

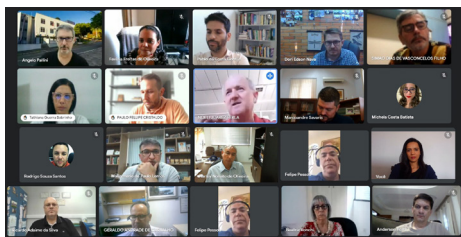


Activities of the Board

Regional Branches

We have recently made a change in the structure of SEB's regional representation, changing from regional representatives to regional branches. We invited professionals to represent each region of the country; and from among them, two leaders were selected to coordinate the activities of each region. This change aims to strengthen SEB's presence throughout the country and promote entomology more broadly.

Two meetings have already been held with the entire group, and we are happy to report that they were extremely productive. During these meetings, we discussed the objectives and strategies of the regional branches, which include promoting entomology to Brazilian society; representing each region of Brazil, valuing regional differences and providing a true "entomological accent"; increasing the number of members; creating and strengthening activities/events with local and regional interests through representation of SEB; and creating professional regional networks. We are excited about the potential of the regional branches and believe they will be an important way to increase entomology in Brazil. We thank each member for their support and commitment. We count on the participation and support of all our members for the success of the regional branches and to strengthen and disseminate entomology throughout Brazil.



SEB Board of Directors



Siconbiol

17^o Simpósio de Controle Biológico
2^o Simpósio Latino-Americano de Controle Biológico

Siconbiol 2023 is a public success!

After two years of delay due to the pandemic, the 17th Biological Control Symposium and the 2nd Latin American Symposium on Biological Control will finally be held in Juazeiro (BA) – Petrolina (PE). The event is already a success, with more than 700 registered participants! A total of 472 papers have been accepted for the event, which will be presented in poster or oral format. Undergraduate and graduate students could also submit their work to participate in the Student Competition, which, with the support of Koppert Bra-

sil, will award several prizes to the first-place winners. Siconbiol 2023 will also have the largest biological control fair of any Siconbiol, with the participation of 23 companies in the sector exhibiting their latest technologies. On July 26 (Wednesday), we will have our opening reception – Sunset Siconbiol – at a beer garden by the São Francisco River. Tickets are limited and are already on sale at the event's website. The Organizing Committee looks forward to seeing everyone for this great meeting about biological control; see you soon!



XXIX Brazilian Congress of Entomology and the XIII Latin American Congress of Entomology

The XXIX Brazilian Congress of Entomology and the XIII Latin American Congress of Entomology will be held in Uberlândia, MG, from September 22 to 26, 2024. Uberlândia is the second-largest municipality in Minas Gerais and the largest city in the Triângulo Mineiro region. The city is known for being an industrial, agricultural, and technological pole, as well as an important educational and knowledge center hosting many technical and scientific events. The city also has a modern hotel network, regional and diverse cuisine, and good tourism options, especially ecotourism. The XXIX CBE and the XIII CLE will be held at the Center Convention, located in the central region of the city. This modern convention center and international reference is part of a business complex that also includes a Shopping Center, Mercure Uberlândia Plaza Shopping Hotel, Uberlândia Business Tower, and Office Center. Besides the activities at the Complex, we also have an alternative program, which will take place in different bars and restaurants of the city, where the congress participants will be able to discuss the main themes of entomology while enjoying great food from Minas Gerais and the delicious craft beers produced in the city. We look forward to seeing you in 2024!



