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Guiding authors to reliably use taxonomic names

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It is widely known that every scientific work must be verifiable and repeatable by following the details included in the Materials and Methods section. Yet despite this, a high proportion of papers dealing with species in ecology and evolution omit the taxonomic materials and methods used to validate the names of the taxa mentioned, which is likely to have negative impacts on scientific ideas, global biodiversity, and human welfare [1–3]. This serious omission could be addressed if the Guide for Authors of a journal explicitly required the detailing and explanation of the procedures followed to support and validate the taxonomy of the organisms mentioned in the study. In fact, this kind of requirement might encourage the participation of well-trained taxonomists in ecology and evolution research teams. However, even if this does not happen, editors would be able to induce a critical shift in the quality of the papers that they publish by simply requiring the explicit citing of taxonomic keys, species lists, catalogs, specimen vouchers, theses, technical reports, specialized web pages, and/or any other material used to ensure the proper care of the taxonomic issues mentioned above. The impossibility of accomplishing these basic requirements would instantaneously highlight the papers with potential taxonomic errors. It is well known that it is impossible to publish a scientific work without including details of the statistical analyses, sampling and experimental design, and/or the materials and methods used in the laboratory

or field. It is time that researchers started considering the taxonomic issues with this same emphasis and commitment. If one uses species names, one must show one knows how to do it [1].

Historically intended to improve the style of scientific articles, the Guide for Authors of relevant journals also has the potential to elevate rapidly the excellence of the science being published worldwide. This is a long overlooked and low-cost initiative with the potential to decrease the number of papers that may harm the integrity of global biodiversity databases and reservoirs by supplying them with unreliable taxonomic information.

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