AIISG NEWSLETTER

Number 10, July 2024

AIISG
IUCN SSC
Atlantic Islands Invertebrate Specialist Group
www.aiisg.net

HI AIISG MEMBERS

We are excited to share the latest news about ongoing invertebrate projects in the Atlantic Islands.

In this newsletter issue, we are pleased to introduce Lena Dempewolf, the new vice-chair of the group. Danniella Sherwood highlights the significant progress made in projects focused on addressing the gaps in the taxonomy and conservation of spiders on Saint Helena and Ascension Islands.

Yeray Monasterio Léon discusses the ongoing conservation efforts for the butterfly species in the Canary Islands and presents new proposals to protect endemic species. Liza Fowler provides updates on the ecology studies of the Golden Sail Spider *Argyrodes mellisi* on Santa Helena Island.

António Franquinho Aguiar shares news about the review of the Scarabaeoidea in the Madeira Archipelago and introduces the cicadellid *Penthimiola bella*, newly introduced at Madeira Island. Lastly, Mário Boieiro updates us on the monitoring of the endemic longhorn beetle *Deucalion oceanicum* from the Selvagens Islands.

We hope you enjoy the July 2024 newsletter edition.

Vicky, Paulo and Dinarte

NEW VICE-CHAIR FOR THE GROUP

By Vicky Wilkins

We have some exciting news. Given that the group now has an Atlantic reach, we took the opportunity to include a new vice-chair from the western Atlantic Islands in the AIISG. I am proud to present you Lena Dempewolf.

Lena currently serves as Biodiversity Specialist at the Environmental Policy and Planning Division of the Ministry of Planning and Development of Trinidad and Tobago. Her previous roles include consultancies as Junior Protected Areas Specialist for the FAO and Project Manager coordinating a national carbon-sequestration project for the University of the West Indies and the National Gas Company of Trinidad and Tobago, as well as her role as Programme Officer for the Water, Climate and Development Programme of the Global Water Partnership – Caribbean, alongside which she completed her PhD assessing neotropical agricultural pollinators. Her areas of expertise are ecosystem services and pollination ecology.

For more information about Lena and direct contacts please check the AIISG website: https://www.maiisg.com/member/Dempewolf

Welcome Lena!

"The AIISG has a new vice-chair: Lena Dempewolf. Welcome, Lena!"

ARACHNOLOGY ON SAINT HELENA AND ASCENSION, 2023-2024

By Danniella Sherwood

For many years, AIISG members have been hard at work studying invertebrate species on the remote islands of Saint Helena and Ascension. Work has been led by the Saint Helena National Trust and Ascension Island Government Conservation Directorate with support from the Species Recovery Trust, RSPB and funding from the Foreign, Commonwealth and Development Office. Since 2022, I have been focused on the study of arachnids on both islands, which host a diverse range of endemic species.

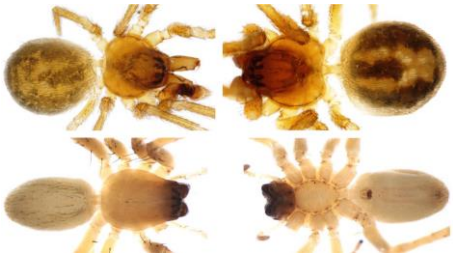
In Saint Helena, a gap in taxonomy research on spiders was addressed through recent studies funded by the St Helena Cloud Forest Project. This included my one-month expedition to Saint Helena, working alongside Liza Fowler and other collaborators at the Saint Helena National Trust. By analysing existing specimens in museums and conducting fieldwork on the island, we identified five new species of spiders, each with their own distinct features and habitats (Fig. 1). The Mount Vesey Waterfall Wolf Spider (*Hogna veseyensis*), Mole Spider (*Molearachne sanctaehelenae*, also a new genus), Daryl Wolf Spider (*Dolocosa joshuai*), Liza Pirate Spider (*Ero lizae*), and Natasha Pirate Spider (*Ero natashae*). Liza Fowler, Daryl Joshua and Natasha Stevens, who work for the Saint Helena National Trust, are all fellow members of AIISG and have made significant contributions to protecting endemic invertebrates and monitoring invasives. All the new species are endangered, and *H. veseyensis* (named after the waterfall where we discovered it) presently has one of the smallest ranges of any known invertebrate in the world, restricted to the island's single accessible waterfall.

