

REPORT OF THE AZOREAN BIODIVERSITY GROUP GBA/CE3C

[2023]



CHANGE



Angra do Heroísmo e Ponta Delgada, 12 de Fevereiro de 2024

REPORT OF THE AZOREAN BIODIVERSITY GROUP GBA/CE3C [2023]

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SCIENTIFIC AREA: NATURAL SCIENCES

SCIENTIFIC SUB-AREA: BIOLOGICAL SCIENCES

HOME INSTITUTION: UNIVERSIDADE DOS AÇORES

FCT AFFILIATION: CENTER FOR ECOLOGY, EVOLUTION AND ENVIRONMENTAL CHANGES (CE3C/GBA)

[ANGRA DO HEROÍSMO & PONTA DELGADA, JANUARY 31, 2024]

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I-EXECUTIVE SUMMARY

In 2015 the Azorean Biodiversity Group (GBA-cE3c) was recognized by the University of the Azores as an independent 'Research and Development Centre', and in the same year the GBA-cE3c was recognized by the Azorean Government as a Research Unit. At a national level, the Azorean Biodiversity Group is a sub-group of the Centre for Ecology, Evolution and Environmental Changes (cE3c) since 2013, a R&D unit awarded with the Classification of EXCELLENT by the Foundation for Science and Technology (FCT) in December of 2014 and also in 2019.

The Centre for Ecology, Evolution and Environmental Changes' main objective is to perform research that addresses societal challenges in ecology, evolution and the environment, the three 'Es' in the centre's name. Aligned with this goal, the GBA/cE3c's mission is to produce, integrate, and communicate scientific knowledge about biodiversity in island systems, determining the effects of global changes, habitat fragmentation, and species on ecosystems, including exotic ones. Addressing societal challenges involves assessing these impacts at the environmental, agricultural, and health levels and devising strategies to minimize them by focusing on debunking beliefs and resistance among populations and promoting pro-environmental practices. The Azorean Biodiversity Group is organized in two main groups, the "Island Biodiversity, Biogeography & Conservation - IBBC" and the "Island Environmental Risks & Society - IERS", each fulfilling specific objectives in the development for sustainable life.

Twenty-nine projects ran in 2023, 18 supported by international funds, five by National funds and six by regional funds. These 29 projects (some of them finishing in 2023) brought about 333.148,00 Euros to the research group. In addition, we secured a total of 428.652,69 Euros with Ph.D., Post Doc, and other types of grants in 2023.

In 2023, the 20 integrated members GBA/cE3c put out 251 publications. Among these, 67 were published in international recognized journals indexed in the Scopus System. The average Impact Factor of those 67 papers was 3.68 (max = 11.40; *Trends in Genetics*). Notably, nearly half of these publications (31 out of 67; 46.3%) were classified in the first quartile of SCI publications, indicating high visibility and impact within the scientific community. Our 27 external collaborators contributed, among others, with an additional 19 SCI publications with affiliation to GBA/cE3c.

The interaction between researchers and other stakeholders is highly valued the GBA/cE3c, and almost all members of the group were involved in scientific outreach and science communication activities in 2023.

II-SUMÁRIO EXECUTIVO

Em 2015, o Grupo da Biodiversidade dos Açores (GBA/cE3c) foi reconhecido pela Universidade dos Açores como um Centro de Investigação e Desenvolvimento (UI&D) independente, e no mesmo ano o GBA/cE3c foi reconhecido pelo Governo Regional dos Açores como uma Unidade de Investigação. A nível nacional, 2015 marca ainda o início oficial da integração do Grupo da Biodiversidade dos Açores como um subgrupo regional do Centro de Ecologia, Evolução e Alterações Ambientais (cE3c) desde 2013, classificado em dois momentos de avaliação (2014 e 2019) como EXCELENTE pela Fundação para a Ciência e Tecnologia (FCT).

O principal objetivo do Centro de Ecologia, Evolução e Alterações Ambientais é realizar investigação que aborde os desafios sociais em ecologia, evolução e ambiente, os três 'Es' no nome do centro. Alinhado com este objectivo, o GBA/cE3c tem por missão produzir, integrar e comunicar conhecimento científico sobre a biodiversidade em sistemas insulares, determinando efeitos das alterações globais, da fragmentação dos habitats e das espécies nos ecossistemas, incluindo as exóticas. Dar resposta aos desafios societais implica avaliar esses impactos ao nível do ambiente, agricultura e saúde e conceber estratégias de os minimizar focadas na desconstrução de crenças e resistências das populações e na promoção de práticas pró-ambientais. O Grupo da Biodiversidade dos Açores está organizado em dois sub-grupos com objetivos específicos, o “Island Biodiversity, Biogeography and Conservation – IBBC” e o “Island Environmental Risks & Society – IERS”.

Vinte e nove projetos decorreram em 2023, sendo 18 apoiados por fundos internacionais, cinco por fundos nacionais e seis por fundos regionais. Estes 29 projectos (alguns deles terminados em 2023) renderam cerca de 333.148,00 Euros para o grupo de investigação durante o ano de 2023. Em 2023 garantimos ainda um total de 428.652,69 Euros em bolsas de doutoramento, pós-doutoramento e outros tipos de bolsas.

Durante o ano de 2023 foram publicados 251 trabalhos científicos pelos membros integrados do GBA/cE3c. Destes, 67 foram publicados em revistas internacionais reconhecidas e indexadas no Sistema Scopus. O Fator de Impacto médio dos 67 artigos foi de 3.68 (max = 11.40; *Trends in Genetics*). Quase metade das publicações SCI (31 em 67; 46.3%) foram classificadas no primeiro quartil SCI, indicando alta visibilidade e impacto dentro da comunidade científica. Os nossos 27 colaboradores externos contribuíram, entre outras, com mais 19 publicações SCI com afiliação ao GBA/cE3c.

A interação entre os investigadores do GBA/cE3c e outros parceiros é altamente valorizada, e quase todos os membros do grupo estiveram envolvidos em atividades de divulgação científica e comunicação científica em 2023.

III-ABBREVIATIONS

Ce3c – *Centre for Ecology, Evolution and Environmental Change*/Centro de Ecologia, Evolução e Alterações Ambientais

DRAM – Direção Regional de Políticas Marítimas

DRCT- Direção Regional da Ciência e Tecnologia

FCAA-DCA – Faculdade de Ciências Agrárias e do Ambiente – Dep. De Ciências Agrárias

FCAA-DCEA – Faculdade de Ciências Agrárias e do Ambiente – Dep. De Ciências e Engenharia do Ambiente

FCSH-DP – Faculdade de Ciências Sociais e Humanas – Dep. De Psicologia

FCT – Fundação para a Ciência e a Tecnologia

FCT-DB – Faculdade de Ciências e Tecnologia – Dep. De Biologia

FCT-DCFQE – Faculdade de Ciências e Tecnologia – Dep. De Ciências da Física, Química e Engenharia

FRCT- Fundo Regional da Ciência e Tecnologia

GBA – *Azorean Biodiversity Group* /Grupo da Biodiversidade dos Açores

IF – *Impact Factor*/Factor de Impacto (*Scopus System*)

LNEC – *National Laboratory of Civil Engineering*/Laboratório Nacional de Engenharia Civil

R&D unit – Research and Development Unit / Unidade de Investigação e Desenvolvimento

RCE – Regional Centre of Expertise on Education for Sustainable Development / Centro Regional de Excelência

SCI – Science Citation Index

UAç – *University of the Azores*/Universidade dos Açores

UN – United Nations/ Nações Unidas

1-RESEARCH GROUP DESCRIPTION AND ACHIEVEMENTS IN 2023

1.1-INTRODUCTION

The Azorean Biodiversity Group (GBA/Ce3c) is a key research institution in island biodiversity in the Azores since 2004. The 20 scientists that compose the GBA/cE3c have complementary expertise that allow them to address a number of recognized research issues in the inter-dependence of ecosystems and humans, improving scientific knowledge and contributing to social sustainability. The GBA/cE3c research focus the study of biodiversity patterns (taxonomic, functional, and phylogenetic diversity), and its changes under the impact of climatic changes, land use alterations, and species invasions, which is key for guidelines of management and conservation. Emphasis is also given to the implementation of communication strategies and instruments to be used in participated risk appraisal, characterization and evaluation processes intended to facilitate the governance of the risk of environmental hazards, climate change and to increase social efficacy in the regions' conservation of nature.

Over these last fifteen years (2008-2023), the GBA/cE3c researchers had a steady growth and stabilization in the number of funded projects, publications, and personnel, increasing from six integrated members in 2008 to the current twenty (20) in 2023. The GBA/cE3c also counts with twenty-seven (27) international and national external collaborators that have been collaborating in several projects and publications as Associated Research Fellows.

The Group employs an integrated approach that combined multi-spatial and temporal scales (scale has a profound effect on detecting ecological and evolutionary patterns) with multi-metric measures of biodiversity (taxonomic, functional, phylogenetic) and their inter-relationships. It holds unique standardized databases for arthropods (BALA, ISLANDBIODIV and EDEN), bryophytes (MOVECLIM) and vascular plants (ISLANDBIODIV and MOVECLIM).

Spreading its acquired knowledge both within the scientific community and the general public has always been important to the GBA/cE3c group. Namely, the GBA/cE3c's is responsible for the creation/maintenance of eleven web-based resources.

The research produced by the GBA/cE3c is crucial for wildlife conservation in Azorean natural terrestrial and marine habitats and the management of invasive species, some of which are useful for economic development. As an example, the Azorean government relied on GBA/cE3c for accurate information for the establishment of protected areas (Island Natural Parks), and the delimitation of Integrated Pest-Management and Invasive Species (PRIBES) policies. Moreover, our work on species conservation worldwide is also relevant: Approximately 550 bryophyte species, 70 fern species, 236 endemic arthropods, and seven groupers were evaluated for the IUCN Red List in the last five years. To enhance accessibility and dissemination of information for conservation concern invertebrate species, a website was established within the framework of the IUCN SSC ATLANTIC ISLAND INVERTEBRATES SPECIALIST GROUP, co-chaired by Paulo A. V. Borges (<https://www.aiisg.net/>). In 2023, a significant contribution to the biodiversity conservation field was the publication of the *Portuguese Mainland Red List of Invertebrates*, led by IBBC team member Mário Boieiro, which evaluated further 863 species.

In 2015 the Azorean Biodiversity Group (GBA-cE3c) was recognized by the University of the Azores as an independent 'Research and Development Centre', and in the same year the GBA-cE3c was recognized by the Azorean Government as a Research Unit. At a national level, the Azorean Biodiversity Group is a sub-group of the Centre for Ecology, Evolution and Environmental Changes (cE3c) since 2013, a research unit awarded with the Classification of EXCELLENT by the Foundation for Science and Technology (FCT) in December of 2014 and 2019.

Additionally, all the integrated GBA/cE3c members, plus the Ph.D. students and collaborators, are now part of a larger research centre, with 120 integrated members in which research questions will be addressed at both the mainland and insular scales – the CHANGE Associate Laboratory.

The current report lists the main activities of the Azorean Biodiversity Group (GBA/CE3c) for the year of 2023.

Further details may also be seen in the following webpages:

Azorean Biodiversity Group GBA: <<http://www.gba.uac.pt/>>;

Island Biodiversity, Biogeography & Conservation – IBBC: <<http://ce3c.ciencias.ulisboa.pt/team/IBBC>>; and

Island Environmental Risks & Society – IERS: <<http://ce3c.ciencias.ulisboa.pt/team/IERS>>.

1.2-MEMBERS IN 2023

The GBA had a steady growth in the number of funded projects, publications, and personnel over the last years, increasing from six integrated members with Ph.D. in 2008 to the current twenty (20) in 2023.

In 2023 the group was composed by twenty (20) senior researchers with Ph.D., 12 holding academic positions at the University of the Azores, two holding Research Contracts with University of Azores under DL 57 FCT, and six (6) holding post-doctoral grants: three (3) funded by FCT, one (1) funded by DRAM, and two (2) funded by H2020.

In 2023 the group included a total of seventeen (17) Ph.D. students, of whom ten (10) were funded by FRCT, four (4) by FCT and three (3) by UE H2020. Additionally, the group included two (2) research grant holders, two (2) superior technicians and one (1) technician. Furthermore, twenty-seven (27) Associated Research Fellows (External Collaborators) from several countries collaborate on different projects, creating a network of Island research investigators.

1.2.1-INTEGRATED MEMBERS WITH PH.D. (13+1)

1.2.1.1-DIRECTOR (1)

1. Rosalina Gabriel (UAc, FCAA-DCEA)

1.2.1.2-VICE-DIRECTOR (1)

2. Patrícia Ventura Garcia (UAc, FCT-DB)

1.2.1.3-OTHER SCIENTISTS WITH CONTRACT (11+1)

3. Ana Maria Loureiro da Seca (UAc, FCT-DCFQE)
4. Ana Moura Arroz (UAc, FCSH-DP)
5. António Onofre Soares (UAc, FCT-DB)
6. Catarina Drumond Melo (UAc, FCAA-DCA)
7. David Horta Lopes (UAc, FCAA-DCA)
8. Isabel R. Amorim (UAc, researcher hired under DL 57 FCT)
9. João Pedro Barreiros (UAc, FCAA-DCA)
10. Maria do Carmo Barreto (UAc, FCT-DCFQE)
11. Mário Boieiro (UAc, researcher hired under DL 57 FCT)
12. Paulo A.V. Borges (UAc, FCAA-DCEA)
13. Rui Bento Elias (UAc, FCAA-DCA)

- José Manuel Viegas de Oliveira Neto Azevedo (UAc, FCT-DB) (ended on February 20th 2023)

1.2.2-POST-DOCS (4+2)

14. Catarina Isabel Marques da Fonseca (UAc, FCT-DB) Funded by H2020
 15. Gabor Pozsgai (UAc, FCAA-DCEA) Funded by FCT
 16. Guilherme Oyarzabal da Silva (UAc, FCAA-DCEA) Funded by FCT
 17. Lucas Lamelas-López (UAc, FCAA-DCEA) Funded by FCT
- Laura González García (UAc, FCT-DB), Funded by H2020 (ended on June 30th, 2023)
 - Noelline Tsafack Menessong (UAc, FCAA-DCEA) Funded by DRAM (ended on July 31st, 2023)

1.2.3-OTHER MEMBERS

1.2.3.1-PH.D. STUDENTS (15+2)

1. Alejandra Ros-Prieto (UAc, FCAA-DCEA), Funded by FRCT
 2. Bruna Almeida (UAc, FCT-DB), Funded by H2020 (started on November 1st, 2023)
 3. Hugo Renato Marques Garcia Calado (UAc, FCAA-DCEA), Funded by FRCT
 4. Jailson Mendes (UAc, FCT-DB) Funded by FCT (started on October 1st, 2023)
 5. Juan Pablo Cancela (UAc, FCAA-DCEA), Funded by FCT
 6. Luís Barcelos (UAc, FCAA-DCEA), Funded by FRCT
 7. Mariana Viveiros (UAc, FCT-DB), Funded by FRCT (started on October 1st, 2023)
 8. Rafaela de Paula Tiengo (UAc, FCT-DB), Funded by H2020
 9. Ricardo Costa (UAc, FCAA-DCEA), Funded by FCT
 10. Rui César A. Andrade (UAc, FCAA-DCEA) Funded by FCT (started on November 1st, 2023)
 11. Rui Miguel dos Santos M. Carvalho (UAc, FCAA-DCEA), Funded by FRCT Azores 2020
 12. Sébastien Lhoumeau (UAc, FCAA-DCEA), Funded by FRCT
 13. Sophie Wallon (UAc, FCAA-DCEA), Funded by FRCT
 14. Vera da Conceição Benevides Raposo (UAc, FCT-DB), Funded by FRCT
 15. Wilson Rodrigues Tavares (UAc, FCT-DB), Funded by FRCT
- Firdaous Halim (UAc, FCT-DB), Funded by UE H2020 (ended on September 30th, 2023)
 - Stephanie Suciú (UAc, FCT-DB), Funded by FRCT (ended on February 20th, 2023)

