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EDITORIAL

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# A framework for responsible publishing: from best taxonomic practices to AI use and research integrity

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Over the last few decades, rapid technological advancements have enabled faster and automated generation of massive biodiversity datasets. Simultaneously, the shift toward open access publishing and development of global data repositories has enormously increased the accessibility of published data, speeding up both research progress and dissemination of the results. In addition, digital communication tools and global and regional funding schemes have fostered greater international collaboration, as demonstrated by the rise in multi-author publications and, to a lesser extent, publications with authorships from multiple countries (Adams et al. 2019). This new paradigm has many benefits for the scientific community, but it has also brought some new challenges and exacerbated some old ones. With larger and more complex datasets, errors can be more easily overlooked and amplified, making it more difficult to uphold high data quality standards (e.g., Hughes et al. 2024). Moreover, artificial intelligence (AI) and open access tools have enabled new ways for plagiarism, data fabrication, and other forms of research misconduct (Elali and Rachid 2023). Finally, growing "publish-or-perish" pressures are contributing to questionable research practices and compromises in scientific quality.

The policies of the Journal of Hymenoptera Research (JHR) have been constantly evolving to reflect these changes and provide a high publishing standard. In this editorial, we highlight recent upgrades in our policy system and clarify requirements and expectations for publishing in JHR, especially in terms of research, data quality, and ethical standards. These standards are widely applicable, beyond JHR, and we especially hope they will serve as a reminder to senior researchers, and provide guidance and motivation to junior researchers, to conduct high-quality and ethical research.

## Best taxonomic practices

While JHR publishes on a variety of research topics concerning Hymenoptera, 60–70% of the published manuscripts fall within the Systematics section, which includes taxonomic works, phylogenetic reconstructions, checklists, and catalogues. The previous written guidelines of JHR were somewhat limited in terms of best practices for conducting taxonomic work and publishing nomenclatural acts, but the expectations of the editorial team were, and are, closely aligned with recommendations already published elsewhere. For example, several external resources are available covering best practices for describing new taxa (Winston 1999; Dubois 2011; Ratcliffe 2013; Zamani et al. 2022; Braby et al. 2024), conducting taxonomic revisions (Bolton 2007), constructing identification keys (Packer 2024) and publishing nomenclatural acts (International Commission on Zoological Nomenclature 1999; Dubois et al. 2011). We thus strongly encourage authors to carefully study available resources prior to undertaking any taxonomic work.

To ensure that best practices are applied across manuscripts published in JHR, we added a new subsection, "Taxonomic Treatment", to our "Author Guidelines".

In addition, we created a checklist for authors, editors and reviewers, covering the mandatory and highly recommended steps when preparing a manuscript (Suppl. material 1). Some of the guidelines also apply to faunistic, ecological, behavioural and other studies, where one easily overlooked responsibility is to properly establish taxon identity by citing relevant literature, labelling voucher specimens and specifying their long-term repositories (Packer et al. 2018).

In addition, we emphasize that the focus of taxonomic studies published in JHR should extend beyond single-species descriptions and ideally include a comprehensive, integrative treatment of a taxon. We acknowledge that it is not always possible to have such a treatment and thus we extend our previous guidelines on accepting single-species descriptions to accommodate some cases not previously covered and set clearer expectations from the editorial team. Given the updated guidelines, single-species descriptions will be considered in well-studied taxa, fossils and monotypic groups, or if the species is of economic or conservation importance; provides new insights into the biology, evolution and/or geographic distribution of the genus or a higher taxon; results from a comprehensive generic revision; is accompanied by comprehensive ecological, physiological, or behavioural data; considerably alters the previous generic concept; or if it is demonstrated that extensive material has been studied or that no additional material was available for study after examining relevant repositories. Descriptions of species based on a single specimen will be considered only in exceptional cases and must be justified. If our guidelines do not cover a particular case, authors who believe that their manuscript is still suitable for publication in the journal may explain their rationale in a letter to the editor.

## Data availability

For the sake of reproducibility and long-term accessibility, it is JHR's expectation that authors provide access to data underlying their conclusions. This applies not only to specimen occurrence data and repositories, but also to morphological and molecular datasets, phylogenetic trees, image datasets, and scripts and code used for data processing, analysis, and visualization. We recognize that studies often include more data and code than can reasonably be included within the article or supplementary materials. Therefore, such data and code should be deposited in an external public repository, ideally one with long-term server support which assigns each record a DOI (e.g. Zenodo, Figshare). We also acknowledge that some datasets are hosted in project-related repositories. However, because the longevity of such repositories may not be guaranteed, authors should consider archiving data in repositories with established long-term preservation policies. Moreover, we recognise that ethical, intellectual property, conservation or legal considerations may limit the release of specific datasets. Such restrictions must be clearly justified. Therefore, during the submission process, authors are required to provide a data availability statement and specify any restrictions, if applicable.

## Literature citation

There are several errors in literature citation beyond technical errors in referencing citations that regularly occur in works submitted to JHR. They include but are not limited to: failure to provide citation to support a statement; providing an irrelevant or inadequate citation; citing a secondary publication, catalogue or review paper instead of the original publication; citing a source that is no longer accessible; and AI-hallucinated citations. These issues are universal for academic publishing and are thus addressed extensively elsewhere (e.g., Agarwal et al. 2023; Resnik and Hosseini 2026), but we see the need to highlight again some of these recurring errors in examples relevant to JHR.

