

ORIGINAL ARTICLE

A review of the *neptis* species group of the genus *Lilioceris* (Coleoptera: Chrysomelidae: Criocerinae)

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Abstract A new species group of the genus *Lilioceris* Reitter, 1913 is proposed and keyed as *neptis* group, characterized by adults with mesoventral process widened, tuberculate, and horizontally connected with mesoventrite. It includes six species: *Lilioceris balyi* Chûjô, 1962, *L. cantonensis* Heinze, 1943 **stat. rev.**, *L. fouana* Pic, 1932, *L. neptis* (Weise, 1922), *L. subpolita* (Motschulsky, 1861) and *L. vietnamica* Medvedev, 1985. Among them, *Lilioceris cantonensis* Heinze, 1943 is resurrected as a valid species from synonyms of *L. neptis* (Weise, 1922); *L. fouana* Pic, 1932 is transferred from the subgenus *Chujoita* Monrós, 1959 to the subgenus *Lilioceris* Reitter, 1913; *L. vietnamica* Medvedev, 1985 is firstly recorded in China; some misidentifications of former literatures for *L. neptis* are provided. Redescriptions (if necessary), habitus photographs, geographic distributions, host plants and habitats (if known) are provided for these species.

Key words Shining leaf beetle, taxonomy, key, genitalia, distribution.

1 Introduction

The genus *Lilioceris* Reitter, 1913 (Chrysomelidae: Criocerinae) includes about 50 species in China (Bezděk & Schmitt, 2017). Among these species, *L. neptis* (Weise, 1922), originally described from Fujian, China, is characteristic by the apical portion of the mesoventral process widened, tuberculate, and horizontally connected with mesoventrite. This special character was also shared with another species from eastern Asia: *L. subpolita* (Motschulsky, 1861) (Gressitt & Kimoto, 1961: 45).

In recent years, when examining specimens of *L. neptis* and its related species from the National Zoological Museum, Chinese Academy of Sciences, and other museums of China, France and the UK, we found that some specimens were obviously different from two species above, by setae on metaventrite and punctures on elytra, but all with a widened and bent mesoventral process. Subsequent dissection and comparison with type specimens and/or original descriptions revealed that they represented three more species: *L. cantonensis* Heinze, 1943, *L. fouana* Pic, 1932, and *L. vietnamica* Medvedev, 1985. Besides that, *L. balyi* Chûjô, 1962, known only with the holotype, is similar to *L. neptis* (Weise) in shape of mesoventral process, not as stated by Chûjô (1962: 3).

The paper is to propose a new species group, *neptis* group, to accommodate these species. The key to the species, and additional descriptions and illustrations for the species in this group are also provided.

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2 Materials and methods

The type specimens and collections from several museums were examined. Collections cited in this article are indicated by the following abbreviations:

BMNH—The Natural History Museum, London, UK.

CCCC—Collection of Mr Chen Changchin, Wuqing, Tianjin, China;

IZCAS—National Zoological Museum, Institute of Zoology, Chinese Academy of Sciences, Beijing, China;

KIZ—Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, Kunming, China;

MBSU—The Museum of Biology, Sun Yat-Sen University, Guangzhou, China;

MCAU—The Museum of China Agricultural University, Beijing, China;

MHU—The Museum of Hebei University, Baoding, China;

MNHU—Museum für Naturkunde der Humboldt-Universität zu Berlin, Germany;

MNHN—Museum National d'Histoire Naturelle, Paris, France;

NHMB—Naturhistorisches Museum (Museum Frey, Tützing), Basel, Switzerland;

All specimens examined are deposited in IZCAS, except indicated in the text.

Dry specimens were soaked in hot water for 1–2 hours to soften the body. The abdomen was opened at its latero-apical margin and genitalia were pulled out using forceps. Genitalia were soaked in warm 10% KOH for 1 hour, and dyed in Chlorazol Black E. The basal orifice of the aedeagus was injected with 100% ethanol with a micro-injector until the internal sac was fully everted. The aedeagus with its everted internal sac was photographed using a large depth-of-field 3D digital microscope (Keyence VHX–1000C), and finally edited in Photoshop CC®. A microvial with genitalia was pinned to the specimen from which the genitalia were removed for storage.

Body length (BL) was measured from the anterior margin of the labrum to the apex of the elytra; body width (BW) was measured along the greatest elytral width (EW); head length (HL) was measured along the anterior margin of the labrum to the posterior margin tumid gena; head width (HW) was measured along the widest part of the head including eyes; pronotum length (PL) was measured along the median line of the pronotum; pronotum width (PW) was measured across the widest part of the pronotum; elytra length (EL) was measured along the suture from the base of the scutellum to the elytral apex.

Other methods of specimen observation and preparation follow previous publications (Tishechkin *et al.*, 2011; Li *et al.*, 2013; Shi & Liang, 2015). Morphological terminology follows Chou *et al.* (1993), Matsumura *et al.* (2013), and Li & Liang (2018).

3 Taxonomy

Lilioceris neptis species group

Diagnosis. The species group is unique by: apex of mesoventral process more or less widened apically, tuberculate, and connected horizontally with metaventrite (Figs 15B–19B).

Key to species of the *Lilioceris neptis* species-group in eastern Asia.

1. Smaller, body length less than 6.5 mm; metaventral disc with a triangular setose patch near anterior margin (Fig. 17C); ventral side unicolorous *L. fouana*
Larger, body length no less than 7.0 mm; metaventral disc with a setose patch near posterior margin (Figs 15C, 16C) or a long setose stripe (Figs 18C, 19C); ventral side bicolored 2
2. Antennomeres 5–10 slightly longer than wide (Figs 13–14); head and antennae brownish red *L. vietnamica*
Antennomeres 5–10 twice as long as wide; head and antennae black 3
3. Mesoventrite process strongly widened apically (Figs 16B, 18B); pronotal disc with at least one row of large punctures 4
Mesoventrite process slightly widened apically (Fig. 19B); pronotal disc without row of large punctures 5
4. Punctures of elytral striae dense at base, diminishing posteriorly, at most absent at extreme apex; outer metaventrite with a long stripe of setae, extending from anterior to posterior margin (Fig. 18C) *L. neptis*
Punctures of elytral striae sparse at base, diminishing posteriorly, absent on apical 1/2 or 1/3; lateroposterior corner of metaventrite with a short oblique stripe of setae (Fig. 16C) *L. cantonensis*
5. Punctures of elytral striae sparse at base, sparser and absent on apical 1/2 (Figs 2, 11) *L. subpolita*
Punctures of elytral striae dense at base, neither sparser nor absent at apex (Fig. 1) *L. balyi*

***Lilioceris balyi* Chûjô, 1962** (Fig. 1)*Lilioceris balyi* Chûjô, 1962: 1 (Japan).

Material examined. ♂ (BMNH), Holotype / *C. subpolita*, Type, Baly / Hiogo / Baly collection / *Lilioceris* (s. str.) *balyi* Chûjô, det M. CHUJO, 1962.

Remarks. This species was once recorded by Baly (1873) as var. B of *Crioceris subpolita* Motschulsky, 1861. Kimoto (1961) recognized it as an undescribed species. Then, Chûjô (1962) named it as *Lilioceris balyi* and provided a detailed description. However, based on the observation of the holotype by the third author (LHB) and Ms. Yingqi Liu (BMNH), an error was found in Chûjô's original description. In the holotype, the mesoventral process is slightly widened, tuberculate, horizontally connected with metaventrite, rather than "neither dilated apically nor bending backwardly" in Chûjô (1962). In addition, the right antennomeres 3–11 was actually missing (Fig. 5) when we checked, while it's complete in Chûjô (1962: 1). This species is similar to *L. subpolita*, but differs from the latter by having punctures of elytral striae extending to the elytral apex (punctures absent on the apical half in *L. subpolita*).

Distribution (Fig. 30). Japan.

Host plant and habitat. Unknown.



Figures 1–2. Habitus of *Lilioceris* spp. 1. *L. balyi*, dorsal view, ♂, holotype. 2. *L. subpolita*, dorsal view, sex undetermined, syntype, Siberia. Scale bars = 5.0 mm.

***Lilioceris cantonensis* Heinze, 1943 stat. rev.** (Figs 3–4, 16, 20, 27)

Crioceris cantonensis Heinze, 1943: 104 (China: Guangdong).

Lilioceris cantonensis: Gressitt & Kimoto, 1961: 55 [as a synonym of *L. neptis* (Weise, 1922)].

