



An update to the taxonomy of Sericini (Coleoptera: Scarabaeidae: Sericinae) from Xizang, China

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Abstract

In this paper we update the knowledge on the species of Sericini occurring in Xizang, China. Seven new species are described: *Gynaecoserica medogensis* Liu W., Ahrens & Yang, **sp. nov.**, *Maladera baibungensis* Liu W., Ahrens & Yang, **sp. nov.**, *Neoserica jiagaensis* Liu W., Ahrens & Yang, **sp. nov.**, *N. nyingchiana* Liu W., Ahrens & Yang, **sp. nov.**, *N. parazhehaoi* Liu W., Ahrens & Yang, **sp. nov.**, *N. virgula* Liu W., Ahrens & Yang, **sp. nov.**, and *N. zhehaoi* Liu W., Ahrens & Yang, **sp. nov.** The habitus and male genitalia of the new species are illustrated, and a map shows the distribution of the new species. Furthermore, new records of three known species are given.

Key words: Beetles, chafers, new species, Xizang

Introduction

The Himalaya and Tibetan highlands are one of the diversity hotspots of Sericini (Ahrens 2004a; Ahrens & Fabrizi 2016). The mountain ranges of the Himalaya and surrounding highlands have been hypothesized to be refugia during periods of climate fluctuations such as during the Pleistocene (Ahrens 2004a, 2007). The taxonomy of Sericini fauna of the Himalaya and Tibetan highlands was revised in detail by Ahrens (1995a, b, 1996, 1998, 1999a–c, 2000a–d, 2001a, b, 2003, 2004b) and Ahrens & Sabatinelli (1996). Subsequently, large amounts of new taxa and distribution data were added in a series of papers, also with focus on the more eastern parts of Tibet and China (Ahrens 2004c, 2005a–e, 2006f, 2009, 2011, 2012, 2021a, b, 2023a, b; Ahrens & Fabrizi 2009a, b, 2011, 2016; Ahrens *et al.* 2014a, b, 2015, 2021, 2022, 2023, 2024; Fabrizi *et al.* 2021; Liu *et al.* 2014a–e, 2015, 2016, 2017a, b, 2019; Chandra *et al.* 2021; Bhunia *et al.* 2021, 2023; Su *et al.* 2023; Zhao & Ahrens 2023; Gupta *et al.* 2025; Sredeevee & Ahrens 2025). However, wide areas remained unexplored while several phylogenetic studies exploring the diversification and biogeographic patterns of the Himalayan Sericini fauna (Ahrens 2005c, 2006a–e, 2007a, b). These phylogenetic studies have predicted a crucial role of eastern Tibetan regions for the evolution of most lineages in the region. This paper here confirms the assumption that the eastern Himalaya and the adjacent mountain regions of southwest China including the Tibetan highlands still offer plenty of new discoveries and need to be further explored in detail. These

knowledge gaps hamper our understanding and hypotheses on the diversification and evolutionary radiation of the Asian fauna in which the eastern areas of the Himalaya and Tibet have been identified as an important crossroad for the faunas (Ahrens 2005c, 2006a–e, 2007a, b). Here, we examined some recently collected specimens from the Institute of Zoology, Chinese Academy of Sciences. The material contained several new species which are described herein, and some new locality records that are also given. Furthermore, the distribution map of new species and collecting environment images are provided (Figs 5, 6).

Material and methods

The terminology and methods used for measurements, specimen dissection, and genital preparation follow Ahrens (2004b). Data from specimens examined are cited in the text with original label contents given in quotation marks; multiple labels for a single specimen are separated by a “/”. Descriptions and illustrations of new taxa are based on the holotype specimen if not otherwise stated, while the variation of specimens is given separately under “variation”. Male genitalia were glued to a small, pointed card and photographed in both lateral and dorsal views using an Olympus SZ61-TR stereomicroscope with an Mshot MD 50 digital camera. All the parameter adjustment and images acquisition was done in MShot Image Analysis System v. 1.6.1. To obtain an entirely focused image, several partly focused images were also focus–stacked with this software. The resulting images were subsequently digitally edited with Adobe Photoshop v. 21.0.2. Distribution maps were generated using ArcGIS v. 10.3, based on the geographical coordinates from the specimen labels.

Abbreviations used in the text for collection depositories are as follows:

IZCAS	Institute of Zoology, Chinese Academy of Sciences, Beijing, China;
ZFMK	Zoologisches Forschungsinstitut und Museum A. Koenig, Bonn, Germany;
ZMPC	Ming-Zhi Zhao, personal collection, Zhuhai, China.

Taxonomy

New species description

Neoserica nyingchiana Liu W., Ahrens & Yang, sp. nov.

urn:lsid:zoobank.org:act:CD0CC208-43DA-4CA9-9AF9-F75361ED3CBA

Type material. HOLOTYPE: CHINA: ♂, “San’ge restaurant, Bowo County, Nyingchi City, Xizang, China, 30.102653N, 95.079742E, 2073 m, 24.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市波密县三哥饭店田哲豪采]” (IZCAS). **PARATYPES: CHINA:** 1 ♂, “San’ge restaurant, Bowo County, Nyingchi City, Xizang, China, 30.102653N, 95.079742E, 2073 m, 24.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市波密县三哥饭店田哲豪采]” (ZFMK); 1 ♂, “Gèling Village, Mêdog County, Nyingchi City, Xizang, China, 29.233592N, 95.177028E, 1477 m, 17.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县格林村田哲豪采]” (IZCAS); 1 ♂, “CHINA: Xizang, Nyingchi City, Mêdog County, 1143 m, 29°19’22.62”N, 95°20’1.65”E, 26.VII.2022 (at light), Chuan-Tao Zhai leg.” (ZMPC).

Description of holotype. Body length: 10.2 mm, length of elytra: 8.2 mm, width: 6.0 mm. Body oblong, dark reddish brown, ventral surface reddish brown, antennal club yellowish brown, anterior labroclypeus shiny, dorsal surface dull, sparsely setose.

Labroclypeus subtrapezoidal, distinctly wider than long, widest at base, lateral margins moderately convex and obvious convergent anteriorly, anterior angles moderately rounded, anterior margin weakly sinuate medially, margins moderately reflexed; surface nearly flat and shiny, basis without dull toment, punctation dense, anteriorly more sparse, behind the anterior margin with coarse punctures each bearing a long erect seta; frontoclypeal suture indistinctly incised, flat and distinctly curved medially; smooth area anterior to eye approximately 2 times as wide as long; ocular canthus moderately long (length = 1/3 of ocular diameter) and slender, glabrous, with a fine terminal seta. Frons dull, with fine and sparse punctures, beside and between the eyes with a few erect setae. Eyes moderately large, ratio diameter/interocular width: 0.67. Antenna with ten antennomeres, club with five antennomeres, straight, 1.2 times as long as the remaining antennomeres combined; antennomeres 1 and 2 expended, antennomere 3 as long

as half of pedicellus. Mentum elevated and slightly flattened anteriorly. Labrum distinctly produced medially, with a moderate median sinuation.

Pronotum moderately transverse, subtrapezoidal, widest at 1/3 before base, lateral margins weakly convex, convexly bent at middle, in basal half convergent posteriorly, in apical half strongly convergent anteriorly, anterior angles sharp and distinctly produced, posterior angles blunt, slightly rounded at the tip; anterior margin nearly straight, with a distinct and complete marginal line; surface densely and finely punctate with minute setae in punctures; setae of anterior and lateral border sparse; hypomeron basally distinctly carinate, but carina not produced. Scutellum moderately long, triangular with convex sides and with the apex slightly rounded, with fine, moderately dense punctures, with only minute setae.

Elytra oblong, apex slightly truncate, widest at middle, striae weakly impressed, finely and moderately densely punctate, intervals nearly flat, with moderately dense evenly spaced, fine punctures, intervals with a few fine white setae, otherwise only with very minute setae in punctures; epipleural edge fine, ending at the blunt external apical angle of elytra, epipleura sparsely setose, apical border chitinous, with only a very fine fringe of microtrichomes (visible at 100× magnification).

