**A Review of Peer-Review for *Pedobiologia – Journal of Soil Ecology***

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**Abstract**

Peer-review is an integral part of the scientific process, but getting a sufficient number of busy scientists to provide constructive reviews on a manuscript can be a challenge. The majority of individuals that we polled have had experience in the last two years with having manuscripts rejected and then submitting them elsewhere and/or with receiving invitations to review the same manuscript for different journals. Many experienced these events multiple times in that period. Authors who have had manuscripts rejected from journals after review have the opportunity to improve their manuscripts in light of reviewer comments. However, unless the next journal that these manuscripts are sent to has technical means for transferring reviews from the previous journal, the current practice for most journals is that these manuscripts are treated as if they had not yet undergone any peer review. Providing authors the option to submit responses to previous reviewer comments with details about how the manuscript has been revised since rejection from the previous journal is a practical means to increase the efficiency of peer review, requiring fewer reviews and leading to more rapid publication. *Pedobiologia – Journal of Soil Ecology* invites authors to include previous reviewer reports and detailed responses with new submissions.

Keywords: academic publishing, efficiency, reviewer fatigue

The peer-review process is an integral part of the scientific process in which peers vet, validate, and obtain clarification on results, hypotheses, concepts and theories (Csiszar 2016). However, in the recent past, there has been growing assertion that the peer-review system is 'broken' as indicated by anecdotal evidence of individuals receiving an increasing number of requests to provide reviews and frequent rejection of manuscripts describing sound science due to competition for space within selective journals. As perceptions rise that institutions and granting agencies increasingly examine personal publishing metrics as indicators of scientific quality and impact, the pressure to publish increases. This can lead to authors trying to strike a balance between (i) maximizing their number of publishable units, (ii) achieving publication in selective, high impact factor journals and subsequent citations from a wide readership, and (iii) minimizing delays in publication due to resubmissions and re-review processes.

As editors of *Pedobiologia – Journal of Soil Ecology* and other journals, we are painfully aware of the considerable strain that review and re-review (and re-re-review) of manuscripts puts on reviewers. One proposed cause of peer-review discontent is an over-extended reviewer pool leading to reviewer fatigue (Kovanis et al. 2016), although other causes in ecology have been cited (Fox et al. 2017). There is a serious time commitment by editors and reviewers to undertake careful and diligent peer-assessment. In a recent analysis, Publons (2019) found that the rate of declined reviewer invitations increased from 1.9 to one acceptance in 2013 to 2.4 review invitations to one acceptance in 2017. The most cited reason for declining a review is that experts are too busy, including doing other reviews (Breuning et al. 2015). Regardless of the cause, a lack of reviewers increases the submission–to–publication time considerably. And when we add to this that many articles are also rejected following peer-review, even when the authors are able to address the outlined issues or perceived shortfalls of their work, the time commitment by authors, editors and reviewers may not be fully realized or at the very least, is not effectually optimized.

The review process at *Pedobiologia – Journal of Soil Ecology* starts with one of us, the co-Editor-in-Chiefs. We initially vet submissions based on three criteria: (i) their fit to the aims and scope of the journal (defined clearly by Powell et al. 2014), (ii) whether there are

obvious flaws in the rationale, design and/or interpretation of the work that will not stand up to reviewer scrutiny and (iii) whether the work has been described in a way that reviewers will be able to assess it fairly. Based on these expectations and our concern for reviewer fatigue, we ultimately reject approximately 70% of submitted manuscripts without review (some of these will include invitations to resubmit a substantially revised version). Those that do pass this initial stage typically involve another 1-6 persons for any given manuscript: an expert handling editor, if not one of us, and as many invited reviewers to allow for 2-3 accepted invitations. Like most journals these days it is becoming harder for us to find reviewers who accept review invitations – our record is 16 invitations to get a single acceptance!

***Estimating the extent of the problem***

To get a broader view of the extent that authors experience rejection following peer-review, and their use of those reviews, we asked the Editorial Board of *Pedobiologia – Journal of Soil Ecology* about their experiences as authors and reviewers of manuscripts submitted to new journals following rejection. We posed the same questions to followers of our twitter handles (@jsoilecol, @LindoLab) and found that responses were generally similar ($P > 0.05$, multinomial regression using the 'nnet' package [Venables and Ripley 2002] in R v.3.6.1 [R Core Team 2019]; Fig. 1, Fig. 2). The responses support the notion that the initial peer-review process is valuable to authors in improving their manuscripts, but is devalued by continued re-review processes and increases both time to publication and workload for editors, authors, and peer-reviewers.

