

A revision of the species of the *Neoserica (sensu lato) vulpes* group (Coleoptera: Scarabaeidae: Sericini)

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(Received 2 March 2014; accepted 6 October 2014; first published online 10 November 2014)

This paper revises the species belonging to the *Neoserica (sensu lato) vulpes* group and results in one new combination, *Neoserica (sensu lato) vulpes* (Arrow, 1946) comb. nov., and 24 new species originating mainly from south-western China: *N. baishuiensis* sp. nov., *N. baoshana* sp. nov., *N. biuncinata* sp. nov., *N. dundai* sp. nov., *N. ganhaiziana* sp. nov., *N. heishuiiana* sp. nov., *N. kerei* sp. nov., *N. laocaiiana* sp. nov., *N. lateriuncinata* sp. nov., *N. leiboensis* sp. nov., *N. luzhouana* sp. nov., *N. ningyuanensis* sp. nov., *N. nykli* sp. nov., *N. parausta* sp. nov., *N. pseudovulpes* sp. nov., *N. rubellula* sp. nov., *N. ruzickai* sp. nov., *N. shinkaisiensis* sp. nov., *N. sichuanica* sp. nov., *N. usta* sp. nov., *N. weishanensis* sp. nov., *N. xiaguanensis* sp. nov., *N. kunmingensis* sp. nov. and *N. yangjiapingensis* sp. nov. A key to species and illustrations of genitalia and habitus of adults are given, including distribution maps of all species.

<http://zoobank.org/urn:lsid:zoobank.org:pub:3FE6CC54-DB3A-4201-A6F9-332E4A397268>

Keywords: beetles; chafers; *Neoserica*; China; Vietnam; new species

Introduction

Since the redefinition of the genus *Neoserica* Brenske, 1894 (Pope 1960; Ahrens 2003) many of the c.200 species so far grouped under *Neoserica* and not directly related to the type species *Neoserica ursina* (Brenske 1894) (i.e. *Neoserica (sensu stricto)* group; Ahrens 2003) are grouped preliminarily as *Neoserica sensu lato* (e.g. Ahrens 2004). This collective group was identified to be neither related to *Neoserica sensu stricto* (Ahrens 2003) nor being monophyletic (Ahrens and Vogler 2008) and all species included therein await taxonomic revision based on which hopefully their relationship and their correct classification can be subsequently established.

In the current study we investigate the taxonomy of the taxa closely related to the species *Neoserica vulpes* (Arrow 1946) comb. nov., described originally from Myanmar. The species of this group are characterized by an antennal club composed in males of four antennomeres (in female three) and by a more or less long ventral process of phallobase (which in a few species may be absent).

According to our present knowledge this species group is limited in distribution to the mountain regions south-east and east of the Tibetan highland. So far only one species was known for this group, *N. vulpes*. Here, 24 new species are discovered originating mainly from southern China.

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Material and methods

The terminology and methods used for measurements, specimen dissection and genital preparation follow Ahrens (2004). Data from specimens examined are cited in the text with original label contents given in quotation marks; multiple labels are separated by a '/'. Descriptions and illustrations of new taxa are based on the holotype or lectotype specimen if not otherwise stated, while the variation of specimens is given separately under 'variation'. Authors of the new species of this paper are Ahrens, Fabrizi and Liu. Male genitalia were glued to a small pointed card and photographed in both lateral and dorsal view using a stereomicroscope Leica M125 with a Leica DC420C digital camera (Wetzlar, Germany). In the automontage software as implemented in Leica Application Suite (V3.3.0) a number of single focused images were combined in order to obtain an entirely focused image. The resulting images were subsequently digitally edited.

Institutional abbreviations

Abbreviations used in the text for collection depositories are as follows. BMNH: Natural History Museum, London, UK; CP: P. Pacholátko collection, Brno, Czech Republic; CAU: Department of Entomology, China Agricultural University, Beijing; China; HBUM: Museum of Hebei University, Baoding (Hebei Province) China; IZAS: Institute of Zoology, Chinese Academy of Sciences, Beijing, China; NHRs: Naturhistoriska Riksmuseet Stockholm, Sweden; NMPC: National Museum Prague (Natural History), Prague, Czech Republic; SYUG: Sun Yat-Sen University, Guangzhou, China; USNM: National Museum of Natural History, Washington, DC, USA; ZFMK: Zoologisches Forschungsinstitut und Museum A. Koenig, Bonn, Germany; ZMHB: Museum für Naturkunde Berlin; Germany.

Key to species of *Neoserica vulpes* group (males)

- | | | |
|----|---|-----------------------------------|
| 1 | Phallobase with a ventral process | 4 |
| 1' | Phallobase without a ventral process, but with a lateral one | 2 |
| 2 | Right paramere large and spherical, longitudinal extension half of phallobasal length. | <i>N. baishuiensis</i> sp. nov. |
| 2' | Right paramere small, spherical, longitudinal extension one third of phallobasal length | 3 |
| 3 | Lateral process sharply pointed (dorsal view) | <i>N. lateriuncinata</i> sp. nov. |
| 3' | Lateral process convexly rounded at apex (dorsal view) | <i>N. leiboensis</i> sp. nov. |
| 4 | Phallobase with a dorsal process | <i>N. xiaguanensis</i> sp. nov. |
| 4' | Phallobase without a dorsal process | 5 |
| 5 | Ventral process of phallobase at apex widened, with sharp hooks or bent processes | 6 |
| 5' | Ventral process of phallobase at apex convexly rounded or pointed | 15 |
| 6 | Ventral process of phallobase at apex convexly widened, without sharp hooks | |
| | | <i>N. luzhouana</i> sp. nov. |
| 6' | Ventral process of phallobase at apex with sharp hooks or bent processes | 7 |

- 7 Right paramere deeply bifurcate. Hooks small 8
 7' Right paramere simple, not bifurcate. Hooks large 9
- 8 Ventral process in cross section circular *N. rubellula* sp. nov.
 8' Ventral process dorsoventrally flattened *N. parausta* sp. nov.
- 9 Left paramere at apex strongly curved ventrally 10
 9' Left paramere at apex straight *N. biuncinata* sp. nov.
- 10 Eyes smaller, ratio diameter/interocular with: 0.58. Ventral process of phallobase exceeding parameres *N. usta* sp. nov.
 10' Eyes moderate to large, ratio diameter/interocular with > 0.7 11
- 11 Ventral process of phallobase exceeding parameres *N. nykli* sp. nov.
 11' Ventral process of phallobase ending distally at same point as parameres 12
- 12 Ventral process of phallobase basally very enlarged and strongly dorsoventrally produced on right side, its width at base subequal to half of phallobase length 13
 12' Ventral process of phallobase basally only weakly enlarged and not dorsoventrally produced on right side, its width at base subequal to less than third of phallobase length 14
- 13 Left paramere one third as wide as long *N. sichuanica* sp. nov.
 13' Left paramere half as wide as long *N. dundai* sp. nov.
- 14 Ventral process of phallobase at middle strongly bent dorsally
 *N. pseudovulpes* sp. nov.
 14' Ventral process of phallobase nearly straight or only weakly bent at middle dorsally *N. ganhaiziana* sp. nov.
- 15 Ventral process of phallobase bent or strongly curved 16
 15' Ventral process of phallobase straight 20
- 16 Left paramere bifurcate, divided in two long lobes 17
 16' Left paramere simple, not divided in two long lobes 18
- 17 Ventral lobe of left paramere distinctly wider than dorsal one (lateral view)
 *N. ningyuanensis* sp. nov.
 17' Ventral lobe of left paramere as wide as dorsal one (lateral view)
 *N. heishuiana* sp. nov.
- 18 Ventral process of phallobase sharply pointed at apex, curved slightly to the right *N. kunmingensis* sp. nov.
 18' Ventral process of phallobase convex at apex, curved slightly to the left 19
- 19 Curvature of ventral process moderate, not exceeding width of process at middle *N. kereni* sp. nov.
 19' Curvature of ventral process strong, exceeding width of process at middle
 *N. baoshana* sp. nov.
- 20 Ventral process of phallobase in basal cross section circular 21
 20' Ventral process of phallobase in basal cross section flattened
 *N. laocaiiana* sp. nov.

- 21 Ventral process of phallobase evenly widened towards apex
 *N. weishanensis* sp. nov.
- 21' Ventral process of phallobase not distinctly widened towards apex 22
- 22 Right paramere spherical, at apex with a single process 23
- 22' Right paramere spherical, but at apex with two separate processes 24
- 23 Left paramere wider (dorsal view), strongly blown up and spherical (lateral view);
 ventral process of phallobase distinctly widened apically
 *N. vulpes* (Arrow) comb. nov.
- 23' Left paramere narrower (dorsal view), less blown up and less spherical (lateral
 view); ventral process of phallobase not widened apically
 *N. yangjiapingensis* sp. nov.
- 24 Left paramere at apex distinctly slightly less than total width of paramere
 *N. shinkaisiensis* sp. nov.
- 24' Left paramere at apex distinctly less than one third of total width of
 paramere *N. ruzickai* sp. nov.

Neoserica (s.l.) *vulpes* (Arrow 1946) comb. nov.
 (Figures 1A–D, 10)

Serica vulpes Arrow, 1946: 11.

Type material examined

Syntypes. 1 ♂ ‘N.E. Burma Kambaiti 2000 m 12-17/6.34 Malaise/Typus/*Serica vulpes*
 n. sp. Arrow/3188 E91/Naturhistoriska Riksmuseet Stockholm Loan no 569/94’
 (NHRS), 1 ♂ ‘N. E. Burma Kambaiti 2000 m 15/5.1934 Malaise/*Serica vulpes*
 Arrow co-type/N. E. Burma R. Malaise B. M. 1945-71’ (BMNH), 1 ♂ ‘N. E.
 Burma Kambaiti 2000 m 12-17/6.1934 Malaise/*Serica vulpes* n. sp. Arrow’ (BMNH).

Additional material examined

1 ♂ ‘Myanmar (Burma) Provinz Kachin State; 3 km NW Three River Junction
 (Thone chaung sone) N26°22'14,9" E098°41'04,2" 3.X.2010 (H = 2450 m; LF) leg.
 Michael Langer, S. Naumann & S. Loeffler’ (ZFMK).

Redescription of syntype 1

Length. 8.8 mm, length of elytra: 6.4 mm, width: 4.6 mm. Body oblong, light reddish
 brown, antenna yellow, dorsal surface dull, nearly glabrous except a few long erect
 setae on elytra.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and
 moderately convergent to strongly convex anterior angles, lateral border and ocular
 canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin
 distinctly sinuate medially; surface weakly convex medially and shiny, finely and very
 densely irregularly punctate, distance between punctures less than their diameter,

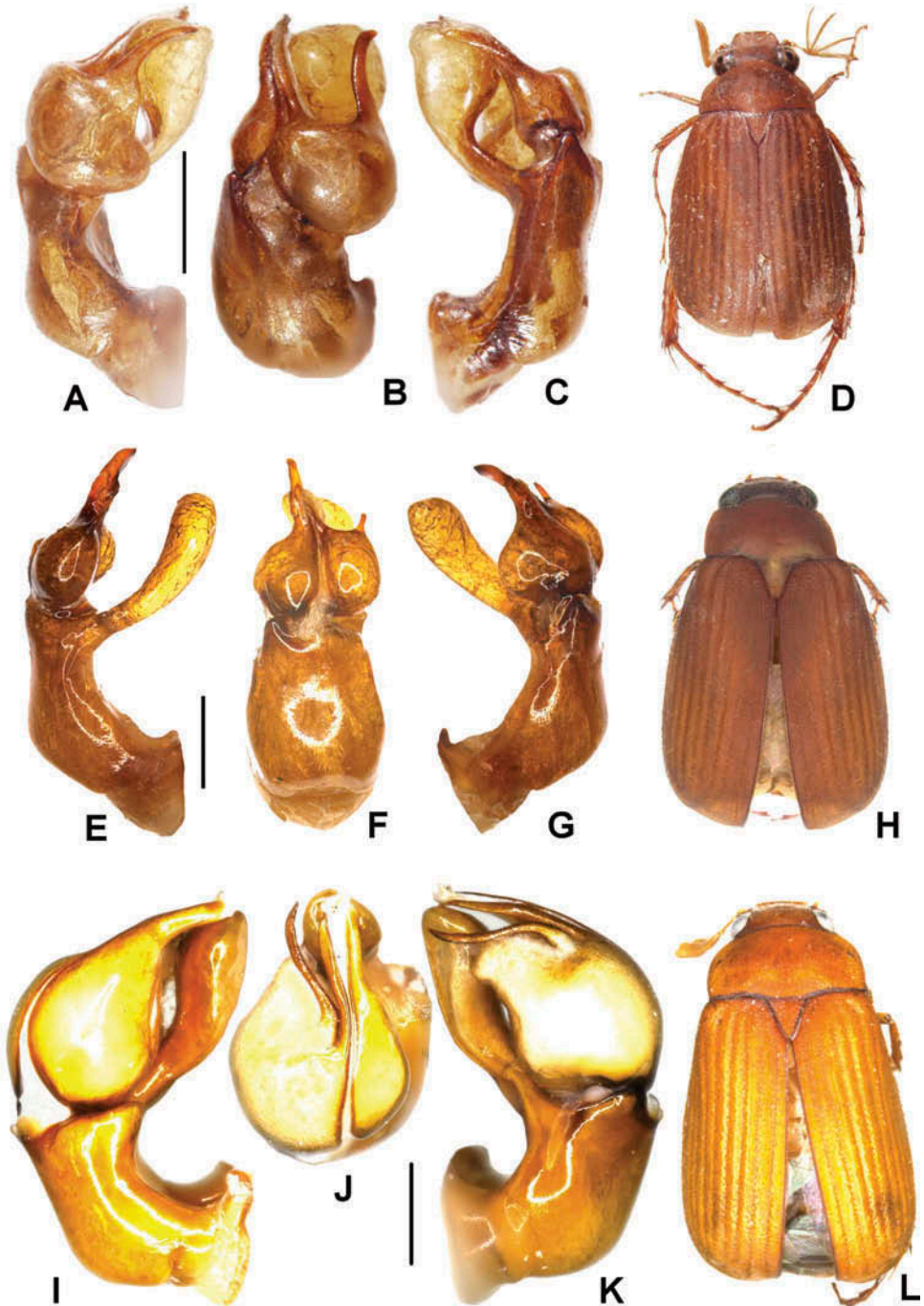


Figure 1. A–D: *Neoserica vulpes* (Arrow) (syntype 1), E–H: *N. yangjiapingensis* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. ruzickai* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

