

Viewpoint

Stinging Predatory Journals: A Brief Overview and Recommendations

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Abstract

Predatory journals exploit the open access model for profit, often publishing papers with minimal or nonexistent peer review. Predatory publishing stings can identify predatory publishers and increase awareness of the problem, but there are no guidelines for effective stings. We propose that stings should include peer review red flags that would stop the sting from being accepted by reputable journals, be followed by a public sting statement to alert others to the predatory journal identified and predatory publishing in general, and avoid both payment to predatory publishers and risk to the stinger.

Keywords:

Academic publishing, peer review, predatory journals, predatory publishing, publishing stings

Predatory publishing and stings

Predatory publishing is an unethical type of open access publishing, where the profit motive leads some open access journals to ignore peer review to publish more articles and collect more article processing fees.¹

Institutional rules requiring publication quantity but not quality lead some scientists to knowingly publish in predatory journals, while other scientists are unaware of their deceptive nature.²

Increasing awareness of predatory journals and identifying predatory publishers may help mitigate the problems they cause.³ There are challenges in distinguishing reputable journals from predatory journals, complicated by broader issues with peer review.^{4,5} Scholarly publishing stings to investigate possible predatory publishing practices have identified many journals as likely predatory journals.^{6,7} Predatory publishing stings seek to expose predatory journals by submitting papers so conspicuously flawed that a journal with peer reviewers and an attentive editor would reject them. If a journal accepts such a sting paper, then it is likely predatory. A sting also provides stronger evidence of predatory nature than the more common observational method of identifying predatory journals by the (lack of) quality of their articles or other issues. A properly designed sting manuscript will have sufficient and strong enough red flags that it would be implausible for any reputable journal to accept them. For these reasons, Kscien's list (a contemporary list of predatory publications) emphasizes acceptance of a sting as "unequivocal evidence" of predatory behaviour.⁸

We also hypothesize that, due to their often humorous and memorable features, stings are effective as a tool to alert researchers and the general public to the phenomenon of

predatory publishing, although research is needed to verify that effect. Given the ease of establishing predatory journals and the number of predatory journals, the direct effect of stings on the targeted publishers is likely limited, but sting-informed lists are increasingly used by researchers globally when deciding where to publish.³

While some have criticized predatory publishing stings as unethical, unscientific, or biased,^{9,10} the majority of published responses to Bohannon's major sting⁶ were strongly supportive.¹⁰ Thus, while some scholars may be concerned by the possible harms of misrepresentation by stingers, most are also aware of the harms of misrepresentation by journals and accept the former to expose the latter.

Stings are a crucial tool to identify and expose predatory publishers,⁸ but there are no guidelines on how to carry out an effective sting. We propose and briefly review such requirements: an effective sting must be selective and sensitive to predatory journals, should take steps to avoid rewarding a predatory journal or harming a stinger, and should be publicly visible.

Recommendations for stings

Three things are important for a predatory publishing sting: peer review red flag statements in the paper that identify it beyond reasonable doubt as an illegitimate paper, making the results of successful stings public, and the absence of benefit to the predatory publisher or cost to the author. An example written by Author 1 under the pseudonym "Anthony Laurel" is publicly available.¹¹

Peer review red flags

Peer review is bad at detecting outright lies.¹² This is why a sting needs truly obvious "peer review red flags": deliberate and clear

statements that would stop the sting article from being accepted by any reputable journal. These can be separated into two types: direct peer review red flags that explicitly state the paper is a hoax or that a journal is predatory, and content peer review red flags that would indicate to the reader that the paper is a hoax through ridiculous statements.

Direct peer review red flags (Table 1) are straightforward and difficult to misinterpret: the manuscript explicitly includes text to the effect of “this journal is predatory” or “this

paper is untrue.” These are obvious regardless of the scope of the journal, expertise of the editor, or native language of the reader. As predatory journals do not practice peer review, the number and audacity of such direct red flags can be significant. When a sting paper explicitly states that its publisher is predatory, that serves to directly inform the reader about predatory publishing and provides context for those who read the article. As direct peer review red flags can note that authors, institutions, and entire papers are fictional, they also help guard against claims that

Table 1. Direct Peer Review Red Flags. Sample direct peer review red flags in sting papers written by the authors and published in likely predatory journals. “A. Laurel” is a pseudonym used by Author 1, and “M. Schlomi” is a pseudonym used by Author 2.