Material examined. Total 77 specimens. China: Shaanxi: 1♀, Ningqiang, Zhangjiaba, 600 m, 1986.VI.25; 1♂ (MHU), Meixian, Haoping / 2012.VII.12, Guodong Ren coll.; Henan: 1♀, Lushan, 1957.V.30; 1♀ (MHU), Xinyang, Jigong Shan, 700 m, 2001.VII.14, Ming Bai, Zhe Li coll. MHU; Anhui: 1♂1♀, Huangshan, 1936.VI.21; Shanghai: 1♂, ZÔ-SÊ, 1934.VI; Zhejiang: 1♂, Tianmu Shan, firebreak zone / N30.3333, E119.4167, elevation 1144–1506 m, 2014.VII.17, Caixia Yuan & Di Li coll.; 1♂, Tianmu Shan, 600–800 m, 1998.X.9, Mingshui Zhao coll.; 2♂3♀, Tianmu Shan / 1991.VII.1–4, Hong Wu coll.; 1♀, Western Tianmu Shan / 1979.VII.11, host plant Smilacaceae, Jiangcai Ye coll. / *Lilioceris* ? *consentanea* (Lac.), det. M.L. Cox, 1986; 1♂6♀, Tianmu Shan / 1999.VII; 5♂4♀, Tianmu Shan / 2000.VII; 1♀, Tianmu Shan, Museum Heude / 1936.VI.36, O. PIEL, coll.; 1♀, Tianmu Shan, Museum Heude / 1936.VII. 20, O. PIEL, coll.; 1♀, Tianmushan, 1936.VII.9; 1♀, Tianmu Shan, Linan City, 9–15.VI.2000, Li-zhen Li; 1♂, Tianmu Shan; 1♂, Tianmu Shan, 1200–1500 m / 1964.VII.7, Tailu Chen coll.; 4♂, Tianmu Shan, 1200 m / 1964.VII.8, Tailu Chen coll.; 1♂, Tianmu Shan, Xianrending, 1500 m,

1967.VI.26; 1♂1♀ (MHU), Tianmu Shan, Xianrending / 2014.VII.21–23, Caixia Yuan & Di Li coll. / N30°20'58.98", E119°25'27.01", 1387–1506 m; 1♀ (MHU), Tianmu Shan, Xianrending, Guanglin Xie coll.; 1♀ (MHU), Qingliangfeng, Tianchi / 2012.V.21–23, Jishan Xu & Lingxiao Chang coll.; 1♀, Baohwa-shan, 7-13.1942; 1♀, Baohwa-shan, 7-16. 1942; 1♂, Anji, Longwang Shan, 1996.VI.14, Xingke Yang coll.; 1♀, Anji, Longwang Shan, 1996.VII.26, Hong Wu coll.; Jiangxi: 1♀, Jiujiang, Lushan, Lianhuatai, roadside / N29.54604, E115.93483, 930 m / 2004.VI.22, Hongbin Liang & Teiji Sota coll.; 1♀, Ku-Ling [=Lu Shan], Musée Heude; 2♂1♀, Lu Shan, botanical garden / 1986.VII.10; 1♀, Anfu, Wugong Shan, Forest Station, beating / N27.44591, E114.18827, 1220 m / 2006.VI.29, Liu Y., Liang H.B. & Teiji Sota coll.; 1♂1♀, Yifeng, 1959.VI.16; Fujian: 1♀, Jiangle, Longqi Shan / 1991.V.26, Chunmei Huang coll.; 1♀ (CCCC), Jinxiu, Dayaoshan, Laoshan Linchang, 1200 m, 2020.IV.13, J. T. Zhao coll.; Guangdong: 1♂ (NHMB), China-Canton, Mell S.V. / *Lilioceris cantonensis* n. sp., det. Eric Heinze / Cotype [red label]; 1 specimen (MNHU, sex undetermined), China-Canton, Mell S.V. / *Lilioceris cantonensis* n. sp., det. Eric Heinze / Type (red label) / SYNTYPUS *Lilioceris cantonensis* Heinze, 1943, labeled by MNHUB 2009; Guangxi: 1♀, Longsheng, Baiyan, 1650 m / 1963.VI.22, Shuyong Wang coll.; 2♂1♀ (MCUA), Longsheng, Cuijiang, 800 m, 1982.VI.24, Jikun Yang coll.; 1♂, Maoer Shan, 1150 m / 1985.VI.8, Subai Liao coll.; 2♀, Xing-an, Huajiang town, Mao-er Shan, roadside, N25.91427, E110.44987 / 1715 m, 2004.VI.26, Liang H.B. & Teiji Sota, Institute of Zoology, Chinese Acad. Sciences; 1♀, Nanning, Damingshan, N23.4981, E108.43715 / 1230 m, 2011.V.29, on Smilax, Kaiqin Li coll.; 2♂, Maoer Shan, 2011.VI.2, on Smilax, Kaiqin Li coll.; Guizhou: 1♂, Museum Paris, Kouy-Tcheou, P. Cavalerie 1910; 1♂, Museum Paris, Kouy-Tcheou, Gan Chouen, Hin Y Fou Et Tchen-Fong Tcheou, P. Cavalerie 1912; 1♂, Zunyi, Suiyang, Kuankuoshui Nature Reserve, Protection Station / 2010.VI.3, Zhiliang Wang coll.; 1♂, Leigong Shan, forest station, 2005.V.31–VI.1, Deyan Ge coll.; Sichuan: 1♂, Emei Shan / 1955.VI.10, Keren Huang & Gentao Jin coll.

Diagnosis. Femora bicolored, black with middle brownish red in ventral; antennomeres 5–10 twice as long as wide; pronotal disc with a longitudinal row of large punctures; elytral punctures sparse in basal half, absent on apical 1/2 or 1/3; apex of mesoventral process strongly widened.

Redescription. BL 9.0–10.2 mm, BW 4.2–4.5 mm. Head, antennae, scutellum, prosternum, mesoepisternum, mesoepimeron, metaepisternum, and tibiae black, femora brownish red in middle, remainder black, pronotum, elytra, mesoventrite, metaventrite and abdominal sternites brownish red.

Head (Figs 3–4). HL/HW 1.1–1.3; vertex with a groove in middle, punctate and setose laterally; occiput with a furrow medially, sparsely punctate; gena punctate and setose; frontal tubercle glabrous, slightly raised; frontoclypeal area triangular, disc with punctures and setae; labrum transverse, with long setae; antennae filiform, nearly half as long as body, antennomeres 1–4 nearly globular, 2 shortest, 5–10 each cylindrical, twice as long as wide; antennomeres 1 and 2 sparsely pubescent and punctate, 3–11 densely pubescent and punctate.

Pronotum (Figs 3, 16A). PW/HW 1.2–1.3, PL/PW 1.1–1.3; anterior angle laterally protruding; posterior angle not protruding; sides constricted in middle; anterior margin with a fine line of punctures, middle of disc with a row of large punctures; anterior and posterior transverse impression absent, basal transverse groove weak. Scutellum triangular and pubescent.

Elytra (Fig. 3). EL/EW 2.1–2.3; sutural angle rounded; humeri protruding, humeral groove distinct, basal impression indistinct; intervals smooth; stria punctures sparse and large in base, but absent on apical 1/2 or 1/3; scutellary stria with 2–5 punctures; epipleura with upper margin slightly raised, with a row of fine punctures laterally.

Mesoventrite pubescent; apical portion of mesoventral process strongly widened, convex, tuberculate, horizontally connected with metaventrite (Fig. 16B); lateroposterior corner of metaventrite with a short oblique stripe of setae (Fig. 16C); metepisternum densely pubescent.

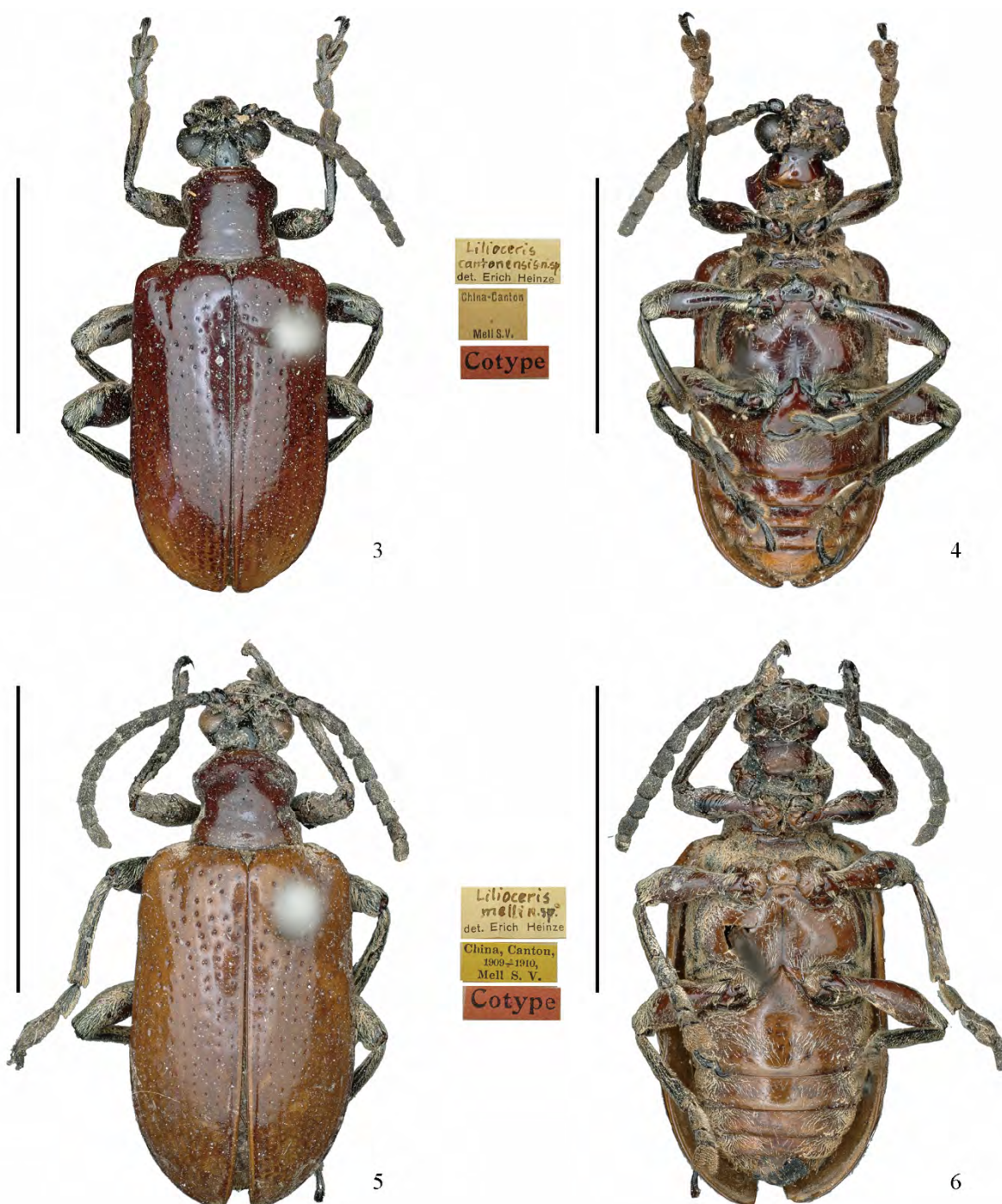
Abdominal sternites with sparse setae and punctures, transverse impressions distinct on sternites 2–5, with dense punctures and pubescence.

