



Stenoxylita quadrifasciata sp. nov. (Coleoptera, Melandryidae) from Guizhou, southwest China

Anzhi Dang[‡], Shulin Yang[§]

[‡] Guizhou Institute of Environmental Sciences Research and Design, Guiyang, China

[§] School of Life Sciences, Guizhou Normal University, Guiyang, China

Corresponding author: Shulin Yang (shulin.yang@outlook.com)

Academic editor: Enrico Ruzzier

Received: 22 Apr 2024 | Accepted: 05 Jul 2024 | Published: 15 Jul 2024

Citation: Dang A, Yang S (2024) *Stenoxylita quadrifasciata* sp. nov. (Coleoptera, Melandryidae) from Guizhou, southwest China. Biodiversity Data Journal 12: e125966. <https://doi.org/10.3897/BDJ.12.e125966>

ZooBank: [urn:lsid:zoobank.org:pub:16D3D641-6A88-485B-9AD7-F3E25B9D91AF](https://www.zoobank.org/pub:16D3D641-6A88-485B-9AD7-F3E25B9D91AF)

Abstract

Background

The genus *Stenoxylita* Nomura, 1959 (Coleoptera, Melandryidae) currently contains two species, *Stenoxylita trialbofasciata* (Hayashi & Katō, 1956) from Japan and Shaanxi, China (Konvička 2015) and *Stenoxylita sasajii* Toyoshima, 2001 from North Vietnam. We discovered a new species of the genus from the Mountain Leigong of Guizhou Province, China.

New information

A new species, *Stenoxylita quadrifasciata* sp. nov., is described from Mountain Leigong, Leishan County, Guizhou Province of southwest China. It is the third species of this genus and the second species of this genus from mainland China.

Keywords

false darkling beetles, melandryid, Leigongshan, Queniao Village, Getou Village

Introduction

The genus *Stenoxylita* was established by Nomura (1959) with the designation of *Dircaeomorpha trialbofasciata* Hayashi & Katö, 1956 as the type species. The genus is similar to the genus *Xylita* Paykull, 1798, but differs from the latter in the unemarginated eyes, the pronotum with a median longitudinal impression, unbordered sides of apical pronotum and dilated protarsomeres I - III (Nomura 1959). This genus belongs to the tribe Dircaeini Kirby, 1837 of the subfamily Melandryinae Leach, 1815 (Nikitsky and Pollock 2010). Toyoshima (2001) described the 2nd species of this genus, *Stenoxylita sasajii*. Currently, there are only two known species of the genus, *Stenoxylita trialbofasciata* (Hayashi and Katö 1956) from Japan and Shaanxi, China (Konvička 2015) and *Stenoxylita sasajii* Toyoshima, 2001 from North Vietnam.

We collected several specimens from Queniao Village and Getou Village of the Mountain Leigong area, Leishan County, Guizhou Province, China and identified them to this genus. These specimens are characterised by the four disconnected pale bands on each elytron, which differ from the two known species. We describe them here as *Stenoxylita quadrifasciata* sp. nov. based on the four elytral bands. It is the second species of this species discovered in China.

Materials and methods

Specimens were collected using flight intercept traps baited with ethanol. Collected specimens were either pinned directly or glued on to pinned paper cards. All materials are preserved at the School of Life Sciences, Guizhou Normal University, Guiyang, China (GZNULS).

An Olympus SZ61TR stereomicroscope was utilised for specimen observation and dissection. Photos of the adult habitus were captured using a Canon EOS R6 II digital camera paired with a Canon RF 100 mm lens.

Taxon treatment

Stenoxylita quadrifasciata Dang and Yang, 2024 sp. nov.

- ZooBank [E1D7F9C7-0FA3-4C6B-8292-E177D9AFCC01](https://doi.org/10.21203/rs.3.rs-4111111/v1)

Materials

Paratypes:

- a. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.401; decimalLongitude: 108.2261; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2019; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: FB6BC911-9ED4-5C89-ACF9-30A5A4FF9F52