Source: <https://centerconvention.com.br/> and <http://www.visiteuberlandia.com.br/portalsobre-uberlandia/>



ENTOMOLOGICAL Communications

Entomological Communications

Dear readers,

We continue 2023 with good news. The journal has recently been indexed in two more databases: Scilit and AGRIS. So far, it is indexed in 11 indexing databases (DOAJ, Google Scholar, PKP Index, BASE, ROAD, SciJoIn, Copernicus, MIAR, Dimensions, Scilit e AGRIS). We are still finalizing the application processes to Latindex and CABI, and we hope to submit it to these databases as soon as the documentation is ready. As for the editorial flow, the journal's norms were updated in May. Eight articles have already been published, and twelve more are in line for publication. We hope to catch up with the publication schedule by the end of July or early August at the latest. This initial delay was due to recent changes in our standards to align with the open science movement. A *Funding Information* section will be added in all articles published in 2023 and after. This action provides more transparency to the information published in our journal and aligns with the open science movement. 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.entomological-communications.org/>).

Daniell Rodrigo Rodrigues Fernandes & Rafael Major Pitta

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

Neotropical Entomology

Neotropical Entomology

The new impact factor ranking of journals is now available. The impact factor of Neotropical Entomology rose once again, from 1.6 in 2021 to 1.8 in 2022, as proof of its growing influence and recognition in the academic community.

Congratulations to Neotropical Entomology for its continued improvement and success in the fields of entomology and acarology! In 2022, it reached the same impact factor as *Entomologia Experimentalis et Applicata* and surpassed other highly regarded journals, including the *Journal of Insect Behavior*, *Journal of Applied Entomology*, *Florida Entomologist*, *Environmental*



Entomology, and Applied Entomology and Zoology. Impressively, the number of papers submitted to Neotropical Entomology has steadily increased while maintaining a relatively stable acceptance rate. This indicates that the journal has successfully attracted high-quality research from authors around the world. The commitment of the journal to improving the quality of articles is evident in its rigorous peer review process, which ensures that only the most valuable and impactful research is published. The initiative to introduce diverse sections, such as Collections and Special Issues with different focuses, demonstrates the dedication of the journal to covering a wide range of topics in the field of entomology and acarology. This approach not only promotes knowledge dissemination but also encourages collaboration and exploration of various subfields. Our success would not be possible without the outstanding work of each Editorial Board member and the reviewers who have contributed to NENT. Many thanks to them and to the authors who have made it a priority to publish their articles in our journal.

We take this opportunity to announce the latest collection of articles about pollinating insects. The collections combine in one place the most accessed and cited articles already published on the topic, while stimulating the publication of new original articles and reviews on thought-provoking and current topics. We invited the specialists Juliana Hipólito, Carmen Pires, Márcia Maués, and Vera Imperatriz-Fonseca to be the organizers and guest editors of this collection. A wide range of topics will be covered, related to the biology, ecology, behavior, conservation, and management of these organisms vital for the reproduction of many plant species, including cultivated plants. Enter the site to see the topics: <https://www.springer.com/journal/13744/updates/25520360>.

Also note that the journal still has an open call for articles to compose the collection on *Drosophyla suzukii*. Potential ecological interactions and challenges for the management of Spotted-Wing *Drosophila* in recently invaded regions. <https://www.springer.com/journal/13744/updates/23413112>

Drosophyla suzukii is native to Asia and has become an important pest of small fruit crops, including raspberries, mulberries, blueberries, strawberries, and cherries. Currently, the species is present in South America, the United States, Europe, Africa, and Oceania. The central theme of this collection is the possible ecological interactions involving *D. suzukii* with new hosts in recently invaded areas, such as the Neotropics, Africa, and Oceania. Such interactions influence the potential adaptation and invasiveness of the species in new habitats and are crucial for designing control or coexistence strategies. In addition, research is welcome that focuses on biologically active control agents (predators, parasitoids, or diseases) that can help reduce the damage caused by this pest insect in invaded regions. We are grateful to the Editors Eugênio Eduardo Oliveira (UFV) and Flávio Roberto Mello Garcia (UFPEL), who idealized, created the content, and invited authors to contribute with review articles.

Finally, we proudly announce that from July 23 to 27, we will participate in Siconbiol 2023 in Juazeiro/Petrolina. Visit the SEB booth to meet and talk with our editors. Bring your proposals, ideas, criticisms, and suggestions. We are waiting for you!