The research on Saint Helena also involved training local staff on how to use spider keys that I wrote to identify the island's spider species, contributing to increased capacity building and conservation efforts. I presented a lecture, open to the general public, at the Jamestown Museum which was well-attended and had 15 minutes of questions at the end! This crucial outreach is important so that local people understand the projects we are undertaking and why it is important to conserve endemic species. I also wrote an article with Liza chronicling the history of araneology on the island, which further led to me delivering a talk at the Friend of Saint Helena Society's Annual General Meeting. However, the research does not stop there, shortly our final paper from this funding will be published; I hope to update you on the results of that work in a future communication!

On Ascension Island, research revealed the presence of six species of pseudoscorpions, all being endemic to the island. Through a revision funded by the DPLUS135 initiative, a new species of *Neocheiridium* was discovered from material collected on Boatswain Bird Island, the Ashmole's Pseudoscorpion (*Neocheiridium ashmoleorum*) named in honour of renowned invertebrate ecologists Philip and Myrtle Ashmole. Another new species, Jacqui's Pseudoscorpion (*Garypus ellickae*) was found on the mainland of Ascension (Fig. 2), named after the conservationist Jacqui Ellick, famous for her decades of local work with Green Turtles.

Spiders were also a focus on the island, with description of the first new species seen in over fifty years – Vicky's Ground Spider (*Australoechemus vickyae*) (Fig. 3), named for AIISG's own co-chair Vicky Wilkins in honour of her amazing work conserving species on the UKOTs for more than a decade. This was followed by two additional new species: the Ascension Mesh-Web Spider (*Thallumetus ascensionensis*) and the Ascension Sac Spider (*Hibana ascensionensis*) (Fig. 4), both named after the island. Sadly, all other new records of species on the island were of invasive species, but this resulted in two synonymies of previously considered endemic species, and a handful of other publications too. Our work on Ascension also led to a paper compiling all known information about scorpions in the global UKOTs which was published in *Biodiversity Journal*. This involved collaboration with a colleague from Cuba's Fundación Ariguanabo who is Latin America's foremost expert on scorpions. We even managed to squeeze in a new finding for the French territory of Saint Barthélémy thanks to collaboration with a colleague on that island!

The Species Recovery Trust and St Helena National Trust supported the development of Saint Helenian articles. They were produced as part of the St Helena Cloud Forest Project 'Restoring St Helena's Internationally Important Cloud Forest for Wildlife, Water Security and People', funded by the UK Foreign, Commonwealth and Development Office (FCDO). On Ascension, articles were funded through the Darwin Plus grant DPLUS135: "From pseudoscorpions to crickets: securing Ascension Island's unique invertebrates", funded by the Darwin Plus Initiative, FCDO, and administered by Ascension Island Government, supported by the Species Recovery Trust.



