Vestnik zoologii, **44**(6): 545–547, 2010

UDC 565.42:553.99

FIRST RECORD OF MITES OF THE FAMILY STIGMAEIDAE (ACARI, RAPHIGNATHOIDEA) FROM ROVNO AMBER WITH DESCRIPTION OF A NEW SPECIES OF THE GENUS *MEDIOLATA*

N. N. Kuznetsov[1], A. A. Khaustov[1], E. E. Perkovsky[2]

[1] *Nikita Botanical Gardens — National Scientific Center, Yalta, Crimea, 98648 Ukraine*
E-mail: alkhaustov@mail.ru
[2] *Schmalhausen Institute of zoology NAS of Ukraine, B. Chmielnicky str., 15, Kyiv, 01601 Ukraine*
E-mail: perkovsk@gmail.com

Received 14 December 2009
Accepted 23 July 2010

First Record of Mites of the Family Stigmaeidae (Acari, Raphignathoidea) from Rovno Amber with Description of a New Species of the Genus *Mediolata*. Kuznetsov N. N., Khaustov A. A., Perkovsky E. E. — A new species, *Mediolata eocenica* Kuznetsov, Khaustov et Perkovsky, sp. n., is described from the Late Eocene Rovno amber. It is the first fossil record of Stigmaeidae.

Key words: Stigmaeidae, Mediolata, new species, Rovno amber, Late Eocene.

Первая находка клещей семейства Stigmaeidae (Acari, Raphignathoidea) из ровенского янтаря с описанием нового вида рода *Mediolata*. Кузнецов Н. Н., Хаустов А. А., Перковский Е. Э. — Описан новый вид клещей *Mediolata eocenica* Kuznetsov, Khaustov et Perkovsky, sp. n. из позднеэоценового ровенского янтаря. Клещи семейства Stigmaeidae впервые обнаружены в ископаемом состоянии.

Ключевые слова: Stigmaeidae, *Mediolata*, новый вид, ровенский янтарь, поздний эоцен.

Introduction

During study of inclusions of Late Eocene Rovno amber a well preserved specimen of a new species of mites of the family Stigmaeidae (Acari, Raphignathoidea) was found. This is the first fossil record of the mite family Stigmaeidae. The purpose of this paper is to describe *Mediolata eocenica* Kuznetsov, Khaustov et Perkovsky, sp. n.

Material and methods

Main part of Rovno amber inclusions of Schmalhausen Institute of Zoology, including described below sample, taken from open-cut mine "Pugach" in Klesov (Rovno Region, Ukraine) — single deposit of the factory "Ukramber" (Rovno) in the last years. In the description terminology follows Kethley (1990). Geology and fauna of Lagerschtätte were reviewed by Perkovsky et al. (2007, 2010). All measurements are given in micrometers (μm). Photo was taken with aid of a digital camera (Canon PowerShot A–630) via ocular of a compuund microscope MBI–11. Holotype is deposited in the collection of Schmalhausen Institute of Zoology of National Academy of Science of Ukraine, Kyiv (SIZK).

Family STIGMAEIDAE Oudemans, 1931

Genus *Mediolata* Canestrini, 1889

Mediolata eocenica Kuznetsov, Khaustov et Perkovsky, sp. n. (fig. 1)

Type material. Holotype ♀, SIZK, K–865, Klesov, Rovno amber, Late Eocene. Syninclusions: SIZK, K–863: Diptera (Chironomidae), Collembola (Arthropleona); SIZK, K–864: 2Diptera (Chironomidae, ?Sciaridae), Homoptera (Matsucoccidae); SIZK, K–865: 2Diptera (Chironomidae).