Eliana Fontes and Raul Laumann
Editors-in-Chief

Khalid Haddi
Editor of the Forum

Entomology in the Press

The invasive ants – a problem for ecosystems and the global economy

Invasive ants pose a much greater threat than most people realize. With more than 500 species found in regions where they should not be, these exotic ants have caused serious damage to various ecosystems worldwide. One notable example is the tropical fire ant, native to South America, which has been found in Oceania. This species is known for its aggressiveness, venom, and causing significant damage to agriculture.

Science warns us not to underestimate the threat posed by invasive ants. They are transported by cargo and goods, spreading rapidly to new areas. Argentine fire ants, for example, have built a supercolony that stretches from Portugal to Italy. On small islands like Yap in Micronesia, this species has forced farmers to abandon their fields. On Christmas Island, Australia, yellow ants are in conflict with the famous crabs of the region.

Since 2017, it is estimated that invasive ants have spread to other territories, causing significant damage to ecosystems, disrupting ecological relationships, and suppressing other species. According to studies, between 1930 and 2021, ants caused an estimated \$51 billion in damage.

Research by Wong and colleagues (The global spread and invasion capacities of alien ants) published this February in *Current Biology* analyzed 146,000 global observations of ants over the past 200 years. The resulting map revealed that ants can establish colonies almost anywhere on the planet, depending on the species. About 60% of the exotic ants have “naturalized” and live outdoors, while the rest have been found inside homes or on goods intercepted at borders.

Most invasive ants come from tropical regions of Central America, northern South America, and the islands of Southeast Asia, areas with high ant density and diversity. Although the research of Wong and collaborators revealed where these species originate from and where they are spreading, how they got there is often unknown.

Global warming may worsen the situation by favoring the establishment and expansion of tropical and subtropical ant species. In addition, it is crucial to improve the detection of invasive ants at borders and implement more effective control measures. Countries like New Zealand and Australia have already imposed strict controls on plants and soil to prevent the entry of these invasive species.

The case of exotic ants is just another complex example of bioinvasion, which requires multidisciplinary actions to address effectively. If measures are not taken in time and based on scientific knowledge, the damage caused by these invasive ants will be even greater. Promoting awareness, investing in research, and implementing prevention and control strategies are essential to mitigate the negative impacts of these invasive species on our ecosystems.

Sources: WONG, Mark KL; ECONOMO, Evan P; GUÉNARD, Benoit. *The global spread and invasion capacities of alien ants*. *Current Biology*, 2023. <https://doi.org/10.1016/j.cub.2022.12.020>

Formigas invasoras: Formigas invasoras: uma ameaça maior do que pensávamos. *National Geographic – available in Portuguese at: <https://www.nationalgeographicbrasil.com/animais/2023/01/formigas-invasoras-uma-ameaca-maior-do-que-pensavamos>* Accessed: 19 June 2023

Publicize Your Page

Extension Project: “Meu Amigo Inseto”



“My Insect Friend”

“Meu Amigo Inseto” (“My Friend Insect”) is an extension project from the Universidade Federal de Goiás (UFG) that aims to share with children the broad

relevance of insects to ecosystems, enabling them to come into direct contact with insects and ask questions about this group of animals. The project is coordinated by Professor Jaqueline Magalhães Pereira, from Agronomy School at UFG, with the collaboration of professors, technicians, and undergraduate and graduate students from this and other academic units of the institution. Operating since 2019, the project has enabled greater interaction between society and the academic community in various courses, such as Agronomy, Biological Sciences, and Forest Engineering.

The project’s activities are organized in a dynamic way, using *in vivo* materials and entomological collections to establish a dialogue with the public participating in the activities. Generally, the actions are divided in two. First, the children watch a didactic presentation with images and videos, which highlight the main characteristics and ecosystem services of insects. Then, they have the opportunity to interact with and observe the behavior of different species, including, for example, Madagascar cockroaches, stick bugs, *Oiketicus kirbyi*, mealworms,

crickets, and leaf-cutter ants. The possibility of this tactile activity, accompanied by the presentation of various ecological and biological aspects related to each of these insects, has demonstrated a change in society’s view of them. According to the reports we have received, the children who participate in the actions have increased their interest and curiosity in the group, and they share the information they received with their families and friends. Initially, the project targeted only children, but the activities are now conducted for all age groups.

