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Publication and impact: a bibliometric survey of *Megataxa* 1–10

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Abstract

Megataxa was founded in January 2020 as a sister journal of the two most important journals in taxonomy, *Zootaxa* and *Phytotaxa*, with similar goals to accelerate the documentation of undescribed species and promote the development of global taxonomy, but aims to be a premium journal for most important works in taxonomy. *Megataxa* has grown steadily since January 2020 and has published 44 papers of various types in 3329 pages, 14 issues and 10 volumes, averaging 76 pages per paper and including six large monographs. These were contributed by 99 authors from 27 countries in six regions. Analysis of citation data in the Web of Science Core Collection showed that papers in *Megataxa* were cited three to nine times as often as those in *Zootaxa* published in the same year. The estimated (non-official) journal impact factor of 2023 for *Megataxa* is 6.8. These indicate that although *Megataxa* is still in its infancy, it has great promise to become a journal of high impact in taxonomy.

Key words: Taxonomy, publication, impact, authorship, open access

Introduction

The journal *Megataxa* was founded in January 2020 as a sister journal of the two most important journals in taxonomy, *Zootaxa* and *Phytotaxa*, with similar goals to accelerate the documentation of undescribed species and promote the development of global taxonomy (Zhang 2020a). While *Zootaxa* and *Phytotaxa* are specialist journals for their own taxonomic fields (Christenhusz *et al.* 2009; Zhang *et al.* 2011), *Megataxa* is a general journal of taxonomy covering all biota. Furthermore, it is an open-access journal and thus differs from *Zootaxa* and *Phytotaxa*, which are hybrid journals with only a portion of the papers available for open access. *Megataxa* encourages studies to address big science questions in taxonomy and aims to be a premium journal for most important works in taxonomy, especially large monographic revisions as well as highly significant original papers reporting major advances in taxonomy (Zhang 2020b). Whereas *Zootaxa* and *Phytotaxa* require monographs to be at least 60 printed pages, *Megataxa* sets a higher standard: a minimum length of 200 printed pages. Zhang (2020b) estimated that only 7.8% of the 243 large works categorized as monographs in *Zootaxa* in 2019 and 2020 meet this requirement. Thus, *Megataxa* is a highly selective journal for papers of high impact in the field of taxonomy.

Here, I provide an overview of various types of papers published in *Megataxa* 1–10 (2020–2023). I included summaries of the numbers of volumes, issues and papers published during the period. I also analyzed the distribution of authors among papers and countries, as well as abstract/full PDF views of our journal websites and citation patterns based on data in the Web of Science Core Collection. Finally, I provided estimates for the non-official journal impact factors for the year 2022 and 2023.

Publication

Megataxa is published continuously as soon as manuscripts are accepted and ready for press, without a fixed schedule, in the same way as its sister journals (*Zootaxa* and *Phytotaxa*). Since the inception of *Megataxa* in 2020, 14 issues in 10 volumes have been published, including one regular volume each year plus six monographs, each separately issued as stand-alone books (Table 1). The number of volumes per year varied from 2 to 4, whereas the number of issues per year varied from 3 to 5. Regular volumes have two issues each. Volumes averaged 333 pages, whereas issues averaged 238 pages (Table 1).

Megataxa has grown steadily since January 2020 (Fig. 1; Table 1) and has published 44 papers of various types in 3329 pages. The average paper size is 76 pages, or 2.7 times as long as that of *Zootaxa*—28 according to Zhang (2006)—during its first five years: These papers include significant monographs (14%), important articles/reviews (19%), correspondence of various lengths (35%), editorials (28%), erratum (2%) and software reviews (2%). Of special significance is the 738-page magnum opus by Dubois *et al.* (2021) on new concepts and methods for phylogenetic taxonomy and nomenclature in zoology as applied to recent amphibians (Lissamphibia), with new names and diagnoses for 10 class-series taxa, 171 family-

series taxa, 14 genus-series taxa and one species. Also worthy of special note is the 660-page monograph by Kin and Boxshall (2020) on symbiotic copepods associated with ascidians (Tunicata), with 178 new species of notodelphyids from ascidian hosts, as well as 37 new genera.

