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## New species of *Sunius* CURTIS from China and Iran (Coleoptera: Staphylinidae, Paederinae)

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**A b s t r a c t :** *Sunius iranicus* sp. n. (SW-Iran), *S. furcillatus* sp. n. (China: Hubei, Shaanxi, Sichuan), and *S. cordiformis* sp. n. (China: Beijing, Shaanxi) are described, illustrated, and distinguished from similar Palaearctic congeners.

**K e y w o r d s :** Coleoptera, Staphylinidae, Paederinae, *Sunius*, Palaearctic region, Iran, China, taxonomy, new species.

### Introduction

In the Western Palaearctic region, the genus *Sunius* CURTIS is represented by more than 50 species (ASSING 2001, COIFFAIT 1984). The number of species known from the Eastern Palaearctic region, though certainly much lower, is difficult to assess. Not only is a recent synopsis absent, but due to the morphological similarity of many medonine genera, the generic affiliations of the Eastern Palaearctic species currently attributed to *Sunius* (or *Hypomedon* MULSANT & REY), *Medon* STEPHENS, etc. require revision and confirmation. This applies even more to the species described from the Oriental and the Australian region and currently attributed to *Hypomedon* (see BERNHAUER & SCHUBERT 1912, CAMERON 1931, 1933).

Recently examined material of Palaearctic Staphylinidae made available to me by several colleagues included three undescribed species from Iran and China. According to COIFFAIT (1984), no *Sunius* species have been recorded from Iran; SCHEERPELTZ (1963), however, reports *S. picinus* (BERNHAUER) from there. To my knowledge there are only two published records of *Sunius* species from China: *S. debilicornis* (WOLLASTON) and *S. melanocephalus* (FABRICIUS) (LI 1992, LI & CHEN 1993). The former is now attributed to the genus *Hypomedon*, and the latter is most likely to be based on a misidentification; *S. melanocephalus* is probably restricted to the Western Palaearctic region, but seems to have been introduced in North America recently (HOEBEKE 1991). ROUGEMONT (2001) records an unnamed *Sunius* from Hong Kong. The corresponding specimens were examined, but the morphology of the aedeagus, the labrum, the chaetotaxy of the whole body, and other characters suggest that this species probably refers to a different genus.

## Material

The material examined is deposited in the following collections:

MHNG ..... Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)  
 OLML ..... Biologiezentrum/Oberösterreichisches Landesmuseum Linz  
 cAss ..... author's private collection  
 cRou ..... private collection G. de Rougemont, Londinieres  
 cSme ..... private collection A. Smetana, Ottawa  
 cSch ..... private collection Michael Schülke, Berlin

## Descriptions of new species

### *Sunius iranicus* sp. n. (Figs. 1-4)

**H o l o t y p e** ♂: IRAN KOHKILUYEH, Charâm, 30°44'N, 50°44'E, A. SENGLER, 23.5.74 /  
 Holotypus ♂ *Sunius iranicus* sp. n. det. V. Assing 2001 (MHNG).

**P a r a t y p e**: 1 ♀: same data as holotype (cAss).

**D e s c r i p t i o n**: 3.8 - 4.5 mm. Pronotum and elytra bright yellowish red; head slightly darker, reddish brown; abdomen brown to dark brown, with the lateral margins and the apex lighter; antennae, mouthparts, and legs testaceous.

Head as long as wide to weakly oblong (length measured from anterior margin of clypeus); eyes large, but not very prominent; tempora subparallel, straight or weakly convex, and approximately 1.5 times as long as eyes in dorsal view; puncturation in anterior dorsal region dense and moderately coarse, in posterior median region much sparser and finer; microsculpture very indistinct, barely noticeable.

Pronotum 1.03 - 1.08 times as long as wide and approximately 1.05 times as wide as head; puncturation slightly finer and denser than that of head, median line impunctate; microsculpture absent or very indistinct.

