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Dear Dr. Florian Maderspacher,

Thank you for the opportunity to address comments and concerns regarding our manuscript *Evolutionary bursts drive morphological novelty in the world's largest skinks* (CURRENT-BIOLOGY -D-23-01837).

We have done an extensive revision of our original submission. In response to substantive comments from three reviewers, we began by expanding our sampling (now >100 ingroup samples) and building an extensive combined evidence phylogenetic estimate for this group, incorporating fossil information where available. We then undertook a full reanalysis of our data with additional molecular sampling and including fossil taxa. While it took time to verify our results through additional analyses, these extra pieces provide further support for our previous conclusions, and have made our arguments stronger.

All three of the reviews were very detailed and we were encouraged by constructive and valuable comments, primarily from two reviewers (R1, R3). A third reviewer (R2) provided extensive comments which focused on a lack of paleontological data and questioned the suitability of this group for studying the tempo and mode of evolution. In our resubmission we address all reviewer comments, including challenging R2's fundamental criticisms. We emphasize that it is important and valuable to investigate tempo/mode in both paleontological and neontological systems, and provide evidence that major patterns in Tiliquini skink evolution are recoverable even in the absence of extensive fossil material.

Our response letter to reviewer comments is long (22 pages, sorry!) but we tried to thoroughly address every concern. Where we did not agree with a reviewer's comment, we worked to best explain why.

Please find in the attached documents our response to reviewers and a revised manuscript for consideration.

On behalf of myself and coauthors we thank you for your time.

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