

## Accepted Manuscript

Adaptive radiations should not be simplified: the case of the danthonioid grasses

H. Peter Linder, Yanis Bouchenak-Khelladi

PII: S1055-7903(17)30716-9

DOI: <https://doi.org/10.1016/j.ympev.2017.10.003>

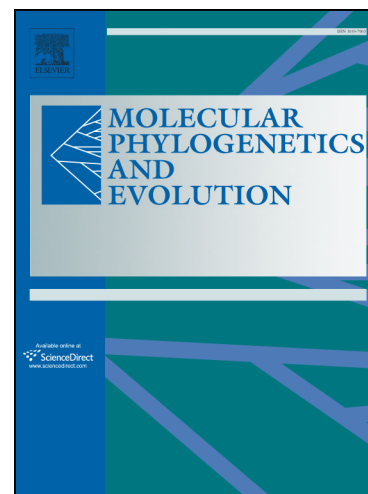
Reference: YMPEV 5939

To appear in: *Molecular Phylogenetics and Evolution*

Received Date: 29 June 2017

Revised Date: 2 October 2017

Accepted Date: 4 October 2017



Please cite this article as: Peter Linder, H., Bouchenak-Khelladi, Y., Adaptive radiations should not be simplified: the case of the danthonioid grasses, *Molecular Phylogenetics and Evolution* (2017), doi: <https://doi.org/10.1016/j.ympev.2017.10.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Adaptive radiations should not be simplified: the case of the danthonioid grasses

H. Peter Linder<sup>1</sup>, Yanis Bouchenak-Khelladi<sup>1,\*</sup>

<sup>1</sup> Institute of Systematic and Evolutionary Botany, University of Zurich, Zollikerstrasse 107, Zurich 8008, Switzerland

\* Corresponding author. Yanis Bouchenak-Khelladi, Tel: +41 44 634 8410, e-mail: [yanis.bouchenak-khelladi@systbot.uzh.ch](mailto:yanis.bouchenak-khelladi@systbot.uzh.ch) / [boucheny@tcd.ie](mailto:boucheny@tcd.ie)

*“No single index should substitute for scientific reasoning” (Wasserstein and Lazar, 2016)*

### Abstract

Although much of extant diversity is probably the product of evolutionary radiations, the special case of adaptive radiations has not yet been thoroughly explored. Adaptive radiations are postulated to occur when a lineage is exposed to new ecological opportunities, where it can diversify ecologically. We argue that adaptive radiations have two characteristics. Firstly, the diversification rate accelerates initially, and is then followed by a density-dependent slow-down. Secondly, traits relevant to the new ecological opportunity should evolve at or just before the radiation. We also argue that a correct identification of adaptive radiations is dependent on the phylogenies underlying the diversification dynamics being sampled adequately (i.e. comprehensive species sampling), and that the traits should be treated continuously if they exhibit a biological continuum and not be over-simplified into binary traits. Here, we test the hypothesis that much of the extant diversity of the south-temperate grass subfamily Danthonioideae is

Download English Version:

<https://daneshyari.com/en/article/8649119>

Download Persian Version:

<https://daneshyari.com/article/8649119>

[Daneshyari.com](https://daneshyari.com)