Elytra approximately 1.3 times as wide and at suture 1.10 times as long as pronotum; almost 1.10 times as wide as abdomen; puncturation much finer, denser, and less well-defined than that of head and pronotum; interstices narrower than punctures; hind wings present.

Abdomen with extremely fine and relatively dense puncturation; microsculpture distinct, surface with reduced shine; maximal width at segments V - VI; tergite VII at posterior margin with palisade fringe.

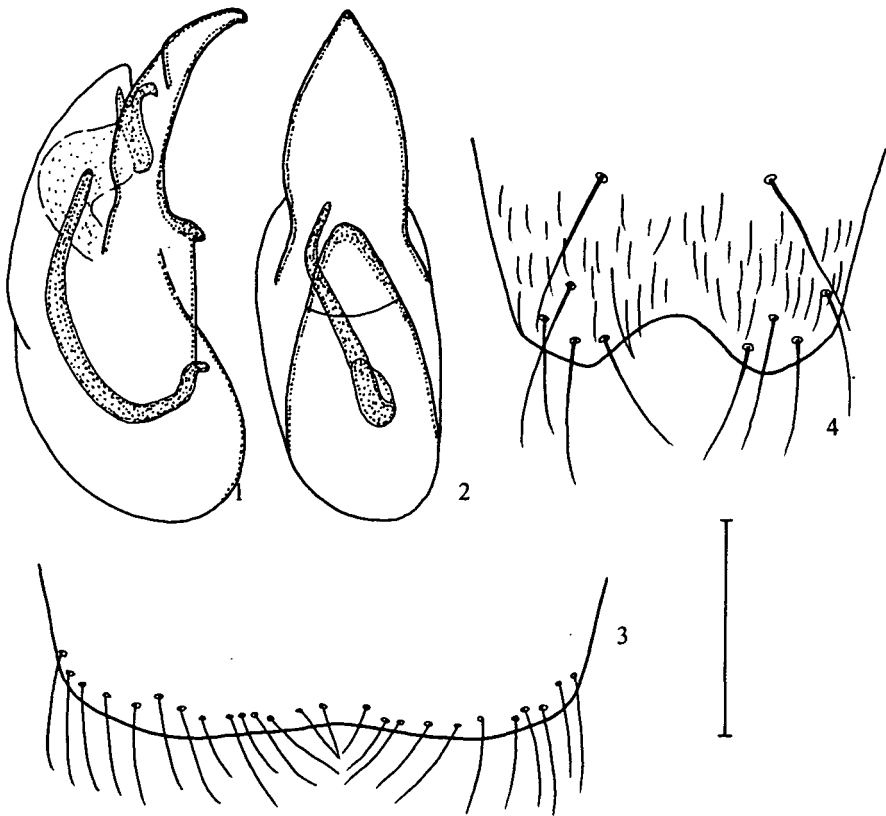
♂: sternite VII in posterior median area slightly flattened, its posterior margin weakly concave and in the middle with dark setae directed diagonally medio-caudad (Fig. 3); posterior margin of sternite VIII with relatively broad and shallow emargination, pubescence unmodified (Fig. 4); aedeagus of distinctive morphology, internal sac with dark and long, in lateral view almost C-shaped structure (Figs. 1-2).

**E t y m o l o g y**: The name is (Lat., adj.) is derived from the country where the types were discovered.

**C o m p a r a t i v e n o t e s**: The new species is distinguished from all its Western

Palearctic congeners by the male sexual characters and by the longer and (in relation to pronotum and abdomen) wider elytra. From most species occurring in the Western Palearctic it is additionally separated by greater body size. For illustrations of the male sexual characters of the *Sunius* species of the Eastern Mediterranean and other regions in the east of the Western Palearctic region see ASSING (2001) and COIFFAIT (1984).

**Distribution and bionomics:** The type locality is situated in the Zagros range in southwestern Iran. Additional bionomic data are unknown.