We would particularly like to address citations of secondary or review publications instead of original publications. In submissions to JHR, this is most often the case when referring to distributional or host record data. However, this is not always the best practice. One example is citation of the digital Ichneumonoidea database TaxaPad (Yu et al. 2012, 2016), which includes a comprehensive record of valid taxon names, and associated nomenclatural acts, biology data and literature, without acknowledging, consulting or critically verifying the original literature. While the database was a highly valuable source to the community, it is not free of errors, offers no critical assessment of published statements (which was never the intention of the authors), and it is no longer commercially available and thus not accessible to most researchers, making it difficult to verify any information reported from the database. At the same time, other databases, such as the Universal Chalcidoidea Database (UCD Community 2023; https://ucd.chalcid.org), AntCat (Bolton 2026; https://antcat.org), or World Ichneumonidae Database (WID) (Dal Pos et al. 2026; https://worldichneumonidae.com), are available online and are based exclusively on published data. In addition, an archival copy of the Universal Chalcidoidea Database is published under the Creative Common Zero licence on Zenodo, thus providing long-term unrestricted access to the archived database (Noyes 2019). Such easily accessible databases can help researchers gather original publications and, in appropriate cases, cite large amounts of data (such as biological or distributional) more efficiently, although original references for the taxa shall have priority over the citations of the databases.

We stress that by circumventing original literature, one not only fails to acknowledge the effort involved in collecting the original data but also risks propagating erroneous or misinterpreted records which often find their way into large summary works (Shaw 2023). Going forward, the editorial team will enforce citation of the original information sources whenever possible and reasonable. When citing a database to support statements based on compiled information, authors are expected to cite the most relevant original references alongside the database. It is important to note that this precaution against summary works does not include identification keys and other diagnostic resources, the use of which should always be clearly cited as part of the methods.

## Ethical misconduct in publishing

Plagiarism and other forms of ethical misconduct in scientific publications are not new (e.g., Fanelli 2009; Jones 2009; Pupovac and Fanelli 2015). Compared to some other fields, such as biomedical science, plagiarism and data fabrication seem to occur more rarely in the field of entomology. Nevertheless, various instances of misconduct have been officially or unofficially reported, from manipulation or fabrication of sampling data (e.g., sampling year) to excessive use of figures and text from other publications or using AI for generating data and images. In addition, manuscripts published under the Creative Commons Attribution License (CC BY 4.0), such as those published in JHR, are more vulnerable to excessive reuse of their content, which might lead to forms of text or figure reuse that are considered poor scholarly practices or borderline plagiarism.

Extensive author guidelines concerning publication ethics and malpractice are already available on the JHR webpage and the editorial team takes a strong stance against any kind of misconduct. All suspicious submissions will be processed through plagiarism detection software, such as iThenticate, to compare the manuscript with already published works. In addition, internal JHR policies are implemented for dealing with misconduct. Any misconduct can be reported to the Editor-in-Chief, who, together with the Editorial Board, will decide on appropriate measures.

## Use of AI tools

The AI policy of the journal was updated in March 2026 to encourage transparency in the use of AI tools in academic publishing. Generative AI tools should never be used to create or alter primary data, images, citations or results. Any other use of AI tools must be disclosed in the submission form, including when used for language editing. Specifically, authors should declare use of AI tools in their publication by providing the name and version of the AI tool and the tasks for which it was used. Subject editors are expected to assess the use of AI in submitted manuscripts and follow up with the authors or publisher where necessary. The guidelines for editors and reviewers were also updated. The revised policy states, among other things, that editors and reviewers are not allowed to upload any confidential correspondence to generative AI tools or use AI tools to evaluate manuscripts. Any unpublished work uploaded to open large language models (LLMs) may be used for training, potentially resulting in the leakage of novel concepts, terms, and scientific names into future results without passing peer review or providing appropriate credit to the originator.

## Outlook

By clarifying the newly implemented guidelines and addressing some of the outstanding issues, we hope to create a more productive and supportive environment for editors, reviewers, and authors, while also providing greater support for early-career researchers

and students taking their first steps in academic publishing. The journal provides an excellent platform for showcasing the continued growth and diversity of hymenopteran research, encompassing a broad range of disciplines, including revisionary systematics, phylogenetics, behaviour, and ecology. As editors, we are particularly pleased to see an increasing number of collaborative publications, the growing application of integrative approaches, and the evolution of established practices. We are also encouraged by the growing participation of authors from regions that have previously been underrepresented in the field. We look forward to continuing to build an inclusive and collaborative community that fosters the development of hymenopteran research and supports the next generation of researchers.

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## Additional information

### Conflict of interest

The authors have declared that no competing interests exist.

### Ethical statement

No ethical statement was reported.

### Artificial Intelligence (AI) use

The authors accept full responsibility for the content of the manuscript, including the disclosure of any use of AI.
Regarding the use of AI in the preparation of this manuscript, the authors declare the following: GPT
Used for: Language, style and writing
ChatGPT (GPT-5.6 Luna; free version) was used for grammatical and stylistic editing of the text. The authors reviewed and approved all resulting changes and remain responsible for the final content.

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### Author contributions

Conceptualization: TS, JA, BB, GRB, NDS, JFT, FHG, MHR, PK, MM, MDM, BP, JR, ET, YMZ. Writing - original draft: TS, JA. Writing - review and editing: TS, JA, BB, GRB, NDS, JFT, FHG, MHR, PK, MM, MDM, BP, JR, ET, YMZ

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### Data availability

All of the data that support the findings of this study are available in the main text or Supplementary Information.

## Supplementary material 1

**A checklist of mandatory and highly recommended steps throughout the manuscript preparation and publication process**

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Data type: docx

Explanation note: It summarizes and complements the information provided in the Author Guidelines. In squared brackets, specific procedures for Journal of Hymenoptera Research are highlighted. A point in the list is considered mandatory unless stated otherwise.

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