Megataxa has been successful in attracting 99 authors from 27 countries in six regions (Fig. 2; Table 2). The distribution of authors among papers is highly uneven (Fig. 3). Over half of the papers (51%) have a single author, and another 36% have two or three authors, whereas the most collaborative paper has 22 authors and the second most collaborative one has 12 authors (Fig. 3). The distribution of authors among countries is also highly uneven (Fig. 4; Table 2). The top five countries are Germany, China, USA, Belgium and France, and they account for 58% of the authors; 10 countries have a single author each. European countries are strongly represented, accounting for over half of the authors (Table 2). Asia is represented by seven countries and accounts for 20% of the authors. Africa, North America, South America and Oceania are represented by two countries each.

TABLE 1. Publication of *Megataxa* 1–10 from 2020 to 2023, with summaries of numbers of volumes, issues, papers, pages and authors.

	2020	**2021**	**2022**	**2023**	**2020–2023**
Volumes	1–4	5–6	7–8	9–10	1–10
Number of issues	5	3	3	3	14
Number of papers	23	8	4	9	44
Monographs*	3	1	1	1	6
Reviews	1	0	1	0	2
Articles	1	2	2	1	6
Correspondence	10	3	0	2	16
Short (up to 4 pp)	7	3	0	1	11
Longer (at least 5 pp)**	3	0	0	2	5
Editorial	8	1	0	3	12
Normal editorial	2	1	0	2	5
Others***	6	0	0	1	7
Software review	0	1	0	0	1
Erratum	0	0	0	1	1
Number of pages	1440	922	603	364	3329
Number of pages per volume	360	461	302	175	182–461
Number of pages per issue	288	307	201	121	121–307
Number of pages per paper	63	115	151	40	40–151
Number of authors	37	21	24	17	99
Number of countries	17	7	8	7	27
Number of continents	5	5	5	4	6

* Monographs are large works of at least 200 pages published as a single volume by itself (not grouped with other papers)

