Interdisciplinary Description of Complex Systems 21(4), 324-332, 2023

RESEARCHER'S CHOICE OR JUST A NECESSITY? THE CONSEQUENCES OF PUBLISHING IN A PREDATORY JOURNAL

László Berek*

Óbuda University
Budapest, Hungary

DOI: 10.7906/indecs.21.4.1
Regular article

Received: 10 June 2023.
Accepted: 23 July 2023.

ABSTRACT

The research community has been continuously investigating the issue of predatory journals. With the rapid development of technology and the world, online publishing has also accelerated, making it crucial to publish and disseminate scientific results as quickly as possible due to the "publish-or-perish" phenomenon. The number of open-access, online-only journals is increasing each year. Predatory publishers and journals have taken advantage of this trend by engaging in profit-driven, unethical practices. This article discusses how the predator phenomenon affects those involved in scientific communication. The research aims to address the following questions: What are the detrimental impacts of predatory journals on individuals involved in scientific communication? What causes researchers to publish in predatory journals? What is the relationship between publication pressure and publishing in predator journals?

KEY WORDS

online publishing, publication ethics, predatory journal, predatory publishing, research evaluation

CLASSIFICATION

ACM: K.4.2
JEL: Z19

*Corresponding author, η: berek.laszlo@uni-obuda.hu; +36 (1) 666-55976;
Óbuda University, Bécsi út 96/B, H-1034 Budapest, Hungary

INTRODUCTION

Scientific communication has changed continuously over the centuries. Of course, as in any other area of life, the development process has not slowed down but has accelerated exponentially. If we look only at the last two decades, scientific communication has so clearly moved into the online space that it is now primarily present there. The pace of scientific research has also accelerated, as have the associated expectations, and the tools used in the research process have evolved accordingly. The acceleration of the pace of research is accompanied by a reduction in the time needed to communicate the results.

Publishing key research results as quickly as possible has always been important, and in recent years, technological advances have made this possible. This has been accompanied by the emergence of online scientific platforms and a growing number of Open Access journals. In recent years, even the traditional large scientific publishers have moved to new forms of publication. Open Access's philosophy is that the research results - and indeed the data – should be available to all. This perspective has become a fundamental condition for scientific progress and access to information today. The Open Access initiative has also had a significant impact on publishing policy, one important consequence of which is the introduction of the Article Processing Charge (APC).

An essential element in the communication of research results is that journals validate the data, methods, integrity of the manuscript and originality through peer review processes and peer review. This peer-review process impacts the quality of the articles accepted and published in the journals, but the reverse is also true: the quality and scientific impact of the articles published in a given journal qualifies and strongly influences the journal's quality. The fundamental difference between predatory and credible scientific journals is in professional, scientific peer review and proofreading. To be more specific, predatory journals do not use peer review or any form of scrutiny. These journals do not aim to make progress in the field of scientific metrics to be included in an indexing database. The only aim is to publish as many articles as possible so that they can make as much profit as possible. Predatory publishers publish studies of questionable scientific value - or mostly of no scientific value - without peer review and peer editing. These journals usually publish manuscripts indiscriminately if the author has paid the article processing fee.

Predatory activity can be identified through various distinct and specific characteristics. Many recent studies have been conducted to define and group these traits. When authors examine journals, they can look for certain signs to determine if a journal is a predator. It is important to note that just because a journal has one of these signs does not necessarily mean it's a predatory publication. However, the more signs that are present, the more suspicious the journal may be [1]:

- competent scientific databases do not index the journal,
- the journal website does not contain information about the editorial board,
- there are non-academic advertisements on the webpage,
- the journal's website needs to contain information on the address and contact details of the editorial board,
- the manuscript's review time (Article Publication Time) is suspiciously short,
- it is not easy to verify the credibility of the scientific work produced by the editor-in-chief, editorial board, and columnists,
- there is no transparent description of the publishing process,
- the journal claims an "alternative" (fake) impact factor score,
- the scientific contributions of the editor-in-chief and the members of the editorial team cannot be found in scientific databases [2].

