

Two new species of *Steropes* Steven (Coleoptera: Anthicidae) from southern China

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KEJVAL Z. 2019: Two new species of *Steropes* (Coleoptera: Anthicidae) from southern China. *Acta Musei Moraviae, Scientiae biologicae* **104(2)**: 139–146. – Two species of *Steropes* Steven, 1806 are newly described from China: *S. lateralis* sp. nov. and *S. sinensis* sp. nov. (both Fujian Province).

Key words. Coleoptera, Anthicidae, Steropinae, *Steropes*, Palaearctic Region, new species

Introduction

Steropes Steven, 1806 is the type genus and the only member of the small subfamily Steropinae Jacquelin du Val, 1863 occurring in the Palaearctic and Oriental Regions. At present, it includes eight extant species (TELNOV 2006; CHANDLER *et al.* 2008). Other genera currently placed in Steropinae (both monotypic) are *Anisotria* Young, 1984 (North America, originally described in Pyrochroidae) and *Australosteropes* Telnov, 2018 (Australia). For their separation and additional details see YOUNG (1984), CHANDLER (2010), TELNOV (2018), and TELNOV & BUKEJS (2019).

Steropinae are regarded as primitive anthicids (ABDULLAH 1965). However their classification and placement within Anthicidae are still subject to discussion. The immature stages are unknown, as is also the case with the Macratriinae LeConte, 1862, which lie close. Adults of both sexes are rendered conspicuous at first sight by their three terminal antennomeres, which are markedly enlarged (Figs 15, 16), as is the case in some species of *Macratria* Newman, 1838 (TELNOV 2011, 2018). Major characters useful for separation from *Macratria*/Macratriinae include: head with fronto-clypeal suture present or at least indicated by transverse impression; maxillary palpomeres II and III more or less elongate, at most angled on inner side (never strongly lobed); procoxal cavities open both externally and internally; mesoventrite distinct, triangular, with pointed anterior apex (smoothly fused with mesepisterna in *Macratria*, at least partly, in the anterior portion); elytra always randomly punctate and lacking subhumeral longitudinal striae/sulci; tarsal claws slender, moderately curved, at most with slight basal angulation on inner side (CHANDLER 2010, TELNOV 2018, partly modified).

The two species of *Steropes* newly described in this contribution are undoubtedly very close to *S. hercules* Telnov, 2006, which is the only known Oriental species, occurring in the mountainous Lào Cai Province of northern Vietnam (collected at altitudes of approx. 1500 m). They appear to constitute a species-group within the genus, characterized by larger body size, more elongate pronotum, patches of peg-like setae covering the ventral surface of male tergum VIII (fringed at the margins in other Palaearctic species), and by the strongly projecting paired lobes of male sternum VIII.

Material and methods

Specimens were examined with a Leica MZ 9.5 stereomicroscope; morphological measurements employed an ocular graticule. Male genitalia were examined after being cleared in a hot 10% KOH solution and then placed on the same card as the specimen in water-soluble dimethyl hydantoin formaldehyde resin (DMHF). Illustrations were made using a drawing tube, with some details added from examination by means of a compound microscope. Photographs were taken with a Nikon Coolpix 4500 digital camera attached to a Leica MZ 9.5 trinocular stereomicroscope; images of the same specimen at different focal planes were combined with Helicon Focus 5.2 Pro and edited with Adobe Photoshop 9.0.2. software. The terminology for body setation follows WERNER & CHANDLER (1995).

Abbreviations for the collections in which specimens are held:

DCDC	Donald S. Chandler collection, Durham, New Hampshire, U.S.A.
NMPC	National Museum, Prague, Czechia
WIRC	Wisconsin Insect Research Collection, Madison, Wisconsin, U.S.A.
ZKDC	Zbyněk Kejval collection, Domažlice, Czechia

Taxonomy

Steropes lateralis sp. nov.

