

Editorial

BioAssay: a long road through the years toward Open Science

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Abstract. Since the publication of the first issue in 2006, BioAssay has been publishing original and current articles on the evaluation of the biological activity of arthropod control agents of agricultural, forestry, urban, veterinary and medical importance. Throughout these years, BioAssay published 83 articles in six different sections (Chemical Control, Plant Extracts, Biological Control, Scientific Notes, Semiochemicals, and Forum). As of 2023, we are starting a new era, aimed at adapting the journal to Open Science.

Keywords: Entomology, open access, open data, pest control, scientific journal.

BioAssay is an official publication of the Entomological Society of Brazil - SEB, created in 2005, with the aim of publishing original and current articles on the evaluation of the biological activity of arthropod control agents of agricultural, forestry, urban, veterinary and medical importance. The name of the journal was decided by the first editor, Prof. Dr. Celso Omoto as well as its logo (Fig. 1) which represents a molecule and the percentage symbol (%), a unit of measurement commonly used to express data on concentration, mortality, efficiency, damage etc. in tests with control agents. The colors of the logo correspond to the toxicity classification of pest control agents, according to Brazilian legislation (Zucchi 2005).

The first issue of BioAssay, with 13 articles (Omoto 2007), was published in 2006 (Zucchi & Parra 2023), when the ISSN (1809-8460) was registered, the first contents were indexed, and the website began to adapt to the Open Journal Systems (OJS) (Omoto 2006a; 2006b). In 2008, the first articles registered in the Digital Object Identifier (DOI) system were published (Omoto 2008). In 2009, the implementation of the OJS platform for BioAssay was completed, with the availability of all articles published in previous issues (Omoto 2009) and the continuous consolidation of BioAssay as a means of scientific dissemination in the country.

In 2010, Dr. Edson Hirose assumed as Editor-in-Chief (Hirose & Moraes 2010) and, in 2012, Dr. Pedro Takao Yamamoto (Yamamoto 2012) was his successor, closing the 2010-2012 triennium with a Qualis

B5 concept for the Agricultural Sciences I area. In 2014, the journal's website began to have an English version, improving its visibility on the international scene (Yamamoto 2014). From 2014 to 2016, the Editor-in-Chief role was split between Dr. Pedro T. Yamamoto and Dr. José Eduardo Marcondes de Almeida. In 2016, Dr. Adeney de Freitas Bueno took over as Editor-in-Chief of BioAssay (Gazzoni & Pinto 2016). From then on, BioAssay went through a long period of inactivity. However, the papers published remained being cited in new publications, showing its importance as a vehicle for scientific dissemination in Brazil (Fig. 2).

As of 2020, a work on the recovery and revitalization of BioAssay has begun, with the establishment of a temporary Editor-in-Chief, Daniell Rodrigo Rodrigues Fernandes and, a temporary Editorial Board composed by Alexandre Carlos Menezes Netto, Elio Cesar Guzzo, Leandro Delalibera Geremias, Rafael Major Pitta and Tiago Cardoso da Costa-Lima. At first, the journal page was rescued, and all previously published articles were again made available to the public, as well as the DOI of the articles were reactivated. In addition, the same temporary Editorial Committee resumed the processing of articles that had been stopped, and after a lot of work, finally, in December 2022, the issue 17 was published, thus updating all the issues of the journal, which refer to the years 2006 to 2022 (issues 1 to 17).

From 2006 to 2022, BioAssay processed 144 submissions, of which 83 were accepted and published, and 61 were rejected (42% rejection rate). Of the 83 articles published, 56 were in Portuguese and 27 in



Figure 1. BioAssay logo.



English. These published articles were distributed in six different sections (Chemical Control, Plant Extracts, Biological Control, Scientific Notes, Semiochemicals and Forum). Notably, the Chemical Control section was the one in which most of the articles were published (Fig. 3). It is worth mentioning that many of the articles received by BioAssay have a theme that fits within the context of Pest Management, and the creation of the journal was, in part, to relieve this demand for articles that had been directed mainly to the journals *Anais da Sociedade Entomológica do Brasil (ASEB)* and *Neotropical Entomology (NE)*, until then. Noticeably, the decrease of such articles in ASEB/NE, as can be seen in [Fontes et al. \(2021\)](#), marks the creation of the niche that could be occupied by BioAssay.

