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Towards an improved knowledge of Sericini of the Tibetan highland: new species and records (Coleoptera: Scarabaeidae)

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Abstract. Nine new species of Sericini are described from Tibetan highlands: *Calloserica zhangmuensis* Liu & Ahrens sp. n., *Gynaecoserica hani* Liu & Ahrens sp. n., *G. yigongensis* Liu & Ahrens sp. n., *Lasioserica beibengana* Liu & Ahrens sp. n., *Nepaloserica nielamuensis* Liu & Ahrens sp. n., *Neoserica* (s.l.) *chayuensis* Liu & Ahrens sp. n., *N.* (s.l.) *xizangensis* Liu & Ahrens sp. n., *Serica* (s.l.) *fashengi* Liu & Ahrens sp. n., *S.* (s.l.) *yadongensis* Liu & Ahrens sp. n. Records are given for further 25 species, most of them being for the first time recorded from Tibet. Distribution maps of these new species and records are shown along illustrations of habitus and male copulatory organ of the newly described taxa.

Key words. Beetles, chafers, China, new species.

INTRODUCTION

The taxonomy of the fauna of sericine chafer beetles (Sericini) of the Himalayas and Tibetan highland was revised and reviewed in detail by Ahrens (2004). Subsequently, new data and taxa were added (Ahrens 2005a–e, 2006c, Ahrens & Fabrizi 2009a,b, 2011, Ahrens & Pacholátko 2005) and a number of phylogenetic studies explored the diversification and biogeographic patterns of the Himalayan Sericini fauna (Ahrens 2005d, 2006a,b,d–f, 2007a,b). But we have to consider the eastern regions of the Himalaya and the adjacent mountain regions of northern Myanmar and southwest China including the Tibetan highland still to be relatively unexplored. This fact hampers more rigorous hypotheses on the diversification of the Himalayan fauna.

In this paper, we survey the material hold in Chinese institutional collections resulting in nine new species and records for further 25 species, most of them being the first time recorded from Tibet.

MATERIAL AND METHODS

The terminology and methods used for measurements, specimen dissection and genital preparation follow Ahrens (2004). Data from specimens examined is cited in the text with original label contents given in quotation marks, multiple labels are separated by a "/". Descriptions are based on holotype specimen if not otherwise stated. The variation of paratypes is given separately. Male genitalia were glued to a small pointed card attached to the specimen. Descriptions and illustrations of new taxa are based on the holotype specimen, while the variation of other specimens is given separately under variation. All descriptions and measurements were made under an Olympus SZX 12 microscope, and all genital and habitus illustrations were made with a digital camera (AxioCam HRc) attached to a stereo microscope (Zeiss Stereo Discovery V20) and Axio Version 4.8 software. The distribution map was generated using Q-GIS 2.0.1 and Adobe Photoshop CS4.

Type specimens and other examined material are deposited in the following institutions:

CAU	Department of Entomology, China Agricultural University, Beijing (China);
HBUM	Museum of Hebei University, Baoding (Hebei Prov., China);
IZAS	Institute of Zoology, Chinese Academy of Sciences, Beijing (China);
NKU	Nankai University, (Tianjin Prov., China);
NWAFU	Northwest A & F University, Yangling (Shaanxi Prov., China);
ZFMK	Zoologisches Forschungsmuseum A. Koenig, Bonn (Germany).

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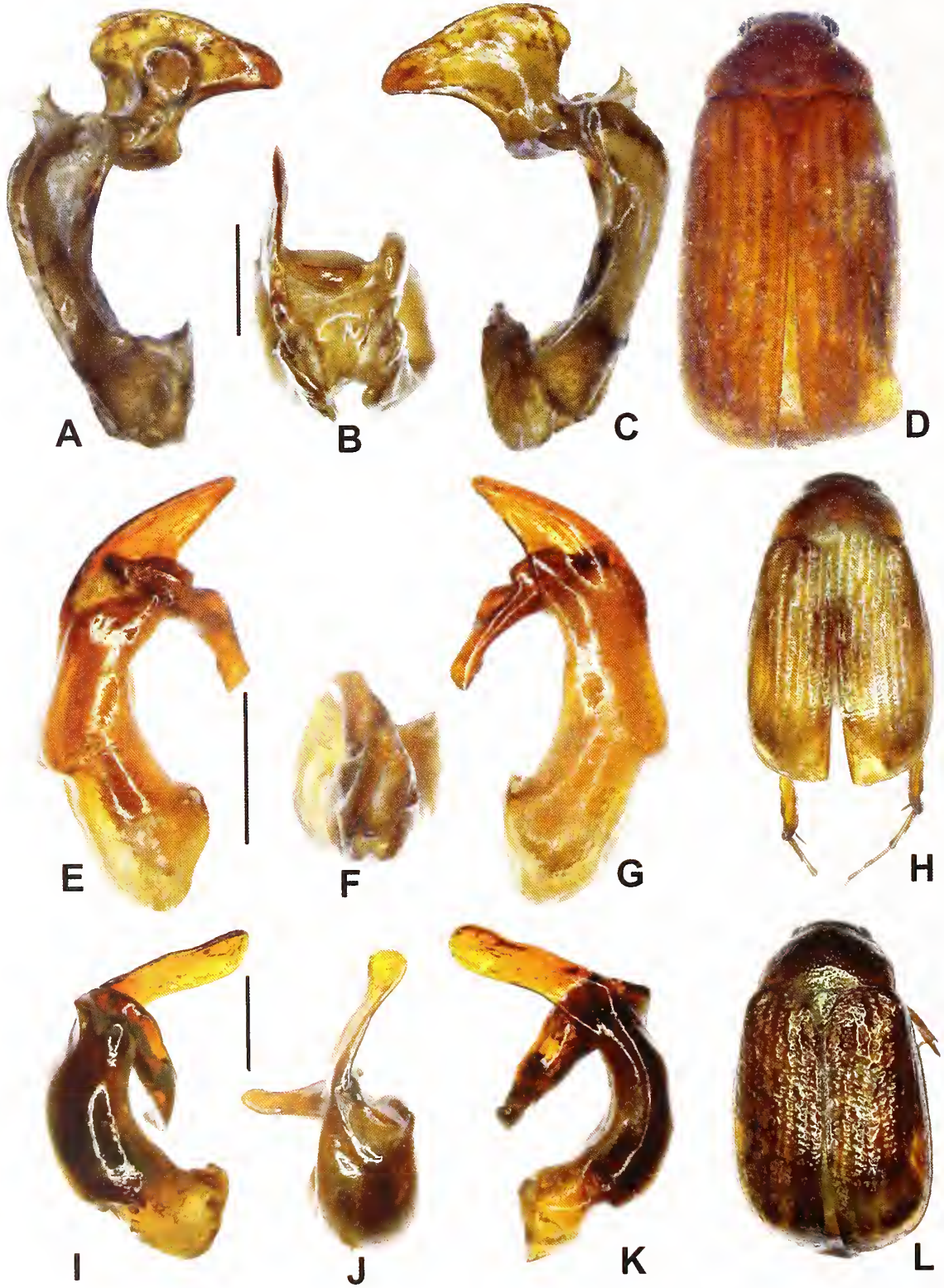

Fig. 1. A–D: *Calloserica zhangmuensis* Liu & Ahrens sp. n. (holotype), E–H: *Gynaecoserica hani* Liu & Ahrens sp. n. (holotype), I-K: *G. yigongensis* Liu & Ahrens sp. n. (holotype). A, E, I: Aedeagus, left side lateral view; C, G, K: Aedeagus, right side lateral view; B, F, J: Parameres, dorsal view; D, H, K: Habitus (not to seale). Seale: 0.5 mm.

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***Calloserica zhangmuensis* Liu & Ahrens sp. n.**

Type material examined. Holotype: ♂ [China] "Zhangmu, Xizang, 28.VI.1975, 2200m, leg. Wang Ziqing" (IZAS). Paratypes: 1 ♂ [China] "Zhangmu, Xizang, 24.VI.1975, 2200m, leg. Wang Ziqing" (ZFMK), 1 ♀ [China] "Zhangmu, Xizang, 5.VII.1975, 2400m, leg. Huang Fusheng" (IZAS), 1 ♀ [China] "Zhangmu, Xizang, 28.VI.1975, 2200m, leg. Wang Ziqing" (IZAS).

Description. Length: 8.0 mm, length of elytra: 6.2 mm, width: 4.0 mm. Body oblong and dull, dorsal surface, ventral surface and legs reddish brown, elytral intervals, head and pronotum darker; dorsal surface with moderately long and very dense setae being directed anteriorly, with a few longer erect setae on head and pronotum, even intervals with large spots composed of minute white, scale-like setae.