As authors, 83% respondents in our informal survey reported submitting at least one previously rejected manuscript to a different journal in the last two years, and 38% of respondents did this at least three times over the same period (Fig. 1a). Despite rejection of manuscripts being a frequent occurrence (at least 180 rejections in the last two years across the 113 respondents), the reviews that the authors are receiving are providing value and comments are being taken on board (Fig. 1b). In the vast majority of cases, the authors took care to revise manuscripts in light of reviewer comments on the previous version. Only 3%

of respondents indicated that they had resubmitted a manuscript without making any changes (we did not ask the reason, and these respondents also indicated that at least one other manuscript had been resubmitted after making changes suggested by the reviewers).

As reviewers, 51% of the respondents received at least one invitation in the last two years to review a manuscript that they had previously reviewed for a different journal, and 22% responded that this had happened more than once (Fig. 2a). This represents a total of at least 30 manuscripts across the 41 respondents. When looking at their experiences as reviewers of manuscripts that they had previously reviewed, 29% responded that the manuscript(s) had not been revised in response to their comments on the previous version and 44% responded that the revisions were incomplete and more changes were required (Fig. 2b). We cannot know the reasons for these behaviours, but we can speculate that the pressure to publish is leading authors to choose the easy and fast route to just resubmit elsewhere with minimal effort, hoping that they do not get unlucky and draw the same reviewers or different reviewers who ask for the same amount of work.

On a positive note, 21% responded that most or all of their concerns had been addressed and 6% responded that they did not think that the manuscript should have been rejected in the first place. As such, many authors are using the peer-review system to their benefit, improving their manuscripts based on peer-review comments and feedback and making their science stronger. Journals should do what they can to incentivise these behaviours and increase their frequency. For instance, these manuscripts might have been able to have undergone a rigorous preliminary assessment if the handling editor had access to those previous reviews and, depending on the quality of the responses, some of those manuscripts might not have even required further review after this assessment. This could have saved several hours for editors soliciting reviewers and reviewers assessing manuscripts and would have led to rapid decisions for the authors.

We have encouraged potential submitters to provide this additional information in the past: two manuscripts submitted to *Pedobiologia – Journal of Soil Ecology* have been accepted based on our assessments of the authors responses to reviews received from another journal. In both cases, we were able to use our own expertise to see that the works did not

require further review and needed only minor revisions to be acceptable for publication. **As a result, these papers were accepted in less than three weeks and available online approximately one month after submission.**

***A practical proposal to increase the efficiency of peer review***

It is now common for some journals to offer to transfer a rejected manuscript and its reviews to another journal. To our knowledge, this only occurs between journals owned by the same publisher. This makes sense from the perspective of these feeder and receiver journals being linked by a single online submission system, owned and managed by a publishing company. However, limiting transfer of manuscripts to journals belonging only to a single publisher places constraints on authors who are deciding the best next step for their rejected manuscript. Further, when the receiving journal is an open-access journal requiring authors to pay fees for publishing their work, it also (fairly or unfairly) raises questions about the motivations for encouraging authors to transfer rejected manuscripts to those journals.

Personally, however, we make decisions about where to submit manuscripts based on many criteria, all of which are related to the identity of the journal, not the publisher: (1) where will the work have the most impact? (2) are there editors at the journal able to ensure that the work is evaluated constructively and quickly? (3) have previous experiences with the journal satisfied the first two criteria?

Therefore, we would like to make it known more widely that **we are encouraging authors of new submissions to provide a detailed response to reviews from a prior submission to another journal** (where the manuscript is no longer under consideration) so that we may use this to accelerate the review process and to avoid overburdening reviewers. This can be done by uploading the reviews, a detailed response to those previous reviews and a version of the manuscript in which changes from the previous version are tracked along with the revised manuscript and using the appropriate 'file type' descriptions. To be clear, we are not aiming to circumvent the review process – high quality is still our goal – we are just

trying to capture information available to make decisions by tapping into work that has already been done and to extract the maximum value from the constructive efforts that reviewers put into previous versions of manuscripts.