Figs. 1-4: *Sunius iranicus* sp. n.: 1, 2 – aedeagus in lateral and in ventral view; 3 – posterior margin of  $\delta$  sternite VII (pubescence partly omitted); 4 – posterior part of  $\delta$  sternite VIII. Scale: 0.2 mm.

***Sunius furcillatus* sp. n. (Figs. 5-8)**

**H o l o t y p e**  $\delta$ : CHINA: Border Shaanxi - Sichuan (Daba Shan), pass 20 km SSE Zhenping / 1700 - 1800 m, 31°44'N, 109°35'E, 12.VII.2001, leg. M. Schülke [C01-07C] / mixed forest, small creek valley, moss, bark (sifted) [C01-07C] / Holotypus  $\delta$  *Sunius furcillatus* sp. n. det. V. Assing 2001 (cAss).

**P a r a t y p e s**: 8  $\delta$   $\delta$ , 7  $\text{q}$   $\text{q}$  [partly teneral]: same data as holotype (OLML, cSch, cAss); 6  $\delta$   $\delta$ , 3  $\text{q}$   $\text{q}$  [partly teneral]: CHINA: W-Hubei (Daba Shan), pass E of Mt. Da Shennongjia, 12 km NW

Muyuping, 31°30'N, 110°21'E, 19.VII.2001, leg. M. Schülke [C01-13C] / creek valley 1950 - 2050 m, mixed deciduous forest, moss, dead wood, mushrooms (sifted) [C01-13C] (OLML, cSch, cAss); 1 ♀: same data, but "... [C01-13E] / dry creek valley, mixed deciduous forest, dead wood, mushrooms, moss, 1950 - 2050 m (sifted) [C01-13E]" (cSch); 1 ♂, 3 ♀: CHINA: W-Hubei (Daba Shan), creek valley 8 km NW Muyuping, 31°29'N, 110°22'E, 1550 - 1650 m, 18.VII.2001, leg. M. Schülke [C01-16A] / creek valley, deciduous forest, moss (sifted) [C01-16A] (cSch, cAss); 1 ♂: CHINA, W-Hubei, Daba Shan, crk. valley, 8 km NW Muyuping, 31°29'N / 110°22'E, 1550-1650m, 18.VII.2001, A. Smetana [C115b] (cSme); 1 ♀: CHINA, W-Hubei, Daba Shan, crk. valley, 11km NW Muyuping, 31°30'N / 110°22'E, 1960m, 18.VII.2001, A. Smetana [C109] (cSme); 1 ♀: CHINA: W-Hubei (Daba Shan), creek valley 11 km NW Muyuping, 31°30'N, 110°22'E, 1960 m, 18.VII.2001, leg. M. Schülke [C01-17] / creek valley, mixed deciduous forest (sifted) [C01-17] (cSch); 1 ♂, China: Shaanxi, Quin Ling Shan, 110.06E, 34.27N, Hua Shan Mt. N Valley, 1200-1400m, 118 km E Xian, sifted, 18./20.08.1995, leg. A. Pütz (cAss); 1 ♀: China: Shaanxi, Quin Ling Shan, 109.16E, 34.20N, Li Shan Mt. nr. Lintong, 31 km E Xian, 1000-1200m, Dry Meadows & Forrest [sic], 23./25.08.1995, leg. A. Pütz, sifted (cSch).

**Description:** 3.9 - 4.9 mm. Body in mature specimens usually uniformly blackish, rarely elytra slightly lighter; antennae, mouthparts, and legs yellowish brown.

Head subquadrate to weakly oblong (length measured from anterior margin of clypeus, width across eyes); eyes large and prominent; tempora approximately 1.5 times as long as eyes in dorsal view, subparallel or weakly converging posteriorly; puncturation relatively coarse and well-defined, its density rather variable, but usually sparse in posterior median dorsal area; microsculpture absent. Labrum with long and spine-like projection on either side of middle of anterior margin.

Pronotum 1.00 - 1.05 times as long as wide and approximately 0.95 times as wide as head; puncturation as coarse as and on average slightly denser than that of head; median line impunctate; microsculpture absent.