1.2.3.2-GRANT STUDENTS (1+1):

1. Jéssica Garcia Uchoa (UAc, FCT-DB), Funded by H2020
- Gonçalo Ribeiro (UAc, FCAA-DCA), Funded by H2020 (ended on August 30th, 2023)

1.2.3.3-SUPERIOR TECHNICIAN (1+1):

1. Enésima Pereira (UAc, FCAA-DCEA), Funded by FCT
- Ana Margarida Ribeiro Rolim (UAc, FCT-DB), Funded by FCT (ended on February 20th, 2023)

1.2.3.4-TECHNICIANS (1):

1. Fernando Pereira (UAc, FCAA-DCEA)

1.2.4-ASSOCIATE RESEARCH FELLOWS (EXTERNAL COLLABORATORS) (27):

1. Adara Pardo (Universidad de Extremadura, Badajoz, Spain)
2. Ana Luísa Coderniz Picanço (Independent researcher, Angra do Heroísmo, Azores, Portugal)
3. Ana Margarida Santos (Autonomous University of Madrid, Spain)
4. Artur Gil (IVAR, Instituto de Investigação em Vulcanologia e Avaliação de Riscos, Ponta Delgada, Azores, Portugal)
5. Carolina Paula Furtado de Medeiros Parelho (DRCT, Ponta Delgada, Azores, Portugal)
6. Dinarte Nuno Freitas Teixeira (Instituto das Florestas e Conservação da Natureza, IP-RAM), Funchal, Madeira, Portugal)
7. Elisa Tarantino (Independent Researcher, Italy)
8. Eva Cacabelos Reys (MARE, Centro de Ciências do Mar e do Ambiente, Funchal, Portugal)
9. Filipe Miguel Teixeira de Sousa Bernardo (IVAR, Instituto de Investigação em Vulcanologia e Avaliação de Riscos, Ponta Delgada, Azores, Portugal)
10. Fleur Visser (Behavioural Biology group of Leiden University, Netherlands)
11. François Rigal (Université de Pau et des Pays de l'Adour, France)
12. Gabor Lövei (Aarhus University, Denmark)
13. Gonçalo P. da Rosa (Universidade de Aveiro, Portugal)
14. Isabel Marisa Mateus Borges (Independent researcher, Ponta Delgada, Azores, Portugal)
15. Jagoba Malumbres-Olarte (Independent researcher, Toulouse, France)
16. Jairo Patiño (Spanish National Research Council, La Laguna, Canary Islands, Spain)
17. José A. P. Marcelino (University of Florida, University of Puerto Rico, USA)

18. Lina Nunes (LNEC, Lisbon, Portugal)
19. Marc Fernandez Morron (Independent researcher, Portugal)
20. Marco Girardello (European Commission Joint Research Centre, Brussels, Belgium)
21. Márcia Catarina Mendes Coelho (Independent researcher, Angra do Heroísmo, Azores, Portugal)
22. Marco Ferrante (Georg-August-University of Göttingen, Alemanha)
23. Pedro Cardoso (Finnish Museum of Natural History, Finland)
24. Sónia Matos (Free University of Bozen-Bolzano, Italy)
25. Tarso de Menezes Macedo Costa (Independent researcher, Azores, Portugal)
26. Thomas Matthews (School of Geography, Earth and Environmental Sciences, University of Birmingham, UK)
27. Virgílio Vieira (Independent researcher, Ponta Delgada, Azores, Portugal)

1.3- M.SC. AND PH.D. STUDENTS THAT COMPLETED THEIR THESIS IN 2022

Five (5) master students and two (2) doctoral students completed their degrees in 2023 (Table 1).

Table 1. List of thesis and dissertations, students and supervisors in 2023.

<i>Title</i>	<i>Name</i>	<i>Program</i>	<i>Supervisors</i>	<i>Grading Institution</i>
Linking climate, distribution and growth in forest research: can dendrochronology improve species distribution modelling?	Diogo Cláudio Pavão	Doutoramento em Biologia	Rui Bento Elias	University of the Azores
An integrative approach to evaluate the impact of nature touristic trails on biodiversity	Rui Carvalho	Doutoramento em Gestão Interdisciplinar da Paisagem	Paulo A. V. Borges	University of the Azores
Species distribution modeling in small oceanic islands	Vasco Cabral	Master in Computer Science and Engineering	Paulo A. V. Borges	University of Lisbon

<i>Title</i>	<i>Name</i>	<i>Program</i>	<i>Supervisors</i>	<i>Grading Institution</i>
Estudo dos efeitos da utilização das máscaras cirúrgicas vs. máscaras knotted/tucked nos profissionais de saúde.	Carla Patrícia Cabral de Sousa	Mestrado em Ciências Biomédicas	Patrícia Garcia	Universidade dos Açores
Qualidade de sono nos profissionais de saúde	Diogo Henrique Viana Amaral	Mestrado em Ciências Biomédicas	Patrícia Garcia	Universidade dos Açores
Reduzir o desperdício alimentar na escola: do diagnóstico às estratégias de mitigação preconizadas pelas crianças do 2º ciclo da EBI Canto da Maia (São Miguel, Açores)	Filipa Elisabete Rodrigues dos Santos Silveira	Mestrado em Gestão e Conservação da Natureza	Rosalina Gabriel	Universidade dos Açores
Influência do vulcanismo nas doenças respiratórias	Maria Isabel Pavão Moreira Feliciano Tabau	Mestrado Integrado em Medicina	Patrícia Garcia	Universidade dos Açores

2-PROJECTS RUNNING IN 2023

2.1-RESEARCH PROJECTS AND STUDY GRANTS

In 2023, there were a total of 29 projects, with several concluding within that timeframe (cf. Appendix 1 and Appendix 2). Among them, 18 received funding from international sources, five were supported by national funds, and six obtained funding from regional sources. These projects generated a total of 333,148.00 Euros for the research group members in 2023 (Figure 1).

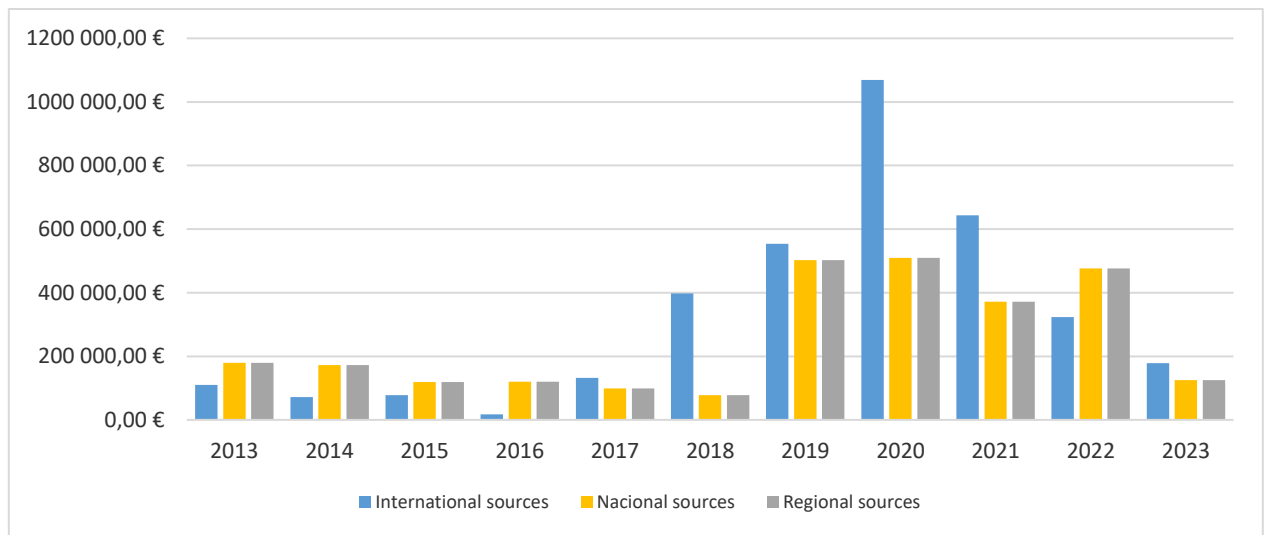


Figure 1. Total funds obtained by integrated members in projects from 2013 to 2023: Diverse funding sources.

International funding encompasses support from various programs sponsored by the European Commission, such as Biodiversa+, as well as contributions from companies, industries, and other private entities. Additionally, it includes funds from other sources. National funding comprises multi-year funding for the R&D unit cE3c, grants from the Foundation for Science and Technology (FCT) obtained through competitive projects, and other funding streams. Regional funding sources encompass multi-year funding for the GBA/cE3c as a recognized research unit by the Azorean Government through DRCT, support from other public entities like City Councils, and additional funding opportunities.

In the period between 2013 and 2023 a large quantity of funds was obtained for Ph.D. and Post-Doc grants (Figure 2). In 2023 we secured 428,652.69 Euros through various grants, including those designated for Ph.D., Post Doc, and other programs, with regional sources representing a little more than one third of them (37%).

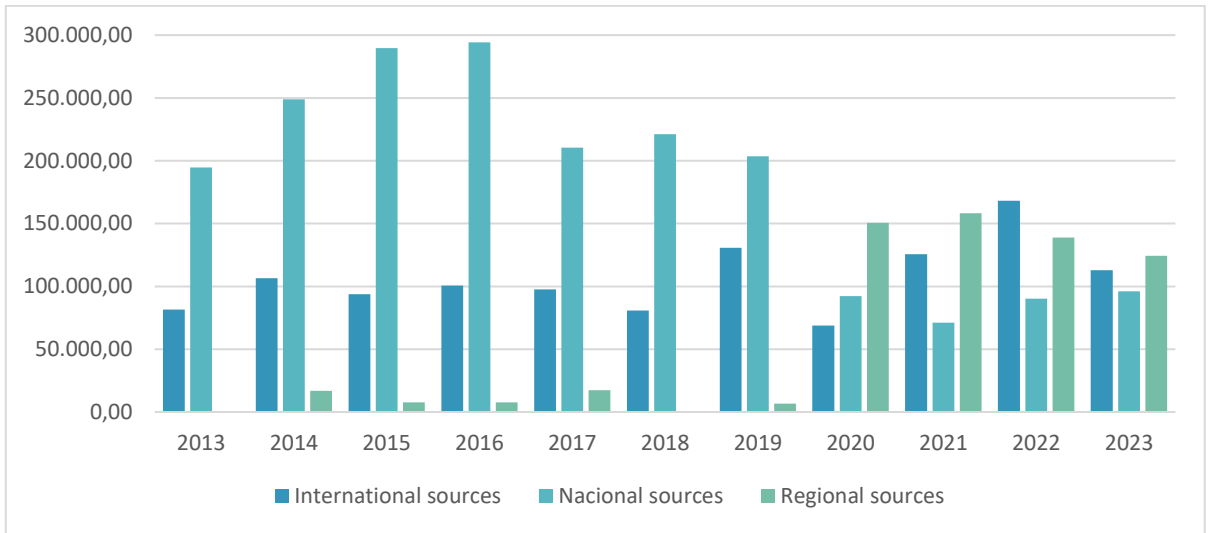


Figure 2. Total funds obtained in grants, mostly for Ph.D. and Post-Doc purposes, from 2013 to 2023: Diverse funding sources.

Analysis of global funds acquired in projects (Figure 3) indicates a trend toward a decrease in the last two years, aligning with the conclusion of the financial cycle. In contrast, grant funding has shown greater stability over the same period.

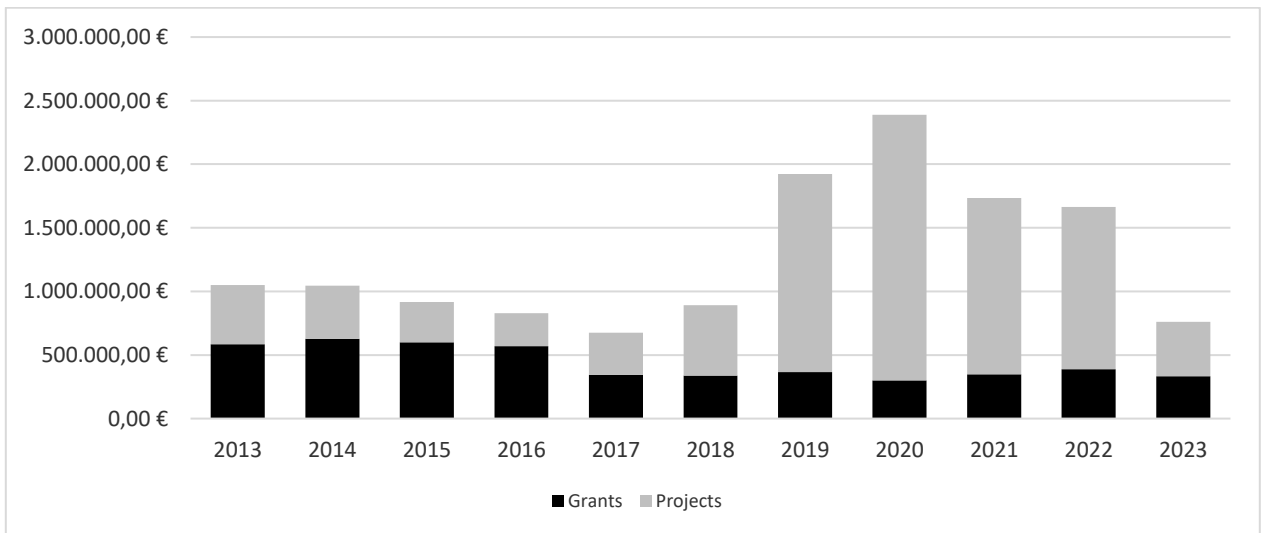


Figure 3. Total funds obtained in projects and grants from 2013 to 2023.

2.2-RESEARCH CONTRACTS

Several research contracts with national and international entities occurred in 2023. We highlight the following:

- NATURE PARKS OF AZORES – In 2012 we started an unprecedented collaboration with several Azorean environmental organizations to perform a Long-Term Ecological Study in the natural forest of several Azorean islands. This study is possible due to the collaboration of the Natural Park of Santa Maria, Natural Park of Terceira, Natural Park of Faial, and Natural Park of Pico, the Botanical Garden of Faial and the Furnas Monitoring and Research Centre in São Miguel Island.
- RCE Açores – In 2009 we started the development and coordination of the UN international education network Regional Centre of Expertise on Education for Sustainable Development, accredited by the United Nations University, Institute of Advanced Studies. Among our partners we count: Ecoteca da Ilha Terceira, Câmara Municipal de Angra do Heroísmo, Câmara Municipal da Praia da Vitória, Gabinete de Promoção Ambiental dos Açores, Museu de Angra do Heroísmo, Os Montanheiros, Gê-Questa, Associação das Mulheres de Pescadores e Armadores da Ilha Terceira, Ilhas em Rede - Associação de Mulheres na Pesca nos Açores, Associação para a Defesa do Património Marítimo dos Açores, Escola Secundária Jerónimo Emiliano de Andrade, Rede de Eco-Escolas dos Açores and BioAzorica.

