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## New and known fireflies from Mount Emei (China)

(Coleoptera: Lampyridae)

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**Abstract:** A new species of the genus *Curtos* Motschulsky (*Curtos pseudosauteri* **n. sp.**) from China is described and compared with *Curtos sauteri* Ol. from Taiwan, *Curtos bilineatus* Pic, *Curtos costipennis* (Gorham) and *Curtos mongolicus* Motschulsky, the last three from China. *Stenocladius chinensis* **n. sp.** is described and compared with *Stenocladius davidis* Fairmaire from China. Faunistical data for two further species are given.

**Zusammenfassung:** Aus China wird *Curtos pseudosauteri* **n. sp.** beschrieben. Die neue Art wird mit *Curtos sauteri* Olivier (Taiwan), *C. bilineatus* Pic, *C. costipennis* (Gorham) und *C. mongolicus* Motschulsky (jeweils aus China bekannt) verglichen. *Stenocladius chinensis* **n. sp.** wird beschrieben und mit *Stenocladius davidis* Fairmaire aus China verglichen. Funddaten für zwei weitere Lampyriden-Arten werden gegeben.

**Keywords:** Coleoptera, Taxonomy, Palaearctis, China, Lampyridae, Lampyrinae, Luciolinae, Otoretinae, *Curtos*, *Stenocladius*, *Pyrocoelia*, *Diaphanes*, new species, faunistical data

### Introduction

The genus *Curtos* was established by MOTSCHULSKY (1845); the type species *C. mongolicus* Motsch. was described in 1854; the genus has been redefined by CHŪJŌ & SATŌ (1970). A short essay of the history of the genus *Curtos* is given by JENG et al. (1998). *Curtos* is well defined within the Luciolinae by the pronotum that has impressions at the base of the

posterior angles. To date, only three species of this genus have been recorded from China: *Curtos bilineatus* Pic, 1927, *C. costipennis* (Gorham, 1880) [syn. *iwasakii* Matsumura, 1918], and *C. mongolicus* (Motschulsky, 1854). *Curtos bilineatus* Pic and *C. mongolicus* (Motsch.) are only known from literature, the types have not been studied.

The genus *Stenocladius* Fairmaire, 1878 comprises about 30 known species, most of which are described from Southeast Asia. About five species are known from Japan, one species (*St. bicoloripes* Pic) from Taiwan, one species (*St. rufithorax* Wittmer) is known from Nepal, and *St. davidis* Fairmaire, 1878 [type-species of the genus] has been described from Central China. *Stenocladius chinensis* **n. sp.** is the second known species from China.

## Taxonomy

### *Curtos pseudosauteri* **n. sp.** [Luciolinae: Curtosini] (Figs. 1–6)

Type locality: China, Sichuan, Mt. Emei, 600–1050m asl, 29°31' 44''N, 103°19'44''E, 05.–19.05.1989; L. BOCÁK leg.

Description: Holotype: Male; Long: 10 mm (excluding visible part of head); width (over shoulders): 3 mm. Head dark brownish-black, polished, with small punctures widely dispersed, each containing a short and very thin yellow to yellow-red hair. Region between the eyes not very deeply depressed. Antennae (fig. 1) dark brown, long and slender, nearly half of the elytra in length. First antennomere nearly four times longer than second, third about three times longer than second, the eleventh just a little bit longer than the tenth. The first two antennomeres slightly more polished and less dressed with hairs than the subsequent antennomeres.



Fig. 1: *Curtos pseudosauteri* **n. sp.**, pronotum, antennae and base of elytra.

Legs and tarsi polished brownish dressed with short yellow-red hairs.

Pronotum (figs. 1, 2) transverse; width : length = 1.0 : 0.65. Furrowed along median; sulcus not reaching the anterior and posterior border. Apical margin slightly rounded, with anterior angles broadly rounded, lateral sides nearly subparallel. Posterior angles only slightly expanded. Posterior margin of pronotum slightly sinuate. Centre of pronotum convex and much higher than the lateral sides. Centre of pronotum brownish, polished and very deeply punctured. Brownish part of the pronotum laterally bordered rose coloured. Lateral, and anterior margin of pronotum yellow-brown; inflexed part of pronotum ("Propleurum") rose coloured. Meso- and metapleurae brown to dark brown; abdominal sternites dark brown.

Scutellum (fig. 2) coloured as base of elytra; apex rounded.