Elytra long and wide, approximately 1.2 times as wide and at suture 1.15 times as long as pronotum, slightly wider than abdomen; puncturation much finer, denser, and less well-defined than that of head and pronotum; interstices shining, without microsculpture, usually narrower than punctures; hind wings fully developed.

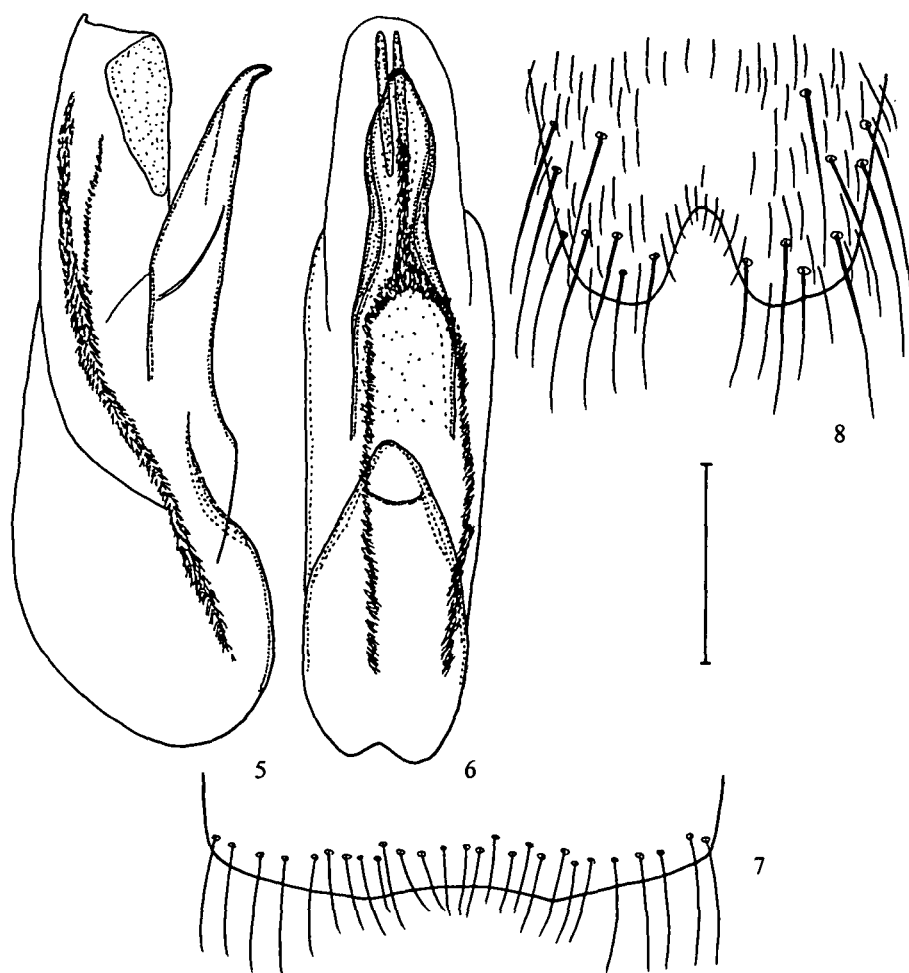
Abdomen with very fine and dense puncturation and with transverse microsculpture; maximal width at segments V - VI; tergum VII at posterior margin with fully developed palisade fringe.

♂: sternite VII in posterior median area slightly flattened, posterior margin weakly concave in the middle (Fig. 7); posterior margin of sternite VIII with deep and relatively narrow median incision, the margin of this incision furnished with some short setae, area anterior to incision without setae (Fig. 8); aedeagus of distinctive morphology both in lateral and in ventral aspect, internal sac with long black structure somewhat resembling the shape of a tuning fork (Figs. 5-6).

**Derivatio nominis:** The name (Lat., adj.: forked, fork-like) refers to the shape of the internal structure of the aedeagus.