(Figs 1–7, 15, 17)

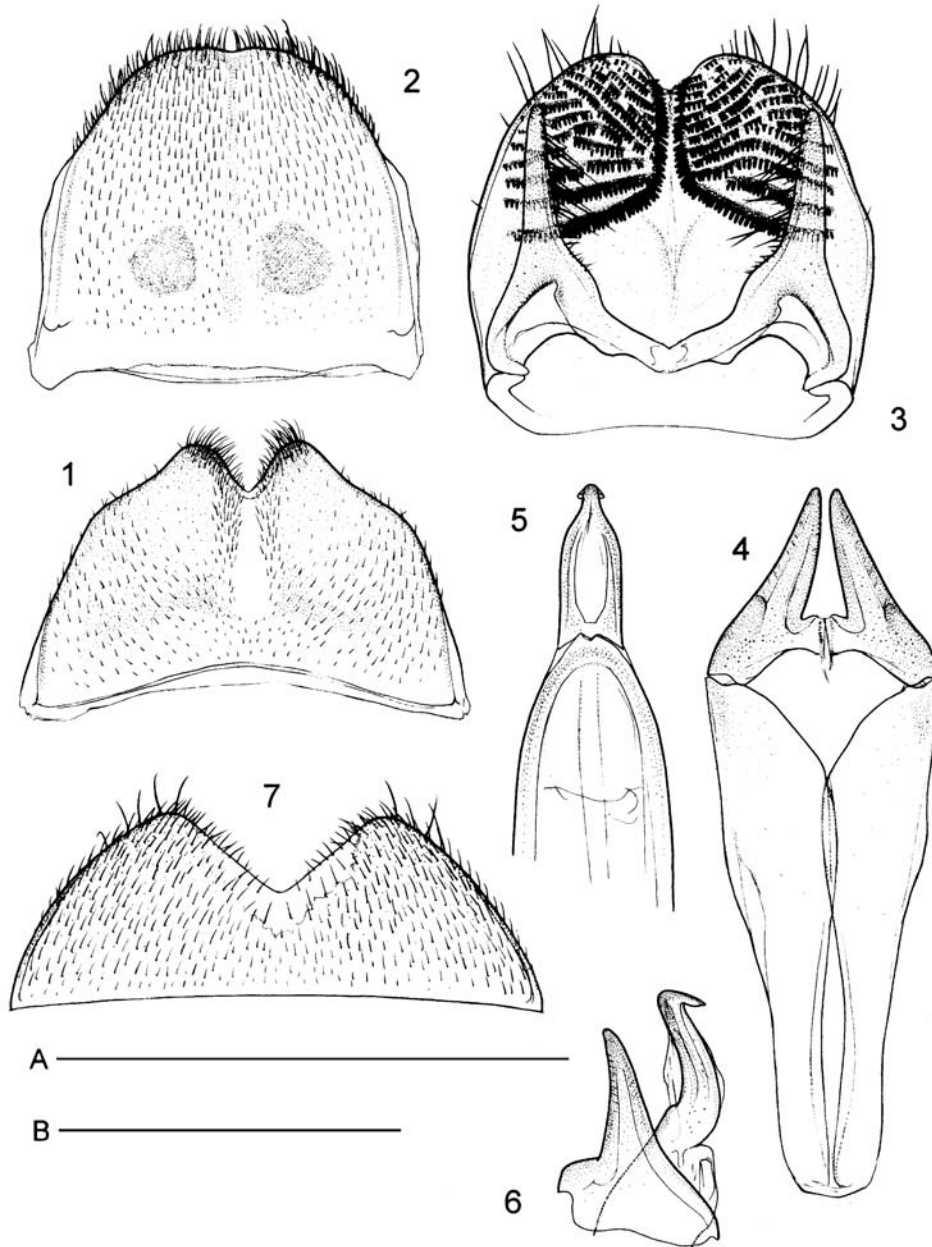
Type locality. China, Fujian Province, Daiyunshan, 25°39'N 118°13'E, altitude 1300–1600 m.

Type material. Holotype ♂: “China, E Fujian, Daiyunshan, 1300–1600 m, 25°39'N 118°13'E 3.V.2008 Jaroslav Turna leg. [printed]” (NMPC). Paratypes: 3 ♀♀, same data as holotype (NMPC, ZKDC); 2 ♂♂, “China, E Fujian, 3.V.–29.V. Daiyunshan, 1300–1600m 25°39'N 118°13'E Vít Ryjáček leg., 2008 [printed]” (ZKDC).