- b. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Getou Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.3917; decimalLongitude: 108.2366; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2019; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: 4467B291-55E7-5936-9F2E-A6DDC3A8A21B
- c. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.4014; decimalLongitude: 108.2249; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2017; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: 1858B59B-ECC1-5315-B5C6-5BCCD18629EF
- d. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Getou Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.3908; decimalLongitude: 108.2347; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2019; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: 92D43783-0AF1-5888-9E50-99253C3D4775
- e. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Getou Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.3917; decimalLongitude: 108.2366; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2019; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: DD18643A-D448-59B4-80B5-AFFBD0D12EB5
- f. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.391; decimalLongitude: 108.2353; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2015; month: 5; day: 7; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: 7AC7B779-5D5C-5B12-BE54-24CD5E92E5B7
- g. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.4018; decimalLongitude: 108.2246; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2019; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: 56C77E20-E152-54CA-BB37-9AB4173F3FEB
- h. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.391; decimalLongitude: 108.2353; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2017; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: D4C7DB93-C4F8-5D4C-AC07-02577E1F1E0B
- i. scientificName: *Stenoxylita quadrifasciata*; country: China; stateProvince: Guizhou; county: Leishan; locality: Queniao Village; verbatimCoordinateSystem: decimal degrees; verbatimSRS: WGS84; decimalLatitude: 26.391; decimalLongitude: 108.2353; geodeticDatum: <https://epsg.io/4326>; samplingProtocol: flight interception trap; year: 2017; month: 5; day: 5; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Shulin Yang; occurrenceID: FA93297E-35F1-5338-8A55-97CE39AD49BE

Description

Adults. Female (Figs 1, 2). **Body** oblong ovate, length 10.2 – 14.3 mm, width at maximum level of elytra 2.5 – 3.5 mm (n = 9), black, except epistoma, apical surface of maxillary palpi and four bands on each elytron yellowish-white, first two antennomeres dark brown and dorsal apices of them yellowish-white. Body covered with fine pubescence, colour paler on part of head, pronotum, femur, tibia, elytral bands and apical 1/6 of elytra. **Head** (Fig. 2a) small, finely punctured. Maxillary palpi long, subcylindrical, second segment longest, slightly thickened apically, third short, obliquely obconical, fourth obliquely truncated. Frons raised, nearly square, sides slightly concave at antennal insertions. Eyes large, elongate oval, weakly emarginate behind antennal insertions. Antennae (Fig. 2c) short and slender, generally reach base of pronotum, first antennomere longer than second, third longer than second, fourth the longest, gradually shortened from fifth to tenth, each antennomere of third to tenth weakly dilated apically, eleventh pointed apically, longer than tenth, ratios of antennomeres about 1:0.7:1.3:1.6:1.4:1.2:1.1:1.1:1.0:0.9:1.3. **Pronotum** subtrapezoidal, finely punctured, anterior margin nearly straight, rounded at sides, narrower than base, basal margin widely bisinuate, disc moderately convex at apical 2/3, weakly depressed in middle of each half of basal 1/3 (Fig. 1a, Fig. 2b). Scutellum tongue-shaped, rounded apically and concave in middle. **Elytra** slightly wider than pronotum, about 3.1 times as long as wide, parallel-sided from base to apical 1/4, then gradually narrowed apically. First elytral band short, transverse, oval or rectangle-shaped with rounded edges, in middle of basal 1/7 of each elytron; second band at outer half at basal 1/4 of elytron, transverse, sometimes nearly caret-shaped or slightly oblique backwards; third band in middle of elytron, transverse, nearly reaching suture, thickening quickly and rounded at inner end; fourth band at apical 1/4 of elytron, oblique at inner 2/3 or transverse. Though length and shape of four elytral bands variable among individuals, i.e. length of second band, width of third band and curviness of fourth band, these four bands are well separated, none of them connected to any other band (Fig. 1a, c and d). Pale pubescence at apical 1/7 of elytra, not dense as elytral bands, not reaching fourth elytral band. Ventral side sparsely and finely punctured. Median portion of prosternum short. Median portion of apical mesosternum with sparse granules and a median ridge (Fig. 1b, i), pointed apically. Mesosternal process long and acute, but not dividing mesocoxae completely. Posterior half of metasternum with a groove, apical of median metasternum projected and pointed on both sides of the groove (Fig. 1b, ii). Abdomen sparsely and finely punctured, 5th sternite slightly concave in middle at apex.

Female genitalia. Sternite VIII and tergite VIII longer than wide, with sparse long setae mixed with several short setae apically (Fig. 3a, b), apex of sternite VIII broadly rounded, slightly concave in middle (Fig. 3a), apex of tergite VIII broadly rounded (Fig. 3b). Ovipositor slightly constricted in middle, apical half spear-shaped, basal half gradually widening toward base, width at base wider than maximum width of apical half (Fig. 3c).

Male unknown. Based on characters of its congeners and other melandryids, males may present only small morphological differences from females, except the dilated basal three tarsomeres of front tarsi.

