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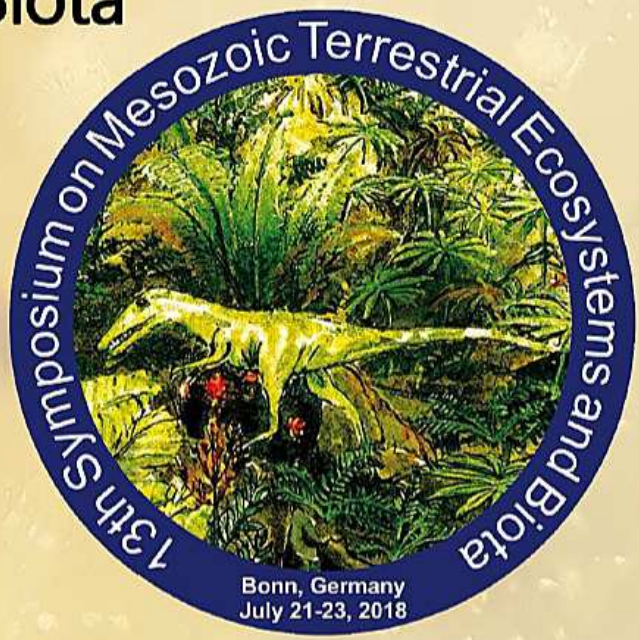
MTE 13 Abstracts

13th Symposium on Mesozoic Terrestrial Ecosystems and Biota



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Age of the feathered neornithischian dinosaur from Siberia, *Kulindadromeus zabaikalicus* [oral presentation]

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Diverse epidermal appendages closely resembling primitive feathers in non-avian theropods are associated with skeletal elements in the primitive ornithischian dinosaur *Kulindadromeus zabaikalicus* (Fig. 1) from the Kulinda locality in the Transbaikal region, Siberia. This discovery suggests that "feather-like" structures did not evolve exclusively in theropod dinosaurs, but were instead potentially widespread in the whole dinosaur clade. Dating of the Kulinda locality is therefore particularly important for reconstructing the evolution of "feather-like" structures in dinosaurs within a chronostratigraphic framework. Here we present the first dating of the Kulinda locality, combining U-Pb radiochronological analyses on zircons and monazites and palynological observations. Concordia ages constrain the maximum age of the Kulinda deposits to 172.8 ± 1.6 Ma, corresponding to the Aalenian (Middle Jurassic). The palynological assemblage includes taxa that are correlated to Bathonian palynozones from western Siberia, thus constraining the minimum age of the deposits. The new U-Pb ages, together with the palynological data, provide evidence for a Bathonian age – between 168.3 ± 1.3 Ma and 166.1 ± 1.2 Ma – for *Kulindadromeus*. A Bathonian age is highly consistent with the phylogenetic position of *Kulindadromeus* at the base of the neornithischian clade. *Kulindadromeus* is consequently the oldest known dinosaur with "feather-like" structures discovered so far.

Fig. 1. Reconstruction of the epidermal coverage of *Kulindadromeus zabaikalicus* (by J. Dos Remedios and M. Mohamed, photo: T. Hubin).