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The *Mediterranean Botany* section on ethnobotany and ethnopharmacology: required standards for articles based on field research

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Abstract. In this new era of *Mediterranean Botany*, the editorial team opened the possibility of submitting manuscripts for evaluation to the ethnobotany/ethnopharmacology section of the journal. We present a compendium of the minimum standards that manuscripts based in field research should comply in order to positively pass to the review process, as a minimum quality requirement. We pay special attention to the contents that should be included in the method and results sections, which are often the ones that present problems of format, style or content. Without being in any way exhaustive in the listed standards, we believe that these recommendations will help authors to present their texts and reviewers to evaluate them.

Keywords: Ethnobotany, Methods, Standards, Data gathering, Description of results.

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Introduction

The journal *Mediterranean Botany* is, as stated in previous editorials, facing a new era (Gavilán & Jiménez-Alfaro, 2018). Among other editorial changes, the Journal is broadening its scope beyond plant systematics and the ecology of vascular plants, and ethnobotany is now one of the topics addressed by the journal (see *Mediterranean Botany* website, Author Guidelines, available at <https://revistas.ucm.es/index.php/MBOT/index>).

However, as is the case for most scientific journals, the number of articles received is much higher than the number of articles which can ultimately be published. Of course, all submitted manuscripts have to be congruent with the standards and general focus of the Journal, the Journal's ethics, and its geographic scope of Mediterranean biomes around the world (all available on the above-mentioned Journal website).

But apart from issues within the aim, scope, and ethical requirements of the Journal, quality is one of the reasons why some manuscripts do not fall under the review process. As in every journal, the editorial team performs a first read to submitted texts, which determines the pre-selection of suitable manuscripts for the review process based on methodological suitability, rather than their results, discussion, or conclusions. Therefore, in order to help authors and reviewers, we decided to write this editorial with some basic standards that all articles published in this Journal within the ethnobotany section should meet.

As much has already been published in this regard in other journals, we do not intend to provide an exhaustive review, but rather to communicate these minimum criteria. Please refer to the manuscripts cited in the following sections of the editorial for further reference.

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Basic standards for submitted manuscripts based on field research in ethnobotany and ethnopharmacology

Most of what is described in this text relates to ethnobotanical field studies, although it may also provide guidance for other studies.

On the introduction

As ethnobotany deals with the scientific study of the traditional knowledge and customs of people concerning plants, it is important to describe at least in part the human context in which a field study is focused. Thus, the ethnographic or theoretical framework should be given. This context is usually included as an introductory text. Anthropologically important issues will be commented on, and the existing cultural diversity should be mentioned and briefly described. The historical and cultural context of the research should be included with at least a succinct description, avoiding well-known cultural features of the studied communities.

In general, as in other scientific disciplines, manuscripts should be based on a research question or a formulated hypothesis. The structure of the manuscript is usually as follows: introduction, material and methods, results, discussion, and concluding remarks. In certain duly justified cases, the journal allows not to separate the results and discussion sections. The research question is generally stated after presenting brief background information and the description of the objectives or goals of the study. Then, authors should explain how the hypothesis was tested. Finally, the results of this test should be analyzed in the discussion.

Methodological issues

There are several classic ethnobotanical methodology manuals (e.g., Alexiades & Sheldon, 1996; Cotton, 1996; Martin, 2010; Cunningham, 2014) that authors should be aware of, not specifically for citations if not required by the text, but to ensure that data collection and analysis meet the minimum requirements of the discipline. Methods frequently used in anthropology and the social sciences to gather information from informants are also documented in several basic guidebooks for data gathering (e.g., Bernard, 1988, 2011; Newing, 1988). In addition, several articles on the methodological basis for and consensus in the related field of ethnopharmacology have been published (Heinrich *et al.*, 2009, 2018; Weckerle *et al.*, 2018), which the authors of this editorial consider noteworthy and potentially of reference.