THE HARMFUL IMPACT OF PREDATORY PUBLISHING

The predatory phenomenon of online scholarly communication threatens the scientific community on several levels. It is essential to consider the vulnerability of the participants involved. What kind of participants might be exposed? What levels can we divide the participants into?

- author, researcher,
- faculty, department, institute,
- university, research centre, scientific institution,
- country, nation, society.

Of course, there are also participants on the "other side", the predatory publishers, but these are not covered by this research in terms of vulnerability.

AUTHOR, RESEARCHER

The number of publications in predatory journals is increasing every year. Such a high number of published articles cannot be explained by the fact that all of the researchers were misled, inexperienced, and poorly informed about the world of online publishing. There are other explanations for why researchers and academics publish in such journals [3].

When exploring the issue of predatory journals, it's important to start with the researcher's motivation. Specifically, we need to understand why someone would choose to publish in a predatory journal. There have been many studies conducted in an effort to answer this question [3-7].

Meeting the Expected Requirements for Academic Progress

Researchers face different publication and citation requirements at every stage of their scientific career. Whether we are talking about a doctorate or a university professorship, there is the expectation of a highly cited article published in an international scientific journal at each level. In the case of publication for a doctorate or promotion, there may be a need to publish papers in a short time. In such cases, an Impact Factor or SJR Q1 journal is out of the question, as the peer review process for these publications can take up to a year. Predatory journals, conversely, promise extra fast publication and mislead researchers with false information about the expected indexing or scientific quality of the publication [8].

Scientific journals have always been meticulous in ensuring the scientific integrity of their published articles, and this is especially true for those with high-impact factors. This process can take up to 6-8 months. However, due to the pressures of publication and the need for quick scientific communication, some journals may be tempted to offer rapid peer review as a selling point. Unfortunately, some predatory journals offer this service with a significantly reduced timeline, sometimes as short as a few days. In such cases, a quality review is not guaranteed, as the journal promises a 1-3 day review. These journals also often charge an additional fee and may offer a "fast track" service, promising even faster review times of "2-5" days for an extra fee.

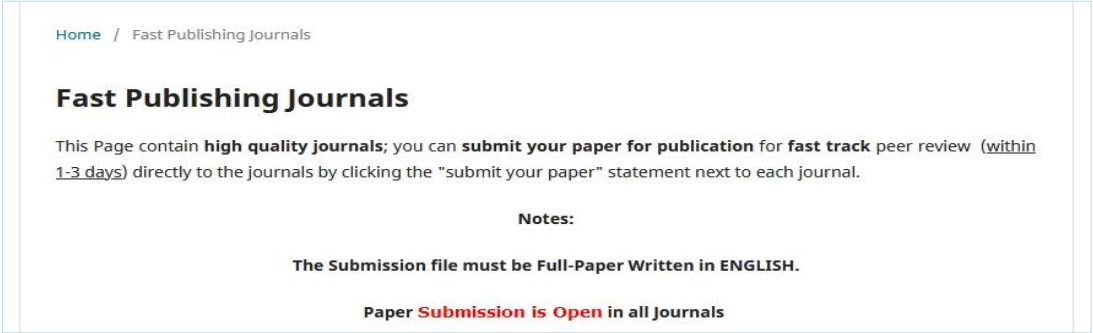

Figure 1. Promising a fast "review" on a predatory journal's website.

Fear of Job Lost / Publish or Perish Pressure

Researchers in scientific research centres and universities often face pressure to meet publication requirements. These expectations only increase when a project is funded by a grant and a predefined number of publications has to be delivered on time. In universities, the number of publications to be completed is often set for researchers and teachers at the beginning of the year. The university management counts these publications, and if the researcher does not meet the publication expectations, his/her contract may be terminated [8].

Scientific Research Awards, Performance Evaluation System

In many countries, centrally, but almost everywhere in universities, there are publication performance awards and research reward programmes, with cash prizes based on researchers' performance in the previous year. In many cases, the criteria for such awards must be correctly and precisely defined so that publication in a foreign journal may be sufficient. Furthermore, any predatory journal would fit into such a category. In many such cases, the author will publish even if he knows of the predatory nature of the publication. Naturally, the researcher expects that his publication will appear very quickly after paying a lower article processing fee.

