

Predatory Publishers using Spamming Strategies for Call for Papers and Review Requests : A Case Study

Alexandru-Ionut Petrisor

Ion Mincu University of Architecture and Urbanisation, Bucharest, Romania

E-mail: alexandru.petrisor@uauim.ro

ABSTRACT

Spam e-mail and calls from the predatory publishers are very similar in purpose: they are deceptive and produce material losses. Moreover, the predatory publishers show evolving strategies to lure potential victims, as their number increases. In an effort to help researchers defending against their constant menace, this article aims to identify a set of common features of spam e-mail and calls from predatory publishers. The methodology consisted of a comparative analysis of data found on the Internet and e-mails received at several addresses during December 2017 – January 2018. The results indicate that concealed, fake or disguised identity of the sender and/or of the message, mass mailing, missing or useless opt-out option and an obvious commercial character are the most prominent common features. Moreover, the location of predatory publishers is well disguised; the analysis of the real location, found using web-based tools, suggests a joint management or at least a concerted action of several publishers, and raises additional questions related to the reasons of masking the true location. From a theoretical standpoint, the results show, once again, that predatory publishers are a part of the worldwide scam, and should be ‘convicted’ in a similar way, including the means of legal actions. From a practical perspective, distinct recommendations were phrased for researchers, policy makers, libraries, and future research.

Keywords: Publishing deception; Unsolicited e-mail; Phishing anonymity; Unsolicited

1. INTRODUCTION

There are many terms which seem to be understood by everyone, but their meanings are different and controversial. Common sense can be used to know that an e-mail is ‘spam’ and a call for papers comes from a ‘predatory journal’, although the literature reveals an ongoing controversy on the definition. Spam is part of the daily life of everyone with an e-mail address and calls for papers have the same effect on people from academia and research¹.

The creation of the term ‘predatory journal’ is attributed the American Colorado-based academic librarian and researcher Jeffrey Beall in 2008². The original definition, involving the fact that authors are charged by publication, but deceived in the end, is controversial³, as well as their list, which has been removed from the author’s website⁴. The list was based on several criteria, derived by Beall from those developed by the Committee on Publication Ethics (COPE)⁵, which can be used to identify predatory journals; some of them, used in the research presented in the article, include:

- No single individual is identified as any specific journal’s editor;
- Begins operations with a large fleet of journals;
- The name of a journal does not adequately reflect its origin;
- Use boastful language claiming to be a “leading publisher” even though the publisher may only be a startup or a

novice organisation;

- Operate in a Western country;
- Have a “contact us” page that only includes a web form or an email address, and the publisher hides or does not reveal its location;
- The publisher lists insufficient contact information, including contact information that does not clearly state the headquarters location or misrepresents the headquarters location;
- The publisher engages in excessive use of spam email to solicit manuscripts;
- The publishers’ officers use email addresses that end in gmail.com, yahoo.com, or some other free email supplier;
- For the name of the publisher, the publisher uses names such as “Network”, “Center”, “Association”, “Institute” etc. when it is only a solitary, proprietary operation and does not meet the definition of the term used or implied non-profit mission;
- The publisher displays prominent statements that promise rapid publication and/or unusually quick peer review;
- The publisher appears to focus exclusively on article processing fee procurement;
- The publisher copies or egregiously mimics journal titles from other publishers.

The importance of predatory journals is justified by their effects. From an ethical perspective, a recent study⁶ shows that in countries where academic promotion is based on metrics without assessing the quality of articles, predatory journals

provided a “fast track” for the advancement of unscrupulous researchers. At the same time, the economic crisis forces more and more legitimate journals to assess fees in order to support their operation, turning them into predatory ones⁶. At the same time, researchers who publish in the predatory journals (being deceived or) use the scarcer research funds, which end by supporting the proliferation of predatory publishers⁷. Despite the fact that after the public exposure of their lack of quality control in the peer review process^{8,9} and selection of the editorial board¹⁰ researchers can no longer be trapped and some of them reinvented as proofing services¹¹, the number of predatory publishers is still growing¹² and their strategies are evolving¹³.

Spam is a form of e-mail distinguished by anonymity, mass mailing, and its unsolicited character¹⁴. Although the definition is generally agreed upon, the characteristics vary across different sources based on the particular interest beyond. IT specialists fighting against spam are interested in blocking spam emails from reaching the inboxes of people, and focus their attention on characteristics like the connection behaviour, servers used to send them, envelope sender address, header, use of HTML, encoding, signatures, protocols, camouflaged contact methods (phishing), including masked URLs, or characteristic headers that can reveal the mass mailing character¹⁵⁻¹⁹.

Other types of documents are focusing on the end user, to prevent them opening the spam e-mails, and produce guidelines featuring the main spam characteristics^{14,20-23}. Nevertheless, similar outputs are delivered by consultants to companies that use mass e-mail attempting to reach the inboxes of their potential customers: how to avoid having their campaign message classified as spam^{24,25}. Despite the intention, all these documents reveal a series of features that help distinguishing spam e-mail: anonymous or disguised senders, subjects disguising the advertisement nature, missing or fake opt-out options, requests for sensitive information, scare tactics, asking for money in advance, lack of realism. Perhaps the main characteristics are a subject line that reveals the particular type of spam: fraud scheme, bogus business opportunity, health and diet scam, pornography, discount software offers, Trojan horse e-mails, virus generated e-mails^{21,23}, and the presence of certain ‘flag’ words: urgent, free, guarantee, spam, credit card etc.²⁵.