3-PUBLICATIONS IN 2023

SUMMARY DATA ON PUBLICATIONS

NUMBER PUBLICATIONS BY INTEGRATED MEMBERS IN 2023 (TOTAL = 251)

INTERNATIONAL PEER REVIEWED PAPERS (SCI Journals) = 67

BOOKS = 4

BOOK CHAPTERS = 145

BOOK REVIEW = 1

OTHER PEER REVIEWED PAPERS = 4

PAPERS ON PROCEEDINGS OF SYMPOSIA = 1

EDUCATION & OUTREACH PUBLICATIONS = 11

TECHNICAL REPORTS = 7

OTHER TYPE OF PUBLICATIONS = 11

NUMBER OF PUBLICATIONS BY ASSOCIATE RESEARCH FELLOWS IN 2023 (TOTAL = 62)

INTERNATIONAL PEER REVIEWED PAPERS (SCI Journals) = 19

BOOK CHAPTERS = 41

OTHER PEER REVIEWED PAPERS = 2

PUBLICATION ACHIEVEMENTS IN 2023

In 2023, the 20 integrated members published **251 works** with 67 appearing in International Indexed Journals with Impact Factor (Figure 4; Appendix 3). The mean Impact Factor of these publications was 3.677, with the highest reaching 11.40 in *Trends in Genetics*. Almost half of SCI publications (31; 46,3%) were included in the first quartile, that is to say the top 25% of journals within their categories ranked by Impact Factor, indicating greater influence and visibility within the academic community.

Additionally, it is noteworthy to mention the writing/editing of four books, the writing of 145 book chapters, 11 education and outreach publications, seven technical reports, four papers in peer-reviewed journals with no impact factor, one paper in Proceedings of Symposia, one book review, and eleven publications of other type.

In 2023, on average, each integrated PhD member of the group published 12.55 publications, with 3.35 of them being SCI papers.

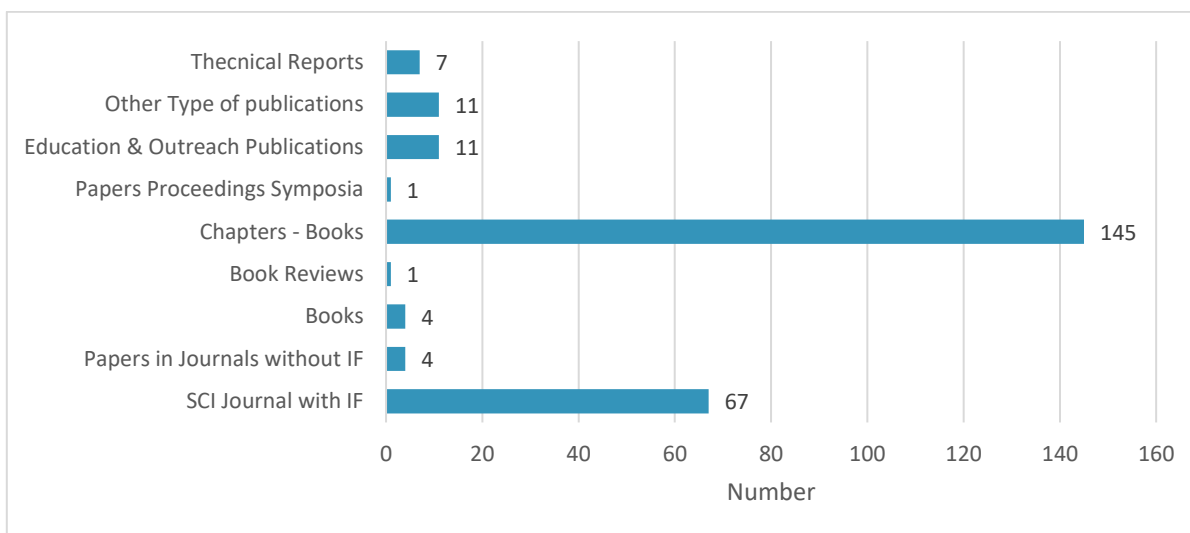


Figure 4. Total number of publications per type in 2023.

In addition to the referred 251 publications, there are an additional 62 publications affiliated with the GBA (cE3c) authored only by 18 of the 27 associate research fellows, which include 19 SCI papers. All the external collaborators promote the internationalization of the GBA (cE3c, University of the Azores) and increase the visibility of the group. In 2023 we must highlight the contribution of Thomas Matthews and Isabel Borges who contributed to the group with five or more SCI papers each.

DETAILED OUTPUTS OF PUBLICATIONS PER RESEARCHER IN 2023

The detailed output of publications in 2023 for each member is given in Table 2, both for integrated members and associated research fellows.

Table 2. Number of publications per researcher and publication type in 2023.

<i>Author</i>	<i>Authors Status</i>	<i>Article in SCI Journals</i>	<i>Article in non-SCI journals - international</i>	<i>Book</i>	<i>Book chapter</i>	<i>Book Review</i>	<i>Proceedings of Symposia</i>	<i>Other type of publications</i>	<i>Outreach Publications</i>	<i>Technical Report</i>	<i>Total</i>
Borges, P.A.V.	Uac - PI	25		3	66		1	8	4	4	111
Boeiro, M.	UAc - DL57	9	1	1	63				2		76
Gabriel, R.	Uac - PI	8		2	1			1	1		13

<i>Author</i>	<i>Authors Status</i>	<i>Article in SCI Journals</i>	<i>Article in non-SCI journals - international</i>	<i>Book</i>	<i>Book chapter</i>	<i>Book Review</i>	<i>Proceedings of Symposia</i>	<i>Other type of publications</i>	<i>Outreach Publications</i>	<i>Technical Report</i>	<i>Total</i>
Soares, A.O.	Uac - PI	7			2			1		2	12
Pozsgai, G.	Post_Doc	6				1		1			8
Tsafack, N.	Post_Doc	6									6
Elias, R.B.	Uac - PI	5		1				1		1	8
Lamelas-López, L.	Post_Doc	5			19			1			25
Ros-Prieto, A.	UAc - PhD student	4							1		5
Barreiros, J.P.	Uac - PI	4						2	1		7
Lopes, D.H.	Uac - PI	4	2							1	7
Arroz, A.M.	Uac - PI	3							1		4
Garcia, P.V.	Uac - PI	3							1		4
Lhoumeau, S.	UAc - PhD student	3							3		6
Azevedo, J.M.N.	Past Member	2									2
Fonseca, C.	Post_Doc	2									2
Seca, A.M.L.	Uac - PI	2							1		3
Barreto, M.C.	Uac - PI	2			1				1		4
Melo, C.	Uac - PI	2		1						1	4

<i>Author</i>	<i>Authors Status</i>	<i>Article in SCI Journals</i>	<i>Article in non-SCI journals - international</i>	<i>Book</i>	<i>Book chapter</i>	<i>Book Review</i>	<i>Proceedings of Symposia</i>	<i>Other type of publications</i>	<i>Outreach Publications</i>	<i>Technical Report</i>	<i>Total</i>
Amorim, I.R.	UAc - DL57	2			13			2	3	2	22
Wallon, S.	UAc - PhD student	2		1	19			1	1	1	25
Barcelos, L.M.D.	UAc - PhD student	1									1
Cancela, J.P.	UAc - PhD student	1									1
Carvalho, R.	UAc - PhD student	1			1						2
González García, L.	Past Member	1									1
Tiengo, R.	UAc - PhD student	1	1								2
Uchôa, J.G.	UAc - Grant student	1	1								2
Wilson, T.	UAc - PhD student	1									1
Costa, R.	UAc - PhD student	1							2		3
Pereira, F.	Technician							2	1		3
Matthews, T.J.	Ass. Res.	8	1								9
Borges, I.	Ass. Res.	5			2						7
Cardoso, P.	Ass. Res.	4						1			5
Ferrante, M.	Ass. Res.	4								1	5

<i>Author</i>	<i>Authors Status</i>	<i>Article in SCI Journals</i>	<i>Article in non-SCI journals - international</i>	<i>Book</i>	<i>Book chapter</i>	<i>Book Review</i>	<i>Proceedings of Symposia</i>	<i>Other type of publications</i>	<i>Outreach Publications</i>	<i>Technical Report</i>	<i>Total</i>
Rigal, F.	Ass. Res.	4								1	5
Malumbres-Olarte, J.	Ass. Res.	3	1					1	2		7
Nunes, L.	Ass. Res.	2			4						6
Lövei, G.L.	Ass. Res.	2								1	3
Tarantino, E.	Ass. Res.	2	1								3
Coelho, M.C.M.	Ass. Res.	2									2
Nunes, R.	Ass. Res.	2									2
Vieira, V.	Ass. Res.	1			24				1		26
Costa, T.M.M.	Ass. Res.	1							1		2
Gil, A.	Ass. Res.	1	1							1	3
Girardello, M.	Ass. Res.	1								1	2
Fernandez, M.	Ass. Res.	1									1
Rosa, G.P.	Ass. Res.	1									1
Picanço, A.	Ass. Res.				13						13

COMPARISON OF PUBLICATION RATE IN THE PAST YEARS

Upon analysing the number of SCI publications by the integrated GBA/CE3c members from 2008 to 2023, it is evident that the total remains consistently high (Figure 5).

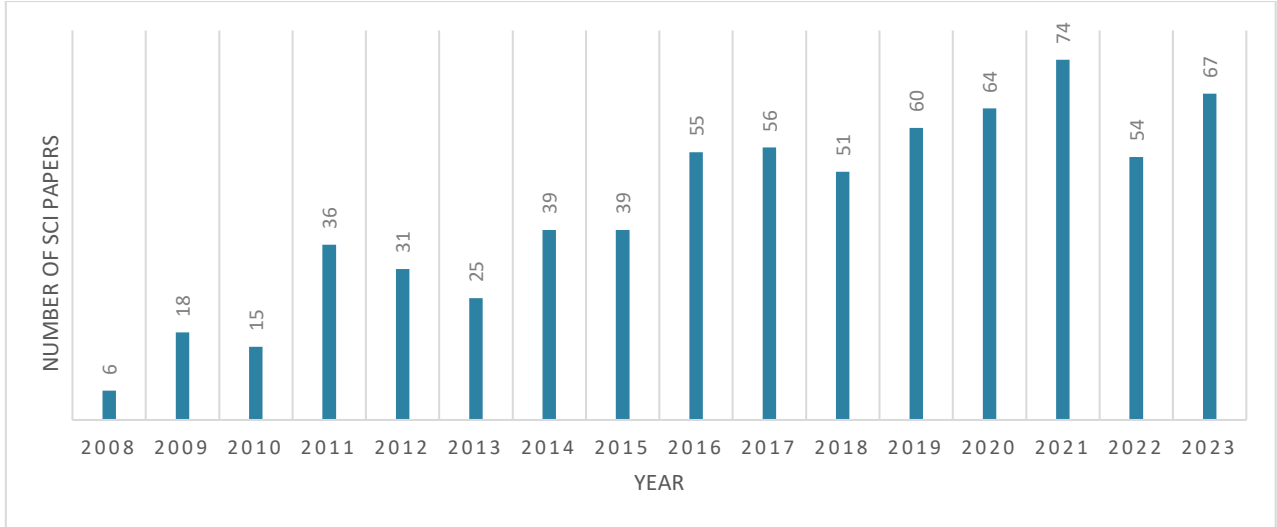


Figure 5. Total number of papers published in SCI Journals by integrated members during the period 2008-2023.

Particularly relevant is the sustained high value of Journal Impact Factors (IF) (Figure 6), demonstrating the success of integrated GBA/CE3c members to publish their research in prestigious journals. Over time, the mean IF increased from 1.94 in 2014 to 2.6 in 2016 and now stands at 3.7 in 2023.

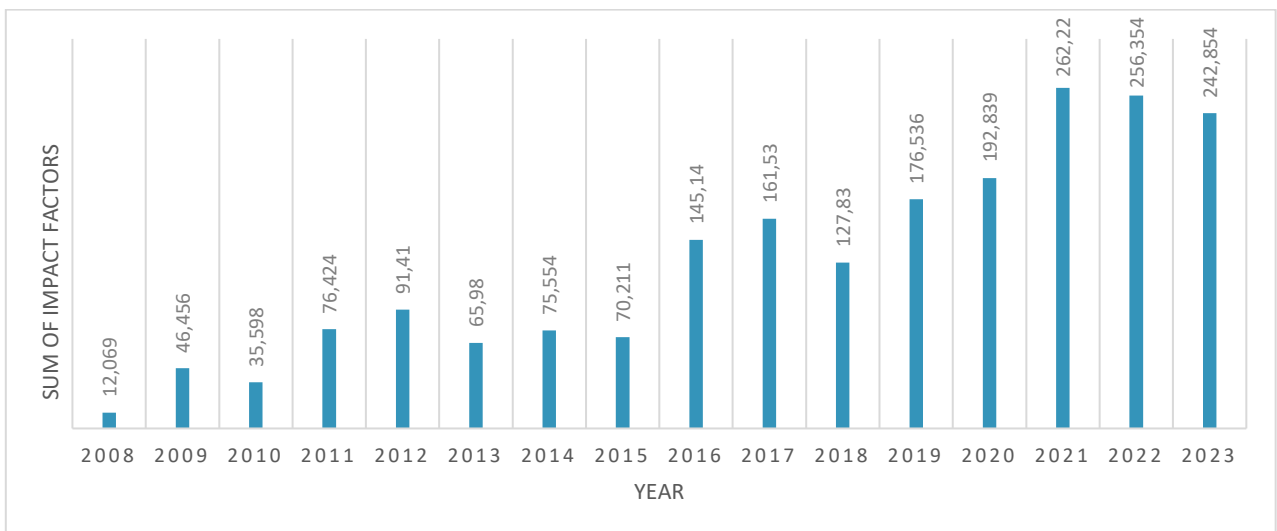


Figure 6. Summed Impact Factor in Journals of the SCI by integrated members in the period 2008-2023.

Besides the increase in papers in SCI journals, the group has also increased the number of other indicators in the last 10 years (Table 3). Over the period from 2013 to 2023, a total of 1653 publications were produced, with about a third of them (n=584; 35.33%) being articles in journals with impact factor.

Table 3. Distribution of publications by type produced by GBA/cE3c integrated members over the period 2013-2023.

<i>Type</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>Total</i>
SCI Journal with IF	25	39	39	55	56	51	60	64	74	54	67	584
Papers in Journals without IF	5	13	16	16	19	15	7	11	10	8	4	124
Books	2	3	4	4	2	0	1	3	4	7	4	34
Book Reviews	1	2	1	4	0	0	1	0	0	0	1	10
Chapters - Books	3	3	4	14	9	3	9	3	3	7	145	203
Papers Proceedings Symposia	3	15	6	6	4	6	7	4	2	5	1	59
Education & Outreach Publications	5	15	2	12	7	12	9	9	8	28	11	118
Other Type of publications	1	9	5	5	60	154	106	31	92	16	11	490
Thechnical Reports	0	0	5	6	1	6	2	2	1	1	7	31
TOTAL	45	99	82	122	158	247	202	127	194	126	251	1653

In 2023 the number of chapters written by GBA/cE3c integrated members stands out.

