A new species of genus Leistus Frölich, 1799 from the Chinese Province of Gansu and new data on species previously described from Qinghai and Gansu (Coleoptera: Carabidae: Nebriini)

Authors: Farkač, Jan, and Wrase, David W.

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A new species of genus *Leistus* Frölich, 1799 from the Chinese Province of Gansu and new data on species previously described from Qinghai and Gansu (Coleoptera: Carabidae: Nebriini)

Jan Farkač[1] & David W. Wrase[2]

[1] *Faculty of Forestry and Wood Sciences, Czech University of Life Sciences Prague, Kamýcká 1176, CZ-165 21 Prague 6, Czech Republic. E-mail: farkac@fld.czu.cz*
[2] *Dunckerstrasse 78, D-10437 Berlin, Germany. E-mail: carterus@gmx.de*

Abstract: A new species of genus *Leistus* Frölich, 1799, belonging to subgenus *Evanoleistus* Jedlička, 1965 is described and illustrated: *L. rezabkovae* sp. n. from Gansu (type locality: Lenglong Ling Mts., Wutai Ridge [pass], 70 km N Honggu, 3530 m, 36°58'16.6"N/102°48'03.6"E). It is compared with a similar species of the subgenus *Evanoleistus*, known from a mountain massif between the provinces Qinghai and Gansu. A check-list of all members of genus *Leistus* from the provinces Qinghai and Gansu is provided, comprising data on type locality and deposition of holotype.

Keywords: Taxonomy - new distribution data - Palaearctic Region - China.

INTRODUCTION

Seven species of the genus *Leistus* Frölich, 1799, subgenus *Evanoleistus* Jedlička, 1965, were recorded by Farkač (2003, 2005) from Qinghai and Gansu Provinces (China). However, the two works do not include information about the occurrence of the species *L. langmusianus* in Gansu (Farkač, 1999). Three species were described by Allegro (2007) from the southern part of the Gansu Province and finally two species were described by Deuve (2010) from Gansu. Based on new material collected in 2011, we are presenting new faunistic data and describing a species new to science. Thirteen species of the genus *Leistus* are thus currently known from the Gansu Province and only one species is known from the Qinghai Province (see below).

MATERIAL AND METHODS

Material examined is deposited in the collections of institutions and persons listed below:

MNHUB Museum für Naturkunde der Humboldt-Universität, Berlin, Germany
MHNG Muséum d'Histoire Naturelle, Genève, Switzerland
MNHN Muséum National Histoire Naturelle, Paris, France
cFAR Coll. Jan Farkač, Prague, Czech Republic
cSCHM Coll. Joachim Schmidt, Admannshagen, Germany
cWR Coll. David W. Wrase, Berlin, Germany

Total body length (BL) is measured from the clypeus to the apex of the right elytron; the width of the head (HW) as the maximum linear distance across the head, including the compound eyes; the length of the pronotum (PL) between the anterior and the posterior margins along the midline; the length of the elytra (EL) from the tip of scutellum to the apex of the right elytron; the width of the pronotum (PW) and elytra (EW) at their broadest points; the width of the pronotal base (PBaW) between the tips of the hind angles. These measurements, made at a magnification of 16x and 32x by using an ocular micrometer in a stereobinocular microscope MBS10, were combined in ratios or added as follows:
PW/PL: width/length of pronotum; PW/HW: width of pronotum/width of head; PW/PBaW: width of pronotum/width of pronotal base; EL/EW: length/width of elytra; EW/PW: width of elytra/width of pronotum; EL/PL: length of elytra/length of pronotum.
Line drawings were prepared using an ocular grid (15 x 15 squares) attached to a Leica MZ 16 stereobinocular microscope.
The photographs were taken with a Leica DFC450 digital camera (attached to Leica M205-C) using a motorised focussing drive, light base Leica TL5000 Ergo, diffused light with Leica hood LED5000 HDI, subsequently processed with Leica LAS application software, and enhanced with CorelDRAW Graphics Suite X5.
Labels of type specimens are cited as in the original, the line break indicated by a forward slash (/).