Labroclypeus short, trapezoidal, widest at base, lateral margins convex and moderately convergent from base to broadly rounded anterior angles, anterior margin strongly concavely sinuate, labrum strongly produced medially, lateral border and ocular canthus producing a distinct obtuse angle, all margins moderately reflexed; surface flat and shiny, finely and densely punctate, with several long erect setae in larger punctures; frontoclypeal suture moderately impressed and curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus long and narrow, finely and densely punctate, glabrous, terminal seta lacking. Frons moderately densely and finely punctate, punctures shortly and erectly setose, with a few long erect setae setae beside eyes. Eyes small, ratio of diameter/ interocular width: 0.61. Antenna missing in holotype. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins evenly convex and convergent anteriorly, anterior angles moderately rounded, not produced and nearly obsolete, anterior margin straight, without marginal line, basal margin without marginal line; surface with very dense and fine punctures each bearing a yellow fine and erect seta, partly with longer erect setae, midline not impressed, with a weak transverse impression behind middle; anterior border finely setose, setae of lateral margins lacking; hypomeron carinate, basal margin of hypomeron distinctly produced ventrally. Scutellum subtriangular, apex moderately rounded, with fine and dense punctures and fine setae, impunctate on basal midline.

Elytra oblong, widest at middle, striae moderately impressed, with fine and dense punctures; intervals flat, with evenly distributed, fine and dense punctures, finely and erectly setose, with numerous longer setae on each interval, even intervals with large spots composed of minute white, scale-like setae; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border chitinous, without short microtrichomes.

Ventral surface with large and dense punctures, including metacoxa with fine adpressed setae. Abdominal sternites finely and densely punctate and finely setose, each sternite with an indistinct transverse row of coarser punctures each bearing a short, robust seta. Penultimate abdominal sternite flat, without transverse elevation posteriorly. Mesosternum between mesocoxae as wide as mesofemur, with numerous strong setae on an indistinct semicircular carina. Ratio of length of metepisternum/ metacoxa: 1/ 1.38. Pygidium moderately convex, with fine and dense punctures each bearing a fine short seta, with a few longer setae on apical half, midline narrowly smooth, apical margin slightly reflexed.

Legs slender and moderately shiny, femora finely and densely punctate, densely setose. Tarsomeres glabrous and impunctate dorsally, with sparse, short setae ventrally. Posterior legs missing in holotype. Protibia moderately long, bidentate, protarsal claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Aedeagus: Fig. 1A–C.

Diagnosis. The new species resembles in genital morphology mostly *C. poggii* Ahrens, 1995. It differs by the much shorter basomedian process of parameres, the smaller left paramere (in lateral view) as well as the apparently shorter phallobasis.

Variation. Length: 7.4–8.9 mm, length of elytra: 6.2–7.4 mm, width: 3.6–4.8 mm. Anterior edge of metafemur acute, lacking an adjacent serrated line, posterior margin weakly convex, with numerous strong setae medially, weakly widened ventrally in apical half but not serrate, serrate dorsally, with short setae. Metatibia moderately long, widest at apex, ratio width/ length: 1/4.2, dorsal margin sharply carinate, with two groups of spines, basal group shortly before middle, apical one at three quarters of metatibial length, with a few single spines basally; lateral face longitudinally convex, with a few sparse and coarse punctures, ventral edge finely serrate, with three robust equidistant setae; medial face impunctate and smooth, apex concavely truncate interiorly near tarsal articulation. Metatarsomeres smooth dorsally, with a strongly serrated ridge ventrally and a lateral longitudinal carina, first metatarsomere as long as following two tarsomeres combined and little less than twice as long as dorsal tibial spur. Female: antennal club with three antennomeres, as long as remaining antennomeres combined.

Etymology. The new species is named after the type locality, Zhangmu.

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***Gynaecoserica hani* Liu & Ahrens sp. n.**

Type material examined. Holotype: ♂ [China] "Beibeng, Motuo, Xizang, 17.V.1983, 850m, leg. Han Yinheng" (IZAS). Paratype: 1 ♀ [China] "Beibeng, Motuo, Xizang, 17.V.1983, 850m, leg. Han Yinheng" (IZAS).

Description. Length: 5.2 mm, length of elytra: 3.9 mm, width: 3.1 mm. Body oblong, shiny, including antenna yellowish brown, pronotum, frons and metasternum darker, dorsal surface except a few setae on head glabrous.

Labroclypeus narrow, widest at base, lateral margins strongly convex and convergent from base to moderately rounded anterior angles, lateral margin and ocular canthus producing a distinct obtuse angle, anterior margin weakly sinuate medially, margins weakly reflexed; surface weakly convex medially and moderately shiny, coarsely and densely punctate, with several long erect setae behind anterior margin; frontoclypeal suture moderately impressed and curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus short and moderately narrow, impunctate, with a short terminal seta. Frons with moderately dense punctures, glabrous, only beside each eye with a single long seta. Eyes small, ratio of diameter/ interocular width: 0.6. Antenna with ten antennomeres, club with four antennomeres, as long as remaining antennomeres combined. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins nearly straight and evenly and moderately convergent anteriorly, in anterior third slightly convex and more strongly convergent, anterior angles distinctly produced and sharp, posterior angles blunt, anterior margin convexly produced medially, with a fine marginal line, basal margin without marginal line; surface with dense and coarse punctures, on sides with minute setae, midline not impressed; anterior and lateral borders sparsely setose; hypomeron carinate, basal margin of hypomeron not produced ventrally. Scutellum subtriangular, apex moderately rounded, with fine, dense punctures and minute setae, smooth medially.

Elytra oblong, widest at middle, striae moderately impressed, with fine and dense punctures; intervals weakly convex, with fine and dense punctures concentrated along striae; epipleural edge moderately strong, ending at bluntly rounded external apical angle of elytra, epipleura sparsely setose, apical border chitinous, without short microtrichomes.

Ventral surface partly dull laterally, with large and dense punctures, sparsely setose, metacoxa only laterally with a few fine adpressed setae. Abdominal sternites finely and densely punctate, nearly glabrous, each sternite with a distinct transverse row of coarse punctures each bearing a short robust seta. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.59. Pygidium shiny, beside apical margin dull, surface moderately convex, with fine, dense punctures and fine, moderately long setae beside apical margin, without smooth midline.

Legs moderately long; femora shiny, with two longitudinal rows of setae, finely and sparsely punctate; anterior edge of metafemur acute and without a submarginal serrate line, posterior margin weakly convex, ventral part smooth and glabrous, only weakly widened in apical half and not serrate, dorsal margin finely serrate and with fine short setae. Metatibia slender and moderately long, uniformly widened towards apex, ratio width/ length 1/ 2.94, dorsal margin sharply carinate, longitudinally convex only basally, with two groups of spines, basal group at one third, apical group at two thirds of metatibial length, with a few single, fine spines basally; external face longitudinally convex, with sparse and fine punctures, glabrous; ventral margin sharp and finely serrate, with three strong equidistant spines; internal face finely and sparsely punctate, smooth, apex sharply and deeply truncate interiorly near tarsal articulation. Tarsomeres dorsally glabrous and impunctate, ventrally with sparse, short setae; metatarsomeres ventrally with a strongly serrate ridge, first metatarsomere little shorter than following two tarsomeres combined and one third of its length longer than dorsal tibial spur. Protibia moderately long, bidentate, protarsal claws symmetrical.

Aedeagus: Fig. 1E–G.

Diagnosis. The new species differs from all other Himalayan *Gynaecoserica* Brenske, 1896 species by the shiny body surface and the short antennal club. In external morphology it is quite similar to *G. compacta* Ahrens & Fabrizi, 2009 differing, however, in the wide lateral process of phallobasis (lateral view) and the shorter parameres.

Variation. Female: Length: 5.1 mm, length of elytra: 3.8 mm, width: 3.1 mm. Antennal club composed of three antennomeres, shorter than remaining antennomeres combined. Eyes as large as in male.

Etymology. The new species is named after its collector, Han Yinheng.

***Gynaecoserica yigongensis* Liu & Ahrens sp. n.**

Type material examined. Holotype ♂ [China] "Yigong, Xizang, 11.VI.1978, leg. Li Fasheng" (CAU). Paratype: 1 ♀ [China] "Yigong, Xizang, 11.VI.1978, leg. Li Fasheng" (CAU).

Description. Length: 6.2 mm, length of elytra: 5 mm, width: 3.7 mm. Body oblong and shiny, surface dark reddish brown, frons, abdomen and some spots on elytra dark

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brown, legs and antenna yellowish brown, dorsal surface nearly glabrous.

Labroclypeus subrectangular, widest at base, lateral margins in basal half subparallel, anterior angles broadly rounded, lateral border and ocular canthus producing a distinct obtuse angle, anterior margin weakly sinuate medially, margins weakly reflexed, surface weakly convex medially and moderately shiny, very coarsely and densely punctate, with a few long erect setae behind anterior margin; frontoclypeal suture moderately impressed and curved, smooth area anterior to eye narrow, 1.25 times as wide as long; ocular canthus short and slender, glabrous, without terminal seta. Frons shiny, with coarse and irregularly dense punctures. Eyes small, ratio of diameter/ interocular width: 0.54. Antenna with ten antennomeres, club in male with four antennomeres, as long as remaining antennomeres combined, first joint of club slightly shorter than club. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins nearly straight, in basal half subparallel, evenly moderately convergent anteriorly, in anterior third slightly convex and more strongly convergent, anterior angles distinctly produced and sharp, posterior angles blunt, anterior margin convexly produced medially, with a fine marginal line, basal margin without marginal line; surface with dense and moderately coarse punctures, glabrous, midline not impressed; anterior and lateral borders sparsely setose; hypomeron carinate, basal margin of hypomeron not produced ventrally. Scutellum subtriangular, apex moderately rounded, with fine, dense punctures and minute setae, widely smooth medially.

