



Two new species and additional records of *Lesteva* Latreille, 1797 from the mountains of South Siberia (Coleoptera: Staphylinidae: Omaliinae: Anthophagini)

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Abstract

Two new species of *Lesteva* Latreille, 1797 are described from South Siberia: *L. dabanensis* Shavrin, Shilenkov & Anistschenko, **sp. n.** from the Khamar-Daban and *L. barguzinica* Shavrin, Shilenkov & Anistschenko, **sp. n.** from the Barguzin mountain ranges. Habitus, mouthparts and genitalia are illustrated. New collecting records are provided for *L. brathinoides* Zerche, 2000 and *L. sajanensis* Zerche, 2000. A key to *Lesteva* species known from South Siberia is provided.

Key words: Coleoptera, Staphylinidae, Omaliinae, Palaearctic, South Siberia, taxonomy, distribution, *Lesteva*, new species, new records, identification key

Introduction

In the Palaearctic region, the genus *Lesteva* Latreille, 1797 of the subfamily Omaliinae is represented by 102 species (two of which are *nomina dubia*) and subspecies (Smetana 2004). Previously, only 4 species have been known from South Siberia: *L. brathinoides* Zerche, 2000, *L. cordicollis* Motschulsky, 1860, *L. czerskyi* Shavrin, 2000 and *L. sajanensis* Zerche, 2000.

Based on the material we sent for identification, Zerche (2000) described two new species of *Lesteva*: *L. brathinoides* from the Tunkun mountains of the Eastern Sayan and *L. sajanensis* from the Western Sayan. Since then we found in our collections two additional new species from high elevations of the Khamar-Daban and Barguzin mountain ranges. These new species are highly similar in habitus to the species described by Zerche.

Elongation of the legs, antennae and mouthparts, reduction of the wings, shoulders and ocelli suggest that these species are petrobionts, adapted to high elevations. So far the position of these four species within *Lesteva* is unclear.

In this paper we describe two new species and present additional records for the two species described by Zerche.

Abbreviations

The following abbreviations are used in this paper:

WH	width of head with eyes
WP	maximal width of pronotum
WB	width of pronotum at base
LH	length of head (from base of labrum to neck constriction along the head midline)
LP	length of pronotum
LE	length of elytra from base to apex
WE	maximal width of elytra

Methods

All measurements of the entire lengths of beetles are given in millimeters. Measurements of body parts are made by binocular microscope using an eyepiece linear micrometer so that each unit is equal to 1/70th of a millimeter (= 14 microns).

Depositories

cA	private collection of Alexander Anistschenko, Irkutsk
cS	private collection of Alexey Shavrin, Irkutsk
IGU	Irkutsk State University, Irkutsk, Russia (V. G. Shilenkov)
ISEA	Zoological museum of the Institute of systematic and ecology of animals, Novosibirsk, Russia (V. G. Mordkovich)
ZIN	Zoological Institute, St.-Petersburg, Russia (G. S. Medvedev)