Example Direct Peer Review Red Flag	Sting Paper
1 “...we are otherwise confident a study about a pocket monster can be published, as this invited article is in a predatory journal that likely does not practice peer review.” (from the paper’s materials and methods)	Applebaum E, Schlangemann H, Shelomi M. Anthocyanin receptor expressions across <i>Tangela (Monjara tangela)</i> vines. <i>J Plant Biochem & Physiol.</i> 2019;10:237 DOI: 10.35248/2329-9029.19.7.237
2 “Historians claim that this story is indicative of a greater societal shift in attitudes towards human-wildlife interaction that culminated in the Treaty of San Francisco, although it is widely held that the story is just a legend and has no basis in reality, much like this paper.” (from the paper’s introduction)	Laurel A, Cozmo T. Visually induced vertigo by wild <i>Pseudopandam ebrius</i> (Birch 2002) movements. <i>Open Access J Environ Soil Sci.</i> 2021 Jan;6(1):735–737. DOI: 10.32474/OAJESS.2021.06.000226
3 “Also, some would argue Muk is fictional and wonder what is the point of this publication. It exemplifies the risk posed by predatory journals that publish nonsense without peer review. Quite literally anyone, posing as quite literally anyone, can publish almost anything, with no evidence or even the most tenuous connection to facts or reality, giving their conspiracy theories or lies the veneer of legitimacy associated with being published in a scientific journal.” (from the paper’s discussion)	Plunder L, Dump T, Schlomi M. Anthropogenic pollution unrelated to contamination by sentient Muk. <i>Int J Bioprocess Biotechnol Adv.</i> 2021;7(3):332–336.
4 “Laurel A, Oak S. We do not exist: Pseudonyms and fictional characters and institutions in this journal article. <i>J Route Analysis.</i> 2020;7:44–53” (from the paper’s references)	Laurel A, Oak S. Ontogenetic development in the extinct radiodonts (sic) <i>Squillannorum Laminam</i> (sic) (Birch 2002) and <i>Kabutops maximus</i> (Oak 1995). <i>J Geol Geophys.</i> 2020;9:480. DOI: 10.35248/2381-8719.20.9.480.
5 “We need to take such fraudulent publishers seriously, with the hope that these stings of silly stories masquerading as science will help catch these journals before they can defraud too many victims. Woe onto those who paid money to publish in this shoddy, non-reviewed, un-indexed, inbox spamming waste of webspace.” (from the paper’s discussion)	Helsing IFW, Dornez WC, Victoria S, Jeleniak BJ, Schlomi M. <i>Allium, Argenti, et Aqua sancta: Transgressing Molecular Boundaries in Hematology Post-Alucard.</i> <i>J Altern Complement Integr Med.</i> 2022;8(5):279. DOI: 10.24966/ACIM-7562/100279

Table 2. Content Peer Review Red Flags. Sample content peer review red flags in papers published in likely predatory journals.

