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A new species of the genus *Crepidodera* Chevrolat (Coleoptera: Chrysomelidae) from Baltic amber

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Abstract

A new flea-beetle species, *Crepidodera svetlanae* **sp. nov.** (Coleoptera: Chrysomelidae: Galerucinae: Alticini) is described and illustrated from the Baltic amber. The new species is compared with the fossil and recent species of the genus. A key to species of flea beetles known from fossil resin is provided.

Key words: Coleoptera, Chrysomelidae, Alticini, *Crepidodera svetlanae*, new species, Baltic amber, Eocene, fossil

Introduction

The recent fauna of the genus *Crepidodera* Chevrolat, 1836 comprises more than 40 species. The greatest diversity is in the Holarctic—31 species (Konstantinov 1996), out of them 16 species are known in the Nearctic (Lazorko 1974; Parry 1986) and 20 species in the Palaearctic (Döberl 2010). Members of this genus mostly feed on leaves of *Salix* and *Populus* (Salicaceae) (Lopatin & Nesterova 2005; Medvedev & Roginskaja 1988), in North America also on *Crataegus*, *Prunus* and *Pyrus* (Rosaceae) (Parry 1986).

Fossil flea-beetles are poorly known. Eight species belonging to 7 genera are known from fossil resin (Bukejs & Nadein, 2013; Bukejs & Konstantinov 2013; Gressitt 1971; Moseyko *et al.* 2010; Nadein & Perkovsky 2010; Santiago-Blay *et al.* 2004). Only two species, *Psyllototus doeberli* Bukejs & Nadein, 2013, and *Ambraaltica baltica* Konstantinov & Bukejs, 2013 were described from Baltic amber till now.

Crepidodera decolorata Nadein & Perkovsky, 2010 from Rovno amber is the single known fossil species of the genus. *Crepidodera* sp. is mentioned by Klebs (1910) and Santiago-Blay (1994) from Baltic amber. Gressitt (1971) described *Crepidodera antiqua* from Chiapas amber (Mexico) but later this species was replaced into the genus *Neocrepidodera* Heikertinger, 1911 (Nadein & Perkovsky 2010). In the current paper, a second fossil species of *Crepidodera* is described from the Baltic amber.

Material and methods

The type material is currently housed in the private collection of Andris Bukejs (Daugavpils, Latvia), but will be deposited in the Institute of Systematic Biology, Daugavpils University (Daugavpils, Latvia) for permanent preservation. Observations were made using Nikon SMZ 745T stereomicroscope. The photographs were taken with Zeiss Luminar 63 mm lens mounted on Canon 50D body. The descriptive terminology follows Konstantinov & Vandenberg (1996).

Baltic amber is mainly found on the southern coasts of the Baltic Sea and originates from the Eocene. Although most estimates of the age of Baltic amber have placed it as deriving from the early Middle Eocene (Lutetian) (48.6–40.4 my), based largely on K-Ar dating (Ritzkowski 1997), palynological biostratigraphy of the specific region where the sample originated suggests a younger, Priabonian age (37.2–33.9 my) (Aleksandrova & Zaporozhets 2008). A detailed discussion of the stratigraphic basis for the age of Baltic amber deposits can be found in Perkovsky *et al.* (2007). According to Turkin (1997) Baltic amber was produced by *Pinus succinifera*

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Scutellum small, triangular with rounded apex. Elytra oval, long, moderately convex; humeral calli well developed, distinctly projecting. Elytral punctures small and dense, arranged in regular striae; striae distinct throughout entire length of elytra; distance between punctures in striae equal to 0.5-1.5 times diameter of puncture; interstriae flat (only weakly convex at base), covered with very fine, irregular secondary punctation, distance between striae approximately 3-5 times diameter of a puncture. Sutural stria present. Elytral apices weakly rounded. Apical angles of elytra without teeth. Epipleura subhorizontal (well visible in lateral view), wide, reaching elytral apex.

