DST-NRF Centre of Excellence in Scientometrics and Science, Technology and Innovation Policy

Predatory publishing in South Africa: Scale and challenges

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Abuse of peer-review in predatory publishing

The demand to publish and to perform in highly competitive environments have led to different kinds of perverse consequences: salami publishing, increase in plagiarism and self-plagiarism and a host of unethical authorship practices (such as ghost authorship).

Arguably one of the biggest threats to the integrity of the peer-review process, has been the advent of predatory publishing (and spin-offs such as predatory conferences, hijacked journals and so on).

What is predatory publishing?

The watchdog – Jeffrey Beall

- Predatory journal are OA journals that exist for the sole purpose of profit
- These predators generate profits by charging (excessive) author fees, also known as article processing charges (APCs.
- These journals typically solicit manuscripts by spamming researchers (especially yahoo and gmail accounts)
- These journals also typically have bizarrely broad or disjointed scopes and boast extremely rapid publication.

https://scholarlyoa.com/2016/01/05/bealls-list-of-predatory-publishers-2016/

Criteria to identify predatory journals

Category	**Standard publishing practice**	**Predatory publishing**
Business model and Author Processing Charge's (APC's)	Legitimate scholarly journals do not exist solely for profit and usually charge reasonable APC's	Predatory journal are OA journals that exist for the sole purpose of profit. These journals very often (not always) charge excessive) author fees for submission and publication
Origin of papers	Authors usually submit manuscripts to journals out of their own accord	Predatory journals typically solicit manuscripts by spamming researchers (especially using their Yahoo and Gmail accounts)
Journal titles	Legitimate journals usually have field- and discipline appropriate titles	Predatory journals often have bizarrely broad (e.g. the Global Journal of Advanced Research) or disjointed scopes titles (e.g. the Journal of Economics and Engineering)
Time to publication	Publication lag time is often correlated with the status of the journal (with the best journals taking more time to get to production because of high demand)	These journals boast extremely rapid (and unrealistic) response (review) and publication times. They often also publish extremely high numbers of papers per year. This is arguably one of the best indicators of whether a journal is predatory or not as it speaks to the capacity of any editor to handle literally hundreds of submissions per year through proper peer review.

Criteria to identify predatory journals

Journal metrics	Journals indexed in TR Web of Science and Elsevier Scopus have well-defined and transparent impact factor values	These journals boast extraordinary and often fake journal impact factors as well as false claims about where the journal is indexed
Peer review (stature of editorial board)	Legitimate journals have editorial boards and editorial procedures that properly oversee the process of peer review	Predatory journals very often have fake editorial boards or – at best – editorial boards that consist of a small number of individuals from the same organisation or country. They often enlist members of editorial boards that are not experts in the field. They also often include scholars on an editorial board without their knowledge or permission.
Contact information	Legitimate journals provide accurate and appropriate contact information about their journal and editorial board.	Predatory journals often list false or insufficient contact information, including contact information that does not clearly state the headquarters location or misrepresents the headquarters location (e.g. through the use of addresses that are actually mail drops)

The watchdog – Jeffrey Beall

(now put to rest!)

Jeffrey Beall maintained two lists: A list of standalone predatory journal titles (1220 titles at the time of writing this report) and a list of predatory publishers. The former list is simply a list of individual journals which, according to Beall, are predatory journals. For some of these he provides additional information in support of his judgement. The latter list is much more comprehensive but at the same time arguably less reliable. This is a list of journal (and sometimes also book and proceedings) publishers. In this instance, Beall argued that a particular publishing house (such as *Academic Journals* or *OMICS*) has a demonstrated history of publishing questionable journal titles. Because of this, all journal titles listed by the publisher are hence regarded as being predatory journals. We estimate that there are currently just over 900 active publishers on the more recent Beall's list. If one sums the number of journals listed under these publishers, the number comes to a staggering 23 400+ titles!

After closing his website on the 15th of January, Beall has now broken his silence: http://www.biochemia-medica.com/2017/2/273
The list can still be found at: http://beallslist.weebly.com/\

The extent of predatory publishing in SA

If we take Beall's list as definitive, we end up with 57 Journal Titles in which 4246 SA-authored papers have appeared between 2005 and 2014. We assessed each of these 57 titles and subsequently assigned each of the titles to four categories:

- Not predatory: In these cases we believe that Beall was simply wrong in his classification of the journal or there is insufficient evidence to make such a claim
- Strong evidence for predatory: In these cases we concur with Beall's classification
- Weak evidence for predatory: In these cases we found some evidence that the journal might be a predatory journal, but do not think the evidence is strong enough to make a definitive judgment
- Insufficient evidence: In these cases we simply could not find any pertinent evidence to make a judgment either way.