**Comparative notes:** *S. furcillatus* is distinguished from all its congeners by the morphology of the aedeagus and the ♂ secondary sexual characters, from all the Western Palaearctic species in addition by the uniformly dark coloration.

**Distribution and bionomics:** The species is known from the Daba Shan and the Qinling Shan in the Chinese provinces Hubei, Shaanxi, and Sichuan. It was sifted from leaf litter in mixed and deciduous forests at altitudes 1000 - 2050 m. Several of the specimens collected in July are teneral.



Figs. 5-8: *Sunius furcillatus* sp. n.: 5, 6 – aedeagus in lateral and in ventral view; 7 – posterior margin of  $\delta$  sternite VII (pubescence partly omitted); 8 – posterior part of  $\delta$  sternite VIII. Scale: 0.2 mm.

***Sunius cordiformis* sp. n. (Figs. 9-12)**

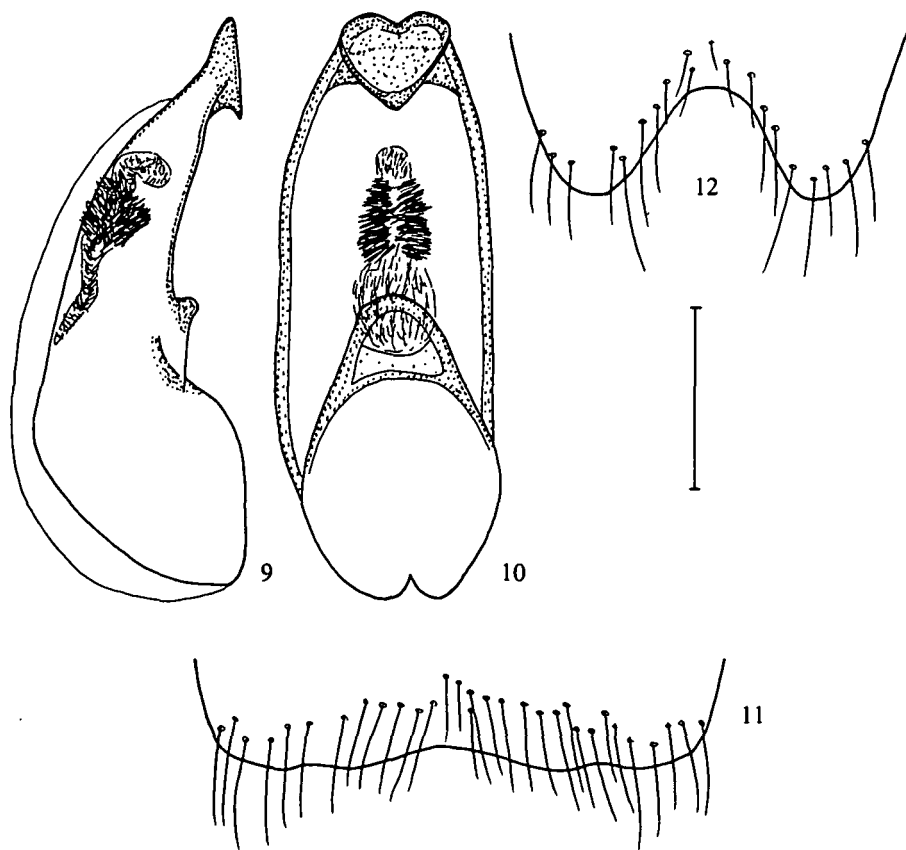
**Holotype**  $\delta$ : CHINA: Beijing, ca 1400m, Dongling Mts, 15.VI.2001, Xialongmen, Liu Lang Yu / N39° 97, E115° 43, Mixed woodland litter, Leg. J. Cooter + P. Hlavá [sic] / Holotypus  $\delta$  *Sunius cordiformis* sp. n. det. V. Assing 2001 (cRou).