** These are typically categorized as "articles" in *Zootaxa*/*Phytotaxa*.

*** These are perspectives, opinions or mini-reviews.

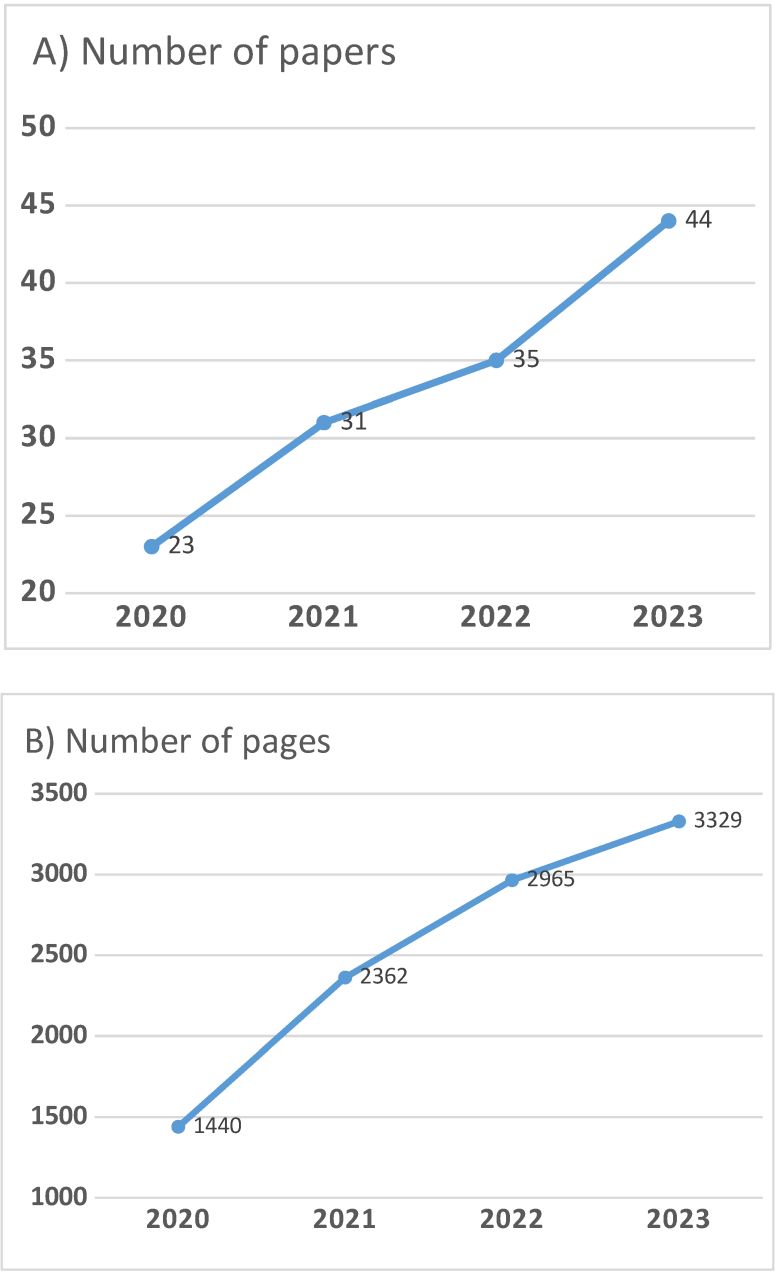

FIGURE 1. Growth of *Megataxa* from 2020 to 2023 showing cumulative numbers of papers (A) and pages (B) in *Megataxa* 1–10.

Impact

The impact of a journal can be measured in a number of ways. Commonly reported parameters are the numbers of views for abstracts and full texts. *Megataxa* and *Zootaxa* are hosted on the same platform. In theory, the abstracts and full PDFs (open access for both journals) have the same chances of being viewed. However, our data show (Table 3) that the abstracts in *Megataxa* were viewed 2–11 times as often as those in *Zootaxa*, whereas the PDFs of *Megataxa* were viewed 4–8 times as often as those in *Zootaxa*.

Another important measure of *Megataxa*'s impact is the citations to papers published in *Megataxa* by other papers in curated databases such as Web of Science Core Collection, and it is also useful to put these data in perspective by comparing *Megataxa* with its sister journal *Zootaxa* (Table 4). Because *Zootaxa* is a hybrid journal, the citation data for open-access papers in *Zootaxa* were also compared. It is clear that, on average, *Megataxa*'s papers in each year were cited over three times as often as those in *Zootaxa*, except for the year 2021, which was cited nine times as often (Table 4). The patterns are similar when citation data in the open-access section of *Zootaxa* are compared with those in *Megataxa*. The exceptional high citation data in *Megataxa* 2021 is due to the top-cited paper by Dubois *et al*. (2021) (Table 5).