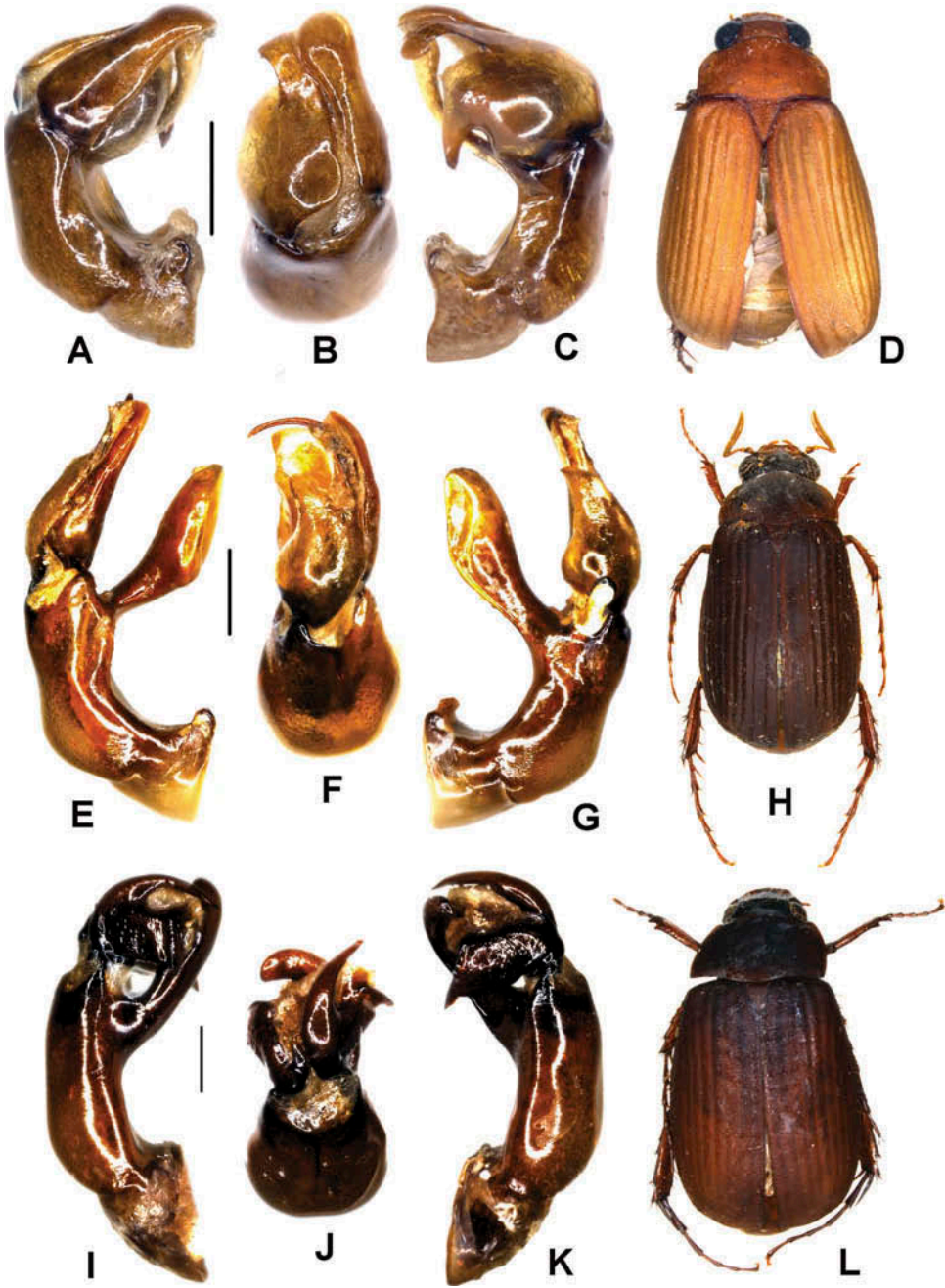


Figure 2. A–D: *Neoserica shinkaisiensis* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. weishanensis* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. ningyuanensis* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

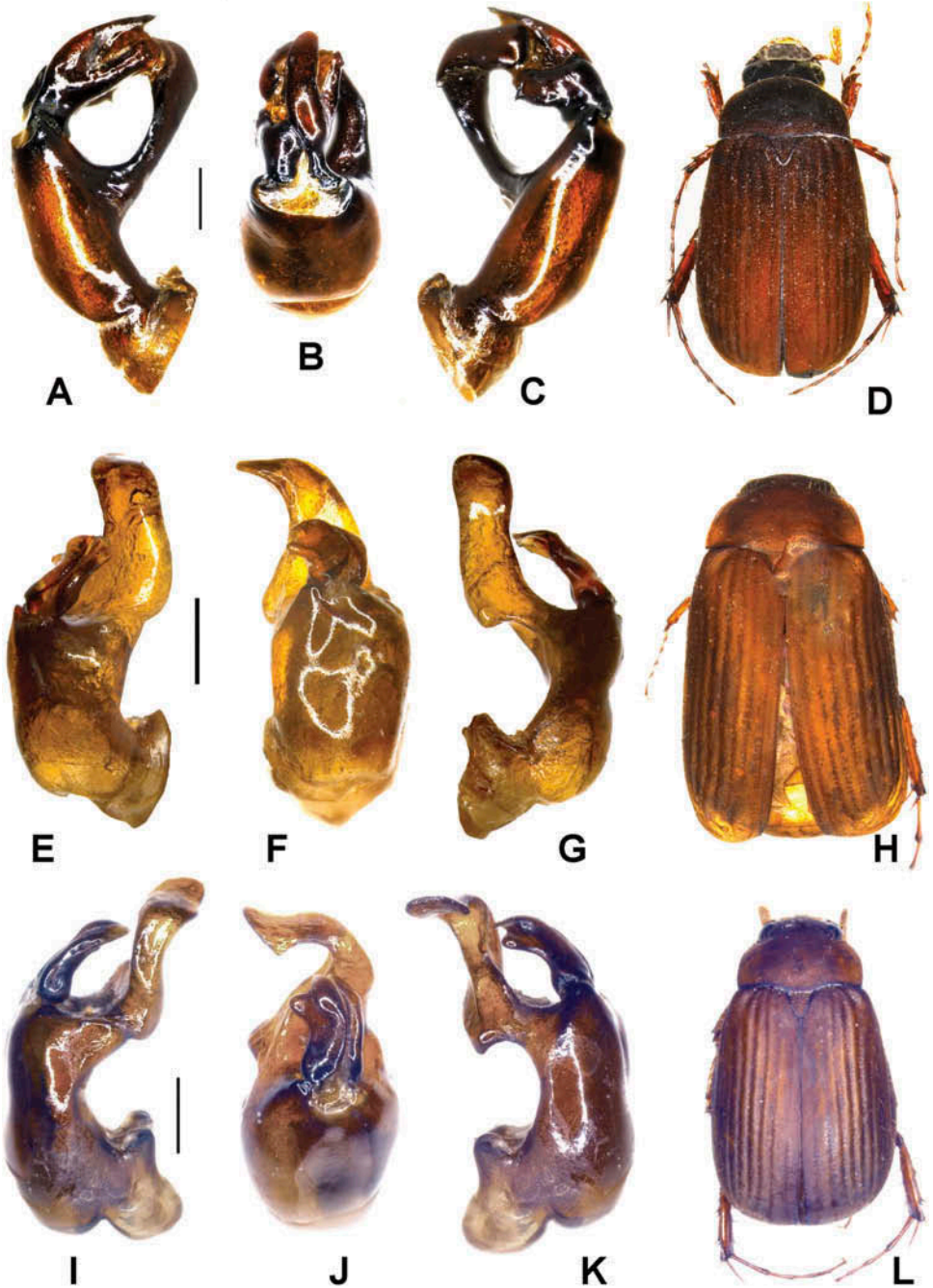


Figure 3. A–D: *Neoserica heishuihana* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. kerei* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. baoshana* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

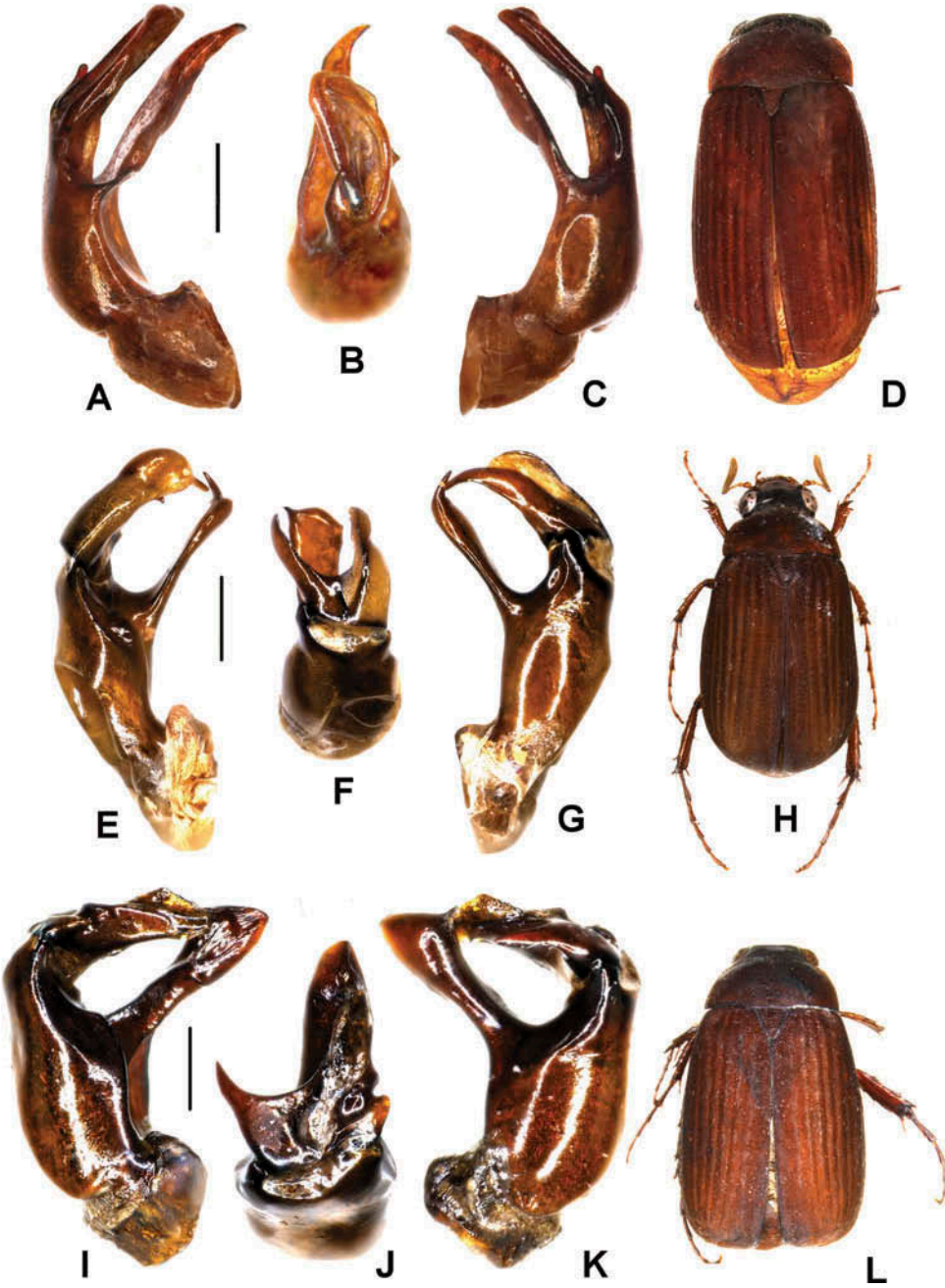


Figure 4. A–D: *Neoserica kunmingensis* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. parausta* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. rubellula* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

