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Predatory publishing - Firm action is required



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The internet has revolutionized all kinds of industries, but it has also created opportunities for unscrupulous organizations to take advantage of them. Predatory publishing companies have done so through an open-access model, sowing confusion through misleading information, lack of transparency, indiscriminate solicitation and deviation from best editorial and publication practices (Grudniewicz et al., 2019; Sonne et al., 2020a).

As standards have tightened, predatory publishers have developed mechanisms to adapt and remain successful (Kakamad et al., 2020). A strategy currently being used is to seek inclusion in websites that offer some sort of validation and legitimacy. One example is Publons (owned by Clarivate Analytics), a commercial database that allows academics to track, verify and showcase their peer-reviewed and editorial contributions for academic journals. Unfortunately, the inclusion of predatory publishers into such databases misleads academics into believing their journals are quasi-legitimate.

Such is the case of the OMICS Publishing Group, which is presented as a case study to illustrate the consequences of not excluding predatory publishers from databases such as Publons. In March 2019, a federal court in the United States ordered the OMICS Publishing Group to pay \$50.1 million for deceptive and predatory activities, such as falsely claiming their journals were indexed by commercial databases such as Scopus or that each of these journals had an impact factor (Manley, 2019).

As of today, the OMICS Publishing Group's website states that many of their journals have a high impact factor and that some of them are indexed by databases such as Scopus. However, these impact factors are not issued by the Journal Citation Reports (owned by Clarivate Analytics) but are calculated by the OMICS Publishing Group using Google Scholar as the source for citations. Predictably, the format used to exhibit the journals' "impact factor" attempts to confuse readers by including, next to each impact factor, a link to a "Citations Report", which early-career researchers might mistake for the name of the database (Journal Citation Reports) that generates authentic impact factors. These reports are, in fact, linked to another publishing company, Longdom Publishing S.L. whose reliability and methodology may vary greatly. Lastly, it is worth noting that the OMICS Publishing Group currently offers 16 environmental sciences journals where to submit manuscripts, in addition to 37 environmental sciences conferences that might be of interest to researchers (https://www.omicsonline.org/ environmental-sciences-journals-impact-factor-ranking.php). Sonne et al. (2020b) proposed, there is an urgent need to establish a list of fake conference in order to help researchers avoid falling into the trap of predatory conferences.

Another issue is the fact that the OMICS Publishing Group claims that some of its journals are indexed by databases such as Scopus. Again, a simple check using the Scopus Preview Website (www.scopus.com/sources?zone=&origin=NO%20ORIGIN%20DEFINED), which is available free of charge on the internet, confirmed that only 15 journals have been at some point listed in this global abstract and citation database (Table 1). In fact, no journals from this publisher have been indexed by Scopus since 2015.

A recent study has shown the adverse effect of misleading information. In a seminal piece of work, Moher et al. (2017) determined that 1907 articles published by more than 200 supposedly predatory journals contained data on roughly 2 million individuals and over 8000 animals. Since the quality of the peer-review process of predatory journals is questionable, the validity of this huge amount of data becomes practically worthless (Dobusch et al., 2020). Furthermore, the same study established that 323 articles reported being funded by 345 different sources, mainly government agencies and academic institutions, suggesting that scarce public resources end up being published in journals with questionable validity.

However, the harmful effect of predatory journals is not merely circumscribed to the authors and funders of scholarly articles, but has extended to the peer-reviewers of these articles. Peer-review is considered a critical process in scholarly publishing as it is the stage at which a manuscript is subjected to scrutiny in order to assure the quality and integrity of the research being published. According to the Publons database, a total of 6378 reviews have been verified for 304 journals belonging to the OMICS Publishing Group. Considering that the median time spent writing each review was 5 h (Publons, 2018), the amount of time wasted by these academics is mindboggling. The impact of this is even greater if one considers that early career researchers (often from developing countries) are more susceptible to invitations from predatory publishers to review manuscripts (Severin et al., 2020). The fact that Clarivate Analytics owns both databases, Web of Science and Publons, may confuse users into believing that the same journals are being indexed in both indexes. After all, Web of Science and Scopus are currently the two most important multidisciplinary databases.

While Publons specifically indicates that any journal in the world may have a visible presence on their website, this should not be considered an endorsement nor used for purposes of promotion by that journal. Nevertheless, this disclaimer is not highlighted on the website's main page nor it is easy to find. In fact, we had to search for this information through a Google search that led to the following page, http://publons.com/about/publisher-checklist/. Despite the warnings, it is clear that some journals, such as the International Journal of Multidisciplinary Educational Research (http://www.ijmer.in/) or the International Journal of Interdisciplinary Current Advanced Research (http://www.ijicar.in/CallPapers), promote themselves as being indexed by Publons in order to lure researchers into submitting their manuscripts.