During the COVID-19 pandemic, the face-to-face activities were paused, and the team dedicated itself mainly to publishing authored images and videos to interact with society. Such productions can be found on the project’s Instagram page @myfriendinsect. This digital activity allowed us to observe that social networks can be a powerful tool for scientific dissemination since the content produced in this communication interface has a relevant interaction with the non-academic public, thus allowing the popularization of systematized entomological knowledge.

After almost four years of activities, we can see that the project has helped to reduce the prejudice of society against these insects as pests or unpleasant animals. If you liked our project, check out our page @myfriendinsect and see the activities that we have already done.

Karoliny Zarreta Santos Freire (master’s student in Agronomy – UFG)

Hector Antônio Assunção Romão (Undergraduate in Biological Sciences – UFG)



Royal Jelly

The term “*Elegia*” (Elegy) in the title of the poem below refers to a type of Greek poetry in which the author may complain, moralize, praise, or exhort, triggering combative or patriotic feelings. It could also talk about sorrow, death, or even festive themes, but it always had a moralizing tone, presenting rules about life. In the poem “*Elegia a uma pequena borboleta*” (Elegy to a little butterfly), with some excerpts below, Cecília Meireles talks about life from the butterfly element, actually the pupa phase of this butterfly (“*casulo*” - cocoon). The butterfly is a fragile element that the author uses to portray the fleetingness of life. In a melancholy tone, the poet describes how she took the butterfly’s cocoon and how it became her tomb, having killed her between her fingers, and she cries for the insect. The crying is also for human errors, represented in the verses by the inability to save the butterfly. Although the insect does not live, in the poet’s lament, the butterfly maintains its existence beyond life.

Elegia a uma pequena borboleta

Como chegavas do casulo,
— inacabada seda viva —
tuas antenas — fios soltos
da trama de que eras tecida,
e teus olhos, dois grãos da noite
de onde o teu mistério surgia,

como caíste sobre o mundo
inábil, na manhã tão clara,
sem mãe, sem guia, sem conselho,
e rolavas por uma escada
como papel, penugem, poeira,
com mais sonho e silêncio que asas,

minha mão tosca te agarrou
com uma dura, inocente culpa,
e é cinza de lua teu corpo,
meus dedos, sua sepultura.
Já desfeita e ainda palpitante,
expiras sem noção nenhuma. (...)

Choro esta humana insuficiência:
— a confusão dos nossos olhos
— o selvagem peso do gesto,
— cegueira — ignorância — remotos
instintos súbitos — violências
que o sonho e a graça prostram mortos (...)

E as lágrimas que por ti choro
fossem o orvalho desses campos,
— os espelhos que refletissem
— vóo e silêncio — os teus encantos,
com a ternura humilde e o remorso
dos meus desacertos humanos!

(Cecília Meireles, in: “Obra poética”, 1967)



About the author: **Cecília Benevides de Carvalho Meireles** (1901-1964) was a writer from Rio de Janeiro who is conventionally placed in the second modernist generation (1930-1945), a reconstruction of the modernism

started in the modern art week of 1922, in São Paulo. Cecília Meireles usually writes with a melancholic tone, escape from reality, sensory elements, and with the themes of love, loneliness, longing, religion, mysticism, and death, as is the case in the poem above. She was the first major Brazilian writer and is widely considered the greatest Brazilian poet of all time. She was awarded the Machado de Assis Prize in 1985.

Entomology in Focus

The dynamics of venomous animal accidents in Brazil: the time and the turn of arthropods.