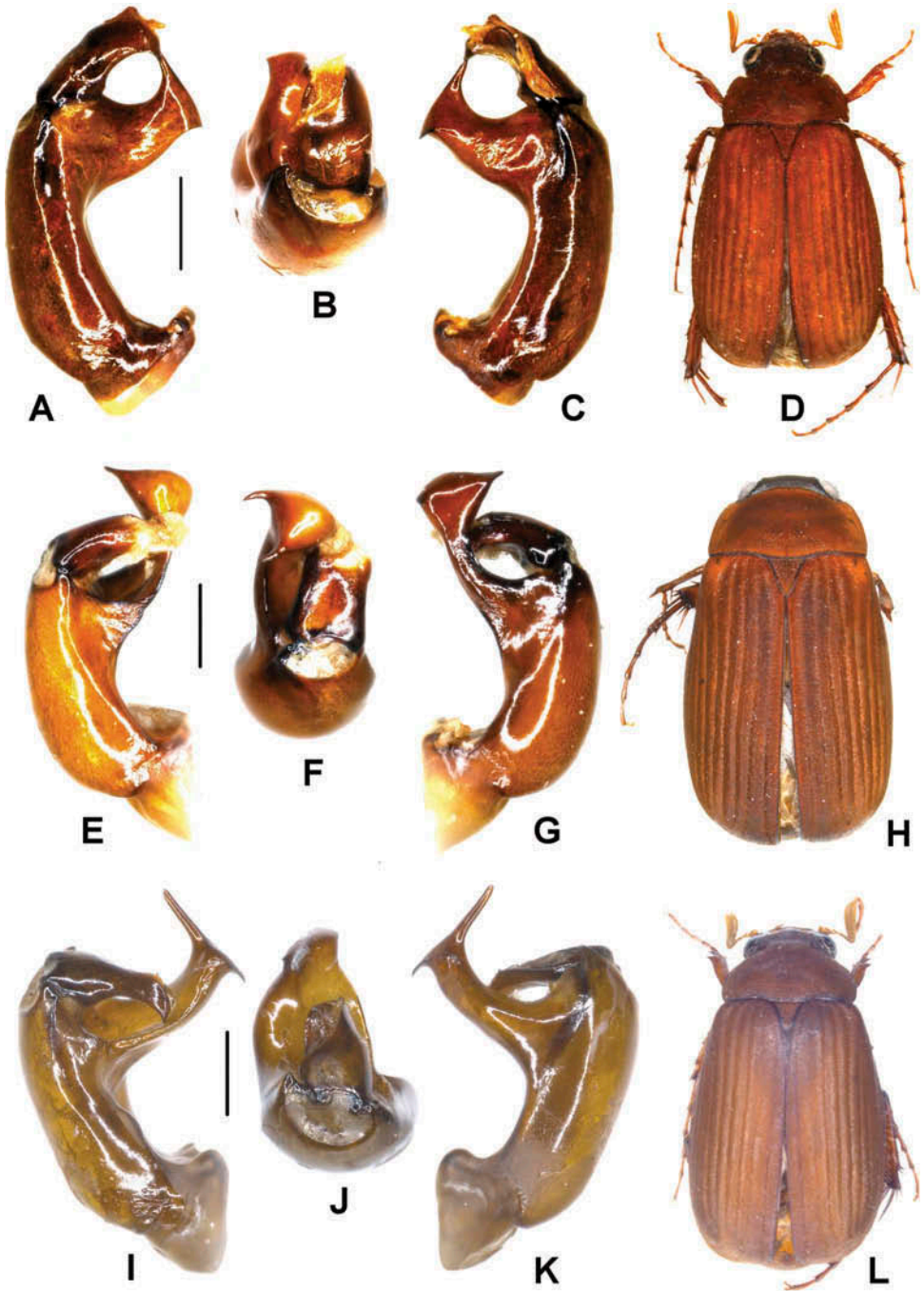


Figure 5. A–D: *Neoserica ganhaiziana* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. biuncinata* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. nykli* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

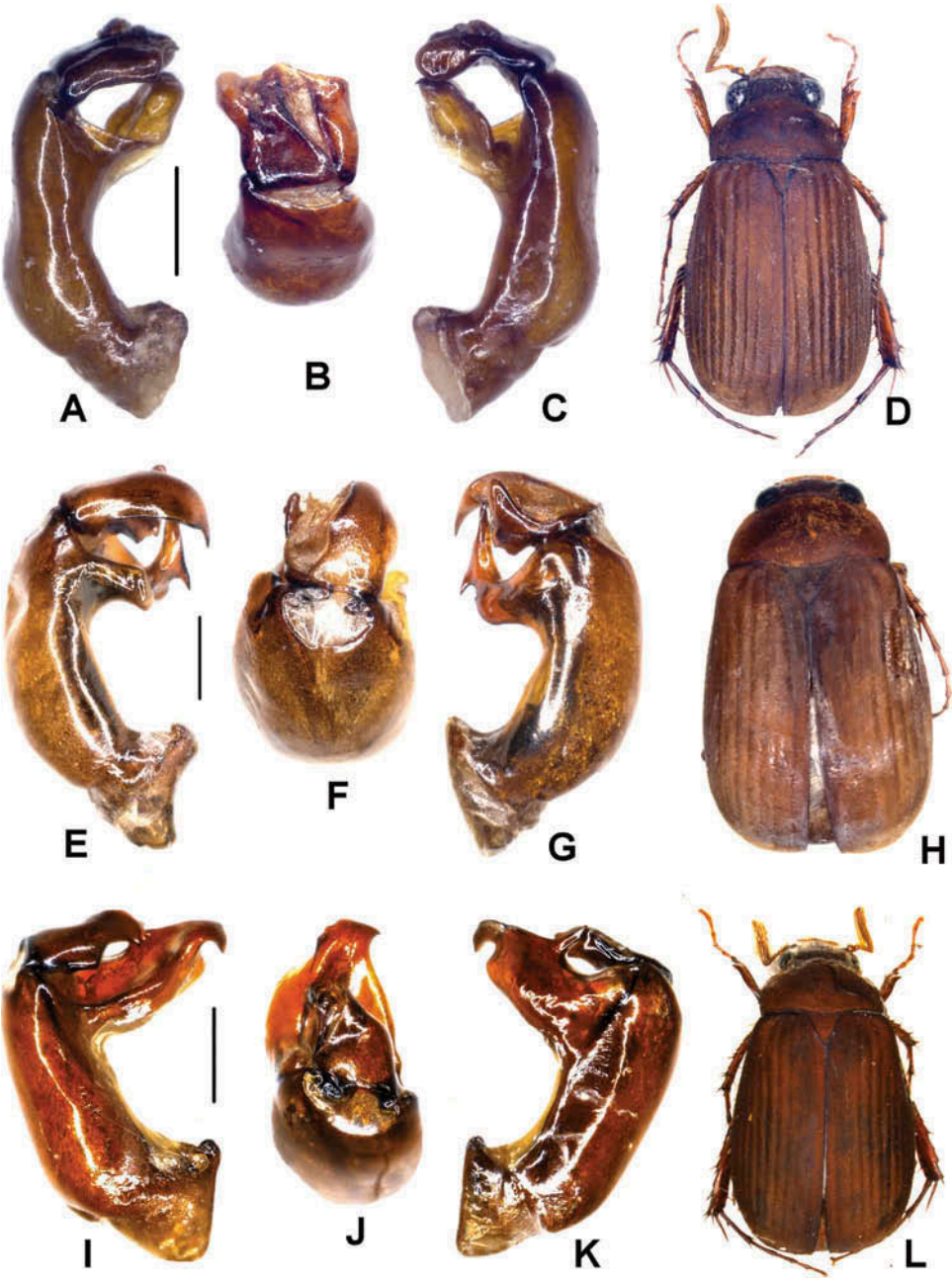


Figure 6. A–D: *Neoserica laocaiana* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. pseudovulpes* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. usta* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

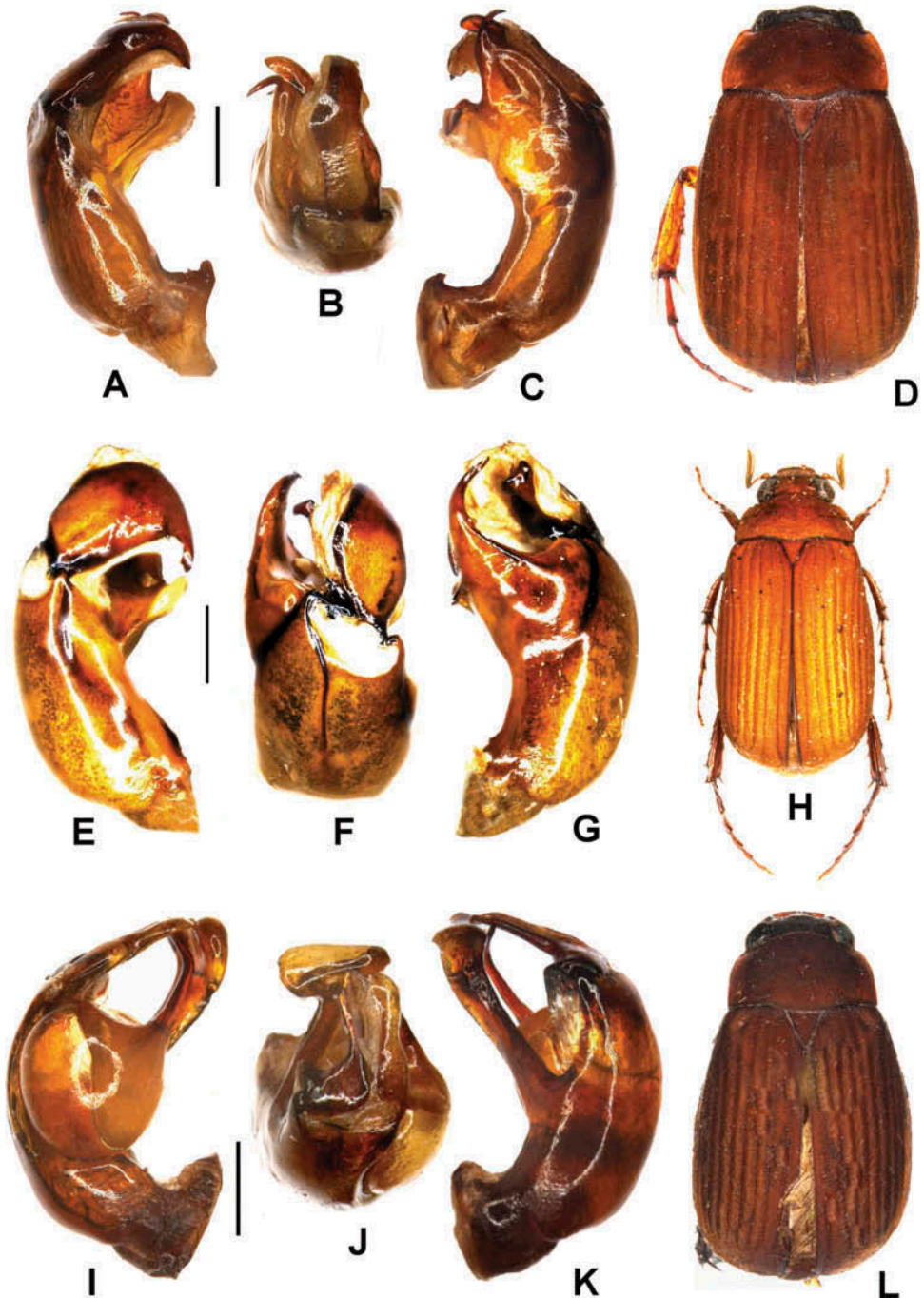


Figure 7. A–D: *Neoserica sichuanica* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. dundai* Ahrens, Liu & Fabrizi sp. nov. (holotype), I–L: *N. luzhouana* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E, I: aedeagus, left side lateral view; C, G, K: aedeagus, right side lateral view; B, F, J: parameres, dorsal view; D, H, L: habitus (not to scale). Scale: 0.5 mm.

