



New records of powder-post beetles (Coleoptera, Bostrichidae) from China

Yi-Feng Zhang^{‡,§}, Ying Wang^{l,¶}, Wei Lin[#], Ling-Zeng Meng[‡]

[‡] College of Biological & Agricultural Sciences, Honghe University, Mengzi, China

[§] Fujian Academy of Forestry, Fuzhou, China

^l Animal & Plant Inspection and Quarantine Technology Center of Shenzhen Customs District P.R. China, Shenzhen, China

[¶] Shenzhen Academy of Inspection and Quarantine, Shenzhen, China

[#] Technical Center of Gongbei Customs District P. R. China, Zhuhai, China

Corresponding author: Ying Wang (flyfish613@163.com), Ling-Zeng Meng (lingzeng_meng@126.com)

Academic editor: Li Ren

Received: 01 Feb 2024 | Accepted: 13 May 2024 | Published: 22 May 2024

Citation: Zhang Y-F, Wang Y, Lin W, Meng L-Z (2024) New records of powder-post beetles (Coleoptera, Bostrichidae) from China. Biodiversity Data Journal 12: e120044. <https://doi.org/10.3897/BDJ.12.e120044>

Abstract

Background

The Bostrichidae is a small family of Coleoptera, with up to 600 described species all over the world. Almost 90 species of the family have been recorded in China at present and several new species of powder-post beetles have been described in recent years. Since the 1940s, the family Bostrichidae has become a neglected group in the taxonomy research of the Chinese mainland compared with its extensive territorial and super complex ecological diversity. Thus, there is need for more field specimen collection and in-depth taxonomic study.

New information

In this study, two powder-post beetles species *Trogoxylon spinifrons* (Lesne, 1910) and *Minthea bivestita* Lesne, 1937, are recorded for the first time from China. New provincial distribution records of another 18 Bostrichidae also listed.

Keywords

Bostrichidae; new records; China

Introduction

The family Bostrichidae is commonly recognised as a major pest group with an important economical value due to its negative impact on agroforestry (Chu and Zhang 1997, Chen 2011). Almost 90 species of the family have been recorded in China and several new species of powder-post beetles have been described in recent years (Chu and Zhang 1997, Hua 2002, Liu et al. 2006, Borowski 2007, Borowski and Węgrzynowicz 2007, Liu 2010, Chen 2011, Liu 2021, Zhang et al. 2022, Liu and Beaver 2023). However, detailed locality information on some of China's existing Bostrichidae species have not been specified (Chu and Zhang 1997, Borowski 2007, Borowski and Węgrzynowicz 2007, Chen 2011, Liu 2021). China has a vast territory and its geographical span is very large compared to most countries. These faunistic records, which are not recorded in detail at the provincial level, have caused problems for understanding the distribution of the species. In the present study, we examined most of the important collections of Bostrichidae specimens in China and found certain unpublished faunistic records worthwhile to publish. Thus, this study provides a list of Bostrichidae's new records in China to the present time.

Materials and methods

The majority of the materials of this study come from the first author who examined most of the important collections of Bostrichidae specimens in China during the period from 2021 to 2023. Some other materials were also donations from the author's friend. Most of the basis about the new record in this study were preserved specimens in institutions. Only the new record of *Coccographis nigrorubra* Lesne, 1901 in Anhui and Zhejiang Province were photos from friends. The first author was responsible for all identified and determined materials of the new record.

Fig. 1 and Fig. 2 were taken with a Leica 1DVM6A. Fig. 3 was taken with Canon EOS E6 Mark II & EOS R7 and RF100-400mm f5.6-8 IS USM lens by Wen-Qi Zhu and Jia-Min Chen. Fig. 4 was taken by Jian-Bo Li. Both figures were combined through Helicon Focus 8.2.5 software and optimised with Adobe Photoshop CC 2020.

Abbreviations for the institution having custody of the specimens in this study are:

- **CLYQ** Museum of Chong-Lin-Ye-Qu Cultural Creativity Co., Ltd., Fuzhou, China
- **GCD** Gongbei Customs District P.R. China, Zhuhai, China
- **GIZ** Museum of Institute of Zoology Guangdong Academy of Sciences, Guangzhou, China
- **HU** Honghe University, Mengzi, China
- **IOZ** Institute of Zoology, Chinese Academy of Science, Beijing, China

- **SCD** Shenzhen Customs District P.R. China, Shenzhen, China
- **SYS** The Museum of Biology, Sun Yat-sen University, Guangzhou, China
- **ZYF** First author's private collection, Fuzhou, China



Figure 1. [doi](#)

Dorsal view of *Minthea bivestita* Lesne, 1937. Scale bar = 1 mm.



Figure 2. [doi](#)

Dorsal view of *Coccographis nigrorubra* Lesne, 1901.

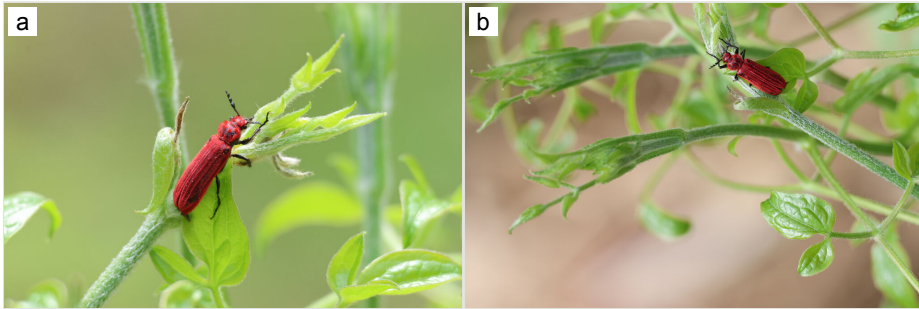


Figure 3.