Brazil is one of the countries with the most solid tradition of producing scientific knowledge about venomous animals, their venoms, the accidents they cause, and all the other knowledge fields that are related to these diseases. The construction of this knowledge began in the first decades of the twentieth century, based on the pioneering work of figures such as Vital Brazil Mineiro da Campanha, who is the physician and researcher considered a champion of studies on animal poisoning. This rich scientific heritage is combined with another positive differential of our country: the construction of public policies aimed at the prevention and free treatment of those injured by these animals, a strategic need for public health. The complex social determinants of health involved in these accidents are prevalent throughout Brazil, resulting in dynamic and constantly changing epidemiological tables.

Our biodiversity includes countless animals capable of poisoning humans, although most only cause clinical conditions that are not dangerous. However, Brazilian fauna includes species that combine three characteristics that make them etiological agents of great medical importance: the level of their ability to disperse and proliferate in areas disturbed by man (the synanthropy); the effectiveness of their biomechanical apparatus for the injection of venom, which results in a greater or lesser ability to deliver bites; and the mode of action and specific toxicity of their toxins on the human body, which directly influences the pathophysiological characteristics of the poisonings and their danger to human life. Considering all these factors and the sanitary reality of rural Brazil in the first half of the last century, the first group of poisonous animals that deserved systematic attention were snakes, which became the “gold standard” for studies and actions focused on poisoning by animals. However, a dynamic interdependent on the changes in the spatial distribution of the population was characterized by strong migration flows from the countryside to the cities. This changed the demographic and economic profile, leading to a dramatic change in the epidemiology of accidents with venomous animals. The phenomenon can be illustrated by some of the data available from the National Disease Notification System (SINAN – Sistema de Agravos de Notificação), one of the main tools the DATASUS uses to monitor these conditions. Considering the total number of reported accidents by state between 2007 and 2022, the ophidian accidents ranged from 26,559 to 27,515, with slight annual fluctuations indicating some stability. On the other hand, the cases of poisoning caused by the three main groups of poisonous arthropods of medical interest in Brazil present significantly different dynamics, both in the growth of the number of accidents and in the expansion of their spatial dispersion. Today, scorpions, especially the dangerous species of the genus *Tityus* C. L. Koch, 1836, are the agents that cause the most accidents, with an evolution from 37,370 in 2007 to 170,323 in 2022 – an increase of approximately 460 %. However, this “takeover” was not restricted only to scorpions. Spider bites, especially cases involving spiders of the genera *Loxosceles* Heineken & Lowe, 1832, *Phoneutria* Perty, 1833, and *Latrodectus* Walckenaer, 1805 jumped from 22,776 to 30,505 in the

same period, surpassing snakes and giving spiders the current title of “runner-up” in this race. Insects, the third group of interest in this context, are represented by two very important agents. One of them is bees, with special emphasis on *Apis mellifera* L. These insects, in the last two decades, have caused a consistent growth in the number of cases of poisoning and deaths by multiple stings, one of the main negative results of the well-known episode of the attempt of their genetic improvement by crossing animals from European origin and others brought from Africa. In the time frame we selected for our comparisons, reported bee accidents ranged from 5,370 to 23,060. Strikingly, the numerical gap between bee stings and reported cases of snake bites is consistently decreasing. In 2007, this difference was 21,229 cases; in 2022, it dropped to only 4,455 in favor of snakes. If this trend continues, in a few years, bees will occupy third place in our worrying national podium of accidents caused by poisonous animals. Another group of insects that cannot be left out of this discussion are moths, among them the species of the genus *Lonomia* Walker, 1855. Although the absolute number of accidents is still modest when compared to other venomous animals, the potent hemorrhagic action of the venom of the caterpillars in this group and their increasingly frequent presence in urban and peri-urban areas in different regions of the country, due to the increasing use of attractive plants in cultivation projects for consumption or landscaping. This should be a warning sign for surveillance services and indicates the need to organize the local flow of attention to these poisonings, which often require specific serotherapy and intensive treatment. A major model to explain this marked epidemiological change indicates that the changes in the modes of land use and occupation of spaces by human populations have resulted in their rapid and disorderly urbanization. This process favors venomous agents whose biology gives them greater opportunism and synanthropic competence for better use of the new microenvironments created by human action. Considering this premise valid, venomous arthropods have a greater advantage than snakes in occupying niches that favor more frequent contact with humans, resulting in the observed increase in accidents. This model is very similar to the one observed in the domiciliation of other agents of health interest, such as mosquito vectors of arboviruses.