Descriptions of new species

***Lesteva dabanensis* Shavrin, Shilenkov & Anistschenko, sp. n.**
(Figs. 1, 5–10)

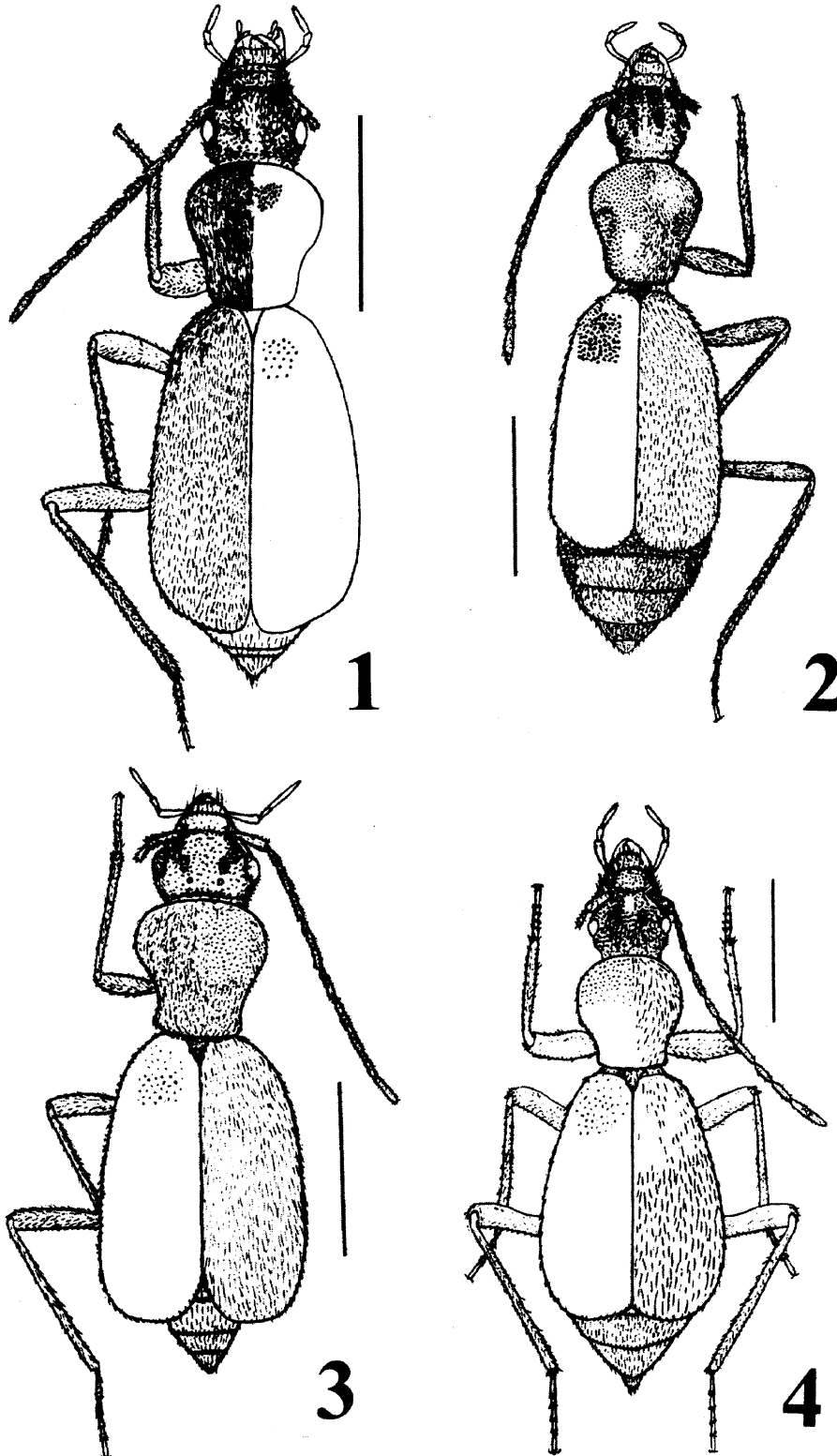
Holotype: RUSSIA: Republic of Buryatia: ♂, “BURYATIA, Khamar-Daban Mts.: the upper of Osinovka (Mishikhinskaya) River [16 km SW Tankhoj], h=1600, 26–31.07.1995, under stones at the edge of snow, leg. A. Shavrin” (ZIN).

Paratypes: RUSSIA: Republic of Buryatia: 19♂♂, 14♀♀, same data as the holotype except leg. A. Shavrin & A. Anistschenko (cA, cS, IGU, ZIN); ♂, 2♀♀, Khamar-Daban Mts., 6 km S Utulik, middle flow of the Babkha River, h=500 m, 8–14.v.1999, mosses near a stream, A. Shavrin leg. (IGU); 34♂♂, 43♀♀, Khamar-Daban Mts., 15 km S Utulik, upper reaches of the Babkha River, h=600 m, 27.vi.2006, mosses near a stream, A. Shavrin leg. (cS); ♂, 20 km SW of Baikalsk, valley of the Levaya Poperechnaya River, tributary of Babkha River, h=950 m, 10–14.v.1999, mosses near a stream, leg. A. Shavrin (IGU).

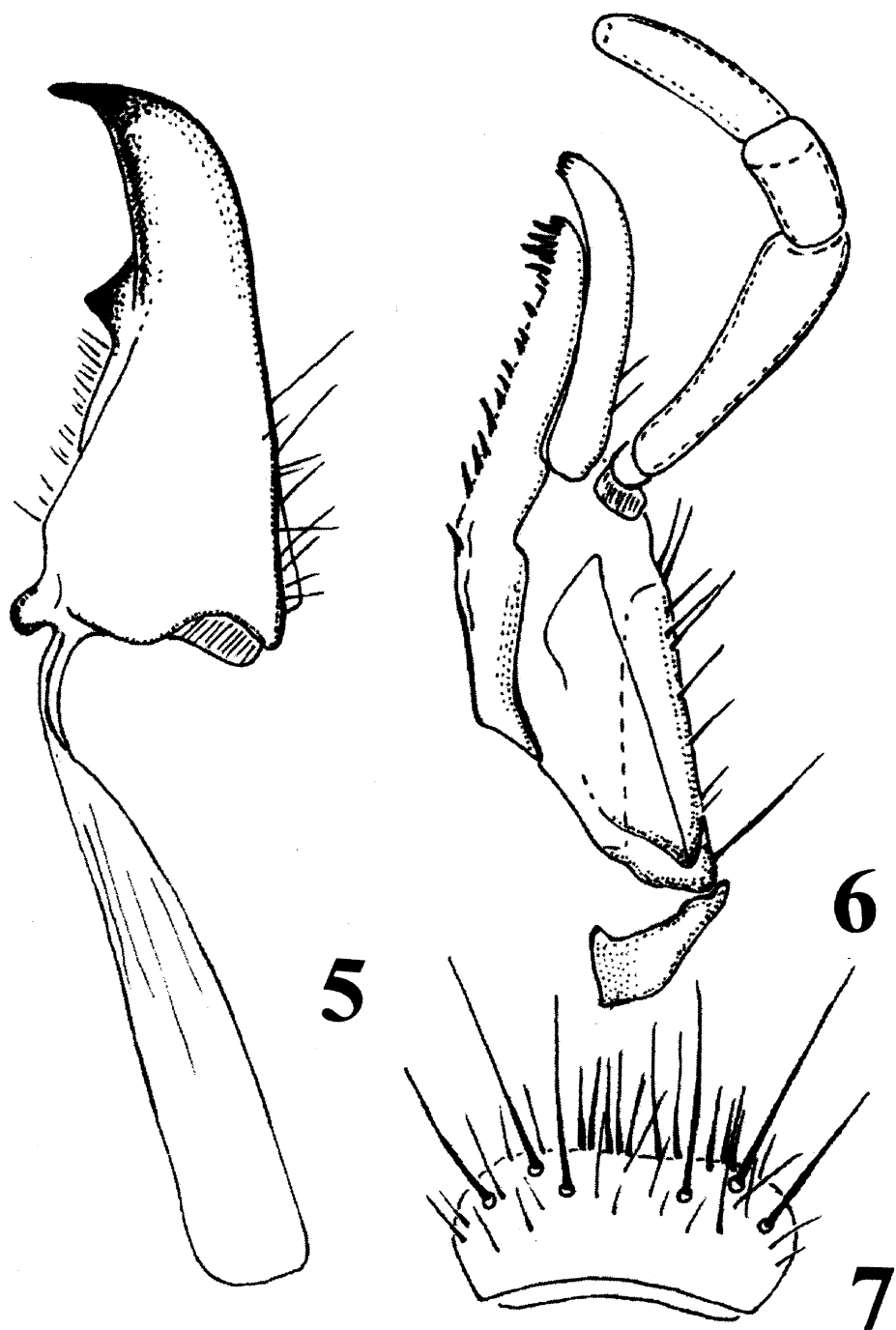
Description. Body 4.3–5.4 mm long, slender; legs long. Dark brown, suture and apex of elytra, legs, palpi and base of antennae yellowish brown. In some specimens sides of pronotum, base of elytra near scutellum, sides and suture of elytra brown. Body glossy, with dense and weak punctation, covered by goldish or grey setae. Habitus as in Fig. 1.