As the inventor of the World Wide Web, Tim Berners-Lee, stated during the World Wide Web's 30th anniversary, "companies must do

Table 1Journals published by the OMICS Publishing Group that were indexed by Scopus.

Source title	ISSN	Years of coverage
Immunome Research	1745-7580	2007–2013
Journal of AIDS and Clinical Research	2155-6113	2010-2014
Journal of Anesthesia and Clinical Research	2155-6148	2010-2014
Journal of Antivirals and Antiretrovirals	1948-5964	2010-2014
Journal of Aquaculture Research and Development	2155-9546	2010-2014
Journal of Bioanalysis and Biomedicine	1948-593X	2010-2014
Journal of Bioequivalence and Bioavailability	0975-0851	2011-2014
Journal of Cancer Science and Therapy	1948-5956	2010-2014
Journal of Clinical and Experimental Cardiology	2155-9880	2014
Journal of Generalized Lie Theory and Applications	1736-5279	2009-2013
Journal of Microbial and Biochemical Technology	1948-5948	2010-2014
Journal of Nanomedicine and Nanotechnology	2157-7439	2010-2014
Journal of Proteomics and Bioinformatics	0974-276X	2009-2014
Journal of Vaccines and Vaccination	2157-7560	2010-2014
Journal of Veterinary Science and Technology	2157-7579	2012–2014

more to ensure their pursuit of short-term profits is not at the expense of human rights, democracy, scientific fact or public safety" (Berners-Lee, 2019). Raising the standard of inclusion in databases such as Publons will contribute significantly to diminish the effectiveness of predatory publishers.

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References

Berners-Lee, T., 2019. 30 years on, what's next #ForTheWeb? https://webfoundation.org/2019/03/web-birthday-30/

Dobusch, L., Heimstadt, M., Mayer, K., Ross-Hellauer, T., 2020. Defining predatory journals: no peer review, no point. Nature 580, 29.

Grudniewicz, A., Moher, D., Cobey, K.D., Bryson, G.L., Cukier, S., Allen, K., Ardern, C., Balcom, L., Barros, T., Berger, M., Ciro, J.B., Cugusi, L., Donaldson, M.R., Egger, M., Graham, I.D., Hodgkinson, M., Khan, K.M., Mabizela, M., Manca, A., Milzow, K., Mouton, J., Muchenje, M., Olijhoek, T., Ommaya, A., Patwardhan, B., Poff, D., Proulx, L., Rodger, M., Severin, A., Strinzel, M., Sylos-Labini, M., Tamblyn, R., van Niekerk, M., Wicherts, J.M., Lalu, M.M., 2019. Predatory journals: no definition, no defence. Nature 576, 210–212.

Kakamad, F.H., Salih, A.M., Mohammed, S.H., 2020. Predatory journals: evolution keeps them under the radar. Nature 580, 29. Manley, S., 2019. On the limitations of recent lawsuits against Sci-Hub, OMICS, ResearchGate, and Georgia State University. Learn. Publ. 32, 375–381.

Moher, D., Shamseer, L., Cobey, K., Lalu, M.M., Galipeau, J., Avey, M.T., Ahmadzai, N.,

Moher, D., Shamseer, L., Cobey, K., Lalu, M.M., Galipeau, J., Avey, M.T., Ahmadzai, N., Alabousi, M., Barbeau, P., Beck, A., Daniel, R., Frank, R., Ghannad, M., Hamel, G., Hersi, M., Hutton, B., Isupov, I., McGrath, T.A., McInnes, M.D.F., Page, M.J., Pratt, M., Pussegoda, K., Shea, B., Srivastava, A., Stevens, A., Thavorn, K., van Katwyk, S., Ward, R., Wolfe, D., Yazdi, P., Yu, A.M., Ziai, H., 2017. Stop this waste of people, animals and money. Nature 549, 23–25.

and money. Nature 549, 23–25.
Publons, 2018. Global State of Peer Review 2018. https://publons.com/community/gspr#open-elq-form-slider-DLGSPR.

Severin, A., Strinzel, M., Marc-Domingo, M.E., Barros, T., 2020. Who reviews for predatory journals? A study on reviewer characteristics. https://www.biorxiv.org/content/ 10.1101/2020.03.09.983155v1.full.

Sonne, C., Dietz, R., Alstrup, A.K.O., 2020a. Factor affecting global flow of scientific knowledge in environmental sciences. Sci. Total Environ. 701, 135012.

Sonne, C., Sik-Ok, Y., Shiung-Lam, S., Rinklebe, J., Alstrup, A.K.O., Kim, K.-H., 2020b. First predatory journals, now conferences: the need to establish lists of fake conferences. Sci. Total Environ. 715. 136990.

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