Ventral surface dull, coarsely and densely punctate, metasternum sparsely covered with setae on the disc, glabrous on sides; metacoxa glabrous, with a few short setae laterally, posterior margin weakly convex; abdominal sternites finely and unevenly densely punctate, nearly glabrous, with a transverse row of coarse punctures, each bearing a robust short seta. Mesosternum between mesocoxae half as wide as slender mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.15. Pygidium weakly convex and dull, coarsely and densely punctate, without smooth midline, with a few semi-erect setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and sparsely punctate between the rows; metafemur dull, anterior margin acute, behind anterior edge without serrated line, setae of anterior longitudinal row obvious, posterior margin in apical half ventrally smooth and slightly widened, posterior margin dorsally distinctly serrated, on its basal portion with a few short setae. Metatibia moderate slender and long, widest at apex, ratio of width/length: 1/3.5, sharply carinate dorsally, with two groups of spines, basal group just before the middle, apical group at three quarters of metatibial length, basally with a few robust but single setae; lateral face longitudinally convex, very finely, superficially and sparsely punctate, subdorsal longitudinal carina on lateral face present on about two third of metatibial length; ventral edge finely serrated, with three robust equidistant setae and a smaller one at base; medial face smooth, apex moderately concavely sinuate interiorly near tarsal articulation. Tarsomeres ventrally with sparse, short setae, laterally not carinate, protarsomeres smooth, meso- and metatarsomeres with a few very fine punctures dorsally; metatarsomeres ventrally glabrous, with a strongly serrated ridge ventrally and a sharp subventral carina immediately beside it, first metatarsomere as long as following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate; anterior claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Habitus: Fig. 1A. Aedeagus: Fig. 1B–D.

Diagnosis. The new species differs from the most closely related *Neoserica lamellosa* Ahrens, Liu, Fabrizi, Bai & Yang, 2014 by the slimmer and strongly reflexed phallobase (lateral view), which is strongly narrowed apically, the almost truncated apex of the right paramere and the short and slim left paramere (see Fig. 4B–D for *N. lamellosa* comparison).

Variation. Body length: 9.8–10.2 mm, length of elytra: 7.8–8.2 mm, width: 5.3–6.2 mm. Female unknown.

Etymology. The new species is named after its type locality, Nyingchi City (adjective in the nominative singular case).

Neoserica zhehai Liu W., Ahrens & Yang, sp. nov.

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Type material. HOLOTYPE: CHINA: ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟（下）田哲豪采]” (IZCAS). **PARATYPES: CHINA:** 1 ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟（下）田哲豪采]” (ZFMK); 1 ♂, “CHINA: Xizang, Nyingchi City, Mêdog County, 1143 m 29°19'22.62"N, 95°20'1.65"E, 26.VII.2022 (at light), Chuan-Tao Zhai leg.” (ZMPC).

Description of holotype. Body length: 11.8 mm, length of elytra: 8.3 mm, width: 6.5 mm. Body oblong, dark brown, ventral surface reddish brown, antennal club brown, anterior labroclypeus shiny, dorsal surface dull, sparsely setose.

Labroclypeus subtrapezoidal, distinctly wider than long, widest at base, lateral margins moderately convex and convergent obviously in anterior part, anterior angles moderately rounded, anterior margin weakly sinuate medially, margins moderately reflexed; surface elevated medially and shiny, basis with dull toment, punctuation dense, anteriorly more sparse, behind the anterior margin with coarse punctures each bearing a long bent fine seta; frontoclypeal suture indistinctly incised, flat and distinctly curved medially; smooth area anterior to eye approximately 1.9 times as wide as long; ocular canthus short (length = 1/4 of ocular diameter) and strong, glabrous, without terminal seta. Frons dull, with fine and sparse punctures, beside the eyes with a few erect setae. Eyes moderately large, ratio diameter/interocular width: 0.59. Antenna with ten antennomeres, club with six antennomeres, straight, as long as the remaining antennomeres combined; antennomeres 1 and 2 extended, antennomere 3 shorter than half of pedicellus. Mentum elevated and slightly flattened anteriorly. Labrum distinctly produced medially, with a moderate median sinuation.

Pronotum moderately transverse, subtrapezoidal, widest at base, lateral margins weakly convex, convexly bent at middle, in basal half subparallel, in apical half strongly convergent anteriorly, anterior angles sharp and distinctly produced, posterior angles blunt, obtuse at the tip; anterior margin nearly straight, with a distinct and complete marginal line; surface densely and finely punctate with minute setae in punctures; setae of anterior and lateral border sparse; hypomerion basally distinctly carinate, but carina only weakly produced. Scutellum short, triangular with convex sides and with the apex slightly rounded, with fine, moderately dense punctures, with only minute setae.

Elytra oblong, apex slightly truncate, widest at 1/3 posterior, striae weakly impressed, finely and moderately densely punctate, intervals nearly flat, with moderately dense evenly spaced, fine punctures, intervals with a few fine white setae, otherwise only with very minute setae in punctures; epipleural edge fine, ending at the blunt external apical angle of elytra, epipleura sparsely setose, apical border chitinous, with only a very fine fringe of microtrichomes (visible at 100× magnification).

Ventral surface dull, coarsely and densely punctate, metasternum sparsely covered with setae on the disc; metacoxa glabrous, with a few short setae laterally, posterior margin weakly convex; abdominal sternites finely and unevenly densely punctate, nearly glabrous, with a transverse row of coarse punctures, each bearing a robust short seta. Mesosternum between mesocoxae slightly narrower than mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.25. Pygidium weakly convex and dull, coarsely and densely punctate, without smooth midline, with a few semi-erect setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and sparsely punctate between the rows; metafemur dull, anterior margin acute, behind anterior edge without serrated line, setae of anterior longitudinal row nearly completely lacking, posterior margin in apical half ventrally smooth and slightly widened, posterior margin dorsally distinctly serrated, on its basal portion with a few short setae. Metatibia slender and long, widest at apex, ratio of width/length: 1/4.2, sharply carinate dorsally, with two groups of spines, basal group just before the middle, apical group at three quarters of metatibial length, basally with a few robust but single setae; lateral face longitudinally convex, very finely, superficially and sparsely punctate, subdorsal longitudinal carina on lateral face present on about two third of metatibial length; ventral edge finely serrated, with three robust equidistant setae; medial face smooth, apex moderately concavely sinuate anteriorly near tarsal articulation. Tarsomeres ventrally with sparse, short setae, laterally not carinate, protarsomeres smooth, meso- and metatarsomeres with a few very fine punctures dorsally; metatarsomeres ventrally glabrous, with a strongly serrated ridge ventrally and a sharp subventral carina immediately beside it, first metatarsomere as long as following two tarsomeres combined and obviously longer than dorsal tibial spur. Protibia long, bidentate; anterior claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Habitus: Fig. 1E. Aedeagus: Fig. 1F–H.

Diagnosis. The new species differs from the most similar *Neoserica nyingchiana* sp. nov. by the more robust and larger parameres, the apically less strongly extended phallobase, which is apically (dorsal view) much less asymmetric than in *Neoserica nyingchiana* sp. nov. (see Fig. 1B–D).

Variation. Body length: 10.5–11.8 mm, length of elytra: 8.3–8.5 mm, width: 6.0–6.5 mm. Female unknown.

Etymology. The species is named after one of its collectors, Zhe-Hao Tian (noun in genitive singular).