Elytra oblong, widest at middle, striae moderately impressed, with fine and dense punctures; intervals weakly convex, with fine and dense punctures concentrated along striae, some punctures produce transverse wrinkles extending over more than one interval, impuctate portions slightly darker; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border chitinous, without short microtrichomes.

Ventral surface dull, with large and dense punctures, nearly glabrous except a few erect setae on metasternal disc, metacoxa laterally with a few short adpressed setae. Abdominal sternites finely and densely punctate, with fine, short setae, each sternite with an indistinct transverse row of coarse punctures each bearing a short robust seta. Ultimate and penultimate abdominal sternites with a shallow, longitudinal median excavation. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.26. Pygidium weakly convex and entirely shiny, with fine and dense punctures, without smooth midline, with a few longer setae along apical margin.

Legs moderately robust and long; femora shiny, with two longitudinal rows of setae, finely and sparsely punctate; anterior margin of metafemur sharply carinate, without a submarginal serrate line, posterior margin weakly convex and glabrous, ventral part smooth and glabrous, only weakly widened in apical half and not serrate, dorsal margin finely serrate and with fine and short setae. Metatibia slender and moderately long, uniformly widened toward apex, ratio width/ length: 1/ 3.5, dorsal margin nearly longitudinally convex, indistinctly carinate only in apical third, with two groups of spines, basal group at one third, apical group at two thirds of metatibial length, basally with a few single, fine spines; external face longitudinally convex, with sparse and fine punctures, glabrous; ventral margin carinate and serrate, with four robust equidistant spines; internal face finely and sparsely punctate, smooth, apex sharply and deeply truncate interiorly near tarsal articulation. Tarsomeres dorsally glabrous and impunctate, ventrally with sparse, short setae; metatarsomeres ventrally with a strongly serrate ridge, first metatarsomere one third of its length longer than dorsal tibial spur, subsequent tarsomeres lacking in holotype. Protibia moderately long, bidentate, protarsal claws symmetrical.

Aedeagus: Fig. 1I–K.

Diagnosis. *Gynaecoserica yigongensis* sp. n. is in external shape similar to *G. compacta*. It differs by the longer and apically extended lateral apophysis of phallobasis as well as by the long, fused parameres being bent laterally (to the right). From *G. hani* sp. n. it may be distinguished by the slightly larger size, the shape of parameres as well as the longer lateral apophysis of phallobasis.

Etymology. The new species is named after the type locality, Yigong.

Variation. Length: 6.1–6.2 mm, length of elytra: 4.6–5.0 mm, width: 3.6–3.7 mm. Female: Antennal club composed of three antennomeres, shorter than remaining antennomeres combined.

Lasioserica beibeugaua Liu & Ahrens sp. n.

Type material examined. Holotype: ♂ [China] "Beibeng, Motuo, Xizang, 20.V.1983, 800m, 850m, 800–900m, leg. Han Yinheng" (IZAS). Paratypes: 1 ♂ [China] "Beibeng, Motuo, Xizang, 27.V.1983, 800m, 850m, 800–900m, leg. Han Yinheng" (IZAS), 1 ♂ [China] "Beibeng, Motuo, Xizang, 29.V.1983, 800m, 850m, 800–900m, leg. Han Yinheng" (ZFMK).

Description. Length: 5.4 mm, length of elytra: 4.0 mm, width: 3.5 mm. Body oblong, dorsal surface dark brown,

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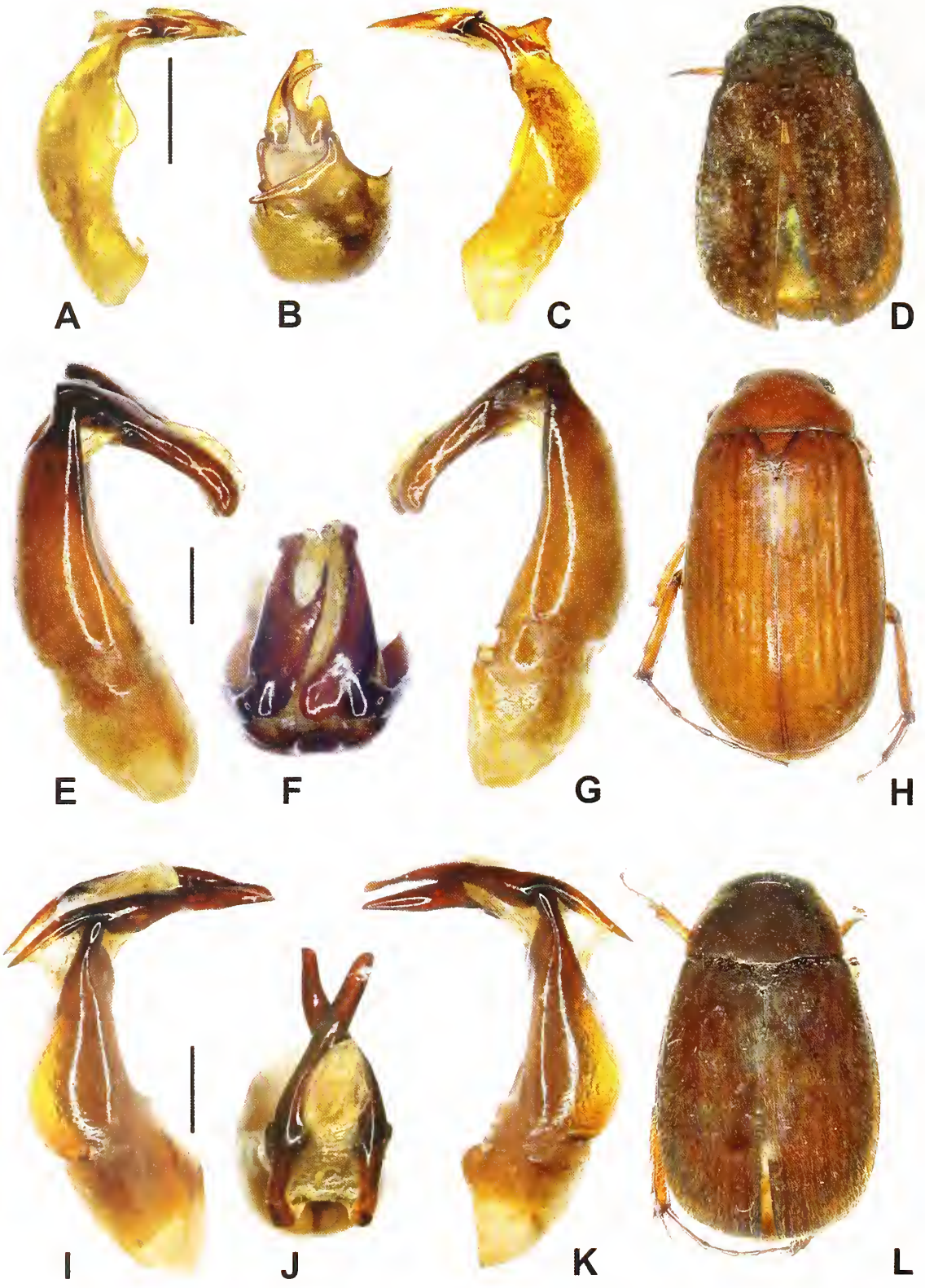

Fig. 2. A–D: *Lasioserica beibengana* Liu & Ahrens sp. n. (holotype), E–H: *Nepaloserica nielamuensis* Liu & Ahrens sp. n. (holotype), I–K: *Neoserica* (s.l.) *chayuensis* Liu & Ahrens sp. n. (holotype). A, E, I: Aedeagus, left side lateral view; C, G, K: Aedeagus, right side lateral view; B, F, J: Parameres, dorsal view; D, H, K: Habitus (not to scale). Scale: 0.5 mm.

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antenna and ventral surface brown, dorsal surface dull, pronotum and head with greenish shine, sparsely setose, with fine minute and white, scale-like setae on elytra and pronotum.