Both spam and predatory journals produce not only ethical debates or loss of scientific information, but also important material losses. In South Africa, The Department of Higher Education and Training lost during the last decade 6.5-20 millions euros in academic subsidies for articles published in predatory journals⁷.

Several studies have pinpointed many similar features of the calls for papers coming from multiple predatory publishers and conferences, suggesting a concerted action beyond the simple copying of practices¹⁵, but also a similarity between them and regular ‘spam’^{1,26-29}. However, a systematic analysis has not been carried out, since both ‘spam’ and ‘predatory journals’ do not benefit upon a taxonomic set of criteria for recognition. As a matter of fact, humans appear to be better than computers, which acting in a taxonomic fashion, in recognising spam³⁰. For this reason, most recognition algorithms are built upon “supervised learning”; this means that the receiver identifies a message as

“spam” and the computer includes future similar messages in the same category.

This article aims to identify a set of common features of spam e-mail and class for papers from predatory publishers, which can be used by researchers to avoid being deceived.

2. METHODS

Spam messages and calls for papers or review from predatory journals and conferences were collected and compared based on several common characteristics: concealed, fake or disguised identity of the sender; concealed, fake or disguised identity of the message; (hidden) mass mailing; the opt-out (unsubscribe) option missing or not working; the commercial character. The analysis relies on data found on the Internet and calls received at several e-mail addresses between December 2017 and January 2018, with one exception, stated in the results section. While for the spam messages the real sender could not be always verified, the calls for papers were sent by 68 journals, conferences and proofreading providers. The proofreading service providers were included because they are former predatory publishers¹¹, or companies offering both proofreading and publication services (e.g., Savant Publishing House / Journals). Only few selected calls are displayed.

In addition, the location of spammers and predatory publishers was checked using the website <https://www.site24x7.com/find-website-location.html>. The analysis included all calls received during January 5-11, 2018 to all addresses (two personal and two job-related addresses), including calls from the same journal received in different days and/or at different addresses.

3. RESULTS AND DISCUSSION

The results are presented in *Appendix 1* in the form of paired comparisons showing on the left a similar typical spam message and on the right the call for papers or review from the predatory journal showing the same feature. Multiple characteristics of the same message may be presented and discussed more than once, although the message is displayed only once. Most messages were truncated and personal identifiers removed.

3.1 Concealed, Fake or Disguised Identity of the Sender

- (a) Inventing a fake sender, with a common or attractive name (Table A),
- (b) Fake response/sender addresses (Tables A-B),
- (c) Serial addresses (Table C),
- (d) Use of multiple sender names in the same message (Table A-C);
- (e) “Doctors” used to make the message more trustworthy (Table D);
- (f) The sender has a gender (Tables A, D).

All these strategies have the same goal: giving the message a legitimate appearance, and luring the receiver to (at least) open and read the message.

3.2 Concealed, Fake or Disguised Identity of the Message

- (a) use of “Re:” to give the appearance of the message

being sent in response, with a common or attractive name (Table E), (b) inducing a “need to act immediately” (Table F), (d) use of boasting language, creating a fake image on the importance of the contents of messages (Table E). Again, the common goal of these strategies is to make the message seem important, or at least trustworthy, and determine the receiver to open and read it.

3.3 (Hidden) Mass Mailing

(a) the lack of a “To:” address, or its replacement with a generic one, such as “undisclosed recipients” (Tables A-B) or a fake one (Table A), (b) impersonal addressing: “My dear” (Table A), “Dear Boss” (Table C), “Dear Sir” (Table E), “Dear Dr.” (Table G), “Dear Colleague”, or no addressing. In all cases, such calls for papers or review are mass mails; the fact that this feature is noticeable is a mistake of the senders, not a strategy. However, it should make the receiver aware of not being the only intended recipient.

3.4 The Opt-Out (Unsubscribe) Option is Missing or Not Working – All Examples

The opt-out option is added nowadays to ensure compliance with most laws, which require businesses to add it in order for the message not to be treated as spam, resulting into consequent penalties against the sender. However, most laws require only its presence, while its behaviour cannot be checked. Spammers and predatory publishers, if including the option, make it useless.

3.5 The Commercial Character

Includes focusing on discounts (Table D), urge to act immediately (Table F), or an apparent “connection” with the virtual customer (Table G). By their original definition calls from the predatory publishers have a commercial character, since their ultimate goal is to charge the authors^{26,31,32}. In this case, revealing the commercial character is a mistake of senders, which should be noticed immediately, avoiding the trap.

In summary, the first three characteristics are present in the definition of ‘spam’ – anonymity and mass sending. The last two are mistakes of senders, revealing the true nature of spam and calls from predatory publishers: an unsolicited anonymous mass mail, aimed only for the profit of the sender – in other words, a mass mail.