Legs slender; tibiae with dense punctures, pubescence, and two spurs; femora with dense pubescence on dorsal surface, with sparse pubescence on ventral surface.

Male genitalia (Figs 20A–D). Median foramen occupying 1/4 length of median lobe (Fig. 20A); apex of median lobe triangular (Fig. 20B); tegmen Y shaped, slender, basal piece of tegmen triangular, broad, lateral lobes strongly sclerotized, combined with second connecting membrane; internal sac membranous, with dorsal, median, and ventral sclerites strongly sclerotized, distal part of dorsal sclerites slightly widened (Figs 20C–D).

Female reproductive organs (Figs 27A–C). Tergites 8 and 9, sternites 8 and 9 sclerotized, posterior areas of tergite 8 and sternite 8 with long setae, without apodemes; spiculum gastrale Y shaped, long, slightly widened in distal part, apical margin rounded; vaginal palpi with dense setae, long and cylindrical; spermatheca simply folded.

Distribution (Fig. 30). China (Shaanxi, Henan, Shanghai, Anhui, Zhejiang, Jiangxi, Fujian, Guangxi, Guangdong, Guizhou, Sichuan).



Figures 3–6. Habitus of *Lilioceris* spp. 3–4. *L. cantonensis*, ♂, cotype, China (Guangdong). 5–6. *L. melli*, ♀, cotype, China (Guangdong). 3, 5. Dorsal view. 4, 6. Ventral view. All photoed by Christoph Germann. Scale bars=5.0mm.

Host plant and habitat. The host plant is Smilacaceae based a label of the specimen from Tianmushan (see above, material examined). Dr. Kaiqin Li recorded it feeding on *Smilax* sp. in Guangxi Province (Fig. 31). Adults present from April to July.

This species is confined to southern and central China, in montane areas at the elevation from 600 to 1715 m. One collecting location recorded by Dr Caixia Yuan in Tianmu Shan (Fig. 32) is situated at the subtropical area. The vegetation is subtropical evergreen and deciduous mixed forest. The climate is characterized by four distinct seasons, abundant rainfall and mild temperature. The forests are composed of tall trees, woody vines and epiphytes. The host plant *Smilax* sp. shares its habitat with other plants such as Pinaceae, Lauraceae, Theaceae, Magnoliaceae, Poaceae and Asteraceae.

Remarks. This species looks very similar to *L. neptis* (Weise, 1922), but is different by its outer area of metaventral disc with a shorter oblique stripe of setae, elytral stria punctures sparse and large in the basal impression, and absent on apical

1/2 or 1/3. In *L. neptis*, the metaventral disc has a longer arc stripe of setose, extending from the posterior margin to the anterior margin; elytral striae has regular punctures, at most absent at apex. In addition, the genitalia of the species are obviously different by having a smaller aedeagus and weaker sclerosis on the dorsal sclerite.

Heinze (1943: 104) reported two species: *L. cantonensis* and *L. melli*, and deposited their type specimens in NHMB and MNHU, respectively. Gressitt & Kimoto (1961: 55) synonymized them with *L. neptis* but did not provide any reason, and later works followed this treatment (Schmitt, 2010; Warchałowski, 2011; Bezděk & Schmitt, 2017). Therefore, *L. cantonensis* is different from *L. neptis* by having elytral punctures absent on apical 1/2 or 1/3 (Fig. 3), so it should be treated as a distinct species. Meanwhile, the type of *L. melli* (Fig. 5) is also checked, and without significant difference with *L. neptis*, so the status of *L. melli* is followed with Gressitt & Kimoto's treatment.

***Lilioceris fouana* Pic, 1932 (Figs 7–8, 17, 24–25)**

Crioceris fouanus Pic, 1932: 11 (China: Yunnan).

Lilioceris fouana: Gressitt & Kimoto, 1961: 48.

Material examined. Total 18 specimens. China: Gansu: 1♂, Kangxian, Qinghe Forest Farm / 1998.VII.14, Decheng Yuan coll.; 1♀, Wenxian / 1988.VII.20, Hongjian Wang coll.; Shaanxi: 1♂ (CCCC), Huxian, Huashuping, 1800 m, 2020.VI.19 J.T. Zhao coll.; 1♀, Hanzhong, Liping township / 1958.V.16, Shimei Song coll.; Hubei: 1♂, Xingshan, Longmen He / 1993.VI.23, Wenzhu Li coll.; 1♀, Xingshan, Longmen He / 1994.V.08, Youwei Zhang coll.; Sichuan: 1♂, Luding, Xinxing township / 1800 m, 1983.VI.13, Shuyong Wang coll.; 1♂, Emei Shan / 1955.VI.26, Xingchi Yang coll.; 1♂, Emei Shan, 1100–2100 m, 1955.VI.20, Yunzhen Zi coll.; 1♀, Luding, Xinxing township / 1983.VI.13, Shuyong Wang coll.; Yunnan: 1♂, Gongshan, Bingzhongluo village / 2002.IV.26, Hongbin Liang & Weidong Ba coll.; 1♀, Lijiang, Yulongshan Nature Reserve / 2005.VI.27, Wenhua Lu coll., 1♂ (MHU), Lushui, Pianma township / 2004.V.9–11, Xiujuan Yang & Yushuang Liu coll.; 2♂, Wuding, Chadian, Changji Road, N25.74144, E102.30336 / 2296 m, 2020.VII.11 D1, Yuan Xu and Neng Zhang coll.; 1♀ (MHU), Zhenyuan, Jiujia township / 2009.VIII.1–3, Jishan Xu & Jianxiong Zhang coll.; 1♀ (MHU), Lushui, Pianma, 2004.V.9–11, Xiujuan Yang, Yushuang Liu coll.; 1♀ (MNHN), Yunnan fou / Type / *fouana* n sp / Type / SYNTYPE / Syntype *Lilioceris fouanus* (Pic, 1932) / MNHN Paris EC11741.

Diagnosis. Femora and ventral surface of body black; antennomeres 5–10 twice as long as wide; pronotal disc a short longitudinal row of 3–5 small punctures; elytral punctures sparse throughout, large on basal half, slightly diminishing posteriorly, but not absent near apex; apex of mesoventral process strongly widened.

Redescription. BL 5.5–6.5 mm, BW 2.5–3.0 mm. Head, antennae, legs and ventral side of body black, pronotum, scutellum and elytra brownish red.

Head (Figs 7–8). HL/HW 1.3–1.6; vertex with a deep groove in middle, punctate laterally; occiput with a shallow furrow medially, sparsely punctate; gena punctate and setose; frontal tubercle glabrous, flat; frontoclypeal area triangular, disc with punctures and setae; labrum transverse, with long setae; antennae filiform, shorter than half of body length, antennomeres 1–4 nearly globular, 2 shortest, 5–10 cylindrical, twice as long as wide; antennomeres 1 and 2 sparsely pubescent and punctate, 3–11 densely pubescent and punctate.

Pronotum (Figs 7, 17A). PW/HW 1.7–2.0, PL/PW 0.8–0.9; anterior angle protruding, posterior angle not protruding; sides constricted in middle; middle of disc with a longitudinal row of 3–5 small punctures; posterior transverse impression indistinct, anterior transverse impression and basal transverse groove absent. Scutellum triangular and pubescent.

Elytra (Fig. 7). EL/EW 2.0–2.3; sutural angle rounded; humeri protruding, humeral groove distinct, basal impression indistinct; intervals smooth; stria punctures sparse and large on basal half, diminishing posteriorly, but not absent, interspace between two neighboring punctures in a stria larger than that in *L. neptis*; scutellary striae with 4–6 punctures; epipleura with upper margin slightly raised, with a row of fine punctures laterally.

Mesoventrite pubescent, apical portion of mesoventral process strongly widened, convex, tuberculate, horizontally connected with metaventrite (Fig. 17B). metaventral disc with a triangular setose patch near anterior margin (Fig. 17C); metepisternum densely pubescent.

Abdominal sternite with sparse setae and punctures, transverse impressions distinct in sternites 2–5, with dense punctures and pubescence.

Legs slender; tibiae with dense punctures, pubescence and two spurs; femora with dense pubescence on dorsal surface, with sparse setae on ventral surface, with middle area widened.

