### **SCIENTIFIC NOTE**

# SPHAEROPSOCUS KUENOWII HAGEN IN ROVNO AMBER FROM THE UKRAINE (PSOCOPTERA: SPHAEROPSOCIDAE)<sup>1</sup>

Michael S. Engel<sup>2</sup> and Evgeny E. Perkovsky<sup>3</sup>

The Sphaeropsocidae is a small family of troctomorphan bark lice notable for elytriform forewings in females, complete loss of hind wings, and reduced compound eyes. While most modern sphaeropsocids are of austral distribution (aside from a few exceptions, Northern Hemisphere records are adventive species), their distribution was certainly wider in the past as evidenced by the fossil record (e.g. Weitschat and Wichard, 2002; Lienhard and Smithers, 2002; Grimaldi and Engel, 2005).

Herein we report on the recent identification of *Sphaeropsocus kuenowii* Hagen, 1882, a not uncommon bark louse in Eocene Baltic amber, from the Late Eocene Rovno amber. *Sphaeropsocus kuenowii* is well documented in Baltic amber (e.g. Weitschat and Wichard, 2002; Engel, pers. obs.). The discovery of this species in both deposits further attests to the roughly contemporaneous age (i.e., perhaps within five million years) of the ambers and can be added to the growing list of shared taxa (*vide* Perkovsky et al., 2003).

The following abbreviations are used for institutions holding material: MCZ = Museum of Comparative Zoology, Harvard University, Cambridge (P. Perkins); SEMC = Fossil Insect Collection, Division of Entomology, University of Kansas Natural History Museum, Lawrence (M. S. Engel); UA = Institute of Zoology, National Academy of Sciences of Ukraine, Kiev (E. E. Perkovsky) (for the Rovno amber specimens, D stands for the Dubrovitsa deposit while K stands for the Klesov deposit).

<sup>&</sup>lt;sup>1</sup> Received on July 23, 2005. Accepted on August 24, 2005.

<sup>&</sup>lt;sup>2</sup> Division of Invertebrate Zoology, American Museum of Natural History; Division of Entomology, Natural History Museum, and Department of Ecology & Evolutionary Biology, 1345 Jayhawk Boulevard, Dyche Hall, University of Kansas, Lawrence, Kansas 66045-7163 U.S.A. E-mail: msengel@ku.edu.

<sup>&</sup>lt;sup>3</sup> Institute of Zoology, National Academy of Sciences of Ukraine, 15 B. Khmelnitsky Street, Kiev 01-601, Ukraine. E-mail: klevinger@gmail.com.

### SYSTEMATIC PALEONTOLOGY

## Sphaeropsocus kuenowii Hagen Figure 1

Sphaeropsocus künowii Hagen, 1882: 226.
Atropos succinica Hagen, 1882: 231.
Troctes succinicus (Hagen); Kolbe, 1883: 190.
Palaeotroctes succinicus (Hagen); Enderlein, 1911: 350.
Sphaeropsocus künowi Enderlein, 1911: 352. Lapsus calami.

**Comments.** Rovno amber material was compared with specimens in Baltic amber, including the holotype. No structural differences could be identified between the individuals in either deposit. Indeed, no differences were found that could even be classified as geographical or temporal variations. While some species are unique to Rovno amber (e.g. Perkovsky and Fedotova, 2004; Engel and Perkovsky, 2006), there remains considerable taxonomic overlap between the Ukrainian deposits and Baltic amber (only about 26% of the ants are unique to Rovno amber: Dlussky and Perkovsky, 2002; Perkovsky et al., 2003). *Sphaeropsocus kuenowii* represents one more example of taxa shared between these two Paleogene amber sources.

**Material Examined.** Holotype female, Baltic amber (MCZ). Four female specimens, Baltic amber (SEMC). Three female specimens, Rovno amber (UA-332; UA-D-2222; UA-K-1039).



Figure 1. Female of Sphaeropsocus kuenowii Hagen in Rovno amber (UA-332).

#### ACKNOWLEDGMENTS

We are grateful to three anonymous reviewers for providing helpful commentary on this brief note. Support for the visit to Harvard University's Museum of Comparative Zoology (by MSE) was supported by a Kansas Technology Corporation-NSF EPSCoR grant (KAN29503) to the senior author. Additional support was provided by Ecology & Evolutionary Biology General Research Fund allocation #2301360 (to MSE). This is contribution #3431 of the Division of Entomology, Natural History Museum, University of Kansas.

### LITERATURE CITED

- Enderlein, G. 1911. Die fossilen Copeognathen und ihre Phylogenie. Palaeontographica 58: 279–360.
- Engel, M. S. and E. E. Perkovsky. 2006. An Eocene bee in Rovno amber, Ukraine (Hymenoptera: Megachilidae). American Museum Novitates 3506: 1–12.
- **Dlussky, G. M. and E. E. Perkovsky.** 2006. Ants (Hymenoptera, Formicidae) from the Rovno amber. Vestnik Zoologii 36: 3–20. [In Russian]
- **Grimaldi, D. and M. S. Engel.** 2005. Evolution of the Insects. Cambridge University Press. Cambridge, United Kingdom. xv + 755 pp.
- Hagen, H. A. 1882. Beiträge zur Monographie der Psociden. Über Psociden in Bernstein. Stettiner Entomologische Zeitung 43: 217–237, 265–276, 276–300, 524–526.
- Kolbe, H. J. 1883. Neue Beiträge zur Kenntniss der Psociden der Bernstein-Fauna. Stettiner Entomologische Zeitung 44: 186–191.
- **Lienhard, C. and C. N. Smithers.** 2002. Psocoptera (Insecta): World Catalogue and Bibliography. Muséum d'Histoire Naturelle Instrumenta Biodiversitatis V; Geneva, Switzerland; xli + 745 pp.
- Perkovsky, E. E. and Z. A. Fedotova. 2004. New species of gall midges (Diptera, Cecidomyiidae) from Rovno amber: Subfamily Lestremiinae, tribes Micromyiini and Peromyiini. Paleontological Journal 38(4): 396–406.
- Perkovsky, E. E., V. Y. Zosimovich, and A. Y. Vlaskin. 2003. Rovno amber insects: First results of analysis. Russian Entomological Journal 12(2): 119–126.
- Weitschat, W. and W. Wichard. 2002. Atlas of Plants and Animals in Baltic Amber. Friedrich Pfeil. Munich, Germany. 256 pp.