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Description of the second fossil Baltic amber species of Monotomidae (Coleoptera: Cucujoidea)

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Abstract

Based on a specimen from the Upper Eocene Baltic amber (Kaliningrad Region, Russia), *Aneurops daugpilensis* **sp. nov.** is described. The new species is similar to the extant *A. convergens* (Sharp, 1900) and *A. championi* Sharp, 1900 distributed in North and Central America, but differs in the larger punctuation of pronotum, and shorter and sparser setation of the median plaque on ventrite 1. *Aneurops daugpilensis* **sp. nov.** is distinguished from *Europs insterburgensis* Alekseev, 2014 by having a median plaque on ventrite 1, a larger body size, and distinctly sparser punctuation of the forebody.

Key words: Europini, *Aneurops daugpilensis*, new species, Tertiary, Eocene, fossil resin

Introduction

Monotomidae Laporte, 1840 is a family of small (1.5–6.0 mm) cucujoid beetles distributed worldwide. There are currently 33 genera with about 250 described species (Šlipiński *et al.* 2011). The adults of root-eating beetles can be characterized by the following combination of characters (*sensu* Bousquet 2010): narrow-elongate body form; prognathous head; elytra distinctly truncate at the apex, exposing one (females) or two (males) abdominal tergites; antennae short, appearing 10-segmented (antennomeres 10 and 11 fused) with a one- or two-segmented club; 5-5-5, 5-5-4 or 4-4-4 tarsal formula; externally broadly closed procoxal cavities; five abdominal ventrites with ventrites 2-4 short and subequal in size. Adults of many genera often occur under the bark of dead and fungus-infested trees and are mycophagous or predaceous.

According to Bouchard *et al.* (2011), the Monotomidae consist of two subfamilies: Rhizophaginae Redtenbacher, 1845 and Monotominae Laporte, 1840. The latter subfamily includes five tribes: Europini Sen Gupta, 1988; Lenacini Crowson, 1952; Monotomini Laporte, 1840; Thionini Crowson, 1952 and the extinct tribe Rhizophomini Kirejtshuk *et al.* 2009. The genus *Aneurops* Sharp, 1900 with two described recent species from North and Central America (Bousquet 2003) belongs to the heterogeneous tribe Europini, and is closely allied to the extensive genus *Europs* Wollaston, 1854. The biology of *Aneurops* representatives is poorly known: *Aneurops convergens* Sharp, 1900 has been collected almost exclusively under the bark of *Pinus ponderosa* or other unidentified coniferous trees.

Information on fossil Monotomidae is scanty. Four species have been described previously: *Rhizophoma elateroides* Kirejtshuk *et al.* 2009, *Rhizophoma synchrotronica* Kirejtshuk, and *Rhizobactron marinae* Kirejtshuk from Lower Cretaceous Lebanese amber (Kirejtshuk *et al.* 2009; Kirejtshuk & Azar 2013), and *Europs insterburgensis* Alekseev from Upper Eocene Baltic amber (Alekseev 2014). A few records from Baltic amber contain only a generic (*Europs* sp., *Rhizophagus* sp.) or subfamily (Monotominae) attribution without detailed species descriptions (Berendt 1845; Helm 1896; Handlirsch 1907; Klebs 1910; Larsson 1978; Kubisz 2001).

Kirejtshuk *et al.* (2009) mistakenly mentioned “*Monotoma resinorum* Hope, 1842” as a member of Monotomidae from copal. Firstly, Hope (1842) actually described *Monomma resinorum* (Monommidae) with note