Adults of *Coccographis nigrorubra* Lesne, 1901 on the bud of *Clematis* sp. in Feng-Huang-Shan, Anhui at an altitude of 100-350 m at 12:52 h (Beijing Time) in March 2024 (photo by Wen-Qi Zhu and Jia-Min Chen).

a: Lateral view (photo by Wen-Qi Zhu); [doi](#)

b: Dorsal view (photo by Jia-Min Chen). [doi](#)



Figure 4. [doi](#)

Adults of *Coccographis nigrorubra* Lesne, 1901 on a leaf in Wu-Chao-Shan, Zhejiang at an altitude of 100 m at daytime in March 2024 (photo by Jian-Bo Li).

New country or province records from China

Family Bostrichidae Latreille, 1802

Subfamily Dinoderinae C. G. Thomson, 1863

Genus *Dinoderus* Stephens, 1830

Dinoderus bifoveolatus (Wollaston, 1858)

Nomenclature:

Rhyzopertha bifoveolata Wollaston, 1858

Material

- a. country: China; stateProvince: Yunnan; county: Xishuangbanna; municipality: Jinghong; locality: Jinuo Mountain; verbatimLocality: 基诺山; verbatimElevation: 1456 m; locationRemarks: label: YN, XSBN, JNS, 22°03'29.66"N, 100°40'47.18"E, 31.05.2022, 1456 m, leg. H.T. Song; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-2023; institutionCode: HU; basisOfRecord: PreservedSpecimen; occurrenceID: 2A1C06F7-5156-5AFF-A06A-ACCC038339BF

Distribution: Cosmopolitan.

Notes: New record for Yunnan Province. This species previously had only an unspecific record in China (Borowski 2007), with no detailed provincial distribution record.

Dinoderus brevis Horn, 1878

Material

- a. country: China; stateProvince: Yunnan; county: Xishuangbanna; municipality: Mengla; verbatimLocality: 勐腊; locationRemarks: label: YN, XSBN, Mengla, 14.07.1959, leg. Y.R. Wang, IOZ(E)1034405 | *Dinoderus minutus* det. L.Y. Liu; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 03-2023; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 26712712-B833-5882-AE3D-8BB99547C485

Distribution: Cosmopolitan (mostly tropical regions).

Notes: New record of Yunnan Province. This species previously had only an unspecific record in China (Borowski 2007), with no detailed provincial distribution record.

Dinoderus favosus Lesne, 1911

Material

- a. country: China; stateProvince: Guangdong; county: Zhuhai; locality: Fenghuang Mountain; verbatimLocality: 凤凰山长南径古道; verbatimElevation: 20-100 m; locationRemarks: label: GD, ZH, FHS, Changnanjing old road, Host of *Gnetum luofuense*, 15.05.2023, leg. W. Lin; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 01-07-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: AE2BCB87-40C3-5471-AC63-4373F31A4DD7

Host of: *Gnetum luofuense* (new host plant species founded in Guangdong).

Distribution: China (Yunnan, Guangdong), India (Andaman Islands), Malaysia, Thailand, Vietnam, Myanmar (Borowski and Węgrzynowicz 2007, Zhang et al. 2022, Sittichaya 2023).

Notes: New record of Guangdong Province.

Subfamily Bostrichinae Latreille, 1802

Tribe Sinoxylini Lesne, 1899

Genus *Sinoxylon* Duftschmid, 1825

Sinoxylon tignarium Lesne, 1902

Materials

- a. country: China; stateProvince: Hainan; county: Ledong; locality: Jianfeng Mountain (main peak), Backyard of a Farmhouse restaurant; verbatimLocality: 尖峰岭主峰峰谷农家乐后院; verbatimElevation: 688 m; locationRemarks: label: PYQ351, HN, JFL, farmhouse restaurant backyard 3#, JFL3, 18°41'42.37"N, 108°51'36.11"E, 688 m, 20-29.02.2020, leg. C.Y. Xu; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 19-07-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 03FAABB2-7412-59B6-A363-EFF58A5905E3
- b. country: China; stateProvince: Guangdong; county: Shaoguan; municipality: Qujiang; locality: Luokeng; verbatimLocality: 罗坑; verbatimElevation: 140-240 m; locationRemarks: label: GD, SG, LK, 10-17.07.2023, leg. W. Lin; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 19-07-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 68FC6434-0991-5120-A26F-BB69A5BD6D0C
- c. country: China; stateProvince: Guangdong; county: Shenzhen; municipality: Nanshan; locality: Shekou; verbatimLocality: 蛇口; verbatimElevation: 10 m; locationRemarks: label: GD, SZ, SK, 10.07.2023, leg. Y. Wang; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 20-07-2023; institutionCode: SCD; basisOfRecord: PreservedSpecimen; occurrenceID: F16C1131-A9E6-5EA5-9DE5-7D4A707269F6

Distribution: China (Sichuan, Yunnan, Guangdong, Hainan), Sri Lanka, north-eastern India, Vietnam, Thailand (Borowski 2007, Chen 2011, Liu and Beaver 2018).