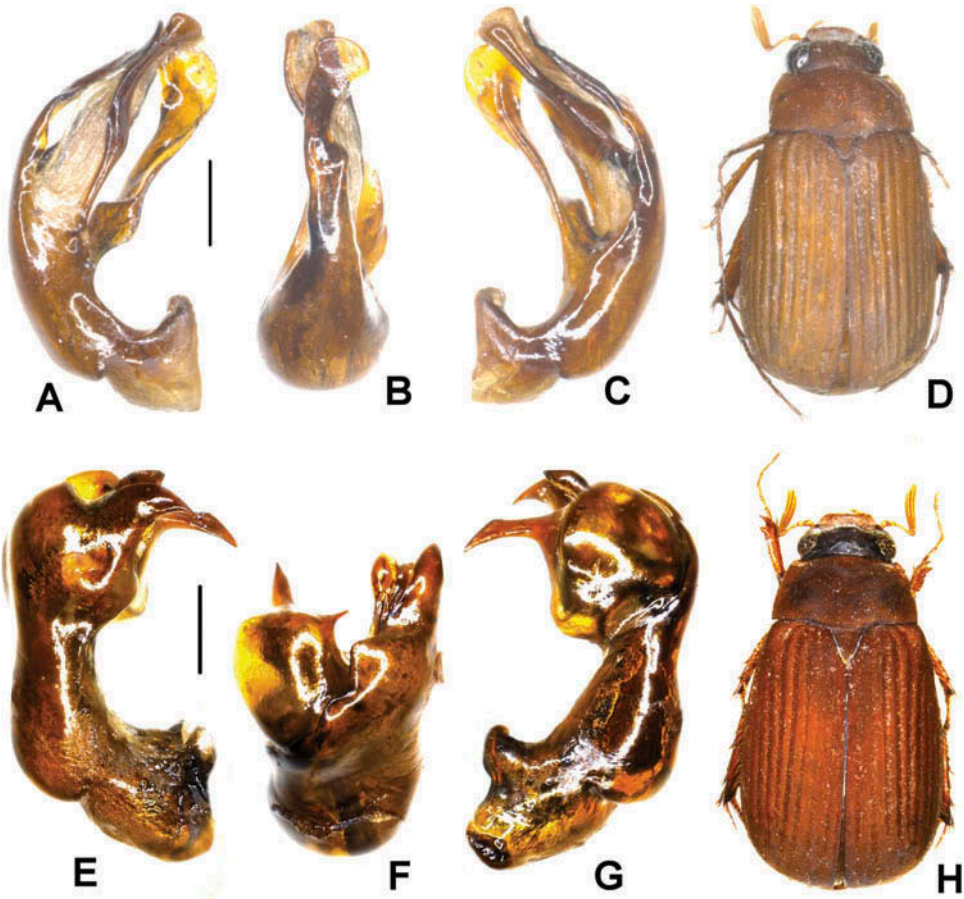


Figure 8. A–D: *Neoserica xiaguanensis* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. baishuiensis* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E: aedeagus, left side lateral view; C, G: aedeagus, right side lateral view; B, F: parameres, dorsal view; D, H: habitus (not to scale). Scale: 0.5 mm.

punctures partly fused, with a few long erect setae; frontoclypeal suture very feebly incised and medially weakly angled; smooth area in front of eye short and approximately twice as wide as long; ocular canthus long and slender, impunctate, with a short single terminal seta. Frons dull, with fine and moderately dense punctures, with a few long setae in larger punctures on disc and beside eyes. Eyes large, ratio of diameter/interocular width: 0.78. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.5 times as long as remaining antennomeres combined, slightly reflexed. Mentum convexly elevated anteriorly.

Pronotum narrow, widest shortly before base, lateral margins nearly straight and subparallel, in anterior quarter weakly curved and narrowed anteriorly, anterior angles moderately produced and moderately acute, posterior angles blunt and not rounded at tip, anterior margin convexly produced medially, broad marginal line widely interrupted medially, basal margin without marginal line; surface with

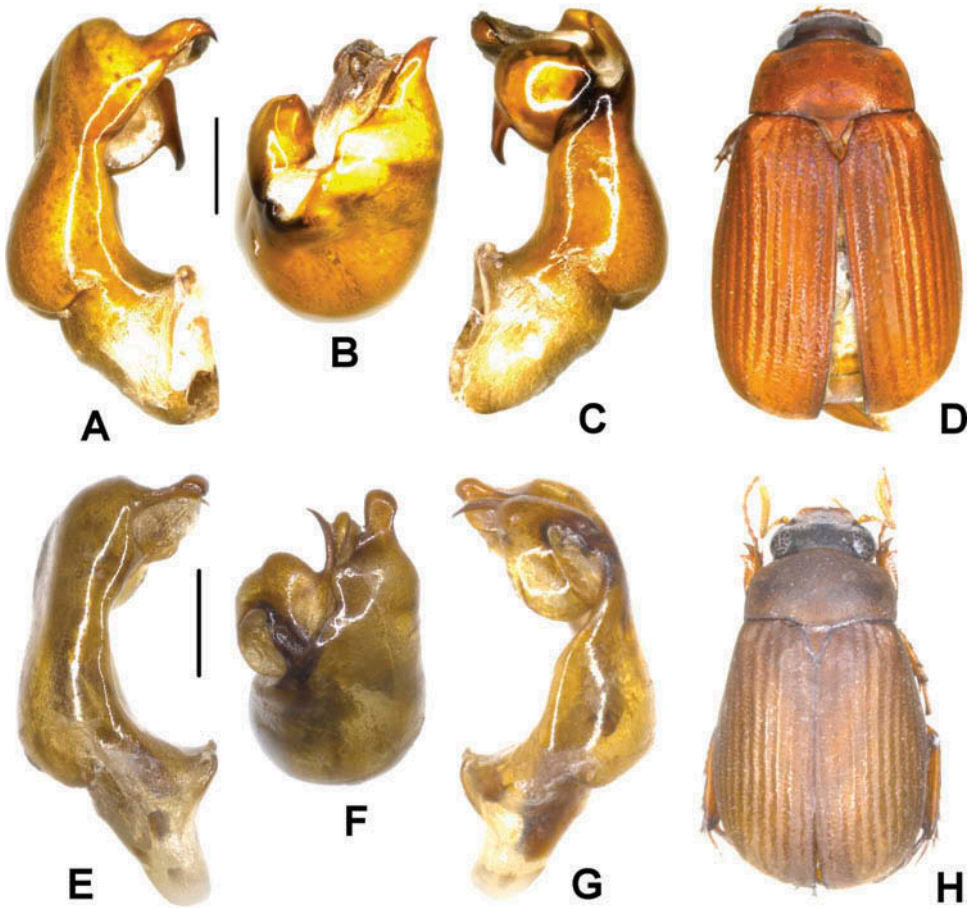


Figure 9. A–D: *N. lateriuncinata* Ahrens, Liu & Fabrizi sp. nov. (holotype), E–H: *N. leiboensis* Ahrens, Liu & Fabrizi sp. nov. (holotype). A, E: aedeagus, left side lateral view; C, G: aedeagus, right side lateral view; B, F: parameres, dorsal view; D, H: habitus (not to scale). Scale: 0.5 mm.

moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and dense punctures, on apex smooth, punctures with minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals convex and not densely punctate with punctures concentrated along striae, odd intervals with a few single, fine, erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed, metacoxa glabrous, with fine setae laterally, its apical margin weakly convex, posterior lateral angle blunt; each abdominal sternite with indistinct

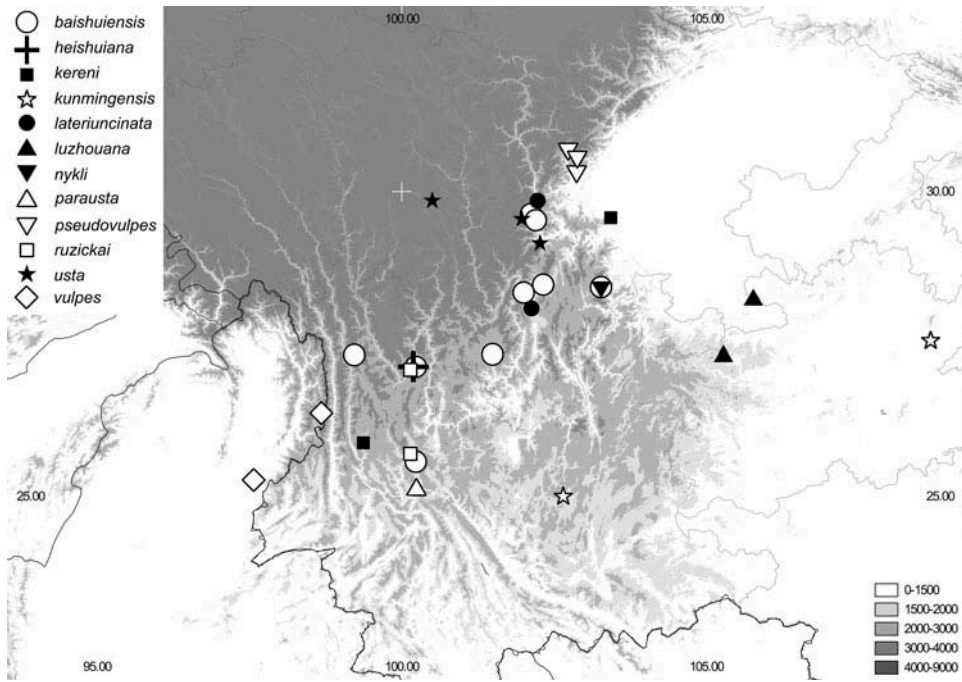


Figure 10. Distribution of the species of the *Neoserica* (s.l.) *vulpes* group: *N. baishuiensis*, *N. heishuiiana*, *N. kerei*, *N. lateriuncinata*, *N. luzhouana*, *N. nykli*, *N. parausta*, *N. pseudovulpes*, *N. ruzickai*, *N. usta*, *N. vulpes* and *N. kunmingensis*.

transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.45. Pygidium moderately and evenly convex, finely and moderately densely punctate, without smooth midline, punctures with short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin straight, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/4.0, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately fine, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres partly finely punctate dorsally, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, without longitudinal impressions, with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres

combined and a quarter of its length longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 1A–C. Female unknown.

Neoserica (s.l.) *yangjiapingensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 1E–H, 11)

Type material examined

Holotype: ♂ ‘Yangjiaping, Lushui County, Yunnan, 25.VII.2005, leg. Mao Benyong, Xu Jishan’ (HBUM).

Description

Length. 8.0 mm, length of elytra: 5.9 mm, width: 4.3 mm. Body oblong, light reddish brown, antenna yellow, dorsal surface dull and nearly glabrous except a few long erect setae on elytra.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and strongly convergent to moderately convex anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin

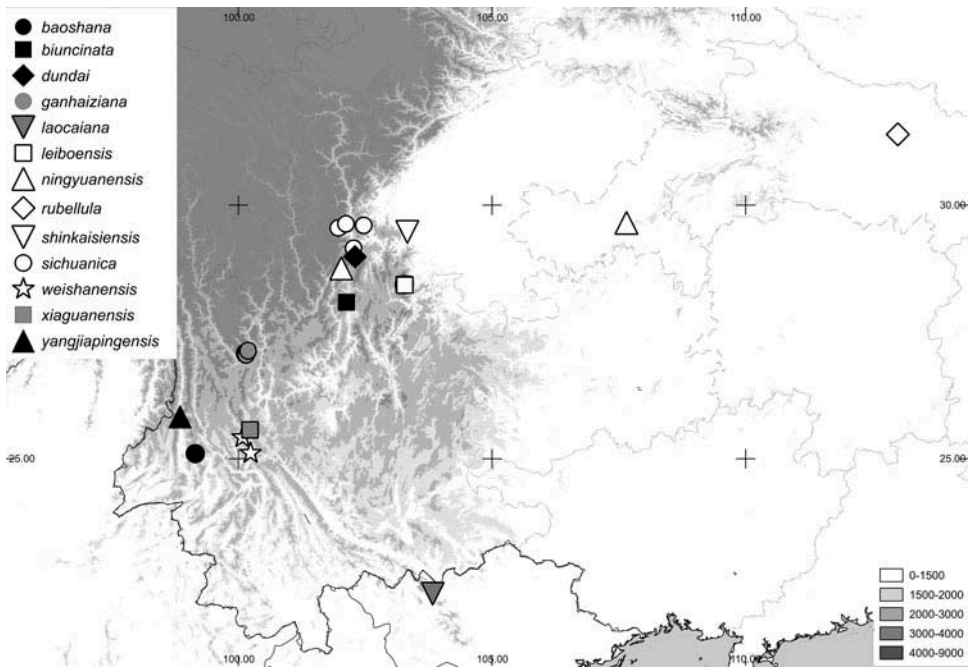


Figure 11. Distribution of the species of the *Neoserica* (s.l.) *vulpes* group: *N. baoshana*, *N. biuncinata*, *N. dundai*, *N. ganhaiziana*, *N. laocaiiana*, *N. leiboensis*, *N. ningyuanensis*, *N. rubellula*, *N. shinkaisiensis*, *N. sichuanica*, *N. weishanensis*, *N. xiaguanensis* and *N. yangjiapingensis*.

distinctly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, distance between punctures less than their diameter, with a few long erect setae; frontoclypeal suture very feebly incised and medially weakly angled; smooth area in front of eye approximately twice as wide as long; ocular canthus long and slender, impunctate, with a short single terminal seta. Frons dull, with fine and moderately dense punctures, with a few long setae in larger punctures on disc and beside eyes. Eyes large, ratio of diameter/interocular width: 0.73. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.5 times as long as remaining antennomeres combined, slightly reflexed. Mentum convexly elevated anteriorly.