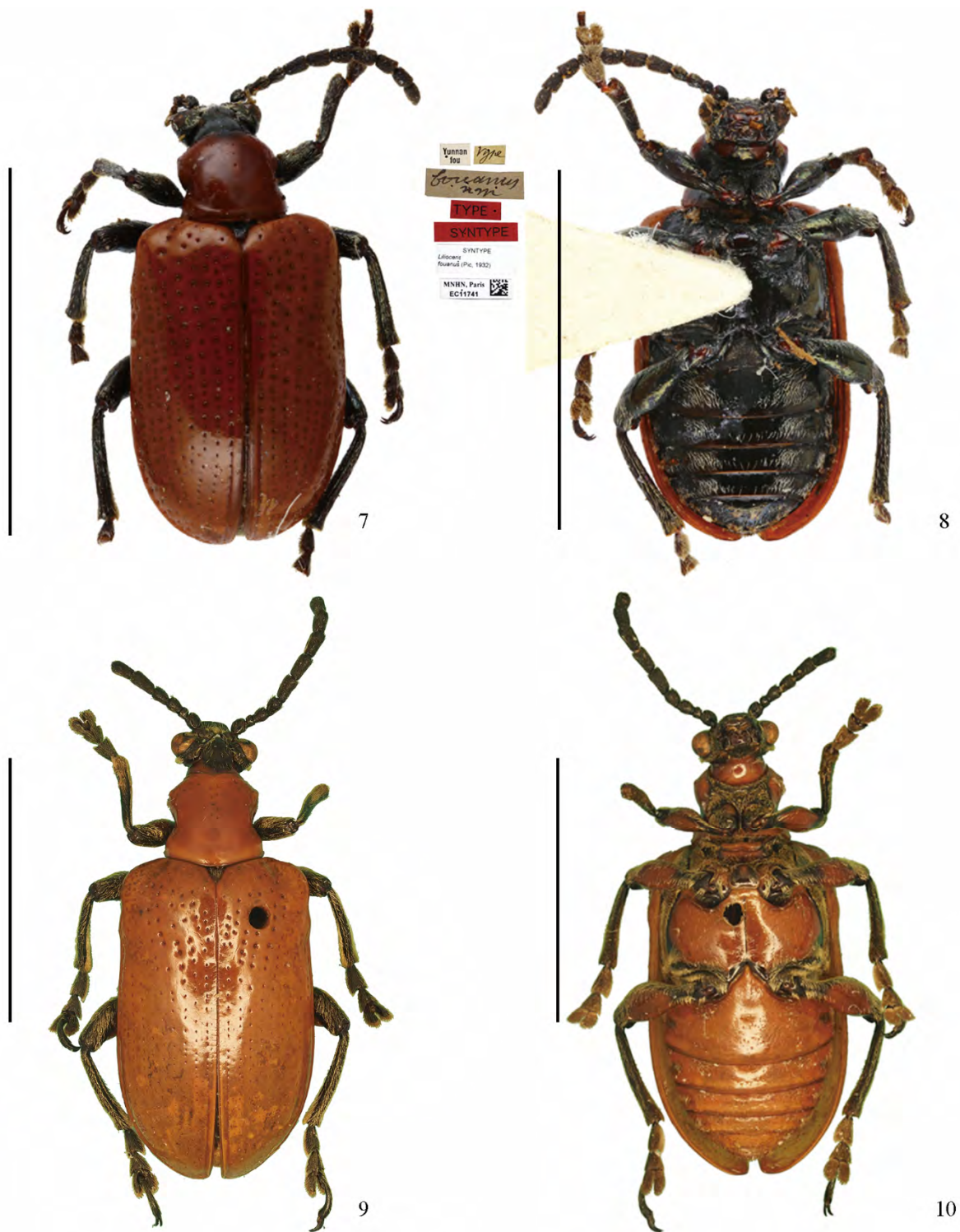
Male genitalia (Figs 24A–D). Median foramen occupying 1/5 length of median lobe (Fig. 24A); apex of median lobe round (Fig. 24B); tegmen Y shaped and weak, basal piece of tegmen triangular and relatively broad, lateral lobes weakly sclerotized, combined with second connecting membrane; internal sac membranous, with dorsal, median, and ventral sclerites

weakly sclerotized (Figs 24C–D), dorsal sclerite with straight extension (Fig. 24C).

Female reproductive organs (Figs 25A–C). Tergites 8 and 9, sternites 8 and 9 of female sclerotized, posterior areas of tergite 8 and sternite 8 with setae, without apodemes, spiculum gastrale short, X shaped, strongly widened in distal part, apical margin truncate; vaginal palpi with dense setae, very short and cylindrical; spermatheca complicatedly folded.

Distribution (Fig. 30). China (Gansu, Shaanxi, Hubei, Sichuan, Yunnan).

Host plant and habitat. This species feeds on *Dioscorea* sp. (Dioscoreaceae) according to the observation of the first



Figures 7–10. Habitus of *Lilioceris* spp. 7–8. *L. fouana*, ♀, syntype, China (Yunnan), photoed by Christophe Rivier. 9–10. *L. neptis*, ♂, China (Zhejiang: Tianmu Shan). 7, 9. Dorsal view. 8, 10. Ventral view. Scale bars = 5.0 mm.

author (XY) in Yunnan (Fig. 33). It is confined to west central China, at higher elevation (1800–2296 m) than other members of the species group. One collecting locality of *L. fouana* in Wuding County of Yunnan Province is situated in subtropical area. The vegetation is subtropical evergreen forest. The climate is characterized by distinct rainy summer and dry winter, annual temperature generally ranges 6 to 22°C. The forests are composed of tall trees, woody vines and epiphytes. The host plant *Dioscorea* sp. shares habitat with other plants such as *Pinus yunnanensis* (Pinaceae), *Alnus* sp. (Betulaceae), *Eucalyptus* sp. (Myrtaceae), *Adiantum* sp. (Pteridaceae), *Abelia* sp. (Caprifoliaceae), *Ageratina* sp. (Asteraceae), *Artemisia* sp. (Asteraceae) and *Ficus* sp. (Moraceae).

Remarks. The species is easy to recognize due to its small size, and complete but sparse punctures in each stria. It has been incorrectly placed in subgenus *Chujoita* Monrós, 1959 (Bezděk & Schmitt, 2017). According to our observation on the type specimen (Fig. 7), the species does not have obvious bulge on the elytral base, so it should be a member of subgenus *Lilioceris* Reitter, 1913.

***Lilioceris neptis* (Weise, 1922)** (Figs 9–10, 18, 21, 28)

Crioceris neptis Weise, 1922: 40 (China: Fujian).

Lilioceris neptis: Heinze, 1943: 104.

Lilioceris melli Heinze, 1943: 104 (China: Guangdong).

Material examined. Total 56 specimens. China: Zhejiang: 1♂, Tianmu Shan / 1936.VII.27; 1♂, Tianmu Shan / 1936.VII.15; 1♂, Huangyan / 1955.VII.16; Hunan: 1♂, Changsha, Yuelu Shan, 1957.VIII.2 / Chinese Academy of Sciences, 1079; Fujian: 1♂, Jiangle, Longqi Shan / 1991.V.26, Wenzhu Li coll.; 3♂3♀, Fuzhou, Gu Shan / 1973.V.24, Peiyu Yu coll.; 1♂, Dehua, Chengguan 510–550 m / 1960.VI.1, Fuji Pu coll.; 1♂, Dehua, Shangyong, 780–850 m / 1960.VI.16, Fuji Pu coll.; 1♂, Dehua, Dongli to Lianhuachi, 800–1560 m / 1960.VI.4, Chenglin Ma coll.; 2♀, Dehua, Dongli, 800–1150 m / 1960.VII.12, Fuji Pu coll.; Taiwan: 1♂ (MBSU), Formosa, Arisan to Boshe, Tainan-Taichu District, 1948.VIII.2, Gressitt / En-077135; Guangdong: 1♀ (NHMB), China, Canton, 1909–1910, Mell S. V. / *Lilioceris melli* n. sp. det. Eric Heinze / Cotype; 1♀ (MNHU), China, Canton, 1909–1910, Mell S. V. / *Lilioceris melli* n. sp. det. Eric Heinze / Type / SYNTYPUS, *Lilioceris melli* Heinze, 1943 / labeled by MNHUB 2009; 1♀ (MNHU), China, Canton, Su Lium Kum, Mell S. V. / *Lilioceris melli* n. sp. det. Eric Heinze / Cotype / SYNTYPUS, *Lilioceris melli* Heinze, 1943 / labeled by MNHUB 2009; 1♀, Dinghu Shan / 1965.IV.11–13, Youwei Zhang coll.; 6♂6♀, Guangzhou, Shipai / 1958, Baolin Zhang coll.; 2♀, Shenzhen, Yangmeikeng, 2020.III.17, Baoping Huang & Ying Yan; 1♂ (MBSU), Shenzhen / 2003.IV.15, Fenglong Jia coll. / Ent-077161; 1♂ (MBSU), Shenzhen / 2004.V.14, Fenglong Jia & Dandan Zhang coll. En-SYS; 1♀ (MBSU), Shenzhen, Wutong Shan / 1999.IV.19–22, Fenglong Jia coll. Ent-077861-SYS; 1♀ (MBSU), Shenzhen, Wutong Shan / 1998.IV.17–19, Qisheng Peng coll. Ent-077851; Hong Kong: 1♀ (MBSU), Honghualing / 2013.IV.14, H. Pang Legt / Ent-413219-SYS; 1♀ (MBSU), Honghualing / 2013.IV.14, H. Pang Legt / Ent-413217-SYS; 1♂ (MBSU), [no locality], L. Gressitt collector / NEPTIS / CRIOCERIS NEPTIS WS, J.L. Gressitt Det. / En-077423-SYS; Guangxi: 1♂9♀, Guilin Liangfeng / 1952.IV.30–V.17.; 1♀, Guilin, Yan Shan 202 m / 1963.V.13, Shuyong Wang coll.; 1♀, Yangshuo / 1938.VI.13.; 1♂, Pingyue / 1987.IV.

Diagnosis. Femora bicolored, brownish red with apex black; antennomeres 5–10 twice as long as wide; pronotal disc usually with two longitudinal rows (rarely one row) of punctures; elytra punctures strong in basal half, diminishing posteriorly, at most absent at extreme apex; apex of mesoventral process strongly widened.

Redescription. BL 8.5–10.0 mm, BW 4.2–4.5 mm. Head, antennae, scutellum, prosternum, mesoepisternum, mesoepimeron, metaepisternum, tibiae, tarsi and apex of femora black, remainder of femora, pronotum, elytra, mesoventrite, metaventrite, and abdomen brownish red.

