

A New Species of the Weevil Genus *Lepyrus* Germar (Coleoptera, Curculionidae) from Magadan Province

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Received October 11, 2007

Abstract—*Lepyrus bermani* sp. n. is described from Magadan Province. Data on the geographical distribution and hosts of the new species and its congeners in Northeast Asia are reported.

DOI: 10.1134/S0013873808030093

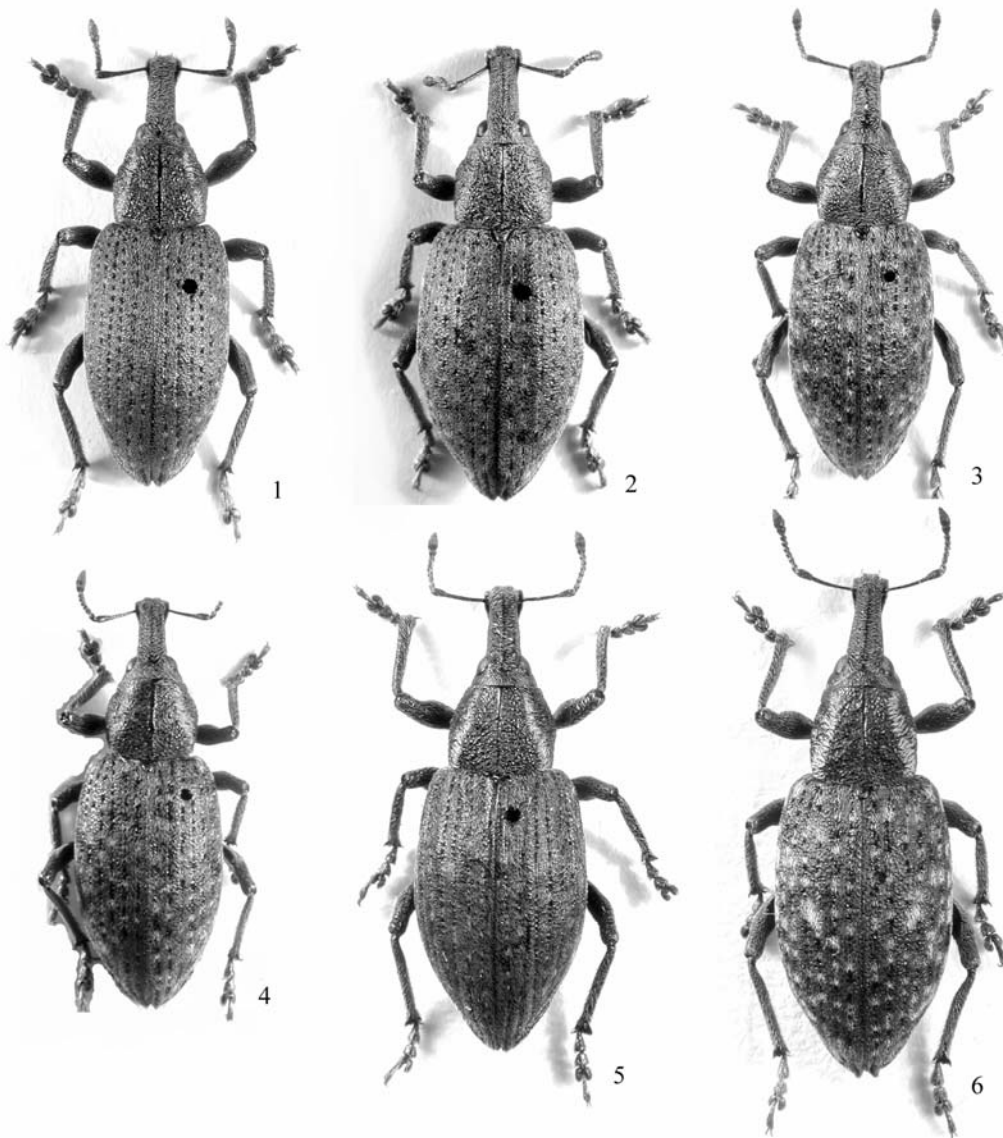
The Holarctic genus *Lepyrus* Germ. includes about 25 Palaearctic species most of which are distributed in the eastern part of the region. A considerable number of the species are characteristic of the taiga and tundra zones and of the mountain tundra of southern Siberia. In the fauna of Northeast Asia, five species of *Lepyrus* have been known: *L. costulatus* Fst., *L. ventricosus* Fst., *L. nordenskioldi* Fst., *L. gemellus* Kby., and *L. canadensis* Csy. (Korotyaev, 1977). *L. costulatus* and *L. ventricosus* are widely distributed in Eastern Siberia and the Russian Far East; ranges of the three other species include also the North of the USA and Canada. Of these three, the largest part of the range of *L. nordenskioldi* is situated in Siberia, while its distribution in North America, as far as the examined material shows, is restricted mostly to the northern part of the Pacific coastal regions and the islands. *L. gemellus* and *L. canadensis*, on the contrary, are commonest and most widely distributed species of the fauna of northern Canada and the USA and occur, in addition, in very limited areas of the Arctic and Pacific coasts of Asia, with a few deeper inland enclaves along largest river valleys. The majority of *Lepyrus* species in Northeast Asia feed on the shrub and woody plants of the willow family (Salicaceae), mostly willows; *L. costulatus* occasionally is found in small numbers on chosonia [*Chosenia arbutifolia* (Pall.) A. Skvorts.] and poplar, and *L. nordenskioldi* often feeds on dwarf birches. *L. ventricosus* is the only species in Northeast Asia associated with plants of the families other than Salicaceae: most frequently it occurs on shrub alder [*Alnaster fruticosus* (Rupr.) Ledeb.] of the family Betulaceae, and on bird cherry (family Rosaceae). A similar host range is known in Siberian chrysomelids of the genus *Gonioctena* Chev., most of which develop on willows but several species in

