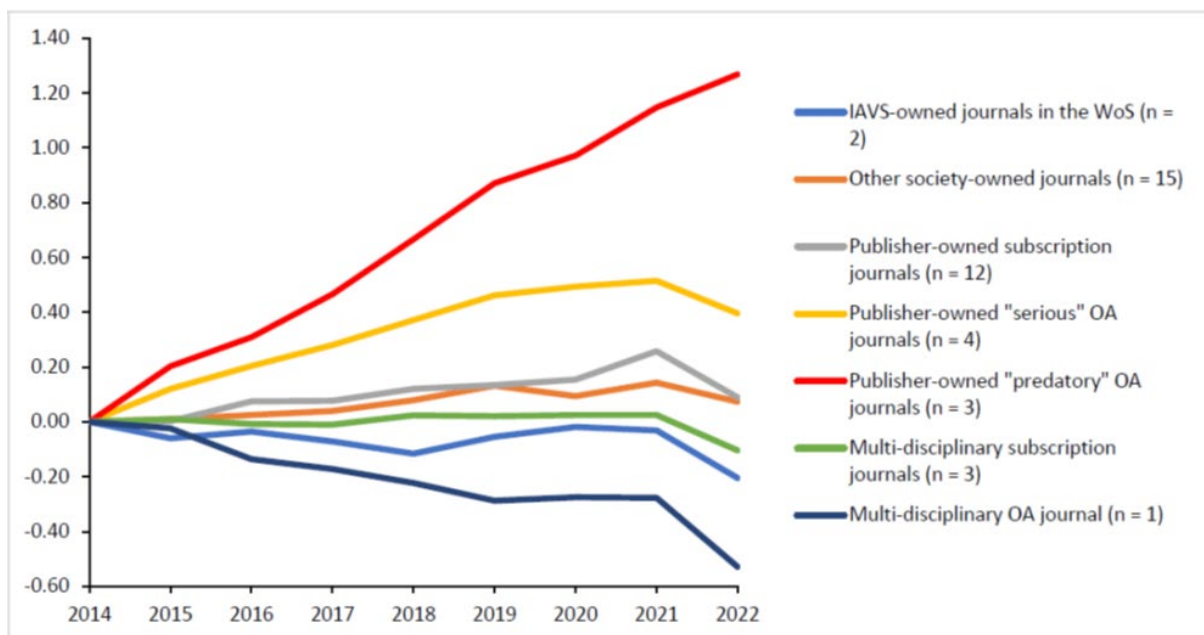


From: <https://vegsciblog.org/2023/11/25/open-access-movement-questionable-outcome/>

Open access movement: noble intend – questionable outcome (and what different stakeholders can do about that)

Posted on [November 25, 2023](#) by [David Zeleny](#)

The post is provided by [Jürgen Dengler](#)



Development of article numbers published annually in journals relevant to vegetation ecologists since 2014. The journals are grouped into seven categories based on content (multidisciplinary vs. ecology only), ownership and publication approach. The y-axis presents the total number of articles per year of all journals grouped in each category, standardized by the value of 2014 and log₁₀-transformed to account for the extreme changes in some cases (source: J. Dengler, from the article).

This post refers to the article **Priorities in journal selection for authors, reviewers, editors, librarians and science funders** by Jürgen Dengler, published in the *Vegetation Classification and Survey* (<https://doi.org/10.3897/VCS.110296>)

Open access (OA) publishing was put on the agenda of science funders, universities and their libraries more than 20 years ago, with the aims of making scientific results publicly available and reducing the costs of scientific publishing (BOAI 2003). Nowadays, a much bigger fraction of articles than before is OA, but still a large part, if not the majority, of scientific journal articles appear behind a paywall. What is worse, the way OA publishing is implemented/pushed causes considerable collateral damage. In my article, I provide an overview of these issues and why they matter, supported by a bibliometric analysis and cost/profit estimations of different publishing models, leading to three suggestions on how to improve/overcome the current system, which I consider detrimental to science.

The problems arise from how the OA philosophy is predominantly implemented – due to the pressure and the subsidies of big science funders and many universities. They specifically support a single model of OA, the so-called **gold OA**. In this system, the content is freely available to readers worldwide, but instead of charging readers (via subscriptions), the publishers charge the authors for the publication costs via so-called article processing charges (APC). The consequence of this financing model for journals is twofold: (a) authors who are not affiliated with rich institutions in rich countries usually cannot afford these high APCs and thus are excluded from publishing their good articles OA, while (b) in rich countries/institutions nowadays usually APCs up to a certain threshold are (almost) automatically covered, irrespective of serious quality criteria. Thus, the current system has inbuilt incentives to charge much higher APCs than the actual costs of publishing and to prioritize quantity over quality.