One feature which can also be noticed in both type of messages (traditional spam and calls from predatory publishers) is the poor English. This feature brings additional evidence to the claims that the predatory publishers are located in developing countries^{31,33}. The results of the location analysis, presented in Fig. 1, show several key features. First, a large share of the predatory publishers masks the real location and does not claim one (occasionally several worldwide locations were claimed; these cases were labeled “worldwide”). Second, several locations monopolise the publishers. The top real cities were Burlington, MA, U.S.A. (11), Phoenix, AR, U.S.A. (9) and Scottsdale, AR, U.S.A. (9). The U.S.A. dominates the top of “real” countries (almost 3/4). Claimed locations show more

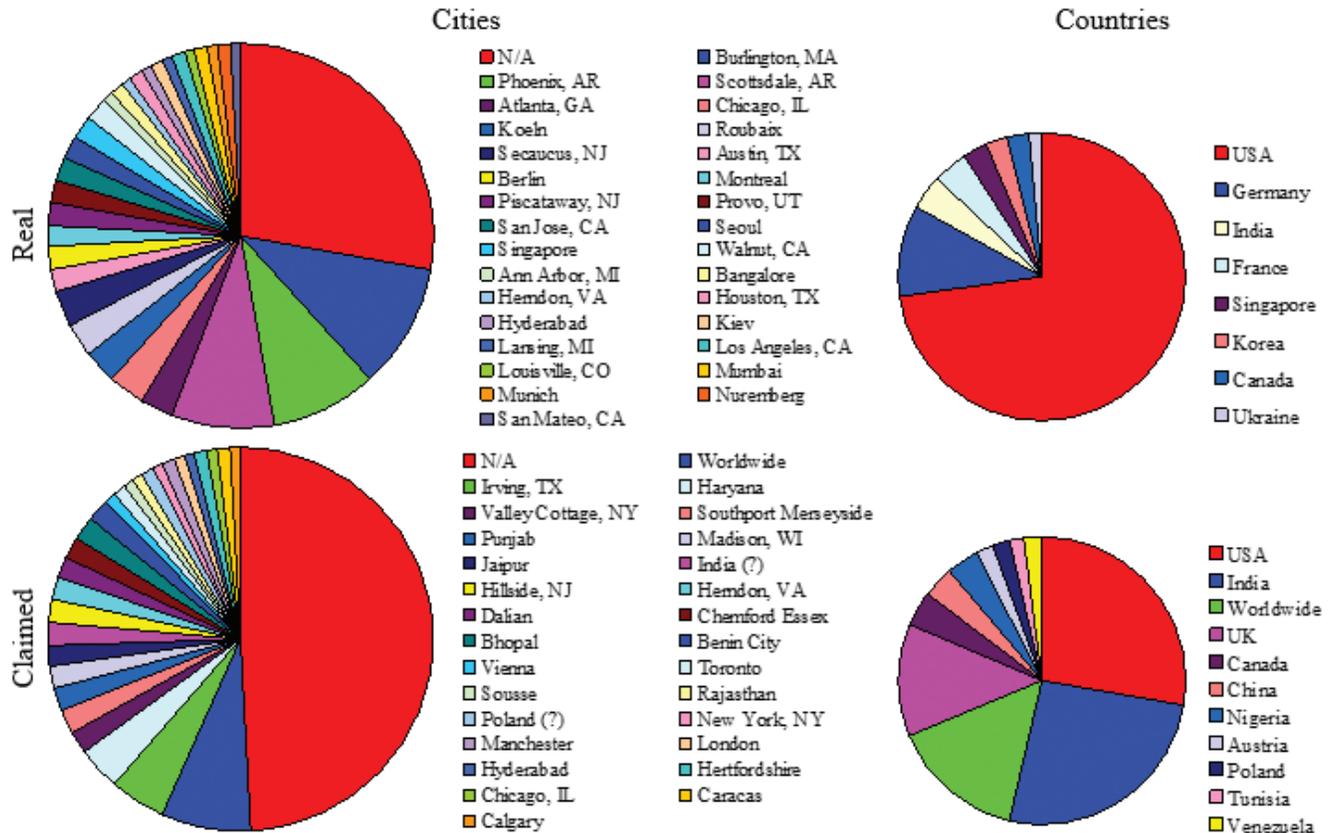


Figure 1. Claimed and real locations of predatory publishers and proofing service providers sending calls during January 5-11, 2018.

diversity, without a clear domination of cities; the top claimed countries are the U.S.A. and India (almost evenly), were more than 50% of the publishers appear to be located. These results are partially supporting in a fine tuned manner the hypothesis on their location in developing countries, but raise additional questions:

- Why would a publisher claim a location in a developed country and have its website hosted in a different developed country (UK/USA, Canada/USA, and UK/Germany)?
- Why would a publisher reveal its origin in a developing country and have its website hosted in a different developed country (Nigeria/USA, India/USA, and India/France)?

