

Open Preprints in Ecology & Evolution

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I. THE CASE FOR OPEN PREPRINTS

Preprints servers such as arXiv are common in mathematics and physics, but still a minority of papers in ecology and evolution use them. Preprints servers allow author to make their manuscripts publicly available before, or in parallel to, submitting them to journals for traditional peer-review. ... The idea became popular with arXiv, and many physicists start their day with a look at the new papers in arXiv [3]

We will highlight advantages for both scientists and publishers.

The first and most often discussed advantage is speed 1.

The review process as a whole is critically over-loaded, because the number of active scientists increases, because the pressure to publish increases, and because of an effect dubbed “the tragedy of the reviewers commons” REF. In the same times, rejection rates are high in most journals (REF), and when the not invited to submit a revisions, authors are left with the impression that they must start the whole process all over again. It’s thus no surprise that different initiatives emerged over the last few years, to decrease the time spent in review. XXX et coll. (REF) called for the recycling and reuse of peer-reviews: by attaching previous reviews, and detailed replies, to a new submission, both the editor and the referees can gauge the work done on the manuscript, and perhaps evaluate it with less prejudice. In a similar way, the *Peerage of Science* initiative allows authors to seek anonymous pre-review by their peers. Some journals (LIST?) now accept to publish papers which received good evaluations, effectively outsourcing the review process. A widespread use of preprint servers can achieve the same goal of reducing the time spent in review. By putting a manuscript out there for open comments and criticisms, the authors will receive valuable feedback, and can improve the version which will be submitted. With a rich enough community of scientists depositing preprints, and commenting on them, the process of an open pre- review can become

widespread, and will overall increase the quality of first submissions.

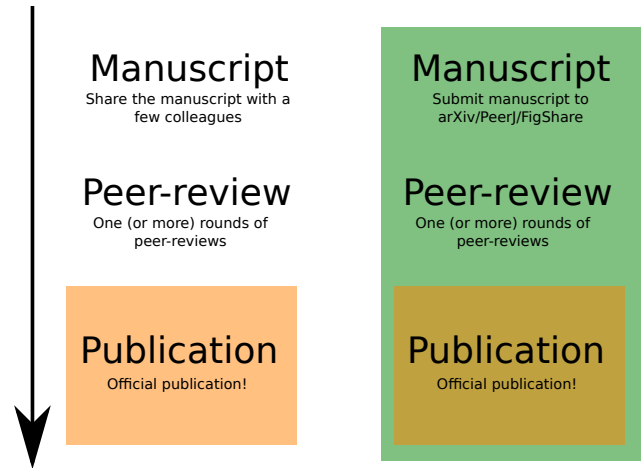


FIG. 1: It can take several months, and even a few years, before a submitted paper is officially published and citable. During this time, few people are aware of the research that has been done (typically, close colleagues are given access to the preprints). With public preprint servers, the science is immediately available and can be openly discussed, analysed, and integrated into current research. It benefits both science and publishers. Both want the papers to be well-known and cited, and public preprints make it possible to integrate research even before publication, greatly improving immediacy.

Preprint servers also establish priority in a fair way. Some manuscript will spend much more time in the review process. Public preprints server offer a much fairer way to establish intellectual priority by making the work available when done, and even if the exact organisation of the manuscript may change. Surprisingly, there is perception in biology that public preprints make it easier to steal ideas, as if scientific ideas only took form in published material. Mathematicians and physicists have embraced arXiv in part to establish priority in a fair way[2].

Some of the responses to public preprints are surprising since they are, essentially, the same as exchanging preprints among colleagues. Prepublication reviews by

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a small network of colleagues is an important part of the scientific process, which is attested by the fact that nearly all published papers acknowledge comments by people not listed as co-authors. Preprints servers simply offer a way to extend this network of colleagues to the entire scientific community. It ensures that science is not constrained by small networks of scientists exchanging ideas. Ginsparg made arXiv.org in part for democratic reasons: he wanted everyone from graduate students in small universities to Princeton professors to have access to the most recent scientific *ideas*. Ginsparg revolutionary idea was simply to use the power of the internet for preprints, not just for the end product, so the process can be open from A to Z, instead of being just open at the end of the process.

II. PREPRINTS, ECOLOGY & EVOLUTION

While the practice is still rare, preprints are becoming more common in biological sciences, which is experiencing faster growth in arXiv submissions than any other fields [2]. Also, most scientific journals are preprint-friendly: Nature, PLOS, BMC, PNAS, Science (mostly) I, and all the journals from Elsevier and Springer. Very recently, the Ecological Society of America recently changed its policy to allow public preprints (REF). In our field, few scientific publications will not consider a manuscript submitted to arXiv. Still, many ecology & evolution journals adopt a “by default” hostile attitude towards preprints, mostly due to the lack of clear policy of the publishers. As an example, Wiley-Blackwell, which publishes some of the leading journal in the field, has no official policy on the subject I.

III. CURRENT OFFER

We briefly discuss the main options to submit preprints to open servers: arXiv.org, Figshare, and the upcoming PeerJ and F1000Research.

A. arXiv

arXiv (<http://arxiv.org/>). arXiv is funded by a network of universities.

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B. Figshare

Figshare (<http://figshare.com/>)

All figshare content (article, figures, datasets) have a unique digital object identifier (DOI) like any journal article.

C. PeerJ

D. F1000Research

F1000Research is not a public preprint server like the previous three servers. Whereas arXiv, Figshare, and PeerJ offer an option to submit a manuscript without having it reviewed, papers submitted to F1000Research will eventually be reviewed. Thus, F1000Research offers a hybrid model with publicly available manuscripts at time of submission and standard peer-reviews. Manuscripts are considered “accepted” and will only be indexed after two positive referee response.

IV. CONCLUSION

Responding to the rumour that they refused manuscripts submitted to arXiv, Nature responded that “Nature never wishes to stand in the way of communication between researchers. We seek rather to add value for authors and the community at large in our peer review, selection and editing” [1].

Publisher	Policy
Springer	Accept
BMC	Accept
Elsevier	Accept
Nature Publishing Group	Accept
Public Library of Science	Accept
Royal Society	Accept
National Academy of Science (USA)	Accept
Science	Accept/Ambiguous
Wiley-Blackwell	No general policy
Ecological Society of America	Refuse
British Ecological Society	?

TABLE I: Policies for important publishers in ecology and evolution.

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- [1] Nature Editorial Board. Nature respects preprint servers. *Nature*, 434:257, 2005.
- [2] E Callaway. Geneticists eye the potential of arXiv. *Nature*, 488:19, 2012.
- [3] P Ginsparg. ArXiv at 20. *Nature*, 476:145–147, 2011.