Labroclypeus subtrapezoidal, widest at base, lateral margins in basal half subparallel, anterioly strongly convex and strongly convergent from middle to broadly rounded anterior angles, lateral border and ocular canthus producing a distinct obtuse angle, anterior margin concavely sinuate, margins weakly reflexed; surface weakly convex medially and moderately shiny, finely and densely punctate, with a few long erect setae behind anterior margin; frontoclypeal suture weakly impressed and moderately curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus moderately long and narrow, finely and densely punctate, without terminal seta. Frons dull, finely and in part densely punctate. Eyes small, ratio of diameter/ interocular width: 0.5. Antenna with ten antennomeres, club in male with four antennomeres, 1.2 times as long as remaining antennomeres combined, first joint of club slightly shorter than club. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins subparallel, nearly straight, distinctly and widely sinuate before posterior angles, moderately curved anteriorly and convergent to acute, distinctly produced anterior angles, posterior angles nearly right-angled, anterior margin nearly straight, with a fine marginal line, basal margin without marginal line; surface with dense and coarse punctures each bearing either an adpressed, minute seta or a moderately long, white scale, with a transverse impression behind middle; anterior and lateral borders sparsely setose; hypomeron carinate, basal margin of hypomeron weakly produced ventrally. Scutellum subtriangular, apex moderately rounded, with fine and dense punctures and moderate setae, smooth on basal midline.

Elytra oblong, widest shortly behind middle, striae moderately impressed, with fine and dense punctures; intervals moderately convex, with fine and dense punctures concentrated along striae, with sparse, short white scales or minute setae; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border narrowly membraneous, with very short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely setose, metacoxa only laterally with a few fine, adpressed setae. Abdominal sternites finely and densely punctate and minutely setose, each sternite with a distinct transverse row of coarse punctures each bearing a short, robust seta. Penultimate abdominal sternite without tubercles but slightly transversely elevated medially. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.38. Pygidium moderately convex and dull, with coarse, dense punctures and fine, white setae, with wide smooth midline.

Legs moderately slender and long; femora dull on ventral face, with two longitudinal rows of setae, finely and sparsely punctate; anterior edge of metafemur acute, with an adjacent serrated line, ventrally weakly widened ventrally in apical half but not serrate, dorsally serrate. Tarsomeres glabrous, finely punctate dorsally, with sparse, short setae ventrally. Metatibia including tarsi missing in holotype. Protibia moderately long, bidentate. Protarsomeres missing in holotype. Female unknown.

Aedeagus: Fig. 2A–C.

Diagnosis. The shape of parameres is similar to those of *L. turaensis* Ahrens, 2000. It differs significantly by the at left side ventrally extended phallobasis, whose interior rim of dorsoapical median sinuation produces a sharply pointed dorsal process, which is unique trait among all other so far known *Lasioserica* Brenske, 1896 species.

Variation. Length: 5.0–5.6 mm, length of elytra: 3.8–3.9 mm, width: 3.0–3.2 mm. Protarsomeres short and robust, claws slightly asymmetrical, basal tooth of interior protarsal claw widened and bluntly truncate.

Etymology. The new species is named after the type locality, Beibeng.

Nepaloserica nielamuensis Liu & Ahrens sp. n.

Type material examined. Holotype ♂ "Zhangmu, Nielamu, Xizang, 23.IV.1974, 2250m, leg. Zhang Xuezhong" (IZAS). Paratypes: 3 ♂ "Zhangmu, Nielamu, Xizang, 23.IV.1974, 2250m, leg. Zhang Xuezhong" (IZAS, ZFMK), 1 ♂ "Zhangmu, Nielamu, Xizang, 10.V.1966, 2200m, leg. Wang Shuyong" (IZAS).

Description. Length: 9.9 mm, length of elytra: 8.2 mm, width: 5.2 mm. Body oblong, dorsal and ventral surface reddish brown and dull, antenna brown, except a few setae on head sparsely setose.

Labroclypeus narrow and nearly square, widest at base, lateral margins weakly convex and convergent from base to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct obtuse angle, anterior margin moderately sinuate but strongly reflexed; surface nearly flat and shiny, finely and densely punctate, with a few long erect setae in coarser punctures anteriorly; frontoclypeal suture weakly impressed and moderately curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus long and slender, finely and densely punctate, with one to two terminal setae. Frons dull, finely and densely punctate, punctures vanish under dull toment, with a few long setae on posterior frons and beside eyes, otherwise only with minute setae. Eyes moderately large, ratio of diameter/ interocular width: 0.66. Antenna with ten

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antennomeres, club with seven antennomeres, 1.5 times as long as remaining antennomeres combined, first joint of club slightly shorter than club. Mentum elevated and flattened anteriorly.

Pronotum widest at middle, lateral margins in basal half subparallel, moderately curved and convergent anteriorly, anterior angles acute, distinctly produced, posterior angles blunt, anterior margin weakly produced medially, with a fine marginal line, basal margin without marginal line; surface with dense and coarse punctures bearing often a minute, adpressed seta; anterior and lateral borders sparsely setose; hypomeron carinate, basal margin of hypomeron not produced. Scutellum subtriangular, apex moderately rounded, with coarse and dense punctures.

Elytra oblong, widest at posterior third, striae distinctly impressed, with fine and dense punctures; intervals moderately convex, with fine and dense punctures concentrated along striae, glabrous exeept minute setae and a few short setae on lateral intervals; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border membraneous, with a fine rim of short microtrichomes.

Ventral surface with large and dense punctures, sparsely setose, on metasternum with moderately dense and long setae; metacoxa only laterally with a few fine adpressed setae. Abdominal sternites finely and densely punctate, with fine, short setae medially on basal sternites and minute ones only laterally on other sternites, each sternite with a distinct transverse row of coarse punctures each bearing a short robust seta, abdominal sternites without any elevation. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.51. Pygidium moderately evenly convex, with coarse and dense punctures and a few moderately long setae on apical half; without smooth midline.

Legs slender and long; femora with two longitudinal rows of setae, finely and sparsely punctate; anterior edge of metafemur acute with an adjacent serrated line, ventrally weakly widened ventrally in apical half but not serrate, dorsally serrate. Metatibia moderately wide, widened at base, ratio width/ length: 1/3.9, dorsal margin sharply carinate, with two groups of spines, basal group at one third, apical one at three quarters of metatibial length, with a few single spines basally; lateral face longitudinally convex, with very sparse and fine punctures, along the middle nearly impunctate, ventral margin serrate, with three robust equidistant spines; medial face impunctate and smooth, apex interiorly near tarsal articulation shallowly concavely truncate. Tarsomeres glabrous and finely punctate dorsally, with sparse, short setae ventrally, metatarsomeres with a serrated ridge ventrally, and a sharp carina immediately beside it, first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than the dorsal tibial spur. Protibia short, bidentate, protarsal claws broken. Female unknown.

Aedeagus: Fig. 2 E–G.

Diagnosis. The new species is in shape of parameres rather similar to *N. procera procera* Frey, 1965 and *N. procera rufescens* Frey, 1965. From both it differs by the setose frons, the lack of elevations on penultimate sternites, as well as the broadly inserted basal lobe of right paramere, which is over half of its length fused with the paramere.

Etymology. The new species is named after the type locality, Nielamu.

Variation. Length: 9.3–11.3 mm, length of elytra: 7.4–8.8 mm, width: 5.3–5.9 mm. Protarsal claws symmetrical, basal tooth of inner claw sharply truncate at apex.

Neoserica (s.l.) *chayuensis* Liu & Ahrens sp. n.

Type material examined. Holotype ♂ [China] "Xiachayu, Chayu, Xizang, 12–13.VII.2005, leg. Shi Aimin" (HBUM). Paratypes: 1 ♀ [China] "Xiachayu, Chayu, Xizang, 12–13.VII.2005, leg. Shi Aimin" (HBUM), 2 ♂ [China] "Xiachayu, Chayu, Xizang, 15.VII.2005, leg. Shi Aimin" (HBUM, ZFMK).

Diagnosis. Length: 8.9 mm, length of elytra: 6.8 mm, width: 5.4 mm. Body oval, dorsal and ventral surface dull and dark brown, legs reddish brown, antenna yellow, dorsal surface with yellowish, short and fine, dense setae.

Labroclypeus trapezoidal, widest at base, lateral margins moderately convex and convergent from base to broadly rounded anterior angles, anterior margin weakly sinuate and moderately reflexed, lateral border and ocular canthus producing a distinct obtuse angle, surface flat and shiny, at base dull, finely and densely punctate, with numerous long, erect setae; frontoclypeal suture weakly incised and moderately curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus moderately long and slender, impunctate, with one or two terminal setae. Frons finely and densely punctate, completely dull, with dense and long erect setae. Eyes small, ratio of diameter/ interocular width: 0.56. Antenna with ten antennomeres, club in male with six antennomeres, as long as remaining antennomeres combined, first joint of club slightly shorter than club. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins weakly curved and evenly convergent anteriorly, anterior angles acute, moderately produced, posterior angles wekaly rounded, anterior margin moderately convex, with distinct and fine marginal line, basal margin without marginal line; surface with dense and coarse punctures each bearing a yellow, semi-ereet, short seta being bent slight posteriorly, disc without any impression; anterior and lateral bor-

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ders sparsely setose, setae slightly longer than those of the disc; hypomeron carinate, basal margin of hypomeron not produced. Scutellum subtriangular, apex moderately rounded, with fine and dense punctures and fine setae.