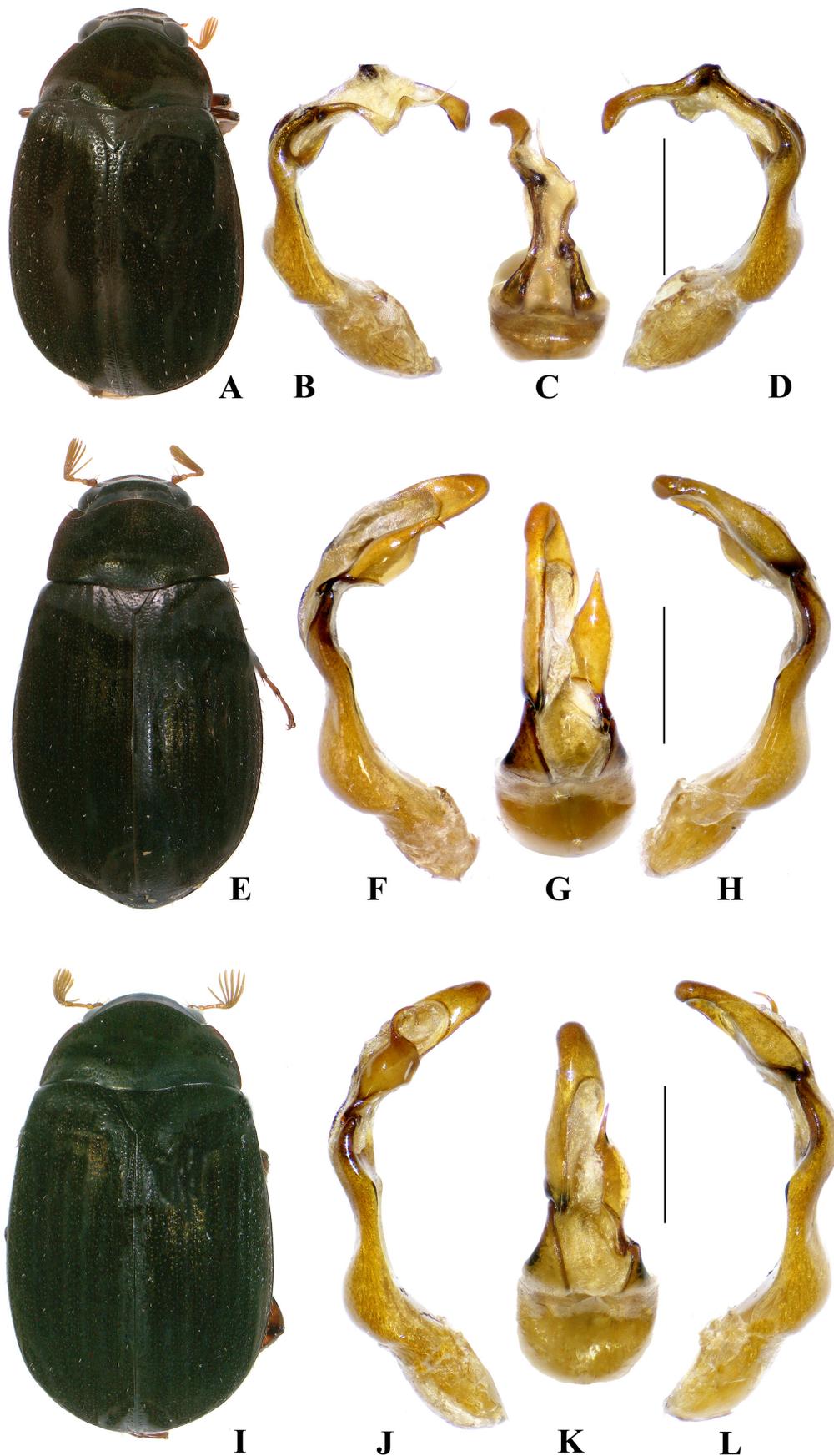


FIGURE 1. A–D. *Neoserica nyingchiana* Liu, Ahrens & Yang **sp. nov.** (holotype). E–H. *N. zhehaoi* Liu, Ahrens & Yang **sp. nov.** (holotype). I–L. *N. parazhehaoi* Liu, Ahrens & Yang **sp. nov.** (holotype). A, E, I. Habitus (not to scale). C, G, K. Aedeagus, dorsal view. B, F, J. Aedeagus, left side view. D, H, L. Aedeagus, right side view. Scale bars: 1 mm (B, C, D, F, G, H, J, K, L).

Neoserica parazhehaoi Liu W., Ahrens & Yang, sp. nov.

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Type material. HOLOTYPE: CHINA: ♂, “Géling Village, Mêdog County, Nyingchi City, Xizang, China, 29.233592N, 95.177028E, 1477 m, 17.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县格林村田哲豪采]” (IZCAS).

Description of holotype. Body length: 10.1 mm, length of elytra: 8.8 mm, width: 6.0 mm. Body oblong, dark brown, ventral surface reddish brown, antennal club brown, anterior labroclypeus shiny, dorsal surface dull, sparsely setose.

Labroclypeus subtrapezoidal, distinctly wider than long, widest at base, lateral margins moderately convex and convergent anteriorly, anterior angles moderately rounded, anterior margin weakly sinuate medially, margins moderately reflexed; surface elevated medially and shiny, basis with dull toment, punctation dense, anteriorly more sparse, behind the anterior margin with coarse punctures each bearing a long erect seta; frontoclypeal suture indistinctly incised, flat and distinctly curved medially; smooth area anterior to eye approximately 2 times as wide as long; ocular canthus moderately long (length = 1/3 of ocular diameter) and strong, glabrous, without terminal seta. Frons dull, with fine and sparse punctures, beside the eyes with a few erect setae. Eyes small, ratio diameter/interocular width: 0.50. Antenna with ten antennomeres, club with six antennomeres, straight, as long as the remaining antennomeres combined; antennomeres 1 and 2 expanded, antennomere 3 as long as half of pedicellus. Mentum elevated and slightly flattened anteriorly. Labrum distinctly produced medially, with a moderate median situation.

Pronotum moderately transverse, subtrapezoidal, widest at base, lateral margins weakly convex, convexly bent at middle, in apical half strongly convergent anteriorly, anterior angles sharp and distinctly produced, posterior angles blunt, slightly obtuse at the tip; anterior margin nearly straight, with a distinct and complete marginal line; surface densely and finely punctate with minute setae in punctures; setae of anterior and lateral border sparse; hypomeron basally weakly carinate, but carina not produced. Scutellum moderately long, triangular with convex sides and with the apex slightly rounded, with fine, moderately dense punctures, with only minute setae, glabrous basally.

Elytra oblong, apex slightly truncate, widest slightly behind middle, striae weakly impressed, finely and moderately densely punctate, intervals nearly flat, with moderately dense evenly spaced, fine punctures, intervals with a few fine white setae, otherwise only with very minute setae in punctures; epipleural edge fine, ending at the blunt external apical angle of elytra, epipleura sparsely setose, apical border chitinous, with only a very fine fringe of microtrichomes (visible at 100× magnification).

Ventral surface dull, coarsely and densely punctate, metasternum sparsely covered with setae on the disc, glabrous on sides; metacoxa glabrous, with a few short setae laterally, posterior margin weakly convex; abdominal sternites finely and unevenly densely punctate, nearly glabrous, with a transverse row of coarse punctures, each bearing a robust short seta. Mesosternum between mesocoxae as wide as slender mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.3. Pygidium weakly convex and dull, coarsely and densely punctate, without smooth midline, with a few semi-erect setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and sparsely punctate between the rows; metafemur dull, anterior margin acute, behind anterior edge without serrated line, setae of anterior longitudinal row nearly completely lacking, posterior margin in apical half ventrally smooth and slightly widened, posterior margin dorsally distinctly serrated, on its basal portion with a few short setae. Metatibia slender and long, widest at apex, ratio of width/length: 1/5.2, sharply carinate dorsally, with two groups of spines, basal group in middle, apical group at three quarters of metatibial length, basally with a few robust but single setae; lateral face longitudinally convex, very finely, superficially and sparsely punctate, subdorsal longitudinal carina on lateral face present on about two third of metatibial length; ventral edge finely serrated, with three robust equidistant setae; medial face smooth, apex moderately concavely sinuate interiorly near tarsal articulation. Tarsomeres ventrally with sparse, short setae, laterally not carinate, protarsomeres smooth, meso- and metatarsomeres with a few very fine punctures dorsally; metatarsomeres ventrally glabrous, with a strongly serrated ridge ventrally and a sharp subventral carina immediately beside it, first metatarsomere as long as following two tarsomeres combined and obviously longer than dorsal tibial spur. Protibia long, bidentate; anterior claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Habitus: Fig.1 I. Aedeagus: Fig. 1J–L.