Notes: New record of Guangdong and Hainan Province.

Tribe Bostrichini Latreille, 1802

Genus *Heterobostrychus* Lesne, 1899

Heterobostrychus pileatus Lesne, 1899

Material

- a. country: China; stateProvince: Guangxi; county: Laibin; municipality: Jinxiu; locality: Toupai, at the foot of Yuehuang Mountain; verbatimLocality: 头排镇月皇岭脚下; verbatimElevation: 100 m; locationRemarks: label: GX, LB, DYS, 100 m, 15.05.2023, Light trap, leg. C.F. Feng; individualCount: 2; sex: 1 male, 1 female; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 23-05-2023; institutionCode: HU; basisOfRecord: PreservedSpecimen; occurrenceID: E8934ED3-519C-53A7-8536-C669AB331258

Distribution: China (Yunnan, Guangxi), India, Nepal, Myanmar, Thailand, Laos, Cambodia, Vietnam, Philippines (Borowski and Węgrzynowicz 2007, Liu and Beaver 2018).

Notes: New record of Guangxi Province.

Genus *Parabostrychus* Lesne, 1899

Parabostrychus elongatus (Lesne, 1895)

Nomenclature:

Bostrychus elongatus Lesne, 1895

Material

- a. country: China; stateProvince: Guangdong; county: Dongguan; locality: Daling Mountain; verbatimLocality: 大岭山; verbatimElevation: 110 m; locationRemarks: label: LSX485 GD, DG, DLS, GD5 Ma, 22°51'52.79"N, 113°44'46.01"E, 28.02-30.03.2022, 110 m, leg. L.L. Chen et al.; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 0FB791A1-04A6-5258-A4AE-C189BB6EBA98

Distribution: China (Yunnan, Guangdong, Sichuan, Hubei), India, Vietnam (Liu and Beaver 2018, Liu 2021, Zhang et al. 2022).

Notes: New record of Guangdong Province.

Parabostrychus acuticollis Lesne, 1913

Material

- a. country: China; stateProvince: Guangdong; county: Shaoguan; municipality: Qujiang; locality: Guangdong Luokeng *Shinisaurus crocodilurus* National Nature Reserve; verbatimLocality: 鳄蜥保护区; verbatimElevation: 600-800 m; locationRemarks: label: GD, SG, LK, *Shinisaurus crocodilurus* Nature Reserve, 08.04.2023, leg. W. Lin; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 19-07-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 1191F2AD-CDC4-5B41-8CB7-E0885FCC6AA5

Distribution: China (Shanghai, Jiangsu, Hubei, Anhui, Sichuan, Beijing, Taiwan, Hunan, Shandong, Yunnan, Zhejiang, Guangdong), India, Nepal, Thailand (Chu and Zhang 1997, Liu et al. 2006, Liu and Beaver 2018, Zhang et al. 2022).

Notes: New record of Guangdong Province.

Genus *Micrapate* Casey, 1898

Micrapate simplicipennis (Lesne, 1895)

Nomenclature:

Xylopertha simplicipennis Lesne, 1895

Materials

- a. country: China; stateProvince: Guangxi; county: Beihai; municipality: Hepu; locality: Baisha Youhang Village; verbatimLocality: 白沙油行村; verbatimElevation: 20-50 m; locationRemarks: label: GX, HP, Youhangchun, Host of *Melia azedarach*, 19.01.2023, leg. W. Lin; individualCount: 10; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 42DFA292-5453-5B00-8BC5-ED6FC3DC9DE2
- b. country: China; stateProvince: Hainan; county: Baisha; municipality: Nankai; locality: forest of *Areca*; verbatimLocality: 槟榔林; verbatimElevation: 265 m; locationRemarks: label: PYQ351, HN, NKX, forest of *Areca*, HN11 Ma, 19°4'44.68"N, 109°24'4.74"E, 265 m, 31.03.-30.04.2022, leg. L.L. Chen; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 93A6B5DD-5C4F-55EC-9024-7C8D70463B5E

Host of: *Melia azedarach* (new host plant found in Guangxi).

Distribution: China (Yunnan, Chongqing, Zhejiang, Guangxi, Hainan), India, Indonesia, Laos, Myanmar, Nepal, Thailand, Vietnam (Liu and Beaver 2018, Liu 2021).

Notes: New record of Guangxi and Hainan Provinces.

Tribe Xyloperthini Lesne, 1921

Genus *Xylopsocus* Lesne, 1901

Xylopsocus acutespinosus Lesne, 1906

Material

- a. country: China; stateProvince: Xizang; county: Linzhi; municipality: Motuo; locality: Beibeng; verbatimLocality: 背崩乡; verbatimElevation: 800 m; locationRemarks: label: XZ, MT, BB, Light trap, N29.24305°, E95.17038°, 800 m, 07.08.2017, leg. R. Zhou; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 03-2023; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 6C676D3F-9357-5D63-B7B9-3F0758F61BE1

Distribution: China (Shaanxi, Yunnan, Xizang), India, Laos, Myanmar, Nepal, Thailand (Chu and Zhang 1997, Liu and Beaver 2018, Liu 2021).

