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Dear Editor-in-Chief and Editorial Board members of *PNAS*,

Please find enclosed our manuscript titled “***The rise of angiosperms pushed conifers to extinction during global climate cooling***”, which we submit for consideration as a Research Article in *PNAS*.

In this work, we address the consequences of the explosive radiation of flowering plants between 125 and 80 million years ago, which is thought to have impacted the diversity of long-established plant groups like gymnosperms. We test this hypothesis by studying both the fossil record and a time-calibrated phylogeny, which we use to quantify the effects of abiotic or biotic factors on the speciation and extinction rates of an iconic gymnosperm group, the conifers.

Using cutting-edge birth-death models, we first find that extinction of conifers increased *ca.* 110 million years ago and remained high ever since. Additional models provide strong evidence that the conifer extinction is best explained by the rise of angiosperms, rejecting alternative models where rates varied as a function of either time or the fluctuations of past temperatures. In particular, we find that extinction strongly correlates with the increasing diversity of angiosperms, suggesting that biotic interactions mediated by this novel competitor triggered the decline of conifer diversity.

These results are striking as we found remarkably consistent signals from the fossil and phylogenetic data, both providing a strong statistical support for the angiosperm-driven extinction model, potentially explaining the generally proposed conifer diversity decline. These results also imply that long-term biotic interactions can play a more important role on the rise and demise of major organism groups than mass extinction events. We think the originality and novelty of these results will appeal to the broad readership of *PNAS* and hope that you will share our excitement for the study presented.

We recommend the NAS member Prof. **Nils C. Stenseth** at University of Oslo as the Editorial Board member and as Editor to handle this submission.

For qualified reviewers, we would like to recommend:

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Sincerely yours,

Fabien L. Condamine, On behalf of my co-authors

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