Diagnosis. The new species differs from the most similar *Neoserica zhehaoi* **sp. nov.** by the mesally more extended left parameres (lateral view), whose apical hook-like process is reflexed distinctly dorsally, instead of being almost straight and directed apically, as in *N. zhehaoi* **sp. nov.** (see Fig. 1 F–H).

Variation. Female unknown.

Etymology. The name of the new species is derived from the combined Greek prefix ‘*para-*’ (close by) and the species name *zhehaoi* with reference to the similarity of the species to *N. zhehaoi* (noun in genitive singular).

***Neoserica jiagaensis* Liu W., Ahrens & Yang, sp. nov.**

urn:lsid:zoobank.org:act:BB12F3EE-D876-4F94-8260-F041BFABFBEB

Type material. HOLOTYPE: CHINA: ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟 (下) 田哲豪采]” (IZCAS).

Description of holotype. Body length: 11.2 mm, length of elytra: 8.3 mm, width: 6.3 mm. Body oblong, dark brown, ventral surface reddish brown, antennal club brown, anterior labroclypeus shiny, dorsal surface dull, sparsely setose.

Labroclypeus subtrapezoidal, distinctly wider than long, widest at base, lateral margins moderately convex and convergent anteriorly, anterior angles obtuse, anterior margin weakly sinuate medially, margins moderately reflexed; surface nearly flat and shiny, basis with dull toment, punctuation dense, anteriorly more sparse, behind the anterior margin with coarse punctures each bearing a long erect seta; frontoclypeal suture indistinctly incised, flat and distinctly curved medially; smooth area anterior to eye approximately 1.8 times as wide as long; ocular canthus moderately long (length = 1/3 of ocular diameter) and slender, glabrous, without terminal seta. Frons dull, with fine and sparse punctures, beside the eyes with a few erect setae. Eyes small, ratio diameter/interocular width: 0.47. Antenna with ten antennomeres, club with six antennomeres, straight, as long as the remaining antennomeres combined; antennomeres 1 and 2 expended, antennomere 3 as long as half of pedicellus. Mentum elevated and slightly flattened anteriorly. Labrum distinctly produced medially, with a moderate median sinuation.

Pronotum moderately transverse, subtrapezoidal, widest at base, lateral margins weakly convex, convexly bent at middle, in basal half subparallel, in apical half strongly convergent anteriorly, anterior angles sharp and moderately produced, posterior angles blunt, almost right angle at the tip; anterior margin nearly straight, with a distinct and complete marginal line; surface densely and finely punctate with minute setae in punctures; setae of anterior and lateral border sparse; hypomeron basally distinctly carinate, but carina only weakly produced. Scutellum moderately long, triangular with convex sides and with the apex slightly rounded, with fine, moderately dense punctures, with only minute setae.

Elytra oblong, apex slightly truncate, widest at middle, striae weakly impressed, finely and moderately densely punctate, intervals nearly flat, with moderately dense evenly spaced, fine punctures, intervals with a few fine white setae, otherwise only with very minute setae in punctures; epipleural edge fine, ending at the blunt external apical angle of elytra, epipleura sparsely setose, apical border chitinous, with only a very fine fringe of microtrichomes (visible at 100× magnification).

Ventral surface dull, coarsely and densely punctate, metasternum sparsely covered with setae on the disc; metacoxa covered with short setae, posterior margin weakly convex; abdominal sternites finely and unevenly densely punctate, nearly glabrous, with a transverse row of coarse punctures, each bearing a robust short seta. Mesosternum between mesocoxae as wide as slender mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.2. Pygidium weakly convex and dull, coarsely and densely punctate, without smooth midline, with a few semi-erect setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and sparsely punctate between the rows; metafemur dull, anterior margin acute, behind anterior edge without serrated line, setae of anterior longitudinal row nearly completely lacking, posterior margin in apical half ventrally smooth and slightly widened, posterior margin dorsally distinctly serrated, on its basal portion with a few short setae. Metatibia slender and long, widest in the middle, ratio of width/length: 1/3.3, sharply carinate dorsally, with two groups of spines at apical half, basal group just before the middle, apical group at two fifths of metatibial length, basally with a few robust but single setae; lateral face longitudinally convex, very finely, superficially and sparsely punctate, subdorsal longitudinal carina on

lateral face present on about two thirds of metatibial length; ventral edge finely serrated, with three robust equidistant setae; medial face smooth, apex moderately concavely sinuate interiorly near tarsal articulation. Tarsomeres ventrally with sparse, short setae, laterally not carinate, protarsomeres smooth, meso- and metatarsomeres with a few very fine punctures dorsally; metatarsomeres ventrally glabrous, with a strongly serrated ridge ventrally and a sharp subventral carina immediately beside it, first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate; anterior claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Habitus: Fig. 2 A. **Aedeagus:** Fig. 2 B–D.

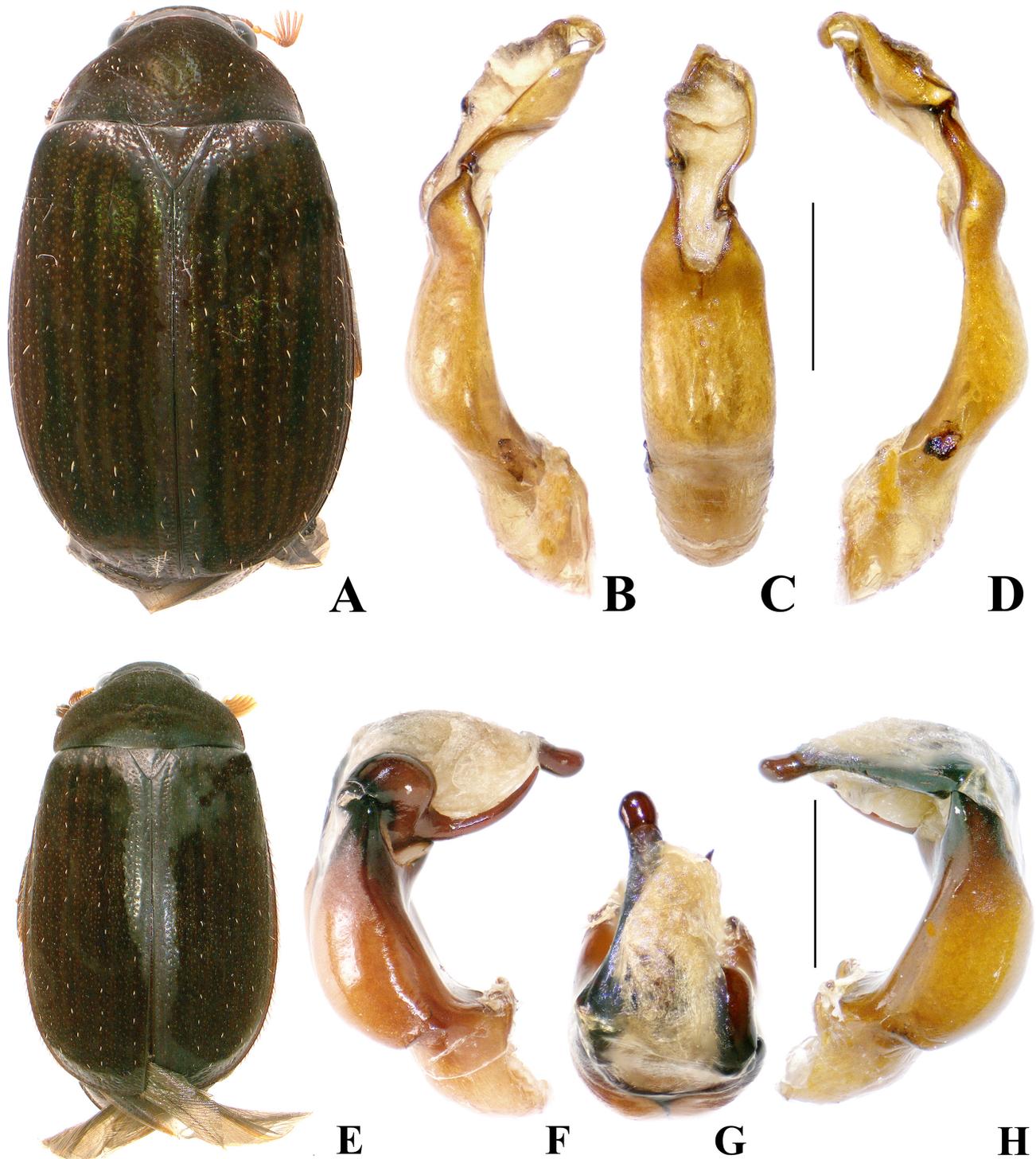


FIGURE 2. A–D. *N. jiagaensis* Liu, Ahrens & Yang **sp. nov.** (holotype). E–H. *N. virgula* Liu, Ahrens & Yang **sp. nov.** (holotype). A, E. Habitus (not to scale). C, G. Aedeagus, dorsal view. B, F. Aedeagus, left side view. D, H. Aedeagus, right side view. Scale bars: 1 mm (B, C, D, F, G, H).

