Dear Dr. Bardgett,

Please consider our revised manuscript, "Budburst timing within a functional trait framework" for publication as a research article in *Journal of Ecology*.

The timing of plant life history events—phenologies—has shifted with climate change, leading to novel interactions between species, and altered ecosystem services. Changes in the timing of species growth may also change availability of resources and severity of competition within a community. But to date, few studies have explored whether changes in phenological traits relate to other traits that are known proxies for species growth strategies. Our work is the first to use data from global trait and phenology databases to test how woody plant budburst timing relates to other major functional traits and species growth strategies. We found species that budburst earlier exhibit traits associated with an acquisitive growth strategy—shorter maximum heights, and denser, high nitrogen leaves—while later budbursting species are taller with denser leaves indicative of a more conservative strategy that is favourable later in the growing season. In showing how budburst relates to traits from established functional trait frameworks, our results provide the foundation needed to predict how future effects of climate change on phenology may alter species responses and community dynamics globally.

Two reviewers highlighted the strengths of our analysis, finding the approach we took "very exciting" and the manuscript "well written". Their comments, questions and points of corrections have greatly improve the manuscript. In response to the reviewer comments, we have refined the language we use and provide greater support and clarification of our predictions. We have revised the introduction to now provide a more in-depth overview of the literature that supports our predictions and context for our results. We have also created two new figures to better visualize the global scope of the data and to provide more detail on our methods for data collection and cleaning. We have made considerable revisions to our results and discussion to improve their clarity and interpretability, including the expansion of our tables for each model in the supplementary material and more detailed explanations in both the text and captions . Finally we added additional context and discussion regarding our analysis of species versus study-level variation to better highlight the importance of partitioning these sources of variation.

We believe the new manuscript has been greatly improved, as discussed in our point-by-point responses. The manuscript is XXX words with a XXX word summary and three figures. This article is not under consideration for publication elsewhere. We hope you find it suitable for publication in *Journal of Ecology*, and look forward to hearing from you.

Sincerely,

Deirdre Loughnan

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