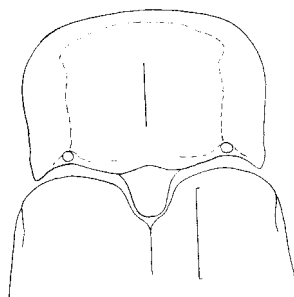


Fig. 2: *Curtos pseudosauteri* **n. sp.**, scutum, scutellum and base of elytra. Scale = 1 mm.

Elytra dark brown with the humeral angles (shoulders) well developed. Shoulders slightly polished, less punctured and light-brown. The elytra have two ridges inside relatively well defined, a third ridge is slightly visible at the last third at the outside part of the elytra. The apex of each elytron is marked by a small stripe of russet.

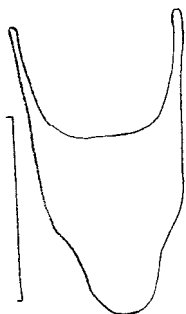


Fig. 3: *Curtos pseudosauteri* **n. sp.**, last tergite. Scale = 1 mm.

The last two abdominal sternites are marked with well developed light organs which are surrounded with whitish colour (fig. 4).

The last abdominal sternite (fig. 3) has a long process that is notched apically, and the last tergite has long proximal edges (fig. 4).

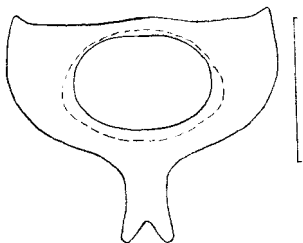
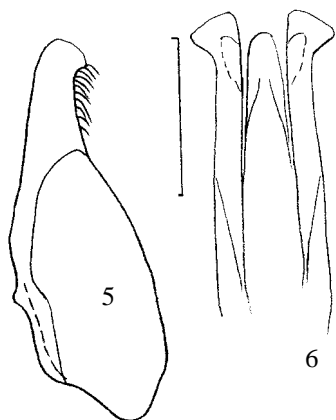


Fig. 4: *Curtos pseudosauteri* **n. sp.**, last sternite of male (Holotype). Scale = 1mm.



6 Figs. 5–6: *Curtos pseudosauteri* **n. sp.**  
5: paramere inside view; 6: aedaeagus,  
dorsal view. Scale = 0.5 mm.

Median lobe of aedaeagus simple (fig. 6), apex of the paramere hooked (figs. 5, 6).

Additional material examined. 4 females (Paratypes) with identical data as holotype.

Diagnosis of paratypes: Coloured like the male. Smaller than male, body length 6.9–7.1 mm. Pronotum at the base as broad as, or a little bit broader than, elytra at shoulders. Each elytron slightly enlarged at the apex. Apex of scutellum slightly notched. Light organs well developed on the fifth and sixth sternite, last sternite with a small pale patch at the base on each side. Last sternite without a long process.

Depository of material: Holotype (male) and two paratypes (females) will be transferred later to the Staatliches Museum für Naturkunde; Stuttgart, Germany. Two paratypes (females) are in the collection of the author.

Discussion: *Curtos pseudosauteri* **n. sp.** resembles in colour markings *C. sauteri* Olivier, 1913 from Taiwan. But the new species is larger (10 mm in males, 7 mm in females [5.8–7.9 mm (male), 5.8–6.2 mm (female)]) and it is distinguished from the latter by the pronotum that is distinctively narrower than width of elytra at the shoulders in males. Brownish area of the pronotum laterally bordered, rose coloured. The apex of each elytron of *C. sauteri* is not reddish-brown. The most important differences are found in the shape of the last sternite and tergite as well as the shape of the aedaeagus. (Compare figures of *C. sauteri* given by JENG et al. (1998)).

In contrast with *C. sauteri* there is no chance to confound *C. pseudosauteri* **n. sp.** with the three *Curtos*-species known from China. *C. bilineatus* Pic is about 7 mm long with russet coloured elytra. *C. costipennis* (Gorham) has the pronotum and the elytra yellowish brown, with elytral apex black. *C. mongolicus* Motschulsky is about 5 mm long with the elytra russet with black apices.

***Stenocladus chinensis* n. sp.** [Ototretinae]  
(Figs. 7–11)

Type locality: China, Sichuan, Mt. Emei, 600–1050m asl, 29°31' 44''N, 103°19'44''E, 05.–19.05.1989; L. BOČÁK leg.