If a researcher has often tried to publish in highly ranked journals with scientific value, indexed by Scopus or Web of Science, but failed. In this case, although the researcher may be aware of the predatory nature of the journal, he or she may still choose to use the platforms of the non-peer-reviewed, predatory journals.

Research Rankings

Many research institutions and universities regularly produce and publish their current researcher rankings. These rankings show, in a way that is accessible to all, which researchers have published the most in a given period and who are at the 'bottom of the list'. In many cases, these rankings do not distinguish between the quality of the journals for indicators such as "number of articles published in foreign journals" or "number of publications in foreign languages". Furthermore, the value of such indicators is increased even if the researcher submits his manuscript to a predatory journal. In many universities, this researcher ranking is the basis – or at least a significant part – of the performance evaluation system, which can even influence the following year's salary of the lecturer.

Inexperience in Publishing

Predatory journals are often successful with less experienced researchers who need to gain the knowledge to recognise such publications. Online scholarly communication and publishing journal metrics are constantly changing and evolving. At the same time, some predatory publishers and journals are evolving, and it is becoming increasingly difficult to recognise among the many misleading and deceptive signs that they should avoid these publications by far. The authors' uncertainty is compounded by the fact that these journals and publishers display misleading journal metrics and "fake" databases on their websites to "prove" the scientific quality of the publication. However, these fake metrics and databases are designed to fool less experienced researchers by predatory journals.

It can be a problem for researchers who unknowingly submit their manuscripts to predatory journals and later realize their mistake. The question then becomes how to retract the published article since it can no longer be published elsewhere. Unfortunately, retracting an article from a predatory journal is often difficult as these journals may ignore or refuse such requests. Additionally, if the article has already been published without notification, the researcher might face ethical issues if they try to submit it to another journal. This is regardless of whether or not copyright has been assigned.

The situation worsens when such a journal asks the researcher to serve on its editorial board. This is often done similarly to unsolicited letters sent for manuscripts. A letter is sent to the researcher, praising his or her academic achievements and describing how much of an honour it would be for the journal to have him or her on the editorial board. Many researchers will welcome such an opportunity with pride if they must become more familiar with the journal's quality. Moreover, being on the editorial board of an international journal can be a plus point at different stages of a researcher's career. The predatory journal has already taken this to a new level by allowing the name (and, of course, the institution) of a credible – and existing – researcher to appear on the journal's website. This, of course, opens the door to further deception. It is perhaps somewhat easier to withdraw editorial board membership, but predatory journals often do not deal with such requests [8].

A group of researchers at Wroclaw University in Poland has investigated the editorial practices of predatory journals, setting a trap for dubious publications. The research team created a fake profile of a researcher who did not actually exist, Anna O. Szust (the author's surname comes from the Polish word for "cheater"). The CVs posted online also included fake academic degrees. On behalf of the fake researcher, they applied to be an editorial board member of 360 selected journals. The selection of 360 journals was evenly split: 120 journals were selected as clearly predator-suspect, 120 as indexed by the Directory of Open Access Journals (DOAJ) and 120 as having a Clarivate IF score. In the study, the researchers rated the journal's response – or lack of response – to the query [9].

Table 1. Predatory journal editorial board member test results [9].

Journal Type	Accepted	Accepted, but later disputed	Rejected	No Response	SUM
Predatory	36	4	15	65	120
DOAJ Index	7	1	45	67	120
IF (JCR)	0	0	48	72	120

It is of utmost importance for researchers to be aware of the potential dangers associated with publishing their work in predatory journals. Failure to recognize this fact could lead to disappointment when attempting to advance one's academic career or participate in international competitions. Additionally, publishing in such journals could harm a researcher's reputation within the academic community. It is important to note that retracting a manuscript once it has been submitted to a predatory journal is an incredibly difficult task. It is, therefore, essential for researchers to be careful when choosing where to publish their work. This is particularly important because inappropriate publication behaviour by researchers can negatively impact the broader scientific community and the performance of scientific institutions and universities.

