

***Delongia* gen. nov., a new genus of Polytrichaceae (Bryophyta) with two disjunct species in East Africa and the Himalaya**

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Abstract Although the family Polytrichaceae contains the largest and structurally most complex of all mosses, a number of distantly related lineages share a relatively reduced gametophytic morphology and have historically been conflated under polyphyletic genera, most notably *Oligotrichum* s.l. Based on new and newly identified collections, phylogenetic analysis of nucleotide data, scanning electron microscopy and relaxed-clock divergence time estimation, we recognise *O. glaciale* and *O. cavallii* under the new genus *Delongia*, which is more closely related to *Psilopilum*, *Atrichum* and *Stereobryon* than to *Oligotrichum*. The two species are mutually highly distinct in both morphological and molecular characters, with *D. glaciale* occurring across the Himalaya from Pakistan to Yunnan and *D. cavallii* found in the East African Rift Mountains and on the island of Réunion. Divergence time estimation suggests that the lineages represented by the extant species diverged from each other around the Oligocene–Miocene boundary (~23 Ma), contemporaneous with the origins of the East African Rift system and ongoing uplift of the Qinghai–Tibetan Plateau, while *Delongia* most likely shares a common ancestor in the Eocene (56–34 Ma) either with the arctic-subarctic genus *Psilopilum* or with *Atrichum* and *Stereobryon*.

Keywords bryophyte phylogeny; East African Rift; mosses; *Oligotrichum*; relaxed-clock dating; Réunion

Supplementary Material The Electronic Supplement (Figs. S1–S2; Appendix S1 with full species descriptions) is available in the Supplementary Data section of the online version of this article at <http://www.ingentaconnect.com/content/iaprt/tax>. The original matrix was submitted to TreeBase (<http://purl.org/phylo/treebase/phyloids/study/TB2:S17555>).