Elytra oblong, widest shortly behind middle, striae weakly impressed, finely and densely punctate; intervals weakly convex, with evenly distributed, fine and dense punctures, each bearing a fine, semi-erect, yellow seta, odd intervals with a few longer, erect setae; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border finely membraneous, with a fine rim of very short microtrichomes.

Ventral surface dull, with large, dense punctures and dense, sparse setae, metacoxa glabrous, with a few robust setae laterally only. Abdominal sternites finely and densely punctate, with fine, dense, short setae, each sternite with a distinct transverse row of coarse punctures each bearing a short robust seta. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.67. Pygidium weakly convex, with coarse, dense punctures and shorter and longer, fine setae, without smooth midline.

Legs moderately slender and long, moderately shiny, femora with fine and dense punctures and sparsely setose; anterior edge of metafemur acute, lacking an adjacent serrated line, ventral posterior margin weakly convex, weakly widened ventrally in apical half but not serrate, with a few fine setae, dorsal posterior margin serrate, with a few fine setae. Metatibia long and moderately wide, widest at apex, ratio width/ length: 1/ 4.2, dorsal margin sharply carinate, with two groups of spines, basal group shortly before middle, apical one shortly behind three quarters of metatibial length, with a few single spines basally on a short and blunt longitudinal elevation; lateral face longitudinally convex, with sparse and large, shallow punctures; ventral margin serrate, with three nearly equidistant robust setae; medial face impunctate and smooth, apex shallowly sinuate interiorly near tarsal articulation. Tarsomeres glabrous and finely and superficially punctate dorsally, with sparse, short setae ventrally, metatarsomeres with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it, first metatarsomere slightly longer than following two tarsomeres combined and one third of its length longer than dorsal tibial spur. Protibia short, bidentate, protarsal claws symmetrical.

Aedeagus: Fig. 2I–K.

Diagnosis. The new species resembles in external and genital morphology to *Neoserica barberi* (Sharp, 1903) from southern India; it shares the subsymmetrical male genitalia, the shape of labroclypeus and legs, as well as the configuration of antennal club. From all species of the *N. barberi* group the new species differs by the dense pilosity of the dorsal body surface, as well as by the basal lobe present at each paramere.

Variation. Length: 8.9–10.5 mm, length of elytra: 6.8–8 mm, width: 5.4–6.6 mm. Female. Eyes smaller, ratio of diameter/ interocular width: 0.51, antennal club composed of five antennomeres, first joint of club subequal to one sixth of club length.

Etymology. The new species is named after the type locality, Chayu.

Remarks. Head and pronotum of one paratype ("Xiachayu, Chayu, Xizang, 15.VII.2005, leg. Shi Aimin") are missing.

Neoserica (s.l.) *xizangensis* Liu & Ahrens sp. n.

Type material examined. Holotype: ♂ [China] "Langcun, Lang County, Xizang, 8.VI.1986, 3080m, No. 581" (IZAS). Paratype: 1 ♂ [China] "Langxian County, Xizang, 5.VII.1981, leg. Chen Tailu" (ZFMK).

Description. Length: 8.0 mm, length of elytra: 5.8 mm, width: 4.0 mm. Body oblong, including legs yellowish brown, head slightly darker, antenna yellow, dorsal surface shiny, nearly glabrous.

Labroclypeus trapezoidal, widest at base, lateral margins moderately convex and convergent from base to moderately rounded anterior angles, anterior margin weakly sinuate medially, margins moderately reflexed, lateral margin and ocular canthus producing a distinct obtuse angle; surface flat, coarsely and very densely punctate, distance between punctures less their diameter, with a few short setae behind anterior margin; frontoclypeal suture weakly impressed and moderately curved, smooth area anterior to eye twice as wide as long; ocular canthus moderately long, finely and densely punctate, without terminal seta. Frons densely and coarsely punctate, entirely glabrous. Eyes moderately large, ratio of diameter/ interocular width: 0.69. Antenna with ten antennomeres, club in male with four antennomeres, as long as remaining antennomeres combined, first joint of club slightly shorter than club. Mentum elevated and flattened anteriorly.

Pronotum widest at middle, lateral margins weakly but evenly curved and convergent anteriorly and posteriorly, anterior angles right-angled, weakly produced, posterior angles blunt, anterior margin convexly produced medially, with distinct marginal line, basal margin without marginal line; surface with very dense and coarse punctures, without impressions; anterior and lateral borders sparsely setose; hypomeron only medially slightly carinate, carina completely reduced laterally, basal margin of hypomeron not produced. Scutellum subtriangular, apex

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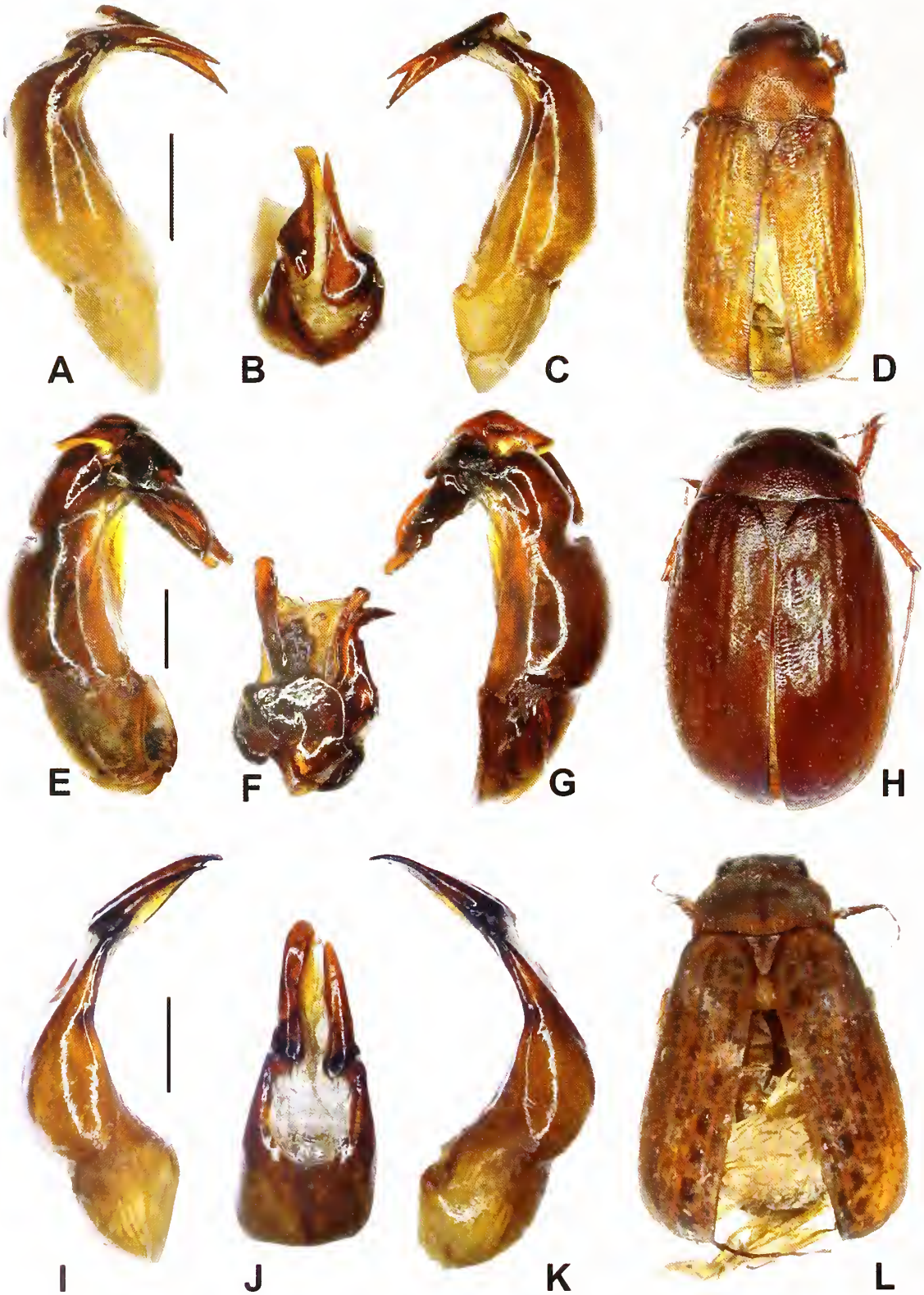

Fig. 3. A–D: *Neoserica (s.l.) xizangensis* Liu & Ahrens sp. n. (holotype), E–H: *Serica* (s.l.) *fashengi* Liu & Ahrens sp. n. (holotype), I–K: *S.* (s.l.) *yadongensis* Liu & Ahrens sp. n. (holotype). A, E, I: Aedeagus, left side lateral view; C, G, K: Aedeagus, right side lateral view; B, F, J: Parameres, dorsal view; D, H, K: Habitus (not to scale). Scale: 0.5 mm.

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moderately rounded, with coarse and dense punctures, glabrous.