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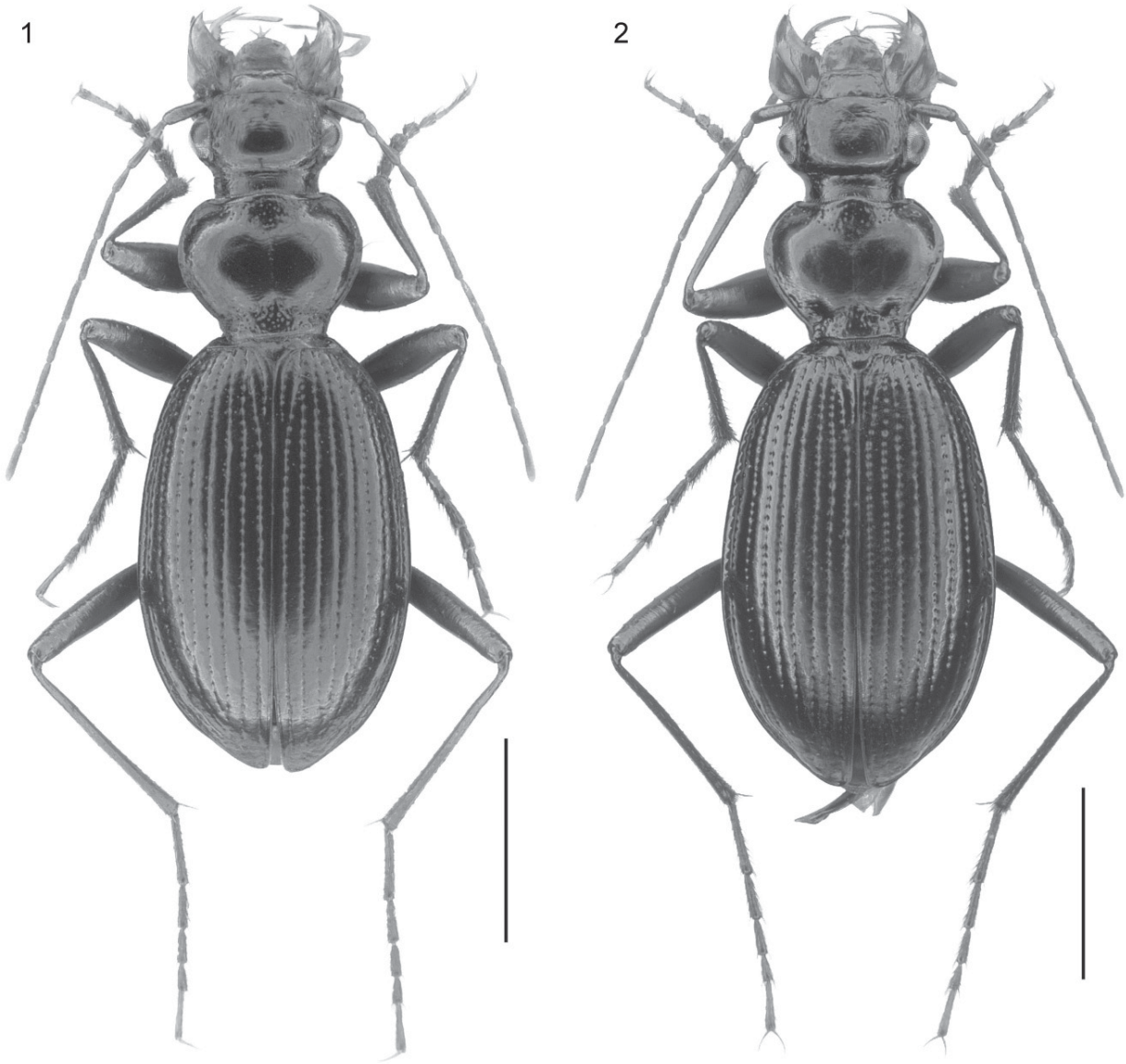
TAXONOMY

***Leistus* (*Evanoleistus*) *rezabkovae* sp. n.**
Figs 2-4

Holotype: cFAR, without registration number; "China (Gansu Prov.) / Lenglong Ling Mts., Wutai Ridge / (pass), 70 km N Honggu, 3530 m / 36°58'16.6"N/102°48'03.6"E / (stony alpine pasture with / *Rhododendron* and *Azalea* / under stones) / 2.VII.2011, D. W. Wrase [14]", one male.

