

The early bird uses bioRxiv: The impact of career stage on the usage of preprints in ecology and evolution

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April 11, 2021

Abstract

The usage of preprint servers in ecology and evolution is increasing, as it allows for research to be rapidly disseminated and available through open access at no cost. This is relevant for Early Career Researchers (ECRs), who must demonstrate research ability for funding opportunities, scholarships, grants, or faculty positions in short temporal windows in order to advance their careers. Concurrently, limited experience with the peer review process can make it challenging for those who are in the early stages of their research career to build publication records. Therefore, ECRs face different challenges relative to researchers with permanent positions and established research programs and have different requirements in terms of research output and timelines. These challenges might also vary according to institution size and country, which are associated with the availability of funding for open access journals. Herein, we hypothesize that career stage and institution size impact relative usage of preprint servers among researchers in ecology and evolution. Using data collected from 500 articles (100 from each of two open access journals, two closed access journals, and a preprint server), we demonstrate that ECRs generate more preprints relative to non-ECRs, for both first and last authors. We speculate that this pattern is reflective of the advantages of quick and open access research that is disproportionately beneficial to ECRs. There is also a marginal effect of first author institution size on preprint usage, whereby the number of preprints tends to increase with institution size for ECRs, although the interaction between ECR status and institution size was not significant. The United States and United Kingdom contributed the greatest number of preprints by early career researchers, whereas non-western countries contributed relatively fewer preprints. This research provides empirical evidence regarding motivations of preprint usage and barriers surrounding large-scale adoption of preprinting in ecology and evolution.

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