The spatial clustering of different entities (predatory publishers, proofing service providers) in several cities supports the previous claim that actually predatory publishers are not rivals, but act together in a concerted way, and perhaps the same entity lies behind a group of such publishers¹³. Other findings of the analysis are:

- 71 e-mails were received from 54 publishers; in the e-mails 106 servers were found; the large number of servers is due to the fact that in many cases the same message included more servers (see Table B)
- The most insistent solicitors were the American International Journal of Contemporary Research (5 calls) and the Savant Publishing House / Savant Journals (4 calls); 13 solicitors sent at least 2 calls
- The claimed city never matched the real one, but the claimed country matched the real one in 40/106 cases
- Locations were found in 30 cities/8 countries and claimed in 27 cities/10 countries

The time distribution of calls is presented in Fig. 2. The image shows that the number of calls is lower on Saturdays and Sundays, corresponding to the weekend in the Western Christian countries, when most businesses cease their operation. The

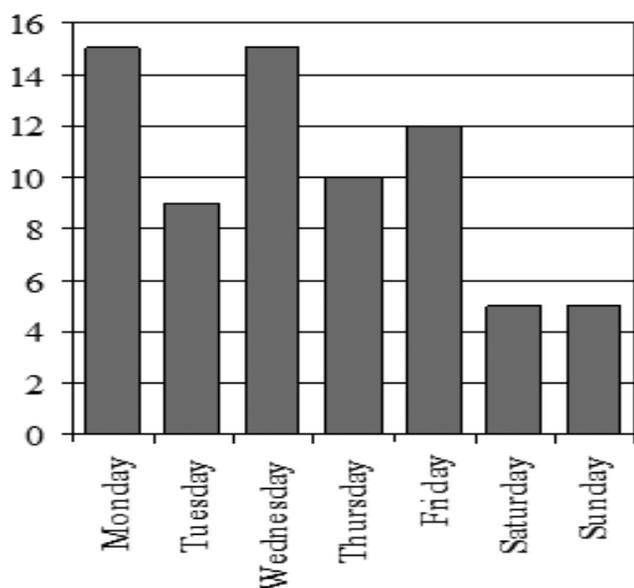


Figure 2. Time distribution of calls from predatory publishers and proofing service providers received during January 5-11, 2018.

pattern could suggest at a first glance the fact that the predatory publishers are indeed located in such countries, and not in other countries, such as the Muslim countries, where the weekend includes Fridays and Saturdays. However, this is more likely to be an adaptive strategy, meaning that the predatory publishers adapt their campaigns to the Western Christian in order to avoid the automatic deletion of their e-mails from the Spam folder before they are reviewed, since most people do not check their e-mail, especially the work address, during the weekends.

Beall³¹ suggested that predatory publishers appeared as a dishonest business response to the opportunity offered by the open access, exploiting it to their benefit. However, the first ones used in the beginning the excuse that since researchers are funded for the study that yielded the results they are publishing, they are charging the funding agency, and not the authors¹¹. This is true especially since science has become a business^{13,34}, and, as suggested previously¹³, returning to the way of doing science for science will put the predatory publishers scam to a definite end. At the same time, the pressure for publishing – “publish or perish” – creates a need that can be exploited through the predatory journals^{10,13}. This pressure is amplified by metrics-based promotion and graduation criteria, especially on exclusivist choices^{13,35,36}, and casts doubts over the peer review process itself^{9,38}.

4. CONCLUSIONS AND RECOMMENDATIONS

The article attempted to compare ‘traditional’ spam and calls for papers and review received recently, in order to pinpoint the common features. In summary, a concealed, fake or disguised identity of the sender or identity of the message, its mass character, a missing or not working opt-out option and a commercial focus are the main ones, mostly corresponding to the definition of spam; they should trigger immediately the attention of researchers. From a theoretical standpoint, the findings bring additional evidence to the fact that predatory publishers are part of the worldwide scam, and should be ‘convicted’ in a similar way, including by legal action.

Apart from the additional evidence on the practices used by predatory journals, the findings can be used for phrasing the following recommendations.

For the Researchers: A set of criteria used to check the possible “predatory” character of a publisher has been developed by Beall⁵. Although the resulting list is controversial^{39,40}, the criteria should flag the attention of a researcher when receiving a call from an unknown journal. In addition to it, several criteria characterising the e-mail call could be added: (a) concealed, fake or disguised identity of the sender and/or of the message, (b) suggestions of mass mailing (the receiver is not listed at all in the “To” field), (c) missing or useless opt-out option, (d) use of commercial words (focus on fee, requirements to act urgently). Any call for papers from a journal should be treated with suspicion, because legitimate journals are approached by authors who know them, instead of soliciting articles.

For the Policy Makers: In different countries, the quality control of scientific production is carried out either in a centralised fashion, through a national authority (e.g., Ministry) that sets out the criteria for academic/scientific promotion, grant competitions, accreditation of research and academic

institutions etc., or in a decentralised way, where each research and academic institution sets out its inner criteria. Regardless of it, the deciders should ban the predatory publishers and develop criteria based more on the intrinsic quality of the articles instead of enforcing or favoring the publication in “international” or “foreign” journals. Perhaps it the time for replacing the paradigm of ‘science as business’ to the old way of doing ‘science for science’. Putting money into the equation increases the chances of opportunists, such as the predatory publishers.

