



An isolated Cretaceous analogue of Madagascar on the Adria–Turkey microcontinent indicated by fossils in Brezina, Algeria

by

PETER VRŠANSKÝ^{1, 2, 3, 4}, LUCIA VRŠANSKÁ⁵, DMITRIJ V. VASILENKO^{2, 6},
LUBICA PUŠKELOVÁ¹ and ADRIAN BIRONĚ¹

With 3 text-figures

Abstract

A unique assemblage of arthropods ($n = 32$), ferns, horsetails and a ginkgo discovered in Algerian Brezina differs from all known (and rather uniform) Laurasian and Gondwanan Cretaceous biotas, suggesting a large isolated landmass at the microcontinent known as Adria-Turkey, Serbia-Turkey or “Greater Adria”. The mineral assemblage is characteristic for siliciclastic sediments which underwent deep post-depositional burial and reached late diagenetic conditions of alteration. The ?Hauterivian assemblage of aquatic and terrestrial insects was dominated by cockroaches and beetles. Mantodean, tettigarctid cicad, aquatic ephemeropterans, dragonflies, spinicaudatan, and an arachnomorph spider also occur. Freshwater insects relate to Eurasian ones such as the beetle *Timarchopsis cyrenaicus* (PONOMARENKO, 1977) and mayfly *Hexameropsis africana* SINITSHENKOVA, 1975 or belong to cosmopolitan biota as a dragonfly pre-imaginal stage (Aeschnoidea, ?Gomphaeschnidae). The continental biota differed. Cockroaches except *Elisama* GIEBEL, 1856, praying mantis and possibly also dragonfly genera were mostly indigenous and distant from the known morphotypes. The extinct family Mesoblattinidae (represented by *Otazka systematicka* gen. et sp. n., *Meloblatta brezinica* gen. et sp. n.) and the still-extant Corydiidae (*Afrophaga extincta* gen. et sp. n.) dominated. The Mesozoic families Blattulidae (? *Elisama algeriaensis* sp. n.) and Liberiblattinidae (*Kriedoblatta gondwanensis* gen. et sp. n. and ? *Kurablattina samsonovi* sp. n. restricted record in Early Jurassic of Australia), and Holocompsinae (*Sajda equatorialis* gen. et sp. n.) restricted to Spain during Cretaceous and also represented by extant forms were also present. The dominant Laurasian Caloblattinidae and Gondwanan (and burmite) Alienopteridae were not preserved or absent.

Keywords: fossil insect; Blattaria; sedimentary rock; insular fauna; Greater Adria microcontinent

Table of contents

1 Introduction	20	ZooBank codes	31
2 Material and methods	21	Authors' contributions	31
3 Results	21	Acknowledgements	31
4 Systematic paleontology	21	References	31
5 Discussion	28		

Authors' addresses:

¹ Earth Science Institute, Slovak Academy of Sciences, Dúbravská c. 9, P.O. BOX 105, 840 05 Bratislava, and Ďumbierska 1, 974 01 Banská Bystrica, Slovakia [geolvrsa@savba.sk; geolpus@savba.sk; biron@savbb.sk]

² Arthropoda laboratory, Paleontological Institute RAS, Profsoyuznaya 123, 117868 Moscow, Russia [vasilenko@paleo.ru]

³ Institute of Zoology, Slovak Academy of Sciences, Dúbravská c. 9, 845 06 Bratislava, Slovakia

⁴ Slovak Academy of Sciences, Institute of Physics, Research Center of Quantum Informatics, Dúbravská c. 9, Bratislava 845 11, Slovakia

⁵ AMBA projekty, Tichá 4, 811 02 Bratislava, Slovakia [luciavrsanska12@gmail.com]

⁶ Cherepovets State University, Cherepovets, 162602 Russia