4-OUTREACH ACTIVITY IN 2023

Besides the presentation of our research in multiple scientific forums (cf. section 4.1), the GBA/cE3c' members, aim to share their research results with different stakeholders, including managers, teachers and students, photographers, etc. This goal is achieved by engaging in different initiatives and advertising them in the media (cf. section 4.2) and keeping web-based resources (cf. section 4.3) (Appendix 4).

4.1-SCIENTIFIC OUTREACH IN 2023

Table 4 details the editorial work by GBA/cE3c members in 2023. Five researchers belong to the editorial board of 12 journals while different researchers edited seven special issues of Journals of the SCI.

Table 4. Overview of scientific outreach achieved through editorial contributions by GBA/cE3c members in 2023.

<i>Editorial work</i>	<i>Journal</i>	<i>Researcher(s)</i>
Associated Editor	<i>Frontiers in Conservation Science</i>	João Pedro Barreiros
Member of the Editorial Board	<i>Açoriana</i>	Paulo A.V. Borges
	<i>Applied Sciences</i> <i>(Academic Editor with decisions and pre-check decisions responsibilities in 2023)</i>	Ana Seca
	<i>Biodiversity Data Journal</i>	Paulo A.V. Borges
	<i>Boletín de la Asociación Española de Entomología</i>	Paulo A.V. Borges
	<i>Community Ecology</i>	Paulo A.V. Borges
	<i>Diversity</i>	João Pedro Barreiros; Paulo A.V. Borges; Rosalina Gabriel
	<i>Frontiers in Ecology and Evolution</i>	Paulo A.V. Borges
	<i>Insects</i>	Paulo A.V. Borges

<i>Editorial work</i>	<i>Journal</i>	<i>Researcher(s)</i>
	<i>International Journal of Zoology</i>	João Pedro Barreiros
	<i>The Scientific World Journal</i>	João Pedro Barreiros
	<i>Vieraea</i>	Paulo A.V. Borges
Topic Editor	<i>Agriculture</i> (Special Issue: <i>Advances in integrated pest management strategies</i>)	David Horta-Lopes
	<i>Biodiversity Data Journal</i> (Special Issue: <i>AZORES BIOTA</i>)	Paulo A.V. Borges; António Onofre Soares; João Pedro Barreiros; Rosalina Gabriel; Rui Bento Elias
	<i>Diversity</i> (Special Issue: <i>Biodiversity in the Azores – A Whole Biota Assessment</i>)	Paulo A.V. Borges; João Pedro Barreiros; Rosalina Gabriel
	<i>Frontiers in Plant Science</i> (Research topic: <i>The Relationship between Climate Change and Species Distribution</i>)	Rui Bento Elias
	<i>Insects</i> (Special Issue: <i>Insects in Sustainable Agroecosystems</i>)	António Onofre Soares
	<i>Insects</i> (Special Issue: <i>Arthropod diversity and conservation in islands</i>)	Mário Boieiro; Paulo A.V. Borges
	<i>International Journal of Molecular Sciences</i> (Special issue: <i>Discovery and Molecular Mechanisms of New Anticancer Drugs</i>)	Ana Seca

<i>Editorial work</i>	<i>Journal</i>	<i>Researcher(s)</i>
Reviewing Editor	<i>Frontiers in Ecology and Evolution</i>	Gabor Pozsgai
	<i>Genes</i>	David Horta-Lopes
	<i>Horticulturae</i>	David Horta-Lopes
	<i>Insects</i>	Mário Boieiro; Gabor Pozsgai
	<i>Journal of Taibah University for Science</i>	David Horta-Lopes
	<i>Sustainability</i>	David Horta-Lopes
	<i>The Scientific World Journal</i>	David Horta-Lopes

4.2-PUBLIC AWARENESS ACTIVITIES IN 2023

Almost 50 **research awareness** activities were made in 2023, including a number of invited lectures, the coordination and presence in radio shows and in television, the publication of newspaper articles, the participation in species biodiversity conservation actions, and the invited presence in seminars and school events (Table 5).

Table 5. Overview of public outreach achieved through events, talks, news and other awareness contributions by GBA/cE3c members in 2023.

<i>Type</i>	<i>Awareness activities</i>
Event	Amorim, I.R. & Malumbres-Olarte, J. (2023, 17 de junho) BioBlitz Açores no Jardim Duque de Bragança em Angra do Heroísmo, no âmbito do projeto FCT - MacRisk.
	Amorim, I.R., Boieiro, M., Wallon, S., Gabriel, R., Ros-Prieto, A., Elias, R.B., Arroz, A.M., Costa, R., Leite, A., Souza, R., Pereira, F. & Borges, P.A.V. (2023, 25 de março) Feira de Diversões - Jogos sobre a Biodiversidade dos Açores, desenvolvidos no âmbito do projeto Traços a Cores. Ação de sensibilização sobre as espécies endémicas dos Açores e os problemas associados à sua conservação. Evento na Praça Velha em Angra do Heroísmo.

Type	Awareness activities
Event	Amorim, I.R. (2023, 8 de maio) Feira de Diversões - Jogos sobre a Biodiversidade dos Açores, desenvolvidos no âmbito do projeto Traços a Cores. Ação de sensibilização sobre as espécies endémicas dos Açores e os problemas associados à sua conservação. Evento na Escola Básica do 1º ciclo e Jardim de Infância do Pico da Urze.
	Amorim, I.R. , Malumbres-Olarte, J. (2023, 17 de junho) BioBlitz Açores no Jardim Duque de Bragança em Angra do Heroísmo, no âmbito do projeto FCT - MacRisk.
	Barcelos, L.M.D. (2023, 25 outubro-10 novembro) SOS CAGARRO – BRIGADAS DE SALVAMENTO 2023. Ilha Terceira, Portugal.
	Branquinho, C. & Boieiro, M. (2023, 5 de junho) AgroBioblitz - A biodiversidade e a actividade agrícola: sessão prática de observação de polinizadores. Coruche, Portugal.
	Boieiro, M. (2023) Dia Mundial da Abelha, Workshop Polinizadores dos Açores - biodiversidade e importância ecológica.
	Gabriel, R. & Arroz, A.M. (2023, 26 de abril) A natureza e eu no século XXI. XIX Semana da Ciência da Escola Básica Integrada de Angra do Heroísmo. Escola Básica Integrada de Angra do Heroísmo (EBIAH). Escola Básica Integrada de Angra do Heroísmo, Angra do Heroísmo, Terceira, Açores, Portugal. [Grupo de discussão / Focus group].
News	Barreto, M.C. (2023) A rede protéica do glúten – glutenina, gliadina, água e energia para amassar. Correio dos Açores, 5 de outubro, p. 18.
	Barreto, M.C. (2023) Açúcares escondidos - aprenda a identificá-los. Correio dos Açores, 18 de maio, p. 12.
	Barreto, M.C. (2023) Aproveite o sol de Verão - mas cuidado com os excessos. Correio dos Açores, 12 de julho, p. 9.
	Barreto, M.C. (2023) Intolerância à lactose, alergias e beta-caseínas – algumas questões sobre o leite de vaca. Correio dos Açores, 24 de março, p. 15.
	Barreto, M.C. (2023) Mais nem sempre é melhor - as proteínas não são todas iguais. Correio dos Açores, 22 de novembro, p. 17.
	Barreto, M.C. (2023) O oxigénio, um inimigo sem o qual não podemos viver. Correio dos Açores, 26 de janeiro, p. 15.
	Boieiro, M. (2023) Lista Vermelha dos Invertebrados de Portugal Continental. Jornal Público.
	Boieiro, M. (2023, 18 de julho) Entrevista para a "Greensavers" (https://greensavers.sapo.pt/).

Type	Awareness activities
News	Boieiro, M. (2023, 18 de julho) Entrevista para a "Wilder" (https://www.wilder.pt/).
	Seca, A. (2023) Tabela Periódica: A composição química do universo num quadro com 18 colunas e 7 linhas [Cê de Ciência, Açores Magazine]. Açoriano Oriental, 16 julho 2023, pg. 14.
	Soares, A.O. (2023) As “novas” ordens. Artigo de opinião publicado no âmbito da Vice-presidência da Delegação Regional da Ordem dos Biólogos. Açoriano Oriental.
Promotion	Amorim, I.R., Wallon, S., Malubres-Olarte, J., Gabriel, R., Ros-Prieto, A., Elias, R.B., Arroz, A.M. & Borges, P.A.V. (2023) Traços a Cores: Investigação sobre a biodiversidade dos Açores. Website do projeto, 11 páginas web.
	Fonseca, C. & O'Leary, B. (February, 2023) Developing a deeper understanding of public awareness of climate change, human impacts and the value and management of marine and coastal ecosystems. Blog post on MaCoBioS Project website: https://macobios.eu/2023/02/27/survey/ .
	O'Leary, B. & Fonseca, C. (January, 2023) Research priorities for marine and coastal Nature-based Solutions (NBS). Blog post on MaCoBioS Project. website: https://macobios.eu/2023/01/12/research-priorities-nbs/
	Vieira, V., Borges, P.A.V. & Frias Martins, A.M. (2023) Fauna Terrestre dos Açores. Coleção de selos. CTT (ed.). Lisboa, Portugal.
Radio	Amorim, I.R. (2023) BioBlitz Açores no Jardim Duque de Bragança em Angra do Heroísmo. Programa de rádio "Aqui perto", Antena 1.
	Amorim, I.R. (2023) Programa de rádio "Biólogos no Ar" na Rádio Club de Angra, uma parceria da Delegação dos Açores da Ordem dos Biólogos, cE3c/GBA - Universidade dos Açores e Observatório do Ambiente dos Açores/Centro de Ciência de Angra do Heroísmo. Série de entrevistas com biólogos dos Açores para dar a conhecer a diversidade de funções desempenhadas pelos mesmos e a sua importância para a Região; 2ª temporada de 8 episódios.
	Boieiro, M. (2023, 19 de julho) Entrevista para a "Antena 1" (https://antena1.rtp.pt/).
	Boieiro, M. (2023, 8 de maio) Entrevista para a Rádio Clube de Angra: Biólogos no Ar. https://www.youtube.com/playlist?list=PL7GnJcuM_omr8B6m_EO7wg2rjZW70wdMZ .
	Gabriel, R. (2023, 15 de fevereiro) Entrevista para a Rádio Clube de Angra: Biólogos no Ar. https://www.youtube.com/playlist?list=PL7GnJcuM_omr8B6m_EO7wg2rjZW70wdMZ .
Talk	Barreiros, J.P. (2023) Biodiversidade marinha do Arquipélago dos Açores – Tubarões e Raias. Palestra proferida por convite da Escola Básica de Eixo, do Agrupamento de Escolas de Eixo – Aveiro, no âmbito do Domínio de Autonomia Curricular “O Mar que nos Rodeia”. Online, 13 de dezembro.

Type	Awareness activities
Talk	<p>Barreiros, J.P. (2023) Biodiversidade marinha do Arquipélago dos Açores. Palestra proferida por convite da Escola Básica de Azurva, do Agrupamento de Escolas de Eixo – Aveiro, no âmbito das atividades do Clube Ciência Viva da Escola Básica de Azurva. Online, 30 de outubro.</p>
	<p>Barreiros, J.P. (2023) Participou, como convidado, na “Noite Europeia dos Investigadores, no âmbito do projeto europeu MACARONIGHT 2022 – 2023: The Researcher’s Night of the Macaronesia” na atividade “À conversa com o cientista”. Online, 29 de setembro.</p>
	<p>Barreiros, J.P. (2023) Participou, como moderador convidado, na sessão “Os Mares da Macaronésia” integrada nas Semanas de Estudo promovidas pelo Instituto Açoriano de Cultura “Mar – Fronteira Ilimitada”. Horta, Biblioteca Pública e Arquivo Regional João José da Graça, 13 de outubro.</p>
	<p>Barreiros, J.P. (2023, 13 de março) Biodiversidade e Áreas Marinha Protegidas. Evolução e extinções – O desaparecimento dos grandes mamíferos das Américas no fim da última era glacial. Palestras proferidas por convite do grupo de Biologia e Geologia do Agrupamento de Escolas de Figueiró dos Vinhos, Portugal.</p>
	<p>Barreiros, J.P. (2023, 14 de março) Evolução: dos Dinossauros às Aves. Palestra convidada ao ciclo de palestras dos grupos 510/520, Agrupamento de Escolas da Sertã, Portugal.</p>
	<p>Barreiros, J.P. (2023, 15 de março) Tubarões e Raias dos Açores. Palestra proferida por convite do projecto educativo ToMAR to OCEAN. Escola Secundária Jácome Ratton, Tomar, Portugal.</p>
	<p>Barreiros, J.P. (2023, 17 de abril) Dissecção de peixes e identificação de microplásticos. Ação de divulgação científica convidada à Semana Cultural da Escola Secundária Tomás de Borba, Angra do Heroísmo, Portugal.</p>
	<p>Barreiros, J.P. (2023, 26 de abril) Ilustração científica. XIX Palestra convidada à XIX Semana da Ciência organizada pelo Departamento de Ciências da Escola Básica e Integrada de Angra do Heroísmo, Portugal.</p>
	<p>Barreiros, J.P. (2023, 8 de junho) Breve abordagem sobre os Meros do Mundo. Palestra proferida na apresentação da exposição “Mero(Manias)” de Eduardo Machado. Biblioteca Pública e Arquivo Regional de Ponta Delgada, Portugal.</p>
	<p>Boieiro, M. (2023) Curso avançado Island Biogeography and Macroecology (Second Edition - 2023), aula de campo sobre técnicas de amostragem de insetos polinizadores. Angra do Heroísmo, Portugal.</p>
	<p>Gabriel, R. & Borges, P.A.V. (2023, 24 de maio) Divulgação da Biodiversidade dos Açores e do GBA a alunos da EBI-Biscoitos. EBI Biscoitos. Escola Básica Integrada dos Biscoitos, Biscoitos, Praia da Vitória, Portugal.</p>
<p>Gabriel, R. (2023, 11 de maio) Divulgação da Biodiversidade dos Açores e do GBA a alunos da EBS Tomás de Borba. GBA/CE3c. Universidade dos Açores, Angra do Heroísmo, Portugal.</p>	

Type	Awareness activities
Talk	Gabriel, R. (2023, 13 de abril) Briófitos: indicadores de biodiversidade e sustentabilidade. Semana CULTURA - Escola Básica e Secundária Tomás de Borba. EBS Tomás de Borba. EBS Tomás de Borba, Angra do Heroísmo, Portugal. [Palestra convidada].
	Gabriel, R., De Benedictis, M. & Arroz, A.M. (2023, 29 de março) Musgos, Hepáticas e Fetos ameaçados em Portugal: Perspectivas e interesses de crianças e adolescentes açorianos em musgos. Fórum Participativo - Educar para a Conservação da Flora. Liga para a Protecção da Natureza. Evento online, Lisboa, Estremadura, Portugal. [Formadora convidada].
	Soares, A.O. (2023) Serviços ecossistémicos providenciados pelos insetos: o exemplo do controlo biológico". Conferência Internacional sobre Alterações Climáticas. 25 de outubro. Ponta Delgada, Portugal. [Palestra convidada].
TV	Amorim, I.R. (2023, 28 de abril) Entrevistada no programa da RTP Açores "Jovens Cientistas dos Açores", episódio 2, onde é dado a conhecer o meu trabalho como bióloga em prol da conservação de uma espécie de escaravelhos, <i>Tarphius relictus</i> , que só existe na Terceira, Açores. Jornalista: José Serra.
	Boieiro, M. (2023) Programa Sociedade Civil, RTP2.
	Garcia, P. (2023) Programa 90 segundos de ciência: Projeto HOLI-BIOPEST estuda o impacto de contaminantes na saúde dos ecossistemas açorianos.