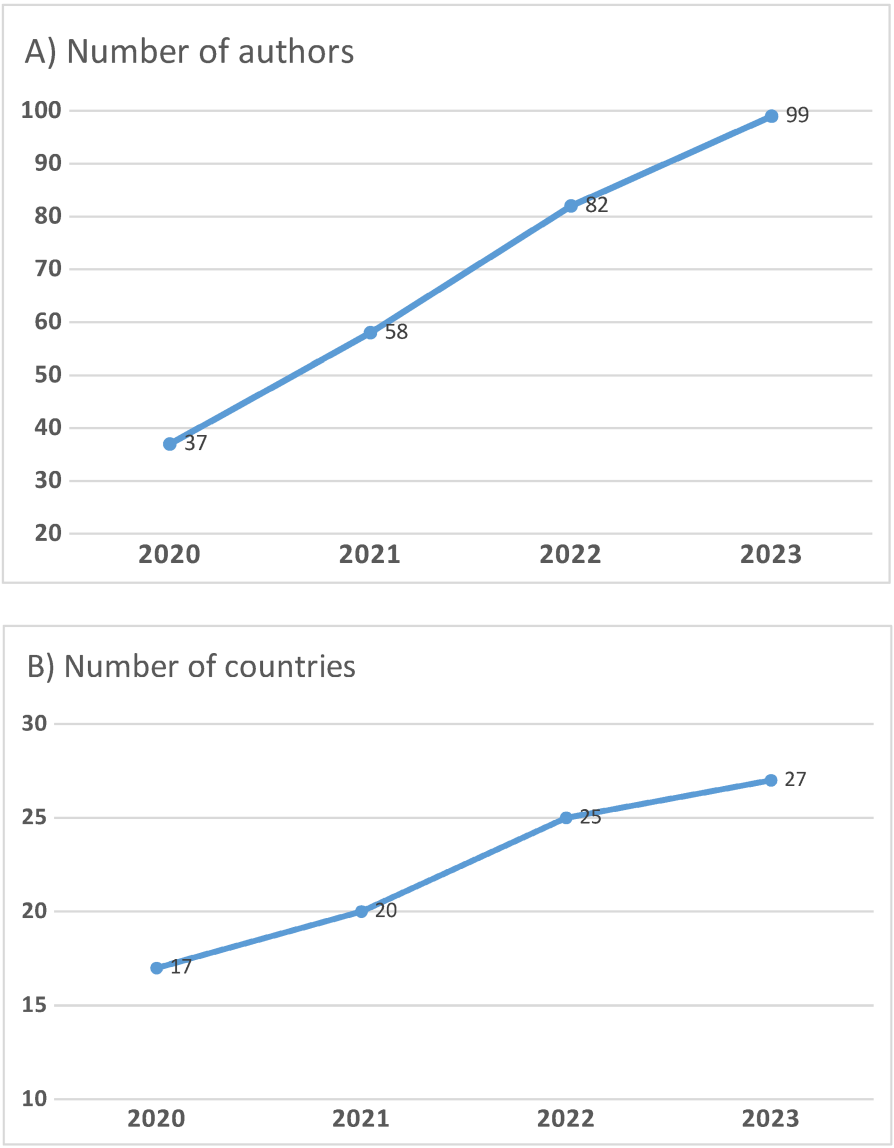

FIGURE 2. Cumulative numbers of authors (A) and their countries (B) in papers published in *Megataxa* 1–10.

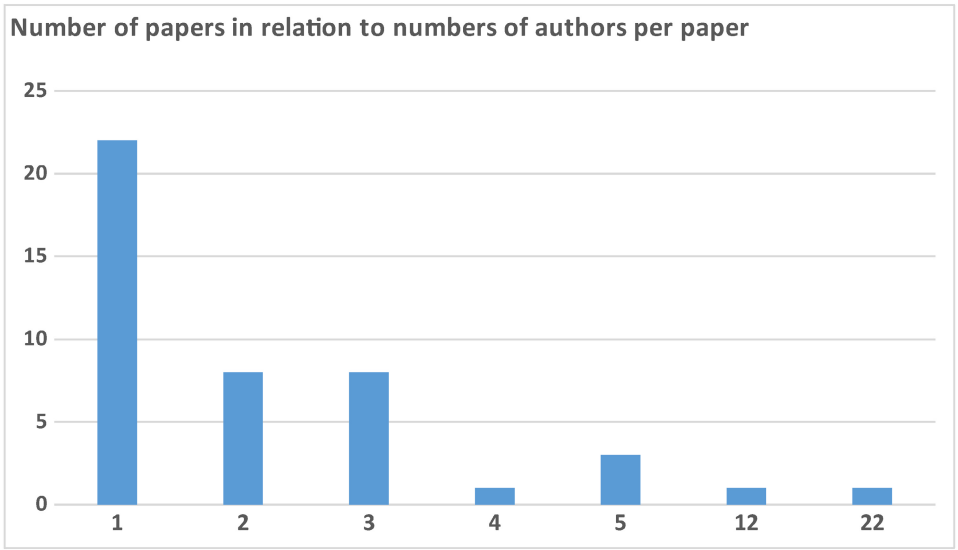

FIGURE 3. Distribution of authors among papers published in *Megataxa* 1–10, showing the number of papers (Y) in relation to numbers of authors per paper (X).

TABLE 2. Numbers of authors and their countries/regions in papers published in *Megataxa* 1–10 from 2020 to 2023.