Head large (LH:WH=3.7:3.3; LH:LP=3.7:4.1), broad, visibly narrower than pronotum, with oval convex compound eyes. Neck well developed behind rounded temples. Ocelli strongly reduced, poorly visible. Mouthparts strongly protruding. Labrum (Fig. 7) transverse, straight or slightly emarginated at anterior edge, with numerous small setae and 6 large long setae. Mandibles long, slender, feebly curved, with bent apex and triangular tooth on cutting edge, with many setae on lateral edge of base (Fig. 5). Lacinia almost straight, with

row of short and strong setae on lateral edge, galea curved at apex, visibly longer than lacinia, with separate short setae at base and with apical brush of setae; stipes with row of setae on medial edge (Fig. 6). Maxillary palpus long, last segment 2.5–3.0 times as long as penultimate. Antennae long, almost reaching middle of elytra, densely covered by fine setae. Length / width ratios of antennomeres as follows: I: 10:5; II: 6:3; III: 7:4; IV: 9:4; V: 9:4; VI: 9:4; VII: 9:4; VIII: 11:4; IX: 11:4; X: 10:4; XI: 14:4.



FIGURES 1–4. Habitus of *Lesteva*. 1—*L. dabanensis* sp. n.; 2—*L. barguzinica* sp. n.; 3—*L. sajanensis* Zerche; 4—*L. brathinoides* Zerche. Scale bar 1.3 mm.



FIGURES 5–7. Mouthparts of *Lesteva dabanensis* sp. n. 5—right mandible, dorsal view; 6—right maxilla, dorsal view; 7—labrum, dorsal view. Scale bar 0.3 mm.

Punctuation of head coarse and dense; punctuation of pronotum fine and scattered; punctuation of elytra large and sparse and sometimes slightly raised and rasplike. Microsculpture on vertex of head fairly coarse, almost isodiametric, in front part poorly visible or absent; pronotum and elytra without microsculpture, apical tergites of abdomen with short-transverse microsculpture.

Legs long, slender, densely covered by setae; tibia, especially in their apical part, with scattered spine-like setae. Metatarsus relatively short, 2.5 times shorter than tibia, first segment usually more or equal to last and 1.7–2.0 times longer than second segment. Ratio of length of segments of metatarsus: 10:4:4:3:10.

Surface of body, especially vertex, pronotum and elytra, densely covered by long white pubescence. Head

densely punctate, with coarse microsculpture. Pronotum dense and finely punctate, with poorly visible microsculpture. Punctuation of elytra dense, but points eroded, surface polished, without microsculpture. Abdomen mat, with fine setae.