Pronotum narrow, widest at base, lateral margins nearly straight and subparallel, in anterior quarter weakly curved and narrowed anteriorly, anterior angles weakly produced and moderately acute, posterior angles blunt and not rounded at tip, anterior margin convexly produced medially, broad marginal line widely interrupted medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and irregularly dense punctures, on apex smooth, punctures with minute setae.

Elytra oblong, widest at middle, striae distinctly impressed, finely and densely punctate, intervals moderately convex and not densely punctate, punctures concentrated along striae, odd intervals with a few single, fine, erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed, metacoxa glabrous, with fine setae laterally, its apical margin weakly convex, posterior lateral angle blunt; each abdominal sternite with indistinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.62. Pygidium lost in holotype.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin straight, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.4, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately fine, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres partly finely punctate dorsally, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, without longitudinal impressions, with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 1E–G. Female unknown.

Diagnosis

The new species is in shape of aedeagus very similar to *N. vulpes*; it differs from *N. vulpes* in the narrower left paramere (dorsal view), which is less blown up and less spherical (lateral view), the ventral process of phallobase is not widened apically.

Etymology

The new species is named after its type locality, Yangjiaping (Latin adjective in the nominative singular).

Neoserica (s.l.) *ruzickai* Ahrens, Fabrizi & Liu sp. nov.
(Figures 1I–L, 10)

Type material examined

Holotype. ♂ ‘China: Yunnan prov., 1.VI.2007 Dali env., Cang Shan Mts., E slope of Zhonghe Shan Mt., 25°41.7’N 100°08.3’E, 2150 m, J. Hajek & J. Ruzicka leg. [Ch03]/individually collected under stones, on soil surface and on plants and shrubs, tea plantation/margin of mixed forest/X-DA1625’ (ZFMK). *Paratype*: 1 ♂ ‘China Yunnan NW, 3600–3700 m Yulongshan Mt. 14.–22.VI.1996 S. Murzin leg.’ (ZFMK).

Description

Length. 7.5 mm, length of elytra: 5.5 mm, width: 3.8 mm. Body oblong, light reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal and moderately wide, widest at base, lateral margins weakly convex and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed, anterior margin deeply sinuate medially; surface flat and shiny, finely and densely punctate, partly punctures fusing with each other, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with one short terminal seta. Frons dull, with fine and sparse punctures, with sparse but evenly scattered long setae. Eyes moderately large, ratio of diameter/interocular width: 0.62. Antenna composed of 10 antennomeres; club with four antennomeres, 1.5 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest a quarter before base, lateral margins nearly evenly convex, weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and acute, posterior angles blunt, sharply tooth-like produced at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with

moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae in punctures.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle blunt and slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.45. Pygidium weakly convex, finely and moderately densely punctate, without smooth midline, punctures with short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.1, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with three fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres, except first mesotarsomere impunctate and glabrous dorsally, with evenly spaced, short setae ventrally; metatarsomeres ventrally glabrous and with a strongly serrated ridge, with a fine longitudinal carina immediately beside it; first metatarsomere as long as following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 11–K. Female unknown.

Diagnosis

Neoserica ruzickai sp. nov. differs from *N. vulpes* by more widely and spherically enlarged parameres, the bifid right paramere and the stouter phallobase.

Etymology

The new species is named after one of its collectors, Jan Růžička (noun in the genitive case).

Variation

Length. 8.8 mm, length of elytra: 6.1 mm, width: 4.6 mm. Metatibia of paratype more slender, apex, ratio width/length: 1/3.9.

Neoserica (s.l.) *shinkaisiensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 2A–D, 11)

Type material examined

Holotype. ♂ '4400 ft. ShinKaiSi Mt. Omei/near Kinting Szechuen China DC Graham 1921' (USNM).

Description

Length. 7.7 mm, length of elytra: 5.8 mm, width: 3.9 mm. Body oblong, yellowish brown, labroclypeus, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus small, subtrapezoidal, little wider than long, widest at base, lateral margins convex and strongly convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed, anterior margin distinctly sinuate medially; surface slightly convex medially and moderately shiny, finely, superficially and moderately densely punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, impunctate, with one short terminal seta. Frons dull, with fine and sparse punctures, with sparse and coarser punctures interspersed each bearing a long seta. Eyes moderately large, ratio of diameter/interocular width: 0.91. Antenna composed of 10 antennomeres; club with four antennomeres, 1.5 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum wide, widest at middle, lateral margins in basal half nearly subparallel, nearly evenly convex anteriorly and weakly narrowed towards moderately produced and acute anterior angles, posterior angles blunt, not rounded at the tip, anterior margin convexly produced medially, marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest at middle, striae distinctly impressed, finely and densely punctate, intervals weakly convex and sparsely punctate, punctures concentrated along striae, odd intervals with some single, fine, semi-erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine

and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.56. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with minute setae, with numerous long setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, dorsally not serrated, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.2, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with three fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Mesotibia and mesotarsomeres missing in holotype, first mesotarsomere impunctate and glabrous dorsally, with evenly spaced, short setae ventrally, slightly longer than dorsal tibial spur; subsequent metatarsomeres missing in holotype. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 2A–C. Female unknown.

Diagnosis

The new species is in shape of aedeagus rather similar to *N. ruzickai* sp. nov.; it differs from the latter and from all other species of the *N. vulpes* group by the strongly enlarged, spherical right paramere having the additional dorsal process directed distally and slightly widened and dorsoventrally flattened and rounded at apex (Figure 2C).

Etymology.

The new species is named after its type locality, ShinKaiSi (Latin adjective in the nominative singular).

Neoserica (s.l.) *weishanensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 2E–H, 11)

Type material examined

Holotype. ♂ ‘Yunnan 2000–2800 m 25.11N 100.24E Weibaoshan mts. W slope 25-28/6.92 Vit Kubán leg./Coll. Milan Nikodym, Praha’ (ZFMK). Paratype: 1 ♂ ‘Yunnan 1800–2500 m 25.01N 100.21E Weishan mt. 22.–25.6.92 David Král lgt.’ (NMPC).

Description

Length. 9.0 mm, length of elytra: 6.2 mm, width: 4.7 mm. Body oblong, dark brown, labroclypeus, legs and margins of pronotum lighter, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus small, subtrapezoidal and moderately wide, widest at base, lateral margins nearly straight and strongly convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed, anterior margin distinctly sinuate medially; surface slightly convex medially and moderately shiny, finely, superficially and moderately densely punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, impunctate, with one short terminal seta. Frons dull, with fine and sparse punctures, with sparse but evenly scattered long setae. Eyes moderately large, ratio of diameter/interocular width: 0.68. Antenna composed of 10 antennomeres; club with four antennomeres, 1.3 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum wide, widest at a quarter before base, lateral margins nearly evenly convex, weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and acute, posterior angles blunt, sharply tooth-like produced at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.52. Pygidium strongly convex, finely and moderately densely punctate, without smooth midline, punctures with minute setae, with numerous long setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.8, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with

moderately coarse, sparse punctures; ventral margin finely serrated, with three fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres, except first mesotarsomere impunctate and glabrous dorsally, with evenly spaced, short setae ventrally; first mesotarsomere with two single long setae; metatarsomeres with only very minute setae ventrally, with a strongly serrated ventral ridge and with a fine longitudinal carina immediately beside it, dorsal surface with superficial longitudinal wrinkles; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 2E–G. Female unknown.

Diagnosis

The new species differs from *N. ruzickai* sp. nov. and *N. shinkaisiensis* sp. nov. (both with bifid right paramere) by having the right paramere less widened and spherical, its medial apical process strongly bent ventrally (not straight).

Etymology

The new species is named after its occurrence in the Weishan mts (Latin adjective in the nominative singular).

Variation

Length. 8.1–9.0 mm, length of elytra: 5.9–6.2 mm, width: 4.7–4.8 mm.

***Neoserica* (s.l.) *ningyuanensis* Ahrens, Fabrizi & Liu sp. nov.**
(Figures 2I–L, 11)

Type material examined

Holotype. ♂ ‘China, W Sichuan, Mianning Co. valley 20–30 km N–NW of Mianning around Ningyuan, 2100–2800 m 28°45′–47′ & 102°02′–15′ 19–22.VII.2001 coll. L. & R. Businský’ (ZFMK). Paratypes: 1 ♂ ‘839461 *Neoserica* spYU_091 China S. Murzin 29/7/09 Guang Ping, 34 km N Jihong Yunnan Pr. Xichuanbanna 1200 m/839461’ (ZFMK), 1 ♂ ‘Szechuen China DC Graham/W of Fu Lin 4000–8500 ft. Aug. 15, 1928’ (USNM), 1 ♂ ‘Szechuen China DC Graham/near Fu Lin 3000–5200 ft. Jul. 19 ‘28’ (USNM), 1 ♂ ‘Szechuen China DC Graham/nr Yueh Shi Jul 20–23-‘28 6000–10000 ft.’ (USNM).

Description

Length. 9.4 mm, length of elytra: 6.8 mm, width: 5.1 mm. Body oblong, dark reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins straight and strongly convergent to widely rounded anterior angles, lateral border and ocular canthus

producing an indistinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, partly punctures fusing with each other, with a few long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately twice as wide as long; ocular canthus short and triangular, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae. Eyes small, ratio of diameter/interocular width: 0.58. Antenna composed of 10 antennomeres; club with four antennomeres, as long as the remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest shortly before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and strongly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with a narrow rim of short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle nearly right-angled; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.46. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.2, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately coarse, moderately dense punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres smooth and glabrous, with evenly spaced, short setae ventrally; metatarsomeres with a strongly serrated ventral ridge and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and as long as dorsal tibial spur. Protibia long,

bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 2I–K. Female unknown.

Diagnosis

The new species differs from the previous one by the ventral process of phallobase bent laterally, the right paramere being simple and not divided into two long lobes, and the left paramere being distinctly bifid, but it is not spherically widened as in *N. vulpes* or *N. yangjiapingensis* sp. nov.; the processes of the left paramere are at least half as long as the paramere.

Etymology

The new species is named after its type locality, Ningyuan (Latin adjective in the nominative singular).

Variation

Length. 9.4–9.5 mm, length of elytra: 6.8–7.1 mm, width: 5.1–5.8 mm.

Neoserica (s.l.) *heishuiana* Ahrens, Fabrizi & Liu sp. nov.
(Figures 3A–D, 10)

Type material examined

Holotype. ♂ ‘China, Yunnan 1994 Heishui env. 28–30.VI. 35 km N of Lijiang leg. B. Šiška & T. Spevár’ (ZFMK).

Description

Length. 9.4 mm, length of elytra: 6.4 mm, width: 5.0 mm. Body oblong, reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins convex and strongly convergent to widely rounded anterior angles, lateral border and ocular canthus producing an indistinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, partly punctures fusing with each other, with a few long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately twice as wide as long; ocular canthus short and triangular, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes small, ratio of diameter/interocular width: 0.54. Antenna composed of 10 antennomeres; club with four antennomeres, slightly longer than remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum narrow, widest a quarter before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and strongly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border chitinous, with a very narrow rim of short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.42. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.48, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres smooth and glabrous, with evenly spaced, short setae ventrally; metatarsomeres with a strongly serrated ventral ridge and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 3A–C. Female unknown.

Diagnosis

The new species is quite similar in shape of aedeagus to *N. ningyuanensis* sp. nov., it differs from *N. ningyuanensis* by the narrower parameres, and the ventral lobe of left paramere being not truncate as in *N. ningyuanensis* but simply convexly pointed.

Etymology

The new species is named after its type locality, Heishui (Latin adjective in the nominative singular).

Neoserica (s.l.) *kereni* Ahrens, Fabrizi & Liu sp. nov.

(Figures 3E–H, 10)

Type material examined

Holotype. ♂ ‘Baoguosi Temple, Mts. Emeishan, Sichuan, 4.IV.1957, 550–750 m, leg. Huang Keren’ (IZAS). *Paratype*: 1 ♂ ‘Mts. Zhibenshan, Yunlong, Yunnan, 20. VI.1981, 2500 m, leg. Zhang Xuezhong’ (ZFMK).

Description

Length. 7.7 mm, length of elytra: 5.9 mm, width: 4.2 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to weakly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface nearly flat and shiny, finely and densely, irregularly punctate, with a numerous long erect setae in coarser but superficial punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with moderately dense and long setae. Eyes moderately small, ratio of diameter/interocular width: 0.65. Antenna with 10 antennomeres; club with four antennomeres, little longer than remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins evenly curved and weakly narrowed anteriorly, anterior angles distinctly produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae, odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of

metepisternum/metacoxa: 1/1.41. Pygidium moderately convex, finely and moderately densely punctate, with wide, smooth midline, with sparse, long setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/4.2, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with fine, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 3E–G. Female unknown.

Diagnosis

The new species differs from all other species of the *N. vulpes* group by having the parameres distinctly shorter than the ventral process of phallobase (Figure 3).

Etymology

The new species is named after one of its collectors, Huang Keren (noun in the genitive case).

