

## Activities of the Board



The theme of the XXIX Brazilian Congress of Entomology and the XIII Latin American Congress of Entomology will be “Sustainability and Biodiversity of Insects.” The event will include many novelties in its format and scientific programming. There will be 24 talks and 24 round tables, as well as oral presentations, the traditional EntomoQuiz,

and the producer’s Arena. In the program, one of the novelties is the holding of eight discussions called EntomoPints, which will take place at night, in bars and restaurants in the city, and where participants will be able to discuss, in a relaxed atmosphere, the main topics of entomology. Daily, the activities will take place in four areas at one location, with a capacity for about 2000 people. Each participant will be able to participate in the lecture or round table of their choice using their headset. These are just some of the novelties; others will be released soon. We remind you that the form for submission of round table proposals is already available on the CBE website – <https://cbe2024.com.br/chamada>, from December 8, 2023, to March 8, 2024. In addition, promotional registrations open only to member undergraduate and graduate students will be available from January 9 to 10, 2024. Stay tuned! We hope to see you in Uberlândia!



President of SEB, Angelo Pallini; the president and vice-president of XXIX CBE and XIII CLE, Solange Cristina Augusto and Douglas Ferreira, respectively, in a meeting with the FB team, Fernanda Anastácio and Fernanda Favarin, in Uberlândia, to deal with the logistics of the Congress.

### Siconbiol 2025

The 18th edition of SEB’s biannual event, SICONBIOL, will be organized by the Brazilian Agricultural Research Corporation (Embrapa) and the Universidade Federal de Santa Maria (UFSM) in the city of Gramado, RS, in 2024. Negotiations are still being conducted to define the date and place that the event will be held, in addition to hiring the Company that will assist in its organization. Furthermore, a project to obtain financial aid

was submitted to CNPq, in CNPq Call No. 12/2023 – Aid for the Promotion of Scientific, Technological, and/or Innovation Events. The event organizing committee will be formed in the first semester of 2024 with professionals from different institutions. Following global guidelines, the 18th Siconbiol will be more inclusive and will deal with topics related to research, innovation, and technologies in biological control.



Angelo Pallini (SEB president), Dori Edson Nava (18th Siconbiol president), Umerson Cunha (UFPeL), Daniel Bernardi (UFPeL), and Marcos Botton (Embrapa) in a meeting to address issues related to the organization of the 18th Siconbiol.



### BioAssay is back!

Dear colleagues,  
BioAssay is an official publication of SEB, created in 2005 with the objective of publishing original articles on the evaluation of the biological activity of control agents of arthropods important in agricultural, forestry, urban, veterinary, and medicine. After a long period of inactivity, work began on the recovery and revitalization of BioAssay, with a Temporary Editorial Committee led by Daniell R. R. Fernandes, which also included Alexandre C. Menezes Netto, Elio C. Guzzo, Leandro D. Geremias, Rafael M. Pitta, and Tiago C. da Costa Lima. The journal’s website was reactivated, and several articles that had been on hold for several years were processed. After a lot of work, finally, in December 2022, the last delayed issue was published, starting 2023, with the page fully functional and without editorial issues. During this year, the journal resumed its normal operation with updated publication and layout standards, receiving new submissions and published articles in the Editorial, Forum, and Research Article sections. Thus, with great satisfaction, we announce the reactivation of the journal BioAssay, which is now beginning a new era. For this new phase, we welcome the new editors, Cristiane Nardi, Haroldo X. L. Volpe, Javier A. Vásquez Castro, and Alessandra M. Vacari, who will join the current editorial board, and whose Editor-in-Chief will be Elio C.

Guzzo. In addition, Daniell R. R. Fernandes will assume the new role of Executive Editor, and will henceforth only deal with editorial policies and indexing databases and as a consultant for general editorial processes. We thank SEB and all members of the previous Editorial Boards, and the authors, reviewers, and readers of BioAssay while inviting all of you to submit the results of your studies for publication in our journal (<https://www.bioassay.org.br>). BioAssay belongs to SEB, and SEB belongs to all of us. We still have extensive work ahead of us, but together, we will recover the greatness of our journal.