Journal	Not predatory	Insufficient evidence	Predatory - weak evidence	Predatory - strong evidence	No of papers
Actual Problems of Economics	9				9
African Journal of Agricultural Research			251		251
African Journal of Biotechnology			472		472
African Journal of Business Management				451	451
African Journal of Food Science			2		2
African Journal of Microbiology Research			105		105
African Journal of Pharmacy and Pharmacology			61		61
Aging-US			1		1
American International Journal of Contemporary Research				2	2
Anthropologist: International Journal of Contemporary and Applied Studies of Man				180	180
Archives Des Sciences Journal				15	15
Asian Journal of Chemistry				33	33

Journal	Not predatory	Insufficient evidence	Predatory - weak evidence	Predatory - strong evidence	No of papers
Banks and Bank Systems		21			21
Canadian Journal of Pure and Applied Sciences				1	1
Cellular and Molecular Biology				2	2
Corporate Board: Role, Duties and Composition				10	10
Corporate Ownership and Control				270	270
Environmental Economics		30			30
European Journal of Science and Theology			3		3
European Journal of Sustainable Development			1		1
European Scientific Journal			3		3
International Business and Economics Research Journal				241	241
International Journal of Advanced Computer Technology			1		1
International Journal of Computer Applications			2		2
International Journal of Educational Sciences				191	191

Journal	Not predatory	Insufficient evidence	Predatory - weak evidence	Predatory - strong evidence	No of papers
International Journal of Electrochemical Science	232				232
International Journal of Engineering and Applied Sciences				1	1
International Journal of Sustainable Development				14	14
Investment Management and Financial Innovations		9			9
Journal of Animal and Plant Sciences (Nairobi)	12				12
Journal of Applied Business Research				72	72
Journal of Communication (Delhi)				20	20
Journal of Economics [Delhi]				25	25
Journal of Economics and Behavioral Studies			111		111
Journal of Environmental Biology			1		1
Journal of Governance and Regulation				34	34

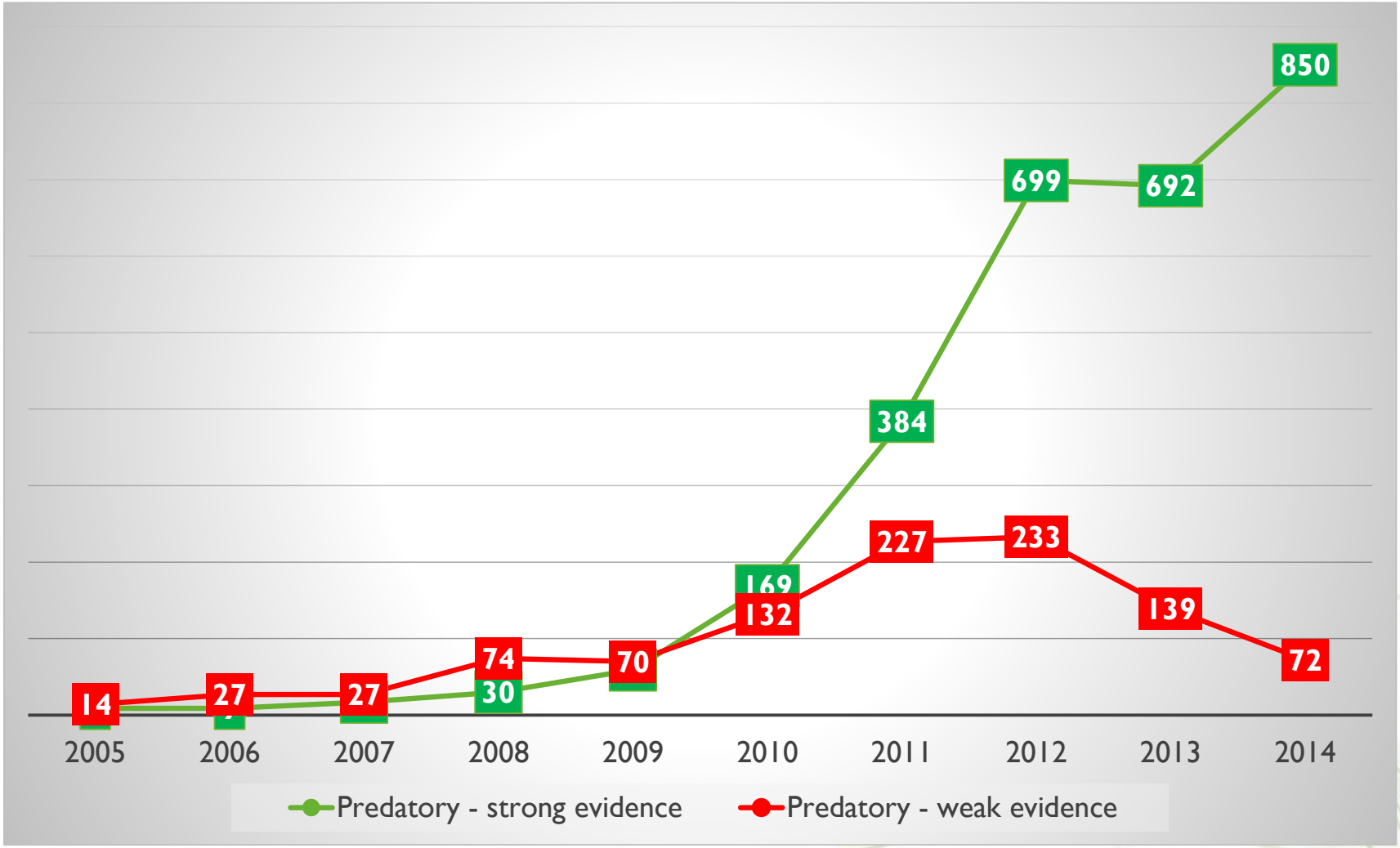
Journal	Not predatory	Insufficient evidence	Predatory - weak evidence	Predatory - strong evidence	No of papers
Journal of Human Ecology				289	289
Journal of Industrial and Intelligent Information			1		1
Journal of Information Management		1			1
Journal of Media and Communication Studies		1			1
Journal of Medicinal Plants Research				98	98
Journal of Natural Products (India)				3	3
Journal of Physical Therapy Science				1	1
Journal of Psychology [Delhi]				12	12
Journal of Social Sciences				502	502
Journal of Sociology and Social Anthropology				68	68
Mathematical and Computational Applications	21				21
Mediterranean Journal of Social Sciences				72	72