Diagnosis. *Neoserica jiagaensis* **sp. nov.** differs from the very similar *Neoserica nyingchiana* **sp. nov.** by the wider left paramere (lateral view), the slightly less asymmetric apex of phallobase (dorsal view), and the strongly bent apex right paramere (lateral view) which is generally also wider than that of *Neoserica nyingchiana* **sp. nov.** (see Fig. 1B–D).

Variation. Female unknown.

Etymology. The name (adjective in the nominative singular case) of the new species is derived from the name of its type locality, Jia-ga-gou Valley.

***Neoserica virgula* Liu W., Ahrens & Yang, sp. nov.**

urn:lsid:zoobank.org:act:11DF4B6D-D2C8-45D9-A4A6-1C0DA17CF19D

Type material. HOLOTYPE: CHINA: ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟（下）田哲豪采]” (IZCAS). **PARATYPES: CHINA:** 1 ♂, “CHINA: Xizang, Nyingchi City, Mêdog County, 1143 m, 29°19'22.62"N, 95°20'1.65"E, 26.VII.2022 (at light), Chuan-Tao Zhai leg.” (ZMPC).

Description of holotype. Body length: 13.9 mm, length of elytra: 10.5 mm, width: 6.9 mm. Body oblong, dark brown, ventral surface reddish brown, antennal club brown, anterior labroclypeus shiny, dorsal surface dull, sparsely setose.

Labroclypeus subtrapezoidal, distinctly wider than long, widest at base, lateral margins moderately convex and convergent anteriorly, anterior angles moderately rounded, anterior margin weakly sinuate medially, margins moderately reflexed; surface elevated medially and shiny, basis with dull toment, punctation dense, anteriorly more sparse, behind the anterior margin with coarse punctures each bearing a long erect seta; frontoclypeal suture indistinctly incised, flat and distinctly curved medially; smooth area anterior to eye approximately 1.5 times as wide as long; ocular canthus moderately long (length = 1/3 of ocular diameter) and slender, glabrous, without terminal seta. Frons dull, with fine and sparse punctures, beside the eyes with a few erect setae. Eyes moderately large, ratio diameter/interocular width: 0.61. Antenna with ten antennomeres, club with six antennomeres, straight, as long as the remaining antennomeres combined; antennomere 4 slightly transverse, antennomere 3 half as long as pedicellus. Mentum elevated and slightly flattened anteriorly. Labrum distinctly produced medially, with a moderate median situation.

Pronotum moderately transverse, subtrapezoidal, widest at one third basally, lateral margins weakly convex, convexly bent at one third basally, in basal one third subparallel, in apical one third strongly convergent anteriorly, anterior angles sharp and distinctly produced, posterior angles almost right angle, slightly rounded at the tip; anterior margin nearly straight, with a distinct and complete marginal line; surface densely and finely punctate with minute setae in punctures; setae of anterior and lateral border sparse; hypomeron basally distinctly carinate, but carina only weakly produced. Scutellum moderately long, triangular with convex sides and with the apex slightly rounded, with fine, moderately dense punctures, with only minute setae, elevated in the middle and glabrous.

Elytra oblong, apex slightly truncate, widest at one third basally, striae weakly impressed, finely and moderately densely punctate, intervals nearly flat, with moderately dense evenly spaced, fine punctures, intervals with a few fine white setae, otherwise only with very minute setae in punctures; epipleural edge fine, ending at the blunt external apical angle of elytra, epipleura sparsely setose, apical border chitinous, with only a very fine fringe of microtrichomes (visible at 100× magnification).

Ventral surface dull, coarsely and densely punctate, metasternum sparsely covered with setae on the disc; metacoxa covered with short setae, posterior margin weakly convex; abdominal sternites finely and unevenly densely punctate, nearly glabrous, with a transverse row of coarse punctures, each bearing a robust short seta. Mesosternum between mesocoxae as wide as slender mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.1. Pygidium weakly convex and dull, coarsely and densely punctate, without smooth midline, with a few semi-erect setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and sparsely punctate between the rows; metafemur dull, anterior margin acute, behind anterior edge without serrated line, setae of anterior longitudinal row nearly completely lacking, posterior margin in apical half ventrally smooth and slightly widened, posterior margin dorsally distinctly serrated, on its basal portion with a few short setae. Metatibia slender and long, widest

at middle, ratio of width/length: 1/3.5, sharply carinate dorsally, with two groups of spines, basal group just before the middle, apical group at three quarters of metatibial length, basally with a few robust but single setae; lateral face longitudinally convex, very finely, superficially and sparsely punctate, subdorsal longitudinal carina on lateral face present on about two third of metatibial length; ventral edge finely serrated, with three robust equidistant setae; medial face smooth, apex moderately concavely sinuate interiorly near tarsal articulation. Tarsomeres ventrally with sparse, short setae, laterally not carinate, protarsomeres smooth, meso- and metatarsomeres with a few very fine punctures dorsally; metatarsomeres ventrally glabrous, with a strongly serrated ridge ventrally and a sharp subventral carina immediately beside it, first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate; anterior claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Habitus: Fig. 2 E. Aedeagus: Fig. 2F–H.

Diagnosis. *Neoserica virgula* sp. nov. differs from all other species of the *N. abnormis* group by the robust and simple, uncleft parameres, the robust and short phallobase (dorsal and lateral view). For most *N. abnormis* group species, they are sharing basally spherically widened and then abruptly narrowed left paramere, which is in apical three quarters almost spiniform.

Variation. Body length: 12.9–13.9 mm, length of elytra: 8.8–10.5 mm, width: 6.9–7.3 mm. Female unknown.

Etymology. The name of the new species (noun in the nominative singular) is derived from the Latin word *virgula* (comma), with reference to its left paramere, which looks like an inverted comma.

***Gynaecoserica medogensis* Liu W., Ahrens & Yang, sp. nov.**

urn:lsid:zoobank.org:act:B10E0608-AFA4-4116-B5A8-EC206343D727

Type material. HOLOTYPE: CHINA: ♂, “Géling Village, Médog County, Nyingchi City, Xizang, China, 29.233592N, 95.177028E, 1477 m, 17.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县格林村田哲豪采]” (IZCAS).

Description of holotype. Length 5.3 mm, length of elytra 3.9 mm, width 2.9 mm. Body oblong, dorsal surface dark brown to dark green, antenna brown, dorsal surface dull, densely erectly setose.

Labroclypeus subrectangular, widest at base, lateral margins weakly convergent, anterior angles strongly rounded, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed; anterior margin shallowly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, distance between punctures equal or less than their diameter, without dense and long, erect setae; frontoclypeal suture feebly incised, medially moderately curved; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus short and moderately slender (1/4 eye diameter), finely and densely punctate, without terminal seta. Frons shiny, posterior half dull, with fine, dense punctures, densely setose. Eyes small, ratio of diameter/interocular width 0.50. Antenna yellow, with ten antennomeres; club yellow, with five antennomeres, slightly longer than remaining antennomeres combined. Mentum weakly elevated and flattened anteriorly.

