As a reader of this journal, you almost certainly have now been, or continue to be barraged daily by, a deluge of junk emails actively soliciting your latest paper. Promises are made of both rapid times to decision and expeditious publication – all for a reasonably priced fee (of course). Such promises seem unbelievable – and they are precisely that! Or, at least if they deliver on posting your article within 48 hours or so, it certainly has not been filed with all the usual indexing databases and is no more “published” than if a random stranger simply hosted it on their website or personal blog. You may also have received a “tempting” offer to participate on the editorial board for a journal you never even knew existed from an editor who almost certainly does not exist. Some of these email tempters are clearly written by individuals struggling with functional illiteracy (though it is equally questionable as to how much human intervention there has been in the production of these emails) and you likely dispatch such entreaties to the trash bin without a second thought. Other messages, however, seem more plausible and legitimate. Either way, you have entered the murky world of predatory journals.

What is a predatory journal? Definitions are elusive, though Moher and Moher recently summed them up neatly by suggesting such publications can, perhaps, be characterized by their behavior: aggressive recruitment emails, unrealistic promises regarding publication, and ultimately worthless peer review.\(^1\) They can perhaps also be defined by the honesty of their intent and remit.\(^2\) In short, many are nothing more than a giant publishing fraud. Fake journals that will not provide any scientific peer review, no indexing of your article in databases such as PubMed, no proper production of a paper and no plan to ensure your article is preserved in perpetuity as part of the published record, all steps a legitimate publisher would undertake. I cannot be clearer: many of these journals are little more than a scam offering zero validity to the articles they publish. Even if your article was authentic, the very act of publishing it in one of these fake titles has just rendered your article valueless, unusable and illegitimate. There is one qualifier to all this, lest I be accused of overblown rhetoric. Clearly in such instances that term is a misnomer or, at least, insufficiently discriminate. The intent of the some of the local, small-scale, efforts is obviously good, though poor execution means such publications do appear to be predatory.

So, just like the Nigerian Prince who since the late 1990s has been looking for help in banking his dollars, no one would be fooled by this ruse, right? Wrong. Indeed, so wrong that this is now an underground publishing market (that is highly visible above ground, as it were) worth US $74m per annum according to a recent study.\(^3\) Sure, many of the papers these journals publish are drawn from the same parts of the world where the predatory journals appear to originate or from authors with no track record and a desperate need to get published, but if you look closely, you will find papers from professors at Ivy League colleges, elegantly conducted randomized controlled trials or systematic reviews and even reports from government agencies all “published” in predatory journals.\(^4\)

While attempting to define predatory journals it is important to clarify one common misperception: while predatory journals are almost always Open Access, most Open Access journals are far from predatory. Indeed, the majority of Open Access titles are either owned by, or published by, respectable academic societies and legitimate publishers.
WHY ARE PREDATORY JOURNALS PROBLEMATIC?

As mentioned already, such publications do not confer scientific legitimacy, principally because they perform little to no peer review, the mechanism that journals employ to validate a paper. That is clearly problematic. Consequently, you should not cite an article published in a predatory journal as you can assume it has not been suitably vetted and almost certainly it has not been properly indexed in an appropriately recognized database, like PubMed. Of course, that statement is easier to vocalize than actually practice. So we now run the risk of the published literature for any given field becoming polluted with both authentic but inappropriately validated (and, therefore, possibly flawed or not-ready-for-primetime) studies and outright trash/possibly fake papers from authors that have simply paid the small fee to get published. On this point it is hoped that legitimate publishers and journals alike can somehow unite to find solutions to curbing citations to bogus papers in fake journals. For a start, perhaps the publishers can be a little stronger in efforts to promote their work in a situation that is really akin to vanity publishing. *Headache* once received a letter from a disgruntled author (his work had been repeatedly rejected on the grounds that it had no scientific merit – clearly it is the latter, but a high number of professional researchers believe the former to be the case). Predatory journals allow the serially rejected to “publish” their work. It is most unfortunate, therefore, when such authors then try to proclaim their work as published when in fact they have simply paid a predatory journal to promote their work in a situation that is really akin to vanity publishing.

Regarding the issue of a lack of peer review, predatory journals have, at last, had the tables turned on them with stings to show their peer review processes are flawed or, more commonly, non-existent. This is critical as too many seem unaware of the lack of peer review and the damage that causes. A particularly classic example, if you can excuse the salty language, is the paper by David Mazieres and Eddie Kohler published in the journal *International Journal of Advanced Computer Technology* and entitled “Get me off your f****** mailing list.” That particular paper literally consisted of nothing more than repeating the text of the article’s title, including the expletive, hundreds of times. The manuscript was accepted for publication.

Worryingly, some predatory operations are becoming increasingly sophisticated and have realized that discerning authors are aware of their lack of peer review. As a consequence, they have moved towards window-dressing some of their homepages with details on their peer review structures. Make no mistake, this information is largely a fabrication. And ask yourself this question: when were you ever solicited to provide a review for these journals, at least in a fashion similar to the manner they adopt to recruit your articles?

WHY DO PREDATORY JOURNALS EXIST?