Paratypes: cFAR; same locality and data as holotype, one male and one female. – cWR; same locality and data as holotype, two males. – cSCHM; same locality and data as holotype, but M. Schülke lgt., one male. – cFAR; "CHINA (Gansu Prov.) / Lenglong Ling Mts. / 80 km NNW Honggu, 3392-3900 m / 37°03'50.3"N / 102°39'57.2"E / (alpine pasture with *Rhododendron* / under stones) / 30./31.VI.2011 D.W. Wrase [13]", one male and one female. – cWR; same locality and data, one males and two females. – MHNG, without registration number; same locality and data, one female. – MNHUB; same locality and data, one female. – cWR; without registration number; the same data, but M. Schülke lgt., one male. – cWR; without registration number; same data but 3392 m, 1.VII.2011; one male.

Diagnosis: *Leistus rezabkovae* sp. n. is similar in habitus to *Leistus* (*Evanoleistus*) *farkaci* Sciaky, 1994 only, but the new species differs in the shape of elytra and the structure of the aedeagal median lobe.
Morphometric data of male (holotype) (in mm): BL = 7.90, HW = 1.61, PW = 1.93, PBaW = 1.03, PL = 1.50,



Figs 1-2.
(1) *Leistus* (*E.*) *farkaci* Sciaky, 1994. Habitus (Daban Shan, Pass 19 km WSW Men Yuan).
(2) *Leistus* (*E.*) *rezabkovae* sp. n. Habitus (paratype, type locality). (Scale bar: 2 mm).

EW = 2.90, EL = 4.62. Indices: PW/PL = 1.29, PW/HW = 1.20, PW/PBaW = 1,87, EL/EW = 1,60, EW/PW = 1.50, EL/PL = 3.09.
Morphometric data of 13 paratypes (in mm): 7 males: BL = 7.40-8.20, HW = 1.56-1.73, PW = 1.83-2.00, PBaW = 0.90-1.03, PL = 1.40-1.56, EW = 2.75-2.98, EL = 4.50-4.75 and 6 females: BL = 8.00-8.50, HW = 1.63-1.70, PW = 1.90-2.00, PBaW = 0.98-1.05, PL = 1.50-1.63, EW = 2.88-3.05, EL = 4.63-5.00. Indexes. Males: PW/PL = 1.23-1.33, PW/HW = 1.15-1.18, PW/PBaW = 1.83-2.03, EL/EW = 1.59-1.69, EW/PW = 1.45-1.53, EL/PL = 3.02-3.25. Females: PW/PL = 1.19-1.27, PW/HW = 1.13-1.20, PW/PBaW = 1.88-1.99, EL/EW = 1.58-1.66, EW/PW = 1.48-1.55, EL/PL = 2.91-3.09.