southern Siberia are associated with mountain ash, bird cherry, and alder. Below, a new species of the genus *Lepyrus* is described, probably endemic to Magadan Province.

Holotype and most paratypes of the new species are in the ZIN collection, a pair of paratypes is donated to each of the following collections: Natural History Museum, London; Canadian Museum of Nature and Canadian National Collection of Insects, Ottawa; Strickland Museum, University of Alberta, Edmonton, Canada; National Museum of Natural History, Washington, D. C.; and American Museum of Natural History, New York. Two paratypes from Bolshoi An-nachag Mt. Range and one paratype from Malkachan River Delta are in L. Behne's collection, Müncheberg (Germany), and six paratypes from the last locality, in Werner Starke's collection, Warendorf, Germany.

Lepyrus bermani Korotyaev, sp. n.
(Figs. 1, 2, 7, 8)

Description. Rostrum somewhat longer than pronotum, weakly or, occasionally in males, moderately curved, at base slightly wider than fore femur, moderately widening near apex. Apical part somewhat more strongly bent ventrally; dorsal margin of rostrum in middle part of length, in females often in entire basal half, straight or slightly emarginate, usually weakly raised before eyes. Dorsal surface of rostrum rather evenly convex in cross-section, smoothly passing to lateral surface, covered with moderately dense and coarse and usually not rugose punctation, moderately shining. Median carina fine and low. Eyes oval, moderately convex. Frons with rather deep fovea in centre. Antennae of male inserted at half-width, these of female at 2/3 width of rostrum from apex. Scape moder-



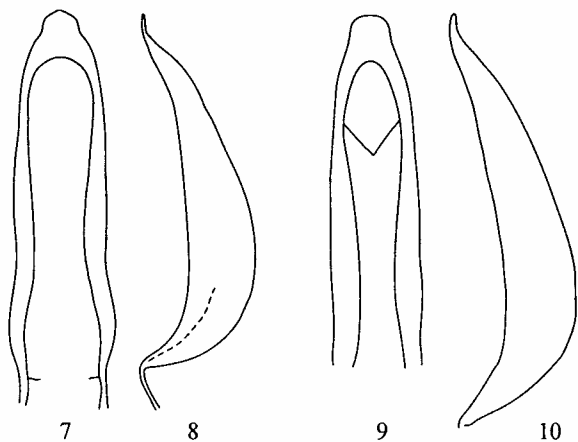
Figs. 1–6. *Lepyrus* Germ.: (1, 2), *L. bermani* sp. n., male and female; (3, 4), *L. nordenskioldi* Fst., females, Okhotsk-Kolyma Plateau; (5), *L. labradorensis* Blair, Anderson River Delta, Canada; (6), *Lepyrus* sp., Magadan Prov., Debin Vill., Kolyma flood land.

ately thickened at apex. Funicle thick; 1st and 2nd segments of funicle equally long, 1.5 times as long as wide; 3rd–6th segments weakly transverse, 7th considerably larger than rest, tightly joining the club. The latter short, ovate.