Journal	Not predatory	Insufficient evidence	Predatory - weak evidence	Predatory - strong evidence	No of papers
Oncotarget				2	2
Problems and Perspectives in Management				68	68
Risk Governance and Control: Financial Markets and Institutions				42	42
Romanian Biotechnological Letters				1	1
Scientific Research and Essays				73	73
Studies of Tribes and Tribals				66	66
Studies on Ethno-Medicine				32	32
Technics Technologies Education Management				1	1
Turkish Online Journal of Educational Technology		3			3
Grand Total	**274**	**65**	**1015**	**2863**	**4246**

Results

Using this fourfold classification allowed us to estimate what the overall extent of predatory publishing in South Africa is. For this estimate we exclude the 339 papers in the 10 journals that we have classified as being either 'not predatory' or for which we have 'insufficient evidence' to make a judgement. This leave a total number of 3907 papers which constitute 3.4% of the total article production over the past 10 years. The disaggregation by evidence categories is as follows: 2863 papers (or 2.5%) appeared in journals which we classified as probably predatory (strong supporting evidence) and 1015 (or 0.09%) appeared in journals which we classified as possibly predatory (weak supporting evidence).

Increase in number of papers published by SA authors in predatory journals (2005 – 2014)



Predatory publishing by university

University	Predatory - strong evidence	Share of total papers	Predatory - weak evidence	Share of total papers	Total 'predatory'	Share of total papers	Total nr of papers
CPUT	107	7.9%	80	5.9%	187	13.8%	1358
CUT	71	13.4%	11	2.1%	82	15.5%	528
DUT	86	10.5%	51	6.2%	137	16.7%	819
MUT	22	16.3%	13	9.6%	35	25.9%	135
NMMU	41	1.8%	8	0.4%	49	2.2%	2268
NWU	357	4.7%	51	0.7%	408	5.4%	7520
RU	11	0.3%	18	0.4%	29	0.7%	4286
SU	126	0.9%	20	0.1%	146	1.0%	14005
TUT	93	4.5%	26	1.3%	119	5.8%	2051
UCT	40	0.3%	4	0.0%	44	0.3%	14533
UFH	220	14.7%	160	10.7%	380	25.4%	1496
UFS	115	1.9%	36	0.6%	151	2.5%	6105
UJ	224	4.3%	18	0.3%	242	4.6%	5256
UKZN	269	1.9%	167	1.2%	436	3.0%	14449
UL	151	7.7%	68	3.5%	219	11.2%	1960
UNISA	546	6.9%	44	0.6%	590	7.5%	7863
UNIVEN	164	14.9%	74	6.7%	238	21.7%	1097
UP	108	0.7%	74	0.5%	182	1.2%	15348
UWC	50	1.3%	25	0.7%	75	2.0%	3801
UZ	33	3.7%	22	2.4%	55	6.1%	900
VUT	42	7.3%	12	2.1%	54	9.4%	573