Notes: New record of Xizang Autonomous Region.

Xylopsocus radula Lesne, 1901

Material

- a. country: China; stateProvince: Guangdong; county: Shaoguan; municipality: Qujiang; locality: Luokeng Reservoir; verbatimLocality: 罗坑水库; verbatimElevation: 150 m; locationRemarks: label: GD, SG, LKSK, 24°32'9"N, 113°23'26"E, 150 m, 13.03.2022, leg. Y.L. Liao; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 32E97B15-520A-5E8E-B6A4-AB33BA185F75

Distribution: China (Yunnan, Guangdong), India, Indonesia, Myanmar, Thailand, Malaysia (Beaver et al. 2011, Liu 2021).

Notes: New record of Guangdong Province.

Genus *Paraxylion* Lesne, 1941

Paraxylion bifer (Lesne, 1932)

Nomenclature:

Xylion bifer Lesne, 1932

Materials

- a. country: China; stateProvince: Hainan; county: Wuzhishan; municipality: Tongshi; verbatimLocality: 通什; locationRemarks: label: HN, Tongshi, 08.06.1983, leg. M.H. Ke; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified:

01-02-2023; institutionCode: GLZ; basisOfRecord: PreservedSpecimen; occurrenceID: A2AB54FB-B889-5399-A8AC-081E355E9AB6

- b. country: China; stateProvince: Hunan; county: Huaihua; municipality: Huitong; locality: Tuanhe Diaotang Village; verbatimLocality: 团河吊塘村; locationRemarks: label: HN, HT, TH, DT, 13.07.2023, Light trap, leg. J.H. Huang; individualCount: 2; sex: 2 female, 2 male; lifeStage: adult; identifiedBy: Lin Wei; dateIdentified: 31-08-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 71860D6B-99ED-5B24-ABDD-2A27F1EF78B0

Distribution: China (Hong Kong, Yunnan, Guangdong, Hainan, Hunan), India, Indonesia, Myanmar, Laos, Vietnam, Malaysia, Thailand (Liu and Beaver 2018, Zhang et al. 2022, Sittichaya 2023).

Notes: New record of Hunan and Hainan Province.

Genus *Xylocis* Lesne, 1901

Xylocis tortilicornis Lesne, 1901

Materials

- a. country: China; stateProvince: Guangxi; county: Beihai; municipality: Hepu; locality: Baisha Youhang Village; verbatimLocality: 白沙油行村; verbatimElevation: 20-50 m; locationRemarks: label: GX, HP, Youhangchun, Host of *Ficus hispida*, 22.01.2023, leg. W. Lin; host of *Ficus hispida*; individualCount: 18; sex: 9 female, 9 male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: C68F7140-409E-5AE2-A9B0-FF2923BAFE7F
- b. country: China; stateProvince: Hainan; locationRemarks: label: HN, 22.06.1974, IOZ(E)1034265 | *Xylocis tortilicornis* det. L.Y. Liu; individualCount: 1; sex: male; lifeStage: adult; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: AA61CA67-8E66-5977-AFEE-D7245AFDBF86

Host of: *Ficus hispida* (new host plant species found in Guangxi).

Distribution: China (Yunnan, Hong Kong, Taiwan, Guangxi, Hainan, Fujian), India, Nepal, Sri Lanka, Laos, Thailand (Liu et al. 2006, Liu and Beaver 2018, Liu 2021).

Notes: New record of Guangxi and Hainan Provinces.

Tribe Apatini Jacqueln du Val, 1861 sensu Liu & Schönitzer

Genus *Phonapate* Lesne, 1895

Phonapate fimbriata Lesne, 1909

Materials

- a. country: China; stateProvince: Fujian; county: Zhangzhou; municipality: Yunxiao; locality: Zhuta Village; verbatimLocality: 竹塔村; verbatimElevation: 12 m; locationRemarks: label: F.J, ZZ, YX, ZT, 23°55'11.77"N, 117°24'45.53"E, 12 m, 27.08.2023, Light trap, leg. Y.F. Zhang; individualCount: 1; sex: female; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 27-08-2023; institutionID: ZYF; basisOfRecord: PreservedSpecimen; occurrenceID: F3D5913C-1FAD-583E-A040-54EFF9AE9F3D
- b. country: China; stateProvince: Jiangxi; county: Jinggangshan; locality: Xiangzhou; verbatimLocality: 湘洲; locationRemarks: label: JX, JGS, XZ 26.iv.2011 leg. Y. Mei, L.-J. Yang, Y.-L. Yu, P. Liu; En-363179 SYS; *Phonapate fimbriata* (male) det. Y.F. Zhang, 2021; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 24-08-2021; institutionCode: SYS; basisOfRecord: PreservedSpecimen; occurrenceID: E78E090C-4C98-5CEC-AC44-D8EA68005A20
- c. country: China; stateProvince: Guangdong; county: Zhaoqing; municipality: Fengkai; locality: Hei-Shi-Ding; verbatimLocality: 黑石顶; locationRemarks: label: GD, FK, HSD 02-vi-2011 (light trap) leg. Y. Li; En-344048 SYS; *Phonapate fimbriata* (female) det. Y.F. Zhang, 2021; individualCount: 1; sex: female; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 24-08-2021; institutionCode: SYS; basisOfRecord: PreservedSpecimen; occurrenceID: 687AA079-1D84-52B9-A8BA-BF7B61FD34C5

Host of: *Litchi chinensis* (Lu et al. 2012).