Description: Holotype (male): length (including visible part of head) 8.0 mm, width (over shoulders) 2.0 mm. Head (fig. 9) with the exception of the Clypeus black, polished, widely punctured, each puncture containing a relatively long, thin and yellow-red hair. Clypeus not separated from the frons by a carina but polished reddish-yellow, coarsely punctured with long, thin and yellow-reddish hairs. Maxillary palpi brown, four segments, first and second segment with long and thick brown hairs, hairs of the last two segments shorter and thin. Third segment wider and more globular than the others; last segment small, short and yellowish. Antennae (fig. 11) short, not reaching the first third of elytra, brown and dull, first and second antennomere clearer brown and

somewhat polished; all antennomeres with relatively thick, long and reddish hairs. Antennomeres three to ten pectinate, each flagellum russet in colour gradating to brown from first to eighth, arising from the basal part of the stem.

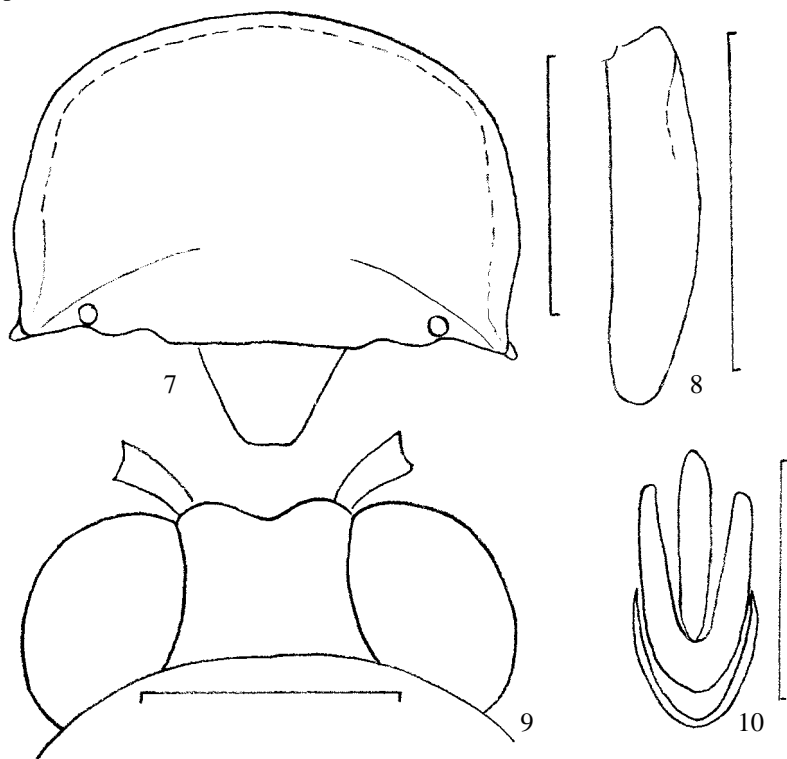


Fig. 7: *Stenocladus chinensis* n. sp., scutum and scutellum.

Scale = 1 mm.

Fig. 8: *Stenocladus chinensis* n. sp., right elytron. Scale = 5 mm.

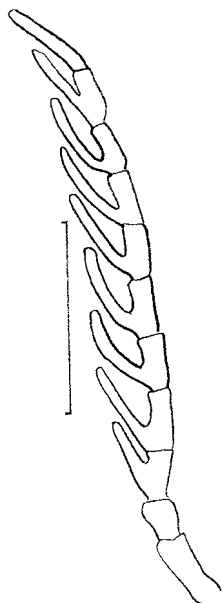
Fig. 9: *Stenocladus chinensis* n. sp., dorsal view of head. Scale = 1 mm.

Fig. 10: *Stenocladus chinensis* n. sp., aedeagus, dorsal view.

Scale = 0,5 mm.

Pronotum (fig. 7) much wider than long (width : length = 1.0 : 0.69; anterior margin compressed semicircular, anterior angles widely rounded, lateral margins nearly parallel, posterior angles slightly pointed outwards.

Basal margin nearly straight with a deep and sharply defined hollow inside of the posterior angle. Basal margin of pronotum a little bit smaller than elytra over shoulders. Pronotum polished yellow-brown with the middle somewhat russet in colour, well punctured and very sparsely covered with long reddish-brown hairs. Hairs somewhat condensed towards the lateral margin.



Scutellum (fig. 7) coloured and sculptured like shoulders of elytra, apex dull.

Elytra (fig. 8) elongate, shoulders well pronounced, dark russet polished, base including shoulders light yellow-brown, suture and marginal boarder including apex also light yellow-brown. Elytra roughly covered with reddish hairs.