4.3-WEB-BASED RESOURCES RUNNING IN 2023

A number of web-based resources run in 2023, supervised by different GBA/cE3c members.

1. **AIISG** - IUCN SSC Atlantic Island Invertebrates Specialist Group (<https://www.aiisg.net/>)
2. **Azorean Biodiversity Group Page** (<http://www.gba.uac.pt/>)
3. **Azores Bioportal** (<http://azoresbioportal.uac.pt/pt/>)
4. **cE3c - IBBC Group** (<http://ce3c.ciencias.ulisboa.pt/team/IBBC>)
5. **cE3c - IERS Group** (<http://ce3c.ciencias.ulisboa.pt/team/IERS>)
6. **Field Guide** – Pergunta ao cientista, Audio podcast. SoundCloud. (<https://soundcloud.com/field-guide-362856827/tracks>)
7. **IBIG** - Island Biology Interest Group (<http://www.ibigbiology.com/>)
8. **ISLAND LAB** (<http://islandlab.uac.pt/>)
9. **Joaninhas dos Açores** – Projeto Ciência Cidadã (<https://joaninhasdosacores.com/>)
10. **MONICET** (<http://www.monicet.net/en>)
11. **Termites of the Azores** (<http://sostermitas.angra.uac.pt>)

APPENDIX 1. DETAILED INFORMATION OF RESEARCH PROJECTS

INTERNATIONAL PROJECTS

INTERNATIONAL PROJECTS STARTING IN 2023

(2023-2026) – DARCO - THE VERTICAL DIMENSION OF CONSERVATION: A COST-EFFECTIVE PLAN TO INCORPORATE SUBTERRANEAN ECOSYSTEMS IN POST-2020 BIODIVERSITY AND CLIMATE CHANGE AGENDAS

Coordinator: Stefano Mammola (Italian National Research Council, Finnish Museum of Natural History).

GBA members: **Paulo A.V. Borges**, **Rosalina Gabriel**, **Isabel R. Amorim**, **Fernando Pereira** (Universidade dos Açores - GBA/cE3c) and **Luís Crespo** (GBA/cE3c).

Funding Institution: EU - BIODIVERSA.

Budget for the GBA: 99.536,00 Euros.

(2023-2026) – TRANS-LIGHTHOUSES - MORE THAN GREEN: LIGHTHOUSES OF TRANSFORMATIVE NATURE-BASED SOLUTIONS FOR INCLUSIVE COMMUNITIES

Coordinator: Eduardo Marques (Universidade dos Açores).

GBA members: **Isabel R. Amorim** and **Ana Moura Arroz** (Universidade dos Açores - GBA/cE3c).

Funding Institution: HORIZON-CL6-2022-COMMUNITIES-01-05.

Budget for the GBA: Compensation in kind.

(2023-2024) – ASSESSING TO PLAN FOR MADEIRA'S GENETICALLY UNIQUE AND THREATENED ENDEMIC LONGHORN BEETLE *DEUCALION OCEANICUM*

Coordinator: Dinarte Teixeira (Instituto das Florestas e Conservação da Natureza).

GBA members: **Mário Boieiro** (Universidade dos Açores - GBA/cE3c).

Funding Institution: IUCN & EDGE.

Budget for the GBA: Compensation in kind.

INTERNATIONAL PROJECTS STARTING IN 2022

(2022-2025) – DUNGPOOL: EFFECTS OF SPECIES POOL AND COMMUNITY ASSEMBLY PROCESSES ON DUNG BEETLE DIVERSITY AND ECOSYSTEM FUNCTIONS IN A WARMING WORLD

Coordinator: Ana M. C. Santos (Universidade Autónoma de Madrid, Spain).

GBA members: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c) and **François Rigal** (University of Pau, France).

Funding Institution: Agencia Estatal de Investigación, Ministerios de Ciencia e Innovación, Spain.

Budget for the GBA: Compensation in kind.

(2022-2025) – FORESTFISHER - PRIORITY AREAS FOR CONSERVATION AND RESTORATION OF AMAZONIAN FOREST-FRUGIVOROUS FISH INTERACTIONS AND ASSOCIATED FISHERIES

Coordinator: Pablo A. Tedesco (Laboratoire Evolution et Diversité Biologique, EDB), Marcelo Rodrigues dos Anjos (Universidade Federal do Amazonas).

GBA members: **João Pedro Barreiros** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Fundação de Amparo à Pesquisa do Estado do Amazonas & BiodiveRestore.

Budget for the GBA: Compensation in kind.

(2022-2024) – BIOGEOGRAPHIC NATURA 2000 PROCESS CONTINUATION IN THE MACARONESIAN REGION

Coordinator: José Maria Fernandez-Palácios (University of La Laguna, Canary Islands).

GBA members: **Paulo A.V. Borges** and **Rui Bento Elias** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Ministerio para la Transición Ecológica y el Reto Demográfico, de Espanha.

Budget for the GBA: Compensation in kind.

(2022-2024 - SINTERVAL: INTERACTION VARIATION ALONG ALTITUDINAL GRADIENTS

Coordinator: Tiffany Knight (German Centre for Integrative Biodiversity Research (iDiv)).

GBA members: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c), **François Rigal** (University of Pau, France) and **Ana Picanço** (Azorean Biodiversity Group – cE3c).

Other participants: see <https://www.idiv.de/en/sinterval.html>.

Funding Institution: German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig.

Budget for the GBA: 9.000,00 Euros

(2018-2023) - BIODIVERSITY AND BIOGEOGRAPHY OF SOIL PROTISTS IN CONTINENTAL AND OCEANIC ISLANDS

Coordinator: Edward Mitchell (Laboratory of Soil Biodiversity, University of Neuchâtel).

GBA members: **Rosalina Gabriel** and **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Swiss National Foundation, Suíça.

Budget for the GBA: 10.000,00 Euros.

(2022-2023) - SPRING - STRENGTHENING POLLINATOR RECOVERY THROUGH INDICATORS AND MONITORING

Coordinator: Josef Settele (General coordinator, Europe) and Sílvia Castro (coordinator Portugal).

GBA members: **Mário Boieiro, Ricardo Costa, Paulo Borges** (Universidade dos Açores - GBA/cE3c) and Carla Rego (Universidade de Lisboa).

Funding Institution: European Union.

Budget for the GBA: Compensation in kind.

INTERNATIONAL PROJECTS STARTING IN 2020

(2020-2025) IPM-POPILLIA “INTEGRATED PEST MANAGEMENT OF THE INVASIVE JAPANESE BEETLE”

Coordinator: Giselher Grabenweger (Agroscope Standort Reckenholz, Zurich).

GBA members: **António Onofre Soares** (Universidade dos Açores - GBA/cE3c).

Funding Institution: EU 2020.

Budget for the GBA: Compensation in kind.

(2020-2024) MACOBIOS - MARINE COASTAL ECOSYSTEM BIODIVERSITY AND SERVICES IN A CHANGING WORLD

Coordinator: Pierre Failler (University of Portsmouth, UK).

GBA members: **Artur Gil** (Universidade dos Açores - GBA/cE3c), **Catarina Fonseca**, and **Cristina Seijo Nuñez** (Azorean Biodiversity Group – cE3c).

Funding Institution: EU 2020.

Budget for the GBA: 349.182,50 Euros.

(2020-2023) VERCOCHAR - VERMICOMPOST, COMPOST Y BIOCHAR, HERRAMIENTAS PARA LA ADAPTACIÓN AL CAMBIO CLIMÁTICO, LA PREVENCIÓN Y MITIGACIÓN DE LOS EFECTOS DERIVADOS DE LOS RIESGOS NATURALES EN EL MEDIO AGRÍCOLA Y FORESTAL

Coordinator: Instituto Canario de Investigaciones Agrarias, Canary Islands, Spain.

GBA members: **David Horta Lopes** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Programa INTERREG V A, MAC2/3.5B/307.

Budget for the GBA: 129.479,00 Euros.

INTERNATIONAL PROJECTS STARTING IN 2019

(2019-2024) IUCN LADYBIRD SPECIALIST GROUP

Coordinator: John Losey (Cornell University, USA).

GBA members: **António Onofre Soares** (Universidade dos Açores - GBA/cE3c).

Funding Institution: IUCN & Toyota Fund.

Budget for the GBA: Compensation in kind.

(2019-2023) MACBIOPEST - BIOPESTICIDAS BOTÁNICOS DE LA MACARONESIA: INVESTIGACIÓN Y SABER POPULAR

Coordinator: Isabel Lopez Bazzochi (Universidade de La Laguna, Spain).

GBA members: **Ana Seca** and **Maria do Carmo Barreto** (Universidade dos Açores - GBA/cE3c).

Funding Institution: European Union.

Budget for the GBA: 105.678,44 Euros.

INTERNATIONAL PROJECTS STARTING IN 2017

(2017-2024) - IUCN SSC MACARONESIAN ISLANDS PLANT SPECIALIST GROUP

Coordinator: Mónica Moura (Universidade dos Açores-CIBIO) and Juli Caujapé-Caustells (Jardín Botánico "Viera y Clavijo").

GBA members: **Rui Bento Elias** (Universidade dos Açores - GBA/cE3c).

Funding Institution: IUCN.

Budget for the GBA: Compensation in kind.

INTERNATIONAL PROJECTS STARTING IN 2016

(2016-2024) IUCN/SSC SPECIES MONITORING SPECIALIST GROUP

Coordinator: Peter J. Stephenson (University of Lausanne, Switzerland).

GBA members: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c) and **Pedro Cardoso** (Finnish Museum of Natural History, University of Helsinki, Finland).

Funding Institution: IUCN.

Budget for the GBA: Compensation in kind.

INTERNATIONAL PROJECTS STARTING IN 2015

(2015-2024) - IUCN SSC MID-ATLANTIC ISLAND INVERTEBRATES SPECIALIST GROUP

Coordinator: Vicky Kindemba (Buglife - The Invertebrate Conservation Trust - UK) and **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

GBA members: **Mário Boieiro, Virgílio Vieira, Isabel R. Amorim, Rosalina Gabriel, Ana Moura Arroz** (Universidade dos Açores - GBA/cE3c), Carla Rego (Universidade de Lisboa), **Pedro Cardoso** (Finnish Museum of Natural History, University of Helsinki, Finland) and Simone Fattorini (University of L'Aquila, Italy).

Funding Institution: IUCN.

Budget for the GBA: 6.000,00 Euros.

INTERNATIONAL PROJECTS STARTING IN 2014

(2014-2024) IUCN - SPIDER AND SCORPION SPECIALIST GROUP

Coordinator: **Pedro Cardoso** (Finnish Museum of Natural History, University of Helsinki, Finland).

GBA members: **Paulo A.V. Borges** and **Enésima Pereira** (Universidade dos Açores - GBA/cE3c).

Funding Institution: IUCN.

Budget for the GBA: Compensation in kind.

NATIONAL PROJECTS

NATIONAL PROJECTS STARTING IN 2023

(2023-2025) POLINIZAÇÃO - PLANO DE AÇÃO PARA A CONSERVAÇÃO E SUSTENTABILIDADE DOS POLINIZADORES

Coordinator: Sílvia Castro (Centro de Ecologia Funcional - Universidade de Coimbra).

GBA members: **Paulo A.V. Borges** and **Mário Boieiro** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Fundo Ambiental.

Budget for the GBA: 15.000,00 Euros.

(2023-2023) – Azores Camões: Caving Analog Mission for Ocean, Earth, and Space exploration

Coordinator: Ana Pires (Geosciences Researcher at INESC TEC) and Yvette Gonzalez (University of Plymouth, UK).

GBA members: **Isabel R. Amorim** and **Fernando Pereira** (Universidade dos Açores - GBA/cE3c).

Funding Institution: Associação Os Montanheiros and INESCTEC.

Budget for the GBA: Compensation in kind.

NATIONAL PROJECTS STARTING IN 2022

(2022-2025) MACRISK-TRAIT-BASED PREDICTION OF EXTINCTION RISK AND INVASIVENESS FOR NORTHERN MACARONESIAN ARTHROPODS

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Azorean Biodiversity cE3c Team members: **Rosalina Gabriel, Mário Boieiro** and **Isabel R. Amorim** (Universidade dos Açores - GBA/cE3c).

Other participants from other Institutions: **Pedro Cardoso** (Finnish Museum of Natural History, University of Helsinki, Finland), **François Rigal** (University of Pau, France), Ana M. C. Santos (Universidade Autónoma de Madrid, Spain) and **Jagoba Malumbres-Olarte** (Independent researcher, Toulouse, France).

Project's consultants: Kostas Triantis (Department of Ecology and Taxonomy, Faculty of Biology, National & Kapdistrian University of Athens, Greece), Axel Hochkrich (Trier Centre for Biodiversity Conservation of the University Trier, Germany) and Michael Samways (Department of Conservation Ecology & Entomology, Stellenbosch University, South Africa).

Funding Institution: FCT (Portuguese Science Foundation).

Budget for the GBA: 206.486,00 Euros.

NATIONAL PROJECTS STARTING IN 2021

(2021-2023) SSI - SENSE AND SENSIBILITY IN INTERACTIVITY: CONNECTING CHILDREN AND YOUTHS TO NATURE THROUGH THE DESIGN OF SENSORY, EXPERIENTIAL AND AESTHETIC EXPERIENCES

Coordinator: Sónia Matos (Instituto Superior Técnico, Portugal).

GBA members: **Ana Moura Arroz, Isabel R. Amorim** and **Rosalina Gabriel** (Universidade dos Açores - GBA/cE3c).

Funding Institution: FCT (Portuguese Science Foundation).

Budget for the GBA: Compensation in kind.

(2021-2023) FINANCIAMENTO PLURIANUAL DA FCT ÀS UNIDADES DE ID

Coordinator: **Rosalina Gabriel** (Universidade dos Açores - GBA/cE3c).

GBA members: **Ana Moura Arroz, Isabel R. Amorim** and **Rosalina Gabriel** (Universidade dos Açores - GBA/cE3c).

Funding Institution: FCT (Portuguese Science Foundation).

Budget for the GBA: Compensation in kind.

REGIONAL PROJECTS

REGIONAL PROJECTS STARTING IN 2022

(2022-2024) SUMMER SCHOOL IN ISLAND BIOGEOGRAPHY AND MACROECOLOGY (CURSO INTENSIVO DE VERÃO - 2ª ESCOLA DE VERÃO GRUPO DA BIODIVERSIDADE)

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: **Rosalina Gabriel, Rui Bento Elias, Isabel R. Amorim, Mário Boeiro, Gabor Pozsgai** (Universidade dos Açores - GBA/cE3c) and **Noelline Tsafack** (Azorean Biodiversity Group – cE3c).

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: 90.000,00 Euros.