For the Libraries: In many countries, libraries have an active role in supporting researchers with information on preparing their manuscript for publication, the peer review process and the post-publication issues. In this context, libraries should also devote courses and informative materials on dealing with the predatory journals and identifying potential predatory publishers from the very first stage of the “Call for Papers”. Although debatable, Beall’s criteria, completed with those identified in this research, can serve as a starting point, drawing the attention of researchers on the potential danger.

The predatory publishers are, by analogy with biology, a “species” that proliferates beyond the lifetime of a given journal or publishers. When articles or lists (e.g., Beall’s list) reveal their practices, or when they are unable to draw authors, these journals change their names, re-invent as proofreading services, or change their strategies. Due to this, the research on predatory journals is rapidly “perishing”, and even though particular journals are revealed at some point, the results are losing their object rapidly. One way of overcoming this shortcoming is an analysis of criteria used to pinpoint potential predators. Since the resemblance of predatory publishers and spam-based business suggests their joint operation, future researches should look for their common “source”.

REFERENCES

- 1 Memon, A.R. Predatory journals spamming for publications: What should researchers do? *Sci. Eng. Ethics*, 2017.
doi:10.1007/s11948-017-9955-6
- 2 Butler, D. Investigating journals: The dark side of publishing. *Nature*, **495**(7442), 433-435.
- 3 Eriksson, S. & Helgesson, G. Time to stop talking about ‘predatory journals. *Learn. Pub.*, 2017.
doi: 10.1002/leap.1135/abstract
- 4 Teixeira da Silva, J.A. The ethical and academic implications of the Jeffrey Beall (www.scholarlyoa.com) blog shutdown. *Sci. Eng. Ethics*. 2017.
doi: 10.1007/s11948-017-9905-3
- 5 Beall, J. Criteria for determining predatory open-access publishers. Edn. 3rd, 2015. <http://ssau.ru:8080/files/science/crpd/CriteriaBillPublishers2015.pdf> (accessed on 20 February, 2018).
- 6 Habibzadeh F., Simundic A.M. Predatory journals and their effects on scientific research community. *Biochem. Med.*, 2017, **27**(2), 270-272.
- 7 Wild, S. Predatory journals: Government loses millions to articles in journals that swindle. *Business Day*, Johannesburg, South Africa, 2017. <https://www.businesslive.co.za/bd/national/science-and-environment/2017-09-19-predatory-journals-government-loses-millions-to-articles-in-journals-that-swindle/> (Accessed on 2 January, 2018).
- 8 Bohannon, J. Who’s afraid of peer review? *Science*, 2013, **342**(6154), 60-65.
- 9 Djuric, D. Penetrating the Omerta of predatory publishing: The Romanian Connection. *Sci. Eng. Ethics*, 2015, **21**(1), 183-202.
doi: 10.1007/s11948-014-9521-4
- 10 Sorokowski, P.; Kulczycki, E.; Sorokowska, A. & Pisanski K. Predatory journals recruit fake editor. *Nature*, 2017, **543**(7646), 481-483.
- 11 Nelson, B. Merchants of mayhem: The ‘parallel economy’ of predatory publishing is leaving a long trail of damage in its wake. *Cancer Cytopathology*, 2016, **124**(5), 301-302.
doi: 10.1002/cncy.21733
- 12 Clark, J. & Smith, R. Firm action needed on predatory journals. *Brit. Med. J.*, 2015, **350**, h210.
- 13 Petrisor, A.-I. Evolving strategies of the predatory journals. *Malaysian J. Lib. Info. Sci.*, 2016, **21**(1), 1-17.
- 14 Gao, K. The ultimate guide to email marketing. everything you need to know about successful email marketing, Comm100, Vancouver, British Columbia, Canada, 2013. https://emailmarketing.comm100.com/doc/emailmarketing_guide.pdf (accessed on January 1, 2018).
- 15 Spykerman, M. Typical spam characteristics. How to effectively block spam and junk mail, White Paper, Red Earth Software, Timisoara, Romania, 2003. <http://www.spamhelp.org/articles/> (Accessed on 1 January, 2018).
- 16 Costales, B. & Flynt, M. The Characteristics of Spam Email. In: Costales B., Flynt M., sendmail Miltsers: A guide for fighting spam. Addison-Wesley Professional, Indianapolis, Indiana, U.S.A., 2005.
- 17 Duan, Z.; Gopalan, K. & Yuan, X. Behavioral characteristics of spammers and their network reachability properties. In Proceedings of the IEEE International Conference on Communications, ICC. 2007. pp. 164-171. <http://www.cs.fsu.edu/files/reports/TR-060602.pdf> (Accessed on 1 January, 2018).
- 18 Xie, Y.; Yu, F.; Achan, K.; Panigrahy, R.; Hulten, G. & Osipkov I. Spamming Botnets: Signatures and Characteristics. *ACM SIGCOMM Comp. Comm. Rev.*, 2008, **38**, 171-182.
- 19 Calais, P.H.; Pires, D.E.V.; Guedes, D.O.; Meira, W.Jr.; Hoepers, C. & Steding-Jessen, K. A Campaign-based characterization of spamming strategies. In CD Proceedings of the 5th Conference on Email and Anti-Spam, CEAS. pp. 1-10. <https://honeytarg.cert.br/spampots/papers/spampots-ceas08.pdf> (Accessed on 1 January, 2018).
- 20 Pfister, A. Spammers: What are they doing now? Cornell University Information Technologies Division of the Administrative Services, Ithaca, NY, U.S.A.,