Distribution: China (Yunnan, Guangxi, Guangdong, Hong Kong, Jiangxi, Fujian), India, Vietnam, Indonesia, Thailand (Chu and Zhang 1997, Borowski and Węgrzynowicz 2007, Beaver et al. 2011, Lu et al. 2012).

Notes: New record of Guangdong, Jiangxi and Fujian Provinces. Liu (2021) mis-listed Yunnan (Original text: "YN") as Hunan (Original text: "HN") from Chen (2011) and neglect Guangxi which had been recorded in Lu et al. (2012)

Subfamily Lyctinae Billberg, 1820

Tribe Lyctini Billberg, 1820

Genus *Lyctus* Fabricius, 1792

Lyctus africanus Lesne, 1907

Material

- a. country: China; stateProvince: Hainan; county: Ledong; locality: Jianfeng Mountain; verbatimLocality: 尖峰; locationRemarks: label: HN, JF, Host of *Hevea brasiliensis*, 20.02.1979, determined by Unknown; individualCount: 1; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 28744273-A0EA-5EBD-B574-6A7F54B6E697

Host of: *Hevea brasiliensis* (Beaver et al. 2011).

Distribution: China (Zhejiang, Guangdong, Guangxi, Sichuan, Yunnan, Hainan) (Hua 2002). This is a rather pan-tropical species trending towards a cosmopolitan distribution (Liu 2021).

Notes: New record of Hainan Province.

Genus *Lyctoxylon* Reitter, 1879

Lyctoxylon dentatum (Pascoe, 1866)

Nomenclature:

Minthea dentata Pascoe, 1866

Material

- a. country: China; stateProvince: Hainan; county: Ledong; locality: Jianfeng Mountain; verbatimLocality: 尖峰; locationRemarks: label: HN, JF, Host of *Albizia procera*, 15.08.1979, determined by Unknown; individualCount: 1; lifeStage: adult; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 26C74B44-B27C-5005-8E6F-B3A8DA4D7690

Host of: *Albizia procera* (new host plant found in Hainan).

Distribution: China (Guangxi, Guizhou, Hubei, Yunnan, Zhejiang, Jiangxi, Taiwan, Hainan), India, Thailand, Malay Peninsula, Vietnam, Indonesia, Japan, Australia (Hua 2002, Liu and Geis 2019, Liu 2021).

Notes: New record of Hainan Province.

Genus *Minthea* Pascoe, 1866

Minthea bivestita Lesne, 1937

Material

- a. country: China; stateProvince: Yunnan; county: Xishuangbanna; municipality: Jinghong; locality: Shenshi Mountain; verbatimLocality: 神石山; verbatimElevation: 1456 m; locationRemarks: label: YN, XSBN, SSS, 22°04'01.54"N, 100°40'50.52"E, 11.05.2022, 1456 m, leg. H.T. Song; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 19-07-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 543B50DF-417E-58D1-B2C7-3B31F8129306

Distribution: China (Yunnan), India, Vietnam (Borowski and Węgrzynowicz 2007).

Notes: New record of China (Fig. 1).

Tribe Trogoxylini Lesne, 1921

Genus *Trogoxylon* LeConte, 1862

Trogoxylon impressum (Comolli, 1837)

Nomenclature:

Lyctus impressum Comolli, 1837

Materials

- a. country: China; stateProvince: Hainan; county: Lingshui; verbatimLocality: 陵水; locationRemarks: label: HN, LS, 06.06.1957, leg. T.M. Liu | *Trogoxylon impressum* det. L.Y. Liu, 2019; individualCount: 1; lifeStage: adult; identifiedBy: Lan-Yu Liu; dateIdentified: 2019; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 6F87EFB2-CFB0-56C7-8EA4-EA8970C2FAFD
- b. country: China; stateProvince: Shandong; county: Qingdao; municipality: Jimo; verbatimLocality: 即墨; locationRemarks: label: SD, JX, 02.06.1958 Host of wheat & pea; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 03-2023; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 679F39FA-D90B-5442-A477-54D09857D950
- c. country: China; stateProvince: Qinghai; county: Haidong; municipality: Minhe; verbatimLocality: 民和; locationRemarks: label: QH, MH, 01.07.1959; individualCount: 1; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 03-2023; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 503FF89A-E559-5804-B67E-B4123133596E

Distribution: China (Hainan, Shandong, Qinghai), Europe, Caucasus, Mediterranean, Turkmenistan, Israel, Iran, Japan and introduced to Australia, New Zealand (Borowski and Węgrzynowicz 2007, Liu and Geis 2019).

Notes: New record of Hainan, Shandong Province and Qinghai Autonomous Region. This species previously had only an unspecific record in China (Liu and Geis 2019), with no detailed provincial distribution record. Due to its age, the label information is not detailed. These records may come from an indoor warehousing environment and were imported to the area along with the transportation of host plants (grain), so may be not distributed in these three provinces in an outdoor environment.