This new reality poses challenges. Reform and improvement of the surveillance, prevention, and control policies for these accidents are urgently needed, which still retain the conceptions inherited from the actions designed to deal with snakes. This task is not trivial since it ranges from basic operational issues to the pacification of the best procedures with areas of overlapping legislation, as in the case of bees, which are “noxious venomous arthropods” but also important pollinating agents. This new epidemiological context also greatly increases the role and important contribution that entomologists can bring to interdisciplinary discussions about the many dimensions involved in accidents caused by venomous arthropods to improve approaches to these diseases that can impact the current trend of uncontrolled increase.

Claudio Maurício Vieira de Souza
Biologist, Msc, PhD.
Instituto Vital Brazil



EntomoArt!

Artist: Jonathan Sprada
@jonathansprada



Your Picture

Atta sp. Operária média
Brazil, Paraná, Cornélio Procopio
Photographer: Vinicius Martins Novaes – Doctoral Student in Biological Sciences – UEL



Comic Strip

Artist: Giulianne Simizu Calizotti
Biologist and illustrator – External Collaborator at the Universidade Estadual de Londrina, Center for Biological Sciences



Nomenclator entomologicus

119. The red-necked peanutworm, an important pest of the peanut crop, was described by Chambers in 1875 as *Oecophora bosqueella*. However, as early as 1878, the same author referred to the species using the specific name *bosqueella*. Although this was not a correction of the original name, both nomenclatures were eventually used. Hodges (1963) noted the variation of names of this species in the literature and reported that the correct name

should be the former. Despite this, more references use the incorrect name than the correct one (Pinto et al., 2020). Thus, its correct name is *Stegasta bosqueella* (Chambers, 1875).

References: Chambers VT (1875) *Tineina* from Texas. *Can Entomol* 7: 92–95.

Chambers VT (1878) Descriptions of new *Tineina* from Texas, and others from more northern localities. *Bull US Geol Geogr Surv Territ* 4: 79–106

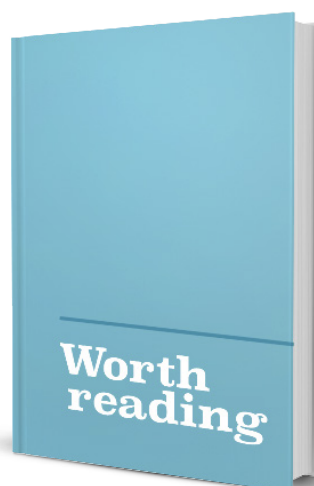
Hodges RW (1963) Agricultural research service – pest control division. Cooperative Economic Insect Report 13: 1–47.

Pinto JRL, Boiça Jr. AL, Fernandes OA (2020) Biology, Ecology, and Management of Rednecked Peanutworm (Lepidoptera: Gelechiidae). *J Integr Pest Manag* 11(1): 9. <https://doi.org/10.1093/jipm/pmaa007>

José Ricardo de Lima Pinto & Odair Aparecido Fernandes (UNESP/FCAV)

Entomology Events

- XVII Biological Control Symposium (Siconbiol)/II Latin American Symposium on Biological Control – June 23–27, 2023, Juazeiro, BA & Petrolina, PE, Brazil.
- VII International Symposium of Entomology – September 17 to 22, 2023, Viçosa, MG, Brazil.
- I Meeting on venomous animals from the north of Paraná – September 20 to 22, 2023 – Londrina State University, Paraná, Brazil.
- III Entomology Congress of Piauí – November 20 to 23, 2023, Floriano, PI, Brazil.
- XXVII International Congress of Entomology – August 25 to 30, 2024, Kyoto, Japan.
- XXIX Brazilian Congress of Entomology and XIII Latin American Congress of Entomology – September 22 to 26, 2024, Uberlândia, MG, Brazil.