2002. <http://www.oocities.org/dyanearden/spam-tactics.pdf> (Accessed on 1 January, 2018).
- 21 Fallows D. Spam: How it is hurting email and degrading life on the internet. Pew Internet & American Life Project, Washington, D.C., U.S.A., 2003. <http://www.pewinternet.org/2003/10/22/spam-how-it-is-hurting-email-and-degrading-life-on-the-internet/> (Accessed on 1 January, 2018).
- 22 Government of Canada. Worried it's spam? 5 things to look for. Government of Canada Publications, Ottawa, CA, 2013. <http://publications.gc.ca/site/eng/436600/publication.html2013> (Accessed on 1 January, 2018).
- 23 US-CERT. Recognizing and Avoiding Email Scams. United States Computer Readiness Emergency Team, Washington, DC, U.S.A., 2013. <https://www.us-cert.gov/security-publications/recognizing-and-avoiding-email-scams> (Accessed on 1 January, 2018).
- 24 Odishoo, J. Going above & beyond CAN-SPAM Compliance. A how to for effective email marketing. BDXPERTISE, Austin, TX, U.S.A., 2010. <http://learn.thebdx.com/lead-generation/effective-email-marketing> (accessed on 1 January, 2018).
- 25 Dudley, M. Savvy email marketing: Writing subject lines that get emails opened, plus: BONUS: Creating Emails for Action. Constant Contact, Inc., Waltham, MA, U.S.A., 2014. <http://www.rosevillechamber.com/wp-content/uploads/2013/06/Subject-Lines.pdf> (Accessed on 1 January, 2018).
- 26 Beall, J. Medical publishing triage: Chronicling predatory open access publishers. *Ann. Med. Surg.*, 2013, **2**(2), 47-49.
- 27 Moher, D. & Srivastava, A. You are invited to submit. *BMC Med.*, 2015, **13**, 180. doi: 10.1186/s12916-015-0423-3
- 28 Erfanmanesh, M. & Pourhossein, R. Publishing in predatory open access journals: A case of Iran. *Pub. Res. Quart.*, 2017, **33**(4), 433-444. doi:10.1007/s12109-017-9547-y
- 29 Ibba, S.; Pani, F.E.; Stockton, J.G.; Barabino, G.; Marchesi, M. & Tigano, D. Incidence of predatory journals in computer science literature. *Lib. Rev.*, 2017, **66**(6/7), 505-522. doi:10.1108/LR-12-2016-0108
- 30 Gyöngyi, Z.; Garcia-Molina, H. & Pedersen J. Combating web spam with TrustRank. *In Proceedings of the Thirtieth international conference on Very large data bases*, 2004. **30**, pp. 576-587. <http://www.woodmann.com/searchlores/library/2004-52.pdf> (Accessed on 2 January, 2018).
- 31 Beall, J. Essential information about predatory publishers and journals. *Int. High. Ed.*, 2016, **86**, 2-3.
- 32 Beall, J. What I learned from predatory publishers. *Biochem. Med.*, 2017, **27**(2), 273-278.
- 33 Beall, J. Predatory publishers are corrupting open access. *Nature*, 2012, **449**(7415), 789.
- 34 Corlan, A. Scientific research is not a commercial activity. *AdAstra*, 2005, **4**, 1-10. [in Romanian] <http://www.ad-astra.ro/journal/7/corlan.pdf> (Accessed on 3 January, 2018).
- 35 Lawrence, P.A. The mismeasurement of science. *Curr. Biol.*, 2007, **17**(15), R583-R585.
- 36 Ravindran, V.; Misra, D.P. & Negi, V.S. Publishing or perishing: For the Best; for the Worst! *Indian J. Rheumatol.*, 2017, **12**(3), 126-127.
- 37 Mulligan, A. Is peer review in crisis? *Oral Oncol.*, 2005, **41**, 135-141.
- 38 Baldwin, M. In referees we trust? *Phys. Today*, 2017, **70**(2), 45-49. doi: 10.1063/PT.3.3463
- 39 Teixeira da Silva, J.A. Jeffrey Beall's "predatory" lists must not be used: they are biased, flawed, opaque and inaccurate. *Bibliothecae.it*, 2017, **6**(1), 425-436.
- 40 Teixeira da Silva, J.A. Caution with the continued use of Jeffrey Beall's "predatory" open access publishing lists. *AME Med. J.*, 2017, **2**, 97.

ACKNOWLEDGEMENT

I am thankful to the anonymous reviewers for their comments and suggestions, which resulted into an improvement of the over quality and readability of the manuscript, enlarging its addressability beyond the scope envisaged at the time of submission.