Pronotum weakly transverse, with straight or weakly rounded sides, weakly widening from base toward apical third, occasionally widest at midlength. Apical constriction moderately deep. Disc weakly and evenly convex, with wide shining median carina. Surface of disc usually somewhat uneven, with shallow oblique depressions diverging from base of median carina, and with inconspicuous depressions near carina

in middle of length. Punctation moderately coarse and dense, usually rugose in centre of disc, with short glabrous rugae along sides. Sides with small smooth granules more strongly convex in apical half of pronotum. Postocular lobes obsolete.

Elytra elongate, fused along suture, with weakly convex, rounded humeral prominences, widest in middle part, slightly compressed before middle, with very shortly separately produced apices. Apical declivity gentle, with faint depression before apex in lateral view. Base shallowly and evenly arcuately emarginate. Striae rather fine, formed of small shallow punctures. Intervals flat, usually about 3× as wide as striae,



Figs. 7–10. *Lepyrus* Germ., aedeagus dorsally (7, 9) and laterally (8, 10): (7, 8), *L. bermani* sp. n., (9, 10), *L. nordenskioldi* Fst., Okhotsk-Kolyma Plateau.

weakly shining, moderately densely and irregularly covered with fine, weakly convex granules. Sutural and 3rd intervals in basal 1/4 occasionally weakly convex, area between 3rd intervals flattened.

Legs rather long and slender, femora unarmed. Tibiae straight, noticeably widening toward apex. Tarsi moderately long, 3rd segment in both sexes wide, rather strongly rounded at sides.

Aedeagus as in Figs. 7, 8.

Differential diagnosis. The new species is similar to *L. nordenskioldi* Fst. (Figs. 3, 4, 9, 10), with which it occasionally co-occurs or occupies neighboring habitats, but clearly differs in the structure of the shorter, more abruptly narrowed, and less attenuate apically aedeagus. *L. bermani* sp. n. may be recognized also by the sparse, uniform scaling and always distinct granulation of the elytral intervals, and more strongly convex in the basal half elytra, but the females are often difficult to differentiate from *L. nordenskioldi*. On the Bolshoi Annachag Mt. Range, where *L. bermani* sp. n. is common, *L. nordenskioldi* is represented by a small-sized form with smooth pronotal disc and non-granulate elytra usually with rather contrasting, finely spotted scaling (Figs. 3, 4). This form usually may be easily distinguished from *L. bermani* sp. n., but intervals of elytra of larger specimens of *L. nordenskioldi* from riparian landscapes and from maritime lowland may be also rather coarsely granulate, and these specimens can be reliably differentiated from the new species only by the aedeagus structure. *L. bermani* sp. n. is similar also to *L. labradorensis* Blair, 1936 (Fig. 5), distributed trans-