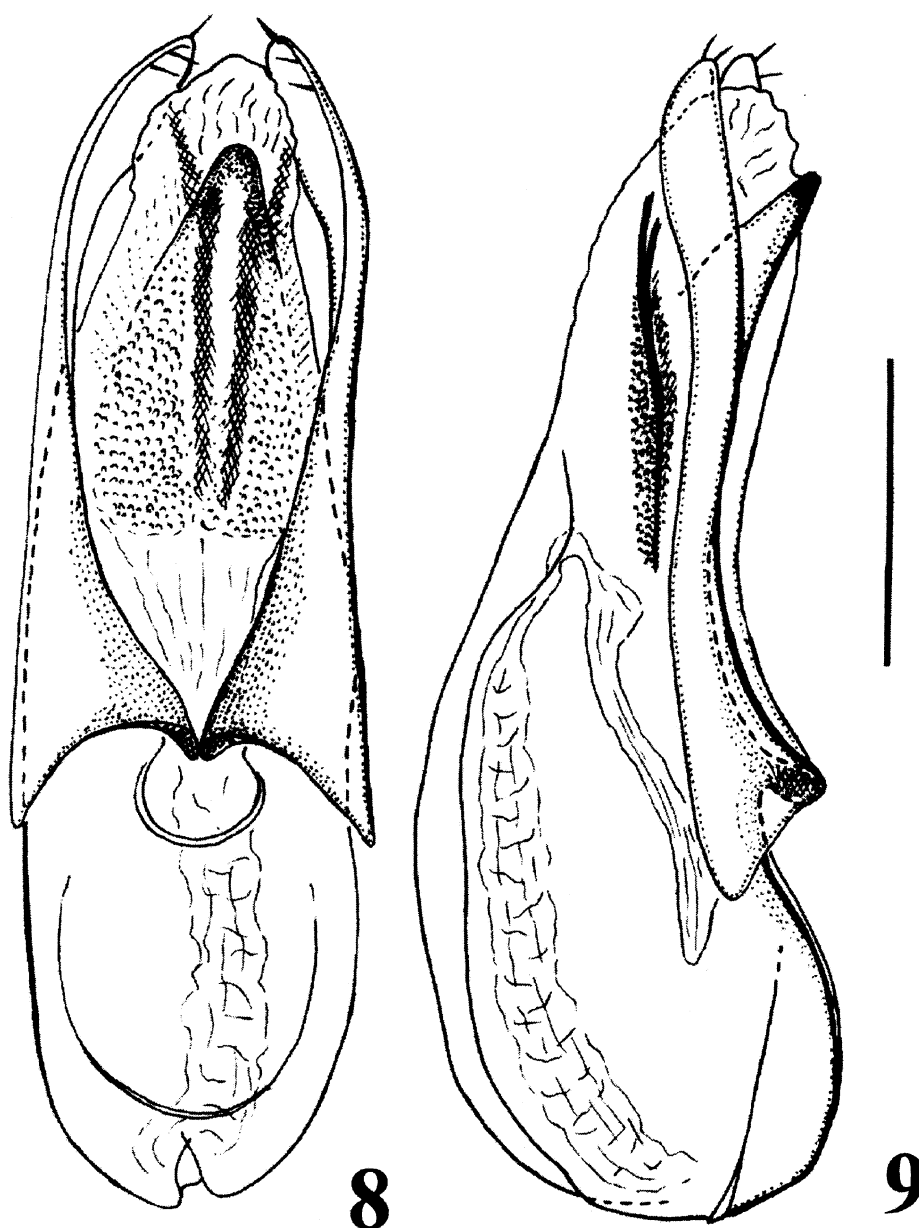
Pronotum markedly heart-shaped, constricted basally (WP:WH=44:37; WP:LP=44:41; WP:WB=44:29), with very narrow side border and with distinct impressions.

Elytra 2.2 times as long as pronotum (WE:LE=28:92), at base smooth, gradually widened to apex, apical margin of each elytron rounded and apical margins of elytra together forming triangular cut at suture. Shoulders reduced, not prominent. Epipleuron long, broad, reaching apex of elytron. Wings reduced.

Abdomen with 6 visible sternites, tapering to apex.

Male. Protarsal segments 1–4 widened. Aedeagus (Figs. 8–9) with median lobe large basally and pointed apically; internal sac feebly sclerotised; parameres blade-like, apex with three short setae each.

Female. Female genitalia as in Fig. 10. Tergite X broad, rounded, and without setae. First gonocoxites widely separated and small. Second gonocoxites large, approximate, and with several short setae apically. Styli small and bearing two apical setae each. Spermatheca small, sclerotised.



FIGURES 8–9. Aedeagus of *Lesteva dabanensis* sp. n. 8—ventral view; 9—lateral view. Scale bar 0.3 mm.