### Elio Cesar Guzzo

Editor-in-Chief of BioAssay  
Entomological Society of Brazil

### Daniell Rodrigo Rodrigues Fernandes

Executive Editor of BioAssay  
Entomological Society of Brazil



### Entomological Communications

Dear readers,  
We are finishing 2023 with great results and with excellent prospects for 2024. This year, despite delays in the editing of some manuscripts, we will publish more than 40 articles. In addition, we will complete the new guidelines early next year. The new guidelines will have specific rules for the insertion of supplementary material, as well as the insertion of files via public data repositories. These actions aim at greater data transparency and are in line with the Open Science movement, which also provides for the availability of data and its possible reuse. These modifications will open doors to a new section – *Data Papers*. These scientific publications describe a set of data that can be worked on by anyone interested. We also welcome the new area editor, Livia Maria Silva Ataíde. We are excited for 2024!!! We hope that Entomological Communications continues to be your choice to disseminate your data in a brief, fast, open-access, and quality way. Visit our website and follow our social networks on Instagram, Facebook, and Twitter (you will find a link to the social networks under the “Follow” tab at the top of our page – <https://www.entomologicalcommunications.org/>).

### Daniell Rodrigo Rodrigues Fernandes

#### Rafael Major Pitta

Editors-in-Chief, Entomological Communications  
Entomological Society of Brazil



# Neotropical Entomology

## Neotropical Entomology

Dear fellow entomologists and members of the scientific community in general,

With great satisfaction and a mix of emotions, we announce the departure of the Editor-in-Chief and Deputy Editor-in-Chief of Neotropical Entomology. After almost eight years of dedication to the journal, it is time to reflect on their achievements and pass the responsibility to new, competent hands.

During this period, the journal achieved remarkable growth. The substantial increase in the number of articles received and published is a source of pride, evidencing not only the quality of the research submitted but also the commitment of researchers to help advance knowledge in entomology. Neotropical Entomology has expanded its horizons, achieved wider international visibility, and connected with a diverse audience of readers and scholars worldwide. In addition, the journal's impact factor registered significant growth, reflecting the recognition and relevance of the work carried out by all involved.

At this time, we would like to express our deepest gratitude to all the authors and authors who have relied on Neotropical Entomology as a vehicle to share their groundbreaking findings and research. Without your collaboration and commitment, we would not have achieved this level of success. Likewise, our sincere thanks go to the editors and reviewers, whose com-

mitment to excellence and scientific rigor was fundamental to maintaining the high standards of the journal.

As we bid farewell to this cycle, we welcome Professor Khalid Haddi, who has taken on the role of Editor-in-Chief since November. His experience and expertise in the field of entomology will certainly be a solid foundation to lead Neotropical Entomology toward new achievements. We have full confidence in your professionalism and enthusiasm to lead the journal in this next phase.

Finally, we wish Neotropical Entomology a promising future under the leadership of Professor Khalid Haddi. The journal continues to be a space of excellence, promoting the dissemination of relevant research and contributing significantly to advancing the field of entomology.

Thank you for being part of this journey with us.

### Eliana Fontes e Raul Laumann

Editors

NOTE: the NET has a new face! Check out the new look at <https://link.springer.com/journal/13744>.

### The Entomology in the Amazon course is back.

After a four-year hiatus due to the COVID-19 Pandemic, the Fourth Course of Entomology in the Amazon (IV CEAM) was held between August 7 and 12 in Manaus, AM. The event was designed and organized by students of the Graduate Program in Entomology of the National Institute of Amazonian Research (INPA), coordinated by Professor Rosaly Ale-Rocha. It targeted undergraduate students and recent graduates in the biological sciences and related areas, who are interested in the study of arthro-



The organizing committee and participants of the IV CEAM, during the opening of the event, at the National Institute of Amazonian Research, Manaus, Amazonas.

pods, especially the Amazonian fauna. The IV CEAM addressed topics, including taxonomy, phylogeny, biogeography, ecology, and biology, as well as more applied areas, such as biological control, medical and veterinary entomology, forensic entomology, insect trafficking, and the importance of insects as models in the various areas of biological knowledge. The event had 44 participants selected from 65 registrants who were from various parts of the country, including Roraima, Amazonas, Acre, Pará, Rondônia, Tocantins, Maranhão, Rio Grande do Norte, Paraíba, Bahia, São Paulo, Paraná, Santa Catarina, and Rio Grande do Sul, as well as Colombia. In addition to the talks and short courses, students also had the opportunity to visit and stay overnight in the Ducke Reserve to learn the principle of action of several insect capture trap models. The course was carried out by the PPG in Entomology of INPA with support from the Biodiversity Thematic Network of Insects in the Amazon (rede BIA) – CNPq, EMBRAPA, and FAPEAM.