Description. Male (holotype). Body length 7.2 mm. Head largely black, base of neck and mouthparts partly brownish-black to reddish-brown; pronotum and elytra black; femora bicoloured, largely reddish, black apically, tibiae black, tarsi largely black, penultimate tarsomere and claws reddish; antennae black, bases of some proximal antennomeres reddish.

Head 1.3 times as long as wide including eyes, widely rounded posteriorly; eyes large and convex, distinctly emarginate; frons wide (shortest distance between median eye margins wider than neck width, Fig. 17). Surface matt, densely punctate and shagreened; dorsal punctures quite coarse, narrowly spaced; setation subdecumbent to decumbent, with some very long setae posterior to eyes (ventro-laterally). Antennae long, distinctly exceeding humeri; all antennomeres longer than wide, ratios length/width: I 2.0, II 1.6, III 2.2, IV 1.7, V 1.7, VI 1.6, VII 1.6, VIII 1.1, IX 3.1, X 2.8, XI 7.6.

Pronotum 1.3 times as long as wide, nearly subparallel in posterior half, moderately narrowing anteriorly in dorsal view; disc moderately convex; antebasal sulcus indicated by series of coarse punctures or oval pits. Surface matt; punctation and setation as on head, with some long setae, more raised laterally.



Figs 1–7. *Steropes lateralis* sp. nov.: 1 – male sternum VII; 2 – male tergum VII; 3 – male sternum and tergum VIII, ventral view; 4 – tegmen of aedeagus; 5 – apical part of median lobe; 6 – parameres and apical part of median lobe, lateral view; 7 – female tergum VII. Scale (1 mm): A – Figs 3–6; B – Figs 1, 2, 7.

Elytra 2.7 times as long as wide, subparallel to slightly widening in posterior half; humeri rounded but distinct, omoplates and postbasal impression slightly indicated. Surface slightly lustrous, distinctly and densely punctate. Punctuation doubled, comprising coarser, more widely-paced punctures with longer, more raised, decumbent to suberect setae and finer, denser punctures with shorter, subdecumbent, silvery setae. In addition, a pair of small, rounded, pale brownish setose patches entirely obscure punctuation laterally in basal third.

Legs long and robust; basal protarsomere markedly widened, about 1.7 times as long as wide, both basal pro- mesotarsomeres with coarse, erect brush-like setation ventrally; paired terminal spurs of tibiae conspicuous, with serrulate margins (most distinct for metatibiae); claws quite long and simple, moderately widened and angled ventrally for basal half.

Abdominal sternum VII moderately produced and bilobed apically, moderately impressed and with impunctate median longitudinal line (Fig. 1); sternum VIII forming two narrowly-connected and projecting sclerites narrowing posteriorly (Fig. 3); tergum VII slightly emarginate apically (Fig. 2); tergum VIII with patches of densely-fringed, black, peg-like setae ventrally (Fig. 3). Aedeagus as in Figs 4–6; parameres simple, short and robust, median lobe with strongly hook-like apex in lateral view.

Female. Most external characters identical to male, however: body somewhat more robust (wider elytra); eyes slightly smaller; antennomeres IX–XI less elongate; basal protarsomere narrower, nearly twice as long as wide; elytra evenly punctate and setose (lacking densely setose patches); abdominal sternum VII deeply emarginate (Fig. 7); tergum VII unevenly rounded, with apex projecting in moderate and angulate fashion.

Variation. Body length (σ° ♀) 7.2–8.2 mm; pronotum and elytra reddish-brown in two female paratypes.

Differential diagnosis. *Steropes lateralis* sp. nov. differs from *S. hercules* and *S. sinensis* sp. nov. in its darker coloration of the elytra, dorso-lateral position of the paired elytral patches, in the short and robust parameres, and in the shape of the apex of the median lobe of the aedeagus, which is narrowed in dorsal view and conspicuously hooked in lateral view. In addition, it differs from *S. sinensis* sp. nov. in its smaller eyes, more widely separated in dorsal view, and the somewhat widely rounded base of the head (*cf.* Fig. 17 and Fig. 18), as well as in the shape and setation of sternum VII in both males and females (*cf.* Figs 1, 7 and Figs 8, 14).

