 regular rows of large punctures arranged in striae, and widened antennomeres 4–11. Comparison to other species see identification key (chapter 4).

3 Remarks to the known species from Siberia, China and Korea

Scaphidema angustatum Pic, 1935

Diagnostic characters (according to KASZAB 1975): Dorsal side plain ferruginous or dark, without pattern. Body length: 5.0 mm.

Remarks: Doubtful taxon; neither types nor other materials were available. Shapes of antennomeres and aedeagus were not described.

Distribution: “China”.

Scaphidema jureceki (Pic, 1921) n. comb.

(Fig. 5)

Microbasanus jureceki Pic, 1921.

Scaphidema khnzoriani Kaszab, 1975 n. syn.

Material: Eastern Siberia (labelled as Ussuri med.), Vladivostok, 1919, leg. JUREČEK, 2 paratypes of *Microbasanus*

jureceki MHN. – Eastern Siberia, Ussuri, Schkotovo, 12.VIII.1971, leg. M. KHNZORIAN, 1 paratype of *Scaphidema khnzoriani* HNHM. – Eastern Siberia (labelled as S Primorje), Vladivostok, 20.VIII.1986, leg. T. KOMPANTZEVA, 1 ex. SMNS (*Scaphidema khnzoriani* det. KOMPANTZEVA).

Synonymy: The paratypes of *Microbasanus jureceki* and *Scaphidema khnzoriani* which were examined show no generic or specific differences; therefore *Microbasanus* Pic, 1921 is a junior synonym of *Scaphidema* Redtenbacher, 1849, and *Scaphidema khnzoriani* Kaszab, 1975 is a junior synonym of *Scaphidema jureceki* (Pic, 1921) n. comb.

Distribution: Eastern Siberia (Primorje Region).

Scaphidema kayokoae Chûjô, 1992

Diagnostic characters: Dorsal side with colour pattern: Elytron with a wide transverse band not reaching the suture, and with a spot near the apex. Elytron with 8 rows of deep and large punctures arranged in striae. Lateral margin of pronotum straight, with an apical tooth. Antennomere 3 long; antennomere 4 short, not widened. Body length: 3.7–4.7 mm.

Remarks: Characters are taken from the original figures in CHÛJÔ & LEE (1992); aedeagus unknown. The author of the species is only M. T. CHÛJÔ.

Distribution: S Korea (Chejudo Island).

Scaphidema michihidei Chûjô & Lee, 1993

Diagnostic characters: Dorsal side dark ferruginous, without pattern. Elytron with 8 rows of deep and large punctures arranged in striae. Lateral margin of pronotum straight, with an apical tooth. Antennomere 3 long; antennomere 4 short, widened. Body length: 4.65–4.90 mm.

Remarks: Characters are taken from the original figures in CHÛJÔ & LEE 1993; aedeagus unknown. This species may be a junior synonym of *Scaphidema angustatum* Pic, 1935, which was described from “China”.

Distribution: S Korea.

Scaphidema sp.

(Fig. 6)

Material: China, Central Sichuan, Volong, 150 km SW Chengdu, 9–10.VII.1994, leg. V. BENEŠ, 1 ♀ CVTT.

Remarks: This specimen may belong to *Scaphidema angustatum* or represent another new species from China. Because of the uncertain taxonomic position I refrain from describing it until more material will be available. This female represents a monochromatic metallic species without an apical tooth at the lateral margin of the pronotum and is similar to the European species *Scaphi-*

dema metallicum (Fabricius, 1792). However, in the Chinese species the pronotal margin is more rounded, and the elytral intervals are more densely punctured.

4 Key to the Chinese and Korean species of *Scaphidema*

- 1 Dorsal side plain ferrugineous or blackish, without any colour pattern; body length 4.65–5.00 mm (two or even three species, separation doubtful). **2**
- Dorsal side with a light or dark colour pattern; body length 3.3–4.0 mm. **3**
- 2 Species from “China”. *angustatum*
- Species from S Korea. *michihidei*
- 3 Lateral margin of pronotum rounded, without an apical tooth; dorsal colour pattern of elytra dark (Fig. 3); aedeagus unknown. *shaanxicum* n. sp.
- Lateral margin of pronotum straight, with an apical tooth. **4**
- 4 Punctures of elytral rows fine, not arranged in striae. **5**
- Punctures of elytral rows large, arranged in striae. **6**
- 5 Elytron mostly light. Pronotum reddish, with large but separate punctures (Fig. 2); aedeagus unknown. *emeishanum* n. sp.
- Elytron mostly dark. Pronotum dark (Fig. 4), with fine and widely separate punctures; aedeagus see SCHAWALLER (2003: fig. 9). *sichuanum*
- 6 Elytron with a wide transverse band and with or without an apical spot, pronotum dark ferrugineous (see CHŪJŌ & LEE

- 1992: fig. 5); aedeagus unknown. – Insular species (Korea/Chejudo Island). *kayokoae*
- Elytron with a quite different, X-like colour pattern, pronotum reddish (Fig. 1); aedeagus see Fig. 10. – Continental species (Hubei). *turnai* n. sp.

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