***Trogoxylon spinifrons* (Lesne, 1910)**

Nomenclature:

Lyctus spinifrons Lesne 1910

Material

- a. country: China; stateProvince: Yunnan; county: Xishuangbanna; municipality: Jinghong; locality: east of Xiaomengyang, in front of a hill slope, on shrubs; verbatimLocality: 小勐养东灌木丛中, 山坡前; verbatimElevation: 850 m; locationRemarks: label: YN, XSBN, XMY, 850 m, 18.06.1957, leg. S.Y. Wang | *Lyctus* sp. 1976.XI | *Trogoxylon spinifrons* (Lesne, 1910) det. L.Y. Liu; individualCount: 1; lifeStage: adult; identifiedBy: Lan-Yu Liu; dateIdentified: 2019; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: B3467E52-19D3-52DD-9742-346A99227541

Distribution: China (Yunnan), India, Vietnam, Papua New Guinea, Thailand (Borowski and Węgrzynowicz 2007, Liu 2010).

Notes: New record of China.

Subfamily Polycanoninae Lesne, 1896

Genus *Melalgus* Dejean, 1833

***Melalgus batillus* (Lesne, 1902)**

Nomenclature:

Heterarthron batillum Lesne, 1902

Materials

- a. country: China; stateProvince: Guangxi; county: Fangchenggang; municipality: Fangcheng; locality: Dalu, Shanzhong Village; verbatimLocality: 大寨镇山中村山中保护站; verbatimElevation: 69 m; locationRemarks: label: GX, FCG, DL, SZC, 18.03.2021, Light trap, 21.8141°N, 108.1242°E, 69 m, leg. H. Liu & K.Y. Zhang; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 03-2023; institutionCode: IOZ; basisOfRecord: PreservedSpecimen; occurrenceID: 062BD6A6-9541-5DE7-A70D-D3EABA1D8E3E
- b. country: China; stateProvince: Fujian; county: Fuzhou; locality: Forest Park; verbatimLocality: 福州国家森林公园; locationRemarks: label: FJ, Forest Park, 05.06.2002,

- leg. X.Y. He; individualCount: 1; sex: female; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 2023; institutionCode: HU; basisOfRecord: PreservedSpecimen; occurrenceID: E102EBF1-4C44-5578-959D-FDDA27F6FFF8
- c. country: China; stateProvince: Guangdong; county: Guangzhou; locality: Luo-Gang-Dong; verbatimLocality: 罗岗洞; locationRemarks: label: GD, LGD, 21.V.1963, leg. Shun-Bang Liu; En-080361 SYS; *Melalgus batillus* (male) det. Y.-F. Zhang 2021.VIII; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 24-08-2021; institutionCode: SYS; basisOfRecord: PreservedSpecimen; occurrenceID: 15FE40BE-5D57-54F6-89B7-00C3E4AF231A
- d. country: China; stateProvince: Guangdong; county: Shaoguan; municipality: Qujiang; locality: Long-Tou Mountain; verbatimLocality: 龙头山; locationRemarks: label: GD, QJ, LTS VI, 1947; En-080994 SYS; *Melalgus Batillus* (female) det. Y.F. Zhang, 2021.08; individualCount: 1; sex: female; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 24-08-2021; institutionCode: SYS; basisOfRecord: PreservedSpecimen; occurrenceID: E9D64099-EEF7-510E-8D75-2F0BE5DB08FC

Distribution: China (Yunnan, Hainan, Guangxi, Guangdong, Fujian, Zhejiang, Hong Kong), India, Vietnam, Japan (Liu 2021, Yoshitomi 2021, Zhang et al. 2022, Borowski 2022).

Notes: New record of Guangxi, Guangdong and Fujian Provinces.

Subfamily Psolinae Blanchard, 1851

Genus *Coccographis* Lesne, 1901

Coccographis nigrorubra Lesne, 1901

Materials

- a. country: China; stateProvince: Guangdong; county: Shaoguan; municipality: Qujiang; locality: Luokeng; verbatimLocality: 罗坑; verbatimElevation: 250 m; locationRemarks: label: GD, SG, QJ, LK, 24°29'54"N, 113°20'35"E, 250 m, 13.III.2022, leg. Y.L. Liao; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-02-2023; institutionCode: GCD; basisOfRecord: PreservedSpecimen; occurrenceID: 1E81AC14-F670-5330-A1E9-7FB7BE097B1A
- b. country: China; stateProvince: Anhui; county: Tongling; municipality: Yian; locality: Feng-Huang-Shan; verbatimLocality: 凤凰山; verbatimElevation: 100-350m; locationRemarks: label: AH, TL, YA, FHS, 31.III.2024, photo by Wen-Qi Zhu and Jia-Min Cheng; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 01-04-2024; basisOfRecord: HumanObservation; occurrenceID: 53817790-51C0-5676-96F1-ECF091165447
- c. country: China; stateProvince: Zhejiang; county: Hangzhou; municipality: Yuhang; locality: Wu-Chao-Shan; verbatimLocality: 午潮山; verbatimElevation: 100m; locationRemarks: label: zhejiang-Hangzhou-wuchaoshan-alt. 100m-22.III.2024-photo by Jian-Bo Li; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 02-04-2024; basisOfRecord: HumanObservation; occurrenceID: FF001B4D-495C-5E42-ABA7-5DBE54C2E5B6