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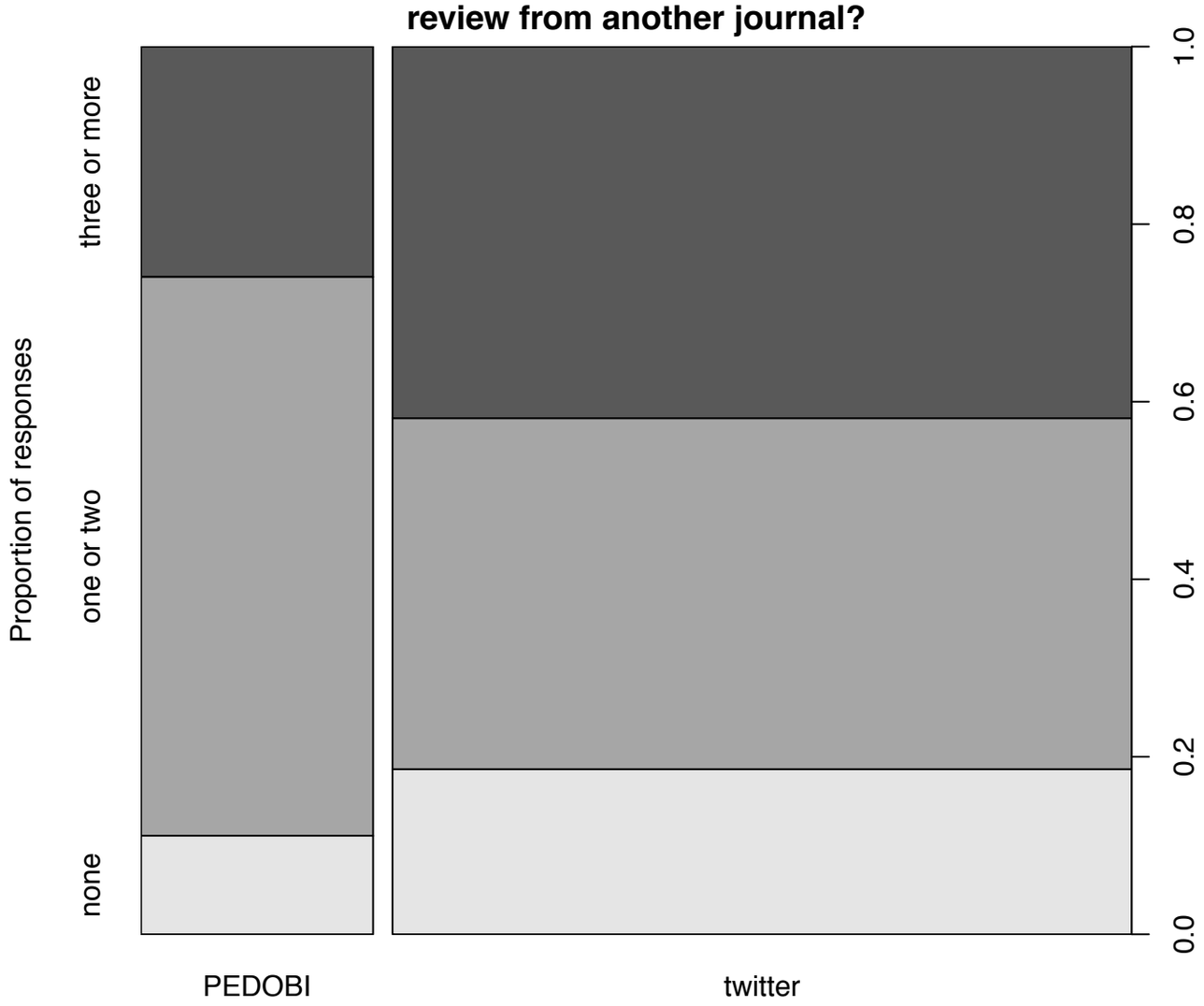
## Figure captions