I am grateful to my coauthors without whom there would have been no papers (in alphabetical order): Adam Sharp, Andi Hall, Antonio Brescovit, Arnaud Henrard, Ben Price, Dmitri Logunov, Janella Calderón-C., Jason Dunlop, Karl Questel, Liza Fowler, Luis de Armas, Mark Harvey, Martina Peters, Myrtle Ashmole, Oliver White, Pedro Peñaherrera-R., Philip Ashmole, Rudy Jocqué, Vicky Wilkins, Virginie Grignet, and Yuri Marusik. Special thanks are reserved for Liza, Martina, Vicky, Adam, and Philip for supporting my work in infinite ways. I also give thanks to those (in no particular order) who also made this work possible through encouragement and support in many different ways: Kirstie Ellis and Shayla Ellick (Royal Society for the Protection of Birds), Isabel Peters (Chief Environmental Officer, Saint Helena Government), Rebecca Cairns-Wicks (Director, Saint Helena Research Institute), Helena Bennett (Director, Saint Helena National Trust), James Hogan, Zoë Simmons, and Darren Mann (Oxford University Museum of Natural History), Jan Beccaloni (Natural History Museum, London), Andrei V. Tanasevitch (Russian Academy of Sciences, Moscow), Bernhard Huber (Zoologisches Forschungsmuseum Alexander Koenig), Dmitri Logunov (Manchester Museum, and Zoological Institute of the Russian Academy of Sciences, Saint Petersburg), Didier Van den Spiegel, Rudy Jocqué, Arnaud Henrard, and Christophe Allard (Royal Museum for Central Africa), Hisham El-Hennawy (Arachnid Collection of Egypt), Perry Leo and Mike Johnson (Environmental Management Division, Saint Helena Government), Robert Bosmans (Universiteit Gent, Belgium), Seppo Koponen (Turku Museum), Sergei Zonstein (Steinhard Museum of Natural History, Tel Aviv), Stetson Stroud MBE (Horse Pasture), Theo Blick (World Spider Catalog), and Roger and Rosy Key (AIISG).

All our research is open access, links to the research:

https://www.researchgate.net/publication/379727091_On_the_identity_of_Opopaea_euphorbicola_Strand_1909_and_first_records_of_three_other_non-native_goblin_spiders_from_Ascension_Island_Araneae_Oonopidae

https://www.researchgate.net/publication/364930609_On_a_small_collection_of_oonopids_from_Saint_Helena_with_notes_on_the_invalid_names_Xeroonops_and_Xeroonops_spinipalpis_Araneae_Oonopidae

https://www.researchgate.net/publication/371731971_The_scaffold_web_spider_Nesticus_helenensis_Hubert_1977_a_junior_synonym_of_Howaia_mogera_Yaginuma_1972_rest_comb_with_revalidation_of_Howaia_Lehtinen_Saaristo_1980_Araneae_Nesticidae

https://www.researchgate.net/publication/371969106_All_creatures_great_and_small_two_new_synonymies_in_the_Saint_Helenian_endemic_genus_Tecution_Benoit_1977_Araneae_Cheiracanthiidae

https://www.researchgate.net/publication/371969094_Saint_Helenian_wolf_spiders_with_description_of_two_new_genera_and_three_new_species_Araneae_Lycosidae

https://www.researchgate.net/publication/373901447_Spider_research_on_St_Helena_past_present_and_future

https://www.researchgate.net/publication/377896723_Two_new_sympatric_species_of_the_pirate_spider_genus_Ero_CL_Koch_1836_from_the_cloud_forest_of_Saint_Helena_Island_South_Atlantic_Ocean_Araneae_Mimetidae

https://www.researchgate.net/publication/376751891_The_first_occurrence_records_of_Kukulcania_hibernalis_Hentz_1842_from_Ascension_Island_and_Saint_Barthelemy_Araneae_Filistatidae

https://www.researchgate.net/publication/380297519_David_and_Goliath_on_the_pseudoscorpions_of_Ascension_Island_including_the_world's_largest_Garypus_titanius_Beier_1961_and_a_new_minute_Neocheiridium_Beier_1932_Arachnida_Pseudoscorpiones

https://www.researchgate.net/publication/379310028_Scorpions_Arachnida_Scorpiones_of_the_United_Kingdom_Overseas_Territories_current_knowledge_and_future_directions

https://www.researchgate.net/publication/376982441_Familiar_face_new_destination_first_records_of_the_invasive_spider_Creugas_gulosus_Thorell_1878_on_Ascension_Island_Araneae_Corinnidae

