Differential tempo of flower shape evolution in Madagascan *Bulbophyllum* (Orchidaceae): first insights from 3D-microCT scanning and phylogenetic analyses

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Adaptive radiation is a key process underlying the origin of biological diversity. However, especially in plants, surprisingly little is known about how the tempo and mode of lineage diversification is linked to the evolution of phenotypic trait disparity. Inspired by animal speciation models, a common perspective is that morphological change in reproductive traits predominantly occurs during speciation rather than during earlier periods of a radiation. To test this hypothesis, we presently analyze the flower shape of Madagascan *Bulbophyllum* (c. 210 spp.) using 3D-microCT scanning and landmark analyses for comparison with a time-calibrated molecular phylogeny of this mid-to-late Miocene radiation (c. 10 Ma). Our survey of c. 40 species indicates that most of the analysed sections of the group (median stem ages c. 9.0–4.7 Ma) can be discriminated by flower shape, whereas a particular section (c. 22 spp.; crown age c. 3 Ma) also contains a few closely related species and sister pairs (c. 1.0–0.5 Ma) that strikingly differ in this trait. Overall, these preliminary results point at differential timings of trait evolution in this group, with major changes in flower morphospace being linked to initial diversification events rather than occurring predominantly during speciation viz. the later stages of this radiation.