Taxonomic notes of the genus *Strongylium* (Coleoptera: Tenebrionidae) from Yunnan, with description of a new species

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Abstract: One new species of the genus *Strongylium* from Yunnan, China, *S. dulongjiangense* **sp. nov.**, is described. This new species is unique due to the yellow elytra and glabrous body. A list of the species in the genus *Strongylium* from Yunnan and a key to the Chinese species of the *S. rufipenne* species group are provided.

Key words: Stenochinae; Stenochiini; taxonomy

云南树甲属分类研究及一新种记述（鞘翅目：拟步甲科）

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摘要：记述中国云南树甲属 1 新种，即独龙江树甲 *Strongylium dulongjiangense* **sp. nov.**，此新种以翅黄色且体无毛而区别于其它种。附有云南树甲属种类目录和 *S. rufipenne* 种团中国种类检索表。

关键词：树甲亚科；树甲族；分类

Introduction

Strongylium Kirby, 1819 (= *Stenochia* Kirby, 1819) is one of the largest genera within the subfamily Stenochinae. This genus contains about 1400 species described worldwide, with 97 species in China and among which 18 species from Yunnan (Masumoto 1996; Bouchard *et al*. 2011; Yuan & Ren 2017; Iwan *et al*. 2020). During our study of the *Strongylium* specimens in the Museum of Hebei University, we found a large number of specimens collected from Yunnan. In this paper, one new beautiful *Strongylium* species, *S. dulongjiangense* **sp. nov.**, is described. This new species belongs to the *S. rufipenne* species group, which includes two species in China: *S. rufipenne* L. Redtenbaeher, 1844 and *S. masumotoi* Yuan & Ren, 2006. A key to the Chinese species of the *S. rufipenne* species group and a list of the species in the genus *Strongylium* from Yunnan are presented.

Accepted 28 October 2021. Published online 3 December 2021. Published 25 December 2021.

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Material and methods

Specimens were examined under a Nikon (SMZ 1270) dissecting microscope. Measurements and photographs were taken using a Leica (M205 A) dissecting microscope. All type specimens are deposited in the Hebei University Museum, Baoding, Hebei (HBUM).

The male genitalia was dissected and cleared in warm 10% NaOH solution. After examination, it was transferred to a microvial with fresh glycerine and placed below the pinned specimen.

The following measurements are used in the paper: body length: length of the body from the anterior edge of the clypeus to the elytral apex; body width: length of the maximal elytral width; pronotal length: length of the pronotum along the midline; pronotal width: maximum width of the pronotum; elytral length: length of the elytra from the base of the scutellum to the elytral apex along the suture. All measurements are given in millimeters. Terminology used in this study follows Masumoto (1999a).

Taxonomy

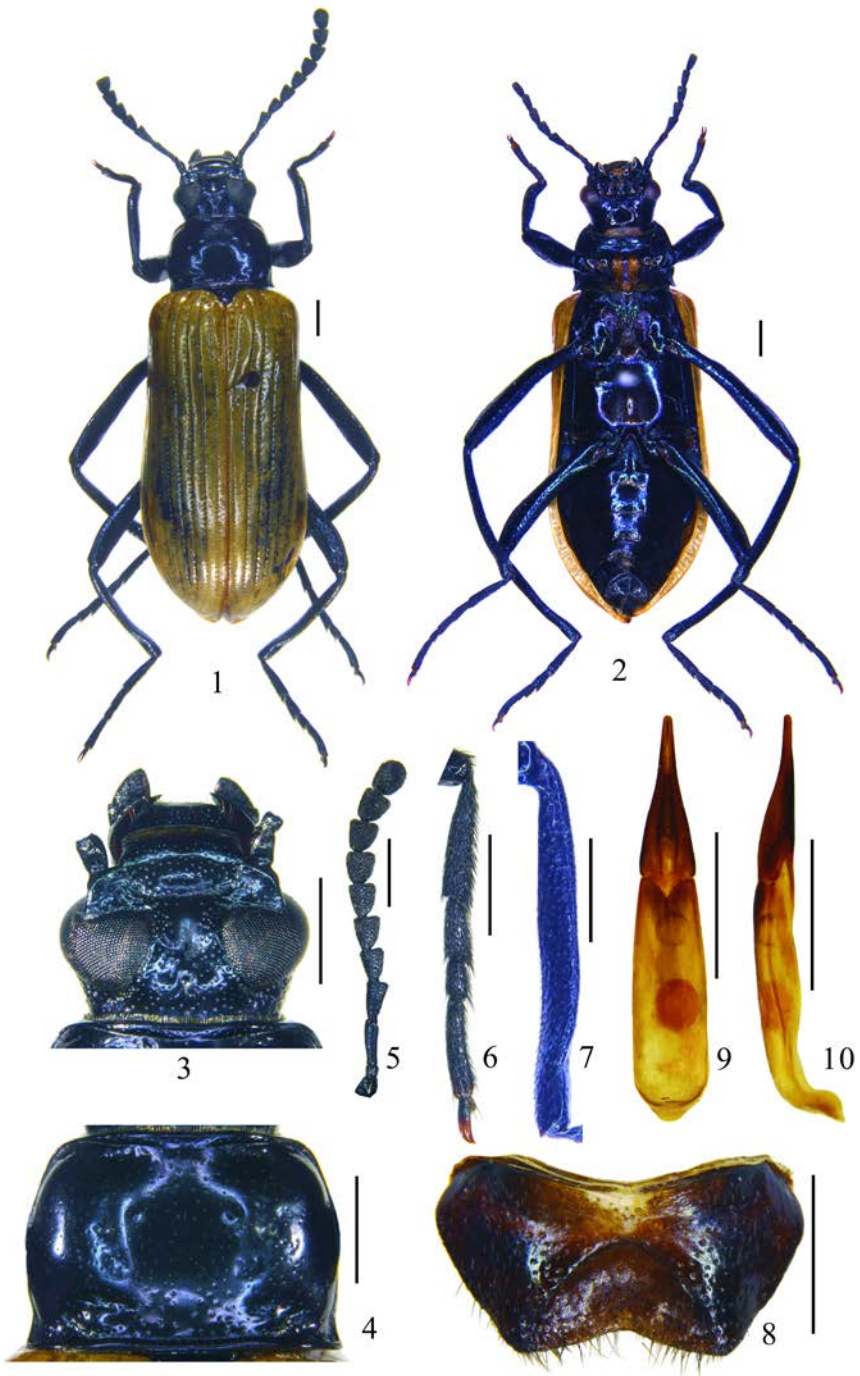
Key to the Chinese species of the *S. rufipenne* species group