### Daniell Rodrigo Rodrigues Fernandes

Rosaly Ale-Rocha

## Entomology Events

- XXXV Brazilian Congress of Zoology – February 26–29, 2024, Porto de Galinhas, PE, Brazil.
- III Entomology Congress of Piauí – March 19–22, 2024, Floriano, PI, Brazil.
- I Meeting on venomous animals from the north of Paraná – March 20–22, 2024, Londrina, Paraná, Brazil.
- VIII Brazilian Symposium on Acarology – June 23–26, 2024, São Luís, MA, Brazil.
- XXVII International Congress of Entomology – August 25–30, 2024, Kyoto, Japan.
- XXIX Brazilian Congress of Entomology and XIII Latin American Congress of Entomology – September 22–26, 2024, Uberlândia, MG, Brazil.

## Entomology in the Press

### A new pest of cashew trees in Piauí

The region of Pio IX, which is in eastern Piauí, experienced a high infestation of a beetle in the Melolonthidae family that is 12.5 to 13 mm and reddish-brown in color. Thanks to the efforts of researchers from the Universidade Federal Rural de Pernambuco (UFRPE), who analyzed samples sent by farmers, it was possible to make a specific identification, *Liogenys pilosipennis*. This species was first described in 2015.

The unexpected invasion of beetles has created a significant challenge for the local farming community. Not only did the beetles invade the area in large numbers, but they also voraciously consumed fruit trees, especially cashew trees, resulting in the devastating loss of about 30% of cashew production in less than a month. The almost apocalyptic scene, compared to a biblical plague, instigated an

immediate response on the part of farmers and specialists.

At the end of October, specialists from the Mid-Northern Brazilian Agricultural Research Corporation (Embrapa) and agricultural defense agencies from Piauí met to design a plan to combat the pest. The challenge was unique, as cashew trees, for the first time in history, were under attack by these beetles. The recommendation to avoid insecticides due to organic honey production in the region underscored the importance of sustainable approaches to address the situation.

In search of solutions, farmers implemented light traps to capture them. Even though this is not a conventional strategy, it proved to be effective, filling buckets of up to 60 liters with the captured insects, a situation exacerbated by the presence of the insect! Experts highlighted a possible correlation between

the beetle outbreak and climate change. The prolonged rainy season in the Piauí region, which occurred for six consecutive months instead of the usual three, provided favorable conditions for the development of larvae, contributing to the proliferation of beetles. The decrease in the presence of natural predators, such as armadillos, was also indicated as an aggravating factor, highlighting the urgent need for holistic approaches to address these challenges and preserve agricultural sustainability in the region.

This is a scenario that once again connects global climate change, interaction with local entomofauna and the complex relationship with its biology, and integrated management.

Sources: [http://www.coleoptera.ufpr.br/sppS/Liogenys\\_moroni\\_Cherman&Almeida2015.html](http://www.coleoptera.ufpr.br/sppS/Liogenys_moroni_Cherman&Almeida2015.html)

<https://revistapesquisa.fapesp.br/a-luta-contra-as-nuvens-de-besouros-no-piaui/>



## Entomology in Focus

### Phytosanitary defense, quarantine pests, and the challenges of Brazilian agriculture

There is no doubt about the importance of Brazilian agriculture, both for the country itself and the world. It is the largest producer of several economically important crops, as well as one of the main exporters of agricultural products, supplying other countries that are often unable to produce food for their people. In addition to large crops, we also have robust family farming that supplies the entire country with a wide diversity of food products. Furthermore, with each passing year agricultural production increases, guaranteeing the food security of the Brazilian population and contributing to global food security.

Despite this positive scenario, with favorable data on production, income, jobs, and foreign exchange for the country, those who are directly linked to the productive sector have recognized the many threats to agricultural production. One of the main ones is agricultural pests that require the use of resources for their control. In some cases, their control may be unfeasible, either due to high cost or lack of effective control measures.