https://www.researchgate.net/publication/376516474_A_Caribbean_in_the_South_Atlantic_first_records_of_Hentzia_antillana_Bryant_1940_with_notes_on_other_previously_reported_jumping_spider_species_Araneae_Salticidae_from_Ascension_Island

https://www.researchgate.net/publication/375958086_Prodidomus_Hentz_1847_and_Zimiris_Simon_1882_on_Ascension_Island_Araneae_Prodidomidae

https://www.researchgate.net/publication/375682067_A_survey_of_Gnaphosidae_Arachnida_Araneae_from_Ascension_Island_with_description_of_a_new_species_of_Australoechemus_Schmidt_Piepho_1994

https://www.researchgate.net/publication/375462304_First_records_of_Clubiona_hitchinsi_Saaristo_2002_on_Ascension_Island_Araneae_Clubionidae

https://www.researchgate.net/publication/374389061_First_record_of_the_cob-web_spider_Platnickina_adamsoni_Berland_1934_from_Ascension_Island_Araneae_Theridiidae

https://www.researchgate.net/publication/381853156_A_new_species_of_Thallumetus_Simon_1893_the_first_dictynid_from_Ascension_Island_Araneae_Dictynidae

https://www.researchgate.net/publication/381853302_First_record_and_new_species_of_the_hitherto_American_endemic_genus_Hibana_Brescovit_1991_from_Ascension_Island_Araneae_Anyphaenidae

" In Saint Helena, a gap in taxonomy research on spiders was addressed through recent studies funded by the St Helena Cloud Forest Project. This included my one-month expedition to Saint Helena, working alongside Liza Fowler and other collaborators at the Saint Helena National Trust. "

EVALUATION OF BUTTERFLIES FOR THE NEW EUROPEAN RED LIST OF BUTTERFLIES

By Yeray Monasterio Léon

The new European Red List of Butterflies is being developed in collaboration with experts from the IUCN (International Union for Conservation of Nature). This project aims to provide a more objective assessment of the conservation status of butterfly species in Europe, using species trends from the European Butterfly Monitoring Scheme and new distribution data gathered from platforms such as GBIF, iNaturalist, Observado, and Lepidiv.

As part of this work, regional experts have been consulted to assess species with unclear or insignificant trends. From ZERYNTHIA (Spanish Association for the Protection of Butterflies and their Environment), we have contributed by reviewing the occurrence data in Spain and the Canary Islands, adjusting the evaluations of both resident and migratory species. ZERYNTHIA has data obtained both through the participation of volunteers who conduct butterfly monitoring surveys, as well as surveys conducted by specialists. This information provides important expert knowledge for these types of evaluations.

The Canary Islands are particularly valuable for this study, as they host 13 endemic species from the different islands of the archipelago, in addition to the Macaronesian endemic Vanessa vulcania. Furthermore, it is one of the few areas within the study's scope where migratory species such as *Azanus ubaldus*, *Catopsilia florella*, and *Hypolimnas misippus* are observed. Among the endemics, Pieris cheiranthi is particularly concerning, as it is extinct in La Gomera and in severe decline in Tenerife. Similarly, *Hipparchia tilosi* and *Hipparchia bacchus* have very restricted distributions and small population sizes. In the latter case, Hipparchia bacchus is also highly threatened by volcanic activity on the island of El Hierro.

Based on the general evaluations conducted by the team coordinating the new European Red List of Butterflies, members of ZERYNTHIA, by invitation of the SSC Atlantic Islands Invertebrate Specialist Group, have provided advice to ensure the assessments are as accurate as possible regarding the current conservation status of each butterfly species. For example, circumstances such as the large wildfire in 2023 in the pine forests of Tenerife, which affected the habitat of the endemic *Hipparchia wyssii*, have been incorporated into the evaluations.