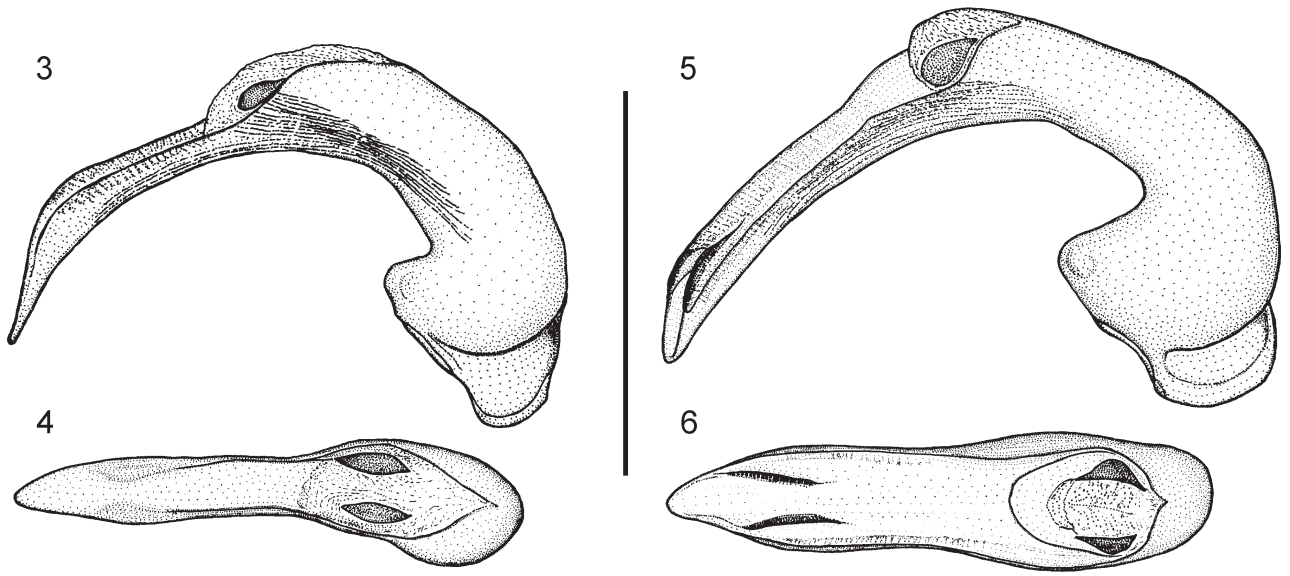
Description: Colour piceous-black, tarsi, tibiae, antennae and maxillary appendages paler, brownish. Mandibles brownish. Eyes prominent, convex. Gular setae not inserted on transverse carina (habitus of holotype Fig. 2).
Pronotum: Cordiform, maximum width at middle, with distinct midline. Lateral furrow narrow, with one setiferous pore behind middle. Basal depression and depression at anterior margin strongly punctured. Posterior angles rectangular.
Elytra: Long-oval, distinctly drop-shaped, maximum width somewhat behind middle, humeral angle completely reduced. Striae and lateral groove of elytra strongly punctured. Lateral groove in direction of elytral apex rather indistinct.
Median lobe of aedeagus (Fig. 3, 4) relatively wide, about triangular apically, rounded at tip, apically with two chitinized ligaments laterally, consisting of granule-like structures aranged in a row (ventral view). In lateral view, the median lobe only gently curved toward apex.

Comparisons: *L. rezabkovae* sp. n. differs from *L. farkaci* Sciaky by a different shape of elytra – *L. rezabkovae* sp. n. has elytra more distinctly drop-shaped , widest somewhat behind middle thirds (more or less oval elytra, compare Figs 1, 2), by pronotum shape, which is cordiform with rectangular posterior angles (in *L. farkaci* posterior angles obtuse-angled), by stronger punctuation of elytral striae (see Figs 1 and 2), and by a different shape of median lobe of aedeagus – in lateral view, *L. farkaci* has a median lobe narrower and apically somewhat more acuminate, distinctly bent toward apex (compare Figs 3-4 with 5, 6).

Etymology: The new species is cordially dedicated to Mrs. Klára Řežábková (Prague), a very good friend of the first author.

Distribution: Currently known from two localities in the Lenglong Ling Mts. in the Chinese province of Gansu only.

Habitat: Collected on a stony alpine pasture with *Rhododendron* sp. and *Azalea* sp. (Fig. 7) from under stones or by sifting litter and moss at an altitude of about 3392-3900 m.