Clearly, predatory journals serve a demand from authors of all stripes, otherwise they simply would not have proliferated at the rate and scale that they have. Publishing in Open Access journals is expensive for legitimate authors. The relatively cheap rates many predatory journals levy provides publishing options otherwise denied to many disenfranchised authors. Other authors, alternatively, are simply frustrated at continual rejection of their work (we will leave aside the perennial debate about whether publication and admittance to the published record for a field is a right or something earned on merit – clearly it is the latter, but a high number of professional researchers believe the former to be the case). Predatory journals allow the serially rejected to “publish” their work. It is most unfortunate, therefore, when such authors then try to proclaim their work as published when in fact they have simply paid a predatory journal to promote their work in a situation that is really akin to vanity publishing. *Headache* once received a letter from a disgruntled author (his work had been repeatedly rejected on the grounds that it had no scientific merit – indeed it possessed only a tangential relationship with what most of us would identify as “science”), taunting the editorial office that his work really did have validity as he had found a journal willing to accept his paper. Naturally, that journal checked out as predatory.

HOW CAN YOU SPOT A PREDATORY JOURNAL?

Research is emerging that is helping us understand better the common characteristics that betray the predatory nature of such journals. The most common denominator, as already discussed, is the persistent flooding of email inboxes with rather vague requests for papers on any subject you fancy. David Moher recently published a fascinating paper that represented his analysis of the 311 invitations he received in a given 12 month period, providing one of the first insights into the core components of these email solicitations. The remits of some journals are so imprecise they seem to cover everything from clinical medicine to forestry science under one cover! I would identify such titles but have taken legal counsel on this point. However, you can see for yourself what titles might be considered predatory and which publishers are perhaps little more than fraudsters and scam artists by visiting the most recognized source on predatory publication: the Beall’s List (www.scholarlyoa.com). University of Denver librarian Jeffrey Beall, who has become a
widely known observer of this publishing black market, maintains his eponymous list along with a mixture of exposé, commentaries and information on other associated scams such as bogus article metrics and even fake conferences. Beall’s inclusion methods are perhaps not always the most scientifically rigorous in identifying titles and he has attracted considerable criticism regarding journals included on the list (such as small, amateurish titles from select countries). Though mention of this list does not constitute endorsement of it by myself, Headache, or the American Headache Society, you can consult it of your own volition if you have any uncertainty regarding the veracity of a given journal; the Beall’s List represents a useful resource.

Are there obvious signs that a journal is predatory? Yes there are. Both Rebecca Burch from the Headache editorial board and I have been involved in an ongoing project with a variety of researchers distributed across the globe assessing the characteristics of potential predatory journals. Some of the common traits we found on a subset (n = 93) of journals listed on the Beall’s List (the stand alone journals – as opposed to those titles that were part of a predatory publisher’s portfolio of titles) included:

- Over half contained a title that could be classed as overly similar or overlapping with a pre-existing title.
- Two-thirds had errors related to spelling, grammar and syntax on the homepage.
- These homepages, by approximately the same amount, contained fuzzy or very low-resolution graphics.
- Frequent mention of inclusion in indexing databases that are bogus; boasts of a citation score that is not in fact the Thomson Reuters Impact Factor.
- Editorial board often made up of fake names or, when investigated, many editorial board “members” did not mention their “appointment” on their institutional homepages, leading us to speculate they may not have known their name was even included on the editorial board.
- Only 2% appeared to use a known submission system (such as ScholarOne, Editorial Manager, eJournalPress, or even just a homebuilt system). Authors were typically encouraged to email manuscripts to the editorial office.
- Typical Open Access fee of roughly $100, compared to a median average of $1865 for our comparative sample of legitimate Open Access journals and $3000 for traditional subscription journals offering a service to render an article free from access restrictions.

**WHAT CAN YOU DO?**

Quite simply, ignore the requests. It seems unlikely that predatory journals will be eradicated so, unfortunately, what you can do best to protect yourself is stay informed and quickly research a journal before you undertake any association with it. One useful resource, particularly for authors unsure of taking wrong steps in what is increasingly a publication minefield, is provided by EQUATOR Canada (Centre for Journalology) at the Ottawa Hospitals Research Institute, entitled Deciding Where to Submit. I was also particularly struck by the useful 5-point plan to protect yourself from predatory journals proposed by Jocelyn Clark in a recent BMJ blog (also a great read regarding the issues facing authors in economically developing countries). In summary, her advice is:

1. Check if the journal is on Beall’s List.
2. Is the journal listed on the Directory of Open Access Journals whitelist, the definitive source for vetted Open Access publications.
3. Is the publisher a member of organizations committed to enhancing ethical integrity in publishing, such as the Committee on Publication Ethics (COPE), though it should be noted that many journals simply place the COPE logo on their homepage without really being members.
4. Do not necessarily believe any indexing claims by a journal; check to see if they are present in respected databases such as PubMed.
5. Does the journal make efforts towards transparency, such as clearly describing its peer review and publication processes, providing contact details with a real live human being at the other end.

Finally, the Headache editorial office has been prompted to write this editorial because we are acutely aware that a predatory journal in our field has appeared, aggressively seeking papers and also tempting some of you with the prospects of an editorial board appointment. Employing a classic tactic already outlined in this editorial, they seemingly spoof our journal name, which we know has led to confusion as many of our regular readers have contacted us to confirm whether these solicitations were
from *Headache*. They categorically are not. Therefore, we urge you to exercise caution and think before you submit.

Jason L. Roberts, PhD  
Executive Editor, *Headache*

REFERENCES