Specifically, for ethnobotanical field studies, the methods section should include the following information:

- a. Study area (preferably with a map as a figure, with the study area limits and geographical context, north, and scale included). Take into account that the geographical range of the journal includes regions influenced by Mediterranean-like climatic areas: the Eastern Mediterranean Basin, South Africa, western Australia, western North America, and South America. A general map can be consulted on the Journal website. The study should not repeat a previously studied territory, or be an extract of the results of a wider field work. These two points can be addressed in the introduction or methods section.
- b. Methods for data collection. This should include: how participants or informants were selected, how interviews or surveys were performed (and their type), data on the content of the interviews or surveys, the language(s) in which they were conducted, whether or not a translator was needed, and the locations and duration of the fieldwork. In cases where questionnaires are the primary data, the form could be added as a figure or supplementary material (e.g., Medjati *et al.*, 2018). Studies resting on general population surveys without any pre-selection of participants should be avoided.
- c. How the correlation of popular and scientific names has been carried out. This should, except in exceptional cases, be based on fresh sampling of plants collected with informants and subsequent laboratory identification of vouchers. Identifications based on photographs or vernacular-scientific correlations based on previous literature should be avoided. Local flora, specific monographs, and taxonomic literature, if used, should be mentioned. The botanical nomenclature should be revised according to any of the main databases on the subject (e.g., <https://www.ipni.org/>, <http://mpns.kew.org/mpns-portal>, <http://www.tropicos.org/>, <http://www.plantsoftheworldonline.org/>, or the Med-Checklist (<http://ww2.bgbm.org/mcl/>) for both spelling of names and abbreviations of authors (for general remarks, see Dauncey *et al.*, 2016). There are also other tools that may be useful here, such as the Taxonstand R package (<https://cran.r-project.org/web/packages/Taxonstand/index.html>). In the case of cultivated plants the most accurate and up-to-date database is GRIN Taxonomy <https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch> (<https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch>). For family attribution, authors should follow any standard, which can be local or regional flora (the one used to identify vouchers or plant materials within the study) or any of the most commonly-followed classifications, such as the APG IV, the last Angiosperm Phylogeny Group's arrangement to date (APG, 2016).
- d. Informed consent accepted by the informants for the publication of the results and compliance with ethical regulations, where applicable. Mention should be made of binding international agreements or conventions to safeguard the ethical commitment of the ethnobiological community: the International Society of Ethnobiology Code of Ethics (ISE, 2021), compliance with the requirements of the Nagoya protocol, the CBD, or national or regional laws, etc. (see, e.g., Buck & Hamilton, 2011; CBD, 2011).

Description of Results

When communicating a list of useful plants in a certain territory, which is usually done with a table, results should meet the following standards:

- a. Pay attention to botanical nomenclature. Use correct spellings with Latin binomials correctly written in italics (see, e.g., Rivera *et al.*, 2014; Bennett & Balick, 2014; Heinrich & Verpoorte, 2014) and add authorities correctly abbreviated in the names at least once (as a recommendation, if authors present a table of results, it is enough to give complete names on it). Add botanical families which, by consensus of the Journal, should not be italicized in English texts.
- b. Herbarium code must be included. This code should preferably be provided by an official herbarium, indexed in the *index herbariorum* (<http://sweetgum.nybg.org/science/ih/>), and not a personal or research group code in a personal herbarium or collection. Plant material should be available for researchers from other fields (see Funk *et al.*, 2005; Culley, 2013; Rocha *et al.*, 2014).
- c. The traditional use must be clearly mentioned and associated with the part(s) of the plant used. For medicinal uses, they should be sorted by condition/symptom, pathological group, or group of diseases. Tables of results should also include the mode of use of the ethnobotanical resource, mode of administration, and, if possible, administration doses and duration of the treatment. Mentions to the emic or etic approach to identify or classify conditions/symptoms in the study would be appreciated. In wide studies with big datasets, we recommend specifying how the classification of uses was done (e.g., Cook, 1995), and for papers dealing with medicinal uses, how the classification of diseases was performed (see e.g., Staub *et al.*, 2015). The use of standardized names for diseases such as those in the International Classification of Diseases 11th revision is suggested (<https://icd.who.int/en>), although authors can name and classify them as long as this classification is displayed (e.g., Zatout *et al.*, 2020). We also recommend for these studies with large datasets, the main data (table of results) should be included as supplementary material, or in any of the available website repositories (e.g., <https://zenodo.org/> or <https://osf.io/>).
- e. The addition of local vernacular names is recommended. If names were originally recorded in a language with non-Latin scripts and converted to the Latin alphabet, methods should also specify how the transcription was performed, according to the general standards in this field. Vernacular names in English should preferably not be written with the initial letter capitalized.
- f. For each individual use, tables must include the number of references to this use (i.e., use reports, use records, or frequency) as the primary data in this respect. Articles using quantitative ethnobotanical indices (e.g., Use-Value, Informant Consensus Factor, Cultural Value Index, Relative Importance

