NORMAS DE SUBMISSÃO DO VII SIMPÓSIO INTERNACIONAL DE ENTOMOLOGIA

Universidade Federal de Viçosa
Viçosa, Minas Gerais
Brasil

ABSTRACT SUBMISSION GUIDELINES

The Organizing Committee of the VII International Symposium of Entomology, an event organized by the students of the Graduate Program in Entomology at the Federal University of Viçosa, is pleased to announce the abstract submission guidelines.

In this file you will find all the necessary guidelines for abstract submission. Please **read carefully**. In case of doubt, please contact the Scientific Committee by e-mail: simposioentomologia@ufv.br.

March 17th, 2023. Viçosa, Minas Gerais, Brazil.

ORGANIZING COMMITTEE

SUMMARY

I.   GENERAL INSTRUCTIONS

1. To submit the abstract at least one of the authors **must be registered** in the symposium. The authors who have registered in the symposium can submit the work. If you have not registered, click here to register;
2. Submission of **two abstracts per registration** will be allowed;
3. The submitted abstracts must be in the **Simple Abstract** category, following the instructions described in item IV;
4. The abstracts can be submitted in Portuguese, English, or Spanish, with a **maximum of eight authors per abstract**;
5. The abstract must be submitted using the electronic "Abstract Submission Form" (click here to access) available on the 7th International Symposium of Entomology website and in the Participant's Section between **March 20th and July 21st, 2023**.
6. The abstract must also be attached as PDF in the form according to the model provided by the Scientific Committee, which holds the right to **REJECT** abstracts that do not comply with the guidelines described herein;
7. The abstracts may be presented in the form of a **poster** or **oral presentation**. The author must select the mode of presentation at the submission registration;
8. It is responsibility of the participant to indicate the thematic area of their work. Click here to see all the thematic areas of the VII International Symposium of Entomology;
9. It will be accepted abstracts approved by the Scientific Committee and external consultants The evaluation of the abstracts will be carried out by a peer-review process.
10. **Sixteen oral presentations will be shortlisted** (this number can be modified by the Organizing Committee) **for oral presentations** and the respective authors will be communicated via e-mail;
11. The best oral and poster presentations will be awarded at the end of the event. See more information about the awards in item VII;
12. The details of the complete list of the **approved abstracts, time and venue of**

the display will be published on the symposium website, under the **'Participant's Section'**. All the participants are requested to check this information after the process of submission and evaluation of the abstracts is completed.

13. All abstracts accepted by the Scientific Committee will be published online in the **"Proceedings of the 7th International Symposium of Entomology"**, on the Federal University of Viçosa (UFV) journal platform. The authors, at the time of submission, assign the copyright of the referred texts to the International Symposium of Entomology.

II.   REJECTION CRITERIA

Abstracts will not be accepted under the following conditions:

1. Research project proposals;

2. Case studies or experience reports not adequately justified or without presenting results;

3. Abstract submitted after the deadline;

4. Abstract sent without the 'Abstract Submission Form' completely completed;

5. Abstract outside the specified standard;

6. Abstract with inadequate formatting;

7. Abstracts with missing or inadequate methodology and/or analysis;

8. Abstracts with insufficient results presentation;

9. Abstracts not related with the proposed thematic areas.

III.   THEMATIC AREAS

At the time of submission, authors will have to opt for one of the thematic areas below before forwarding the abstract:

1. Acarology;
2. Cell biology and biochemistry;
3. Biological control;
4. Scientific divulgation;
5. Ecology and biodiversity;
6. Education, culture and ethnoentomology;
7. Entrepreneurship on entomology;
8. Forest entomology;
9. Forensic entomology;
10. Medical and veterinary entomology;
11. Computing, mathematics and statitics on entomology;
12. Philosophy of science
13. Genetics;
14. Insects in human and animal food (Entomophagy);
15. Insect-plant interaction;
16. Integrated pest management (IPM);
17. Morphology and physiology;
18. Polinization;
19. Reproduction;
20. Semiochemicals and behavior;
21. Taxonomy e sistematics;
22. Toxicology.

IV.   GUIDELINES FOR PREPARING ABSTRACTS

1. **Title:** it must contain a maximum of 170 characters with spaces. The first letter of the title should be capitalized and the rest should be written in lowercase. Scientific names should be written in *italics*. The text should be centralized in Arial and 14pt **bold**.

2. **Authors:** each abstract may contain a maximum of 8 authors. The first (including compound names) and the last name should be written entirely. Middle names should be abbreviated. Example: Ana Beatriz A. Carvalho[1]; Felipe P. Cardoso[2]. The text should be centralized in Arial and 12pt.

3. **Affiliation:** must be informed just below the authors' names. The text should be in centralized Arial and 10pt i*talics*;

4. **Text:** must be written in a single paragraph, with a maximum of 2,000 characters with spaces. It should consist of – an introduction, objectives, materials & methods, results & conclusions without separating or identifying topics. On their first citation in the text, scientific names should be followed by order and family names. Genus and species names should be written in italics followed by author and year. Example: *Anacroneuria marlieri* Froehlich, 2001 (Plecoptera: Perlidae). References should not be included in the text. The text should be justified in Arial and 12pt;

5. **Keywords:** must be included four keywords that do not appear in the title. Must include four keywords that closely reflect the content of the paper/research work;

6. **Funding information:** funding institutions and sources that assisted in the execution of the work should be mentioned.

   Attention:
   a. The Scientific Committee recommends to the author(s) a strict grammatical correction, formatting, and presentation of the abstract since the content is the sole responsibility of the author(s).

   b. Click here to download the abstract model on these guidelines.