The introduction of new pests is always a great challenge for any country's production and is a reality that humanity has faced throughout history, with several emblematic cases. Plant pests have a limited capacity to disperse to new areas, and their establishment and impact has historically been limited by the diversity of environments. These two factors have undergone profound changes in the recent past. First, the increased movement of people and products around the world has facilitated the transport of pests to new areas, and second, the intensification of agriculture with the simplification of natural environments in large monocultures has made the dynamics of the exotic pest introduction a pressing issue for society.

This process intensified in the 1990s when the term globalization became evident, with an increase in the opening of countries to international trade as well as an increase in the movement of people. In this process, a key point was the creation of the World Trade Organization (WTO) in 1994, as a result of the Uruguay Round, a forum for discussion on international trade guidelines, which had begun in 1986. An agreement obtained at this time was the Agreement on Sanitary and Phytosanitary Measures – SPS Agreement. This agreement is fundamental for phytosanitary defense because it recognizes the sovereignty of countries in adopting measures to safeguard plant health, as well as human and animal health. Simply put, the WTO mantra is the defense of free trade, without barriers. This results in the importance of the SPS Agreement in recognizing the sovereignty of countries to protect their plant resources. For the WTO, in theory, the only barrier that can exist for trade and movement of agricultural products is phytosanitary, which demonstrates the importance that phytosanitary restrictions have assumed for global trade and are often used arbitrarily to protect the local economy.

Notwithstanding the aforementioned sovereignty, the SPS Agreement states that phytosanitary measures must be technically justified and based on

scientific principles, and they cannot be maintained without these foundations. In this context, agricultural research plays a fundamental role because it investigates the biological aspects of pests, generating the knowledge that is at the foundation of each regulatory decision.

Phytosanitary Defense involves different perspectives and tools. We will focus on the activities we have developed in recent years, linked to the regulation of the import of plant products. There are three ways to bring plant material to Brazil: two are legal, and one, unfortunately, is illegal.

The first way is the import of plant products (for consumption or for propagation) that have their phytosanitary requirements established through the Pest Risk Analysis (PRA) process. This is the basic tool that countries use to identify whether a particular product to be imported has an associated pest risk and determine what measures are needed to reduce the risk to an acceptable level. The website of the Ministry of Agriculture and Livestock (MAPA – *Ministério da Agricultura e Pecuária*) includes the Authorized Import Plant Products (PVIA – *Produtos Vegetais de Importação Autorizada*) database which contains everything that can be imported into Brazil. Any material combined with the source of interest that is not included in this database must go through the PRA process if there is interest in importing it.

The second way is an exception to the PRA rule. PRA processes usually take years to complete, with a proper definition of phytosanitary requirements. Thus, to meet specific demands, especially for research, it is possible in Brazil to quarantine propagation materials, where the PRA process is waived, with the quarantine of the material in a quarantine station accredited by MAPA as a measure to mitigate the risk of pests. This possibility allows any plant species of any origin to be imported, regardless of whether there are established phytosanitary requirements, aiming to meet the demand, mainly, of national agricultural research.

In 2020, the rules regulating these two procedures were revised, resulting in the publication of MAPA Normative Instruction No. 25 of April 7, 2020, which regulates the PRA procedure, and MAPA Normative Instruction No. 28 of April 20, 2020.

The third way to bring plant material to Brazil, in addition to these two already related ways, unfortunately, is the illegal introduction of material. Legally, it is not possible to bring material to Brazil other than by meeting the phytosanitary requirements already established or by quarantine in an accredited quarantine station. The two legal forms are not infallible and do not fully guarantee that new pests will not be introduced into the country, but they constitute the tools of phytosanitary defense to reduce the chance of new introduction events. On the other hand, illegal import, without the seal of the phytosanitary defense system (and here we refer to both the exporting and the importing country's system), is a weak point of any country, since it is human nature, driven by different interests, to move plant material. Therefore, it is essential to raise awareness of society in general, but especially of professionals related to agriculture, about the risks associated with the illegal import

of plant material that may introduce new pests into the country.