Pronotum moderately wide, widest at base, lateral margins evenly convex and obviously convergent in anterior one-third, anterior angles moderately produced and almost right angles, posterior angles strongly rounded; anterior margin nearly straight, with a fine marginal line; basal margin with marginal line; surface with irregularly dense fine punctures, with dense and long, erect setae; anterior and lateral borders setose; hypomeron distinctly margined at base but weakly ventrally produced. Scutellum moderately long and wide, triangular, with fine dense punctures, medially narrowly smooth, with short adjacent setae in punctures.

Elytra elongate, widest in middle, striae distinctly impressed, finely and densely punctate, intervals weakly convex, with fine, sparse punctures concentrated along striae, punctures with dense fine erect setae, interior apical angle of elytra with robust seta; epipleural edge fine ending at strongly curved external apical angle of elytra; epipleura sparsely setose, apical border without short microtrichomes.

Ventral surface dull, with fine and moderately dense punctures, densely setose; metacoxa glabrous, with a few strong adjacent setae laterally only; each abdominal sternite with indistinct transverse row of coarse punctures bearing short setae between fine, dense punctation, penultimate sternite apically with a very short shiny smooth sclerotized border. Mesosternum between mesocoxae almost as wide as mesofemur, with irregularly scattered very strong setae. Ratio of length of metepisternum/metacoxa: 1/1.25. Pygidium strongly convex at apex, finely and densely punctate, with moderately broad smooth midline, surface dull, with numerous long setae.

Legs slender and long; femora dull, with two longitudinal rows of setae, finely and sparsely punctate; metafemur shiny, sharply margined anteriorly and without a submarginal serrate line, posterior margin weakly convex and glabrous, its external part only weakly widened in apical half and not serrate, internally very finely serrate, with a few long setae. Metatibia slender and long; widest in the middle, ratio width/length: 1/3.5, dorsal margin sharply carinate; with two groups of spines, basal group slightly before half, apical group at two fifths of metatibial length; basally with a few single, fine setae; external face longitudinally convex, with sparse, fine punctures, glabrous; ventral margin carinate and serrate, with three strong spines, the distal two more distant; medial face very finely and sparsely punctate and smooth, apex interiorly near tarsal articulation sharply and deeply truncate. Tarsomeres dorsally glabrous and impunctate, ventrally with sparse, short setae; metatarsomeres ventrally with a strongly serrate ridge, beside it with a subparallel, fine longitudinal carina; first metatarsomere shorter than following two tarsomeres combined and nearly 1.5 times longer than dorsal tibial spur. Protibia moderately long, bidentate, protarsal claws symmetrical, basal tooth of inner claw normally developed.

Habitus: Fig. 3A. **Aedeagus:** Fig. 3B–D.

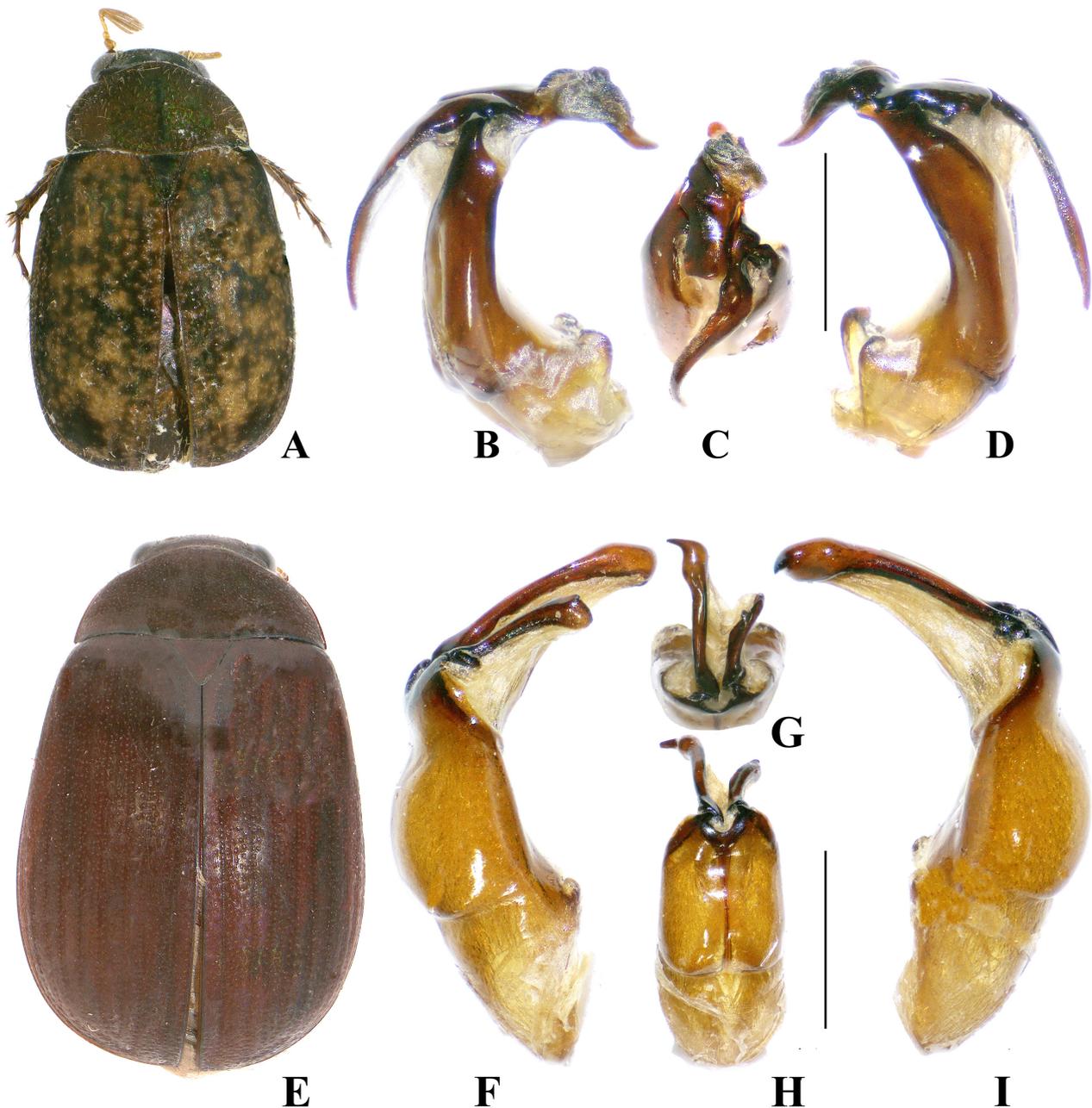


FIGURE 3. A–D. *Gynaecosericia medogensis* Liu, Ahrens & Yang **sp. nov.** (holotype). E–H. *Maladera baibungensis* Liu, Ahrens & Yang **sp. nov.** (holotype). A, E. Habitus (not to scale). C, H. Aedeagus, dorsal view. G. Aedeagus, top view. B, F. Aedeagus, left side view. D, I. Aedeagus, right side view. Scale bars: 1 mm (B, C, D, F, G, H, I).

Diagnosis. *Gynaecoserica medogensis* sp. nov. differs from the most similar *G. etalinensis* Ahrens & Fabrizi, 2016 by only the left paramere producing a basally a long and backward directed process, while the longer than right paramere, is without basal apophysis; in *G. etalinensis*, both parameres are almost of the same length (see Fig. 4 I–M).

Variation. Female unknown.

Etymology. The name (adjective in the nominative singular case) of the new species is derived from its occurrence in the Mêdog County.

***Maladera baibungensis* Liu W., Ahrens & Yang, sp. nov.**

urn:lsid:zoobank.org:act:07233ABE-0FFB-4C47-B345-5FB1188E0AEB

Type material. HOLOTYPE: CHINA: ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟（下）田哲豪采]” (IZCAS).

Description of holotype. Length: 11.2 mm, length of elytra: 8.1 mm, width: 6.5 mm. Body oval, dark reddish brown, ventral surface reddish brown, antenna yellow, dorsal surface dull, except a few small setae on head and elytra glabrous.