Elytra oblong, widest at middle, striae weakly impressed, with fine and dense punctures; intervals weakly convex, with fine and dense punctures concentrated along striae, punctures with very minute setae, odd intervals with a few short yellow setae; epipleural edge robust, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border chitinous, without short microtrichomes.

Ventral surface dull or weakly shiny, with large and dense punctures, sparsely setose except on metasternal disc. Mesosternum between mesocoxae as wide as mesofemur, with numerous strong setae on an indistinct semicircular carina. Ratio of length of metepisternum/ metacoxa: 1/ 1.27. Abdominal sternites finely and densely punctate, with fine, moderately dense setae on basal sternites, otherwise sparsely setose, each sternite with an indistinct transverse row of coarse punctures each bearing a short robust seta. Pygidium weakly convex and shiny, with fine, moderately dense punctures and fine setae, without smooth midline.

Legs long and slender, shiny, femora finely and sparsely punctate, sparsely setose; anterior edge of metafemur acute, lacking an adjacent serrated line, posterior ventral margin weakly convex, weakly widened ventrally in apical half but not serrate, posterior dorsal margin smooth, densely and shortly setose. Metatibia slender and very long, widest at apex, ratio width/ length: 1/ 6, dorsal margin longitudinally convex, not carinate, with two groups of spines, basal group at one quarter, apical one at two thirds of metatibial length, with a few single spines basally; lateral face longitudinally convex, with dense and coarse, longitudinally impressed punctures, glabrous; ventral edge carinate and finely serrate, with four equidistant robust spines, between each of them with a single short seta; medial face densely punctate and with long, dense setae, apex sharply truncate interiorly near tarsal articulation. Tarsomeres glabrous and finely punctate dorsally, with moderately dense, short setae ventrally; metatarsomeres with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it, first metatarsomere slightly longer than following tarsomere and as long as dorsal tibial spur. Protibia long, bidentate, protarsomeres missing in holotype.

Aedeagus: Fig. 3A–C.

Diagnosis. At the moment it is difficult to nominate a closer relative of this new species. The reduced carina of hypomeron is found in Asia only in *Tetraserica* Ahrens, 2004 and *Serica* (s. str.) MacLeay, 1819 [from whose *N. xizangensis* differs in shape of aedeagus], while the shape of legs resemble somewhat those of *Sericania* Motschulsky, 1860, however, parameres are simple and do not have basal lobes as all other *Sericania* species.

Etymology. The new species is named after its occurrence in Xizang.

Variation. Length: 7.3–8.0 mm, length of elytra: 5.4–5.8 mm, width: 3.5–4.0 mm. Protarsomeres long and slender, claws symmetrical, basal teeth of protarsal claws sharply pointed.

Serica (s.l.) *fashengi* Liu & Ahrens sp. n.

Type material examined. Holotype: ♂ [China] "Yigong, Xizang, 29.VII.1978, 2300m, leg. Li Fasheng" (CAU). Paratypes: 1 ♂ [China] "Yigong, Xizang, 25.VII.1976, 2050m, leg. Li Fasheng" (ZFMK).

Description. Length: 9.2 mm, length of elytra: 7.7 mm, width: 5.6 mm. Body oblong-oval including legs dark reddish brown, dull, antenna yellowish brown, dorsal surface nearly glabrous, head and pronotum moderately shiny.

Labroclypeus subtrapezoidal, widest at base, lateral margins nearly straight and strongly convergent to broadly rounded anterior angles, anterior margin weakly sinuate, margins weakly reflexed, lateral border and ocular canthus producing a distinct obtuse angle, surface flat, coarsely and very densely punctate, without setae; frontoclypeal suture weakly impressed and moderately curved, smooth area anterior to eye1.5 times as wide as long; ocular canthus short and wide, finely and densely punctate, with a single, long terminal seta. Frons dull, coarsely and very densely punctate, with a few long setae beside eyes. Eyes moderately large, ratio of diameter/ interocular width: 0.66. Antenna with nine antennomeres, club with three antennomeres, 5 times as long as remaining antennomeres combined, club strongly reflexed. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins nearly straight and evenly convergent anteriorly, in anterior third moderately curved and more strongly convergent, anterior angles acute, distinctly produced, posterior angles moderately rounded, anterior margin weakly convex medially, with a fine marginal line, basal margin without marginal line; surface with dense and coarse punctures, glabrous, without impressions; anterior and lateral borders sparsely setose; hypomeron carinate, basal margin of hypomeron not produced. Scutellum subtriangular, apex moderately rounded, with dense and coarse punctures, glabrous.

Elytra oblong, widest at middle, striae weakly impressed, with fine and dense punctures; intervals weakly convex, with fine and dense punctures concentrated along striae, except a few minute setae on lateral intervals glabrous; epipleural edge strong, ending at strongly rounded external apical angle of elytra, epipleura dense-

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ly setose, apical border membraneous, with short microtrichomes.

Ventral surface with large and dense punctures, except a few erect setae on metasternal disc nearly glabrous; metacoxa only laterally with a few robust, adpressed setae. Mesosternum between mesocoxae as wide as mesofemur, with numerous strong setae on an indistinct semicircular carina. Ratio of length of metepisternum/ metacoxa: 1/ 1.35. Abdominal sternites finely and densely punctate, nearly glabrous, each sternite with a distinct transverse row of coarse punctures each bearing a short robust seta. Pygidium weakly convex, with fine, dense punctures and a few fine setae along apical margin, without smooth midline.

Legs moderately long; femora with two longitudinal rows of setae, finely and sparsely punctate; anterior edge of metafemur acute with an adjacent, but partly interrupted serrated line, posterior ventral margin nearly straight, weakly widened in apical half and not serrate, posterior dorsal margin indistinctly serrate, densely setose. Metatibia moderately wide and long, slightly widened behind middle, ratio width/ length: 1/ 3.7, dorsal margin weakly carinate, with two groups of spines, basal group shortly before middle, apical one at three quarters of metatibial length, with a few single setae in serrated punctures basally; lateral face longitudinally convex, with fine and sparse punctures; ventral margin serrate; medial face impunctate and smooth, apex sharply truncate interiorly near tarsal articulation. Tarsomeres glabrous and impunctate dorsally, with sparse, short setae ventrally, metatarsomeres with a strongly serrated ridge ventrally, and longitudinal carina immediately beside it, first metatarsomere as long as following two tarsomeres combined and one third of its length longer than tibial spur. Protibia moderately long, bidentate, external edge smooth, claws symmetrical.

Aedeagus: Fig. 3 E–G.

Diagnosis. The new species belongs to the *Serica segregata* Arrow, 1946 group. It differs from *S. falcifera* Ahrens & Fabrizi, 2009 by the wider basal lobe of the right paramere, the sharply hooked dorsal lobe of left paramere, and the longer antennal club. It is hard to say with a single known specimen whether also the number of antennomeres constitute a species-specific diagnostic feature to distinguish from *S. segregata* and *falcifera* (both having an antenna composed of ten antennomeres instead of nine).

Etymology. The new species is named after the collector of the species, Li Fasheng.

Variation. Length: 9.2–10 mm, length of elytra: 7.5–7.7 mm, width: 5.3–5.6 mm.

***Serica* (s.l.) *yadongensis* Liu & Ahrens sp. n.**

Type material examined. Holotype: ♂ [China] "Yadong, Xizang, 1.VII.2004, leg. Ba Yibin, Shi Aimin" (HBUM). Paratype: 1 ♂ [China] "Xiasima, Yadong, Xizang, 14.VI.1983, leg. Wang Jia, Ci Ren, No.96-2" (IZAS).

Description. Length: 10 mm, length of elytra: 7.4 mm, width: 4.6 mm. Body oblong, dark reddish brown, head dark brown, antenna yellowish brown, dorsal surface dull, elytra with irregular dark spots; head and pronotum with long erect setae, elytra with minute to short white adpressed setae.

Labroclypeus narrowly subtrapezoidal, widest at base, lateral margins moderately convergent from base to moderately rounded anterior angles, anterior margin weakly sinuate, margins strongly reflexed, lateral border and ocular canthus producing a distinct obtuse angle; surface flat and moderately shiny, very coarsely and densely punctate, larger punctures each bearing a long erect setae interspersed with fine, glabrous punctures; frontoclypeal suture moderately impressed and curved, smooth area anterior to eye 1.5 times as wide as long; ocular canthus moderate long and robust, finely and densely punctate, with a long terminal seta. Frons dull, finely and densely punctate, with numerous long, erect setae. Eyes moderately large, ratio of diameter/ interocular width: 0.7. Antenna with ten antennomeres, club with three antennomeres, 1.5 times as long as remaining antennomeres combined, club slightly reflexed. Mentum elevated and flattened anteriorly.