Speaking of new pests, we must reference the quarantine pest list. It is important to clarify that this list exists in a specific context, which is precisely this international regulatory context, and then we can better define the issue. Conceptually, a quarantine pest is a pest of potential economic importance to the country where it is not yet present or, when present, is not widely distributed and is officially under control. Thus, Brazil has two lists of quarantine pests: AQP – Absent Quarantine Pests – and PQP – Present Quarantine Pests.

The main purpose of country-regulated pest lists is to inform partner countries that, for these pests, the country will adopt or require the adoption of phytosanitary measures to prevent their introduction. It means that if a certain product is considered a route of dissemination of one of these pests, that product must be subjected to some mitigation measure, which can be a specific treatment or the requirement that only be exported from places without the occurrence of the pest. Another important and impacting consequence for international trade is in cases where a regulated pest is intercepted, leading to the rejection of the product, its treatment, or even its destruction.

Therefore, the list of quarantine pests is not formulated as being “the list” of the most important pests that do not occur in Brazil. The constitution of the list is not based on a comprehensive study or scanning of pests that occur outside of Brazil and that would be the most important. Its historical constitution has been built based on PRA studies to authorize the importation of plant products. When a PRA is carried out for a given product and origin, eventually, some new pest of unregulated risk is identified, which then becomes part of the list of quarantine pests. This explains why a pest, which can be considered important, is not on the list, which does not in itself diminish its importance and does not exclude it from the possibility of official actions in case of interception or entry into the country.

When a pest is intercepted, either by the MAPA surveillance system at entry points (ports, airports) or by accredited quarantine stations, which are not included in the quarantine pest lists, a preliminary assessment of the potential quarantine of the pest is carried out and is either considered with potential or without potential quarantine. If it is considered to have quarantine potential, the same measures are adopted as for an already regulated pest. On the MAPA website, we published the list of pests with potential and without potential quarantine to support the decision-making of inspectors, due to the need for flexibility in customs clearance procedures. In the case of the entry into the country of a new pest, when notified to MAPA and similar to the case of interception, verifying that it is not included in the official lists, an assessment of the pest is carried out to determine whether it requires phytosanitary defense actions to eradicate or contain the pest.

Estimates indicate that insects constitute about 60% of all known species. From the current list of AQP, according to SDA/MAPA Ordinance No.



## Entomology in Focus (cont.)

617 of July 12, 2022, which contains 776 taxa, 326 are insects, representing 42% of regulated taxa. These are distributed as follows: 132 Coleoptera, 98 Lepidoptera, 65 Hemiptera, 14 Thysanoptera, 11 Hymenoptera, 3 Orthoptera, 2 Psocodea, and 1 Blattodea.

In the regulation of international trade, some groups stand out, including fruit flies, which represent an obstacle to the opening of new markets. Brazil, despite being a large fruit producer, still has a lot of ground to conquer in the fresh fruit exports; however, the presence of several species of fruit flies has hampered this conquest. To cite one example, in 2019, Brazil, after years of negotiation, finally succeeded in opening the Chinese market for the first Brazilian fruit authorized to export to China, the melon. The obstacle was the Mediterranean fly, *Cenatitia capitata*, an exotic species introduced long ago in the country. There is no technical justification for the regulation of *C. capitata* in melon

fruits, since the melon is not a host, and there was an epic battle between our technical team and the Chinese team. This highlights the multiple complexities involved when addressing the regulation of international trade, especially phytosanitary aspects.

We can also highlight the case of another species of fruit fly that is on the Brazilian phytosanitary agenda: the carambola fly, *Bactrocera carambolae*. It was first detected in the country in 1996, in the city of Oiapoque, in the far north of the country. Soon it was the object of official control aiming at its eradication. Although it has been one of the main programs of Brazilian phytosanitary defense, it has been gradually expanding its distribution in the Northern region. It is currently present in the states of Amapá, Pará, and Roraima. It will be a great achievement for Brazil to stop the spread of the pest to fruit production regions, such as the Vale do São Francisco. Even today, with its distri-

bution restricted to the Northern region, it has a major impact in keeping new markets closed for Brazilian fruits, and it is necessary to convince countries, based on phytosanitary surveys carried out throughout Brazil, that the carambola fly is not present in the regions of export production. If it reaches these producing regions, Brazil's fruit exports could collapse.

