Letter to the Editor
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ENHANCING PRECISION: ADDRESSING INCONSISTENCIES IN CITATION COUNTS THROUGH SPECIALIZED SOFTWARE

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Citation is an essential aspect of scientific publishing, enabling authors to accurately attribute the source of information, whether it is valid or controversial. It facilitates the acknowledgment of others' contributions and the advancement of understanding through the expansion of existing knowledge.

However, citation, as a bibliometric, suffers from several limitations such as contextuality, subjectivity, and instances of honorary, discriminatory or circumstantial citation behaviors (Moustafa 2016). Despite these and other drawbacks (MacRoberts and MacRoberts 2018) (Ray et al. 2022), citations contribute rightly or wrongly to numerous academic rewards, both financial and non-financial. It underpins a range of privileges, including awards, as well as the recognition gained from indexing and inclusion in bibliographic databases. Examples of citation-based bibliometrics and classifications encompass various measures like the journal impact factor and its adverse effects (Moustafa 2015), journal rankings, university rankings, and highly cited authors.

Specialized bibliographic databases, such as Google Scholar, PubMed, Scopus, and Web of Science, offer the possibility of analyzing citation numbers and trends. Each of these databases employs distinct criteria and methodologies. Social media analytics tools like Altmetric and PlumX also appear to

Table 1 Citation counts for six of my own papers as a main author or coauthor were compared across major bibliographic databases: CrossRef, Web of Science, journals' websites, Google Scholar, PubMed, and Scopus. Notably, these databases show inconsistent citation counts; Google Scholar reports the highest citations per article, while PubMed reports the lowest. This trend likely extends to papers by all authors across diverse journals and citation databases, highlighting the need for a dedicated citation tool to provide more comprehensive and precise citation counts.

		Citation Counts * in:					
N°	**Article title**	**CrossRef**	**Web of Science**	**Publisher's Website**	**Google Scholar**	**PubMed**	**Scopus**
1)	Genetic and functional abnormalities of the melatonin biosynthesis pathway in patients with bipolar disorder (Etain et al. 2012)	**	76	78	122	42	**
2)	The disaster of the impact factor (Moustafa 2015)	45	53	53	114	12	62
3)	MAPK cascades and major abiotic stresses (Moustafa et al. 2014)	86	76	86	109	46	88
4)	Molecular farming on rescue of pharma industry for next generations (Moustafa et al. 2016)	58	48	58	84	27	58
5)	Recent advances on host plants and expression cassettes' structure and function in plant molecular pharming (Makhzoum et al. 2014)	33	35	35	64	11	37
6)	Aberration of the Citation (Moustafa 2016)	27	25	27	40	7	28

* Comparative citation counts were obtained by collecting citation numbers from the corresponding journals' websites and indexing databases. In Google Scholar and PubMed, citation counts were obtained by searching manuscript titles in these databases, and the citation numbers were recorded from the tag "cited by".

** Citation counts were unavailable for this paper due to the absence of a direct link to the database in question (institutional subscription is required). As an individual, I do not have a subscription to CrossRef and Scopus to retrieve citation counts. The citation numbers from these sources were therefore unavailable for this paper, since the publisher does not provide direct links to Scopus and CrossRef, as was the case for the remaining papers where direct links are provided.

Note: The citation counts provided in this table were compiled on August 9, 2023. Changes in citation counts may occur by the time of reading this manuscript.

have an impact on citation counts and trends (Açıkel and Artık 2023). However, regardless of the methodology employed, disparities in citation counts are observable when comparing citation databases like CrossRef, Google Scholar, PubMed, Scopus, and Web of Science (Table 1).

The recorded citation counts within these databases often exhibit inconsistency, showing either overestimation or underestimation. Google Scholar's citation counts can occasionally prove imprecise, while those in Web of Science and PubMed tend to be underestimated.

To address these discrepancies and provide more accurate citation information, I propose the development of dedicated software designed specifically for managing citations. This should be a standalone tool, downloadable and locally installable, allowing users to search online databases and retrieve the most accurate citation numbers per article, author, or journal. Such a tool would aggregate all citations for a given paper or author, eliminating the need to search multiple third-party databases, which can yield inconsistent citation numbers, as indicated in the Table 1 above.

Ideally, this software should be free and open-source, not controlled by monopolistic corporations. It should comprehensively retrieve citations, offering customizable search options such as the number of papers per author, the number of citations per paper, the total number of citations per author's or journal's name, etc. For instance, a search for a paper authored by author A in journal J, or all papers by author A across all journals, should yield accurate citation counts from all available online databases.

As such, the tool would provide significant value by saving time and offering multiple advantages to journal editors, publishers, authors, and scientometricians interested in citation information and analysis. A key advantage should be its accessibility, allowing anyone to retrieve citation counts for specific papers, authors, or journals. This should differ from certain closed and subscription-based citation databases that require a subscription to access simple citation counts.

Ethical Considerations: Does this study include human subjects? NO
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