Index, etc.) should justify the need for the use of these indices and should also include the necessary primary data for their calculation, as well as the formula and origin of each index in the methods section. For further details, see specific publications on the matter (e.g., Phillips, 1996; Hoffman & Gallaher, 2007; Tardío & Pardo-de-Santayana, 2008; Medeiros *et al.*, 2011; Zenderland *et al.*, 2019; Leonti, 2022).

- g. At least some of the results obtained from the personal questions to the participants should be included, to give some socio-cultural context about the sample studied: total number of participants, percentages of participants' genders, approximate mean age, etc.
- h. It should be noted that the journal allows a maximum of 3 or 4 tables and as many figures and that it is preferable to use them only when necessary for spatial reasons of space. Much of this information should preferably be placed in the text or in supplementary material.

Discussion

Even if it is obvious, the results must clearly expose all data discussed in the subsequent sections. The discussion is important in interpreting and describing the significance of the findings considering what was already known in regard to the analyzed topic and data. Mere descriptions of uses or descriptions of quantitative data without further analysis or reflections are becoming less and less interesting in this discipline and are increasingly seen as having to answer some research question (which must be clearly stated).

Apart from this, in the context of ethnobotany, discussion can be focused on comments regarding the historical use of plants in the studied or nearby areas (see, e.g., González-Tejero *et al.*, 2008; Quave *et al.*, 2012; Leonti *et al.*, 2015; Benítez *et al.*, 2021), the plants' chemical compounds and studied pharmacological activities offering at least some scientific rationale for the potential effect of the medicinal plants (e.g., Leonti & Casu, 2013; Martínez-Francés *et al.*, 2015), or the links between medicinal and edible wild food plants (e.g., Gras *et al.*, 2021; Benítez *et al.*, 2017). The novelty of the results should also be highlighted here. Results showing a lack of novelty, for instance, well-known medicinal plants traditionally used in a community to treat conditions for which they are widely used, or from ancient times within the Mediterranean context, should be avoided (e.g., garlic as an antibiotic, fennel as a carminative, etc.). As usual in science, the lack of novelty is one of the main reasons for the rejection of manuscripts.

Concluding remarks

Taking into account these considerations, the Journal is open to the submission of papers dealing not only with ethnobotanical field studies, but also with theoretical considerations, hypothesis-driven studies, reflections or opinions in this discipline, or taxonomical or nomenclatural

comments on ethnobotanical plants that could get an important number of cites (e.g., Luzuriaga-Quichimbo *et al.*, 2019). In this way, is the aim of the Journal's editor-in-chief and associate editors to publish a wide variety of papers on ethnobotany so as to promote this important discipline in the Mediterranean context.

We encourage authors to send their manuscripts to this Journal, which, in addition to being a journal well positioned in the general indexing platforms within the plant sciences category, allows free consultation and distribution of its accepted articles thanks to its open access policy and the absence of processing (submission, review, or editing) or publication fees. We hope that these editorial guidelines will serve as inspiration and allow the flow of articles in the section to increase both in quantity and quality.

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