Example Content Peer Review Red Flag	Sting Paper
1 “We propose some novel tools to combat the long-existing problem of inter-galactic parasites such as <i>Klaousmodium cruzi</i> (sic), which are known to have caused havoc among various populations.” (from the paper’s abstract)	Smith B, Khan FA, Beauregard C, Hendricks C, Khurana S. Newer tools to fight inter-galactic parasites and their transmissibility in Zygirion simulation. <i>ARC J Pharm Sci.</i> 2018;4(3):8–12. DOI: http://dx.doi.org/10.20431/2455-1538.0404002 .
2 “The camera flies in again. Sorry for all the unexpected interruptions earlier, but now I’m going to tell you about the most remarkable, life-changing new diet tip available. The audience “wooooo’s.” Are you sure about that? Uh, yeah - there was a scientific study on it, so I’m pretty sure I know what I’m talking about. In addition, I have a TV show. Just because you have a TV show does not mean you cannot be wrong, or lie. Watch: bologna is made from the best parts of the cow, these Transformers movies keep getting better, I go on lots of dates - see? Maybe I hold myself to a higher standard than you.” (from the paper’s materials and methods section)	Conover A, Skinner E, Bohannon J. The possible irritating effects of nutritional facts. <i>Adv Nut Food Tech.</i> 2015 Sep;3(9):1–7.
3 “Get me off your fucking mailing list.” (the paper’s title and repeated several hundred times in the paper)	Mazières D, Kohler E. Get me off your fucking mailing list. Unpublished, accepted by <i>International Journal of Advanced Computer Technology</i> ^{see 13}
4 “Many people wonder: what’s the deal with birds? This is a common query. Birds are pretty weird. I mean, they have feathers. WTF? Most other animals do not have feathers. To investigate this issue, I looked at some birds. I looked at a woodpecker, a parrot, and a penguin. They were all pretty weird! In conclusion, we may never know the deal with birds, but further study is warranted.” (from the paper’s abstract)	Baldassarre D. What’s the deal with birds? <i>Sci J Res Rev.</i> 2020;2(3):1–4. DOI: 10.33552/SJRR.2020.02.000540
5 “In the present paper, we investigate an unexpected way of mitigating the death toll of the push-scooter craze: a combination of hydroxychloroquine and azithromycin (zinc can be added to improve the flavor, but is only necessary if the study fails to provide any significant effect). We combine two observational studies (Study 1) and one randomized clinical trial (Study 3) to justify our hypothesis that HCQ+AZT is the key to all world’s problems (see second author’s personal diary for an application to the Israel-Palestine problem).” (from the paper’s introduction)	Oodendijk W, Rochoy M, Ruggeri V, Cova F, Lembrouille D, Trottinetta S, Hantome OF, Macron N, Javanica M. SARS-CoV-2 was unexpectedly deadlier than push-scooters: could hydroxychloroquine be the unique solution. <i>Asian J Medicine Health.</i> 2020;18(9):14–21.

stings may qualify as academic misconduct due to misrepresentation.

Content peer review red flags (Table 2) are often part of the premise or overall execution of a sting paper. Some content peer review red flags include clearly absurd topics like inter-galactic parasites; a bizarre format, like

a written TV script; or simply literal nonsense, like a vulgar seven-word sentence repeated over and over (Table 2). A content peer review red flag simply needs to be a problem or problems so glaring that no reputable editor or peer reviewer would support its publication, again regardless of their professional expertise or native language.

Stings often combine pop culture references with glaring flaws, but cultural references are not sufficiently obvious to function as a peer review red flag. As cultural references are inherently culturally and often linguistically bound, a quality paper referencing fictional characters could be accepted by a reputable journal whose editors and peer reviewers are simply unfamiliar with that particular work of fiction. It is plausible that editors and peer reviewers could approve an otherwise scientifically sound paper on monkey biomechanics authored by researchers Sun Wukong and Tang Sanzang, while it would be an obvious joke to others who recognize those names as characters from the classic Chinese novel *Journey to the West*.

It is best to include multiple peer review red flags in a sting and to place them as prominently as possible in the sting. A peer review red flag in an abstract is much more likely to be noticed by a reader than one in another section of the paper. While this may make a sting less likely to succeed, there is evidence that some predatory publishers do not so much as glance at what they accept,¹³ so inclusion of a peer review red flag in a prominent place might not decrease its effectiveness. Both direct and content peer review red flags can be used in the same sting paper for a more effective exposé of a predatory publisher.

While our recommendations reduce the likelihood that misinformed readers will believe published sting articles are real, it is best to avoid writing sting articles with actionable conclusions (for example, that dark chocolate promotes weight loss)¹⁰ or about conspiracy theories due to the chance someone will still mistake the content as true (as research on satire has found to occur).¹⁴ The more divorced a sting paper

is from reality, the safer and more effective it is.