continentally in the Arctic North America. A good character distinguishing this species from *L. bermani* sp. n. is the swollen mesosternal process, protruding both above the metasternal process and anteriorly in the area between mesocoxae. In addition, *L. labradorensis* differs from *L. bermani* sp. n. in the usually sharp median carina on pronotum, more contrasting white lateral stripe on pronotum composed from denser scales and widened at base, in the more slender legs, noticeably raised pubescence of short linear white scales on sides of the elytra, and longer hairs on the legs. In the proportions of the body and the vestiture, *L. labradorensis* resembles *L. canadensis*, but the mesosternal process in the latter species is not swollen, whereas this character is equally expressed in the specimen from Labrador in the American Museum of Natural History and in most specimens in the series from the Anderson River Delta in northern Canada: “Can. NWT, Loc. 07-77, Anderson R. Delta, Flat Island, s. end, decumbent *Salix* / grasses; traps, VI.26–VII.15.1977, Anderson R. Expedition—1977, D. Shpeley, G. E. Ball collectors”, 15 ♀, and 6 ♀ from other collections in the same area (Strickland Museum, University of Alberta). Males of *L. labradorensis* are unknown although the species is rather common in the collections of the museums of the USA and Canada. This allows presuming parthenogenetic reproduction of *L. labradorensis*. In the northern Palearctic fauna of the subfamily Molytinae, the parthenogenesis is known only in the genus *Lepyrus*. A parthenogenetic form of a *Lepyrus* species (Fig. 6) is common on upper Kolyma in the Okhotsk-Kolyma Plateau, where series of several dozens of specimens were collected by the author and E.G. Matis in 1974 on willows in the Kolyma flood land downstream Debin Village. It is not clear from which bisexual species the parthenogenetic form from Kolyma has descended; it is most similar to *L. nordenskioldi*, widely distributed and most widely varying Asian species of *Lepyrus*. It is probable that *L. labradorensis* also has derived from the very widely distributed and variable *L. canadensis*, but solving this problem requires karyological investigation of the relevant bisexual and parthenogenetic forms of *Lepyrus* from Northeast Asia and northern United States and Canada.

Material. Magadan Prov., Tenkinskii Distr., 20 km N of Vetrennyi Vill., Bol’shoi Annachag Mt. Range, “Aborigen” Biological Station, ice-field bog: 4–14.VI.1983 (S.P. Bukhkalov), 7 ♂, 4 ♀; 14–24.VI.1983 (S.P. Bukhkalov), 6 ♂, 3 ♀; 24.VI–3.VII.1983

(A. Avershin), 5 ♂, 3 ♀; 3–13.VII.1983 (A. Avershin), 11 ♂, 1 ♀; 13–23.VII.1983 (A. Avershin), 1 ♀; 14–24.VII.1984 (D.I. Berman), 1 ♂, 2 ♀; mountain tundra: 1990 (D.I. Berman), 1 ♂; 1350 m, Tundrovyi Creek valley, bog, 2.VII.1986 (Yu.M. Marusik), 1 ♂; Tundrovyi Creek sources, under stone, 6.VIII.1986 (Yu.M. Marusik), 1 ♂; 1600–2000 m, boggy areas along northern slope of the ridge, 2.VII.1986 (Yu.M. Marusik), 3 ♂; Olen' Creek flood land, 29.VII.1976 (O. Manshina), 1 ♂; Olen' Creek valley, 30.VI–10.VII.1986 (D.I. Berman), 9 ♂, 7 ♀; as above, *Salix krylovii* E. Wolf, 14.VII.1988 (D.I. Berman), 4 ♀; *Vaccinium uliginosum* association, 10.VI.1986 (D.I. Berman), 1 ♀; 10–20.VII.1986 (D.I. Berman), 5 ♂, 1 ♀; 29.VII.1989 (D.I. Berman), 2 ♀; 26.VII–5.VIII.1989 (D.I. Berman), 1 ♂; 14–26.VII.1989 (D.I. Berman), 1 ♂; 28.VI–14.VII.1989 (D.I. Berman), 3 ♂, 1 ♀; *Vaccinium uliginosum* association at ice field, 7–17.VIII.1980 (D.I. Berman), 1 spm.; 17–28.VII.1980 (D.I. Berman), 3 spms.; 6–16.VIII.1980 (D.I. Berman), 1 spm.; mossy train of a ridge, 18.VI.1983 (A.M. Budarin), 1 ♂ (with fully pigmented integument), 1 ♀ (with not fully pigmented integument); creek flood land, end of June 1976 (E.G. Matis, L.A. Glushkova), 5 ♂, including holotype (1 male with not fully pigmented and hardened integument), 1 ♀; 420 m, dwarf shrub, 26.VI.1976 (E.G. Matis), 1 ♂, 4 ♀ (2 ♀ with not fully pigmented integument); 5 km N of Sibit-Tyellakh Vill., 15.VI.1978 (E.G. Matis), 1 ♂, 1 ♀; 40 km N of Vetrennyi Vill, sweeping dwarf birch, 23.VII.1976 (O. Manshina), 1 ♂; Ust'-Omchug Vill., old fell field, 30.VI.1974 (L.A. Glushkova), 1 ♀; 60 km W of Magadan, left bank of Oira River, maritime lowland 1 km from the Sea of Okhotsk, pitfall traps line 8, 2–15.VII.2003 (D.I. Berman, K. Starrenchenko), 1 ♂; "Ostsibirien, Malkatschan Delta, 150 km NW Magadan, 59°51'43"N, 154°11'24" E, Delta N 4, 18.07.1997," 1 ♂ (coll. L. Behne), 6 spms. (coll. W. Starke, Warendorf, Germany).