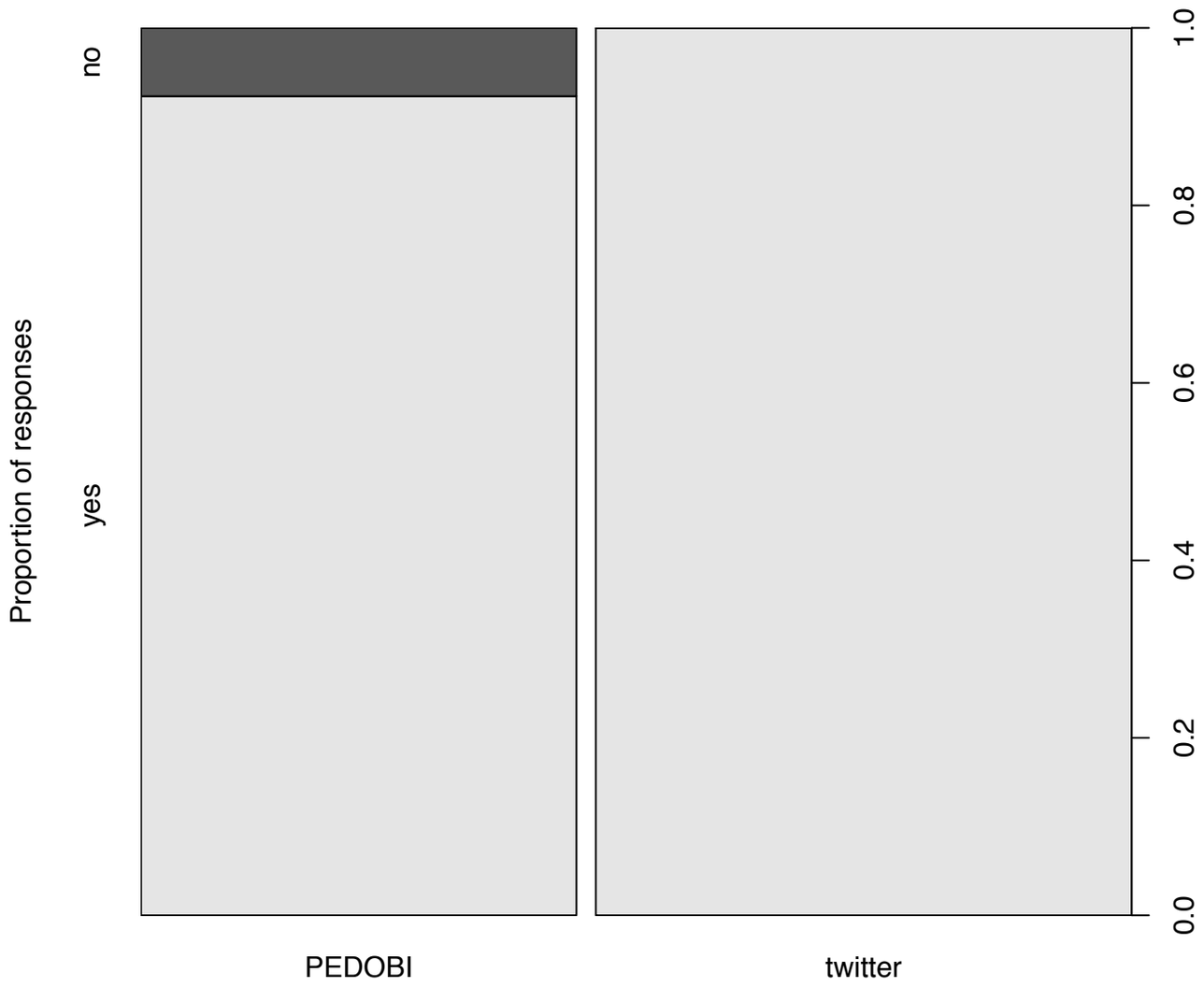
Figure 1. Responses by *Pedobiologia – Journal of Soil Ecology* editors to questions regarding their experiences as authors of manuscripts rejected from one journal and then submitted to another in the last two years. With of each bar on the x-axis is proportional to the number of responses for each group: (a) PEDOBI = 27, twitter = 86; (b) PEDOBI = 26, twitter = 32.

Figure 2. Responses by *Pedobiologia – Journal of Soil Ecology* editors to questions regarding their experiences as reviewers of manuscripts rejected from one journal and then submitted to another in the last two years. With of each bar on the x-axis is proportional to the number of responses for each group: (a) PEDOBI = 27, twitter = 14; (b) PEDOBI = 19, twitter = 15.