Country	No authors/country	Region	No countries/Region	No. authors/region
Madagascar	2	Africa	2	5
South Africa	3			
Canada	2	America (North)	2	13
USA	11			
Brazil	4	America (South)	2	5
Uruguay	1			
China	11	Asia	7	20
India	2			
Japan	1			
Korea (Rep)	1			
Singapore	1			
Sri Lanka	1			
Thailand	3			
Austria	1	Europe	13	50
Belgium	7			
France	6			
Germany	23			
Greece	1			
Italy	2			
Norway	2			
Portugal	2			
Russia	1			
Spain	1			
Sweden	1			
UK	3			
Australia	4	Oceania	2	6
New Zealand	2			

TABLE 3. Numbers of views of abstracts and full PDFs in *Megataxa* 2020 to 2023 in comparison to those for open access in *Zootaxa* published on the same day or close. Data were obtained on 26 Dec 2023, and the averages are presented.

	Abstract		full PDF	
	Megataxa	*Zootaxa*	*Megataxa*	*Zootaxa*
2020	652	105	473	57
2021	1938	558	1147	220
2022	4358	372	1126	272
2023	1033	255	825	118

TABLE 4. Total and average cites per paper in Web of Science Core Collection to papers published in *Megataxa* 2020 to 2023. The data are shown in comparison to those in Zootaxa of the same period (data in parenthesis are for open access papers in Zootaxa). Data were obtained using cited reference search on 26 Dec 2023.

	Megataxa		*Zootaxa*	
	Total cites	Average cites/paper	Total cites	Average cites/paper
2020	235	10.2	7063 (412)	2.9 (2.7)
2021	130	16.3	4055 (558)	1.8 (1.8)
2022	11	2.8	1762 (151)	0.9 (0.6)
2023	5	0.7	364 (45)	0.2 (0.2)