‘ As part of this work, regional experts have been consulted to assess species with unclear or insignificant trends. From ZERYNTHIA (Spanish Association for the Protection of Butterflies and their Environment), we have contributed by reviewing the occurrence data in Spain and the Canary Islands, adjusting the evaluations of both resident and migratory species. ’

THE GOLDEN SAIL SPIDER *ARGYODES MELLISI* ECOLOGY STUDIES

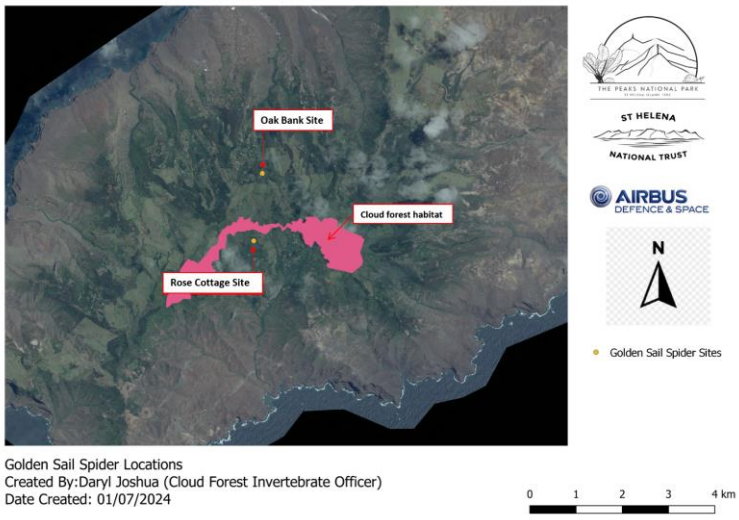
By Liza Fowler

Larger than your average dewdrop spider, the endemic Golden sail spiders (to 8mm) on the island of St Helena was only known from 2 areas, the cloud forest habitat which occupies the landscape from 700m and above, and a non-native habitat at approx. 550m on private land.

Through the Cloud Forest Project, plans were implemented to study the ecology of this endemic spiders. Initially, areas were scoped in the hopes of finding any individuals that might indicate a fairly large population to study, and some land owners were also contacted that had previously contacted the invertebrate team in the National Trust on finding an individual or 2 on their land.

Once the sites were established, a monthly day and night monitoring scheme was set up in 2 sites, one of which were in the Sandy Bay area and the other in the St Pauls area, approx. 0.007km distance apart (see map).

So far, we have found that the Golden sail spider is a nocturnal species, by day they rest underneath the leaves of many different plant species, but by night they become very active. They have been observed hanging from their silken web, shedding their exoskeleton, moving around their egg sacs and consuming prey, mainly other spiders. Their movement between different areas within the habitat is also remarkable as one month a number of individuals might be found occupying a particular plant species, than when monitoring the following month, they're not presents.



" So far, we have found that the Golden sail spider is a nocturnal species, by day they rest underneath the leaves of many different plant species, but by night they become very active."

TWO NEW PAPERS ABOUT MADEIRAN ARTHROPODS

By Miguel Franquinho Aguiar

A review of the Scarabaeoidea of the Madeira Archipelago added six new records to the fauna of Madeira and Porto Santo. Four of these belong to family Cetoniidae and are successfully breeding outdoors, with particular concern for *Oxythyrea funesta* (Poda), highly invasive and is an active pollen feeder that can also feed on flower organs of many flowering plants. The updated checklist includes 23 species in 7 families of which 19 can be considered resident.

References:

AGUIAR, A.M. Franquinho, ANDRADE, M.M., CRAVO, D. & GONÇALVES, Y. (2024) The Scarabaeoidea Latreille (Coleoptera) of the Madeiran Archipelago. ***Entomologist's Monthly Magazine***, **160** (2): 105-118. https://doi.org/10.31184/M00138908.1602.4229

The cicadellid *Penthimiola bella* is another recent introduction in Madeira. This species is Afrotropical in origin and has been also introduced in Southern Spain. At the moment, it is affecting Citrus plants in Madeira, but other crops could be colonised in the future.