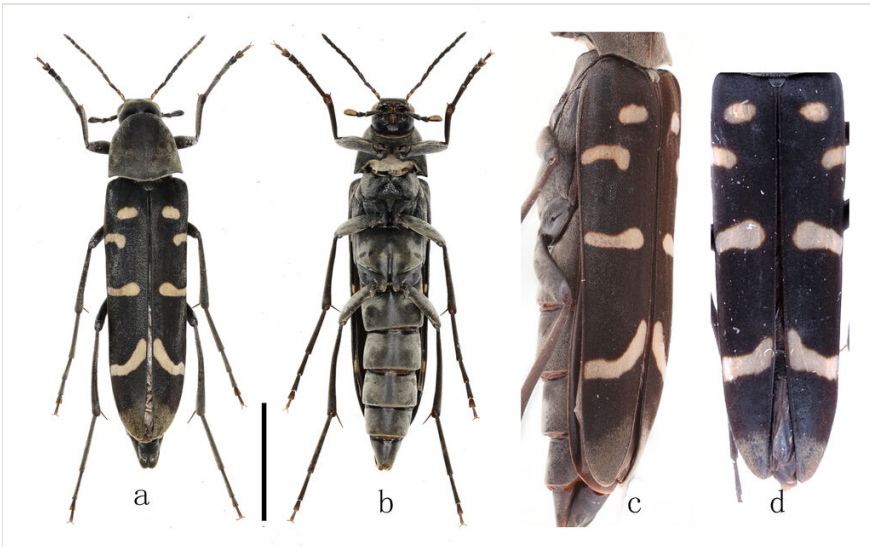


Figure 1. [doi](#)

Habitus of *Stenoxylita quadrifasciata* sp. nov. females, a. dorsal view; b. ventral view; c. dorsolateral view of body; d. variation of elytral bands. (a, b, scale bar, 5 mm, c, d, not to scale).

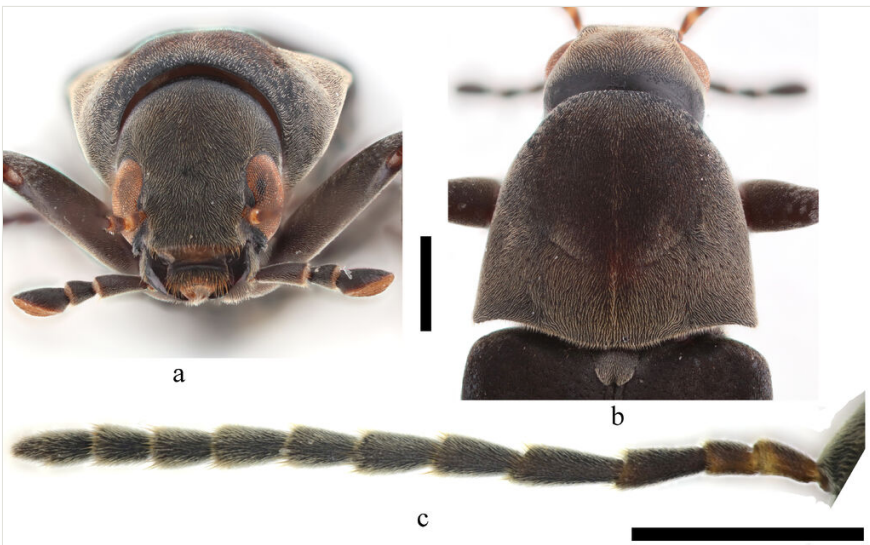


Figure 2. [doi](#)

Habitus of *Stenoxylita quadrifasciata* sp. nov. female, a. head, front view; b. pronotum, dorsal view; c. antennae, left, dorsal view; (scale bars, 1 mm).