Etymology. The new species is named for D.I. Berman, who has investigated in detail the habitat distribution and the habitat itself of the species.

Discussion. The new species described herein is known from the spurs of the Bol'shoi Annachag Mountain Range ("Aborigen" Biological Station), sandy beech swells of the adjacent section of the Kolyma valley terraces with diversified shrubby and herbaceous vegetation, from an old fell field in the larch forest near Ust'-Omchug Village, and from waterlogged valleys of the Oira and Malkachan rivers on

the Sea of Okhotsk coast where it occurs in the bush. *L. bermani* occurs in greatest numbers in a very characteristic environment: in the mid-altitude valleys occupied by ice fields, i.e., ice shields formed as a result of freezing of a river or a creek. Water in such habitats spreads over the ground and freezes, gradually increasing the ice depth. The ice fields melt slowly and usually centripetally; the periphery becomes ice-free not before mid-June, and the central part, where ice may be 2 meters deep, only in August. The beds of the ice fields usually are occupied by *Vaccinium uliginosum* dominated associations, willow shrub, sedge and moss bogs. The most characteristic feature of these habitats is the very short vegetation period. Weevil assemblages in these habitats are very poor but highly specific: in addition to *L. bermani*, they include *Tournotaris ochotica* (Korotyaev, 1984) of the family Eirirhinidae, which also occurs in great numbers and is very rarely found elsewhere (Korotyaev, 1984).

L. nordenskioldi, on the contrary, has mastered zonal and mountain tundra (Korotyaev, 1977) and northern sparse forests. In the valleys of the Okhotsk-Kolyma Plateau, a parthenogenetic form of the genus *Lepyrus* is widely distributed which may have originated from the bisexual form of *L. nordenskioldi*. The latter occurs mainly in the mountain tundra belt, but also in the shrub (willows and birches) in the upper part of the forest (= shrub) belt, and in the forest-tundra of the maritime lowland.

ACKNOWLEDGMENTS

The study was supported by of the Russian Foundation for Basic Research (grant no. 07-04-00482a) and performed based on the collection of the Zoological Institute of the Russian Academy of Sciences (ZIN; UFK ZIN reg. no. 2-2.20), contract with Rosnauka no. 02.452.117031 (2006-RI-26.0/001/070). I cordially thank Dr. R.S. Anderson (Canadian Museum of Nature, Ottawa, Canada), L. Behne (Deutsches Entomologisches Institut, Müncheberg, Germany), D.I. Berman, L.A. Glushkova, Yu.M. Marusik, and the Late E.G. Matis (Institute for Biological Problems of the North, Far East Branch, Russian Academy of Sciences, Magadan), Dr. D. Bright (Canadian National Collection of Insects, Ottawa), Dr. L. Herman (American Museum of Natural History, New York, USA), the Late Dr. D. Whitehead (United States National Museum of Natural History, Washington, D. C., USA), and Dr. D. Shpley (Strickland Museum, University of Alberta, Canada) for the material supplied for this

study; S.A. Kuzmina (Palaeontological Institute of the Russian Academy of Sciences, Moscow) for the extensive collection of weevils of the genus *Lepyrus* made by her in the North of Siberia and in Alaska which has helped clarifying the affinities of the new species; M.G. Volkovitsh (ZIN) for taking photographs of the weevils for this paper, and N.N. Yunakov (ZIN) and T.L. Korotyaeva (St. Petersburg) for their help in the treatment of the electronic versions of the images.

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