(2022-2023) PO AÇORES - PORTAL DA BIODIVERSIDADE DOS AÇORES

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: See <https://azoresbioportal.uac.pt/current-team-members/>.

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: 50.000,00 Euros.

REGIONAL PROJECTS STARTING IN 2021

(2021-2023) PO AZORES PROJECT - APOIO AO FUNCIONAMENTO DO GRUPO DA BIODIVERSIDADE DOS AÇORES - CENTRO DE ECOLOGIA, EVOLUÇÃO E ALTERAÇÕES AMBIENTAIS (GBA/CE3C) M1.1.A/FUNC.UI&D/010/2021-2024

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: All Integrated Members of GBA/cE3c.

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: 520.490,23 Euros.

(2021-2023) CARACTERIZAÇÃO DA SITUAÇÃO AMBIENTAL DE REFERÊNCIA NA ÁREA ENVOLVENTE AO ECOPARQUE I DE SÃO MIGUEL, FASE I - SAREPA

Coordinator: **Armando dos Santos Rodrigues** (Universidade dos Açores - IVAR).

Members: **Patrícia Garcia** (Universidade dos Açores - GBA/cE3c).

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: Compensation in kind.

REGIONAL PROJECTS STARTING IN 2019

(2019-2023) PO AÇORES - PASTURCLIM - IMPACT OF CLIMATE CHANGE ON PASTURE'S PRODUCTIVITY AND NUTRITIONAL COMPOSITION IN THE AZORES

Coordinator: **Rui Bento Elias** (Universidade dos Açores - GBA/cE3c).

Members: **Maria Teresa Ferreira** (Azorean Biodiversity Group – cE3c), **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c), João da Silva Madruga, Alfredo Emilio Silveira de Borba and João da Silva Madruga (Universidade dos Açores - Institute of Agricultural and Environmental Research and Technology).

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: 179.444,78 Euros.

(2019-2023) PO AÇORES - ECO2 - TUTA - ECOLOGICAL AND ECONOMIC FEASIBILITY OF MASS PRODUCTION OF BIOLOGICAL AGENTS TO CONTROL TOMATO MOTH, TUTA ABSOLUTA (MEYRICK) (LEPIDOPTERA, GELECHIIDAE) IN PROTECTED CULTURE

Coordinator: **António Onofre Soares** (Universidade dos Açores - GBA/cE3c).

Co-leader: Maria Luísa Oliveira (Biotechnology Centre of Azores).

Members: **Isabel Borges** (Azorean Biodiversity Group – cE3c), João Cândido Tavares (Biotechnology Centre of Azores), Maria da Graça Câmara Batista (Centre of Applied Economics Studies of the Atlantic), João Carlos Aguiar Teixeira (Centre of Applied Economics Studies of the Atlantic), José Adriano Rodrigues Mota (Governmental Direção de Serviços de Agricultura da Direção Regional da Agricultura) and Ana Catarina Faria Silva Durão (Governmental Direção de Serviços de Agricultura da Direção Regional da Agricultura).

Collaborators: Elisabete Figueiredo (Linking Landscape, Environment, Agriculture and Food), Elsa Borges da Silva (Forest Research Centre), José Carlos Franco (Forest Research Centre), Eric Lucas (University Laval) and Silvia Todorova (Anatis Bioprotection Inc.).

Funding Institution: DRCT (Azorean Science Foundation).

Budget for the GBA: 176.382,6 Euros.

APPENDIX 2. DETAILED INFORMATION OF SERVICE ACQUISITION

Different financial sources

SERVICE ACQUISITION STARTING IN 2023

(2023-2026) QUANTIFICAÇÃO DO INDEX OF BIOTIC INTEGRITY (IBI) NAS ÁREAS DE INTERVENÇÃO DO PROJETO LIFE SNAILS

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: **Noelline Tasafck** (Azorean Biodiversity Group – cE3c).

Funding Institution: Secretaria Regional do Ambiente e Alterações Climáticas.

Budget for the GBA: 35.675,00 Euros

SERVICE ACQUISITION STARTING IN 2022

(2022-2023) APOIO TÉCNICO NA MONITORIZAÇÃO E IDENTIFICAÇÃO DE LEPIDÓPTEROS NOTURNOS DO PROJETO LIFE NATURA@NIGHT

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: **Virgílio Vieira** (Azorean Biodiversity Group – cE3c).

Funding Institution: SPEA – Sociedade Portuguesa para o Estudo das Aves.

Budget for the GBA: 8.620,00 Euros

(2022-2023) MATELA – UMA ILHA DE BIODIVERSIDADE

Coordinator: **Rosalina Gabriel** and **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: Ana Moura Arroz, Isabel R. Amorim, Mário Boieiro and Rui Bento Elias (Universidade dos Açores - GBA/cE3c).

Funding Institution: Associação Viridia.

Budget for the GBA: 20.000,00 Euros

SERVICE ACQUISITION STARTING IN 2020

(2020-2024) PREPARATORY AND MONITORING ACTIONS FOR LIFE BEETLES PROJECT

Coordinator: **Paulo A.V. Borges** (Universidade dos Açores - GBA/cE3c).

Members: **Alejandra Ros-Prieto**, **Mário Boieiro** (Universidade dos Açores - GBA/cE3c) and **Maria Teresa Ferreira** (Azorean Biodiversity Group – cE3c).

Funding Institution: AZORINA (LIFE EU Project).

Budget for the GBA: 111.890,00 Euros

SERVICE ACQUISITION STARTING IN 2018

(2018-2023) ELABORAÇÃO DA LISTA VERMELHA DE GRUPOS DE INVERTEBRADOS TERRESTRES E DE ÁGUA DOCE DE PORTUGAL CONTINENTAL

Coordinator: **Mário Boieiro** (Universidade dos Açores - GBA/cE3c).

Executive Coordinator: Carla Rego (Universidade de Lisboa).

Funding Institution: POSEUR e Fundo Ambiental.

Global Budget: 528.490,23 Euros.

APPENDIX 3. DETAILED INFORMATION OF PUBLICATIONS

ARTICLES IN SCI JOURNALS (WITH IMPACT FACTOR)

2023. SCOPUS PAPERS WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=67)

1. Araujo, G.S., Kurtz, Y.R., Sazima, I., Carvalho, P.H., Floeter, S.R., Vilasboa, A., Rotundo, M.M., Ferreira, C.E.L., **Barreiros, J.P.**, Pitassy, D.E. & Carvalho-Filho, A. (2023) Evolutionary history, biogeography, and a new species of Sphoeroides (Tetraodontiformes: Tetraodontidae): how the major biogeographic barriers of the Atlantic Ocean shaped the evolution of a pufferfish genus. *Zoological Journal of the Linnean Society*, **20**, 1-16. DOI:10.1093/zoolinnea/zlad055 (IF2022 2,8; Q1 Zoology) <http://hdl.handle.net/10400.3/6862>
2. **Barcelos, L.M.D.**, Vandeperre, F., Parra, H. & **Barreiros, J.P.** (2023) Sea turtle (Reptilia, Testudines) diversity and occurrence in the Azores Archipelago (NE Atlantic). *Biodiversity Data Journal*, **11**, e98589. DOI:10.3897/BDJ.11.e98589 (IF2022 1,3; Q3 Biodiversity Conservation) <http://hdl.handle.net/10400.3/6644>
3. **Barreiros, J.P.** & Coleman, F.C. (2023) West African Goliath Grouper: where are they between Senegal and Angola? *Fishes*, **8**, 318. DOI:10.20944/preprints202304.1121.v1 (IF2022 2,3; Q2 Fisheries) <http://hdl.handle.net/10400.3/6740>
4. Barros, D.D., Mathias, M.d.L., **Borges, P.A.V.** & Borda-de-Água, L. (2023) The importance of including spatial autocorrelation when modelling species richness in archipelagos: a Bayesian approach. *Diversity*, **15(2)**, 127. DOI:10.3390/d15020127 (IF2022 2,4; Q3 Ecology) <http://hdl.handle.net/10400.3/6830>
5. Bernardo, F., **Garcia, P.V.** & Rodrigues, A. (2023) Air quality at Ponta Delgada city (Azores) is unaffected so far by growing cruise ship transit in recent years. *Atmosphere*, **14(1)**, 188. DOI:10.3390/atmos14010188 (IF2022 2,9; Q3 Meteorology & Atmospheric Sciences) <http://hdl.handle.net/10400.3/6570>
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1. **Boieiro, M.**, A. Ceia-Hasse, Caramujo, M.J., Cardoso, P., Garcia Pereira, P., Pires, D., Reis, J. & C. Rego (Eds.) (2023) *Livro Vermelho dos Invertebrados de Portugal Continental*. FCIências.ID e ICNF I.P., Lisboa. 468 pp. ISBN: 978-989-53724-4-7. <http://hdl.handle.net/10400.3/6904>
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39. **Vieira, V.** (2023) *Vanessa atalanta* (Linnaeus, 1758). *Guia Prático da Fauna Terrestre dos Açores* (ed. by **R. Gabriel** and **P.A.V. Borges**), 278-279. 2nd edition. Instituto Açoreano da Cultura, Angra do Heroísmo. ISBN:978-989-8225-82-5. <http://hdl.handle.net/10400.3/6872>
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41. **Vieira, V.** (2023) *Xanthorhoe inaequata* Warren, 1905. *Guia Prático da Fauna Terrestre dos Açores* (ed. by **R. Gabriel** and **P.A.V. Borges**), 260-261. 2nd edition. Instituto Açoreano da Cultura, Angra do Heroísmo. ISBN:978-989-8225-82-5. <http://hdl.handle.net/10400.3/6872>

BOOK REVIEWS

2023. BOOK REVIEWS WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=1)

1. Pozsgai, G. (2023) Birds on the move. *Community Ecology*, **24**, 133-134. DOI:10.1007/s42974-022-00120-8.

NATIONAL AND INTERNATIONAL PEER REVIEWED PAPERS (NO IMPACT FACTOR)

2023. PEER-REVIEWED PAPERS WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=4)

1. **Lopes, D.H.**, Andrade, E., Egartner, A., Beitia, F., Rot, M., Chireceanu, C., Balmés, V., Loomans, A., Konefal, T. & Radonjić, S. (2023) FRUITFLYRISKMANAGE: a Euphresco project for *Ceratitis capitata* Wiedemann (Diptera: Tephritidae) risk management applied in some European countries. *Eppo Bulletin*, **53(2)**, 354-371. DOI:10.1111/epp.12922. <http://hdl.handle.net/10400.3/6824>
2. **Lopes, D.H.**, **Tarantino, E.** & Moules, C. (2023) Efficacy of two traps and three different pheromone-based attractants to control the banana weevil adults *Cosmopolites sordidus* (Coleoptera: Curculionidae) in banana orchards on Terceira Island, Azores. *IOBC-WPRS Bulletin*, **166**, 121-127. <http://hdl.handle.net/10400.3/6829>

3. Pinto, T., Ascensão, F. & **Boeiro, M.** (2023) *Proceratium melinum* (Roger, 1860): the first record of Proceratiinae ants from Portugal (Hymenoptera, Formicidae). *Boletín de la Sociedad Entomológica Aragonesa*, **73**, 147-148. <http://hdl.handle.net/10400.3/6889>
4. **Tiengo R.**, Palácios-Orueta A., **Uchôa J.** & **Gil A.** (2023) Remote sensing approaches for land use/land cover change in coastal areas and oceanic islands: an open science-based systematic review. *Journal of Integrated Coastal Zone Management*, **23(2)**, 155-177. DOI: 10.5894/rgci-n552.

2023. PEER-REVIEWED PAPERS WRITTEN BY ASSOCIATE RESEARCH FELLOWS ONLY (N=2)

1. Soares, F., de Lima, R.F., Rodrigues, A., Cardoso, P., **Matthews, T.J.** & Palmeirim, J. (2023) Patterns and drivers of taxonomic and functional changes in oceanic island bird assemblages. *Authorea*. DOI:10.22541/au.167897179.97548704/v1. <http://hdl.handle.net/10400.3/6684>
2. Zapata, W., Vergara-Moreno, D., Carrillo-Pallares, M., Segovia-Paccinia, A., Navas S, G.R. & **Malumbres-Olarte, J.** (2023) Seasonal diversity of spider assemblages (Araneae: Arachnida) in the “Guillermo Piñeres” Botanical Garden, Turbaco–Colombia. *Neotropical Biodiversity*, **9(1)**, 17-28. DOI:0.1080/23766808.2022.2157948. <http://hdl.handle.net/10400.3/6557>

PROCEEDINGS OF SYMPOSIA

2023. PROCEEDINGS OF SYMPOSIA WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=1)

1. Cabral, V., Matos, A.A., **Borges, P.A.V.**, Borda-de-Água, L. & Azevedo, E.B. (2023) Modeling the distribution of invasive species in small islands under future climates. *Actas do décimo quarto Simpósio de Informática (INForum 2023)*, 1-6 Faculdade de Engenharia da Universidade do Porto, Porto, Portugal. <http://hdl.handle.net/10400.3/6930>

OUTREACH PUBLICATIONS

2023. PAPERS IN PERIODICALS WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=10)

1. **Amorim, I.R.**, Parmentier, L., Leite, A., **Wallon, S.**, **Ros-Prieto, A.**, **Costa, R.**, **Lhoumeau, S.**, Barcelos, P.J.M., Mendonça, P., Coelho, R., Rodrigues, A.F.F., **Borges, P.A.V.** & **Malumbres-Olarte, J.** (2023) Festa do Bioblitz Açores 2023: tantas espécies que vivem no Jardim! *Pingo de Lava*, **45**, 72-79. <http://hdl.handle.net/10400.3/6868>
2. **Amorim, I.R.**, **Pereira, F.** & **Borges, P.A.V.** (2023) A cigarrinha-das-raízes-cavernícola da ilha do Pico: *Cixius azopicavus* Hoch, 1991. *Pingo de Lava*, **45**, 104-105. <http://hdl.handle.net/10400.3/6890>
3. **Barreto, M.C.** (2023) Tanto açúcar escondido – mas vamos encontrá-lo! *Cê de Ciência, Açores Magazine*, p. 13. Setembro. <http://hdl.handle.net/10400.3/6906>
4. **Barreiros J.P.** (2023) Os biomas humanos – cada um de nós é um “ecossistema” ambulante. *Atlântida Revista de Cultura*, **68**, 107-112.

5. **Boieiro, M.** & Morgado, L. (2023) Apicultura em ambiente insular - Aliar a produção com a conservação da natureza. *UAciência, Açores Magazine*, p. 12-13. Novembro. <http://hdl.handle.net/10400.3/6801>
6. **Borges, P.A.V.**, Leite, A., Parmentier, L., **Costa, R.**, **Lhoumeau, S.**, **Boieiro, M.**, **Amorim, I.R.** & **Malumbres-Olarte, J.** (2023) Festa do Bioblitz Açores: a diversidade dos artrópodes do Jardim Duque da Terceira. *Pingo de Lava*, **45**, 80-87. <http://hdl.handle.net/10400.3/6869>
7. **Costa, T.**, Botelho, R., Teodósio, J., Figueiredo, F., Amaral, A., Mendonça, A. & De la Cruz, A. (2023) Priôlo - resultado de duas décadas de conservação. *Pingo de Lava*, **45**, 63-71. <http://hdl.handle.net/10400.3/6888>
8. **Gabriel, R.**, Ramos-Lemoine, V., Orozco-Borgas, A., Barcelos, P.J.M. & **Arroz, A.M.** (2023) As áreas naturais protegidas mais conhecidas pelos residentes na ilha Terceira. *Pingo de Lava*, **45**, 92-97. <http://hdl.handle.net/10400.3/6870>
9. **Garcia, P.** & Rodrigues, A. (2023) Exposição crónica a mercúrio vulcânico e efeitos na saúde. *UAciência, Açores Magazine*, p. 12-13. Julho. <http://hdl.handle.net/10400.3/6796>
10. **Lhoumeau, S.** (2023) O impacto da alteração da estrutura do habitat na complexidade das cadeias alimentares dos artrópodes nas florestas açorianas. *UAciência, Açores Magazine*, p. 12-13. Julho. <http://hdl.handle.net/10400.3/6795>

2023. STAMPS INSPIRED BY AT LEAST ONE INTEGRATED MEMBER (N=1)

1. **Vieira, V.**, **Borges, P.A.V.** & Martins, A.M.F. (2023) Fauna Terrestre dos Açores. Coleção de selos. CTT. Lisboa.