FACULTY, DEPARTMENT, INSTITUTE

In the last few years, the literature on predatory journals and publishers has included several researchers from the perspective of higher education institutions [10-13]. The negative impact of predatory publishers and journals is not only at the level of the researchers, the adverse publication outcomes and loss of prestige are further transmitted to the level of the organizational unit, the faculty. In the case of a faculty or research position, there are ongoing challenges. Whether in the form of rankings within the university, performance comparisons, or accreditation processes, the unit's overall performance is decisive. Monitoring the academic performance of departments and faculties – at least quarterly – is now essential. The publication output to be achieved at the researcher and faculty level is often determined at the beginning of the year. These results are, of course, also taken into account by the management of the faculty or department. If

it turns out at the time of accounting that the publication is, in fact, "worthless" in terms of output, it is too late. Moreover, this is not only a loss of prestige but can also harm the budget of, for example, the following year of a university faculty. In addition, departments can be ranked according to their academic performance, and a specific part of the budget is often linked to this criterion.

UNIVERSITY, RESEARCH CENTRE, SCIENTIFIC INSTITUTION

Just as the performance of the researchers in their department is the determinant, the impact of the researcher's predator relationship with journals is naturally transmitted to the faculty. In the case of universities and scientific institutions, there are specific requirements for the number, quality and citations of scientific publications, which must be met year after year because the budget of the whole institution depends on them. The proportion of model-switching universities in the Hungarian higher education system is currently almost 95 %. This form of higher education funding is common in the region, with universities in Poland, the Czech Republic and Slovakia operating similarly.

Under this system, the state and the higher education institution sign a contract setting out the requirements to be met in a given year, for example, regarding teaching and academic achievements. For the annual performance of the universities, they must meet the publication and citation figures set out in the contract. These include the composite of Scimago Journal Rank D1-Q1-Q2 and Clarivate/InCites Top 10 % publications and the number of citations received for the university's publications in the Web of Science and Scopus databases. To ensure the quality of the university's scientific output, it is important to continuously monitor it. The impact factor of scientific journals and the h-index depend on the citation. The impact factor is recommended to be used to determine the value of journals, and the h-index is also used to determine author and journal metrics. The university should avoid publishing papers in questionable journals when they could be published in reputable ones that meet the necessary indicators. The value of the h-index is, of course, based on the content of the database on which the calculation is based. If the database does not index the journal, it will not be reflected in the author and institutional science metric values [14, 15].

Another major challenge for universities and higher education is participating in the various international rankings of higher education. Of course, these organisations use different methodologies and calculation rates to assess universities and update the rankings for a given year. Whichever university rankings are used - and they are authoritative - all use Web of Science or Scopus data to examine scientific indicators. So again, publishing in predatory journals harms the university as a whole [16-18].

Many universities and scientific institutions receive a significant portion of their research funding from national and EU sources. These funds come with strict accountability requirements and performance milestones. To show completion of the research, most grants require a certain level of research results publication. If the research is published in an insufficient publication, the grant may need to be repaid by the institutions involved in the proposal.

The loss of prestige for researchers not only impacts them but also the university and academic institution. The author's affiliation is typically mentioned in the published article, and the institution from which researchers have published is often indicated on the journal's website. Reputation, which includes achieving a higher ranking in university rankings, is crucial for the university's operation, whether in terms of enrolment, joint research with internationally renowned researchers or possible contracting.

COUNTRY, NATION, SOCIETY

When it comes to the effects of predatory journals on research, the performance of a country's researchers reflects the country's overall performance. Each year, rankings and statements are

produced for countries. For instance, Scimago provides a Country Rank which lists countries based on their publication output. Scimago is well-known for its journal rankings [19].

The impact of predatory journals has been characterised in scientific communication, but the impact on mass communication and, thus, on society cannot be ignored. In recent years, it has become increasingly apparent that the content of predator journals is also present in the media, on social media platforms, but indirectly. On social media, through various channels, conspiracy theories and deception, disinformation can be easily credited with content that is perceived as scientific. The content of predatory journals can, if social media tools are used "properly", spread just as fast as those of credible scientific journals. This can result in the dissemination of unreliable information. A recent study examined the spread of dental journal publications on social media platforms (Instagram, Facebook, and Twitter) at a discipline level, distinguishing between predatory and authoritative journals based on available information. The data revealed that the dissemination of publications in predatory and authoritative journals in this specialty was nearly identical on the studied social media platforms [20].

