

Thoughts on publishing in a changing environment

The publication system has been changing fundamentally leading to divergent views on the most appropriate publication strategy. As DFG review board "Zoology" we evaluate proposals in all their dimensions, which also includes assessing the qualification of applicants by assessing their publication record. We have observed that in the currently changing publication system choosing the most appropriate journal for research findings is a complex and difficult task. Here, we would like to contribute some thoughts in order to better align publication strategy with current expectations in decision-making bodies.

Why carefully selecting the journal for submission is essential

Any decision on applications for grants or positions includes an assessment of past performance based on the publication record. Under the classic publishing system, papers in most journals were associated with scientific prestige because most journals were selective. Their motivation to stringently select for quality had been maintained by a strong financial incentive: Only if a journal presented a high portion of high quality papers, the researchers would purchase a subscription, which actually generated the revenue.

Under the new open access publication regime with author-financed article processing charges, the financial incentive has changed: Now, the revenue is generated by publishing a paper – irrespective of its quality or its subsequent perception by the community. Most classic and many new journals have combined the advantages of open access publishing with ongoing stringent quality control striving for a better publishing system. Unfortunately, there is a surge of journals which compromise on the quality for sake of revenue. The community perceives the lack of selectivity of those journals, and as a consequence, publications in such journals come with less prestige even if the paper is of high value. This may affect your standing in competitive scenarios. Therefore: **Publish your work mainly in journals with a good reputation in your community.**

How to identify journals with good reputation

Some claim that the importance of the reputation of journals will be replaced by quantitative measures on the article level based on community feedback. And indeed, not all works in prestigious journals meet the highest standards and a very good paper may gain attention even when published in less visible journals. However, community feedback only accumulates over time reducing the validity of indicators for recent papers. Hence, at least for the time being, we feel that selective journals present a higher portion of high-quality papers.

Hence, publishing in selective journals with high reputation will remain one of the important aspects documenting past performance.

But how to distinguish high quality journals from those with low reputation? This is a difficult task given the range from clearly predatory journals to journals that have implemented a proper review process but have the policy to not reject even poor or preliminary work. Moreover, the quality of a journal may change over time, prestige may differ between two journals from one publisher and publishing traditions diverge among different fields. Therefore, any positive or negative list would be incomplete and outdated upon publication.

The journal impact factor has always been a disputed indicator but has lost even more of its meaning due to measures taken by some journals to artificially increase citations. This includes for instance strategic self-citations, publishing a large number of reviews, special issues and publishing manuscripts that will get attention due to their topic but not necessarily due to their quality. Indeed, in the meanwhile some journals with the highest prestige in their field have a lower IF than some emerging journals with large portion of poor quality publications. Hence, **the journal impact factor often falls short of identifying high quality journals.**

We suggest both experienced and early stage researchers to consider the following **questions for identifying high quality journals**:

- What journals have lately published articles that are considered important in your field?
- In what journals do your most esteemed colleagues publish their work?
- Is the submission handled by editors who are active and recognized scientists in their field?
- Are the journals run by well-known scientific societies?
- Are the journals run by non-profit organizations?

Indicators for **low quality journals**:

- Does the journal push you to submit a paper or to edit a special issue?
- Does the short average time to reach the decision indicate a quick and superficial process?
- Do most articles of that journal appear as part of special issues?
- Does the journal have a name that mimics the name of a well-known journal?
- Is the editorial board extremely large indicating a high-throughput strategy?
- Are you sure that your manuscript will certainly and quickly be accepted in the journal even in case of weaknesses? Your colleagues will know that, too. And they will be less impressed compared with a publication in a journal, which is known for its selectivity.

Note that these questions should not be used as strict criteria, all of which have to be fulfilled to take a certain decision. Rather, they are meant as a starting point for respective discussions among peers.

Due to the dynamic development of the publication landscape, we hesitate to mark journals or publishers as high-quality or not. Indeed, our individual publication strategies have been changing according to our evolving assessments of the publication landscape. In that sense, we hope that from ongoing discussions in the community a more consensual view will emerge.

Communities can and need to act against the tsunami of poor quality journals

Only the scientific communities are able to counteract the negative impact of publishers, who prioritize their financial interest over science jeopardizing the scientific process. Those publishers will lose revenue if the **communities restrict all their efforts to journals with prestige in their field**. Along the criteria given above, we suggest to carefully decide for which journals to review papers, to contribute reviews, to guest-edit special-issues and to serve on the editorial board. In case of profit driven journals, such efforts might come with more work than prestige.

Some journals with high reputation have been increasing the costs for submission or open access well beyond economic considerations. Publishing in such a journal is becoming an issue of availability of funds and too much research money is channelled to those publishers. The established scientists are less dependent on the highest-possible visibility and could therefore take the lead in counteracting this development by publishing their best work in more community driven journals while keeping in mind the interests of their co-authors.

We hope that our suggestions add to the ongoing efforts to improve our publication system and stimulate a vivid discussion.

DFG Review Board 203 Zoology

Gregor Bucher, Klaus Fischer, Gabriele Gerlach, Steffen Harzsch, Hans Merzendorfer, Achim Paululat, Klaus Reinhold, Mark-Oliver Rödel, Thomas Röder, Andreas Schmidt-Rhaesa, Jutta Schneider, Ingolf Steffan-Dewenter, Gabriele Uhl