TECHNICAL REPORTS

2023. TECHNICAL REPORTS WRITTEN BY AT LEAST ONE INTEGRATED MEMBER (N=7)

1. **Amorim, I.R.** (2023) *Relatório final do projeto de ciência cidadã "Traços a Cores - Investigação sobre a biodiversidade dos Açores"* (FRCT M3.4.B/CIÊNCIA CIDADÃ/041/2019). Universidade dos Açores, Angra do Heroísmo, 70 pp.
2. **Amorim, I.R.** (2023) Relatório final do projeto de difusão científica e tecnológica "Fala Ciência? Comunicar ciência nos Açores, 5ª edição" (M3.4.B/ORG EVENTOS/2022/2/011/RTF/007). Universidade dos Açores, Angra do Heroísmo, 22 pp. <http://hdl.handle.net/10400.3/6936>
3. **Borges, P.A.V.** (Coord.) (2023) *Relatório Técnico-Financeiro - Portal da Biodiversidade dos Açores*. Grupo da Biodiversidade dos Açores - cE3c, Universidade dos Açores, 2 pp. <http://hdl.handle.net/10400.3/6933>
4. **Elias, R.B.**, **Melo, C.D.**, **Wallon, S.**, Maduro Dias, C.S.A.M., Borba, A.E.S., Madruga, J., **Borges, P.A.V.** & Ferreira, M.T. (2023) *Relatório final do projeto PASTURCLIM - Possíveis impactes das alterações climáticas nas pastagens dos Açores* (ACORES-01-0145-FEDER-000082). Universidade dos Açores, Angra do Heroísmo, 40 pp. <http://hdl.handle.net/10400.3/6938>
5. **Borges, P.A.V.**, **Soares, A.O.**, **Ferrante, M.**, **Gil, A.**, **Lopes, D.H.L.**, **Girardello, M.**, Monjardino, P., **Lövei, G.L.**, **Rigal, F.** & Bacher, S. (2023) *Relatório final do projeto AGRO-ECOSERVICES – Assessing ecosystem services and disservices provided by arthropod species in Azorean agroecosystems* (ACORES-01-0145-FEDER-000073). Universidade dos Açores, Angra do Heroísmo, 95 pp. <http://hdl.handle.net/10400.3/6934>

6. **Soares, A.O.** & Oliveira, M.L. (2023) Relatório Final. ECO2 -TUTA - Ecological and economic feasibility of mass production of biological agents to control tomato moth, *Tuta absoluta* (Meyrick) (Lepidoptera, Gelechiidae) in protected culture (ACORES-01-0145-FEDER-000081). Universidade dos Açores, Ponta Delgada, 111 pp. <http://hdl.handle.net/10400.3/6937>
7. Wilkins, V. & **Borges, P.A.V.** (2023) 2022 report of the IUCN SSC Mid-Atlantic Island Invertebrate Specialist Group. IUCN-SSC. Reports. <http://hdl.handle.net/10400.3/6935>

OTHER TYPE OF PUBLICATIONS

This section includes the publications of different formats, namely datasets, contributions to newsletters, and pre-prints by members of the GBA/cE3c.

2023. DATASETS PUBLISHED BY AT LEAST ONE INTEGRATED MEMBER (N=5)

1. **Borges, P.A.V.**, Crespo, L.C., **Pereira, F.**, **Malumbres-Olarte, J.** & Cardoso, P. (2023). *Spiders from Macaronesia: Cabo Verde. v1.1*. Universidade dos Açores. Dataset/Samplingevent. DOI:10.15468/p94j28. <http://hdl.handle.net/10400.3/6852>
2. **Gabriel, R.**, Morgado, L., Coelho, M.C., Aranda, S., Henriques, D.S., **Pereira, F.**, **Borges, P.A.V.**, Hespanhol, H.H., Sérgio, C., Sim-Sim, M. & Ah-Peng, C. (2023) *The MOVECLIM – AZORES project: Bryophytes from Pico Island (2012) v1.1*. Universidade dos Açores. Dataset/Samplingevent. DOI:10.15468/j8tarb. <http://hdl.handle.net/10400.3/6907>
3. **Lamelas López, L.** & Borges, P. A. V. (2023) *Sampling of Azores seabirds with camera-traps - Year 2019. v1.0*. Universidade dos Açores. Dataset/Samplingevent. DOI:10.15468/umj3nb. <http://hdl.handle.net/10400.3/6640>
4. Teixeira, M.B., **Soares, A.O.**, Calvet, M., Peñalver, Á., Monteiro, H., Frias, J., **Borges, P.A.V.** & Simões, N. (2023) *Monitoring ground arthropods in maize and pasture fields of São Miguel and São Jorge Islands: IPM-Popillia Project. v1.0*. Universidade dos Açores. Dataset/Samplingevent. DOI:10.15468/4cnhw9 <http://hdl.handle.net/10400.3/6849>
5. **Wallon, S.**, **Elias, R.B.** & **Borges, P.A.V.** (2023) *Monitoring grassland's arthropods in a in situ climate change experimentation (Terceira, Azores, Portugal). v1.0*. Universidade dos Açores. Dataset/Samplingevent. DOI:10.15468/u2xh5g. <http://hdl.handle.net/10400.3/6683>

2023. NEWSLETTERS PUBLISHED BY AT LEAST ONE INTEGRATED MEMBER (N=3)

1. **Barreiros, J.P.** (2023) A different perspective on groupers through scientific illustration techniques in Portugal. *Newsletter of the Groupers & Wrasses Specialist Group of the International Union for the Conservation of Nature*, **15**. March 2023. <http://hdl.handle.net/10400.3/6683>
2. **Barreiros, J.P.** (2023) Is there Hope for Nassau grouper? *Newsletter of the Groupers & Wrasses Specialist Group of the International Union for the Conservation of Nature*, **15**. March 2023. <http://hdl.handle.net/10400.3/6691>

3. **Borges, P.A.V.** (2023) Mid Atlantic Islands Invertebrate Specialist Group newsletter. MAISG Newsletter, **9**, December 2023.

2023. PREPRINTS PUBLISHED BY AT LEAST ONE INTEGRATED MEMBER (N=3)

1. Marques, J.P., Alves, P.C., **Amorim, I.R.**, Lopes, R.J., Moura, M., Meyers, G., Sim-Sim, M., Sousa-Santos, C., ... **Borges, P.A.V.**, ..., *et al.*, (2023) Building a Portuguese Coalition for Biodiversity Genomics. EcoEvoRxiv. DOI:10.32942/X20W3Q. <http://hdl.handle.net/10400.3/6825>
2. Mc Cartney, A.M., Formenti, G., Mouton, A., De Panis, D., Marins, L.S., Leitão, H.G., ... **Amorim, I.R.**, ... **Borges, P.A.V.**, ... & Pippel, M. (2023) The European Reference Genome Atlas: piloting a decentralised approach to equitable biodiversity genomics. bioRxiv. DOI:10.1101/2023.09.25.559365 <http://hdl.handle.net/10400.3/6875>
3. Varga-Szilay Zs., Fetyko, K.G., Szövényi, G., **Pozsgai, G.** (2023) Bridging biodiversity and gardening: unravelling the interplay of socio-demographic factors, garden practices, and garden characteristics. bioRxiv. DOI:10.1101/2023.12.03.569783

APPENDIX 4. SCIENTIFIC MEETINGS: ORGANIZATION AND PARTICIPTION

The following tables provide data regarding the organization (Table 6) and participation (Table 7) in scientific meetings by members of the Azorean Biodiversity Group in 2023.

Table 6. Organization of scientific meetings from GBA/cE3c members throughout 2023.

<i>Type</i>	<i>Scientific Meeting</i>	<i>Country</i>	<i>Researcher(s)</i>
Scientific Committee	ISLAND BIOLOGY 2023. 4th Conference of the Society of Island Biology, 2-7 julho de 2023.	Itália	Paulo A.V. Borges
	13º Encontro Nacional de Cromatografia, 17-19 dezembro 2023. https://13enc.events.chemistry.pt/	Portugal	Ana Seca
Organizing Committee	Encontro Anual da Rede Pollinet, 23 junho 2023.	Online	Mário Boieiro
	Sessão pública de apresentação dos resultados do projeto Lista Vermelha dos Invertebrados de Portugal Continental, 18 julho 2023.	Portugal	Mário Boieiro
	Workshop de Biopesticidas: Workshop de elaboração da estratégia integral de promoção e desenvolvimento de biopesticidas botânicos da Macaronésia, 26-29 julho 2023.	Portugal	Carmo Barreto; Ana Seca

Table 7. Participation in scientific meetings by GBA/CE3c members, including both oral and poster presentations, throughout 2023.

<i>Type</i>	<i>Name</i>	<i>Local</i>	<i>Date</i>	<i>Complete reference</i>
Oral	GU General Assembly 2023	Austria	23-28 April	Tiengo, R., Palacios-Orueta, A., Uchôa, J. & Gil, A. (2023) Remote sensing approaches for land use/land cover change detection in coastal areas and oceanic islands: a systematic review. GU General Assembly, 23-28 April. Austria.
Oral	XVIII CONFIBSIG 2023 Cáceres	Espanha	16-19 May	Tiengo, R., Palácios-Orueta, A., Uchôa, J. & Gil, A. (2023) Metodologías de teledetección para el cambio de cobertura y uso del suelo en áreas costeras e islas oceánicas: una revisión sistemática. XVIII CONFIBSIG 2023 Cáceres, 16-19 May. Espanha.
Oral	3rd International Congress of Health and Well-being Intervention	Portugal	25-27 May	Carmo, C., Rohani, D.A., Seca, A.M.L. (2023) Development of a MHEALTH tool for well-being improvement of chronic patients and optimization of health system's resources. 3rd International Congress of Health and Well-being Intervention, 25-27 May. Portugal.
Oral	Science CHANGing Policy - CHANGE - Global Change and Sustainability Institute	Portugal - Évora	02 June	Soares, A.O. (2023) Toward an eco-friendlier agricultural and forestry practices: ecosystem services provided by natural enemies. Science CHANGing Policy - CHANGE - Global Change and Sustainability Institute 45445, 2 June. Portugal – Évora.
Oral	Reunião Anual- polli.NET	Portugal - Coimbra	23 June	Borges, P.A.V. (2023) Como explorar a diversidade de polinizadores dos Açores no Portal da Biodiversidade dos Açores. Reunião Anual- polli.NET, 23 June. Portugal – Coimbra.
Oral	4th Conference of the Society of Island Biology	Italy	2-7 July	Borges, P.A.V. (2023) Long-term monitoring of the Azorean native forest arthropods: what we have learned so far. 4th Conference of the Society of Island Biology 2-7, July. Itália.

<i>Type</i>	<i>Name</i>	<i>Local</i>	<i>Date</i>	<i>Complete reference</i>
Oral	4th Conference of the Society of Island Biology	Itália	2-7 July	Costa, R., Cardosos, P., Rigal, F. & Borges, P.A.V. (2023) Vertical stratification of spiders in Macaronesian forests. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Oral	4th Conference of the Society of Island Biology	Itália	2-7 July	Gabriel, R., De Benedictis, M. & Arroz, A.M. (2023, 6 de Julho) Exploring Azorean Students' Perspectives and Knowledge of Bryophytes: Implications for Environmental Education and Nature Conservation. Island Biology 2023: Ecological and Evolutionary Processes on Real and Habitat Islands - Humans and Islands. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Oral	4th Conference of the Society of Island Biology	Itália	2-7 July	Gabriel, R., Peroni, C., Polaino-Martin, C., Jennings, L.V.S., Canullo, R., Arruda, T.C. & Aleffi, M. (2023, 7 de Julho) Comparative study of bryophyte communities in caves and outside habitats in Terceira Island, Azores. Island Biology 2023: Ecological and Evolutionary Processes on Real and Habitat Islands - Nature Conservation. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Oral	4th Conference of the Society of Island Biology	Itália	2-7 July	Tsafack, N., Lhoumeau, S., Ros-Prieto, A., Navarro, L., Kocsis, T., Manso, S., Figueiredo, T., Ferreira, M.T. & Borges, P.A.V. (2023) A novel approach to assessing the ecological condition of Azores archipelago's native forests: Arthropod-based biotic integrity indices. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Oral	International Congress for Conservation Biology	Ruanda	23-27 July	Barcelos, L.D. & Barreiros, J.P. (2023) Azores' Fish Diversity - projections derived from climate changes. International Congress for Conservation Biology, Kigali, Rwanda. AB381/Speed talks. International Congress for Conservation Biology, 23-27 July. Ruanda.

<i>Type</i>	<i>Name</i>	<i>Local</i>	<i>Date</i>	<i>Complete reference</i>
Oral	International Congress for Conservation Biology	Ruanda	23-27 July	Barreiros, J.B., Barreiros, J.P. & Barcelos, L.D. (2023) Cetacean diversity in the Azores (NE Atlantic) – a conservation priority. International Congress for Conservation Biology, 23-27 July. Ruanda.
Oral	International Congress for Conservation Biology	Ruanda	23-27 July	Barreiros, J.P. , Fukushima C., & Cardoso, P. (2023) Scientist's Warnings and Perspectives on Wildlife Trade. International Congress for Conservation Biology, 23-27 July. Ruanda.
Oral	10th International Conference on Medical Geology - Medgeo 2023.	México	6-9 August	Bernardo, F., Pinho, P., Matos, P., Viveiros, F., Branquinho, C., Rodrigues, A. & Garcia, P.V. (2023) Our Air, Our Health: Spatially Modelling Health Risk Areas in Volcanic Hydrothermal Areas. 10th International Conference on Medical Geology - Medgeo 2023, 6-9 August. México.
Oral	10th International Conference on Medical Geology - Medgeo 2023.	México	6-9 August	Navarro, A., García, M., Segovia, Y., Camarinho, R., Garcia, P.V. & Rodrigues, A. (2023) Volcanic Gaseous Mercury: From the Environment to our Cns. 10th International Conference on Medical Geology - Medgeo 2023, 6-9 August. México.
Oral	XVII International Symposium on Marine Natural Products and XIII European Conference on Marine Natural Products	Espanha	3-8 September	Barreto, M.C., Ana M. L. Seca, Rosa, G.P. (2023) Cosmeceutical potential of marine macroalgae - an overview. XVII International Symposium on Marine Natural Products and XIII European Conference on Marine Natural Products, 3-8 September. Espanha.
Oral	XVII International Symposium on Marine Natural Products and XIII European Conference on Marine Natural Products	Espanha	3-8 September	Rosa, G.P., Barreto, M.C., Seca A.M.L., Pinto, D.C.G.A. (2023) Cosmeceutical potential of Caulerpa prolifera compounds and their derivatives. XVII International Symposium on Marine Natural Products and XIII European Conference on Marine Natural Products, Granada - Poster P.67, Abstract Book p. 187, 3-8 September, Spain.