Labroclypeus subtrapezoidal, little wider than long, widest at base, lateral margins weakly convex and strongly convergent to obtuse anterior angles, lateral margin and ocular canthus producing a blunt angle, margins moderately reflexed, anteriorly shallowly emarginate medially; surface weakly convex medially, dull, coarsely and densely punctate; frontoclypeal suture feebly impressed and moderately angled medially; smooth area in front of eye approximately three times as wide as long; ocular canthus short (1/3.5 eye diameter), finely punctate, without terminal seta. Frons dull, with fine, moderately dense punctures, with few long setae beside eyes and on disc. Eyes small, ratio of diameter/interocular width: 0.59. Antenna with 10 antennomeres; club with three antennomeres, slightly shorter than remaining antennomeres combined. Mentum anteriorly elevated.

Pronotum subtrapezoidal, widest at base, lateral margins convex and moderately convergent anteriorly, anterior angles moderately produced and sharp, anterior margin weakly convex, marginal line complete; surface moderately finely and densely punctate, with minute setae in punctures; anterior and lateral margins with a few setae; posterior margin moderately convex in the mid; hypomeron carinate. Scutellum wide, triangular, with fine and moderately dense punctures, some bearing a single minute seta, punctures along middle less dense.

Elytra oval, widest at posterior third, striae weakly impressed, finely and densely punctate, intervals almost flat, with fine and superficial, moderately dense punctures, with minute setae; epipleural margin robust, ending at the strongly rounded external apical angle of elytra, epipleura densely setose, apical border membranous, with a fine rim of short microtrichomes.

Ventral surface dull, metasternum and metacoxa with large and dense punctures, meso- and metasternum moderately setose; metacoxa with minute setae in large punctures and several long setae laterally. Abdominal sternites in addition to generally distributed fine and moderately dense punctures each with a distinct transverse row of coarse punctures each bearing a short and robust seta, otherwise punctures each with a microscopic seta. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/metacoxa: 1/1.1. Pygidium weakly convex, finely and moderately densely punctate, without smooth midline, punctures with microscopic setae, with a few long setae along apical margin.

Legs short and moderately wide; femora with two longitudinal rows of setae, finely and sparsely punctate. Metafemur dull, anterior margin acute, lacking an adjacent serrated line, posterior ventral margin straight, moderately widened in apical half and not serrate, dorsally not serrated, finely setose. Metatibia moderately wide and long, widest in the anterior one third, ratio width/length: 1/3.4, dorsally sharply carinate, with two groups of spines, basal one at middle, apical one at three quarters of metatibial length, without contiguous serrated line basally but a few robust spines; lateral face longitudinally convex, finely sparsely punctate on sides; ventral margin finely serrate, with four equidistant spines, basal one weaker and shorter; medial face impunctate; apex interiorly near tarsal articulation shallowly concave. Tarsomeres missing. Protibia short, bidentate. All claws symmetrical, feebly curved and long, with normally developed basal tooth.

Habitus: Fig. 3E. Aedeagus: Fig. 3F–I.

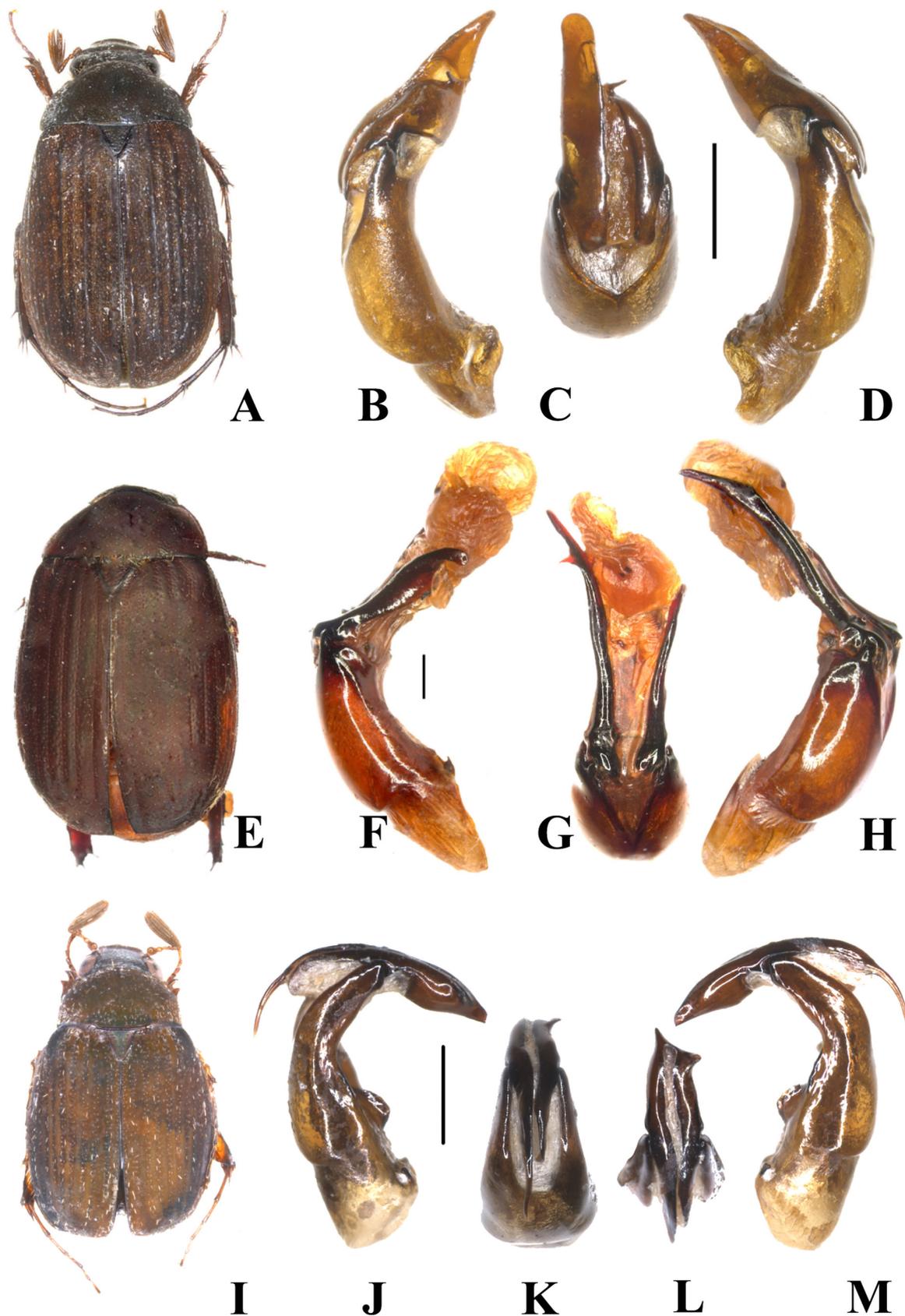


FIGURE 4. A–D. *Neoserica lamellosa* Ahrens, Liu, Fabrizi, Bai & Yang, 2014 (holotype). E–H. *Maladera bawanglingensis* Ahrens, Fabrizi & Liu, 2021 (holotype). I–M. *Gynaecoserica etalinensis* Ahrens & Fabrizi, 2016 (holotype). A, E, I. Habitus (not to scale). C, G, K. Aedeagus, dorsal view. L. Aedeagus, top view. B, F, J. Aedeagus, left side view. D, H, M. Aedeagus, right side view. Scale bars: 1 mm (B, C, D, F, G, H, J, K, L, M).