A key issue is so-called **predatory journals and publishers**, which I broadly define as those who “maximise profit at the expense of scientific quality”. In the initial phase of OA publishing, such predatory publishers mainly occurred in a few developing countries and emerging markets and were easily recognizable. Today, it is not so obvious anymore as some of the dominating predatory publishers are now based in leading science countries and operate behind a splendid facade. To nevertheless allow their recognition, I provide a list of key characteristics of predatory publishing, with (a) the promise of very short times from submission to publication and (b) pressure on editors to increase article numbers being two eminent ones. However, there is no clear-cut separation between predatory and serious publishers anymore as formerly serious publishers under the given economic incentives also start to adopt certain practices of predatory journals.

In a **bibliometric analysis** tailored to journals relevant to vegetation scientists, I found strongly contrasting trends in different journal categories (Fig. 1). Among the ecology journals, the society-owned had the lowest average growth rate during the past eight years, even with decreases in some of them. Publisher-owned subscription journals showed a marginally more positive trend, while publisher-owned “serious” OA journals grew with an average annual rate of 12.1% and publisher-owned “predatory” OA journals with an average annual rate of 44.1%, meaning an extreme exponential growth. In consequence, within the analysed spectrum of 36 ecology journals, the fraction of papers in society-owned journals decreased during the 8-year period from 35% to 19%, while it increased in the predatory journals from 4% to 37%.

One important question in publishing, but particularly in OA publishing, is **whether the prices charged by the publishers (APCs) are justified**. APCs are typically in the range of 1500 to 3500 EUR per article. To get a rough idea whether such prices are justified, it is worth looking at Pensoft, the publisher of IAVS’ gold open access journal Vegetation Classification and Survey (VCS), because this publisher has an unusually transparent pricing system. Pensoft charges about 700 EUR for an article of typical length, which can be paid by the association/institutions owning the journal, by the authors or part-part. From this amount of money, Pensoft not only offers a service comparable to that of larger publishers but also makes a profit of unknown size. Thus, why should authors, universities or science funders often pay several times higher APCs? This question is of particular concern as most of the APCs are not paid by private persons/institutions, but by public research institutions, thus

ultimately by the taxpayers. And the money “wasted” here evidently will be missing elsewhere in science.

To overcome the three main drawbacks of the current implementation of gold OA (barriers to authors, incentive to lower quality standards, excessive costs), I see three ways how different stakeholders can react when they become aware of the situation. These approaches are on different time scales and of different complexity regarding the implementation (increasing from 1 to 3), while also the positive effects grow in this sequence.

Solution 1 for individual researchers (authors, reviewers, editors): (a) Avoid publishing in, or providing services to, predatory journals. (b) Prioritize society-owned journals over publisher-owned journals as then your free service is not just used to maximise the profits of a private company, but about half of the income is fed back to an academic association for scientific services, e.g. support of working groups and travel grants to young scientists (see also Chytrý et al. 2023). To help those readers who agree with this prioritizing scheme with its implementation for their purposes, in addition to the criteria for the recognition of predatory journals, the article also contains an extensive list of suitable society-owned journals for vegetation scientists.

Solution 2 for short-term improvement by science funders/libraries within the gold OA framework: (a) Apply strict criteria to exclude APC payments to predatory journals. (b) Instead of the current “flat rate” of APC refunds, make the refundable amount dependent on (i) quality criteria of the journal and (ii) philanthropic use of the APCs by the journal (e.g. fraction of income transferred to an academic association or used for APC waivers for authors without access to APC funding).

Solution 3 for a sustainable transformation of the OA system from gold OA to diamond OA. While solutions 1 and 2 can mitigate some problems, they cannot fully overcome the inherent “flaws” of gold OA, i.e. (a) the economic pressure to prioritize quantity over quality and (b) the replacement of barriers towards readers with barriers towards authors. Thus, in the article, I outline (see also Jansen et al. 2020) what I see as the most promising (but also most challenging) solution: the **replacement of gold OA with diamond OA** (meaning free for authors and for readers), which, on top of solving (a) and (b), likely would even be cheaper to science as a whole.

If this topic spurs your interest, you will find more details in the main article.

References:

- BOAI (2002) Budapest Open Access Initiative.
<https://www.budapestopenaccessinitiative.org/read/>
- Chytrý, M., Pillar, V.D., Price, J.N., Wagner, V., Wiser, S.K. & Zelený, D. (2023) The benefits of publishing in society-owned scientific journals. *Journal of Vegetation Science*, 26, e12705.
- Dengler, J. (2023) Priorities in journal selection for authors, reviewers, editors, librarians and science funders. *Vegetation Classification and Survey*, 4, 219-229.
<https://doi.org/10.3897/VCS.110296>

- Jansen, F., Biurrun, I., Dengler, J. & Willner, W. (2020) Vegetation classification goes open access. *Vegetation Classification and Survey*, 1, 1–6.
<https://doi.org/10.3897/VCS/2020/53445>

[Jürgen Dengler](#) is a professor of vegetation ecology at the Zurich University of Applied Sciences (ZHAW), Wädenswil, Switzerland. His main research is in vegetation ecology, macroecology, conservation biology and ecoinformatics. However, as an editor and editorial review board member of several journals, he also has a broad interest in the scholarly publishing landscape and its developments as well as the use and misuse of bibliometric indices.