<i>Type</i>	<i>Name</i>	<i>Local</i>	<i>Date</i>	<i>Complete reference</i>
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Arroz, A.M. , de Benedictis, M. & Gabriel, R. (2023, 8 de Setembro) What Azorean students' perspectives of bryophytes teaches us about Exposure and Connection to Nature. 9th Frontiers in Ecology Evolution and Environmental Change: Back to the Future. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Boieiro, M. , A. Ceia-Hasse, Caramujo, M.J., Cardoso, P., Garcia Pereira, P., Pires, D., Reis, J. & Rego, C. (2023) The Red List of invertebrates of mainland Portugal: a key tool for biodiversity conservation. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Borges, P.A.V. , Lhoumeau, S. , Ferreira, M.T. & Tsafack, N. (2023) Long-term monitoring of the Azorean native forest arthropods: The application of an Index of Biotic Integrity for future monitoring. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Cancela, J.P. , Borges, P.A.V. et al. (2023) Regional temperature and soil fertility interactively affect the response of pollinators and floral resources to nutrient enrichment. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Lhoumeau, S. & Borges, P.A.V. (2023) Exploring the Future of Terceira's Native Forest: Predictive Modeling of Arthropod Community Composition with Recurrent Neural Networks. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.

<i>Type</i>	<i>Name</i>	<i>Local</i>	<i>Date</i>	<i>Complete reference</i>
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Oyarzabal, G. , Cardoso, P., Rigal, F., Boieiro, M. , Santos, A.M.C., Amorim, I.R. , Malumbres-Olarte, J., Costa, R., Lhoumeau, S., Gabriel, R. & Borges, P.A.V. (2023). Arthropods traits and their vulnerability to extinction and invasiveness in Northern Macaronesian: The MACRISK Project. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Pozgai, G. , Rigal, F., Cardoso, P., Boieiro, M. , Gabriel, R. , Azevedo, E.B., & Borges, P.A.V. (2023) Trait association networks of Azorean arthropods. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Soares, A.O. , Oliveira, L., Borges, I., Silva, D., Durão, A.C., Arruda, P., Barbosa, F., Figueiredo, E., Franco, J.C., Lucas, E., Dutra, T.M., Batista, M.G., Teixeira, J.C.A., Todorova, S. & Tavares, J. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Oral	1.º Workshop Técnico do projeto LIFE BEETLES	Portugal - Angra do Heroísmo	15 September	Borges, P.A.V. (2023) Uma nova ferramenta para avaliar a condição ecológica das florestas nativas dos Açores: IBI – Índices Bióticos de Integridade. 1.º Workshop Técnico do Projeto LIFE BEETLES 45550, 15 September. Portugal - Angra do Heroísmo.
Oral	General Assembly Meeting of the IPM-Popillia Project	Grécia	18-20 September	Simões, N. & Soares, A. O. (2023). Task 2.2 Relating densities of <i>P. japonica</i> population with biotic and abiotic factors. General Assembly Meeting of the IPM-Popillia Project, 18-20 September. Grécia
Oral	Digital with Purpose Global Summit 2023	Portugal - Lisboa	27-29 September	Borges, P.A.V. (2023) AZOREAN BIODIVERSITY PORTAL. Digital with Purpose Global Summit 2023, 27-29 September. Portugal – Lisboa.

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Oral	XXXIV Encontro Nacional de Professores de Geografia “Ensino da Geografia dos Oceanos – Açores”	Portugal - Angra do Heroísmo	5-7 October	Barreiros, J.P. (2023) Invasões Lessepsianas no Mediterrâneo: a Crise Biológica da Abertura do Canal do Suez. XXXIV Encontro Nacional de Professores de Geografia “Ensino da Geografia dos Oceanos – Açores”, 5-7 October. Portugal - Angra do Heroísmo.
Oral	XII JORNADAS CIENTÍFICAS E CÁTEDRAS DO ISPG: “A pesquisa e inovação tecnológica como veículo para o desenvolvimento”	Moçambique	6 October	Borges, P.A.V. & Gabriel, R. (2023, 6 de Outubro) O Portal da Biodiversidade dos Açores - uma e-infrestrutura estratégica para o estudo e conservação da biodiversidade nos Açores. XII Jornadas Científicas e Cátedras do ISPG: “A pesquisa e inovação tecnológica como veículo para o desenvolvimento” 45571, 6 October. Moçambique.
Oral	Benefits and Risks of Exotic Biological Control Agents, 5th IOBC-WPRS group meeting combined with IOBC-Global group	Portugal - Aveiro	11-14 October	Soares, A.O. , et al. (2023) A roadmap for ladybird conservation and recovery. Benefits and Risks of Exotic Biological Control Agents, 5th IOBC-WPRS group meeting combined with IOBC-Global group 11-14 de setembro, Universidade de Aveiro, Aveiro, Portugal. 11-14 October. Portugal – Aveiro.
Oral	Encontros na Junta de Freguesia de Santa Bárbara (Ilha Terceira, Açores, Portugal)	Portugal - Angra do Heroísmo	12 October	Coelho, M.C.M., Arroz, A.M., Amorim, I.R. & Gabriel, R. (2023, 12 de Outubro) Empreendedorismo Social: o caso da associação AZORLINHO. AZORLINHO. Encontros na Junta de Freguesia de Santa Bárbara (Ilha Terceira, Açores, Portugal), 12 October. Portugal - Angra do Heroísmo.
Oral	Life in the Subsurface Conference - European Astrobiology Institute	Portugal - Angra do Heroísmo	25-27 October	Borges, P.A.V. (2023, 27 de Outubro) The volcanic caves from Azores: geo and biodiversity patterns. Life in the Subsurface Conference - European Astrobiology Institute - Açores, 25-27 October. Portugal - Angra do Heroísmo.

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Oral	Life in the Subsurface Conference - European Astrobiology Institute	Portugal - Angra do Heroísmo	25-27 October	Gabriel, R. (2023, 27 de Outubro) Exploring Azorean lava caves as refuges for biodiversity and nature conservation. Life in the Subsurface Conference - European Astrobiology Institute - Açores, 25-27 October. Portugal - Angra do Heroísmo.
Oral	12º Encontro Nacional de Proteção Integrada	Portugal - Elvas	30-31 October	Lopes, D.J.H. (2023) Contributos dos projetos Cuarentagri e FruitFlyManage para a promoção de uma agricultura sustentável nos Açores. 12º Encontro Nacional de Proteção Integrada, 30-31 October. Portugal – Elvas.
Oral	1st International Scientific Conference ‘Agricultural Challenges to Climate Change’	Croácia	30-31 October	Lopes, D.J.H. (2023) Monitoring and modeling of crop pests as important parts of an ipm approach in an agricultural warning system in Azores Islands, Portugal. 1st International Scientific Conference Agricultural Challenges to Climate Change, 30-31 October. Croácia.
Oral	22º Encontro Nacional de Ecologia (SPECO)	Portugal - Faro	22-25 November	Boieiro, M., A. Ceia-Hasse, Caramujo, M.J., Cardoso, P., Garcia-Pereira, P., Pires, D., Reis, J., Rego, C. (2023) A Lista Vermelha e a conservação dos invertebrados terrestres e dulçaquícolas de Portugal continental. 22º Encontro Nacional de Ecologia (SPECO), 22-25 November. Portugal - Faro.
Oral	22º Encontro Nacional de Ecologia	Portugal - Faro	22-25 November	Oyarzabal, G., Cardoso, P., Rigal, F., Boieiro, M., Santos, A.M.C., Amorim, I.R., Malumbres-Olarte, J., Costa, R., Lhoumeau, S., Gabriel, R. & Borges, P.A.V. (2023) Uncovering arthropod abundance patterns in oceanic islands: Insights from the MACRISK Project. 22º Encontro Nacional de Ecologia, 22-25 November. Portugal – Faro.
Oral	XXVII Encontro Luso-Galego de Química	Portugal - Porto	22-24 November	Rosa, G.P., Barreto, M.C., Seca, A.M.L. & Pinto, D.C.G.A. (2023) Phytosterol and phytol derivatives with increased cosmeceutical potential. XXVII Encontro Luso-Galego de Química, 22-24 November. Portugal – Porto.

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Oral	VIII PhD Students Meeting in Environment and Agriculture (Encontro de Estudantes de Doutoramento em Ambiente e Agricultura–EEDAA)	Portugal - Évora	11-12 December	Borges, P.A.V., Lhoumeau, S. & Tsafack, N. (2023) Enhancing Understanding of Insect Decline through Extensive Monitoring of Azorean Forest Arthropods over Time (2012-2023). VIII PhD Students Meeting in Environment and Agriculture (Encontro de Estudantes de Doutoramento em Ambiente e Agricultura–EEDAA), 11-12 December. Portugal – Évora.
Oral	I Congreso Internacional sobre el Patrimonio Natural y Cultural de la Macaronesia	Espanha	14-15 December	Gabriel, R. (2023, 14 de Dezembro) Património Natural dos Açores: Um legado para o futuro. I Congreso Internacional sobre el Patrimonio Natural y Cultural de la Macaronesia, 14-15 December. Espanha.
Poster	XVII Congresso Internacional de Mirmecologia	Portugal - Beja	28-30 June	Pinto, T., Boieiro, M. , Ascensão, F. (2023) Does road proximity influence the structure and composition of ant communities? XVII Congresso Internacional de Mirmecologia, 28-30 June. Portugal – Beja.
Poster	4th Conference of the Society of Island Biology	Itália	2-7 July	Pimentel, M. & Elias, R.B. (2023) Invasion and experimental control of <i>Pittosporum undulatum</i> Vent. in the Azores: insights from a ten-year study in Terceira Island. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Poster	4th Conference of the Society of Island Biology	Itália	2-7 July	Tsafack, N., Pozsgai, G., Boieiro, M., Ros-Prieto, A., Nunes, R., Ferreira, M.T. & Borges, P.A.V. (2023) Edge effects constrain endemic but not introduced arthropod species in a pristine forest on Terceira (Azores, Portugal). 4th Conference of the Society of Island Biology, 2-7 July. Itália.

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Poster	4th Conference of the Society of Island Biology	Itália	2-7 July	Oyarzabal, G. , Cardoso, P., Rigal, F., Boeiro, M. , Santos, A.M.C., Amorim, I.R., Malumbres-Olarte, J., Costa, R. , Lhoumeau, S. , Gabriel, R. & Borges, P.A.V. (2023) Summarizing traits to predict extinction and invasiveness of Northern Macaronesian arthropods: The MACRISK Project. 4th Conference of the Society of Island Biology, 2-7 July. Itália.
Poster	XX Congresso Ibérico de entomologia	Espanha	26-30 July	Serrano, A.R.M., Boeiro, M. , Martins da Silva, P. (2023) The rose chaffers (Coleoptera, Scarabaeidae, Cetoniinae) of Gorongosa National Park (Mozambique): a preliminary approach. XX Congresso Ibérico de Entomologia, 26-30 June. Espanha.
Poster	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Barreiros, J.B., Barcelos, L.M.D. & Barreiros, J.P. (2023) Occurrence of the Cookiecutter shark, <i>Isistius</i> sp., in the Azores inferred by recent bite marks in Cetaceans. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Poster	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Gabriel, R. , Coelho, M.C.M. & Ah-Peng, C. (2023, 7-8 de Setembro) Different Ways to Retain Water: External and Internal Water Content of 14 Bryophyte Species in Azorean Native Vegetation. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Poster	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Kuhtinskaja, M., Tavares, WR., Barreto, M.C. , Seca, A.M.L. , Vaher, M. (2023) <i>Hedychium gardnerianum</i> and the chemical composition of polar extract. 9th Frontiers in E3, Back to the Future: Bridging History into Upcoming Scenarios. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.

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Poster	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Pinto, T., Ascensão, F. & Boieiro, M. (2023) Does road proximity influence the structure and composition of ant communities?. cE3c 9th Annual Meeting – Frontiers in E3 7-9 September. Portugal – Lisboa.
Poster	cE3c 9th Annual Meeting – Frontiers in E3	Portugal - Lisboa	7-9 September	Tavares, W.R., Medeiros, C., Barreto, M.C., Seca, A.M.L. (2023) Unveiling the Potential of an Invasive Plant: The Antioxidant and Antidiabetic Properties of <i>Gunnera tinctoria</i> (Molina) Mirbel. cE3c 9th Annual Meeting – Frontiers in E3, 7-9 September. Portugal – Lisboa.
Poster	XII European Congress of Entomology	Grécia	16-20 October	Borges, I., L. Oliveira, A. C. Durão, P. Arruda & Soares, A.O. (2023) Feeding preference and intraguild interactions between the parasitoid <i>Trichogramma achaeae</i> and the predator <i>Macrolophus pygmaeus</i> , two biological agents of <i>Tuta absoluta</i> . XII European Congress of Entomology, 16-20 October. Grécia.
Poster	XII European Congress of Entomology	Grécia	16-20 October	Pozsgai, G., Cardoso, P., Rigal, F., Boieiro, M., Gabriel, R., Azevedo, E.B. & Borges, P.A.V. (2023) Differences between co-occurrence networks of indigenous and exotic arthropods in the Azorean archipelago. XII European Congress of Entomology, 16-20 October. Grécia.
Poster	XII European Congress of Entomology	Grécia	16-20 October	Varga-Szilay, Zs. & Pozsgai, G. (2023) Flower visitation through the lens: exploring bumblebees' behaviour with computer vision based application. XII European Congress of Entomology, 16-20 October. Grécia.

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Poster	12º Encontro Nacional de Proteção Integrada	Portugal - Elvas	30-31 October	Lopes, D.J.H. (2023) O escaravelho japonês (<i>Popillia japonica</i> Newman) (Coleoptera: Scarabaeidae) e a testagem de armadilhas inteligentes na sua monitorização na Ilha Terceira, Açores. 12º Encontro Nacional de Proteção Integrada, 30-31 October. Portugal – Elvas.
Poster	12º Encontro Nacional de Proteção Integrada	Portugal - Elvas	30-31 October	Soares, P., Galhano, C. & Gabriel, R. (2023, 30 a 31 de Outubro) Métodos de controlo de <i>Cynodon dactylon</i> (L.) Pers.: lacunas de conhecimento a preencher para uma gestão sustentável de infestantes. 12º Encontro Nacional de Proteção Integrada, 30-31 October. Portugal – Elvas.
Poster	XIX ENBE - International Meeting of Portuguese Association for Evolutionary Biology	Portugal - Lisboa	18-19 December	Galhofa, D., Sousa, F., Soares, A.O. , Borges, I., Bielza, O.P., Seabra, S.G, Figueiredo, E. & Paulo, O.S. (2023) DNA barcoding and phylogeny of Miridae specimens from the Azores, mainland Portugal and Spain, based on mitochondrial COI sequences. XIX ENBE - International Meeting of Portuguese Association for Evolutionary Biology, 18-19 December. Portugal – Lisboa.