CONTRIBUTOR

Dr Alexandru-Ionut Petrisor holds PhD (Ecology) from University of South Carolina, in 2004 and another PhD (Geography) from University of Bucharest, in 2011. Currently working as Associate Professor and Director of the Doctoral School of Urban Planning, at "Ion Mincu" University of Architecture and Urbanism, Bucharest, Romania. He has published over 190 journal and 30 conference articles, 45 books & chapters, 50 research reports. His research interest include : Land cover and use changes, numerical and geospatial methods in ecological, biological and geographical research, structural and functional organisation of man-dominated ecological systems, and the theoretical grounds of research and scientific publishing.

Appendix-A

Comparison between a spam e-mail and a call for papers from predatory journals received during January 5-11, 2018, illustrating different common features of the two.

Table A: Fake senders

Spam e-mail	Call for papers
<p>From: lisa.ragnvard2@aol.com To: undisclosed-recipients Date: Monday, December 11, 2017 11:20 AM Subject: HELLO,</p> <p>Hello my dear, I sent this mail praying for it to reach you in good health, since I myself are in a very critical health condition in which I sleep every night without knowing if I may be alive to see the next day. I am Mrs. Lisa Ragnvard Farouk, a widow suffering from brain tumor. I have some funds I inherited from my late husband, the sum of (\$ 11,000,000.00, Eleven Million Dollars). my Doctor told me recently that I would not last due to the illness. Having known my condition, I decided to donate this fund to a good person that will utilise it the way i am going to instruct here in. I need a very honest and God fearing person who can claim this money and use it for Charity works, for orphanages, widows and also build schools for less privilege that will be named after my late husband if possible. I accept this decision because I am not afraid of death.</p> <p>I am waiting for your prompt reply. (lisaragward10@gmail.com) Thank you and God bless you, Mrs. Lisa Ragnvard Farouk.</p>	<p>From: "Jennifer Collymore" <jennifer.collymore03@yahoo.com> To: "jea.aripd@gmail.com" <jea.aripd@gmail.com> Call for Papers Date: Monday, December 11, 2017 10:53 AM Subject: Call for Papers Call for Papers Journal of Engineering and Architecture ISSN: 2334-2986 (Print) 2334-2994 (Online) Journal of Engineering and Architecture is an international peer-reviewed journal. The journal is not limited to a specific aspect of engineering and architecture but is instead devoted to a wide range of subfields in the engineering sciences and architecture. Articles of interdisciplinary nature are particularly welcome. The journal strives to maintain high quality of publications. There will be a commitment to expediting the time taken for the publication of the papers. The editorial board reserves the right to reject papers without sending them out for review. The journal also publishes innovative contributions on every aspect of architectural endeavor. [text truncated] For any additional information, please contact with the executive editor at editor@aripd.org Regards, Dr. David Grau, Arizona State University, USA. Editor-in-Chief Journal of Engineering and Architecture Website: www.jea-net.com N. B. To unsubscribe, forward this email to info@aripd.org with 'Unsubscribe' in the subject line.</p>

Table B: Fake addresses

Spam e-mail	Call for papers
<p>From: "Gifts_UGG_Boots" <deals@h87.UGGBOOTSDEALS.SHOP> To: [personal address not revealed] Date: Sun, December 10, 2017 6:38 am Subject: 40% OFF Your Entire Order! Shhh don't tell...\$86FOR YOU</p> <p>UGG Having trouble reading this email? View it in your browser .Not interested anymore? Unsubscribe instantly</p>	<p>From: "EPHJOURNAL" <info@ephjournals5.xyz> To: undisclosed-recipients Date: Monday, December 11, 2017 11:48 AM Subject: Submit Your Research Paper *****open access journal***:***</p> <p>Submit a new Research Paper http://ephjournal.com/ editor@ephjournal.com We, at EPH, initiate a call for research paper in all areas of science, engineering and technology every month. From original research papers, survey papers, case studies and academic or scholarly articles to extended versions of previously published papers in conferences, scholarly journal or academic peer reviewed international journals, we welcome high quality work that focuses on research, development and application in the aforesaid areas. [text truncated] Submit your manuscript through E-mail at submission@ephjournal.com [text truncated] Best Regards EPH Journal http://ephjournal.com/</p>

Table C: Serial addresses

Spam e-mail	Call for papers
<p>From: "Mike" <mikemourinhogifts@vip.163.com> Subject: Re: lanyards and Medals, Pins, Badge,PVC gifts, of china To: [personal address not revealed] Date: Sun, December 10, 2017 2:20 pm Dear Boss Good day,I am Mike from MOURINHO GIFTS is a Professional factory in China We can provide you cheapest lanyards ,Silicone wristband ,Medals, Metal badges, Pins, Badge, PVC keychains ,of china . Should you have any interest, please don't hesitate to contact me. Hope we can do business with you! Best regards! Mike</p>	<p>From: "Prof.Wang" <publisher15@vip126.com> To: [personal address not revealed] Date: Saturday, April 12, 2014 00:03 AM Subject: *Apr.12,2014 / 5:3* AERMI2014: Academic Cooperation [Prof. KONG] ~AERMI 2014 Call for Papers~ 2014 International Conference on Advanced Education and Management Innovation (AERMI 2014) http://www.aermi.org/ Introduction 2014 International Conference on Advanced Education and Management Innovation (AERMI 2014) will be held in Tianjin, China during June 12-13, 2014.</p> <p>[text truncated]</p>

Table D: "Doctors" are used to make the message look more credible.