Distribution. China (Fujian).

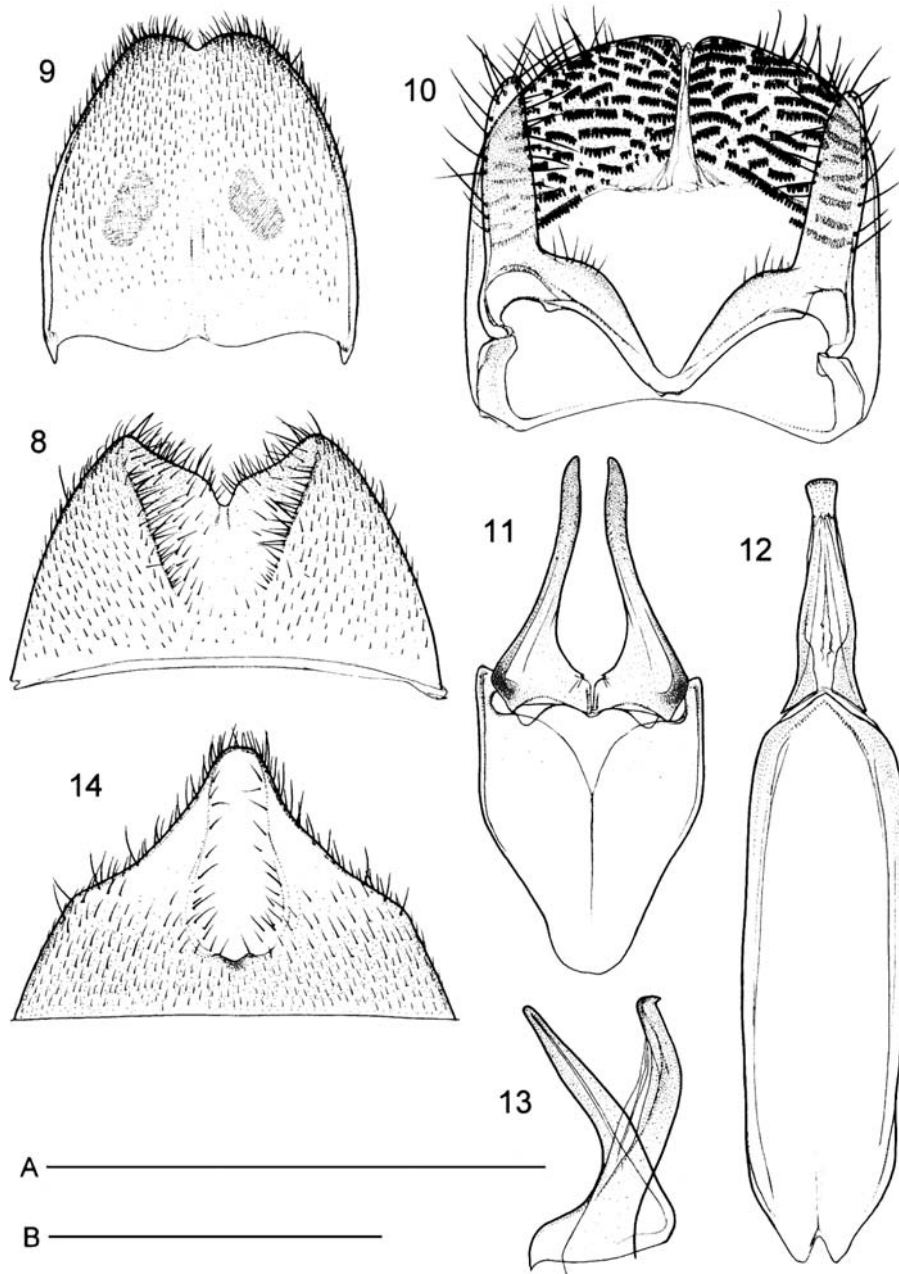
Etymology. From Latin *lateralis* (side); named in reference to the lateral position of the setose elytral patches.