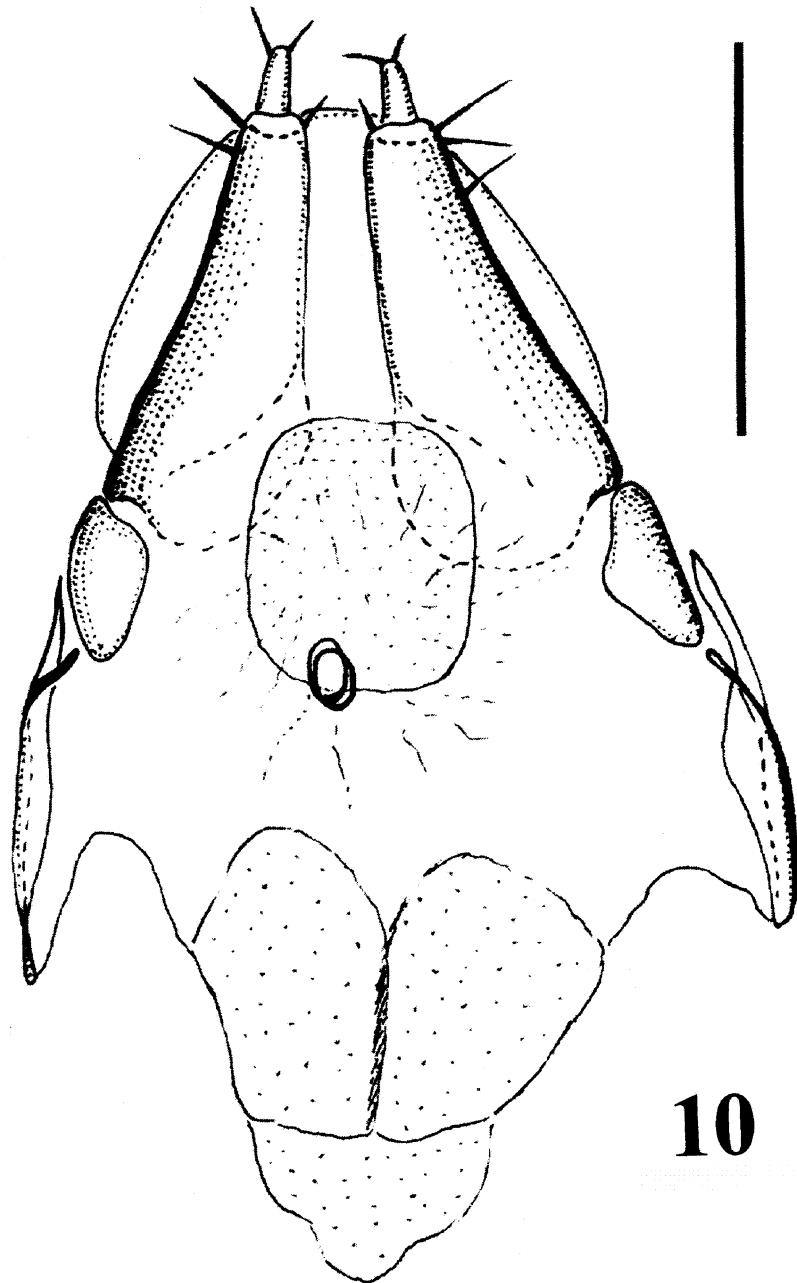


FIGURE 10. Female genitalia of *Lesteva dabanensis* sp. n., ventral view. Scale bar 0.3 mm.

Comparison. *Lesteva dabanensis* is in many characters similar to *L. sajanensis*, *L. brathinoides* and *L. barguzinica*. However, compared to *L. sajanensis*, in *L. dabanensis* the ocelli are strongly reduced (ocelli can be observed at high magnification only after the beetles have been cleared in 10% KOH and placed in glycerine), the elytra are more feebly rounded at the humeral angle; the aedeagus is shorter, with the base of the median lobe more enlarged, the apex narrower, and the parameres shorter. From *L. brathinoides*, whose distribution is confined to the East Sayan, *L. dabanensis* can be at once separated by darker coloration, longer elytra, strongly reduced ocelli, by the presence of pointed apex of the median lobe of the aedeagus. *L. dabanensis* is distinguished from *L. barguzinica* by paler coloration, longer elytra and by the shape of the aedeagus.