Figs 3-6. *Leistus*. Median lobe of aedeagus. (3) *Leistus* (*E.*) *rezabkovae* sp. n. (paratype, type locality), lateral view. (4) *Leistus* (*E.*) *rezabkovae* sp. n. (paratype, type locality), ventral view. (5) *Leistus* (*E.*) *farkaci* Sciaky (Daban Shan, Pass 19 km WSW Men Yuan), lateral view. (6) *Leistus* (*E.*) *farkaci* Sciaky (Daban Shan, Pass 19 km WSW Men Yuan), ventral view. (Scale bar: 1 mm).

Fig. 7. Photograph of type locality of *Leistus* (*E.*) *rezabkovae* sp. n.

Leistus (*Evanoleistus*) *farkaci* Sciaky, 1994

Leistus (*Evanoleistus*) *farkaci* Sciaky, 1994: 206-207. – Sciaky, 1995: 300. – Farkač, 1995: 159-160. – Farkač, 1999: 41. – Farkač, 2005: 49.

New record: We examined 18 males and 6 females, labelled: China (Qinghai Prov.), Daban Shan, Pass 19 km WSW Men Yuan, 3750-3900 m, 37°21'11.8"N /101°24'24.7"E, 4.VII.2011, D.W.Wrase lgt. [17] (cFAR, cSCHM, cWR, MNHUB). Specimens compared with paratypes in cFAR. Habitus Fig. 1.

Habitat: Collected in an alpine cirque, on a stony pasture with slope springs in an altitude of 3750-3900 m.

List of *Leistus* species (subgenus *Evanoleistus* Jedlička, 1967) from Gansu and Qinghai with data on the type locality (TL) and deposition of holotype (HT)

Gansu

becheti Allegro, 2007: 70 TL: "Lintan Xian, Yeliguan, Huan Hienzhi Natural Reserve" [HT in collection of Gianni Allegro]

bohemorum Sciaky, 1994: 207 TL: "Golo Shan, Wen Xian" [HT in collection of Riccardo Sciaky, Milano]

coltranei Allegro, 2007: 72 TL: "Weihuan Xian, Shimen Shan" [HT in collection of Gianni Allegro]

gansuensis Sciaky, 1995: 296 TL: "between Xiahe and Heznojhen" [HT in collection of Riccardo Sciaky, Milano]

heinzi Farkač, 1995: 146 TL: "Da-li-Jia-Shan, 62 km W of Linxia" [HT in cFAR]

huichuanensis Deuve, 2010: 3 TL: "montagnes a 24 km au sud-sud-est de Huichuan, 3700 m, 34°54'N/ 104°04'E" [HT in MNHN]

labrang Farkač 1999: 24 TL: "Labrang, valley E of Ponggartang" [HT in collection of Miroslav Janata, Praha]

langmusianus Farkač, 1995: 154 TL: Sichuan: "Langmusi" [HT in cFAR], data from Gansu ("Lugu, Dogcanglhamo") in Farkač, 1999: 39.

lesteri Allegro, 2007: 69 TL: "Guan Shan, Caoyuan" [HT in collection of Gianni Allegro]

nanshanicus Belousov & Kabak, 2000: 105 TL: "Qilian Shan Mt. Range" [HT in collection of Zoological Institute of Russian Academy of Science, Sankt Petersburg]

reflexus Semenov, 1889: 351 TL: "Amdo mts., Dzhoni" [HT in collection of Andreas Semenov Tian-Shanskij in Zoological Institute of Russian Academy of Science, Saint Petersburg]

rezabkovae sp. n. TL: "Lenglong Ling Mts., Wutai Ridge" [HT in cFAR]

xinglongensis Deuve, 2010: 4 TL: "monts Xinglong Shan, 8 km à l'ouest-sud-ouest de Mapo, 3500 m, 35°46'N/103°55'E" [HT in MNHN]

Qinghai

farkaci Sciaky, 1994: 206 TL: "Daban Shan" [HT in collection of Museo Civico di Storia Naturale, Milano]

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