Variation

Length. 7.7–8.0 mm, length of elytra: 5.9–6.1 mm, width: 4.0–4.2 mm.

***Neoserica* (s.l.) *baoshana* Ahrens, Fabrizi & Liu sp. nov.**
(Figures 3I–L, 11)

Type material examined

Holotype. ♂ ‘China, W. Yunnan, env. Baoshan, 2500 m, 2.–3.viii.2002, leg. S. Murzin, I. Shokhin’ (CP).

Description

Length. 7.6 mm, length of elytra: 5.6 mm, width: 4.6 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes small, ratio of diameter/interocular width: 0.59. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at posterior third, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles distinctly produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae, odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.6. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, with sparse long setae on apical half.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.8, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with fine, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere as long as following two tarsomeres combined and distinctly

longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 8I–K. Female unknown.

Diagnosis

The aedeagus of the new species is very similar to *N. kereni*, it differs from *N. kereni* by the strongly z-shaped and double-bent, ventral process of phallobase which in *N. kereni* is less strongly curved.

Etymology

The new species is named after its type locality, Baoshan (Latin adjective in the nominative singular).

Neoserica (s.l.) *kunmingensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 4A–D, 10)

Type material examined

Holotype. ♂ ‘Yunnan, South China, Yunnan Fu (West Hill), alt. 6500–7500 ft. August 21–22.1934, leg. Ernest R. Tinknam’ (SYUG). *Paratypes*: 1 ♂ ‘Mt. Fanjingshan, Guizhou, 29.VII.2001, 1300–1900 m, leg. Zhao Fang’ (CAU), 1 ♂ ‘Mt. Mianxuling, Mts. Fanjingshan, Guizhou, 29.VII.2001, 1700 m, leg. Dong Kangzhen’ (IZAS).

Description

Length. 9.0 mm, length of elytra: 6.4 mm, width: 4.4 mm. Body oblong, reddish brown, frons darker, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to weakly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface nearly flat and shiny, finely and densely punctate, with a numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, very finely and sparsely punctate, terminal seta lacking. Frons dull, with fine and sparse punctures, with moderately dense and long erect setae beside eyes and behind frontoclypeal suture, on disc with a few shorter, semi-erect setae. Eyes large, ratio of diameter/interocular width: 0.71. Antenna with 10 antennomeres; club with four antennomeres, 1.5 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest shortly behind middle, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and moderately sharp, posterior angles blunt and not rounded at tip,

anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and moderately densely punctate, punctures concentrated along striae except on interval 2, odd intervals with some single, fine, semi-erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.7. Pygidium moderately convex, finely and densely punctate, without impunctate midline, with sparse, long setae at apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.7, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a fine, moderately dense punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres dorsally glabrous, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 4A–C. Female unknown.

Diagnosis

The new species is in genital shape rather similar to *N. kereni*, it differs from *N. kereni* in the less strongly bent and more sharply pointed ventral process of phallobase (Figure 4B) as well as the distinctly longer parameres of which the left one is fused dorsally with the phallobase.

Etymology

The new species is named after its type locality Kunming (= Yunnan Fu) (Latin adjective in the nominative singular).

Variation

Length. 8.8–9.0 mm, length of elytra: 6.3–6.4 mm, width: 4.4–4.9 mm.

Neoserica (s.l.) *parausta* Ahrens, Fabrizi & Liu sp. nov.
(Figures 4E–H, 10)

Type material examined

Holotype. ♂ ‘Yunnan 2000–2800 m 25.11N 100.24E Weibaoshan mts. W slope 25-28/6.92 Vit Kubáň leg./Coll. Milan Nikodým, Praha’ (ZFMK).

Description

Length. 9.1 mm, length of elytra: 6.4 mm, width: 4.8 mm. Body oblong, dark reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subrectangular, short and wide, widest at base, lateral margins straight and weakly convergent to widely rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin shallowly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, partly punctures fusing with each other, with a few long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae. Eyes moderately large, ratio of diameter/interocular width: 0.72. Antenna composed of 10 antennomeres; club with four antennomeres, 1.2 times as long as the remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest shortly before base, lateral margins evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and sharp, posterior angles blunt and strongly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with a narrow rim of short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin

straight and external apical angle nearly right-angled but rounded at tip; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.37. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.94, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately coarse, moderately dense punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres smooth and glabrous, only mesotarsomeres with a very few fine, dorsal setae, with evenly spaced, short setae ventrally; metatarsomeres with a strongly serrated ventral ridge and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly shorter dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 4E–G. Female unknown.

Diagnosis

The new species differs from all other so far known species of the *N. vulpes* group by the deeply bifurcate right paramere (median process partly hidden under the left paramere) and by the ventral process of phallobase possessing a small dorsal hook at apex (Figure 4E).

Etymology

The new species is named with reference to its brown colour with the combined Latin adjective, composed of the prefix *para-* (derived from Greek; near) and *ustus* (from Latin, tanned, browned) (Latin adjective in the nominative singular).

Neoserica (s.l.) *rubellula* Ahrens, Fabrizi & Liu sp. nov.
(Figures 4I–L, 11)

Type material examined

Holotype. ♂ ‘China: Hubei; Dahongshan 1700 m, Shuizhou VI-2003 leg. Ying et al.’ (ZFMK). *Paratypes.* 2 ♂♂ ‘China: Hubei; Dahongshan 1700 m, Shuizhou VI-2003 leg. Ying et al.’ (ZFMK).

Description

Length. 8.1 mm, length of elytra: 6.0 mm, width: 4.8 mm. Body oblong, dark reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins slightly convex and strongly convergent to widely rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin shallowly sinuate medially; surface weakly convex medially and shiny, finely and densely punctate, partly punctures fusing with each other, with a few long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside the eyes and behind frontoclypeal suture. Eyes moderately large, ratio of diameter/interocular width: 0.73. Antenna composed of 10 antennomeres; club with four antennomeres, 1.5 times as long as the remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins weakly evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and sharp, posterior angles blunt and weakly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with a narrow rim of short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle nearly right-angled; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.39. Pygidium flat, at apex strongly convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.94, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately coarse, moderately dense punctures; ventral margin finely serrated, with

four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres smooth and glabrous, only mesotarsomeres with a very few fine, dorsal setae, with evenly spaced, short setae ventrally; metatarsomeres with a strongly serrated ventral ridge and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly shorter dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 4I–K. Female unknown.

Diagnosis

The new species is in shape of genitalia rather similar to *N. parausta* sp. nov., but the phallobase is more robust and stout with a more robust ventral process; the external process of the right paramere is distinctly shorter than the median one.

Etymology

The new species is named with reference to its body colour with the Latin adjective *rubellulus* (somewhat reddish) (Latin adjective in the nominative singular).

Variation

Length. 8.1–9.6 mm, length of elytra: 6.0–6.9 mm, width: 4.8–5.6 mm.

Neoserica (s.l.) *ganhaiziana* Ahrens, Fabrizi & Liu sp. nov. (Figures 5A–D, 11)

Type material examined

Holotype. ♂ ‘Yunnan 3000 m 27.05N 100.15E Yulongshan mts. Ganhaizi pass 4.7.92 David Král lgt.’ (NMPC). *Paratypes:* 1 ♂ ‘Yunnan 3000 m 27.05N 100.15E Yulongshan mts. Ganhaizi pass 4.7.92 David Král lgt.’ (NMPC), 4 ♂♂, 1 ♀ ‘China N-Yunnan 27°08’N 100°14’E Yulongshan mts. 2900–3500 m Baishui vill. leg. D. Král 7.–12.VII.90’ (NMPC), 1 ♂ ‘Li-kiang. (China). Provinz Nord-Yunnan. 23.6.1935 H. Höne. (ZMHB), 1 ♂ ‘CH. Yunnan 24–29.VI.93 50 km N of Lijiang Yulongshan Nat. Res. E. Jendek & O. Šauša leg.’ (CP), 4 ♂♂ ‘China, Yunnan prov. 1.–19.7.1992, Heishui 35 km N Lijiang 27,13N; 100,19E lgt. S. Bečvár’ (ZFMK), 1 ♂ ‘China, S. Sichuan Liangshan Mts. S Xichang h = 2700 m, 2.vii.2002 leg. S. Murzin, I. Shokhin’ (CP), 1 ♂ ‘China: Yunnan prov.; 1993; Heishui, 35 km N Lijiang; 27.13N; 100.19E S. Bečvár leg.; 18.vi.–4.vii.’ (CP), 2 ♂♂ ‘China, Yunnan prov. Heishui 35 km N Lijiang 18.6.–4.7.1993, 27.13N; 100.19E lgt. S. Bečvár’ (CP).

Description

Length. 9.0 mm, length of elytra: 6.6 mm, width: 5.2 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins nearly straight and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes large, ratio of diameter/interocular width: 0.7. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest a quarter before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.5. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.76, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina

immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 5A–C.

Diagnosis

The new species differs from all other species of the *N. vulpes* group by the ventral process of phallobase having at apex sharp hooks (one dorsally, one ventrally); the ventral process of phallobase is basally only weakly enlarged and not dorsoventrally produced on right side, its width at base subequal to less than one third of phallobase length.

Etymology

The new species is named after its type locality, the Ganhaizi pass (Latin adjective in the nominative singular).

Variation

Length. 9.0–9.8 mm, length of elytra: 6.6–7.2 mm, width: 5.2–5.3 mm. Female: antennal club composed of three antennomeres, as long as remaining antennomeres combined.

***Neoserica* (s.l.) *biuncinata* Ahrens, Fabrizi & Liu sp. nov.**
(Figures 5E–H, 11)

Type material examined

Holotype. ♂ ‘X-DA1529 China S. Sichuan pr., pass 30 km SW Mianning, 3000–3400 m leg. S. Murzin 11.–13.VIII.2007 *Neoserica* spnCHINA4’ (ZFMK).

Description

Length. 9.1 mm, length of elytra: 6.8 mm, width: 5.0 mm. Body oblong, reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal and moderately wide, widest at base, lateral margins nearly straight and moderately convergent to weakly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, coarsely and moderately densely, irregularly punctate, with a few long erect setae; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, without a terminal seta. Frons dull, with fine and somewhat irregularly scattered moderately dense punctures, with a few long setae beside eyes

and a few short ones on disc. Eyes large, ratio of diameter/interocular width: 0.76. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and slightly rounded at tip, posterior angles blunt and not rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures, medially narrowly smooth, minute setae present.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin slightly concave and external apical angle nearly right-angled; each abdominal sternite with indistinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.42. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.9, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately fine, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres with slight superficial, longitudinal wrinkles but glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 5E–G. Female unknown.

Diagnosis

The new species differs from the similar *N. ganhaiziana* sp. nov. by the longer ventral process of phallobase.

Etymology

The new species is named with reference to the shape of its aedeagus, with the Latin adjective (in nominative) composed of the prefix *bi-* (twice) and *uncinatus* (hook-shaped) (Latin adjective in the nominative singular).

Neoserica (s.l.) ***nykli*** Ahrens, Fabrizi & Liu sp. nov.
(Figures 5I–L, 10)

Type material examined

Holotype. ♂ ‘China, Sichuan Daliang Shan, 2300 m 30 km West of Xide City, 15–20.8.1998 leg. Stanislav Nykl’ (ZFMK). Paratypes. 2 ♂♂, 1 ♀ ‘1928 Szechuen China DC Graham’ (USNM).

Description

Length. 8.3 mm, length of elytra: 6.1 mm, width: 4.4 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes large, ratio of diameter/interocular width: 0.74. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest a quarter before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae, penultimate lateral interval with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.53. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae on apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.4, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 5I–K.

Diagnosis

The new species is in shape of aedeagus similar to *N. gainhaiziana* sp. nov.; it differs from *N. gainhaiziana* in the longer and slenderer ventral process of phallobase as well as in shape of parameres: the left parameres is apically bent ventrally (Figure 5I).

Etymology

The new species is named after one of its collectors, Stanislav Nykl (noun in the genitive case).

Variation

Length. 8.3–8.5 mm, length of elytra: 6.1–6.2 mm, width: 4.4–4.5 mm. Female: antennal club composed of three antennomeres, as long as remaining antennomeres combined.

Neoserica (s.l.) *laocaiana* Ahrens, Fabrizi & Liu sp. nov.
(Figures 6A–D, 11)

Type material examined

Holotype. ♂ ‘N. Vietnam: Lao Cai Prov. 23 km W. of Sa Pa 2/VII/1997 ca. 1600 m collr. C. L. Li/221 Sericini Asia spec.’ (ZFMK). *Paratypes*: 2 ♂♂ ‘N. Vietnam: Lao Cai Prov. 23 km W of Sa Pa 2/VII/1997 ca. 1600 m collr. C.L. Li’ (ZFMK).