***Steropes sinensis* sp. nov.**

(Figs 8–14, 16, 18)

Type locality. China, Fujian Province, Daiyunshan, 25°39'N 118°13'E, altitude 1300–1600 m.

Type material. Holotype, ♂: “China, E Fujian, Daiyunshan, 1300–1600 m, 25°39'N 118°13'E 3.V.2008 Jaroslav Turna leg. [printed]” (NMPC). Paratypes: 7 ♂♂ 2 ♀♀, same data as holotype (ZKDC, NMPC, DCDC,



Figs 8–14. *Steropes sinensis* sp. nov.: 8 – male sternum VII; 9 – male tergum VII; 10 – male sternum and tergum VIII, ventral view; 11 – tegmen of aedeagus; 12 – apical part of median lobe; 13 – parameres and apical part of median lobe, lateral view; 14 – female tergum VII. Scale (1 mm): A – Figs 10–13; B – Figs 8, 9, 14.

WIRC); 2 ♂♂, "China, E Fujian, 3.V.–29.V. Daiyunshan, 1300–1600m 25°39'N 118°13'E Vít Ryjáček leg., 2008 [printed]" (ZKDC).

Description. Male (holotype). Body length 7.2 mm. Head largely black, neck and mouthparts reddish-brown; pronotum reddish-brown, disc moderately darkened; elytra reddish; legs reddish, tibiae with darker base; antennae brown to brownish-black, moderately darkened distally.

Head 1.3 times as long as wide including eyes, distinctly narrowing and unevenly rounded posteriorly; eyes conspicuously large and convex, moderately emarginate; frons narrow (shortest distance between median eye margins distinctly shorter than neck width; Fig. 18). Surface matt, densely punctate and shagreened; dorsal punctures quite coarse, narrowly separated to contiguous; setation somewhat coarse, mostly subdecumbent, with scattered, moderately long setae dorsally and some very long setae posterior to eyes (ventro-laterally). Antennae long, clearly extending past humeri; all antennomeres longer than wide, ratios length/width: I 2.1, II 1.6, III 2.2, IV 1.7, V 1.6, VI 1.5, VII 1.5, VIII 1.2, IX 3.3, X 3.4, XI 8.3.

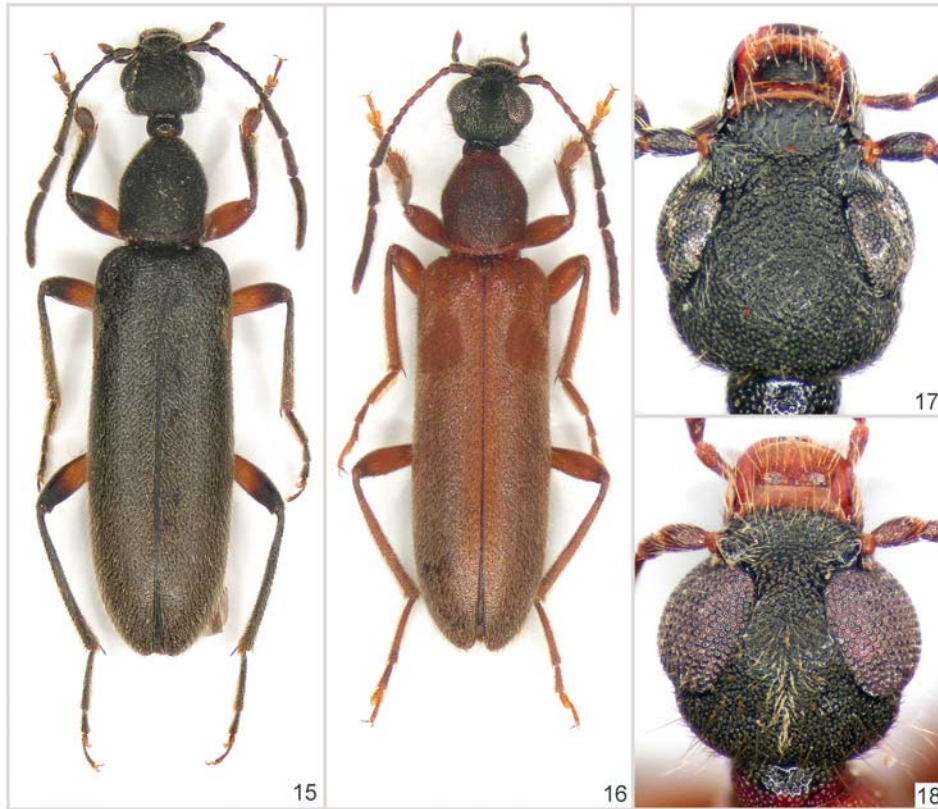
Pronotum 1.2 times as long as wide, nearly subparallel, slightly angled antero-laterally and narrowing markedly towards the front in dorsal view; disc moderately convex; antebasal sulcus indicated by series of coarse punctures or oval pits. Surface matt; punctuation and setation as on head, with some long, more raised setae laterally.

