

First North American occurrence of hairy cicadas discovered in the Cenomanian (Late Cretaceous) of Labrador, Canada

Alexandre V. Demers-Potvin, Jacek Szwedo, Cassia P. Paragnani, and Hans C.E. Larsson

Acta Palaeontologica Polonica in press

available online 20 Feb 2020 doi:<https://doi.org/10.4202/app.00669.2019>


We report the discovery of *Maculaferrum blaisi* gen. et sp. nov, the first occurrence of the family Tettigarctidae, informally known as hairy cicadas, in North America. *Maculaferrum blaisi* is part of a new collection assembled during recent fieldwork in the Redmond Formation, Labrador, Canada, near Schefferville. It consists in a single isolated forewing whose venational characters allow a classification to Tettigarctinae at the subfamily level. Classification at a higher level remains uncertain since it displays a combination of characters supposedly unique to tribes Protabanini, Meunierini, and Tettigarctini. Thus, this discovery adds credence to suggestions of a revision of the definitions of these tribes since they seem to be based on many convergent or plesiomorphic characters. Remnants of a spotted pattern on the wing membrane and probable setae along some veins are also preserved. Observations of the holotype's fine anatomical characters have been facilitated by the use of Reflectance Transformation Imaging (RTI), an emerging method for the visualization of compression and impression fossils. Considering that the estimated age of the Redmond Formation is the Cenomanian (Late Cretaceous), the discovery of *M. blaisi* contributes to a very recent expansion of the tettigarctid fossil record that fills a gap between Early Cretaceous and Cenozoic genera. It suggests that hairy cicadas maintained a global distribution and thrived in a variety of climate regimes well into the Late Cretaceous, and that their competitive exclusion by singing cicadas occurred definitely closer to the end of the Cretaceous, or even during the Cenozoic. This discovery is only the start of a thorough description of the recently expanded entomofauna in the Cretaceous of Labrador.

Key words: Cicadoidea, Tettigarctidae, Cretaceous, Cenomanian, Redmond Formation, North America.

Alexandre Demers-Potvin [alexandre.demers-potvin@mail.mcgill.ca] and Hans C.E. Larsson [hans.ce.larsson@mcgill.ca], Redpath Museum, McGill University, 859 Sherbrooke St. W., H3A 0C4, Montreal, QC, Canada. Jacek Szwedo [jacek.szwedo@ug.edu.pl], Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, Faculty of Biology, University of Gdańsk, 59, Wita Stwosza St., 80-308, Gdańsk, Poland. Cassia P. Paragnani [cassia.paragnani@gmail.com], Archaeology At Tardis, 4/46-50 Old Princes Highway,

Beaconsfield, Victoria 3807, Australia.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Proofs \(3,807.1 kB\)](#) |

 [Supplementary file \(17.0 kB\)](#)