Head (Figs 9–10). HL/HW 1.0–1.2; vertex with a shallow fovea in middle, punctate and setose laterally; occiput with a shallow furrow medially, densely punctate; frontal tubercle glabrous, slightly raised; frontoclypeal area triangular, disc with punctures and setae laterally; labrum transverse, with long setae; antennae filiform, nearly half as long as body, antennomeres 1–4 nearly globular, 2 shortest, 5–10 cylindrical, twice as long as wide; antennomeres 1 and 2 sparsely pubescent and punctate, 3–11 densely pubescent and punctate.

Pronotum (Figs 9, 18A). PW/HW 1.2–1.3, PL/PW 1.1–1.3; anterior angle protruding, posterior angle not protruding; side constricted in middle; anterior margin of disc with punctures, middle of disc usually with two rows (rarely one row) of punctures; anterior and posterior transverse impression absent, basal transverse groove weak. Scutellum triangular and densely pubescent.

Elytra (Fig. 9). EL/EW 2.2–2.5; sutural angle rounded; humeri protruding, humeral groove distinct, basal impression indistinct; intervals with fine punctures; stria punctures coarse at base, diminishing posteriorly, at most absent at extreme apex; scutellary stria composed of 2–4 punctures; epipleura with upper margin strongly raised, with a row of fine punctures laterally.

Mesoventrite pubescent; apical portion of mesoventral process strongly widened, convex, tuberculate, horizontally connected with metaventrite (Fig. 18B); outer metaventral disc with a long arcing setose area, extending from posterior margin to anterior margin (Fig. 18C); metepisternum densely pubescent.

Abdominal sternite with setae and punctures, transverse impressions distinct on sternites 2–5, with dense punctures and pubescence.

Legs slender; tibiae with dense punctures, pubescence and two spurs; femora with dense pubescence on dorsal surface, with sparse setae on ventral surface.

Male genitalia (Figs 21A–D). Median foramen occupying 1/5 length of median lobe (Fig. 21A); apex triangular (Fig. 21B); tegmen Y shaped, slender, basal piece of tegmen triangular, lateral lobes strongly sclerotized, combined with second connecting membrane; internal sac membranous, with dorsal, median, and ventral sclerites strongly sclerotized, distal part of dorsal sclerites distinctly widened (Figs 21C–D).

Female reproductive organs (Figs 28A–C). Tergites 8 and 9, sternites 8 and 9 of female sclerotized, posterior areas of tergite 8 and sternite 8 with dense setae, without apodemes, spiculum gastrale long, Y shaped, slightly widened in distal part, apical margin rounded; vaginal palpi with dense setae, cylindrical and long; spermatheca simply folded.

Distribution (Fig. 30). China (Zhejiang, Hunan, Fujian, Taiwan, Guangxi, Guangdong, Hong Kong), Japan (Kimoto, 1961).

Host plant and habitat. This species feeds on *Smilax* sp. (Smilacaceae) according to the observation of the collector (Fig. 34). It is confined to southeast China, and its living elevation is usually lower than *L. cantonensis* and *L. fouana*. One collecting locality of *L. neptis* in Shenzhen city (Fig. 35) is situated at the tropics area. The vegetation is tropical evergreen monsoon rain forest and south subtropical monsoon rain evergreen broad-leaved forest. The climate is characteristic of high temperature, plentiful precipitation, and high humidity. The forests are composed of tall trees, woody vines and epiphytes. The host plant *Smilax* sp. (Smilacaceae) shares habitat with other plants such as *Schefflera octophylla* (Araliaceae), *Litchi chinensis* (Sapindaceae), *Rhodomyrtus tomentosa* (Myrtaceae), *Melicope pteleifolia* (Rutaceae), *Ilex asprella* (Aquifoliaceae), *Rhaphiolepis indica* (Rosaceae), *Litsea rotundifolia* var. *oblongifolia* (Lauraceae) and *Itea chinensis* (Iteaceae).

Remarks. *L. neptis* is widely distributed in southeast China and southeast Japan. However, there are some mistakes in the former literatures. Gressitt & Kimoto (1961: 44, fig. 13e) correctly illustrated its metaventral stripe of setae, extending from anterior to posterior margin. It is also characterized by the elytral punctures present nearly full length of striae. Specimens of *L. neptis* examined in IZCAS, MBSU, MCAU, MHU, fit well with these characters. While the “*L. neptis*” illustrated by Lee & Cheng (2007: 44) is actually *L. lateritia* (Baly, 1863). Based on the type specimen in BMNH, the outer metaventral disc of *L. lateritia* is fully covered with dense setae, and apex of mesoventrite is very narrow, perpendicularly connected with metaventrite.

In addition, *Lilioceris formosana* Heinze, 1943 was originally described as a subspecies of *L. neptis*. Based on Heinze's type series in MNHU, Kimoto (1984: 39) raised it as a distinct species, and distinguished it from *L. neptis* (Kimoto & Takizawa, 1994: 108; 1997: 107) by the flat mesoventrite (tuberculate on *L. neptis*). We examined three syntypes in BMNH, whose mesoventral process are pubescent, not widened apically, not tuberculate, but perpendicularly connected with metaventrite. Moreover, “*L. formosana*” illustrated by Lee & Cheng (2007: 46) was misidentified, and needs further study.

***Lilioceris subpolita* (Motschulsky, 1861) (Figs 2, 11–12, 19, 23, 29)**

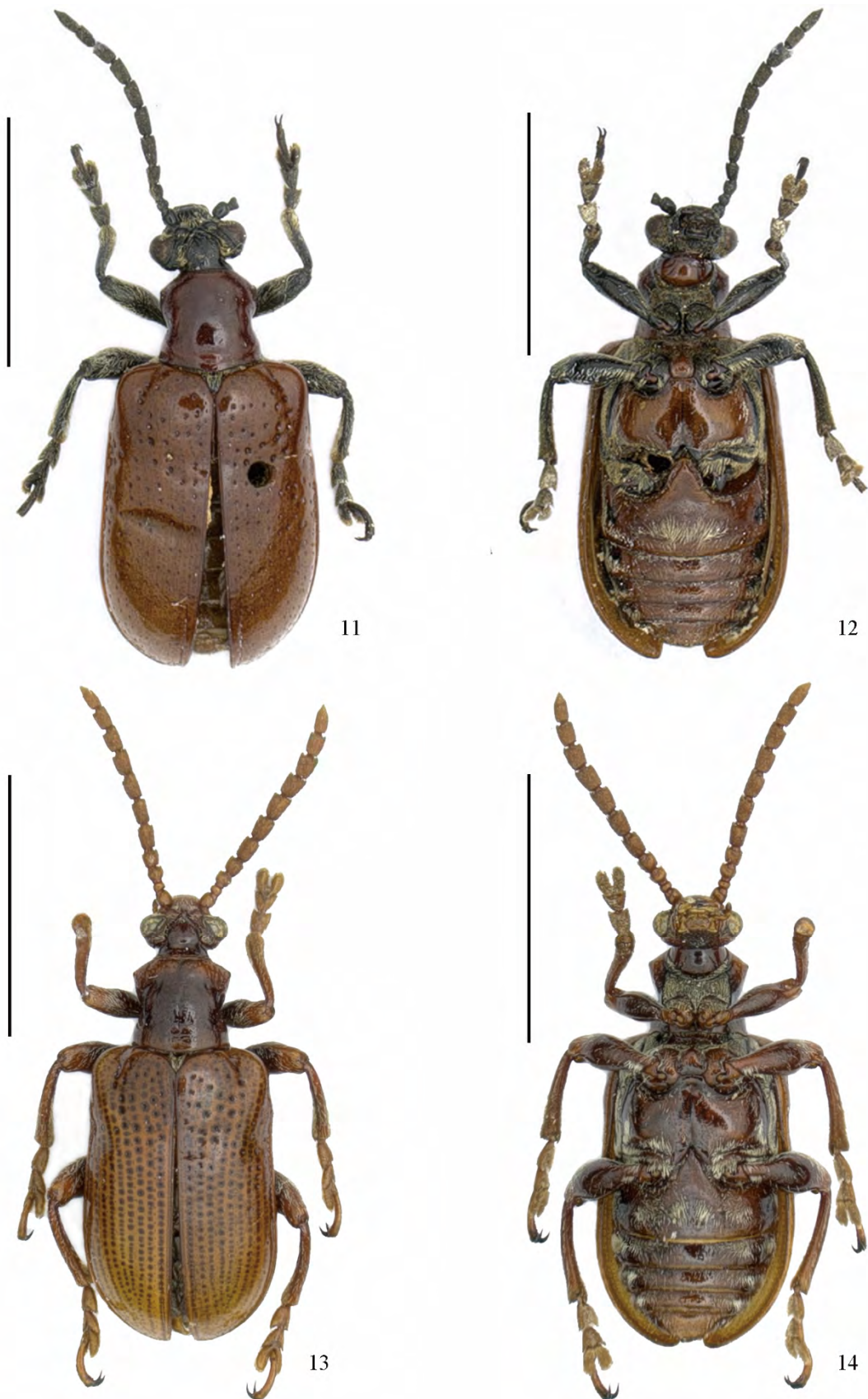
Crioceris subpolita Motschulsky, 1861: 22 (Siberia)