Legs thin and relatively long; covered with short, pale, recumbent setae. Metafemora robust, swollen. Metatibiae thin, slightly flattened and expanded apically. Metatarsi attached on apices of metatibiae. Metatarsomere 1 short, about as long as metatarsomeres 2-3 combined; metatarsomere 3 deeply bilobed. Protarsomeres weakly dilated; protarsomere 1 about as wide as apex of protibia, distinctly wider than protarsomere 2. Tarsal claws relatively small, free and simple (not clearly visible because of beetle location in amber piece).

Key to species of Alticini described from fossil resin

1. Metatarsi attached nearly at middle of metatibia 2
- Metatarsi attached on apices of metatibiae 3
2. Pronotal punctation small and fine, distinctly smaller than punctures in elytral striae; antennae rufous. Baltic amber (Kaliningrad region, Russia). . . . . ***Psyllototus doeberli*** **Bukejs & Nadein 2013**
- Pronotal punctation large, as large as elytral punctures in striae; antennae dark. Rovno amber (Ukraine) . . . . . ***Psyllototus progenitor*** **Nadein, 2010**
3. Metatarsomere 1 long, about as long as half of metatibia. Baltic amber (Kaliningrad region, Russia) . . . . . ***Ambraaltica baltica*** **Konstantinov & Bukejs, 2013**
- Metatarsomere 1 relatively short, not longer than 1/3 of metatibia length 4
4. Elytra dark (bluish green to black), sometime with metallic reflex 5
- Elytra pale, almost completely reddish to testaceous brown 7
5. Elytra with irregular punctation; lager, body length 4.5 mm. Dominican amber (Dominican Republic) . . . . . ***Wanderbiltiana wawasita*** **Santiago-Blay, Savini, Furth, Craig & Poinar, 2004**
- Elytra with regular punctation; smaller, body length less than 4 mm 6
6. Pronotal punctation large and dense, about as large as punctures in elytral striae; antennae and legs completely redish-brown. Rovno amber (Ukraine). . . . . ***Crepidodera decolorata*** **Nadein & Perkovsky, 2010**
- Pronotal punctation fine and sparse, distinctly smaller than punctures in elytral striae; antennae and legs black. Baltic amber (Kaliningrad region, Russia) . . . . . ***Crepidodera svetlanae*** **sp. nov.**
7. Anterolateral callosities large, very protruding from pronotum outline; lateral margins of pronotum parallel, almost straight. Rovno amber (Ukraine). . . . . ***Manobiomorpha eocenica*** **Nadein, 2010**
- Anterolateral callosities relatively smaller, not distinctly protruding pronotal outline; lateral margins of pronotum subparallel, weakly rounded anteriorly. 8
8. Elytral punctation completely regular; pronotum with wide basal border; elytra widely rounded at apex. Oise amber (France) . . . . . ***Crepidocnema yantarica*** **Moseyko, Kirejtshuk & Nel, 2010**
- Elytral punctation arranged in striae only on disc, more or less confused in apical 1/3 and laterally; pronotum with relatively narrow basal border; elytra obliquely narrowed apically. Chiapas amber (Mexico) . . . . . ***Neocrepidodera antiqua*** **(Gressitt, 1971)**

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References

Aleksandrova, G.N. & Zaporozhets N.I. (2008) Palynological characteristic of the Upper Cretaceous and Paleogene sediments of the West of the Sambian peninsula (the Kaliningrad Region), Part 2. *Stratigraphy and Geological Correlation*, 16 (5), 75–86. [in Russian]

Bukejs, A. & Konstantinov, A.S. (2013) New genus of flea beetle (Coleoptera: Chrysomelidae: Galerucinae: Alticini) from the