References:

AVIVAR-LOZANO, L., PÉREZ-GUERRERO, S., MOLINA-RODRÍGUEZ, J.M., DURÁN-ÁLVARO, J.N., GONZÁLEZ-FERNÁNDEZ, M.I., SERRANO-CABALLOS, A., AGUIN-POMBO, D. & AGUIAR, A.M.F. (2024). First report of *Penthimiola bella* (Stål, 1855) (Hemiptera: Cicadellidae) for Spain and Madeira Island. ***Bulletin OEPP/EPPO Bulletin***, **54** (1): 76-83, Available from: https://doi.org/10.1111/epp.12969.

Both papers are behind a pay-wall, but the author is happy to provide a copy upon request to antonio.aguiar@madeira.gov.pt

"Two new papers about the Madeiran Arthropods have been recently published: a review of the Scarabaeoidea of the Madeira Archipelago and the report of the recent introduction of the cicadellid Penthimiola bella in Madeira Island ."

PROPOSAL FOR THE PROTECTION OF TWO CANARY ISLANDS BUTTERFLY SPECIES: *HIPPARCHIA BACCHUS* AND *PIERIS CHEIRANTHI*

By Yeray Monasterio Léon

The Spanish Association for the Protection of Butterflies and their Environment (ZERYNTHIA), together with different specialists in lepidopterology, has recently proposed to the Ministry for Ecological Transition and Demographic Challenge (MITECO) del Gobierno de España the inclusion of eight new species in the Spanish Catalogue of Endangered Species (CEEA). Among these, two endemic Canary Islands species stand out: *Hipparchia bacchus* and *Pieris cheiranthi*, whose characteristics and threats justify their urgent protection.

Hipparchia bacchus, known as the "El Hierro Grayling," is a butterfly exclusive to the north of El Hierro island, particularly in the municipality of La Frontera. Its extremely restricted distribution makes it vulnerable to any alterations in its habitat. For this reason, ZERYNTHIA has proposed its inclusion in the "Endangered" category. The limited area in which it lives and the environmental threats it faces, such as climate change and habitat degradation, highlight the need to implement specific conservation measures to ensure its survival.

On the other hand, *Pieris cheiranthi*, known as the "Canary Islands Large White," became extinct in La Gomera in the 1970s and is currently only found in La Palma and Tenerife. This butterfly is mainly threatened by an invasive wasp species that parasitises its caterpillars. Due to this threat, ZERYNTHIA has requested that *Pieris cheiranthi* be included in the "Vulnerable" category in the CEEA. Protecting this species is crucial to prevent its total extinction in the islands where it still exists.

Following the proposal made by the experts, a relatively complex administrative process begins. Firstly, MITECO requests an evaluation of the proposal from the scientific committee, which prepares a non-binding but highly significant report. Subsequently, the affected autonomous communities (in this case, the Government of the Canary Islands) must report whether they accept the protection of the proposed species. Depending on these factors, and if the various parties accept the specialists' evaluation, their protection is finally communicated through the Official State Gazette (BOE).

The inclusion of these two butterflies in the CEEA could significantly contribute to their conservation and serve as an important step towards protecting biodiversity in the Canary Islands. If ZERYNTHIA's proposal is accepted, it would advance the implementation of effective conservation strategies that ensure the survival of these unique butterflies in the face of the multiple threats they encounter.