Elytra 2.8 times as long as wide, subparallel to slightly widening in posterior half; humeri rounded but distinct, omoplates and postbasal impression slightly indicated. Surface slightly lustrous, distinctly punctate and densely setose. Punctuation double, comprised of coarser, sparser punctures with longer, more raised, mostly suberect setae and finer, denser punctures with shorter, subdecumbent, silverish setae; in addition, there is a pair of rounded patches of contiguous punctures and reddish setae dorsally in basal third.

Legs long and robust; basal protarsomere strongly widened, about 1.7 times as long as wide, both basal pro- and mesotarsomeres with coarse, erect brush-like setation ventrally; paired terminal spurs of tibiae conspicuous, with serrulate margins (most markedly on metatibiae); claws quite long and simple, moderately widened and angled ventrally in basal half.

Abdominal sternum VII distinctly emarginate and notched posteriorly, its surface impressed medially, lateral portion of impression slightly carinate and longer setose (Fig. 8); sternum VIII forming two narrowly connected sclerites that narrow and project at the rear (Fig. 10); tergum VII distinctly emarginate apically (Fig. 9); tergum VIII with patches of densely-fringed, black, peg-like setae ventrally (Fig. 10). Aedeagus as in Figs 11–13; parameres simple, slender, moderately sinuous, apex of median lobe truncate in dorsal view, slightly hooked in lateral view.

Female. Most external characters identical to male, however: body somewhat more robust (wider elytra); eyes smaller, distance between their median margins longer (still distinctly shorter than neck width); antennomeres IX–XI less elongate; basal protarsomere narrower, nearly twice as long as wide; abdominal sternum VII strongly projecting postero-medially, with narrowed, rounded apex, impunctate median



Figs 15–18. 15–16. Habitus: 15 – *Steropes lateralis* sp. nov.; 16 – *S. sinensis* sp. nov. 17–18. Head, dorsal view: 17 – *Steropes lateralis* sp. nov.; 18 – *S. sinensis* sp. nov.

longitudinal impression and with small median bulge near base (Fig. 14); tergum VII widely subtruncate posteriorly.

Variation. Body length (♂♀) 6.8–7.9 mm; pronotum more or less darkened, disc sometimes largely black; setose patches of elytra varying in size and prominence (always distinct).

Differential diagnosis. *Steropes sinensis* sp. nov. resembles *S. hercules* in its coloration, the somewhat dorsal location of the setose elytral patches of the males, and in the slender parameres of the aedeagus. It differs from the latter species in the shape of the apex of the median lobe, which is widened and truncate in dorsal view and more robust, moderately bent, and slightly hooked in lateral view (triangular and bluntly pointed in dorsal view, and straight and slender in lateral view for *S. hercules*), and in the wider, medially-notched emargination of male sternum VII. In addition, females of *S. sinensis*

sp. nov. have a conspicuously modified sternum VII (Fig. 14); unfortunately the female abdominal characters of *S. hercules* have not been described.

Distribution. China (Fujian).

Etymology. From Latin *sinensis* (chinese); named after the country of its origin.

Acknowledgements

My thanks are due to Donald S. Chandler (University of New Hampshire, Durham, U.S.A.) and Dmitry Telnov (Natural History Museum, London, United Kingdom) for reviewing the manuscript.

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