Pronotum widest at base, lateral margins in basal half subparallel and slightly concavely sinuate, moderately curved and strongly convergent in anterior third, anterior angles bluntly rounded, moderately produced, anterior margin nearly straight, with a fine marginal line, posterior angles moderately round, basal margin without marginal line; surface with dense and fine punctures, midline impunctate, with several long erect setae bent posteriorly, otherwise laterally with short, white or minute setae; anterior and lateral borders densely setose; hypomeron carinate, basal margin of hypomeron not produced. Scutellum subtriangular, apex moderately rounded, with fine and very dense punctures, glabrous, impunctate on midline.

Elytra oblong, widest at middle, striae moderately impressed, with fine and dense punctures, reddish brown; intervals moderately convex, second interval posteriorly strongly widened, intervals with irregular, fine and dense punctures, with fine, minute or short, scale-like, adpressed setae concentrated along striae, punctation partly interrupted by large and dark impunctate spots; epipleural edge moderately strong, ending at strongly rounded external apical angle of elytra, epipleura densely setose, apical border membraneous, with a very fine rim of short microtrichomes.

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Ventral surface with large and dense punctures, densely setose; metacoxa glabrous, only laterally with a few fine adpressed setae. Mesosternum between mesocoxae as wide as mesofemur. Ratio of length of metepisternum/ metacoxa: 1/ 1.5. Abdominal sternites finely and moderately densely punctate, punctures with minute setae, each sternite with an indistinct transverse row of coarse punctures each bearing a short, robust seta. Pygidium strongly convex, with coarse, moderately dense punctures and fine, long setae, midline smooth.

Legs slender and long; femora with two longitudinal rows of setae, finely and sparsely punctate; anterior edge of shiny metafemur acute, without an adjacent serrated line, ventral posterior margin nearly straight, weakly widened in apical half ventrally, not serrate, dorsal posterior margin serrate and densely setose. Metatibia slender and long, abruptly widened at apex, ratio width/ length: 1/ 4.2, dorsal margin longitudinally convex, with two groups of spines, basal group at one third, apical one at three quarters of metatibial length, with a few single setae basally; lateral face longitudinally convex, with sparse and moderately coarse punctures, some of them longitudinally impressed, glabrous; ventral margin serrate, with four equidistant spines; medial face impunctate and smooth, apex sharply truncate interiorly near tarsal articulation. Tarsomeres glabrous and impunctate dorsally, with sparse, short setae ventrally, metatarsomeres with a strongly serrated ridge ventrally and a longitudinal carina immediately beside it; first metatarsomere distinctly shorter than following two tarsomeres combined and twice as long as dorsal tibial spur. Protibia moderately long, bidentate, external edge smooth, claws symmetrical. Female unknown.

Aedeagus: Fig. 3I–K.

Diagnosis. The new species differs from *Serica erectosetosa* Ahrens, 1999 by having nearly straight parameres (lateral view), and from all other species of *S. erectosetosa* group by having long erect setae on head and pronotum, parameres are more strongly asymmetric as in *S. karnaliensis* Ahrens, 1999.

Etymology. The new species is named after the type locality, Yadong.

Variation. Length: 9.0–10.0 mm, length of elytra: 7.0–7.4 mm, width: 4.6–5.1 mm.

ADDITIONAL MATERIAL

***Serica* (s. str.) *guidoi* Ahrens, 1999**
Additional material examined. 1 ♂ "Zhangmukou, Nielamu, Xizang, 12.V.1974, 2250m, leg. Zhang Xuezhong" (IZAS).

***Serica* (s. str.) *khajiaris* Mittal, 1988**
Additional material examined. 2 ♂ "Yigong, Bomi, Xizang, 14,22.VIII.1983, 2300m, leg. Han Yinheng" (IZAS).

***Serica* (s. str.) *kingdoni* Ahrens, 1999**
Additional material examined. 1 ♀ "Qiujiaba, Wen County, Gansu, 22.VII.1999, 2350m, leg. Yao Jian" (IZAS), 3 ♀ "Qiujiaba, Wen County, Gansu, 21.VII.1999, 2350m, leg. He Tongli" (IZAS), 1 ♂ "Hailuo Gou, Moxi, Luding, Sichuan, 9.VIII.2004, 3000m, leg. Wan Xia, Zhang Yong" (IZAS), 1 ♀ "Wolongguan Gou, Wolongzhen, Sichuan, 20.VII.2004, 2150m, leg. Zhang Yong" (IZAS), 1 ♂ "Yaojiaping, Lushui, Yunnan, 2.VI.1981, 2500m, light trap, leg. Wang Shuyong" (IZAS), 1 ♂ "Sanshenggou, Wolong, Sichuan, 8.VIII.1983, 2500m, leg. Niu Chunlai" (IZAS), 1 ♂ "Chayu, Xizang, 22.VII.2009, leg. Ren Guodong etc." (HBUM), 1 ♂ "Hailuogou, Moxi, Luding, Sichuan, 8.VIII.2004, 3000m, leg. Wan Xia" (IZAS).

***Serica* (s. str.) *montrouili* Ahrens, 2005**
Additional material examined. 1 ♂ "Maxionggou, Xiangcheng, Sichuan, 25.VI.1982, 3800m, leg. Wang Shuyong" (IZAS), 1 ♀ "Haizigou, Mts. Siguniangshan, Sichuan, 29.VII.2004, 3400–3860m, leg. Bai Ming" (IZAS), 1 ♀ "Shuangqiaogou, Mts. Siguniangshan, Sichuan, 28.VII.2004, 3840m, leg. Bai Ming" (IZAS), 1 ♂ "Jiangda, Xizang, 28.VII.1976, 3400m, leg. Han Yinheng" (IZAS), 1 ♀ "Haitong, Mangkang, Xizang, 7,8.VIII.1983, 2950-3050m, leg. Lin Zai" (IZAS), 1 ♂ "Gelong, Yushu, Qinghai, 10,12.VII.1964, 3700m, leg. Wang Shuyong" (IZAS), 1 ♂ "Zhongreniao, Xiangcheng, Sichuan, 17.VII.1982, 4100m, leg. Zhang Xuezhong" (IZAS).

***Serica* (s. str.) *nepalensis* (Frey, 1969)**
Additional material examined. 1 ♂ "Zhangmu, Nielamu, 21.IV.1974, 2250m, leg. Zhang Xuezhong" (IZAS), 1 ♀ "Jitang Youxi, Chaya, Xizang, 16.VIII.1976, leg. Han Yinheng" (IZAS), 1 ♂ "Youyi Bridge, Nielamu, Xizang, 21.IV.1974, 1668m, leg. Zhang Xuezhong" (IZAS), 1 ♀ "Zhangmu, Nielamu, Xizang, 21.IV.1974, leg. Zhang Xuezhong" (IZAS), 1 ♂, 1 ♀ "Zhangmukouan, Xizang, 28.VI.1975, 2250m, leg. Zhang Xuezhong" (IZAS).

***Serica* (s. str.) *thibetana* Brenske, 1897**
Additional material examined. 1 ♂ "Youyi Brigde, Nielamu, Xizang, 6.V.1974, 1680m, light trap, leg. Zhang Xuezhong" (IZAS), 1 ♂ "Yadong, Xizang, 29.VII.1980, 2700m, light trap, leg. Li Aihua" (IZAS), 1 ♂ "Xiasima, Yadong, Xizang, 29.V.1983, leg. Wang Jia, Ci Ren, No. 98-3"(IZAS), 1 ♂ "Yadong, Xizang, 29.V.1983, 2700m, light trap, leg. Li Aihua" (IZAS).