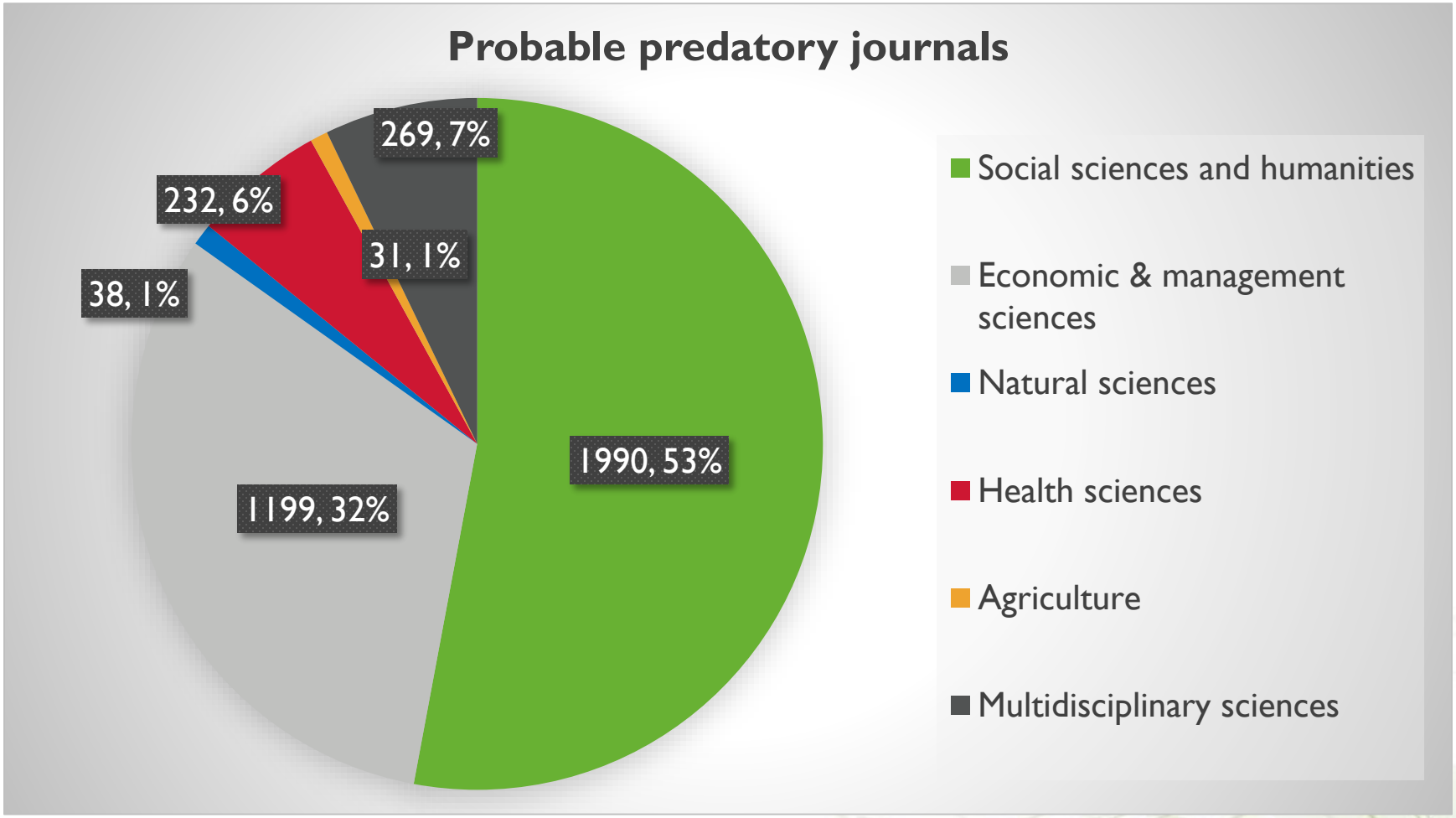
Discussion

If we focus on the first two columns (strong evidence category), small proportions of papers (less than the mean of 2.5%) were produced at the major research universities (UCT, SU, UP, WITS, RU, UKZN, UFS and UWC) and one comprehensive university – NMMU. At the other end of the spectrum we find that relatively large proportions (more than 10%) of all papers produced over the past ten years at WSU, MUT, UFH, UNIVEN, DUT, CUT, CPUT, UL, UZ, UJ and VUT appeared in predatory journals. The pattern of predatory publishing in the category of 'possible predatory journals' (weak evidence) is mostly similar with UFH, MUT, WSU, DUT, CPUT, UNIVEN and UL recording proportions of papers significantly above the national average.