Bruner-Montero, G., Jiggins, F.M. *Wolbachia* protects *Drosophila melanogaster* against two naturally occurring and virulent viral pathogens. *Sci Rep* 13, 8518 (2023).

Vargas, G., Rivera-Pedroza, L.F., García, L.F. et al. Conservation Biological Control as an Important Tool in the Neotropical Region. *Neotrop Entomol* 52, 134–151 (2023). <https://doi.org/10.1007/s13744-022-01005-1>

Wang, P., Cheng, G. Mosquito-borne pathogens hijack human body odors to promote transmission. *Sci. China Life Sci.* 66, 180–182 (2023). <https://doi.org/10.1007/s11427-022-2231-7>

Colazza, S., Peri, E., & Cusumano, A. (2023). Chemical Ecology of Floral Resources in Conservation Biological Control. <https://doi.org/10.1146/annurev-ento-120220-124357>





SEB MEMBERSHIP 2023

Professional

Online Journal
R\$ 150,00

Student

Online Journal
R\$ 75,00

Foreigners

Online Journal
US\$ 75,00

To join or renew SEB membership, visit www.seg.org.br or contact us by mail secretaria@seb.org.br

Entomological Society of Brazil

NEWSLETTER



Editors

Élison Fabrício Bezerra Lima

UFPI - Universidade Federal do Piauí
elisonfabricio@hotmail.com

João Antonio Cyrino Zequi

UEL - Universidade Estadual de Londrina
joaozequi@gmail.com

Jaqueline Magalhães Pereira

UFG - Universidade Federal de Goiás
jaquelinemagalhaesufg@gmail.com

Av. Peter Henry Rolfs, s/n,
Campus Universitário, Viçosa - MG.
CEP: 36570-900

www.seb.org.br

Entomological Society of Brazil - Board of Directors 2022 - 2024

PRESIDENT

Angelo Pallini

Universidade Federal de Viçosa

VICE PRESIDENT

Solange Cristina Augusto

Universidade Federal de Uberlândia

SECRETARY

José Wagner da Silva Melo

Universidade Federal de Pernambuco

DIRECTOR OF FINANCE

Frederico Falcão Salles

Universidade Federal de Viçosa

YOUNG SEB

Douglas da Silva Ferreira

Universidade Federal de Viçosa

COUNSELORS

Adalécio Kovaleski

Embrapa Uva e Vinho

Antônio Ricardo Panizzi

Embrapa Trigo

Eliane D. Quintela

Embrapa Arroz e Feijão

Evaldo F. Vilela

Conselho Nacional de Desenvolvimento Científico e Tecnológico

Jocélia Grazia

Universidade Federal do Rio Grande do Sul

José Roberto P. Parra

Universidade de São Paulo, Escola Superior de Agricultura "Luiz de Queiroz"

Pedro M. O. J. Neves

Universidade Estadual de Londrina

Roberto A. Zucchi

Universidade de São Paulo, Escola Superior de Agricultura "Luiz de Queiroz"

INTERNATIONAL DELEGATE

Vanda H. Paes Bueno

Universidade Federal de Lavras

NEOTROPICAL ENTOMOLOGY

Eliana M. G. Fontes

Embrapa Cenargen

ENTOMOLOGICAL COMMUNICATIONS

Daniell R. R. Fernandes

Instituto Nacional de Pesquisas da Amazônia

Rafael M. Pitta

Embrapa Agrossilvipastoril

BIOASSAY

Élio César Guzzo

Embrapa Tabuleiros Costeiros



Entomological Society of Brazil
INFORMATIVE