A similar fact has occurred in recent years, with the creation of the journal *Entomological Communications* ([Fernandes & Pitta 2019](#)), another SEB publication that aims to occupy an unexplored niche (a journal specialized in short communications). BioAssay itself, in its 17 issues, published few articles in this section (Fig. 3), which no longer makes sense to keep for this new period of our journal, since *Entomological Communications* can satisfactorily cover this niche.

On the other hand, we have the Forum section. Despite having few articles on this section, they are articles usually published at the invitation of the Editor-in-Chief. This section deserves to be further explored in this new phase of BioAssay, as articles of general interest and with a provocative nature can also be included in the Forum/Viewpoint sessions.

In this new phase of the journal, a continuous flow publication process will be adopted, with articles being published as they are accepted, in a single issue per year. A new layout and new publication norms will give the journal a more modern look, and with the intention of going down the path of Open Science. Submissions will continue to be accepted in English and Portuguese. The scope of the journal will be maintained and, therefore, articles on the evaluation of biocontrol agents' activity and tactics on arthropods will be accepted.

The sessions will be composed of Editorial (articles reflecting the opinion or view of the editorial board); Forum (articles addressed to stimulate discussion and debate about important topics within the scope of the journal, usually by invitation); Review (articles intended to

summarize and/or critically discuss the current state of understanding about a topic within the scope of the journal); and Research Article (articles directed to evaluate the effect of the various control methods on arthropods, including but not limited to: 1- Behavioral Control - control based on altering pest behavior, including the use of semiochemicals and repellent plants; 2- Biological Control - control based on the use of living macro- and micro-organisms and viruses; 3- Chemical Control - control based on the application of chemical substances (pesticides); 4- Cultural Control - control based on practices used to grow the crop; 5- Host-Plant Resistance - control based on plant varieties that express any type of resistance; 6- Botanical Pesticides - control based on the application of a plant derivative; 7- Mechanical Control - control based on the mechanical removal of the pest from the crop or the environment; 8- Physical Control - control based on physical processes, including heat, cold and radiation; and 9- Autocidal Control - control based on the alteration of the arthropod species genome.

BioAssay will follow a blind peer review process, with the Editor-in-Chief receiving the submissions and assigning a Section Editor to handle it. At least two reviewers, whose opinions will guide the final decision on the acceptance (with or without corrections) or rejection, will evaluate the manuscripts. The accepted papers will be diagrammed and subsequently published in the issue corresponding to the year in which they were accepted.

Open Science, a movement that promotes the free and open sharing of research results, has gained significant attention in the academic and scientific community in recent years. This approach encourages unrestricted dissemination of research data, methods, publications, and related materials. Many scientific journals have embraced this philosophy, enabling greater access and sharing of knowledge. In other words, Open Science is transparent and accessible knowledge that is shared and developed through collaborative networks ([Vicente-Saez & Martínez-Fuentes 2018](#)).

We see this initiative as a natural path to follow, which is why BioAssay intends to adapt to this new way of producing science in the coming years, gradually migrating conventional practices to more collaborative and participatory science. In addition to distributing articles in Open Access format, in the future, we intend that authors