References

- Alekseev, V.I. (2014) *Europs insterburgensis* sp. nov., a new root-eating beetle from Baltic amber (Coleoptera: Monotomidae). *Genus*, 25 (3), 415–420.
- Berendt, G. (1845) *Die im Bernstein befindlichen organischen Reste der Vorwelt gesammelt in Verbindung mit mehreren bearbeitet. Erster Band. Abtheilung I. Der Bernstein und die in ihm befindlichen Pflanzenreste der Vorwelt*. Nikolaische Buchhandlung, Danzig, 125 pp.
- Bouchard, P., Bousquet, Y., Davies, A.E., Alonso-Zarazaga, M.A., Lawrence, J.F., Lyal, C.H.C., Newton, A.F., Reid, C.A.M., Schmitt, M. & Ślipiński, A. (2011) Family-group Names in Coleoptera (Insecta). *ZooKeys*, 88, 1–972. <http://dx.doi.org/10.3897/zookeys.88.807>
- Bousquet, Y. (2002) Monotomidae Laporte, 1840. In: Arnett, R.H. Jr., Thomas, M.C., Skelley, P.E. & Frank, J.H. (Eds.), *American Beetles: Polyphaga: Scarabaeoidea through Curculionoidea. Vol. 2*. CRC Press, Boca Raton, London/New York/Washington, D.C., pp. 319–321.
- Bousquet, Y. (2003) Redescription of *Aneurops convergens* (Sharp), new combination (Coleoptera, Monotomidae). *The Coleopterists Bulletin*, 57 (2), 141–145. [http://dx.doi.org/10.1649/0010-065X\(2003\)057\[0141:ROACSN\]2.0.CO;2](http://dx.doi.org/10.1649/0010-065X(2003)057[0141:ROACSN]2.0.CO;2)
- Bousquet, Y. (2010) Monotomidae Laporte, 1840. In: Leschen, R.A.B. & Beutel, R.G. (Eds.), *Handbook of Zoology – Coleoptera. Vol. II*. De Gruyter, Berlin/New York, pp. 319–324.
- Freude, H. (1952) Die Lösung des Rätsels um *Monomma resinorum* Hope. *Mitteilungen der Münchner Entomologischen Gesellschaft*, 42 (1), 111–116.
- Handlirsch, A. (1907) *Die fossilen Insekten und die Phylogenie der rezenten Formen. Ein Handbuch für Paläontologen und Zoologen*. Wilhelm Engelmann, Leipzig, 1430 pp.
- Helm, O. (1896) Beiträge zur Kenntniss der Insecten des Bernsteins. *Schriften der Naturforschenden Gesellschaft in Danzig (Anlage C.)*, New Series, 9, 220–231.
- Hope, F.W. (1842) Description de quelques insectes non decrits trouves dans la resine anime. *Magasin de Zoologie, d'Anatomie comparée et Palaeontologie*, Série 2, 4, 1–3. [without pagination], + 3 Plates [87–89].
- Kirejtshuk, A.G. & Azar, D. (2013) Current knowledge of Coleoptera (Insecta) from the Lower Cretaceous Lebanese amber and taxonomical notes for some Mesozoic groups. *Terrestrial Arthropod Reviews*, 6, 103–134. <http://dx.doi.org/10.1163/18749836-06021061>
- Kirejtshuk, A.G., Azar, D., Tafforeau, P., Boistel, R. & Fernandez, V. (2009) New beetles of Polyphaga (Coleoptera, Polyphaga) from Lower Cretaceous Lebanese amber. *Denisia*, 26 (zugleich Katalogue der oberoesterreichischen Landesmuseen, Neue Serie, 86), 119–130.
- Klebs, R. (1910) Über Bernsteineinschlüsse in allgemeinen und die Coleopteren meiner Bernsteinsammlung. *Schriften der Physikalisch-ökonomischen Gesellschaft zu Königsberg*, 51 (3), 217–242.
- Kubisz, D. (2001) Beetles in the collection of the Museum of Amber Inclusions, University of Gdansk, with description of *Colotes sambicus* sp. n. (Coleoptera: Melyridae). *Polish Journal of Entomology*, 70, 259–265.
- Larsson, S.G. (1978) *Baltic Amber – a palaeobiological study. Volume I*. Scandinavian Science Press Ltd., Klampenborg, Denmark, 192 pp.
- Sen Gupta, T. (1988) Review of the genera of the family Rhizophagidae (Clavicornea: Coleoptera) of the world. *Memoirs of the Zoological Survey of India*, 17 (1), 1–58.
- Sharp, D. (1900) Fam. Cucujidae. Fam. Monotomidae. In: Godman, F.D. & Salvin, O. (Eds.), *Biologia Centrali-Americana. Insecta. Coleoptera. Vol. II. Part I*. Taylor and Francis, London, pp. 561–579.
- Ślipiński, S.A., Leschen, R.A.B. & Lawrence, J.F. (2011) Order Coleoptera Linnaeus, 1758. In: Zhang, Z.-Q. (Ed.), *Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness*. *Zootaxa*, 3148, 203–208.
- Spahr, U. (1981) Systematischer Katalog der Bernstein- und Kopal-Käfer (Coleoptera). *Stuttgarter Beiträge zur Naturkunde. Serie B (Geologie und Paläontologie)*, 80, 1–107.
- Weitschat, W. & Wichard, W. (2010) Baltic amber. In: Penney, D. (Ed.), *Biodiversity of Fossils in Amber from the Major World Deposits*. Siri Scientific Press, Manchester, pp. 80–115.