Public sting statement

While abundant and well-written peer review red flags should be obvious to any reader regardless of background, some readers may nonetheless overlook them out of carelessness.⁷ Academics are also unlikely to read a paper outside of their field, which means trying to point out that a publisher is predatory by targeting just one of their many journals will have a limited reach. We thus recommend releasing a public sting statement that states the sting paper is a sting, identifies the journal it is published in and the publishing company, and directs readers to reputable sources about predatory publishing in general. This helps the sting be identified by managers of lists like Kscien's list, helps avoid polluting the literature by alerting readers who may fail to recognize the peer review red flags, and provides context to readers who may otherwise be confused. Some predatory journals are indexed in Google Scholar, but uploading a copy of the paper to a repository such as Academia or ResearchGate with a preface about the sting can sometimes show that preface as the paper's Google Scholar preview. However, given how formally retracted papers are sometimes cited long after their retraction,¹⁵ and that the public sting statement is separate from the paper, a public sting statement's effectiveness will be limited. Citing a pre-published sting statement in the sting itself may be doable, but more obvious, direct peer review red flags are still needed. Authors who use aliases in their stings may wish to use them in the sting statement, but from our and others' experience, this is not necessary.^{6,7}

Cost and benefit to the author

Predatory publishers exploit the gold open access format for profit.¹ Paying them to publish a sting would still be a successful sting, as the gold open access model requires payment for publication. However, paying would financially reward a predatory journal for its misdeeds, and costs an author money, neither of which is desirable. Fortunately, since the acceptance of a sting paper is enough to indicate a journal is predatory,⁸ publication is not necessary, and neither is payment. Some journals will provide a PDF proof to the authors before receiving payment, and this can be used to publicize the sting. Withdrawing the paper before it is published would avoid the problem of nonpayment, but this may not be necessary: some predatory journals will publish papers online before receiving payment.⁷ Some predatory journals will charge withdrawal fees or even retraction fees: these fees are unethical, and advice for those who published in such journals unknowingly is to insist on their paper being withdrawn for free.¹⁶

A risk exists in not paying fees to predatory publishers that publish sting papers, just as there is a risk in publicly claiming a publisher or journal is fraudulent. We are not lawyers, and this paper is not a substitute for legal advice. Legal risks to stinging exist. Laws vary widely by jurisdiction, and the international nature of publishing may expose stingers to unanticipated lawsuits, but it also makes pressing charges or enforcing penalties difficult. This works both ways, protecting hypothetical stingers as well as predatory publishers convicted of fraud.¹⁷

However, legal precedence exists stating that if a predatory journal promised peer review and did not deliver, then they have committed fraud and should not charge authors

publishing fees. For that reason, the notorious predatory publishing group OMICS was ordered to pay over US\$50 million to the USA's Federal Trade Commission.¹⁷ A successful sting is arguably evidence that scientists should not pay that journal any article processing fees because it is a predatory and possibly unlawful journal. To our knowledge, no record exists of a peer review stinger being threatened with lawsuits, not even Bohannon.⁶

To reduce the risk of unwanted phone calls or emails regarding overdue payment, stingers are strongly encouraged to use pseudonyms, fictional institutions and addresses, fake phone numbers, and alternate email addresses. This mitigates risk and has the added benefit of creating a separation between the sting author's real research record and their sting papers.

Limiting statements describing findings to purely factual information and not using language that a predatory journal may object to can help, but some level of risk will always remain regardless of the precautions taken.

Other considerations

Stings of individual predatory journals are not generalizable and are more akin to journalism than research, but a formal experiment involving stings of multiple journals may need approval from an Institutional Review Board (IRB) or equivalent.¹⁸ Institutional Review Board approval could be sought for a sting of an individual journal if desired to provide oversight and a more rigorous ethical framework.

It can be argued that stings published by predatory journals can pollute the literature,¹⁰ but predatory journals themselves already pollute the literature and harm science.^{19,20} Furthermore, an obviously false paper with

multiple, clear peer review red flags, especially in the abstract or title, arguably poses no risk to the literature. Well-executed stings revealing that journals are predatory help authors make informed decisions about which journals to include or exclude in academic indexes or predator lists, spur institutions to have stricter requirements on the publications that count towards research output, and start conversations about predators and the risks they pose.^{3,8} As amusing as stings can be,^{7,13} we recommend that future stings be accompanied by specific aims (that is, increasing awareness among a specific demographic,³ comparing different journals through controlled experiments,¹⁸ determining if a specific journal receiving media attention is predatory, or updating predatory publisher lists⁸).

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