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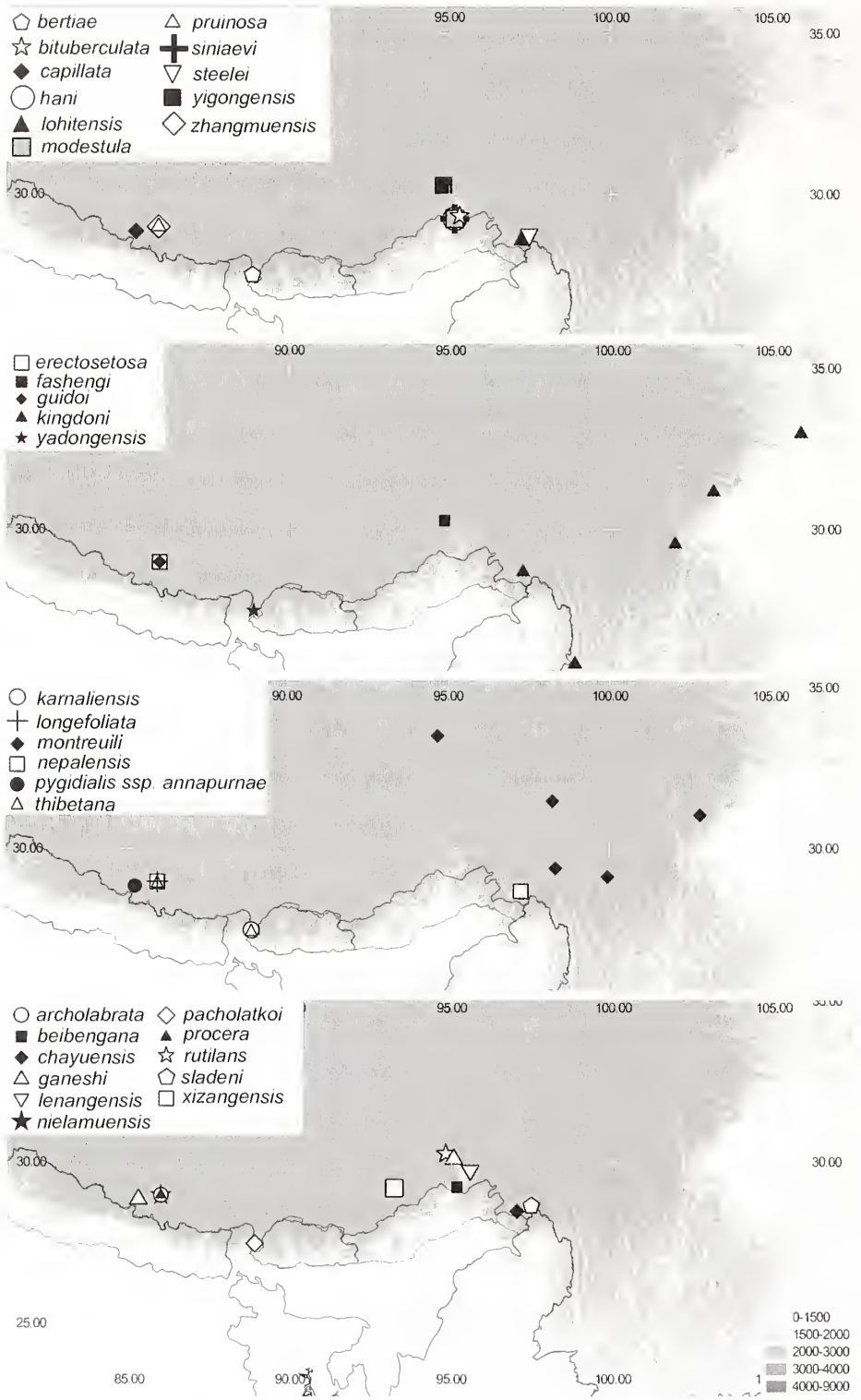

Fig. 4. Distribution and new records of: **A:** *Calloserica bertiae*, *C. capillata*, *C. zhangmuensis*, *Gynaecoserica hani*, *G. lohitensis*, *G. yigongensis*, *Maladera modestula*, *M. siniaevi*, *Microserica pruinosa*, *Mi. steelei*, *Pachyserica bituberculata*. **B:** *Serica* (s.l.) *erectosetosa*, *S.* (s.l.) *fashengi*, *Serica* (s.str.) *guidoi*, *S.* (s.str.) *kingdoni*, *S.* (s.str.) *yadongensis*. **C:** *S.* (s.l.) *karnaliensis*, *S.* (s.str.) *montreuili*, *S.* (s.str.) *nepalensis*, *S.* (s.str.) *thibetana*, *Oxyserica longefoliata*, *O. pygidialis ssp. annapurnae*. **D:** *Lasioserica beibengana*, *L. pacholatkoi*, *Neoserica lenangensis*, *N. sladeni*, *N. chayuensis*, *N. rutilans*, *N. xizangensis*, *Nepaloserica archolabrata*, *Ne. ganeshi*, *Ne. nielamuensis*, *Ne. procera*.

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***Serica* (s. l.) *karnaliensis* Ahrens, 1999**
Additional material examined. 1 ♀ "Yadong, Xizang, 1.VII.2004, leg. Ba Yibin, Shi Aimin" (HBUM).

***Serica* (s. l.) *erectosetosa* Ahrens, 1999**
Additional material examined. 1 ♂ "Zhangmu, Nielamu, Xizang, 12.V.1974, 2250m, leg. Zhang Xuezhong" (IZAS).

***Paclıyserica bituberculata* Ahrens, 2006**
Additional material examined. 1♂ "Motuo, Xizang, 14.VIII.2003, 1100m, leg. Ren Guodong"(HBUM), 1 ♂ "Maniweng, Motuo, Xizang, 28.VIII.1974, 930m, leg. Huang Fusheng" (IZAS).

***Calloserica bertiae* Ahrens, 2000**
Additional material examined. 1 ♂ "Xiasima, Yadong, Xizang, 8.VII.1983, leg. Wang Jia, Ci Ren" (IZAS).

***Calloserica capillata* Ahrens, 2005**
Additional material examined. 1 ♂ "Zhangmu, Xizang, 28,30.VI.1975, 2400m, leg. Huang Fusheng, Wang Ziqing" (IZAS), 1 ♂ "Xiao Jilong, Jilong, Xizang, 20,22.VII.1975, 2800m, leg. Huang Fusheng" (IZAS).

***Lasioserica* (s. l.) *pacholatkoi* Ahrens, 2000**
Additional material examined. 1 ♂ "Yadong, Xizang, 27.VIII.2003, 2900m, light trap, leg. Xue Huaijun, Wang Xinpu" (NKU).

***Neoserica* (s. l.) *lenangensis* Ahrens & Fabrizi, 2009**
Additional material examined. 1 ♂ "Bomi, Xizang, 3.IX.1982, 3050m, leg. Han Yinheng" (IZAS).

***Neoserica* (s. l.) *rutilaus* Ahrens & Fabrizi, 2009**
Additional material examined. 1 ♂, 1 ♀ "Yigong, Xizang, 11,15.VI.1978, 2300m, leg. Li Fasheng" (CAU).

***Neoserica* (s. l.) *sladeni* Ahrens, 2004**
Additional material examined. 1 ♂ "Sangjiu, Chayu, Xizang, 23.VI.1973, 3000m, leg. Huang Fusheng" (IZAS).

***Oxyserica longefoliata* (Frey, 1965)**
Additional material examined. 1 ♂ "Zhangmu, Xizang, 5–6.VII.2004, leg. Ba Yibin, Shi Aimin" (HBUM).

***Oxyserica pygidialis* ssp. *annapurnae* (Ahrens, 1995)**
Additional material examined. 2 ♂, 2 ♀ "Jilong District, Jilong County, Xizang, 19–20.VII.1975, 2800m, leg. Zhang Xuezhong" (IZAS), 1 ♂, 1 ♀ "Xiaojilong, Jilong, Xizang, 20.VII.1975, 2800m, leg. Huang Fusheng" (IZAS), 1 ♂ "Jilonggongshe, Xizang, 27.VII.1984, leg. Pu Qiongqiong" (IZAS).

***Gyuaecoserica lohitensis* Ahrens & Fabrizi, 2009**
Additional material examined. 1 ♂ "Chayu, Xizang, 16–17.VII.2005, leg. Shi Aimin" (HBUM).

***Microserica pruinosa* (Hope, 1831)**
Additional material examined. 1 ♂ "Youyiqiao, Nielamu, Xizang, 6.V.1974, 1680m, leg. Zhang Xuezhong" (IZAS).

***Microserica steelei* Ahrens, 2004**
Additional material examined. 1 ♂, 1 ♀ "Shajiao, Chayu, Xizang, 25.VI.1978, 1700m, leg. Li Fasheng" (CAU).

***Nepaloserica archolabrata* Ahrens & Sabatinelli, 1996**
Additional material examined. 1 ♂ "Youyi Bridge, Nielamu, Xizang, 7.V.1974, 1680m, leg. Zhang Xuezhong" (IZAS).

***Nepaloserica ganeshi* Ahrens, 1999**
Additional material examined. 2 ♂ "Jilong, Xizang, 11.VI.1978, 3150m, leg. Institute of Agricultural Sciences" (IZAS), 1 ♂ "Jilong Gongshe, Xizang, 16.VI.1984, leg. Yan Zhaoxing, Pu Qiongqiong" (IZAS), 1 ♂ "Tongmai, Jilong, Xizang, 25.VI.1984, leg. Yan Zhaoxing" (IZAS).

***Nepaloserica procera procera* Frey, 1965**
Additional material examined. 1 ♂ "Qu County, Zhangmu, Xizang, 6.VII.1975, 3400m, leg. Zhang Xuezhong" (IZAS), 2 ♂ "Quxiang, Zhangmu, Xizang, 6.VII.1975, 3300m, 3400m, leg. Huang Fusheng, Zhang Xuezhong" (IZAS), 1 ♂ "Jilong Gongshe, Jilong, Xizang, 22.V.1982, leg. Li Baoming, Wangjia, Daci" (IZAS).

***Maladera modestula* (Brenske, 1902)**
Additional material examined. 1♂ "Beibeng, Motuo, Xizang, 21.V.1983, 700–800m, leg. Han Yinheng" (IZAS), 1 ♀ "Beibeng, Motuo, Xizang, 25.V.1983, 850m, leg. Han Yinheng" (IZAS).

***Maladera siniaevi* Ahrens, 2004**
Additional material examined. 1 ex. "Beibeng, Motuo, Xizang, 29.V.1983, 800–900m, leg. Han Yinheng" (IZAS).

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