Lilioceris subpolita: Heinze, 1943: 103

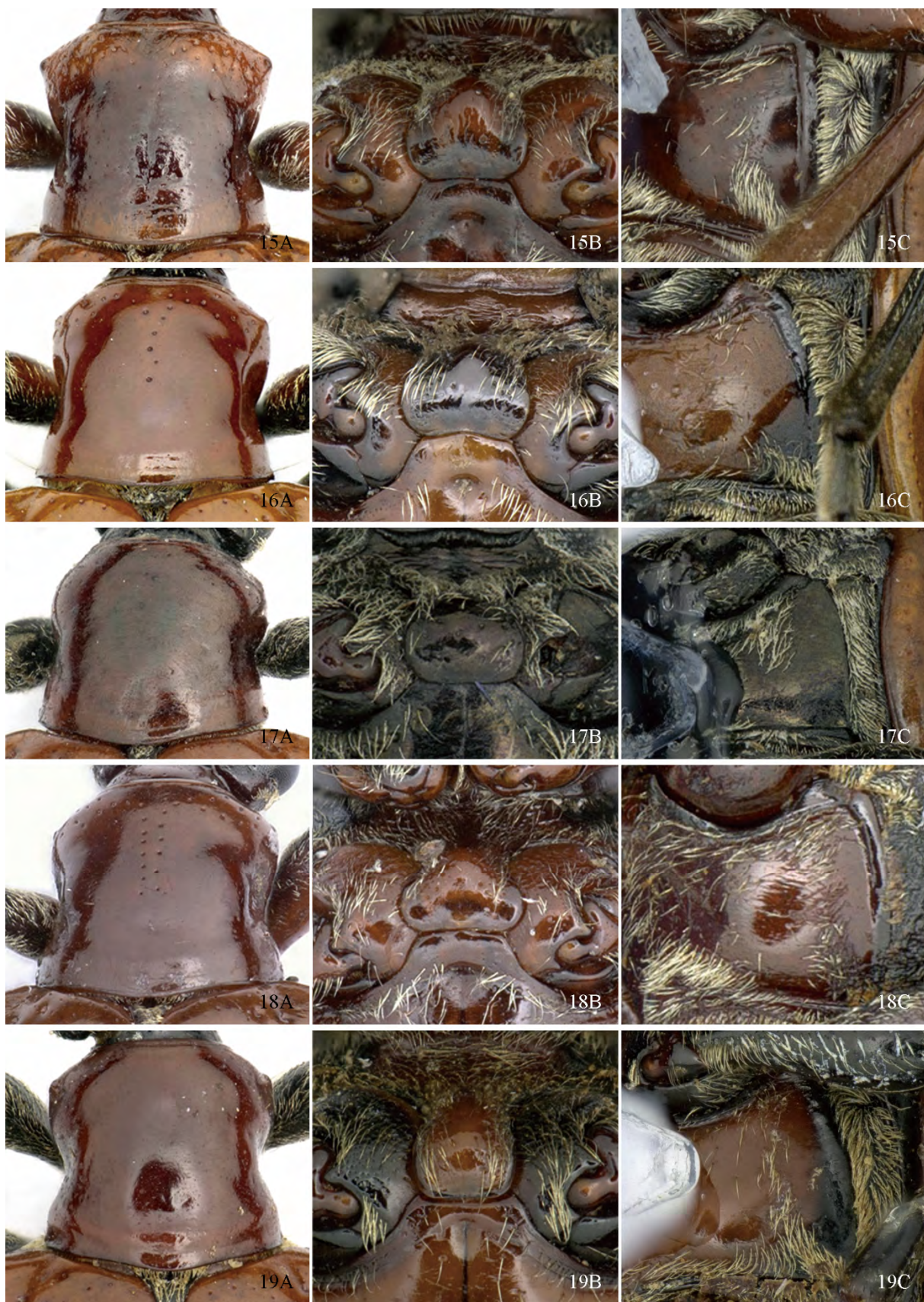
Material examined. Total 14 specimens. Russia: one specimen (BMNH, sex undetermined), SYN-TYPE / Type, Motschulsky [in Baly's handwriting] / *Crioceris subpolita* Motsch, Siberia; Japan: 2♂, Minomo, Osaka / 1932.VIII.3, S. YIE; 1♂, Mont Takao / Pres. Hachioji / Japan, 1930.V.9, Edme-Gallois; 2♀, MINOMO OSAKA / 1932.VIII.3, S. YIE coll.; 2♀, Mont Takao / Pres. Hachioji, Japan / 2008.VI.1, Edme-Gallois; 1♀, Mt. Takao / 1932.VI.11; 2♀, Nippon Moyon / Env. De. Tokio / Et Alpes De Nikko / J. Harmand, 1901; 1♀, Jozankei / 1924.VIII / Y. Ouchi; 1♀, Japan / D.E.N.M / *Crioceris subpolita* Motsch; 1♀ (MBSU), Mozi Kyusyu, Japan, 1938.IV. 30, H. Okawa / *Crioceris subpolita* Motschulsky, Det M. Chujo / En-077528, MBSU.

Diagnosis. Femora black; antennomeres 5–10 twice as long as wide; pronotal disc with sparse fine punctures; elytral punctures large at base, diminishing posteriorly, sparse or absent in apex; apex of mesoventral process slightly widened.

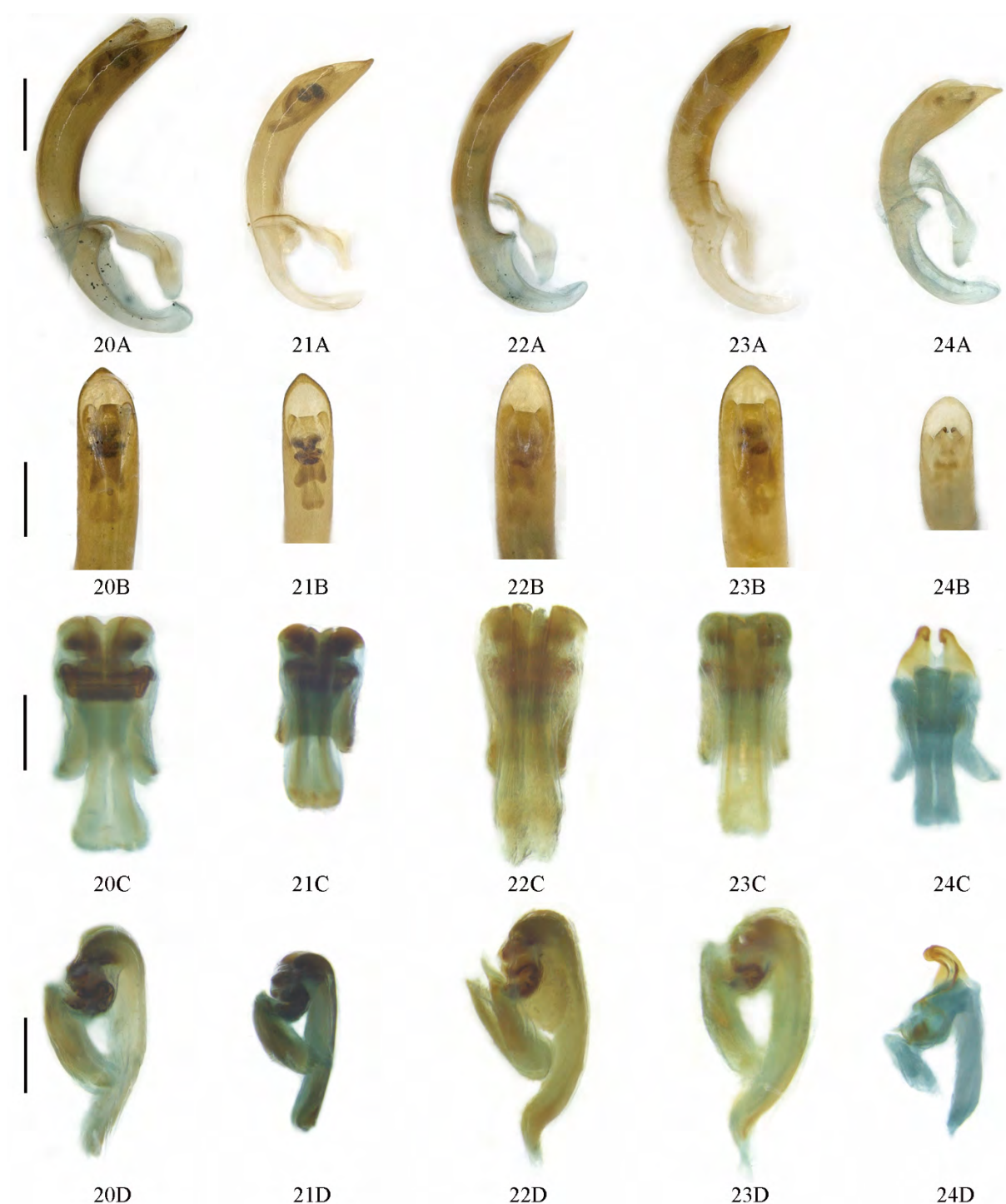
Redescription. BL 7.0–12.0 mm, BW 3.3–4.2 mm. Head, antennae, scutellum prosternum, mesoepisternum, mesoepimeron, metaepisternum, lateral sides of mesoventral, lateral sides of sternite, and legs black, remainders brownish red.



Figures 11–14. Habitus of *Liliocerus* spp. 11–12. *L. subpolita*, ♂, Japan (Osaka: Minomo); 13–14. *L. vietnamica*, ♂, China (Yunnan: Menghai). 7, 9. Dorsal view. 8, 10. Ventral view. Scale bars=5.0mm.



Figures 15–19. Pronotum, mesoventral process and metaventricle of *Lilioceris* spp. 15. *L. vietnamica*, ♂, China (Yunnan: Menghai). 16. *L. cantonensis*, ♂, China (Zhejiang: Tianmu Shan). 17. *L. fouana*, ♂, China (Sichuan: Luding). 18. *L. neptis*, ♀, China (Hong Kong: Honghualing). 19. *L. subpolita*, ♂, Japan (Osaka: Minomo). A. Pronotum. B. Mesoventral process. C. Metaventral disc.