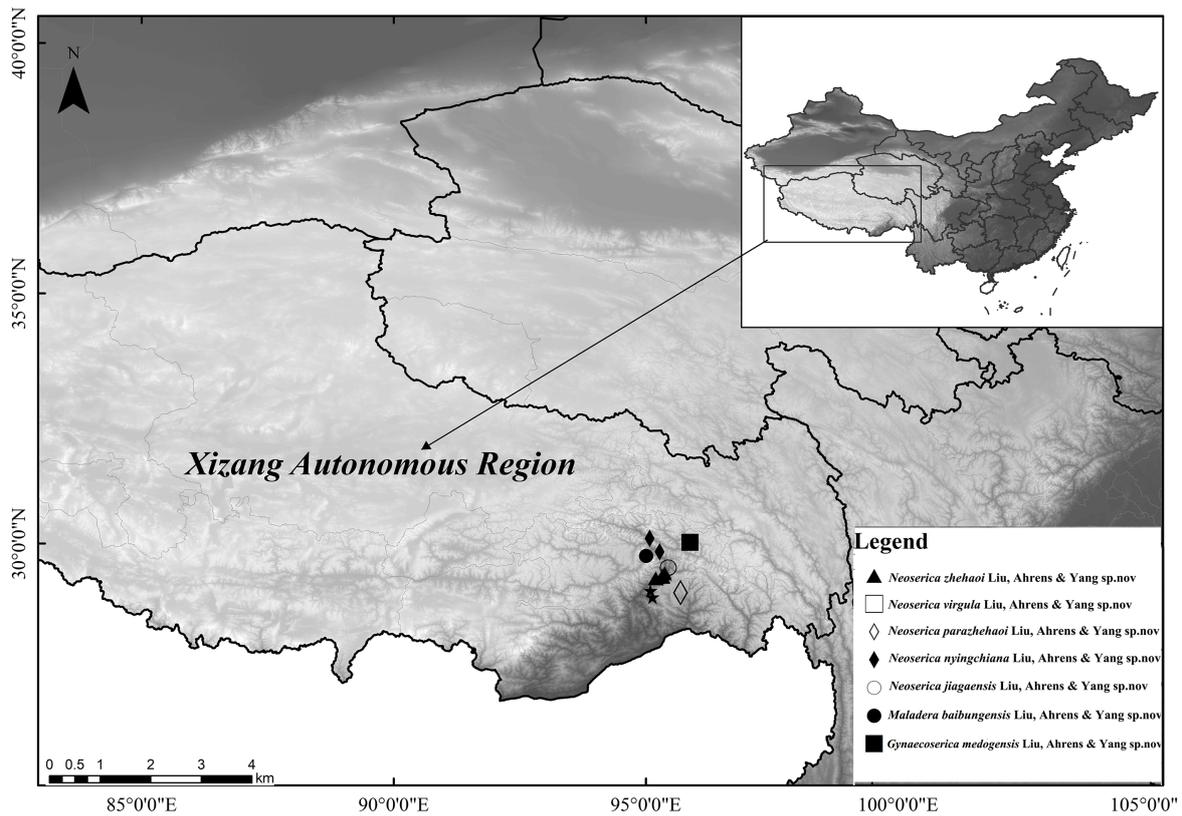


FIGURE 5. Distribution map of *Neoserica nyingchiana* Liu, Ahrens & Yang **sp. nov.**, *N. zhehai* Liu, Ahrens & Yang **sp. nov.**, *N. parazhehai* Liu, Ahrens & Yang **sp. nov.**, *N. jiagaensis* Liu, Ahrens & Yang **sp. nov.**, *N. virgula* Liu, Ahrens & Yang **sp. nov.**, *Gynaecoserica medogensis* Liu, Ahrens & Yang **sp. nov.** and *Maladera baibungensis* Liu, Ahrens & Yang **sp. nov.**



FIGURE 6. The collecting (A, C) and light trap (B, D) site in Gelin village (A, B) and Jia-ga-gou Valley (C, D). All images were photographed by Mr. Zhe-Hao Tian (who showed part of his handsome face in C).

Diagnosis. The new species differs from the most closely related *M. bawanglingensis* Ahrens, Fabrizi & Liu, 2021 by slightly shorter left paramere and the stronger, longer right paramere which is before apex convex instead of being concavely emarginated (lateral view) (see Fig. 4 E–H).

Variation. Female unknown.

Etymology. The name (adjective in the nominative singular case) of the new species is derived from the name of its type locality, Baibung Town.

New faunistic records

Pachyserica motuo Ahrens, Zhao, Pham & Liu, 2024

Pachyserica motuo Ahrens, Zhao, Pham & Liu, 2024: 40.

Additional material examined. 1 ♂, “Géling Village, Mêdog County, Nyingchi City, Xizang, China, 29.233592N, 95.177028E, 1477 m, 17.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县格林村田哲豪采]” (IZCAS).

Distribution. China: endemic to eastern Xizang.

Maladera sericella (Brenske, 1899)

Autoserica sericella Brenske, 1898: 335.

Maladera sericella: Ahrens 2004a: 259; Ahrens 2006b: 238; 2007b: 24; Ahrens & Fabrizi 2016: 208.

Additional material examined. 1 ♂, “Jia-ga-gou, Baibung Town, Mêdog County, Nyingchi City, Xizang, China, 29.253203N, 95.195853E, 687 m, 18.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市墨脱县背崩乡甲噶沟（下）田哲豪采]” (IZCAS).

Distribution. The species is widely distributed in the Himalaya and Indochina (Ahrens & Bezdek 2024); it is for the first time reported from Xizang.

Serica wrzecionkoi Ahrens & Fabrizi, 2009

Serica wrzecionkoi Ahrens & Fabrizi, 2009: 251.

Additional material examined. 1 ♂, “San’ge restaurant, Bowo County, Nyingchi City, Xizang, China, 30.102653N, 95.079742E, 2073 m, 23.vii.22, Zhe-Hao Tian leg., light trap, [西藏自治区林芝市波密县三哥饭店]” (IZCAS).

Distribution. China: endemic to eastern Xizang.

Discussion

The new records and species presented here demonstrated that eastern Tibet is, as the eastern Himalaya, still widely unexplored and needs to be further intensively investigated. All *Neoserica* new species belong to the *Neoserica abnormis* group, which is known by largest body of Sericine chafers worldwide, restricted to high altitude of southern China and Indochina, dull base of labroclypeus and antennal club of males with 6 antennomeres. *Neoserica virgula* sp. nov. is morphologically rather distinct from all other Indian and Indochinese species of the *Neoserica abnormis* group, indicating a rather autonomous evolution over the past. So far, such phenomenon has been only reported in high altitude species of *Serica* (*s. str.*) MacLeay, 1819 and *Anomalophylla* Reitter, 1887. The newly found species might indicate, that *Nepaloserica* Frey, 1965 truly finds its range limit in Bhutan, which yet is to be confirmed by more material and data.

Acknowledgments

We thank Aleš Bezděk (Biology Centre of the Czech Academy of Sciences, Institute of Entomology, Branišovská, Czech Republic) and Daniel Lukic (Zoologisches Forschungsmuseum A. Koenig, Bonn, Germany) for critically reading the draft manuscript and providing insightful comments which improved the paper. We gratefully acknowledge Zhe-Hao Tian (Institute of Zoology, Chinese Academy of Sciences, Beijing, China) for collecting the specimens and for allowing us to show images of the collecting sites. This work was supported by the Key Research and Development Project in Shaanxi Province (No. S2023–YF–YBSF–1112), National Key R&D Program of China (No. 2022YFC2601200), Survey of Wildlife Resources in Key Areas of Tibet (No. ZL202203601), and Second Tibetan Plateau Scientific Expedition and Research Program (No. 2024QZKK0200).

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西藏绢金龟族Sericini分类研究（鞘翅目：金龟科：绢金龟亚科）

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摘要：对西藏尤其是墨脱地区绢金龟族Sericini昆虫开展分类研究，描述7新种，即墨脱喜绢金龟 *Gynaecoserica medogensis* sp. nov.、背崩码绢金龟 *Maladera baibungensis* sp. nov.、甲嘎新绢金龟 *Neoserica jiagaensis* sp. nov.、林芝新绢金龟 *N. nyingchiana* sp. nov.、似哲豪新绢金龟 *N. parazhehaoi* sp. nov.、逗号新绢金龟 *N. virgula* sp. nov.和哲豪新绢金龟 *N. zhehaoi* sp. nov.；提供了新种成虫外部特征图、雄性外生殖器特征图和物种分布图；还提供了3个已知种在该地区的新分布记录。

关键词：甲虫；金龟子；新种；西藏