Legs brownish, femores and coxae light yellow-brown; first tarsomere of meso- and meta-tarsus twice as long as second; first tarsomere of protarsus less than twice as long as second (first : second = 2.0 : 1.5). Forth segment of all tarsi very short, last tarsomere yellow-brown.

Abdominal ventrite yellow-brown; light organs not visible. Last sternite with the apical margin slightly notched.

Aedaegus like fig. 10.

Fig. 11: *Stenocladius chinensis* n. sp., antenna. Scale = 1 mm.

Female unknown.

Depository of material: Holotype (male) will be transferred later to the Staatliches Museum für Naturkunde; Stuttgart, Germany.

Discussion: The only other known *Stenocladius*-species from China is *St. davidis* Fairmaire, 1878. However, along with some other features this species differs from the new one by the extremely long antennae that nearly reach the apex of the elytra.

The question is to which genus this new species *chinensis* belongs. Because of the circular pit inside of the posterior angles of the pronotum and the small or absent of luminous organs the idea that this species belongs indeed to *Drilaster* Kiesenwetter, 1879 [syn. *Ototreta* Olivier, 1900] is not improbably. However, as far as known, *Drilaster* has no

pectinate antennae. The shape of the aedeagus resembles that of the genus *Stenocladius*, and the first tarsomere of each tarsus is distinctively longer than the second. Furthermore, although of no systematic proof the new species *chinensis* resembles a firefly more than a Drilid-species – *Drilaster* has been described as a drilid.

In order to come to a definitive decision it is necessary to study more specimens of the genus *Stenocladius* as well as the genus *Drilaster*.

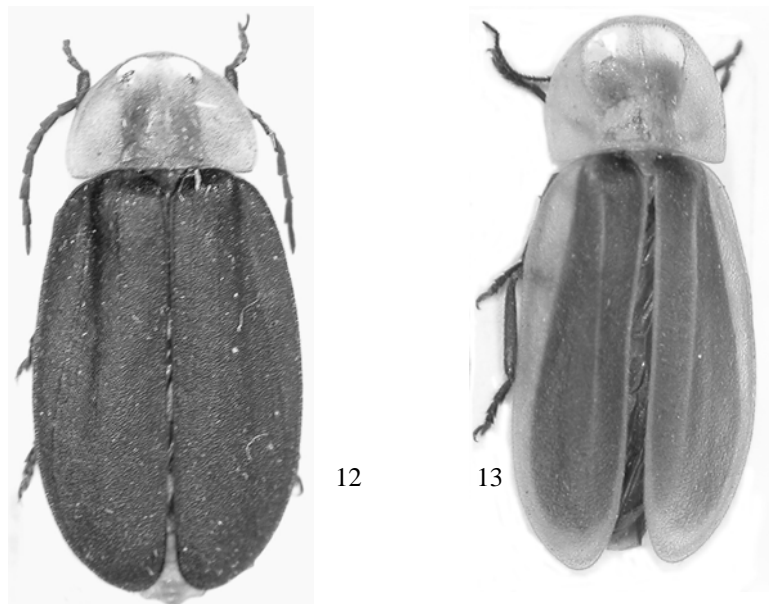


Fig. 12: *Pyrocoelia amplissima* Ol.; habitus.

Fig. 13: *Diaphanes* sp.; habitus.

### **Additional faunistical remarks**

*Pyrocoelia amplissima* Olivier, 1886 [Lampyrinae: Lampyrini]  
(Fig. 12)

This species, endemic in China, is widely distributed and has been reported from the provinces Gansu, Guizhou, Sichuan, and Tibet.



The material has been collected by L. BOCÁK: China, Sichuan, Mt. Emei, 600–1050m asl, 29°31'44''N, 103°19'44''E, 05.–19.05.1989. 4 males.

*Diaphanes* sp. [Lampyrinae: Lampyrini]  
(Fig. 13)

China, Sichuan, Mt. Emei, 600–1050m asl, 29°31'44''N, 103°19'44''E, 05.–19.05.1989, L. BOCÁK leg., 4 males.

A large genus with more than 90 species, of which about 20 species are recorded from the Palearctic region. This present species resembles *D. exsanguis* Olivier, 1909, but is different in colour. The colour of this *Diaphanes*-species looks like that of *D. flavilateralis* Jeng & Yang, 2001 (Taiwan), but the antennae are not serrate and the scutum is much shorter; moreover the aedaeagus is morphologically different. At present no definitive diagnosis has been possible.

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