Figures 20–24. Male genitalia of *Liliocerus* spp. 20. *L. cantonensis*, China (Zhejiang: Tianmu Shan). 21. *L. neptis*, China (Fujian: Dehua). 22. *L. vietnamica*, China (Yunnan: Menghai). 23. *L. subpolita*, Japan (Osaka: Minomo). 24. *L. fouana*, China (Sichuan: Luding). A. Aedeagus, lateral view. B. Aedeagus, dorsal view. C. Dorsal sclerite, dorsal view. D. Sclerites in internal sac, lateral view. Scale bars: A–B=0.5 mm; C–D=0.2 mm.

Head (Figs 2, 11–12). HL/HW 1.1–1.3; vertex with a deep groove in middle, punctate and setose laterally; occiput with a shallow furrow medially, densely punctate; frontal tubercle glabrous, slightly raised; frontoclypeal area triangular, disc with punctures and setae laterally; labrum transverse, with long setae; antennae filiform, nearly half as long as body length, antennomeres 1–4 nearly globular, 2 shortest, 5–10 each cylindrical, twice as long as wide; antennomeres 1–2 sparsely pubescent and punctate, 3–11 densely pubescent and punctate.

Pronotum (Figs 2, 11, 19A). PW/HW 1.1–1.2, PL/PW 1.0–1.2; anterior angle protruding, posterior angle not protruding; side constricted in middle; disc with sparse fine punctures; anterior and posterior transverse impression absent, basal transverse groove weak. Scutellum triangular and densely pubescent.

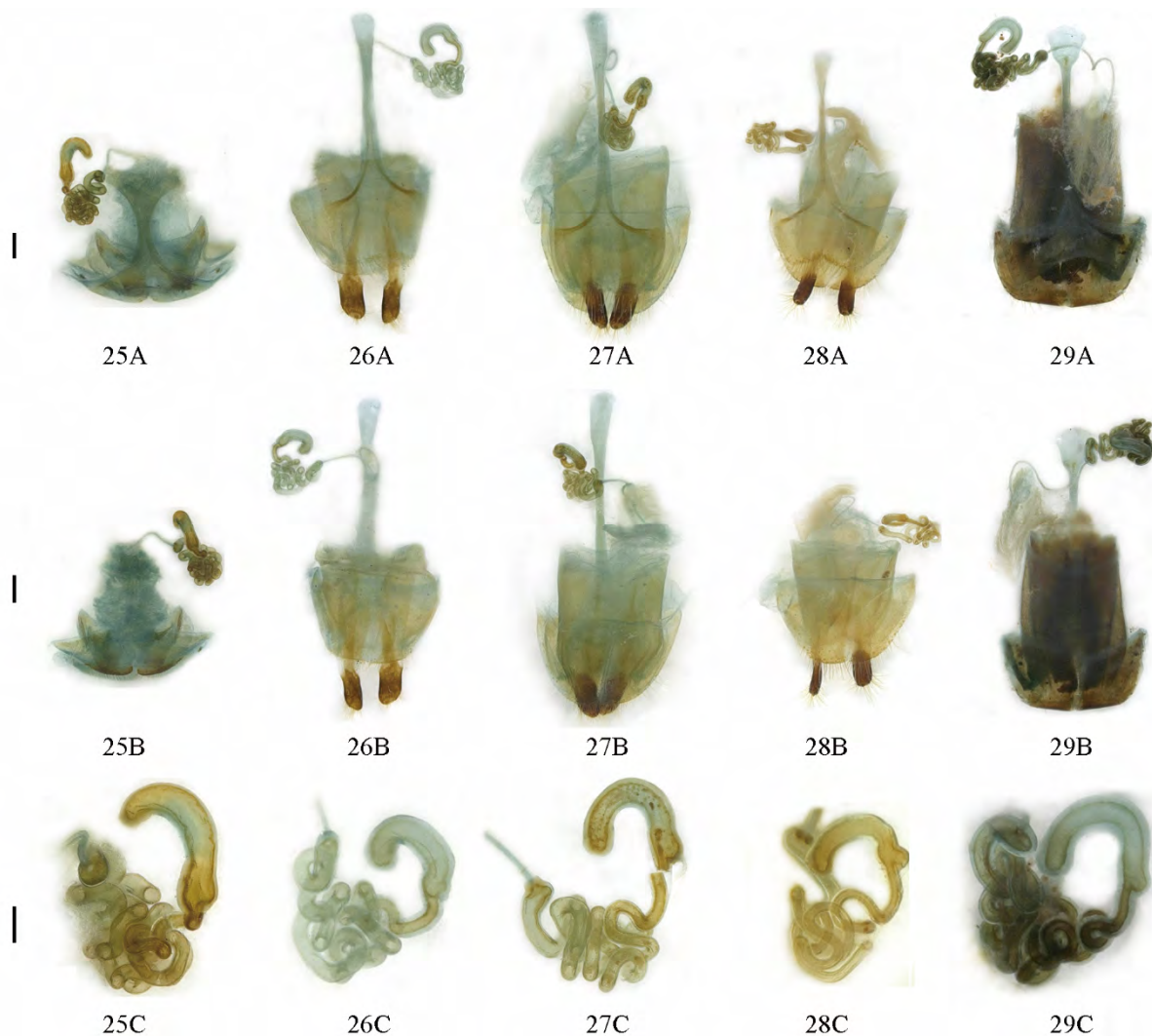
Elytra (Figs 2, 11). EL/EW 2.1–2.2; sutural angle rounded; humeri protruding, humeral groove distinct, basal impression distinct; intervals with sparse fine punctures; stria punctures sparse, coarse at base, diminishing posteriorly, much sparser or absent at apex, scutellary stria composed of 2–5 punctures; epipleura with upper margin strongly raised, with a row of fine punctures laterally.

Mesoventrite pubescent; apical portion of mesoventral process slightly widened apically, convex, tuberculate, horizontally connected with metaventrite (Fig. 19B); metaventral disc with a long arcing setose area, extending from posterior margin to anterior margin (Fig. 19C); metepisternum densely pubescent.

Abdominal sternite with setae and punctures, transverse impressions distinct on sternites 2–5, with dense punctures and pubescence.

Legs slender; tibiae with dense punctures, pubescence and two spurs; femora with dense pubescence on dorsal surface, with sparse setae on ventral surface.

Male genitalia (Figs 23A–D). Median foramen occupying 1/5 length of median lobe aedeagus (Fig. 23A); apex triangular (Fig. 23B); tegmen Y shaped, slender, basal piece of tegmen triangular, lateral lobes strongly sclerotized, combined with second connecting membrane; internal sac membranous, with dorsal, median, and ventral sclerites moderately sclerotized, distal part of dorsal sclerite squarely shaped (Figs 23C–D).



Figures 25–29. Female reproductive organs of *Lilioceris* spp. 25. *L. fouana*, China (Sichuan: Luding). 26. *L. vietnamica*, China (Yunnan: Jinghong). 27. *L. cantonensis*, China (Zhejiang: Tianmu Shan). 28. *Lilioceris neptis*, China (Guangxi: Guilin). 29. *L. subpolita*, Japan (Mont Takao). A. Dorsal view. B. Ventral view. C. Spermatheca. Scale bars: A–B=0.5 mm; C=0.1 mm.

Female reproductive organs (Figs 29A–C). Tergites 8 and 9, sternites 8 and 9 of female sclerotized, posterior areas of tergite 8 and sternite 8 with dense setae, without apodemes, spiculum gastrale long, Y shaped, strongly widened in distal part, apical margin rounded; vaginal palpi with dense setae, cylindrical and long; spermatheca complicatedly folded.

Distribution (Fig. 30). Russia (Siberia), Japan (Heinze, 1943; Medvedev, 1958; Kimoto, 1961; Naito, 2012).

Host plant and habitat. *Smilax china* L. and *S. riparia* A. DC in Japan (Naito, 2012). Habitat unknown.

Remarks. This species can be distinguished from *L. neptis* by the following features: pronotal disc nearly smooth, without rows of punctures; elytral punctures sparse in base. In *L. neptis*, the pronotal disc has two rows (rarely one row) of large punctures; elytral punctures are dense in base.

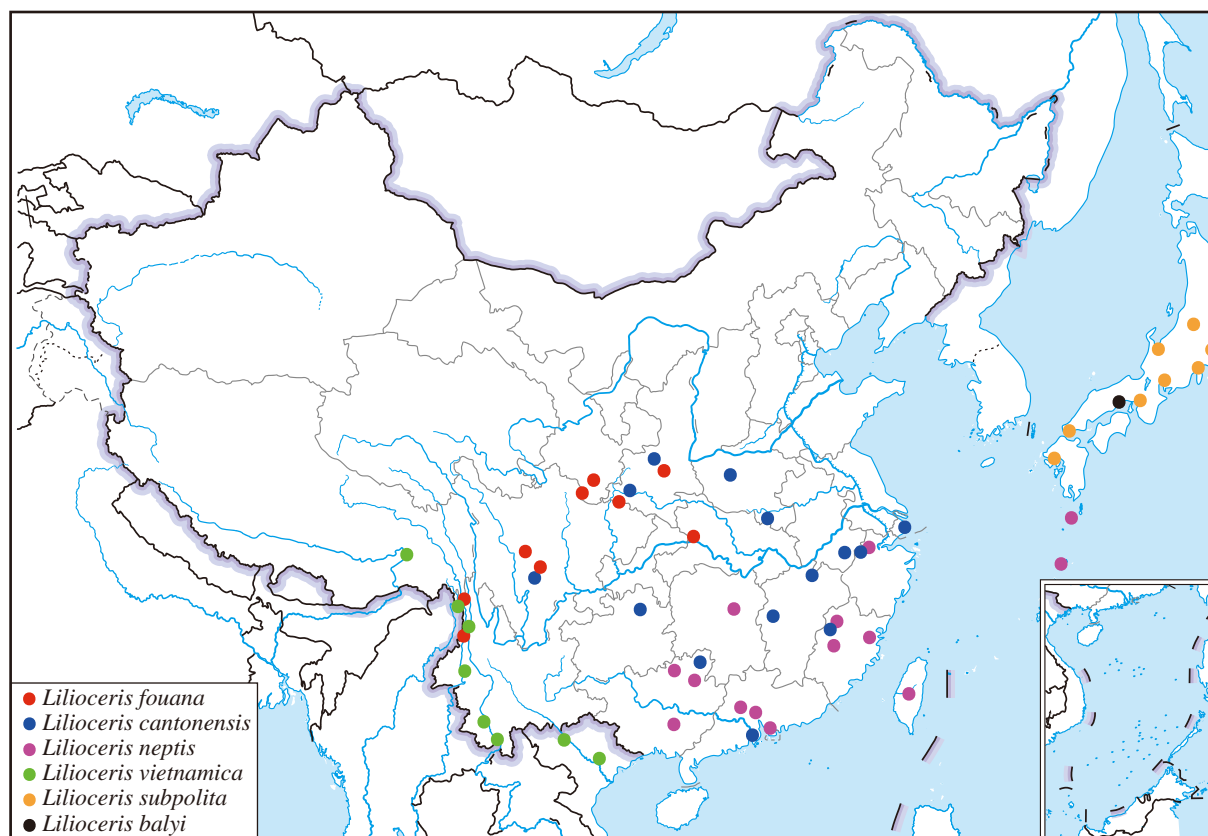


Figure 30. Distribution map of *Lilioceris* spp. in East Asia.