Predatory journals often bear a deceptive similarity to an accepted scientific journal, but of course, the similarity is only apparent in appearance. In terms of content, however, the need for more scientific scrutiny, criticism and peer review means that we read the results of apparently scientific research as a publication. Moreover, these publications are perfect for the scientific substantiation of a manipulative, deceptive or fake news story. Just think of the thousands of currently identifiable predatory journals that even deceive experienced researchers and authors who live, work and publish in this sphere. How can the ordinary person be expected to recognise the cited 'scientific' backing behind the news? Today's social media platforms are the best places to spread conspiracy theories and misleading news. Furthermore, ordinary people rarely check the information they receive from the media. Moreover, even if they did investigate the source more deeply, they would find it very difficult to identify the quality of the source. From this point of view, the problem is that predatory publishers can be unwitting disseminators and supporters of various counterfactuals and, of course, disinformation. For example, some video-sharing channels promote debunked conspiracy theories while citing questionable sources. These further distances us from the truth.

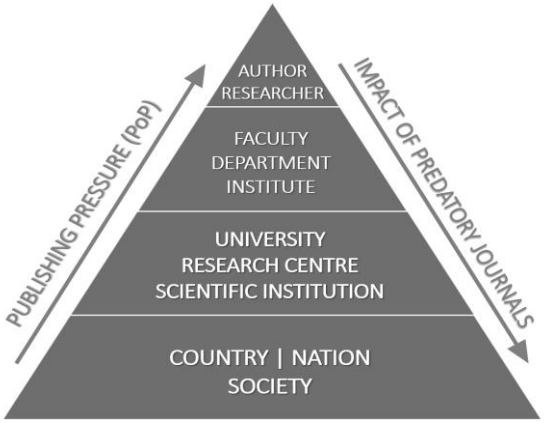

Figure 2. "Direction of the effects of publishing in predatory journals" pyramid.

The adverse effects of publishing in predatory journals can be seen to be inherited across levels in different participants in online scientific communication. These effects range from the smallest unit to the largest.

When researchers publish in predatory journals, the harmful effects trickle down to the next level. The pressure to publish, which is a major factor in the rise of predatory journals, works in the opposite direction in this pyramid. The publication expectations set by the institution or

university are passed down to the next level. These expectations are typically distributed by university management at the institutional level, then further distributed among faculties, institutes, and departments. Ultimately, researchers and lecturers are tasked with meeting these publication expectations.

CONCLUSIONS

Online scholarly communication is at risk due to predatory journals and publishers. The changes in online scientific communication, science metrics and publishing over the last decade have radically changed how researchers publish their results. In a rapidly changing environment, it is difficult for researchers and academics to keep up with the changes and the evolving scientific environment.

The scientific community can currently only provide a semblance of a solution to the predator phenomenon, or at best, only half a solution. Black-and-white lists of predator publishers and journals are not workable solutions. It would take a massive amount of work to keep them updated and up to date, and of course, there is no guarantee that all predatory journals are listed. The scientific world uses different sub-solutions, which create additional problems. The scientific community is still searching for a satisfactory solution to this issue.

In research careers, we also face increasingly high expectations internationally. Publication output is now almost exclusively defined in terms of publications, and only those indexed by the systems and databases of the major science metrics providers are recognised as such. This means that in all parts of the world, but most strongly in developing countries, a new journal has almost no chance of proving itself in the scientific world. These journals thus look for other opportunities and increase the number of misleading journal metrics and indexing sites. This ultimately puts them in the same category as predatory journals deliberately set up for financial gain and do not strive to achieve scientific quality.

From a researcher's perspective, the issue of increasing scientific requirements means that in many cases the decision to use predatory journals is a matter of necessity. The pressure on researchers to publish ultimately favours predatory journals, as this results in more manuscripts and more publication fees for the journal.