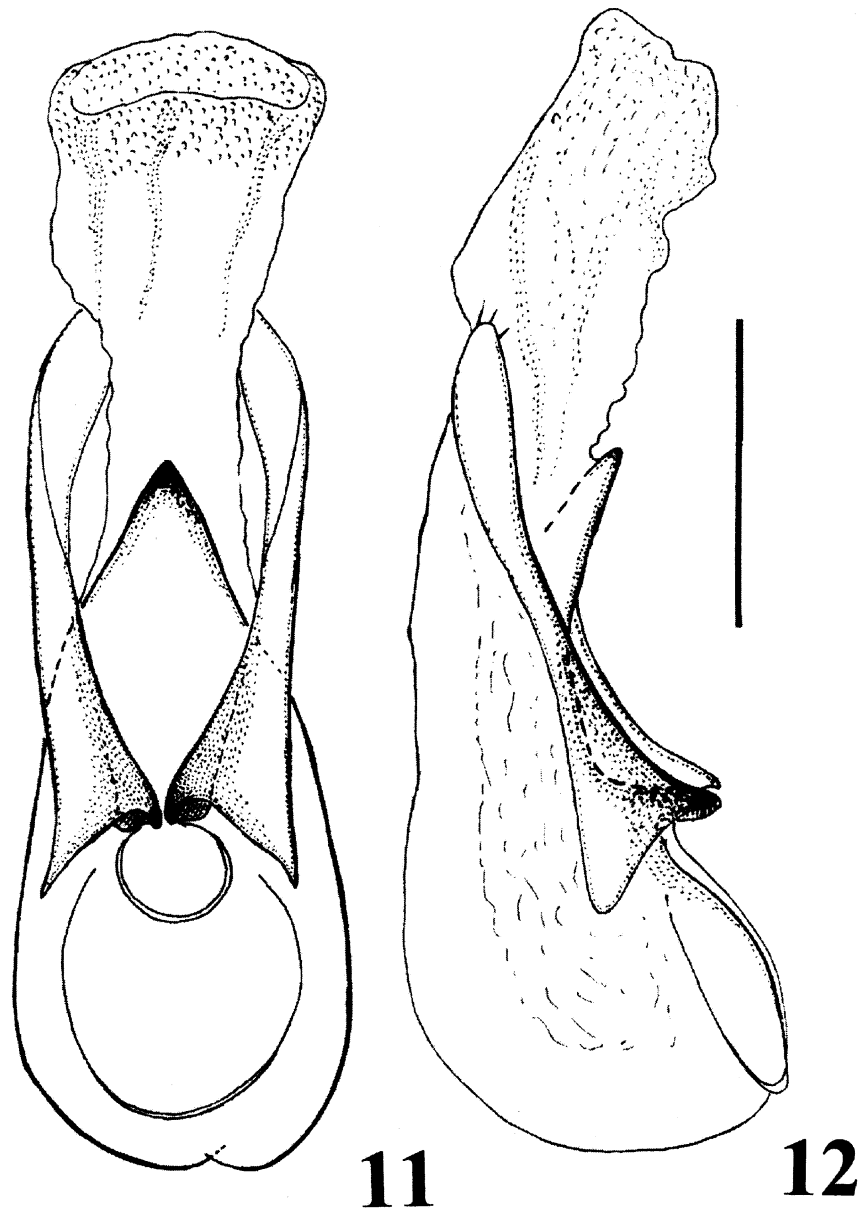
Remarks. Total or partial reduction of the ocelli has been known among Omaliinae (Zerche 1990, 1992), particularly in many high altitude species, for example, in *Hygrodromicus* Tronquet, 1981 and in many species of the tribe Coryphiini.

Etymology. The specific epithet has been derived from the second part (Daban) of the name of the type locality: Khamar-Daban [= Hamar-Daban] mountain range.

Lesteva barguzinica Shavrin, Shilenkov & Anistschenko, sp. n.
(Figs. 2, 11–12)

Holotype: RUSSIA: Republic of Buryatia: ♂, “BURYATIA: Barguzinskyi Mts.: left tributary of Shamanka river [15 km SW Barguzin], h=1800 m, 6.05.1997, deeply under stone near the edge of snow, leg. A. Shavrin“ (ZIN).

Description. In general appearance highly similar to *L. dabanensis*. Body length 4.8 mm. Body and legs dark-brown, antennae and palpae lighter. Body and extremities covered by grey setae, on pronotum setae short, but still longer than on head. Punctuation on head and pronotum fine and dense, on elytra stronger and sparser. Microsculpture isodiametric on head and scutellum, transverse on abdominal tergites. Habitus as in Fig. 2.



FIGURES 11–12. Aedeagus of *Lesteva barguzinica* sp. n. 11—ventral view; 12—lateral view. Scale bar 0.3 mm.

Eyes developed, prominent. Ocelli very small, poorly visible, partly pigmented. Length / width ratios of antennomeres as follows: I: 10:4; II: 7:2; III: 9:3; IV: 10:3; V: 11:3; VI: 11:3; VII: 11:3; VIII: 10:3; IX: 10:3; X: 8:4; XI: 12:4.

Pronotum relatively feebly heart-shaped, with strong lateral impressions (WP:WH=42:45; WP:LP=42:45; WP:WB=42:31).

Elytra elongated, gradually widened to apex (WE:WP=31:45; LE:WE=89:31).

Length ratios of metatarsal segments: 7:4:4:3:7.

Male. Segments of protarsus widened. Aedeagus (Figs. 11–12) short, with triangular pointed apex, parameres extending well beyond apex of median lobe.

Female unknown.

Comparison. *Lesteva barguzinica* is in many characters similar to *L. dabanensis*, but differs in the following characters: the dark colour of the body; elytra longer, feebly widened to apex and covered by long grey setae; punctation of elytra coarser and sparser; the aedeagus is very short. From *L. brathinoides* and *L. sajanensis* it is distinguished by the darker coloration, strongly reduced ocelli, and by the shape of the aedeagus.

Etymology. The specific epithet has been derived from the name of the type locality: the Barguzin mountain range.

New records

Lesteva brathinoides Zerche, 2000

(Figs. 4, 13–14)

Lesteva brathinoides Zerche, 2000: 66.

Material. RUSSIA: Republic of Buryatia: ♂, Eastern Sayan, 7 km NW Arshan, upper reaches of Kyngarga River, h=2500 m, 3.vii.1993, tundra, under stones, leg. V. Shilenkov (IGU); ♀, same label but leg. V. Shilenkov (IGU); 2♂♂, 3♀♀, same locality but, 18–23.vii.1995, leg. A. Shavrin & A. Anistschenko (cS); 2♂♂, 2♀♀, in same locality, 1.07.1996, tundra, under stones, at the edge of snow, leg. A. Shavrin & A. Anistschenko (cA, cS, ZIN).