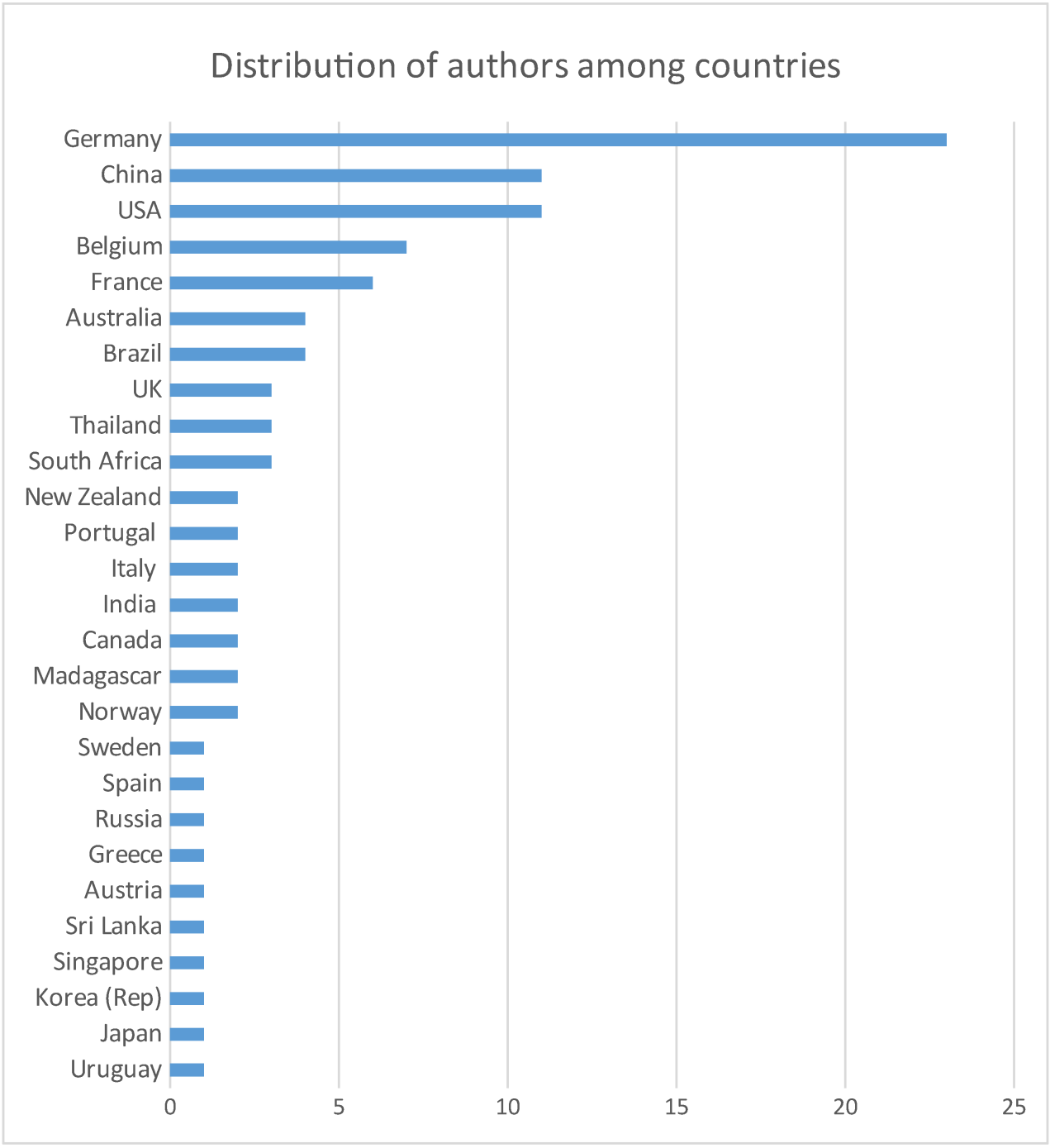

FIGURE 4. Distribution of authors among countries in *Megataxa* 1–10.

TABLE 5. Top 10 papers in *Megataxa* 1–10 by numbers of citations (using cited reference search) in Web of Science Core Collection (data of 26 Dec. 2023).

Cites	Title	No. pages	References
74	New concepts and methods for phylogenetic taxonomy and nomenclature in zoology, exemplified by a new ranked cladonomy of recent amphibians (Lissamphibia)	738	Dubois *et al.* 2021
41	Funding, training, permits-the three big challenges of taxonomy	4	Britz *et al.* 2020
41	iTaxoTools 0.1: Kickstarting a specimen-based software toolkit for taxonomists	16	Vences *et al.* 2020
21	Three questions: How can taxonomists survive and thrive worldwide?	9	Orr *et al.* 2020
19	Hurdles in fungal taxonomy: Effectiveness of recent methods in discriminating taxa	9	Chethana *et al.* 2020
17	Challenges for the future of taxonomy: talents, databases and knowledge growth	7	Coleman & Radulovici 2020
17	Old and new challenges in taxonomy: what are taxonomists up against?	4	Dupérré 2020
17	Three challenges to contemporaneous taxonomy from a licheno-mycological perspective	26	Lücking *et al.* 2020
17	A taxonomic renaissance in three acts	5	Wheeler 2020
12	The promise of next-generation taxonomy	4	Vences 2020

A more useful indicator of impact is the Clarivate journal impact factor (JIF), which is an average citation in Web of Science Core Collection during the current year to papers published in the previous two years. The 2022 JIF is calculated by this formula: JIF = X / Y, where X is the number of citations by papers in Web of Science Core Collection in 2022 to papers published in 2020 and 2021, and Y is the number of papers categorized by Clarivate as articles and reviews published in 2020 and 2021. Using the cited references search in the Web of Science Core Collection (data of 26 Dec. 2023), JIF (2022) for *Megataxa* is 100/28 = 3.6, which is four times as high as that of *Zootaxa* (which is 0.9 according to *Journal Citation Reports* 2022). The citation data for 2023 papers are not complete for journals in the Web of Science Core Collection because many late issues of journals have not been indexed. Using the same method (data of 26 Dec 2023), the current JIF (2023) for *Megataxa* is 5.3 (compared to 0.7 for *Zootaxa*). It is reasonable to expect JIF (2023) for *Zootaxa* to be 0.9 in June 2024. Thus, the estimated JIF (2023) for *Megataxa* may be 6.8 or so in June 2024. Although *Megataxa* is still in its infancy, the citation data show that it has great promise to become a journal of high impact in taxonomy.

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