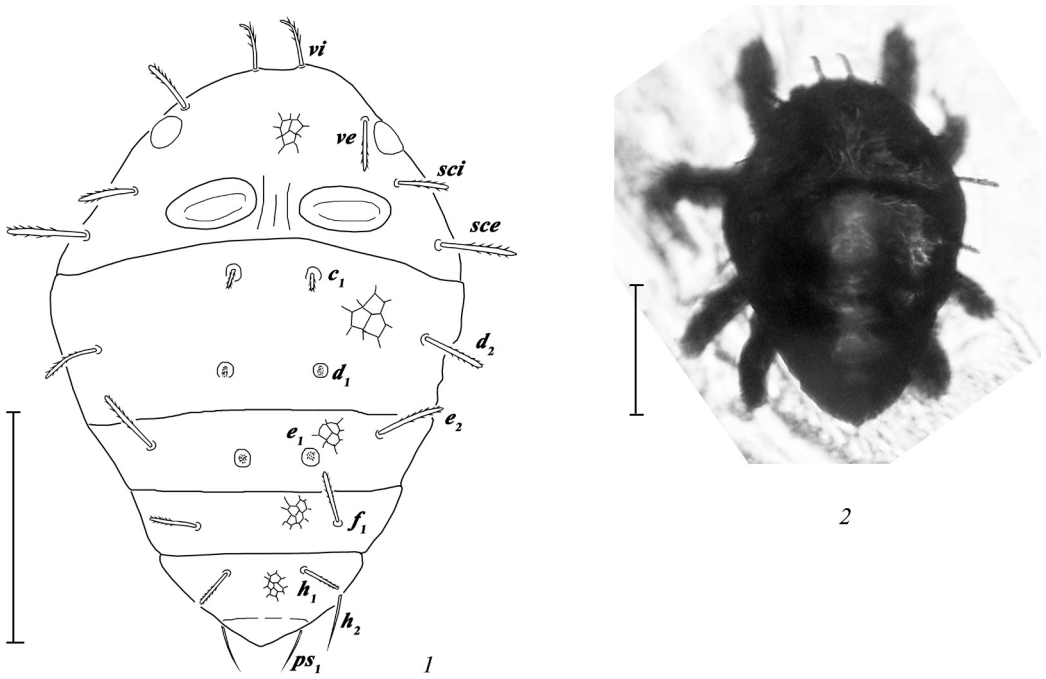

Fig. 1. *Mediolata eocenica* sp. n., ♀: *1* — dorsum of the body; *2* — general view. Scale bar 100 μm.

Рис. 1. *Mediolata eocenica* sp. n., ♀: *1* — дорсальная сторона тела; *2* — общий вид сверху. Масштабные линейки 100 мкм.

Female (?). Idiosoma 272 long, maximum wide 185.

Gnathosoma bent under propodosoma and invisible.

Idiosomal dorsum (fig. 1). Idiosoma oval. All dorsal plates with polygonal ornamentation. Propodosoma completely covered by one propodosomal plate bearing two distinct eyes situated posteriorly to setae *ve*, a pair of very large oval postocular bodies, and 4 pairs of setae (*vi*, *ve*, *sci*, *sce*). Setae *sce* longest. Hysterosoma completely covered by 4 transverse plates. Plate CD bears 3 pairs of setae (c_1, d_1, d_2). Plate E with setae e_1 and e_2. Plate F with setae f_1. Plate H with setae h_1 and h_2. Most of dorsal idiosomal setae strong, stick-like, distinctly barbed and blunt-ended, except setae h_2 which smooth and pointed. Setae c_1, d_1, and e_1 directed upward and difficult for measuring. Length of other dorsal setae: *vi* 26, *ve* 26, *sci* 28, sce 42, d_2 33, e_2 34, f_1 26, h_1 22, h_2 31.

Idiosomal venter not visible.

Legs bent and leg chaetotaxy is unclear.

Male and larva unknown.

Differential diagnosis. The new species is very similar to *M. brevistis* Wood, 1967, but differs by smooth and thin setae h_2 (distinctly barbed and thickened in *M. brevistis*) and by distinctly reticulated dorsal plates (smooth in *M. brevistis*).

Remarks. Mites of the superfamily Raphignathoidea are free-living predators inhabiting soil, litter and various plants. Until now only one species, *Neophyllobius succineus* Bolland et Magowski, 1990 (Camerobiidae), was described from Late Eocene Baltic amber (Bolland, Magowski, 1990). *Mediolata* sp. n. is the second raphignatoid and the first stygmaeid described from fossil resin. Recent species of the genus *Mediolata* Canestrini, 1889 are distributed worldwide (Fan, Zhang, 2005) and mainly inhabit bark of different arboreal plants, so the discovery of *Mediolata* as an amber inclusion is not a surprise. The discovery of this mite in amber suggests that Stigmaeidae may have been abundant in the Late Eocene but have most probably been overlooked in large pieces of amber because of their minute size. Future research might undoubtedly discover more representatives of the superfamily Raphignathoidea in fossil resins.

Authors thank Dr Q. H. Fan, Landcare Research, Auckland, New Zealand, for reviewing the manuscript and helpful suggestions.

Bolland H. R., Magowski W. L. Neophyllobius succineus sp. n. from Baltic amber (Acari: Raphignathoidea: Camerobiidae) // Ent. Ber. Amst. — 1990. — **50.** — P. 17–21.

Fan Q. H., Zhang Z. Q., Raphignathoidea (Acari, Prostigmata) // Fauna of New Zealand. — 2005. — **52**. — 399 p.

Kethley J. Acarina: Prostigmata (Actinedida) // Soil Biology Guide, Wiley / Ed. D. L Dindal. — New York, 1990. — P. 667–756.

Perkovsky E. E, Rasnitsyn A. P., Vlaskin A. P., Taraschuk M. V. A comparative analysis of the Baltic and Rovno amber arthropod faunas: representative samples // African Invertebrates. — 2007. — **48** (1). — P. 229–245.

Perkovsky E. E., Zosimovich V. Yu., Vlaskin A. P. Rovno amber. // Biodiversity of fossils in amber from the major world deposits / Ed. D. Penney. — Manchester : Siri Scientific Press, 2010. — P. 116–136.