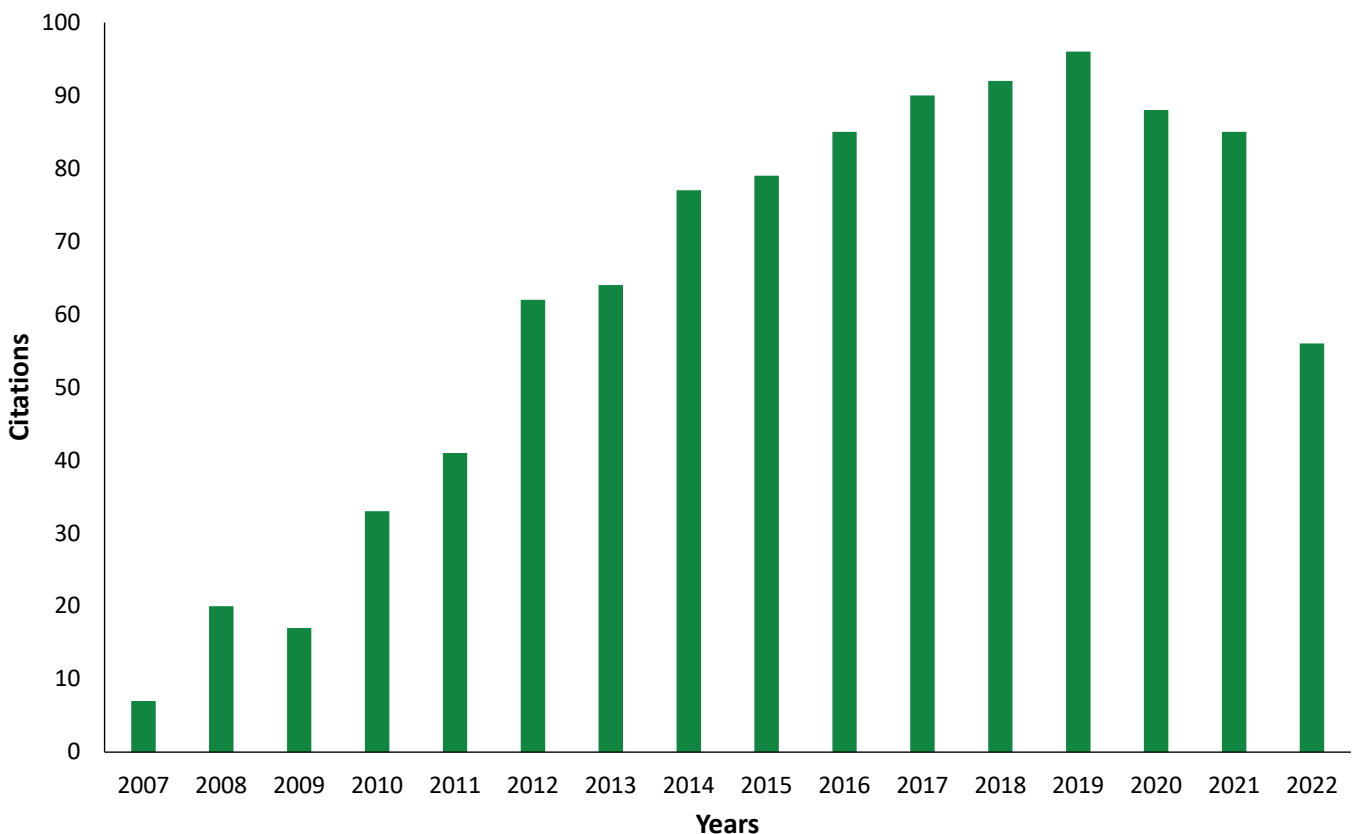


Figure 2. Evolution of the annual number of citations of articles published in the journal BioAssay, between 2007 and 2022. Source: Google Scholar.