***Lilioceris vietnamica* Medvedev, 1985** (Figs 13–15, 22, 26)

Lilioceris vietnamica Medvedev, 1985: 66 (Vietnam, Hoang Lien Son: Sapa)

Material examined. Total 18 specimens. China: Yunnan: 1♀, Gongshan, Dulongjiang, Kongdang, roadside / 2004.X.25, N27.87696, E98.33587, 1525 m, Hongbin Liang coll.; 1♀, Tengchong, Houqiao, Xiejie vill. on shrubs, N25.35531, E98.25419 / 1840m, 2006.V.30, D. Kavanaugh, R. Brett coll.; 1♀, Tengchong Jietou, Zhoujiapo, beating, 1660m / 2006.V.16, Changmin Yin coll.; 1♀, Longling, 1500 m / 1956.VI.27, Benshou Zhou coll.; 1♂, Longling, 1600m / 1955.V.20, Le Wu coll.; 1♂, Lancang, 1600m / 1957.VIII.7, Shuyong Wang coll.; 1♀, Xishuangbanna, Damenglong, 650m / 1958.IV.8, Fuji Pu coll.; 1♂, Xishuangbanna, Meng-a, 1050–1080m / 1958.VIII.16, Fuji Pu coll.; 1♂, Xishuangbanna, Meng-a, 1050–1080 m / 1958.VIII.18, Shuyong Wang coll.; 1♀, Xishuangbanna, Meng-a / 1958.V.18, Fuji Pu coll.; 1♂1♀, Xishuangbanna, Menghai 1200–1600m / 1957.VIII.13, Shuyong Wang coll.; 2♀, Xishuangbanna, Menghun, 1200m / 1958.V.10–13, Yiran Zhang coll.; 1♂, Xishuangbanna, Mengsong, 1600m / 1958.VIII.18, Shuyong Wang coll.; 1♀, Xishuangbanna, Mengsong, 1600 m / 1958.VII.26, Leyi Zheng coll.; 1♀, Xishuangbanna, Mengzhe, 1200 m / 1958.VIII.29, Wang Shuyong coll.; 2♂, Menghai, Bulangshan, N21.75840, E100.28055 / 1156 m, 2011.IV.28 D, H.B. Liang, K.Q. Li coll.; 4♂1♀, Menghai, Menghun, Mannong Xinzhai, N21.78233, E100.50706, 1582 m / 2021.IV.2 D, H.B. Liang, Y. Xu, N. Zhang coll.; 1♂, Menghai, Menghun, Mannong Xinzhai, N21.78233, E100.50706, 1582 m / 2021.IV.3 D, H.B. Liang, Y. Xu coll.; 6♀, Menghai, Menghun, Mannong Xinzhai, N21.78233, E100.50706, 1582m / 2021.IV.8 D, H.B. Liang, Y. Xu, N. Zhang coll. Tibet: 1♀, Mêdog, 1983 / Yinheng Han coll.

Diagnosis. Femora and sternites dark brown; antennomeres 5–10 slightly longer than wide; anterior margin of pronotum with large punctures, disc smooth or with two very short rows of large punctures; elytra with large punctures in base, diminishing posteriorly, absent in apical half; apex of mesoventral process strongly widened.

Redescription. BL 8.0–10.0 mm, BW 4.2–4.5 mm. Prosternum, mesoepisternum, meta-episternum, claws black, remainders brownish red.

Head (Figs 13–14). HL/HW 1.4–1.7; vertex with a shallow fovea in middle, punctate and setose laterally; occiput with a shallow furrow medially, densely punctate; gena punctate and setose; frontal tubercle glabrous, raised; frontoclypeal area triangular, disc with fine punctures and setae; labrum transverse, with long setae; antennae filiform, nearly half as long as body, antennomeres 1–4 nearly globular, 2 shortest; antennomeres 1 and 2 sparsely pubescent and punctate, 3–11 densely pubescent and punctate.

Pronotum (Figs 13, 15A). PW/HW 1.2–1.3, PL/PW 1.1–1.2; anterior angle strongly protruding; posterior angle not protruding; sides constricted in middle; anterior margin with large punctures, middle of disc smooth or with two short rows of punctures; anterior transverse impression indistinct, posterior transverse impression shallow, basal transverse groove distinct. Scutellum triangular and densely pubescent.

Elytra (Fig. 13). EL/EW 1.5–1.7; sutural angle rounded; humeri protruding, humeral groove distinct, basal transverse impression indistinct; scutellary striole composed of 2–4 punctures; epipleura with upper margin raised, with a row of fine punctures laterally.

Mesoventrite pubescent; apical portion of mesoventral process strongly widened, convex, horizontally connected with metaventrite (Fig. 15B). Outer area of metaventral disc with an oblique setose patch, extending from posterior angle to middle (Fig. 15C); metepisternum densely pubescent.

Abdominal sternites with sparse setae and punctures; transverse impressions distinct on sternites 2–5, with dense



Figures 31. Biology of *Lilioceris cantonensis*. 31. Host plant, *Smilax* sp., Menghai, 2011.VI.2, photoed by Kaiqin Li. 32. Habitat, Tianmu Shan, 2014.VII.17, photoed by Ye Liu.



Figure 33. Host plant of *Lilioceris fouana*: *Dioscorea* sp., Wuding, 2020.VII.11, photoed by Yuan Xu.

punctures and pubescence.

Legs slender; tibiae with dense punctures pubescence and two spurs; femora with dense pubescence on dorsal surface, with sparse pubescence on ventral surface.

Male genitalia (Figs 22A–D). Median foramen occupying 1/6 length of median lobe (Fig. 22A); apex rounded (Fig. 22B); tegmen Y shaped, slender, basal piece of tegmen triangular, relatively broad, lateral lobes strongly sclerotized, combined with second connecting membrane; internal sac membranous, with dorsal, median, and ventral sclerites moderately sclerotized (Figs 22C–D).

Female reproductive organs (Figs 26A–C). Tergites 8 and 9, sternites 8 and 9 of female sclerotized, posterior areas of tergite 8 and sternite 8 with dense setae, without apodemes; spiculum gastrale long, Y shaped, slightly widened in distal part, apical margin rounded; vaginal palpi with dense setae, cylindrical and long; spermatheca greatly convoluted.

Distribution (Fig. 30). China (Yunnan, Tibet), Vietnam (Medvedev, 1985).

Host plant and habitat. This species feeds on *Smilax* sp. (Smilacaceae) and *Dioscorea* sp. (Dioscoreaceae) according to the record of Medvedev (1985). *Smilax china* was recorded in Yunnan (Fig. 36). *L. vietnamica* is confined in south and southwest China and Vietnam at the elevation from 650 to 1840 m. One collecting locality in Menghai County of Yunnan Province is situated at the tropical area at elevation 1582 m (Fig. 37). The climate is characteristic of high temperature, plentiful precipitation, and high humidity. The vegetation of the locality is secondary forest, and there has a lot of leaf litter on the ground. The forests are composed of tall trees, woody vines and epiphytes. The host plants *Smilax* sp. (Smilacaceae) share their habitat with other plants such as Bambusoideae, Moraceae, Lauraceae, Fagaceae, Dennstaedtiaceae.

Remarks. This species can be distinguished from *L. neptis* (Weise) by the following features: antennomeres 5–10 quadrangular, slightly longer than wide; pronotal disc smooth or with two short rows of large punctures (antennomeres 5–10 cylindrical, twice as long as wide; pronotal disc with two long rows of large punctures in *L. neptis*).

The species is recorded in China for the first time. Medvedev (1985) described this species from Sapa of northern Vietnam, providing a few critical characters: antennomeres 5–10 slightly longer than wide; pronotum with two short rows



Figures 34–37. 34. A couple of *Lilioceris neptis* Weise standing on leaf of *Smilax*, Shenzhen, 2020.III.17, photoed by Baoping Huang. 35. Habitat of *Lilioceris neptis* Weise, Shenzhen, 2020.III.10, photoed by Baoping Huang. 36. Host plant of *Lilioceris vietnamica* Medvedev: *Smilax* sp., Menghai, 2021.IV.2. 37. Habitat of *Lilioceris vietnamica* Medvedev, Menghai, 2021.IV.2.

of large punctures; elytral punctures absent on apical half (only dark pigment visible); process of mesoventrite with a distinct tubercle. So we redescribed it here.

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