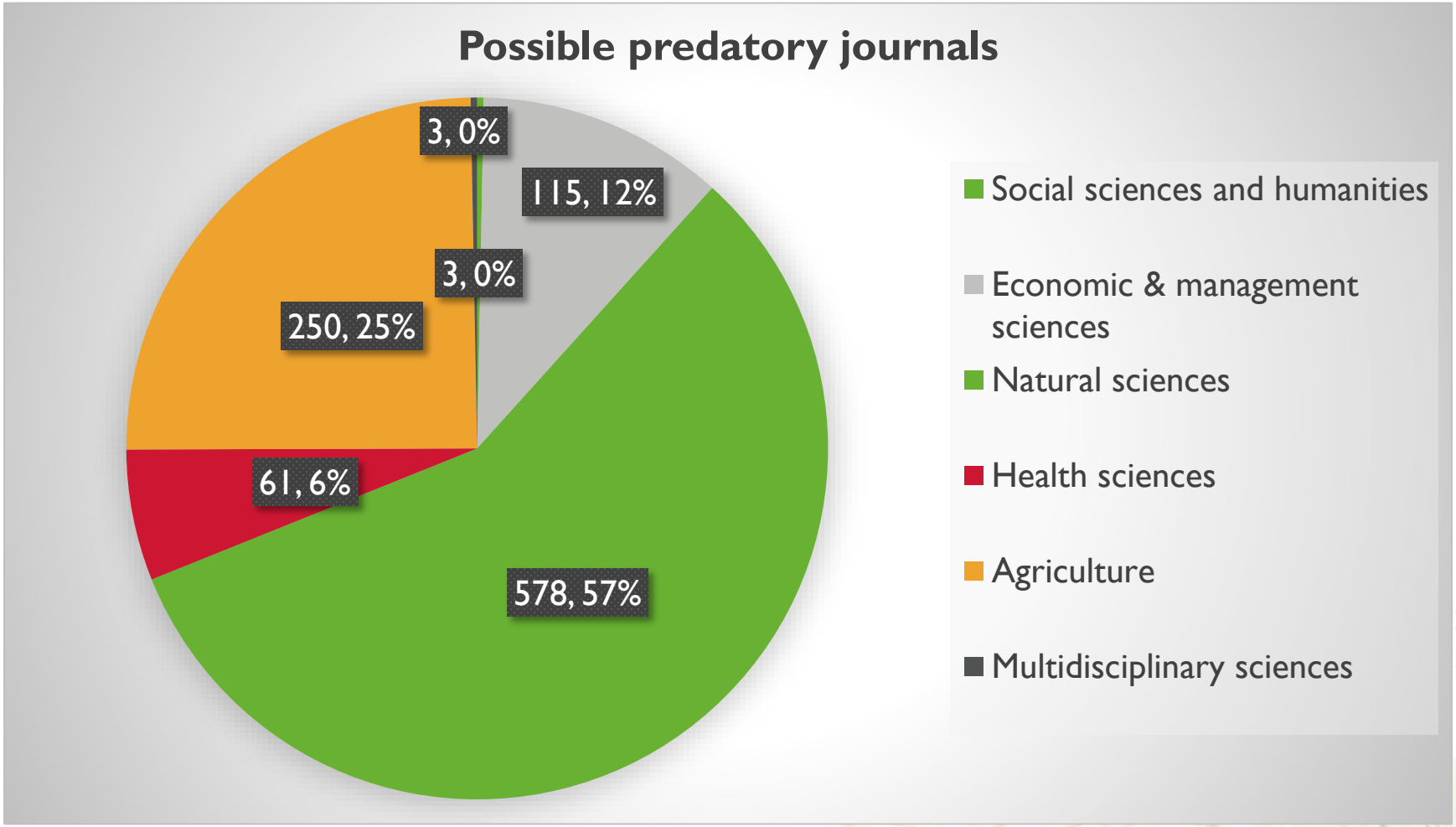
Predatory publishing by field

Our final analysis focused on the subject categories or scientific fields in which these papers were published. Using the link between Journal Title and Subject Field (as in the Thomson Reuters Web of Science database), each predatory journal was linked to a single subject category or scientific field. Although the assignment of journals to a single subject category is not always straightforward (even though we have utilised a category entitled 'Multidisciplinary science') we believe that the general picture that emerged from this analysis presents a reasonably accurate picture of the spread of papers by subject category. We again disaggregated the papers by journal classification (probable and possible predatory journals).

Distribution of predatory articles by subject category (Probably predatory: Strong evidence).



Distribution of predatory articles by subject category (Possibly predatory: Weak evidence)



Discussion

A comparison of these graphs reveal some differences but the overall picture that emerges from this analysis is not dissimilar. In both cases, articles in the social sciences and humanities and the economic and management sciences dominate. This result is also consistent with our disaggregation by university and why predatory publishing at some of the top research universities with large medical and natural sciences faculties are less common. Of course, the bigger question is why predatory publishing in South Africa is so much more prevalent in the broad field of the human sciences rather than in other fields.

Tips to emerging scholars

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Telltale signs of a predatory journal

Fraudulent or questionable practice	Standard/ good practice
Invitation to you (usually non-specific) to submit manuscript for publication	Authors are not typically – unless for a special edition or following a conference – invited to submit papers to top journals
Impossible/ unrealistic promises are made about acceptance of manuscripts	Top quality journals employ double-blind peer review processes which take time (at least 4 – 6 weeks) Top quality journals are in high demand and therefore usually have a publication lag time (between 3 and 6 months or even more)
The Journal Name is either too broad or nonsensical	Good quality journals have appropriate names commensurate with a recognized area of research/ scientific specialty
Fake Journal Metrics are presented	There are essentially today only TWO widely accepted and bibliometrically credible journal impact factors: the Web of Science (ISI) JIF and the Scopus (Scimago) SNIP indicators
Inappropriate or fake indexing services are cited	Google Scholar, Index Copernicus and Eyesource are NOT legitimate journal indexing services

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Consequences and solutions

Individual impact