1. Pronotum densely, coarsely punctate, some fused; elytra black with two pairs of yellow patches at humeri and apex, or without ····· *S. masumotoi*
-. Pronotum very sparsely punctate; elytra yellow or red, without patches ····· 2
2. Antennomere IV extended laterally and apically; pronotum without longitudinal impression in median; elytra yellow ····· *S. dulongjiangense* **sp. nov.**
-. Antennomere IV subconical; pronotum with obvious longitudinal impression in median; elytra red ····· ····· *S. rufipenne*

***Strongylium dulongjiangense* sp. nov.** (Figs 1–10)

Description. Male. Body length. 12.9–13.0 mm. Oblongate, ovate, moderately convex dorsad; body black except for elytra yellow, prosternal process dark yellowish-brown; head, pronotum, scutellum and legs with dark bluish violet shine, antennomeres III−IV and metatarsomeres IV with ultramarine shine; antennomeres V−XI almost matte; body glabrous.

Clypeus sparsely and finely punctate, with a transverse, short impression in middle before fronto-clypeal suture, which is finely grooved, straight in middle, both sides not extending to outer margins; frons moderately wide, steeply inclined anteriad, with a longitudinal, moderately wide impression in middle almost impunctate, moderately dense, finely punctate between impression and eyes, widely impressed posteriad, scattered with sparse and fine punctures; vertex with a longitudinal, narrow impression, distance between eyes 1.27 times as wide as transverse diameter of an eye in dorsal view; eyes moderately big, moderately convex laterad; antennae stout, reaching humeri of elytra, antennomere III conical, extended laterally and apically from antennomere IV, antennomere XI oval, ratio of the length of antennomeres II−XI as 0.18 : 0.69 : 0.60 : 0.45 : 0.50 : 0.51 : 0.47 : 0.46 : 0.46 : 0.56.



Figures 1−10. *Strongylium dulongjiangense* **sp. nov.**, holotype. 1. Habitus, dorsal view; 2. Habitus, ventral view; 3. Head; 4. Pronotum; 5. Antennae; 6. Metatarsus; 7. Metatibia; 8. Ventrite V; 9. Male genitalia, dorsal view; 10. Male genitalia, lateral view. Scale bars = 1 mm.

Pronotum transverse, subquadrate, 1.43 times as wide as long, widest at middle, gradually narrowed anteriad, weakly narrowed posteriad, constricted before hind angles; anterior margin with obvious, moderately narrow bead, narrowed laterad, with close and fine punctations; posterior margin nearly straight, finely ridged; obviously beaded along lateral margins, visible in dorsal view, front angle rectangular, hind angle subrectangular in lateral view; dorsum moderately, transversely convex, with fine longitudinal line in median part, transversely depressed near anterior and posterior margin, impressed in apical 1/3 and finely impressed in basal 1/2 on each side, disc sparsely, shallowly punctate, punctations fine in middle, moderately bigger externally. Scutellum triangular, convex in middle.

Elytra subparallel in basal 1/3, gradually widened in apical 2/3, widest at apical 1/3, 1.99 times as long as wide, 4.49 times the length and 1.57 times the width of pronotum; dorsum moderately, longitudinally convex, disc with rows of fine punctures, which are dense and fine, transversely notching intervals in basal 1/2; intervals very weakly convex, sparsely microscopically punctate; apices weakly acute, roundly produced.