Spam e-mail	Call for papers
<p>From: "Dr. Al Sears MD" <Dr..Al.Sears.MD@hortstau.com> To: [personal address not revealed] Subject: 2,000% better than turmeric Date: Thursday, December 21, 2017 8:04 AM [the actual message cannot be displayed, as it is actually an HTML code hosted on an external website, displayed as an image]</p>	<p>From: Dr. Moumita Dey <6c516f7314d272faa67faf773cdc5878@yourjournals.org editor02> Reply-To: editor.sdi2@sciencedomains.org Subject: FLAT 94% OFF: Asian Journal of Economics, Business & Accounting To: [personal address not revealed] Date: Mon, Dec 25, 2017 at 5:56 PM Having trouble reading this email? View it in your browser. Asian Journal of Economics, Business and Accounting Dear Colleague, Asian Journal of Economics, Business and Accounting is a peer-reviewed INTERNATIONAL journal. We offer both online publication as well as Hard copy options. Article Processing Charge is only 30 USD, for manuscripts submitted within this month. [text truncated] Best regards, Ms. Isita Sen [text truncated] This is email was sent to [personal address not revealed], click here to unsubscribe.</p>

Table E: Use of "Re:" to create the impression that the message was sent in response

Spam e-mail	Call for papers
<p>From: "Rachel" <yerfeiwu268@163.com> To: [personal address not revealed] Subject: Re:Small order can accept Date: Fri, December 15, 2017 7:20 am Dear Sir, Good day. Pls see bellow is our product of baby diaper, this is our warehouse photos for your reference. We are the manufacture for baby and adult diapers, We acceptance quantity order include the small order and OEM or ODM. We have our own team for develop the new product, we have own product line and workshop. We have full stock in whole year, so you can place any quantity order to us. By the way, I am a new mother, my baby is a very cut Best regards! Rachel Sales Manager AKOLAND GROUPOCO., LTD Adress: Daxin building, Baoan South Road, Luohu District, Shenzhen city, Guangdong province, China Tel:0086-755-29457361 Mobile:+8613480128890</p>	<p>From: "Kasmera ISI Indexed Journal." <papers@kasmerajournal.com> To: [personal address not revealed] Subject: RE::Important notification for researchers and university academicians, December 2017 Date: Tuesday, December 19, 2017 11:14 AM (Call for papers) (December 2017) KASMERAJOURNAL ISSN: 0075-5222 http://www.kasmerajournal.com/submit.html [text truncated] If you don't want to receive our emails in the future, please click here to unsubscribe.</p>

Table F: Use of words creating a false need to act immediately

Spam e-mail	Call for papers
<p>From: "DateNiceAsian" <DateNiceAsian@quetszfeldhattquess.com> To: [personal address not revealed] Subject: Why Wait? Meet Asian Women Today Date: Monday, January 1, 2018 1:14 AM [the actual message cannot be displayed, as it is actually an HTML code hosted on an external website, displayed as an image]</p>	<p>From: scientificresearch3@pub.org Subject: Call for Papers Date: 12/13/2017 09:06 To: [multiple addresses] Journal of Scientific Research and Studies www.modernrespub.org/jsrs/index.htm Are you interested in publishing scientific research articles? Then Journal of Scientific Research and Studies is the right place for you. So hurry up and get your papers published in an indexed JOURNAL [text truncated]</p>

Table G: Use of a fake personalisation of the e-mail

Spam e-mail	Call for papers
<p>From: Patrick Stichler <chokedamp.bungling68474@outlook.com> To: [personal address not revealed] Subject: Ref: ashley Date: Thu 12/14/2017 3:45 PM Hi Ashley I wanted to send this to you about some-thing amazing I was emailed some weeks ago. I have been using it part time, just a few hours every night, and Ive been getting a few \$\$\$ a week extra doing this. If you have been looking for away to make an excess salary, or even to work part_time or full_time on the web, then this is for you. It's extremely simple to perform, and the more you work this the more cash you will make. Why dont you find out more go-here today ashley. Patrick</p>	<p>From: "Editor IJFH" <admin@journalspaper.com> To: [personal address not revealed] Subject: In Reference with Changing microspatial patterns of sulfate-reducing microorganisms SRM during cycling of marine stromatolite mats Date: Saturday, December 30, 2017 12:31 PM Dear Dr. [name not revealed], Greetings from International Journal of Forestry and Horticulture!!! It has been a great experience reading your research article [title of the microbiology article not revealed] and we hope that you are continuing to pursue research work in the subject. We would like to know more about your current research work. So, we recommend your name as one of our honorable authors who can contribute to the upcoming issue of IJFH. Articles are invited from all the related aspects of Forestry and Horticulture [text truncated] Best wishes Editorial Office International Journal of Forestry and Horticulture Unsubscribe</p>