A first obvious negative consequence of frequent publication in predatory journals is that a (young) scholar builds a CV which is later shown to consist mainly or predominantly of articles in predatory (or at least questionable) journals. This can have a long-term negative impact that affect an academic career and possibilities for promotion, advancement and fund-raising

- Case example from Ghana PhD candidates

But this is not only confined to young and emerging scholars

- Case example of NRF rating applicant

Institutional reputation

The results of our analysis of publications produced over the period 2005 to 2014 have already raised red flags about the quality control procedures at some SA universities. As indicated above, academics at a large number of SA universities are now consistently publishing in predatory journals. At some universities, more than 25% of their journal production now appears in predatory journals.

These – and other questionable publication practices – are increasingly seen to be located at a small number of universities. The potential negative impact on their scientific reputations as institutions of scientific and academic integrity are huge. It is becoming a matter of urgency for all SA universities to manage the reputational risk that these practices hold.

Systemic consequences

At the systemic level national departments and agencies such as the DHET and the NRF are already taking steps to counteract the negative effects of predatory publishing on the SA science system. For both these organisations, the key issue is the inevitable erosion of quality that results when SA academics continue to publish in journals where there is no or little rigorous peer review.

The NRF has published a formal statement in which it clearly indicates that it will not fund any applicant who is found to engage in predatory publishing practices. http://www.nrf.ac.za/media-room/news/nrf-statement-predatory-journals-deceptive-publishers

The DHET has commissioned CREST to conduct research into this matter and advise the department about the de-accreditation of journals that are found to be predatory.

To return to what young scholar should do

- Your default position when approached to submit a paper to any journal is to be suspicious!
- Consult a senior colleague/scholar for advice
- Look for the telltale signs as outlined above and check Beall's list (the *Paripax Journal* is listed by Beall)
- As a general rule aim to publish in the top journals in your field. These are typically indexed in the *Web of Science* and/or *Scopus*. There are more than 25 000 journal titles in these two indexed combined. Our advice from CREST is to avoid publication in IBSS journals (a list which is likely to be de-accredited by the DHET in 2018).

http://www.sun.ac.za/english/research-innovation/Research-Development/outputs-accredited-journals/accredited-journals

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Thank you