To conclude our journey, we can affirm that the introduction of new pests is a global reality, whose tendency is to intensify in the same proportion as the increase in international trade and the movement of people. The strengthening of phytosanitary defense becomes fundamental for the protection of the country's agriculture and should be a priority for an agricultural country like Brazil.

**Tiago Rodrigo Lohmann**

Federal Agricultural Inspector

Head of Plant Quarantine Division, MAPA

## Nomenclator entomologicus

**121.** *Anastrepha dissimilis* Stone, 1942 was described based on three specimens collected in Haiti (holotype), Brazil and Guyana (paratypes). This species has been identified in recent decades in Brazil, based mainly on the figure of the aculeus tip presented in the original description. However, in the original description, the aculeus tip of the paratype collected in Brazil and not of the holotype was illustrated, which differs morphologically. This detail was recently noted. The specimens collected in several Brazilian states present the aculeus tip similar to that of the paratype. In addition, an integrative approach (linear morphometry, geometric, and molecular analysis)

revealed that the specimens identified in Brazil as *A. dissimilis* correspond to *Anastrepha chichlayae* Greene, 1934. No specimen collected in Brazil has the characteristics of the aculeus tip of the holotype. Therefore, *A. dissimilis* probably does not occur in Brazil, considering the numerous surveys of fruit flies carried out in Brazilian states in recent decades.

**References:** Araújo AS, Zucchi RA, Norrbom AL, Nardini F, Corrêa AS, Alvarenga, CD, Souza-Filho, MF, Nava D, Savaris M (2023) Integrative approach reveals the identity of Brazilian specimens previously recognized as *Anastrepha dissimilis* Stone, 1942 (Diptera: Tephritidae).

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**A.S. Araújo, M. Savaris & R.A. Zucchi**  
ESALQ/USP

## Royal Jelly

The lyrics below are one of the songs played by the group “Demons of Garoa”, which has been active for 80 years. It was written by Adoniran Barbosa, who joined the band in 1949 and wrote and sang, with the group, several Brazilian classic sambas, including “O Samba do Arnesto”, “Saudosa Maloca”, “Tracema”, “Trem das Onze”, and “Tiro ao Álvaro”. “As Mariposa”, written in the typical colloquial style that Adoniran Barbosa used in his work, refers to a behavior common to several moths – positive phototropism, i.e., the attraction of insects to light.

### As mariposa

As mariposa quando chega o frio  
Fica dando vorta em vorta da lâmpada pra si isquentá  
Elas roda, roda, roda e depois se senta  
Em cima do prato da lâmpada pra descansá  
Eu sou a lâmpada

E as muié é as mariposa  
Que fica dando vorta em vorta de mim  
Todas noite só pra me beijá

As mariposa quando chega o frio  
Fica dando vorta em vorta da lâmpada pra si isquentá  
Elas roda, roda, roda e depois se senta  
Em cima do prato da lâmpada pra descansá

Tã muito bom...  
Mas num vai si acostumá, viu  
Dona mariposinha?

About the author: **Adoniran Barbosa** (1912–1982), born João Rubinato in Valinhos, state of São Paulo, was the most prominent samba musician from São Paulo and one of the main names in Brazilian samba. His lyrics are marked by the colloquial and humorous language that referred to the simple daily



life of the people of São Paulo, especially São Paulo in popular neighborhoods, between the 1930s to 1970s. He began his successful career singing on São Paulo radio amateur programs in the 1930s, but he achieved national success after composing the group “Demons of Garoa”. The band is the longest-lived in Brazilian music and has had several formations since its inception. His songs are eternalized in the national songbook as some of the best-known songs in Brazil.



## Comic Strip

**Artist: Giulianne Simizu Calizotti**

Biologist and illustrator - External Collaborator at the Universidade Estadual de Londrina, Center for Biological Sciences



## EntomoArt!

**Artist: João Vitor de Oliveira**

Master's degree from the Graduate Program in Biological Sciences - UEL



## Your Picture

*Zammaria* sp. (Hemiptera: Cicadidae)

**Autor: João Paulo Bozina Pine**

Biologist, master's degree from the Graduate Program in Coastal and Oceanic Systems –UFPR



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Entomological Society of Brazil

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