Description

Length. 8.2 mm, length of elytra: 5.7 mm, width: 4.4 mm. Body oblong, light reddish brown, antenna yellow, dorsal surface dull and nearly glabrous except a few long erect setae on elytra.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to strongly convex anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins strongly reflexed, anterior margin deeply sinuate medially; surface strongly convex medially and shiny, finely and densely irregularly punctate, distance between punctures less than their diameter, punctures partly fused, with a few long erect setae; frontoclypeal suture very feebly incised and medially weakly angled; smooth area in front of eye short and approximately 1.5 times as wide as long; ocular canthus long and slender, impunctate, with two moderately long single terminal setae. Frons dull, with fine and dense punctures, with numerous long setae in larger punctures on disc and beside eyes. Eyes large, ratio of diameter/interocular width: 0.7. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.7 times as long as remaining antennomeres combined, strongly reflexed. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at middle, lateral margins evenly and weakly convex, in anterior third strongly narrowed anteriorly, in posterior half only weakly narrowed, anterior angles moderately produced and moderately acute, posterior angles blunt and not rounded at tip, anterior margin convexly produced medially, broad marginal line widely interrupted medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures, on apex smooth, punctures with minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate with punctures except in the second one concentrated along the striae, odd intervals with a few single, fine, erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed, metacoxa glabrous, with fine setae laterally, its apical margin straight, posterior lateral angle nearly right-angled; each abdominal sternite with indistinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of

metepisternum/metacoxa: 1/1.44. Pygidium at apex strongly convex, finely and moderately densely punctate, without smooth midline, punctures with minute setae, with numerous longer setae beside apical margin and a few on the disc.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin straight, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.7, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with coarse and dense punctures each bearing a short adjacent seta; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres partly finely punctate dorsally, with a few long setae, with sparse, short setae ventrally; metatarsomeres dorsally impunctate, without longitudinal impressions, with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 6A–C. Female unknown.

Diagnosis

The new species differs from the other so far known species of the *N. vulpes* group by the laterally produced and carinate ventral process of phallobase which bears no hooks; parameres as in *N. ganhaiziana* sp. nov. more or less dorsoventrally flattened, but together they are distinctly wider (Figure 6B).

Etymology

The new species is named according its occurrence in Lao Cai province, Vietnam (Latin adjective in the nominative singular).

Variation

Length. 8.2–8.3 mm, length of elytra: 5.7–6.2 mm, width: 4.4–4.8 mm.

Neoserica (s.l.) *pseudovulpes* Ahrens, Fabrizi & Liu sp. nov.
(Figures 6E–H, 10)

Type material examined

Holotype. ♂ ‘Szechuen China DC Graham/near Mupin July 1929’ (USNM).
Paratypes: 7 ♂♂ ‘Szechuen China DC Graham/near Mupin July 1929’ (USNM).

ZFMK), 1 ♂ ‘Szechuen China DC Graham/nr Mupin Jul. 1929 12,300 ft.’ (USNM), 1 ♂ ‘Szechuen China DC Graham/Muping 4500 ft Jul 24 ‘29’ (USNM), 1 ♂ ‘Szechuen China DC Graham/Yao Gi nr Muping 3–4 Jul ‘29 7400 ft.’ (USNM), 1 ♂ ‘Yaoji, Baoxing, Sichuan, 16.VIII.1995, 1300 m, leg. Yu Peiyu’ (IZAS), 1 ♂ ‘Fengyongzhai, Baoxing, Sichuan, 1–3.VIII.2004, leg. Yang Xiujian, Hua Huiran’ (HBUM).

Description

Length. 7.8 mm, length of elytra: 5.8 mm, width: 4.4 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, impunctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes. Eyes large, ratio of diameter/interocular width: 0.8. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest a quarter before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, marginal line widely missing medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior border sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest at posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, punctures concentrated along striae, penultimate lateral interval with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.48. Pygidium strongly convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae at apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not

serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.7, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere as long as following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 6E–G. Female unknown.

Diagnosis

The new species is in external morphology and shape of aedeagus similar to *N. ganhaiziana* sp. nov. It differs from *N. ganhaiziana* in shape of the ventral process of phallobase which is much wider at base extending also over the left side of ventral phallobase and being strongly bent at middle (Figure 6E, G); the left paramere is in *N. pseudovulpes* sp. nov. longer and more evenly curved.

Etymology

The name of the new species is composed of the latinized Greek prefix *pseudo-* (false) and *vulpes* (species name of *Serica vulpes* Arrow, with reference to its general similarity with this species) (noun in apposition).

Variation

Length. 7.8–9.5 mm, length of elytra: 5.8–7.1 mm, width: 4.4–5.5 mm.

***Neoserica* (s.l.) *usta* Ahrens, Fabrizi & Liu sp. nov.**
(Figures 6I–L, 10)

Type material examined

Holotype. ♂ ‘China West Sichuan Kanding 19–21.7.94 Beneš’ (ZFMK). Paratypes: 1 ♂ ‘Szechuen China DC Graham/near LiTo 5000–9000 ft. Aug. 20–21, 30’ (USNM), 1 ♂ ‘nr Tatsienlu Aug 7, 1923 5–8500 ft. alt/Szechuen China DC Graham’ (USNM), 1 ♂ ‘Hailuogou, Moxi, Luding, Sichuan, 11.VIII.2004, 1900 m, leg. Xue Huaijun’ (IZAS), 1 ♂ ‘Yanzigou, Xinxing, Luding, Sichuan, 7.VIII.2004, 1560 m, leg. Bai Ming’ (IZAS), 1 ♂ ‘Pengta, Kangding, Sichuan, 29.VIII.2005, leg. Shi Fuming’ (HBUM).

Description

Length. 8.1 mm, length of elytra: 6.0 mm, width: 4.7 mm. Body oblong, reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal and moderately wide, widest at base, lateral margins weakly convex and moderately convergent to widely rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed, anterior margin distinctly sinuate medially; surface nearly flat and moderately shiny, finely and densely punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately nearly as wide as long; ocular canthus long and slender, impunctate, with one short terminal seta. Frons dull, with fine and sparse punctures, with sparse but evenly scattered long setae. Eyes moderately large, ratio of diameter/interocular width: 0.58. Antenna composed of 10 antennomeres; club with four antennomeres, 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum wide, widest at base, lateral margins nearly evenly convex, weakly narrowed anteriorly, anterior angles moderately produced and acute, posterior angles blunt, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border chitinous, with a very tiny rim of short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.44. Pygidium strongly convex, finely and moderately densely punctate, without smooth midline, punctures with minute setae, with numerous long setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.5, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with three fine,

equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally superficially sparsely punctate and glabrous, with evenly spaced, short setae ventrally; metatarsomeres with a strongly serrated ventral ridge and a fine longitudinal carina immediately beside it; first metatarsomere as long as following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 6I–K. Female unknown.

Diagnosis

The new species is in shape of aedeagus most similar to *N. pseudovulpes* sp. nov., it differs from *N. pseudovulpes* by the longer and more robustly developed ventral process of phallobase being ventrally and laterally strongly widened and deeply concave on its median side.

Etymology

The new species is named with reference to its brown colour with the Latin adjective, *ustus* (from Latin, tanned/browned) (Latin adjective in the nominative singular).

Variation

Length. 8.1–8.8 mm, length of elytra: 6.0–6.8 mm, width: 4.7–5.1 mm.

Neoserica (s.l.) *sichuanica* Ahrens, Fabrizi & Liu sp. nov. (Figures 7A–D, 11)

Type material examined

Holotype. ♂ ‘Huangjiagou, Kangding, Sichuan, 4.VIII.2004, 2900 m, leg. Xue Huaijun’ (IZAS). *Paratypes:* 1 ♂ ‘Szechuen China DC Graham/nr Tatsienlu Aug. 7, 1923 5–8500 ft alt.’ (USNM), 1 ♂ ‘Huangjiagou, Kangding, Sichuan, 4.VIII.2004, 2900 m, leg. Zhang Yong’ (ZFMK), 1 ♂ ‘Huangjiagou, Kangding, Sichuan, 4.VIII.2004, 2900 m, leg. Wan Xia’ (IZAS).

Description

Length. 8.2 mm, length of elytra: 6.4 mm, width: 4.7 mm. Body oblong, reddish brown, frons slightly darker, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins slightly convex and moderately convergent to weakly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin broadly and deeply sinuate medially; surface flat and shiny, finely and very densely punctate, partly punctures fusing with each other, with a numerous long erect setae in coarser but superficial punctures; frontoclypeal suture feebly incised and medially

weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, terminal seta absent. Frons dull, with fine and very sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes large, ratio of diameter/interocular width: 0.78. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.5 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest shortly before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest at posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and sparsely punctate, punctures concentrated along striae, odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.48. Pygidium moderately convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.4, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres dorsally with a few longitudinally impressed superficial punctures, glabrous, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 7A–C. Female unknown.

Diagnosis

The new species is very similar to *N. usta* sp. nov. in shape of aedeagus. It differs from *N. usta*, however, by the ventral process of phallobase, having it dorsoventrally extended and longitudinally bent and divided into a dorsal and a ventral sublobe (Figure 7C); the right paramere of *N. sichuanica* sp. nov. is distinctly longer.

Etymology

The new species is named according to its occurrence in Sichuan (Latin adjective in the nominative singular).

Variation

Length. 8.2–8.5 mm, length of elytra: 6.4–6.6 mm, width: 4.7–5.0 mm.

Neoserica (s.l.) *dundai* Ahrens, Fabrizi & Liu sp. nov.
(Figures 7E–H, 11)

Type material examined

Holotype. ♂ ‘China Sichuan pr. Liziping 28.6.–3.7.1991 R. Dunda lgt./Coll. Milan Nikodým, Praha’ (ZFMK).

Description

Length. 9.8 mm, length of elytra: 7.2 mm, width: 5.1 mm. Body oblong, yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins nearly straight and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes large, ratio of diameter/interocular width: 0.76. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and slightly rounded at tip, posterior angles blunt and rounded at tip, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and

lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.4. Pygidium strongly convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.2, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres laterally slightly flattened, dorsally with slight superficial, longitudinal wrinkles but glabrous, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 7E–G. Female unknown.

Diagnosis

The new species is in shape of aedeagus similar to that of *N. sichuanica* sp. nov. but its left paramere is only half as wide as long.

Etymology

The new species is named after its collector, R. Dunda (noun in the genitive case).

Neoserica (s.l.) *luzhouana* Ahrens, Fabrizi & Liu sp. nov.
(Figures 7I–L, 10)

Type material examined

Holotype. ♂ ‘Huangjing, Luzhou, Sichuan, 16.VII.2002, leg. Bai Ming, Wang Jianfeng’ (HBUM). *Paratypes*: 1 ♂ ‘Institute of Agricultural Sciences, Bijie, Guizhou, 28.VI.1964, leg. Yang’ (IZAS), 2 ♂♂ ‘Huangjing, Luzhou, Sichuan, 20.VII.2002, leg. Bai Ming, Wang Jianfeng’ (HBUM, ZFMK).

Description

Length. 7.9 mm, length of elytra: 5.9 mm, width: 4.5 mm. Body oblong, reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface weakly convex and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, impunctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, interspersed with some coarser ones bearing each a long seta, setae beside eyes slightly longer. Eyes large, ratio of diameter/interocular width: 0.77. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.7 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins subparallel in basal half, evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, marginal line widely missing medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures, impunctate along basal midline, minute setae present.

Elytra oblong, widest at posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, punctures concentrated along striae, odd intervals with some single, fine, semi-erect setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.58. Pygidium strongly but evenly convex, finely and moderately

densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae at apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.4, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally but with distinct longitudinal impressions, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere as long as following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 7I–K. Female unknown.

Diagnosis

The new species differs in shape of aedeagus from all other species of the *N. vulpes* group: the left paramere is basally strongly blown up to a subspherical appendix with a sharply pointed distal process.

Etymology

The new species is named after its occurrence in Luzhou (Latin adjective in the nominative singular).

Variation

Length. 7.9–8.0 mm, length of elytra: 5.9–6.2 mm.

Neoserica (s.l.) *xiaguanensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 8A–D, 11)

Type material examined

Holotype. ♂ ‘China, N.Yunnan, env. Xiaguan, 2400 m, 29.vii.2002, leg. S. Murzin, I. Shokhin’ (CP). *Paratype:* 1 ♂ ‘China, N.Yunnan, env. Xiaguan, 2400 m, 29.vii.2002, leg. S. Murzin, I. Shokhin’ (ZFMK).

Description

Length. 8.2 mm, length of elytra: 5.5 mm, width: 4.3 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to strongly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, finely and densely, irregularly punctate, with numerous long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus moderately long and slender, impunctate, with two fine terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and on disc. Eyes large, ratio of diameter/interocular width: 0.73. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins subparallel in basal half, evenly curved and weakly narrowed anteriorly, anterior angles moderately produced and sharp, posterior angles blunt and slightly rounded at tip, anterior margin convexly produced medially, marginal line widely missing medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders sparsely setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest at posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, punctures concentrated along striae, penultimate lateral interval with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.48. Pygidium strongly but evenly convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae at apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.6, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal

articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 8A–C. Female unknown.

Diagnosis

The new species differs in shape of aedeagus from all other species of the *N. vulpes* group: the phallobase has a long ventral beside the long dorsal process.