V.   POSTER PRESENTATION GUIDELINES

1. **Poster type:** the posters can be printed on paper or canvas;

2. **Poster exhibition:** the authors are advised to display the poster in the designated spot at least 3 hours prior to the set time as mentioned by the Scientific Committee. Each author must remain with their poster during the entire stipulated time so that it can be evaluated by the Evaluation Committee. The author should remove the poster after the presentation. The presenting author must be indicated at the submission registration and they should register for the event;

3. **Poster design:** the author must abide by the design and format provided by the Scientific Committee. Poster size: 120 cm high x 90 cm wide.;

4. **Time and venue:** the presentations will be carried out in the "Espaço Multiuso" space, located behind the Fernando Sabino building of the Federal University of Viçosa (MG). The timings will be announced by Scientific Committee on the website and the same will be communicated to all authors via e-mail.

   Attention:
   a. The Scientific Committee recommends to the authors a strict grammatical correction, formatting and presentation of the poster, as the content is the sole responsibility of the author(s).

   b. Click here to download the poster template.

VI.   ORAL PRESENTATION GUIDELINES

The selected author for oral presentation must send the presentation in PowerPoint format to e-mail: simposioentomologia@ufv.br, with the subject "Oral Presentation - Author - Title of the abstract" until September 13th, 2023. The author must also attend with 15 (fifteen) in advance of the scheduled time at the designated location for the oral presentation. A computer and projector will be provided to project the presentation. If the author does not attend at the designated location at the scheduled time, he will no longer be able to present.

1. **Oral presentation:** each presentation will be 10 minutes long and 5 minutes will be reserved for questions and discussion. The author must respect the stipulated time;

2. **Presentation:** the author must respect the design and format of the PowerPoint provided by the Scientific Committee;

3. **Awards:** the best oral presentations will be awarded at the end of the symposium;

4. **Time and Venue:** The specific location for oral presentations and time schedules will be announced by Scientific Committee and communicated to all authors via e-mail.

Attention:
   a. The Scientific Committee recommends to the authors a strict grammatical correction, formatting and presentation of the PowerPoint, as the content is the sole responsibility of the author.

   b. [Click here](#) to download the PowerPoint template.

VII. AWARDS FOR BEST POSTER AND ORAL PRESENTATIONS

The VII International Symposium on Entomology will award on September 22nd, 2023 the authors responsible for the best poster and oral presentations.

1. EVALUATION CRITERIA FOR THE ABSTRACT, POSTER AND ORAL PRESENTATIONS

Each evaluator will issue a score from 1 to 5 for each of the items listed below. The final grade of the work will be composed of the average of the grades of two evaluators (peer-review evaluation).

The author of the work that obtains the highest average score within each criterion will be awarded. If there is a tie, the Evaluation Committee will tie the tie based on the highest score of the criteria "Originality and innovation" and "Knowledge and mastery of the subject of the work", respectively, items "**a**" and "**b**".

Therefore, the evaluation criteria for the abstract, poster and oral presentations are:

a) Originality and innovation;

b) Knowledge and mastery of the subject of the work;

c) Consistency and logical sequence of content (introduction, materials and methods, results, discussion and conclusions);

d) Pertinence of the conclusions;

e) Visual quality: use of the template provided by the Symposium, text

formatting, quality of figures, graphs, tables, etc.

f) Ability to express yourself: objectivity and clarity of the presentation;

g) Motivation and involvement of the presenter;

h) Punctuality and respect for time limits.

2. PRIZES

The awards will be announced by the Organizing Committee through the Symposium media platforms.

VIII. ABSTRACT EXAMPLE WITH THE REQUIRED LAYOUT AND TEXT FORMAT

VI SIMPÓSIO INTERNACIONAL DE ENTOMOLOGIA

UFV Universidade Federal de Viçosa

PÓS-GRADUAÇÃO EM ENTOMOLOGIA

271 Automatic recognition of insect behavior with computer vision and artificial intelligence

Rodrigo C. Bernardes[1]; Maria Augusta P. Lima[2]; Raul Narciso C. Guedes[1]; Gustavo Ferreira Martins[3]

[1]Departamento de Entomologia, Universidade Federal de Viçosa, 36570-900, Viçosa-MG, Brasil.
E-mail: rodrigo.bernardes@ufv.br
[2]Departamento de Biologia animal, Universidade Federal de Viçosa, 36570-900 Viçosa-MG, Brasil.
[3]Departamento de Biologia Geral, Universidade Federal de Viçosa, 36570-900 Viçosa-MG, Brasil

Manual animal behavior analysis is a limited method and produces subjective results. The implementation of artificial intelligence and computer vision can be interesting tools for these types of evaluations. Deep learning is a recent artificial intelligence technique that has shown good results in different fields. In this work was used convolutional neural network - a deep learning technique - for automatic recognition of trophallaxis in workers of the stingless bee *Melipona quadrifasciata* (Hymenoptera, Apidae). Trophallaxis is a behavior of food exchange between individuals. The workers were recorded (video at 30 frame per second) in Petri dish to record this behavior. A heuristic based on the body size and body area of the workers was used for generate, automatically, the dataset of labeled images from video. The labeled images were resized to low resolution (124 x 124 pixels) to improve processing, and the dataset was divided into 75% for training and 25% for validation. The convolutional neural network was set with optimizer as stochastic gradient descent (learning rate at 0.0001 and momentum at 0.9) and the loss function was binary cross-entropy. For preventing overfitting was used data augmentation and K-fold cross-validation for decreasing variance in the validation scores. The model proposed here obtained good accuracy (global accuracy = 87%, Kappa coefficient = 0.91) in the classification of this behavior. In this study, a deep learning method was demonstrated that achieved good accuracy in recognizing complex behavior in a social insect. Therefore, it is an important tool for real-time animal behavior analyses in entomology and related areas.

Keywords: convolutional neural networks, data augmentation, deep learning.