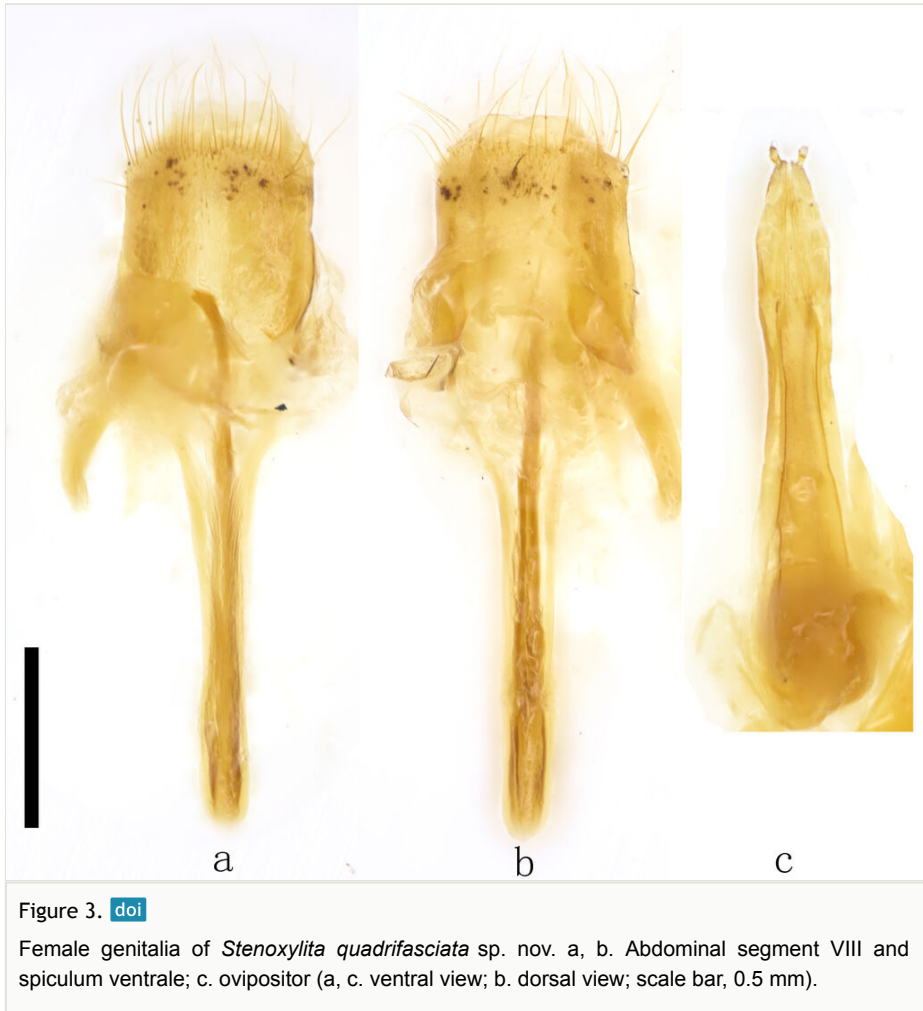


Figure 3. [doi](#)

Female genitalia of *Stenoxylyta quadrifasciata* sp. nov. a, b. Abdominal segment VIII and spiculum ventrale; c. ovipositor (a, c. ventral view; b. dorsal view; scale bar, 0.5 mm).

Diagnosis

Stenoxylyta quadrifasciata sp. nov. differs from its congeners, *Stenoxylyta trialbofasciata* (Hayashi & Katō, 1956) and *Stenoxylyta sasajii* Toyoshima, 2001, in terms of the number and pattern of elytral bands. As indicated by their specific names, the new species exhibits four bands on each elytron, whereas *S. trialbofasciata* only has three bands on each elytron. Basal half of pronotum and scutellum of *S. trialbofasciata* are dark red, whereas pronotum and scutellum are black in *Stenoxylyta quadrifasciata* sp. nov. In *S. sasajii*, the first elytral band is arcuate, with the sutural end reaching the scutellum, whereas in *Stenoxylyta quadrifasciata* sp. nov., it is short and transverse, located away from the scutellum. Additionally, the second band in *S. sasajii* bends obliquely backwards and reaches the third band near the inner end of the third band, while, in *S. quadrifasciata* sp. nov., the second band is short and transverse at the

outer half of elytron, not extending backwards nor reaching the third band in any of available nine specimens (Fig. 1a, c and d).

Etymology

The specific name of this species refers to the four pale bands on each elytron.

Acknowledgements

This article is supported by the research grant supported by Guizhou Provincial Basic Research Program (Natural Science) (grant No. 黔科合基础-ZK[2023]一般277). We thank Dr. Enrico Ruzzier (Università Roma Tre, Rome, Italy) and Dr. Zhao Pan (Hebei University, Baoding, China) for their help to improve this manuscript.

References

- Hayashi M, Katō A (1956) A new species of Melandryidae from Japan (Col.). Entomological Review of Japan 7 (2): 37-38.
- Konvička O (2015) Contribution to knowledge of the distribution of the false darkling beetles (Coleoptera: Melandryidae) of the Palaearctic Region. Klapalekiana 51: 229-234.
- Nikitsky N, Pollock D (2010) Melandryidae Leach, 1815. In: Kükenthal W, Leschen R, Beutel R, Lawrence J (Eds) Handbook of Zoology. Insecta: Coleoptera, Beetles. Volume 2. Morphology and Systematics (Elateroidea, Bostrichiformia, Cucujiformia partim). De Gruyter, Berlin, New York, 520-533 pp. <https://doi.org/10.1515/9783110911213.520>
- Nomura S (1959) Notes on the Japanese Melandryidae (Coleoptera). I. Entomological Review of Japan 10: 43-45.
- Toyoshima R (2001) Two new species of the family Melandryidae from Indochina (Coleoptera, Melandryidae). Special Publication of the Japan Coleopterological Society (1)241-246.