Upper Eocene Baltic amber. *Insecta Mundi*, 0306, 1–5.
Bukejs, A. & Nadein, K. (2013) A second species of *Psyllototus* (Coleoptera: Chrysomelidae: Galerucinae: Alticini) from the Upper Eocene Baltic amber. *Zootaxa*, 3609 (5), 456–470.
http://dx.doi.org/10.11646/zootaxa.3609.5.2
Döberl, M. (2010) Alticinae. *In:* Löbl, I. & Smetana, A. (Eds.), *Catalogue of Palaearctic Coleoptera* 6. Stenstrup, Apollo Books:, pp. 491–563.
Gressitt, J.L. (1971) A second fossil chrysomelid beetle from the amber of Chiapas, Mexico. *University of California Publications in Entomology*, 63, 63–64.
Klebs, R. (1910) Über Bernsteineinschlüsse im Allgemeinen und die Coleopteren meiner Bernsteinsammlung. *Schriften der Physikalisch-ökonomischen Gesellschaft zu Königsberg*, 51 (3), 217–242.
Konstantinov, A.S. (1996) Review of the Palearctic species of *Crepidodera* (Coleoptera: Chrysomelidae: Alticinae). *Spixiana*, 19 (1), 21–37.
Konstantinov, A.S. & Vandenberg, N.J. (1996) Handbook of Palearctic Flea Beetles (Coleoptera: Chrysomelidae: Alticinae). *Contributions on Entomology, International*, 1, 1–439.
Lazorko, W. (1974) Descriptions of three new *Chalcoides* Foudr. from Canada, with a key to the known Nearctic species (Chrysomelidae: Halticinae). *Entomologische Blätter für Biologie und Systematik der Käfer*, 70 (3), 146–154.
Lopatin, I.K. & Nesterova O.L. (2005) *Insecta of Byelarus: Leaf-Beetles (Coleoptera, Chrysomelidae)*. Minsk, Tehnoprint, 293 pp. [in Russian]
Medvedev, L.N. & Roginskaja, E.Ya. (1988) Host plants catalogue of leaf-beetles of USSR. Moscow, 192 pp. [in Russian]
Moseyko, A.G., Kirejtshuk, A.G. & Nel, A. (2010) New genera and new species of leaf beetles (Coleoptera: Polyphaga: Chrysomelidae) from Lowermost Eocene French amber. *Annales de la Société Entomologique de France (N.S.)*, 46 (1–2), 116–123.
http://dx.doi.org/10.1080/00379271.2010.10697645
Nadein, K.S. & Perkovsky, E.E. (2010) New taxa of Chrysomelidae (Insecta: Coleoptera) from Rovno amber, Late Eocene. *Acta Geologica Sinica*, 84 (4), 772–782.
http://dx.doi.org/10.1111/j.1755-6724.2010.00259.x
Parry, R.H. (1986) The systematic and biology of the flea beetle genus *Crepidodera* Chevrolat (Coleoptera: Chrysomelidae) in America north of Mexico. *Insecta Mundi*, 1 (3), 156–196.
Perkovsky, E.E., Rasnitsyn, A.P., Vlaskin, A.P. & Taraschuk M.V. (2007) A comparative analysis of the Baltic and Rovno amber arthropod faunas: representative samples. *African Invertebrates*, 48 (1), 229–245.
Ritzkowski, S. (1997) K–Ar-Altersbestimmungen der bernsteinführenden Sedimente des Samlandes (Paläogen, Bezirk Kaliningrad). *Metalla (Sonderheft)*, 66, 19–23.
Santiago-Blay, J.A. (1994) Paleontology of leaf beetles. *In:* Jolivet, P.H., Cox, M.L. & Petitpiere, E. (Eds.), *Novel aspects of the biology of Chrysomelidae*. Kluwer Academic Publishers, the Netherlands, pp. 1–68.
Santiago-Blay, J.A., Savini, V., Furth, D.G., Craig, P.R. & Poinar, G.O. (2004) *Wanderbiltiana wawasita*: a new species of flea beetle (Alticinae) from Dominican amber (Lower Oligocene to Lower Miocene). *In:* Jolivet, P., Santiago-Blay, J.A. & Schmitt, M. (Eds.), *New Developments on the Biology of Chrysomelidae.* SPB Academic Publishing, the Hague, pp. 275–277.
Turkin, N.I. (1997) Preliminary results of microscopic research of tangential wood imprints in Baltic amber. *Metalla (Sonderheft)*, 66, 55–56.