Distribution. Known only from the type locality in the Tunkinskie goltzi (= Tunkinskij mountain range) of the East Sayan.

Remarks. Habitus as in Fig. 4. Aedeagus in two projections as in Figs. 13–14.

Lesteva sajanensis Zerche, 2000

(Figs. 3, 15–16)

Lesteva sajanensis Zerche, 2000:68.

Material. RUSSIA: Krasnoyarsk Terr.: ♂, 2♀♀, West Sayan, Kulumys Mts., 52°58'N 92°57'E, h=1800 m, 11–18.vii.1985, under a stones at the edge of snow, V. Shilenkov leg. (IGU, ISEA); 2♂♂, ♀, West Sayan, Ermakovskiy district, Oyskyi pereval (=Oyskyi mountain pass), 8–10 km S Oyskoe lake, h=1500–1800 m, 27–28.vi.1990, tundra, leg. S. Chernyshev (ZIN, ISEA); ♂, ♀, West Sayan, 3 km S Olen`ya Rechka Station, 27–28.vi.1990, high subalpic zone, talus [Russian: *kurumnik*], soil traps, leg. V. Mordkovitch (IGU, ZIN).

Distribution. Known only from the Kulumys and Oyskyi mountain ranges of the West Sayan.

Remarks. Habitus as in Fig. 3. Aedeagus in two projections as in Figs. 15–16.

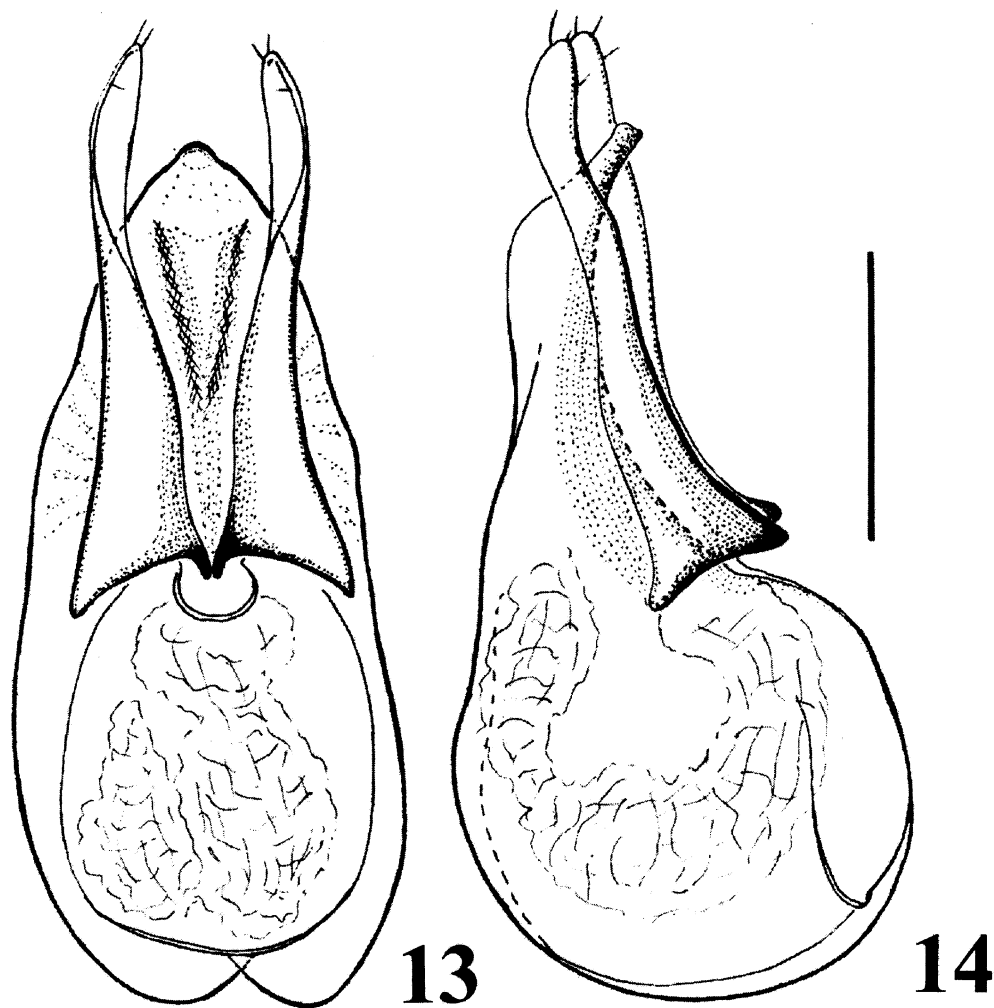
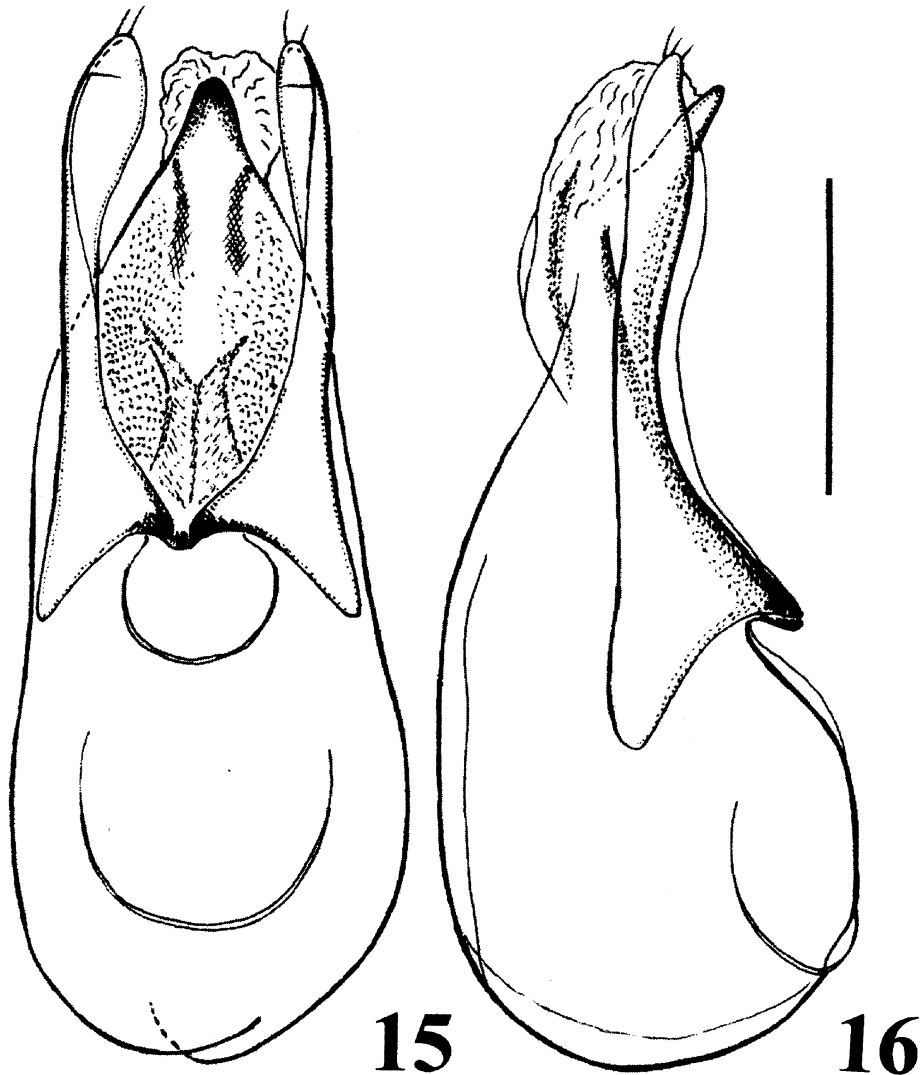