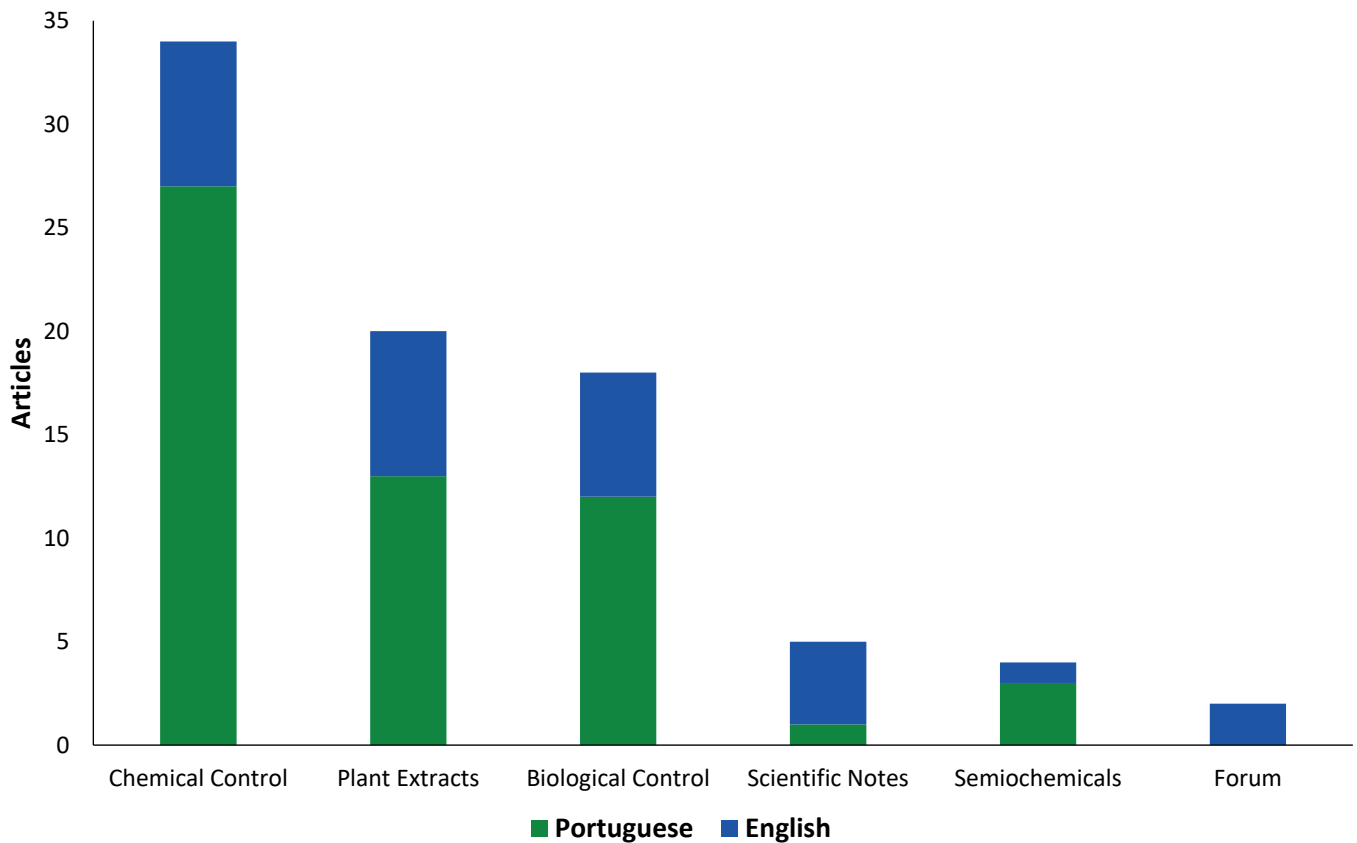


Figure 3. Number of articles published in English and Portuguese in each session of BioAssay, between 2007 and 2022 (n=83).

also feel encouraged to publish their data (tables, images, graphs, etc.) in a completely open way that can be reused by other users. In addition, we will also seek greater transparency in the participation of authors in articles (Authors' Contributions), development agencies and funding bodies (Funding Information), declarations of possible conflicts of interest (Conflict of Interest Statement), and other good editorial practices.

In this way, we thank SEB and the founders of BioAssay, as well as the former Editors-in-Chief, Section Editors, Reviewers, Authors, and Contributors, who have led the journal to the present day. The Editorial Board will continue to grow, as well as to diversify the various areas covered by the journal, segments of society, representations of gender and ethnicity, and with international participation, to meet the challenges to come. Finally, we invite the entire scientific community to continue trusting BioAssay and submit their articles for publication in the journal.

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Authors' Contributions

All authors wrote and commented on previous versions of the manuscript, read and approved the final manuscript.

Conflict of Interest Statement

All authors have declared that there is no conflict of interest.

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