**Paratypes**: 4 $\delta$   $\delta$ , 1 $\phi$ : same data as holotype (cRou, cAss); 1 $\delta$ , 1 $\phi$ : CHINA: Beijing, Dong Ling Mountains, Xialongmen, ca. 1400m, N39° 96' [sic], E115° 43' / Lio Lang Yu, 15.vi.2001, Leg. J. Cooter + P. Hlavá, In moss + stones in stream (cRou); 2 $\delta$   $\delta$ , 1 $\phi$ : CHINA, Beijing, Xishan, IX.1992, G. de Rougemont (cRou); 2 $\delta$   $\delta$ : CHINA, Beijing, Songshan, 14.V.1993, G. de Rougemont (cRou); 1 $\phi$ : CHINA, Beijing, Huangsonayu, 9.V.1993, G. de Rougemont (cRou); 1 $\delta$ , 2 $\phi$   $\phi$ : CHINA, Shaanxi, Nanwutai, 17.IX.1995, G. de Rougemont (cRou, cAss).

**Description:** 4.2 - 5.0 mm. Body usually uniformly blackish, elytra occasionally slightly lighter; antennae, mouthparts, and legs brown to dark brown.

Head large in relation to pronotum, weakly oblong (length measured from anterior margin of clypeus, width across eyes); eyes large and prominent; tempora approximately 1.2 - 1.3 times as long as eyes in dorsal view, usually weakly converging posteriad; puncturation coarse and rather dense, interstices (except for small median area) on average narrower than punctures; microsculpture usually absent, only rarely with very shallow microsculpture, especially in posterior region of head. Anterior margin of labrum on either side of middle only with indistinct obtuse projection. Gular sutures partly indistinct, relatively narrowly separated.

Pronotum approximately as wide as long and as wide as head; puncturation similar to that of head; median line impunctate; microsculpture usually absent.



**Figs. 9-12:** *Sunius cordiformis* sp. n.: 9, 10 – aedeagus in lateral and in ventral view; 11 – posterior margin of ♂ sternite VII (pubescence partly omitted); 12 – posterior part of ♂ sternite VIII (pubescence partly omitted). Scale: 0.2 mm.

Elytra long and wide, approximately 1.25 times as wide and at suture 1.10 times as long

as pronotum, slightly wider than abdomen; puncturation much finer, denser, and less well-defined than that of head and pronotum; hind wings fully developed.

Abdomen with very fine and dense puncturation and with transverse microsculpture; maximal width at segments V - VI; tergum VII at posterior margin with fully developed palisade fringe.

♂: sternite VII in posterior median area slightly flattened, posterior margin weakly concave in the middle (Fig. 11); posterior margin of sternite VIII with deep and relatively broad median incision (Fig. 12); aedeagus of distinctive morphology both in lateral and in ventral aspect, apex in ventral view cordiform (Figs. 9-10).

**Derivatio nominis:** The name (Lat., adj.: formed like a heart) refers to the shape of the apex of the aedeagus.

**Comparative notes:** From the similarly coloured *S. furcillatus*, the species is readily distinguished by the darker legs and antennae, its larger size and broader body, the relatively larger and more oblong head, the much denser puncturation of head and pronotum, the absence of spine-like processes at the anterior margin of the labrum, the wider posterior excavation of the male sternite VIII, and by the completely different morphology of the aedeagus.

**Distribution and bionomics:** *S. cordiformis* is known from several localities in Beijing and from the Qinling Shan in Shaanxi. Some of the types from Beijing were collected in forest litter and in a stream at an altitude of 1400 m.

### Acknowledgements

I am most grateful to the colleagues indicated in the material section for the loan of types and additional material.

### Zusammenfassung

*Sunius iranicus* sp. n. (SW-Iran), *S. furcillatus* sp. n. (China: Hubei, Shaanxi, Sichuan) und *S. cordiformis* (China: Beijing, Shaanxi) werden beschrieben und von anderen paläarktischen Arten der Gattung unterschieden. Die primären und sekundären männlichen Sexualmerkmale werden abgebildet.

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