FIGURE 13–14. Aedeagus of *Lesteva brathinoides* Zerche. 13—ventral view, 14—lateral view. Scale bar 0.3 mm.

Key to the *Lesteva* species known from South Siberia

- 1 Appendages slightly elongate, shoulders not reduced; body smaller (2.4–4.0 mm) 2
- Appendages strongly elongate, shoulders reduced; body larger (4.1–5.6 mm)..... 3
- 2 Pronotum strongly transverse, with impressions; body larger (4.0 mm), dark brown; antennae reddish brown; habitus and aedeagus as in Shavrin (2000, Figs. 8–9, 19); Khamar-Daban mountain range
..... *L. czerskyi* Shavrin
- Pronotum slightly transverse, without impressions; body smaller (2.4–3.0 mm), pale brown; elytra reddish brown to brown, sometimes with light yellow spots on shoulders; antennae yellow; habitus and aedeagus as in Shavrin (2000, Figs. 10–11, 20); Irkutsk and Chita Territories, Republic of Buryatia
..... *L. cordicollis* Motschulsky
- 3 Body and appendages dark brown; elytra long (LE:WE=89:31), with fairly long grey setae; habitus as in Fig. 1; aedeagus (Figs. 11–12) small, median lobe with short triangular apex; Barguzin mountain range ..
..... *L. barguzinica* **sp.n.**
- Body muddy-brown or yellowish-brown, appendages paler; elytra shorter, with shorter, denser goldish setae; aedeagus larger 4

- 4 Elytra short (LE:WE=90:39), strongly widened to apex; habitus as in Fig. 4; first metatarsal segment visibly shorter than last; ocelli poorly developed; median lobe of aedeagus (Figs. 13– 14) in lateral view with beak-like bent apex; East Sayan *L. brathinoides* Zerche
- Elytra longer (LE:WE=(92–97):(28–34)), less widened to apex; first metatarsal segment shorter than last; ocelli developed or reduced; median lobe of aedeagus with pointed apex 5
- 5 Ocelli well developed; habitus as in Fig. 3; aedeagus as in Figs. 15–16; West Sayan. *L. sajanensis* Zerche
- Ocelli strongly reduced, poorly visible at high magnification; habitus as in Fig. 1; aedeagus as in Figs. 8–9; Khamar-Daban mountain range..... *L. dabanensis* sp.n.



FIGURES 15–16. Aedeagus of *Lesteva sajanensis* Zerche. 15—ventral view; 16—lateral view. Scale bar 0.3 mm.

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