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ABSTRACTS

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**A new basal mantis (Mantodea) and the first North American ‘hairy’ cicada (Hemiptera : Tettigarctidae) found among a recently expanded entomofauna from the Late Cretaceous (Cenomanian) of Labrador, Canada**

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The Redmond Formation is one of the rare Mesozoic exposures known from the Quebec/Labrador Peninsula, and is only found in an abandoned iron ore mine located near Schefferville. This ferruginous argillite deposit of probable lacustrine origin and Cenomanian age has been known to contain fragmentary insect impression fossils for most of the time since its discovery in the late 1950s. However, only 5 species have been formally described, along with mentions of genera belonging tentatively to Blattaria, Schizophoridae, Cupedidae, and Haliplidae. Fieldwork undertaken in the Redmond Mine in 2013 and 2018 has resulted in a significant expansion of the species richness and functional diversity of this mysterious entomofauna. The specimens we present here are assigned to families or orders that were heretofore not represented in the Redmond Formation. The hypothesis of a lacustrine depositional environment is strongly supported by the discovery of the first relatively complete representatives of mayfly nymphs (Ephemeroptera), belostomatid hemipterans and hydradephagan coleopterans known from this site. We also report the first occurrences of a lacewing (Osmyliidae), planthoppers (Fulgoromorpha), leafhoppers (Cicadellidae), orthopterans, and hymenopterans. Together, these new specimens contribute substantial information on insect evolution and biogeography at a pivotal time in the evolution of terrestrial ecosystems for a poorly represented part of the Cretaceous world. Their descriptions are only beginning, so a precise quantitative diversity estimate for the site would be premature at this moment.

Among these recent collections, descriptions are nearly complete for two rare specimens. The first consists in a pair of outstretched hind wings flanking a partial clavus. The wings' shape and venation characters strongly suggest that they belong to a new basal mantis genus (order Mantodea). This would represent only the second occurrence of this

order for Cretaceous North America. The second specimen consists of a set of two incomplete superimposed tegmina of definite cicadomorph affinity. Its wing venation characters suggest it is a new genus of the 'hairy' cicadas (fam. Tettigarctidae; subfam. Tettigarctinae). This is the first occurrence of tettigarctids in the North American fossil record, and so this discovery expands an already global Cretaceous distribution for a now relict cicadomorph family. Mantises and 'hairy' cicadas are rarely preserved in the fossil record, so their co-occurrence in the Redmond Formation demonstrates the commendable potential of this site to contribute to our understanding of insect eco-evolutionary trends in Cretaceous North America.