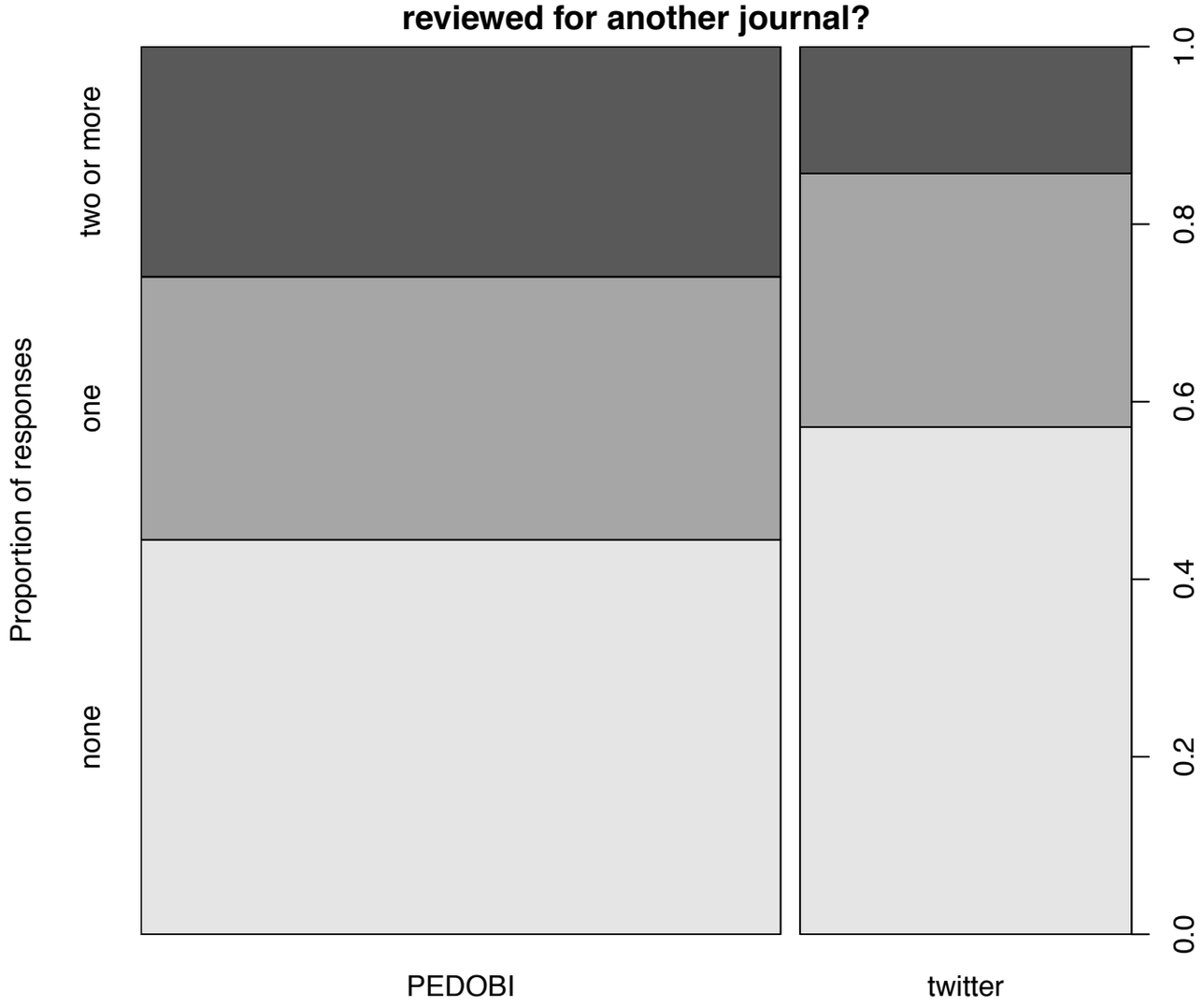
**(a) How many times in the last two years have you submitted a manuscript to a journal after having it rejected following review from another journal?**




**(b) Did you revise the manuscript in light of the reviewer comments before submitting the manuscript elsewhere?**



**(a) How many times in the last two years were you asked to review a manuscript that you had previously reviewed for another journal?**




**(b) To what extent did the authors address your concerns regarding the previous version, if required?**