"*The Spanish Association for the Protection of Butterflies and their Environment (ZERYNTHIA), together with different specialists in lepidopterology, has recently proposed to the Ministry for Ecological Transition and Demographic Challenge (MITECO) del Gobierno de España the inclusion of eight new species in the Spanish Catalogue of Endangered Species (CEEA).*"

MONITORING THE ENDEMIC LONGHORN BEETLE *DEUCALION OCEANICUM* (COLEOPTERA, CERAMBYCIDAE) AND OTHER BEETLES FROM THE SELVAGENS ISLANDS

By Mário Boieiro, Miguel Joaquim, Isamberto Silva, Francisco Fernandes and Dinarte Teixeira

The remote archipelago of the Selvagens Islands is home to several endemic beetle species, including one of the most threatened species in Macaronesia – the longhorn beetle *Deucalion oceanicum* (Borges et al., 2008; Martín et al., 2008; Stüben, 2016). This beetle only occurs in the small islet Ilhéu de Fora, has a very small population size and depends on the endangered spurge Euphorbia anachoreta for larval development. Under the scope of project "**Rescue – saving endemic island plants and beetles**" funded by Mossy Earth (https://www.mossy.earth/projects/saving-endemic-island-plants-and-beetles) our team aims to collect baseline data on this beetle species and its habitat to develop a conservation strategy to ensure the long-term survival of the species. Early April this year, we visited Ilhéu de Fora to monitor the populations of the beetle and found only two adult individuals. Population monitoring will be repeated in June/July and September this year to better understand species phenology as previous observations suggest that larval development occurs during autumn-spring.

This expedition to Selvagens Islands also aimed to collect information on the abundance, distribution and ecology of endemic beetles using standardized sampling techniques (following the recently defined long-term monitoring protocol – Oliveira et al., 2023) to support species extinction risk assessments and provide baseline data to inform and support decision-making by the nature conservation authorities of Madeira Autonomous Region.

References:

Borges PAV, Aguiar AMF, Boieiro M, Carles-Tolrá M & ARM Serrano (2008) List of arthropods (Arthropoda). In: Borges, P.A.V., Abreu, C., Aguiar, A.M.F., Carvalho, P., Jardim, R., Melo, I., Oliveira, P., Sérgio, C., Serrano, A.R.M. & P. Vieira (Eds). A list of the terrestrial fungi, flora and fauna of Madeira and Selvagens archipelagos. Direcção Regional do Ambiente da Madeira and Universidade dos Açores, Funchal and Angra do Heroísmo.

Martín J, Arechavaleta M, Borges P, Faria B (2008) TOP 100 - As cem espécies ameaçadas prioritárias em termos de gestão na Região Europeia Biogeográfica da Macaronésia. Consejería de Medio Ambiente y Ordenación Territorial, Gobierno de Canarias, 500 pp.

Oliveira P, Menezes D, Santos C, Ribeiro C, Nogales M (2023) Expedição Selvagens 50: Relatório e programa de monitorização a longo prazo. IFCN, Funchal, 68 pp.

Stüben PE (2016) The Coleoptera of the Salvage Islands. Curculio Institute, Moenchengladbach, 120 pp.

" The remote archipelago of the Selvagens Islands is home to several endemic beetle species, including one of the most threatened species in Macaronesia – the longhorn beetle *Deucalion oceanicum* "

FINAL REMARKS

Thank you to all the members who contributed to the July 2024 newsletter.

We are excited to see so many projects addressing distinct groups of invertebrates in different latitudes. With the expansion of our group to include other Atlantic islands and archipelagos, we encourage both old and new members to share updates and news about ongoing invertebrate projects and initiatives.

We are eagerly looking forward to learning about more exciting projects in the Atlantic Islands. Until next time.

Vicky, Paulo and Dinarte

Image credits:

Figure 1. Lena Dempewolf.

Figure 2. Danniella Sherwood

Figure 3. Danniella Sherwood

Figure 4. Danniella Sherwood

Figure 5. Danniella Sherwood

Figure 6. Liza Fowler

Figure 7. Liza Fowler

Figure 8. António Miguel Franquinho Aguiar

Figure 9. Mário Boieiro

Figure 10. Mário Boieiro