

## A new fossil from the London Clay documents the convergent origin of a “mousebird-like” tarsometatarsus in an early Eocene near-passerine bird

Gerald Mayr and Andrew C. Kitchener

*Acta Palaeontologica Polonica* 68 (1) 2023: 1-11 doi:<https://doi.org/10.4202/app.01049.2022>

We describe a partial skeleton of a small bird from the lower Eocene London Clay of Walton-on-the-Naze (Essex, UK), which shows close affinities to two phylogenetically controversial early Paleogene taxa, *Morsoravis sedilis* (lower Eocene of Denmark) and *Pumiliornis tessellatus* (lower/middle Eocene of Germany). Our phylogenetic analysis supports a clade including *M. sedilis*, *P. tessellatus*, and the new species, *Sororavis solitarius* gen. et sp. nov., and this clade is introduced as Morsoravidae fam. nov. Even though morsoravids resulted within crown group Psittacopasseres in our analysis, as the sister taxon of the Zygodactylidae and Passeriformes, they exhibit a presumably plesiomorphic tarsometatarsus morphology unlike that of zygodactyl psittacopasserines. The elongate tarsometatarsus of *S. solitarius* shows a resemblance to that of extant mousebirds (Coliiformes) and has a large trochlea for the second toe, which bears an extensive trochlear furrow. This distinctive foot morphology is likely to represent an adaptation for a grasping foot and may indicate a locomotory behaviour similar to that of mousebirds, which are arboreal acrobats that forage in the foliage of trees and shrubs. Since the Psittacopasseres and the Coliiformes are widely separated in current phylogenies, the “mousebird-like” tarsometatarsus of the new species represents a notable instance of convergent evolution in small arboreal birds.

**Key words:** Aves, *Sororavis solitarius*, evolution, Walton-on-the-Naze, Eocene, UK.

Gerald Mayr [[gerald.mayr@senckenberg.de](mailto:gerald.mayr@senckenberg.de); ORCID: <https://orcid.org/0000-0001-9808-748X>

], Ornithological Section, Senckenberg Research Institute and Natural History Museum Frankfurt, Senckenberganlage 25, 60325 Frankfurt am Main, Germany.

Andrew C. Kitchener [[a.kitchener@nms.ac.uk](mailto:a.kitchener@nms.ac.uk); ORCID: <https://orcid.org/0000-0003-2594-0827> ], Department of Natural Sciences, National Museums Scotland, Chambers Street, Edinburgh EH1 1JF, UK, and School of Geosciences, University of Edinburgh, Drummond Street, Edinburgh EH8 9XP, UK.

Attribution License (for details please see [creativecommons.org](https://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(1,299.0 kB\)](#) |

 [Supplementary file \(206.4 kB\)](#)