Etymology

The new species is named after its type locality, Xiaguan (Latin adjective in the nominative singular).

Variation

Length. 7.2–8.2 mm, length of elytra: 5.3–5.5 mm, width: 4.0–4.3 mm.

Neoserica (s.l.) *baishuiensis* Ahrens, Fabrizi & Liu sp. nov. (Figures 8E–H, 10)

Type material examined

Holotype. ♂ ‘China N-Yunnan 27°08’N 100°14’E Yulongshan mts. 2900–3500 m Baishui vill. leg. D. Král 7–12.VI.90’ (ZFMK). Paratypes: 1 ♂ ‘X-DA1538 China S. Sichuan pr., Lingshan, 2600 m, 20 km E Mianning, leg. S. Murzin 17.VIII.2007 Neoserica spnCHINA5’ (ZFMK), 1 ♂ ‘China West Sichuan Moximian Luding Co. 13.–18.7.94 Beneš’ (ZFMK), 1 ♂ ‘China, Sichuan Daliang Shan, 2300 m 30 km West of Xide City, 15.–20.8.1998 leg. Stanislav Nykl’ (ZFMK), 14 ♂♂ ‘China, Sichuan Daliang Shan, 2300 m 30 km West of Xide City, 15.–20.8.1998 leg. Stanislav Nykl’ (ZFMK), 2 ♂♂ ‘China, N.Yunnan, env. Xiaguan, 2400 m, 29. vii.2002, leg. S. Murzin, I. Shokhin’ (CP), 1 ♂ ‘Ch- S Sichuan, 26.–27.VI. road Xichang-Yanyan, 1998 pass 15 km SW Pingchuan 27.33N, 101.49E, cca 3200 m Jaroslav Turna leg.’ (CP), 1 ♂ ‘China, Daxue Shan Mts., Sichuan, 40 km W Mianning, 7–8.vi.1999, 2750 m, 28°34’N, 102°00’E, V. Siniaev & A. Plutenko lgt.’ (CP), 4 ♂♂ ‘Den Shiang Lin Pass to Yachow/viii. 12–26 ‘28 2500–10800 ft./China DC Graham’ (USNM), 1 ♂ ‘1928 Szechuen China DC Graham’ (USNM), 1 ♂ ‘Pantian’ge, Weixi, Yunnan, 23.VII.1981, 2500 m, light trap, leg. Wang Shuyong’ (IZAS), 2 ♂♂ ‘Yanzigou, Xinxing, Luding, Sichuan, 7.VIII.2004, 1560 m, light trap, leg. Bai Ming’ (IZAS).

Description

Length. 9.2 mm, length of elytra: 6.5 mm, width: 4.9 mm. Body oblong, reddish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus shortly subtrapezoidal and wide, widest at base, lateral margins straight and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface weakly convex medially and moderately shiny, coarsely and very densely irregularly punctate, distance between punctures less than their diameter, punctures partly fused, with a few long erect setae; frontoclypeal suture very feebly incised and medially weakly angled; smooth area in front of eye short and approximately twice as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a moderately short single terminal seta. Frons dull, with fine and somewhat irregularly scattered moderately dense punctures, with a few long setae beside eyes and a few short ones on disc. Eyes moderately large, ratio of diameter/interocular width: 0.64. Antenna composed of 10 antennomeres; club with four antennomeres, nearly 1.3 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins nearly straight and weakly narrowed anteriorly, in anterior quarter weakly curved, anterior angles moderately produced and moderately acute, posterior angles blunt and not rounded at tip, anterior margin convexly produced medially, broad marginal line widely interrupted medially, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and not dense punctures, medially not smooth, minute setae present.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, odd intervals with punctures concentrated along striae and with some single fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed, metacoxa glabrous, with fine setae laterally; each abdominal sternite with indistinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.35. Pygidium strongly and evenly convex, finely and moderately densely punctate, without smooth midline, punctures with short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin straight, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/4.0, dorsal margin sharply carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with a moderately fine, sparse punctures;

ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, without longitudinal impressions, with a strongly serrated ridge ventrally and a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and a quarter of its length longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 8E–G. Female unknown.

Diagnosis

The new taxon can be distinguished from all other species of the *N. vulpes* group by the lack of the ventral process of phallobase, from all species having a phallobase without a ventral process (the following two species) by the right paramere being large and spherical, with its longitudinal extension half of phallobasal length.

Etymology

The new species is named after its type locality, Baishui (Latin adjective in the nominative singular).

Variation

Length. 9.23 mm, length of elytra: 6.46 mm, width: 4.96 mm.

Neoserica (s.l.) *lateriuncinata* Ahrens, Fabrizi & Liu sp. nov.
(Figures 9A–D, 10)

Type material examined

Holotype. ♂ ‘X-DA1528 China S. Sichuan pr., pass 30 km SW Mianning, 3000–3400 m leg. S. Murzin 11.–13.VIII.2007 *Neoserica* spnCHINA5’ (ZFMK). Paratype: 1 ♂ ‘Szechuen China DC Graham/nr Luting Kiao Aug.9 1923 5–6000 ft alt./bet. Fu Kiao Lin Pass & Tatsienlu’ (USNM).

Description

Length. 9.4 mm, length of elytra: 6.9 mm, width: 5.4 mm. Body oblong, light reddish brown, antenna yellow, dorsal surface with a slightly iridescent shine and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins straight and moderately convergent to distinctly rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins moderately reflexed, anterior margin distinctly sinuate medially; surface very weakly convex medially and moderately shiny, finely and densely punctate, partly punctures fusing with each other, with

a few long erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, without terminal seta. Frons dull, with fine and sparse punctures, with a few long setae beside eyes and behind frontoclypeal suture. Eyes moderately large, ratio of diameter/interocular width: 0.64. Antenna composed of 10 antennomeres; club with four antennomeres, 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest at base, lateral margins nearly straight and weakly narrowed anteriorly, anteriorly weakly convex, anterior angles moderately produced and slightly rounded at tip, posterior angles blunt, anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders setose; hypomeron distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae and odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin straight and external apical angle blunt and slightly rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.53. Pygidium strongly convex, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae beside apical margin.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and moderately long, widest at apex, ratio width/length: 1/3.71, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres indistinctly punctate dorsally and glabrous, with evenly spaced, short setae ventrally; metatarsomeres ventrally glabrous and with a strongly serrated ridge, with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and slightly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 9A–C. Female unknown.

Diagnosis

The new species is very similar to *N. baishuiensis* sp. nov. It differs from *N. baishuiensis* by the smaller right paramere lacking the interior tooth (Figure 9B, C).

Etymology

The new species is named with reference to its lateral hook of phallobase with the combined Latin adjective, composed of the Latin noun *latus-* (genitive: *lateris* – side) and *uncinatus* (hook-shaped) (Latin adjective in the nominative singular).

Variation

Length. 9.3–9.4 mm, length of elytra: 6.8–6.9 mm.

Neoserica (s.l.) *leiboensis* Ahrens, Fabrizi & Liu sp. nov.
(Figures 9E–H, 11)

Type material examined

Holotype. ♂ ‘China - S Sichuan, 1997 Daliang Shan mts. 27.VII. Road Meigu-Leibo pass 15 km NE Meigu 28°25'[N], 103°17'[E] M. Tryzna et O. Šafránek lgt.’ (CP).
Paratypes: 1 ♂, 1 ♀ ‘China, Sichuan Daliang Shuan, 2300 m 30 km West of Xide City, 15.–20.8.1998 Leg. Stanislav Nykl’ (ZFMK), 3 ♂♂ ‘China, S Sichuan 27.VII. Daliang Shan mts., 1997 road Meigu-Leibo pass 15 km NE Meigu 28°25'N, 103°17'E Jaroslav Turna leg.’ (CP, ZFMK).

Description

Length. 8.3 mm, length of elytra: 5.6 mm, width: 4.7 mm. Body oblong, dark yellowish brown, antenna yellow, dorsal surface dull and nearly glabrous.

Labroclypeus subtrapezoidal, widest at base, lateral margins weakly convex and moderately convergent to moderately rounded anterior angles, lateral border and ocular canthus producing a distinct blunt angle, margins weakly reflexed, anterior margin distinctly sinuate medially; surface flat and shiny, coarsely and densely, irregularly punctate, with a few longer, erect setae in coarser punctures; frontoclypeal suture feebly incised and medially weakly angled; smooth area in front of eye approximately 1.5 times as wide as long; ocular canthus long and slender, very finely and sparsely punctate, with a fine terminal seta. Frons dull, with fine and sparse punctures, with a few short setae. Eyes large, ratio of diameter/interocular width: 0.74. Antenna with 10 antennomeres; club with four antennomeres, nearly 1.2 times as long as remaining antennomeres combined. Mentum convexly elevated anteriorly.

Pronotum moderately wide, widest a quarter before base, lateral margins evenly curved and weakly narrowed anteriorly and posteriorly, anterior angles weakly produced and distinctly rounded, posterior angles blunt and slightly rounded at tip,

anterior margin convexly produced medially, broad marginal line widely missing, basal margin without marginal line; surface with moderately dense and fine punctures, with minute setae only; anterior and lateral borders very sparsely setose, setae nearly completely abraded in holotype; hypomerion distinctly carinate at base. Scutellum narrow and long, sharp at apex, with fine and moderately dense punctures and minute setae.

Elytra oblong, widest in posterior third, striae distinctly impressed, finely and densely punctate, intervals weakly convex and not densely punctate, intervals with punctures concentrated along striae, odd intervals with some single, fine setae; epipleural edge robust, ending at strongly curved external apical angle of elytra, epipleura densely setose, apical border membranous, with short microtrichomes.

Ventral surface dull, with large and dense punctures, sparsely and shortly setose, setae partly adpressed; metacoxa glabrous, with fine setae laterally, apical margin convex and external apical angle rounded; each abdominal sternite with a distinct transversal row of coarse punctures each bearing a short seta between fine and moderately dense punctation. Mesosternum between mesocoxae nearly half as wide as mesofemur, with irregularly scattered, fine setae. Ratio of length of metepisternum/metacoxa: 1/1.48. Pygidium strongly convex and shiny, finely and moderately densely punctate, without smooth midline, punctures with sparse, short setae, a few longer setae on apex.

Legs slender; femora with two longitudinal rows of setae, finely and moderately densely punctate; metafemur ventrally dull, anterior margin sharply carinate, without a submarginal serrated line, posterior margin moderately convex, with a few strong setae medially, only weakly widened externally in apical half and not serrated ventrally in distal half, finely serrated dorsally, with dense, short setae. Metatibia slender and long, widest at apex, ratio width/length: 1/3.8, dorsal margin moderately carinate, with two groups of spines, basal group of spines shortly before half of metatibial length, apical one at about three quarters of metatibial length, basally with a few single fine spines; external face longitudinally convex, with moderately coarse, sparse punctures; ventral margin finely serrated, with four fine, equidistant spines; medial face impunctate, apex concavely truncate interiorly near tarsal articulation. Tarsomeres dorsally finely punctate, with a few long setae, with sparse, short setae ventrally; metatarsomeres impunctate and glabrous dorsally, with a strongly serrated ridge ventrally and glabrous, and with a fine longitudinal carina immediately beside it; first metatarsomere slightly shorter than following two tarsomeres combined and distinctly longer than dorsal tibial spur. Protibia long, bidentate, protarsal claws symmetrical, basal tooth of inner protarsal claw bluntly truncate apically.

Aedeagus. Figure 9E–G.

Diagnosis

The new species differs from all other species of *N. vulpes* group by lacking the ventral process of phallobase; this feature it shares with *N. lateriuncinata* sp. nov. and *N. baishuiensis* sp. nov. which are rather similar in shape of parameres. The new species differs from these two in the shape of the dorsolateral process of the phallobase, being smaller and ventrally concavely sinuate in *N. leiboensis* sp. nov.

Etymology

The new species is named after its type locality close to the Leibo pass (Latin adjective in the nominative singular).

Variation

Length. 7.9–8.5 mm, length of elytra: 5.5–5.7 mm, width: 4.5–4.8 mm. Female: Eyes slightly smaller, antennal club composed of four antennomeres, first joint of club subequal to one quarter of club length.

Acknowledgements

We are grateful to Max Barclay (BMNH) and Jiří Hájek (NMPC) for kindly loaning to us part of the type material as well as unidentified specimens, to Milan Nikodym for the donation of his Asian Sericini collection, to Sergey Murzin for providing us with specimens sampled in ethanol, and to the Alexander Koenig Gesellschaft (Bonn) for funding in part the technical work of this study. D.A. was, for the main part of the taxonomic revisions for this work, supported by grants from the German Science foundation [GRK 5 503/2, AH175/1-1] and by SYNTHESYS [GB-TAF-63 and 917, SE-TAF 3424]. Part of this research was supported by the National Basic Research Program of China (973 Program) [No. 2011CB302102], the National Natural Science Foundation of China [Nos. 31010103913, 31172143], the Knowledge Innovation Program of Chinese Academy of Sciences [No. KSCX3-IOZ-1004].

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