Prosternum with wide impression between procoxae, prosternal process weakly declined posteriad, apex triangular; abdominal ventrites moderately densely, shallowly and finely punctate, microscopically and very shortly pubescent, pubescence longer on ventrites V, longitudinally and weakly wrinkled, ventrite V with more dense punctures, semicircularly impressed in apical 2/3, weakly emarginate at apex. Legs short and strong, every femur moderately flattened, protibiae incurved in apical 1/3, metatibiae strongly flattened from basal 1/4, weakly twisted in apex; terminal slightly bent anteriad, metatarsomeres I–IV length ratios as 1.26 : 0.58 : 0.40 : 1.04. Male genitalia 2.85 mm long, 0.55 mm wide, basal part subparallel in basal 1/2, weakly narrowed in apical 1/2, nearly straight in lateral view, apical portion 1.17 mm long, gradually narrowed to apex, which is elongated.

Holotype. ♂, **China**, Yunnan Province, Dulong River, Maku, 2000 m, 03-VI-2009, Xiaoyu ZHU leg.; **Paratype**. 1♂, same date as holotype.

Etymology. The specific epithet refers to the location of holotype being along Dulong River.

Diagnosis. This new species is very unique because of the yellow elytra, which is similar to *S. akiyamai* Masumoto, 2003 from Thailand, but can be obviously distinguished from the latter by body glabrous.

The list of the genus *Strongylium* from Yunnan

1. *S. angustissimum* Pic, 1922
   Strongylium angustissimum Pic, 1922: 27. Type locality: China (Yunnan)
2. *S. atritarse* Pic, 1916
   Strongylium atritarse Pic, 1916: 13. Type locality: China (Yunnan)
   Strongylium atristarce Reitter: Wu CF, 1937: 646
3. *S. dulongjiangense* sp. nov. Type locality: China (Yunnan)
4. *S. gaoliense* Masumoto, 2004
   Strongylium gaoliense Masumoto, 2004: 378. Type locality: China (Yunnan)
5. *S. habashanense habashanense* Masumoto, 1999
   Strongylium habashanense Masumoto, 1999a: 114. Type locality: China (Yunnan)
6. *S. habashanense lijiangense* Masumoto, 1999

Strongylium habashanense lijiangense Masumoto, 1999a: 115. Type locality: China (Yunnan)

7. *S. jizushanense* Masumoto, 1999
   Strongylium jizushanense Masumoto, 1999a: 116. Type locality: China (Yunnan)
8. *S. kubani* Masumoto, 2004
   Strongylium kubani Masumoto, 2004: 387. Type locality: China (Yunnan)
9. *S. liangi* Yuan & Ren, 2014
   Strongylium liangi Yuan & Ren, 2014: 330. Type locality: China (Yunnan)
10. *S. multipunctatum* Pic, 1936
    Strongylium multipunctatum Pic, 1936: 19. Type locality: China (Yunnan)
11. *S. rufipenne* L. Redtenbaeher, 1844
    Strongylium rufipenne L. Redtenbaeher, 1844: 533. Type locality: Kashmir
    Strongylium semirufum Pic, 1917b: 15. Synonymized by Gebien, 1944: 524.
12. *S. rufitarse* Pic, 1916
    Strongylium rufitarse Pic, 1916: 12. Type locality: China (Yunnan)
    Strongylium rupitarse Reitter: Wu CF, 1937: 647
13. *S. stanislavium* Masumoto, 2004
    Strongylium stanislavium Masumoto, 2004: 381. Type locality: China (Yunnan)
14. *S. subaeneum* Pic, 1917
    Strongylium subaeneum Pic, 1917a: 12. Type locality: China (Yunnan)
    Strongylium subseum: Wu CF, 1937: 647
15. *S. talianum* Pic, 1940
    Strongylium talianum Pic, 1940: 13. Type locality: China
16. *S. taliopacium* Masumoto, 2004
    Strongylium taliopacium Masumoto, 2004: 374. Type locality: China (Yunnan)
17. *S. thibetanum* Pic, 1916
    Strongylium thibetanum Pic, 1916: 13. Type locality: China (Xizang)
18. *S. yunnanatrum* Masumoto, 2004
    Strongylium yunnanatrum Masumoto, 2004: 373. Type locality: China (Yunnan)
19. *S. yunnanicum* Masumoto, 1999
    Strongylium yunnanicum Masumoto, 1999b: 339. Type locality: China (Yunnan)

Acknowledgements

We are grateful to Mr. Changqing CHEN (Tianjin) for providing the specimens, to Prof. Guodong REN (College of Life Sciences, Hebei University, Baoding) for his constant guidance on the second author's taxonomic studies and providing a large number of specimens of Stenochiini, and to anonymous reviewer for helpful comments. This study is supported by the National Natural Science Foundation of China (31960113) and the Doctoral Scientific Research Project of Yan'an University (YDBK2017-06).

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