REFERENCES

[1] Berek, L.: *A decade of predatory journals with an overview of the literature*. Transactions on Advanced Research **18**(1), 4-8. 2022,

[2] Berek, L.: *How can we recognize predatory publishers? The characteristics of predatory journals.* In: XXVI conference Development trend. University of Novi Sad – Faculty of Technical Sciences, Novi Sad, pp.554-558, No. T.4.2-2., 2020, http://www.trend.uns.ac.rs/stskup/trend_2020/TREND2020-ZBORNIK-RADOVA.PDF#page=571, accessed 1st May 2023,

[3] Demir, S.B.: *Predatory journals: Who publishes in them and why?* Journal of Informetrics **12**(4), 1296-1311, 2018, http://dx.doi.org/10.1016/j.joi.2018.10.008,

[4] Kurt, S.: *Why do authors publish in predatory journals?* Learned Publishing **31**(2), 141-147, 2018, http://dx.doi.org/10.1002/leap.1150,

[5] Frandsen, T.F.: *Why do researchers decide to publish in questionable journals? A review of the literature.* Learned Publishing **32**(1), 57-62. 2019, http://dx.doi.org/10.1002/leap.1214,

[6] Cortegiani, A.; Manca, A. and Giarratano, A.: *Predatory journals and conferences: Why fake counts*.
Current Opinion in Anaesthesiology **33**(2), 192-197, 2020.
http://dx.doi.org/10.1097/ACO.0000000000000829,
[7] Nielsen, P. and Davison, R.M.: *Predatory journals: A sign of an unhealthy publish or perish game?*
Information Systems Journal **30**(4), 635-638,
http://dx.doi.org/10.1111/isj.12289,
[8] Freedman, E. and Kurambayev, B.: *Predatory journals in journalism and mass communication A case study of deceptions.*
Journal of Scholarly Publishing **53**(3), 136-154. 2022,
http://dx.doi.org/10.3138/jsp-2021-0023,
[9] Sorokowski, P., et al.: *Predatory journals recruit fake editor.*
Nature **543**(7646), 481-483, 2017,
http://dx.doi.org/10.1038/543481a,
[10] Gerashchenko, D.: *Publishing in potentially predatory journals: Do universities adopt university leaders' dishonest behavior?*
Accountability in Research, 2022,
http://dx.doi.org/10.1080/08989621.2022.2081916,
[11] Koçak, Z.: *The recent decisions of the turkish council of higher education on predatory journals.*
Balkan Medical Journal **39**(2), 81-82, 2022,
http://dx.doi.org/10.4274/balkanmedj.galenos.2022.21022022,
[12] Kudaibergenova, R., et al.: *Managing publication change at Al-Farabi Kazakh National University: A case study.*
Scientometrics **127**(1), 453-479, 2022,
http://dx.doi.org/10.1007/s11192-021-04139-y,
[13] Frandsen, T.F.; Lamptey, R.B.; Borteye, E.M. and Teye, V.: *Achieving a professorship with proper academic merit discouraging questionable publishing*.
Journal of Scholarly Publishing **53**(3), 155-167, 2022,
http://dx.doi.org/10.3138/jsp-2021-0021,
[14] Mester, Gy.: *The 2022 ranking list of citation analysis researchers using H-index.*
Interdisciplinary Description of Complex Systems **20**(6), 775-779, 2022,
http://dx.doi.org/10.7906/indecs.20.6.8,
[15] Mester, Gy.: *Rankings Scientists, Journals and Countries Using h-index.*
Interdisciplinary Description of Complex Systems **14**(1), 1-9, 2016,
http://dx.doi.org/ 10.7906/indecs.14.1.1,
[16] –:*World University Ranking.*
https://www.timeshighereducation.com, accessed 1st May 2023,
[17] –: *QS World University Rankings.*
https://www.topuniversities.com, accessed 1st May 2023,
[18] –:*Academic Ranking of World Universities (ARWU).*
https://www.shanghairanking.com, accessed 1st May 2023,
[19] –: *SJR – SCImago Journal & Country Rank.*
http://www.scimagojr.com, accessed 1st May 2023,
[20] Al-Moghrabi, D., et al.: *An analysis of dental articles in predatory journals and associated online engagement*.
Journal of Dentistry **129**, No. 104385, 2023,
http://dx.doi.org/10.1016/j.jdent.2022.104385.