- d. country: China; stateProvince: Fujian; county: Fuzhou; municipality: Yongtai; locality: Tengshan Provincial Nature Reserve, Dong-Hu-Jian; verbatimLocality: 藤山省级自然保护区, 东湖尖; verbatimElevation: 1100m; locationRemarks: label: FJ FZ YT TZRHBHQ DHJ 1100m 26-III-2024 leg. Xing Hu, Liang Guo, Zu-Bin Chen, Qin-Ang Wu; *Coccographis nigrorubra* Lesne, 1901 (male) det. YF Zhang, 2024; individualCount: 1; sex: male; lifeStage: adult; identifiedBy: Yi-Feng Zhang; dateIdentified: 30-03-2024; institutionCode: CLYQ; basisOfRecord: PreservedSpecimen; occurrenceID: 3147DB2E-B22B-52CE-BC8F-309DC0EA4B5A

Distribution: China (Yunnan, Guangdong, Anhui, Zhejiang and Fujian), Vietnam, Laos (Liu 2021).

Notes: New record of Guangdong, Anhui, Zhejiang and Fujian Provinces (Fig. 2, Fig. 3 and Fig. 4).

Discussion

From the Founding of New China until the early 1990s, most of the research reports related to Chinese Bostrichidae beetles focused on their occurrence, prevention and quarantine in indoor storage environments. Relatively few studies have been conducted on outdoor environments, especially forest environments (Xin and Ding 1958, Chen and Liu 1964, GFRI 1977, Shi and Tan 1980, FDY and IOZ 1987). We found that the distribution records of Bostrichidae in China have been affected by previous insufficient research, leading to some mismatches. There are primarily two situations: first, indiscriminate records of indoor storage and outdoor natural environments within China have resulted in literature-recorded distribution ranges far exceeding the natural distribution range of the species; second, due to inadequate field collection and survey efforts, the recorded existing distribution is far smaller than the actual distribution range.

The best example of the first situation is *Rhyzopertha dominica*. According to the latest records, this species is documented as being distributed in almost all provinces and municipalities of China, except for Xinjiang and Xizang, ranging from Heilongjiang in the north to Guangdong in the south (Hua 2002). However this species tends to favour tropical and subtropical climates in outdoor natural environments (Wakil 2014), suggesting that its natural distribution in China should be limited to the southern part. Records from northern regions may likely originate from occurrences in storage facilities.

The best example of the second situation is *Coccographis nigrorubra*. As of 2021, the distribution range of this species is only documented in the region encompassing Vietnam, Laos and Yunnan Province in China (Liu 2021). However, we have found that this species can be distributed as far east as Zhejiang Province and as far north as Anhui Province in China.

In summary, it is urgently required to conduct more extensive and in-depth research on Bostrichidae fauna in China. For future work, it is hoped that specialists will record detailed locality information and distinguish between indoor and outdoor environments when

reporting Bostrichidae specimens. Additionally, it is hoped that future research will record more biological information about Bostrichidae, such as host plants, species reproduction and the duration of occurrences. This will aid in understanding the phylogenetic relationships, evolution and the inter-relationships between these species and their environment in comparison to other closely-related taxa.

Acknowledgements

We are grateful to Dr. Jun Chen (IOZ) and Kui-Yan Zhang (IOZ) for allowing and helping us to examine the specimens in the National Animal Collection Resource Center. Dr. Hong Pang (SYS) and Binglan Zhang (SYS) for hosting us in Guangzhou. Dr. Hua-Sheng Chen (GIZ) in Museum of Institute of Zoology Guangdong Academy of Sciences allowed us to check their collections. Mr. Liang Guo introduced us a *Coccographis nigrorubra* specimen custody in CLYQ and collected by Yongtai Forestry Bureau and Chong-Lin-Ye-Qu Cultural Creativity Co. Dr. Hai-Tian Song (Fujian Academy of Forestry) provided us with some powder-post beetle specimens. Mr. Wen-Qi Zhu and Ms. Jia-Min Chen provided us with the *Coccographis nigrorubra* living habitus photograph in Anhui. Mr. Jian-Bo Li provided us with the *Coccographis nigrorubra* living habitus photograph in Zhejiang. Dr. Mei-Ying Lin (Mianyang Normal University) helped us to verify the detailed collection information of the new record species, *Minthea bivestita* Lesne, 1937. Ms. Xin Lin helped us identify the plant from Anhui. Mr. Zhi-Hao Qi (Fujian Agriculture and Forestry University) helped us with the online editing process for the manuscript. Mr. Yu-Jie Zhang for hosting the first author in Shenzhen on the evening of 19 July 2023. We are also grateful to Lan-Yu Liu and Jerzy Borowski for their professional and rigorous comments which have improved the quality of this article.

This study was supported by the National Animal Collection Resource Center, China; National Natural Science Foundation of China (grant nos. 31200322 and 31760171); the Second Tibetan Plateau Scientific Expedition and Research Program (grant no. 2019QZKK05010600); the Shenzhen Science and Technology Program (grant no. KCXFZ20230731093259009); the Forestry Research Project of Fujian Province (no. 2023FKJ19); Science and Technology Project of Fujian Province (no. 2023R1051).

References

- Beaver RA, Sittichaya W, Liu LY (2011) A review of the powder-post beetles of Thailand (Coleoptera: Bostrichidae). *Tropical Natural History* 11 (2): 135-158.
- Borowski J (2007) Family Bostrichidae Latreille, 1802. In: Löbl I, Smetana A (Eds) *Catalogue of Palaearctic Coleoptera. Vol. 4. Elateroidea-Derodontoidea-Bostrichoidea-Lymexyloidea-Cleroidea-Cucujoidea*. Apollo Books, Stenstrup, 935 pp. [ISBN 87-88757-67-6].
- Borowski J, Węgrzynowicz P (2007) *World catalogue of Bostrichidae (Coleoptera)*. Wydawnictwo Mantis, Olsztyn, 247 pp. [ISBN 978-83-926182-1-8]

- Borowski J (2022) Taxonomic changes in Bostrichidae (Insecta, Coleoptera). *Zootaxa* 5154 (5): 590-594. <https://doi.org/10.11646/zootaxa.5154.5.7>
- Chen ZH, Liu YC (1964) Biological and control of *Lyctus sinensis* Lesne. Chinese Bulletin of Entomology 04: 8-23. [In Chinese].
- Chen ZL, et al. (2011) Quarantine and Identification of Bostrichidae (Coleoptera). [长蠹科害虫检疫鉴定]. China Agriculture Press, Beijing, 291 pp. [In Chinese]. [ISBN 978-7-109-15387-5]
- Chu D, Zhang W (1997) The catalogue of Bostrichidae in China. *Plant Quarantine* (02)105-109. [In Chinese].
- FDY, IOZ (Eds) (1987) Forest Insects of Yunnan. [云南森林昆虫]. Yunnan Science and Technology Press, Kunming, 1622 pp. [In Chinese].
- GFRI (1977) *Sinoxylon anale* Lesne. *Guangxi Forestry Science* Z1: 43-46. [In Chinese].
- Hua LZ (2002) List of Chinese Insects (Vol.II). Zhongshan (Sun Yat-Sen) University Press, Guangzhou, 612 pp. [ISBN 9787306017012]
- Liu LY, Beaver RA, Yang JT (2006) The Bostrichidae (Coleoptera) of Taiwan: a key to species, new records, and a lectotype designation for *Sinoxylon mangiferae* Chujo. *Zootaxa* 1307 (1): 1-33. <https://doi.org/10.11646/zootaxa.1307.1.1>
- Liu LY (2010) New records of Bostrichidae (Insecta: Coleoptera, Bostrichidae, Bostrichinae, Lyctinae, Polycaoninae, Dinoderinae, Apatinae). *Mitteilungen der Münchener Entomologischen Gesellschaft* 100: 103-117.
- Liu LY, Beaver RA (2018) A synopsis of the powderpost beetles of the Himalayas with a key to the genera (Insecta: Coleoptera: Bostrichidae). In: Hartmann M, Barclay MVL, Weipert J (Eds) *Biodiversität und Naturlausstattung im Himalaya VI*. Verein der Freunde & Förderer des Naturkundemuseums Erfurt e.V., Erfurt, 628 pp. [ISBN 9783000595769].
- Liu LY, Geis KU (2019) A synopsis of the lyctine beetles of Eurasia with a key to the species (Insecta: Coleoptera: Bostrichidae: Lyctinae). *Journal of Insect Biodiversity* 9 (2): 34-56. <https://doi.org/10.12976/jib/2019.09.2.1>
- Liu LY (2021) An annotated synopsis of the powder post beetles (Coleoptera: Bostrichidae) of Mainland China. *Zootaxa* 5081 (3): 389-419. <https://doi.org/10.11646/zootaxa.5081.3.5>
- Liu LY, Beaver RA (2023) The first Asian species of *Polycaon* Castelnau, and a new montane species of *Melalgus* Dejean from China (Coleoptera: Bostrichidae: Polycaoninae). *Zootaxa* 5315 (3): 271-281. <https://doi.org/10.11646/zootaxa.5315.3.5>
- Lu YY, Xian JD, Li YC, Yang WQ, Zhang XY, Li C (2012) A new pest, *Phonapate fimbrianta*, for litchi in China. *Guangdong Agricultural Sciences* 39 (12): 83-84. [In Chinese].
- Shi ZH, Tan SQ (1980) A Study of *Minthea rugicollis* Walker (Coleoptera: Lyctidae). *Tropical Forestry* 4: 8-23. [In Chinese].
- Sittichaya W (2023) Bostrichidae of Thailand. [Barcode]. I-design, Songkla, 216 pp. [In Thai]. [ISBN 978-616-598-061-6] <https://doi.org/10.2306/scienceasia1513-1874.2023.082>
- Wakil W (2014) *Rhyzopertha dominica* (lesser grain borer). <https://www.cabidigitallibrary.org/doi/10.1079/cabicompendium.47191>. Accessed on: 2024-4-11.
- Xin JL, Ding YZ (1958) A Study on Chemical Control of *Dinoderus minutus*. Chinese Science Bulletin 18: 567-568. [In Chinese].

- Yoshitomi H (2021) Redescription of *Melalgus japonicus* Chûjô (Coleoptera: Bostrichidae: Polycaninae). Japanese Journal of Systematic Entomology 27 (1): 69-72.
- Zhang YF, Meng LZ, Beaver RA (2022) A review of the non-lyctine powder-post beetles of Yunnan (China) with a new genus and new species (Coleoptera: Bostrichidae). Zootaxa 5091 (4): 501-545. <https://doi.org/10.11646/zootaxa.5091.4.1>