MAIISG NEWSLETTER

Number 2, August 2020

HI, MAIISG MEMBERS

Welcome to the second MAIISG newsletter of 2020.

Although we had an unusual second quarter, the scientific production did not decrease.

We have some great articles, including the discovery of new species of flies, moths and snails from Madeira, Canary, St Helena and São Tomé and Principe islands respectively.

A new listing of the giant pseudoscorpion in Ascension island is also reported along with the news about newly awarded projects for invertebrates conservation in St Helena island.

Finally, great news for the invertebrates of Santa Maria Island (Azores). A new conservation plan for the island Invertebrates was completed, and as a result, species and habitat management measures are being implemented.

We hope you enjoy this newsletter edition.

Vicky, Paulo and Dinarte.

THE FRUIT FLIES (DIPTERA, TEPHRITIDAE) OF MADEIRA ARCHIPELAGO

By Carla Rego, António Franquinho Aguiar & Mário Boieiro

The checklist of fruit fly species of Madeira archipelago was recently updated following the study of specimens collected in the different islands under the FCT project 2gether (https://ce3c.ciencias.ulisboa.pt//research/projects/ver.php?id=63), jointly with the revision of specimens deposited in the Museu Municipal do Funchal.

Seventeen species were recorded for the archipelago, including the description of a new species to science – *Oedosphenella bob* Smit – whose name honours a recognised international expert on dipterans (Prof. Bob van Aartsen).

Most fruit fly species can be found in Madeira island (16 species), but new and exciting records were reported to Porto Santo (*Campiglossa sororcula*) and Desertas islands (*Campiglossa producta*, *Ensina decisa*, *Tephritis praecox* and *Trupanea insularum),* which now are known to host eight and six species, respectively. The authors also provide an identification key highlighting the characteristic wing patterns, thus making available a very useful resource to help identify these beautiful flies, even by the common citizen.

The study was published in the international journal Zootaxa (https://www.biotaxa.org/Zootaxa/article/view/zootaxa.4810.3.11), and the authors can send a pdf copy upon request.

"Seventeen species were recorded for the archipelago, including the description of a new species to science – Oedosphenella bob Smit."

THE TERRESTRIAL MOLLUSCA (GASTROPODA, EUPULMONATA) OF SÃO TOMÉ AND PRINCIPE

By Martina Panisi and Frazer Sinclair

B

The checklist for the terrestrial Mollusca of São Tomé e Principe archipelago was recently updated, based on the project lead by David Holyoak which included the MAIISG members Martina Panisi and Frazier Sinclair.

Eighty-six species were recorded for the archipelago, fifty-nine species for São Tomé and forty-five for Príncipe. These include the description of thirteen new species of terrestrial Gastropoda between the island of São Tomé (7 sp.) and the island of Príncipe (6 sp.). Most of these species are from natural forest habitats and Additionally, thirteen new island records are reported, where ten species occur only at São Tomé island, one on Príncipe and two on both islands. These include six species of "microgastropods" with more comprehensive ranges in tropical Africa that are likely to be hitherto overlooked parts of the indigenous fauna and six anthropogenic introductions. *Pseudopeas crossei* previously known only from Príncipe and Bioko is newly recorded on São Tomé.

The authors also provide detailed taxonomic notes on identification and delimitation of species and genera belonging to six distinct families. The study was published in the international journal Iberus, and a pdf copy of the original paper can be requested on the following link: (https://www.researchgate.net/publication/342663627_A_checklist_of_the_land_Mollusca_Gastropoda_of_the_islands_of_Sao_Tome_and_Principe_with_new_records_and_description_of_new_taxa).

> *"Eighty-six species were recorded for the archipelago, fifty-nine species for São Tomé and forty-five for Príncipe. These include the description of thirteen new species of terrestrial Gastropoda".*

NEW MOTHS (LEPIDOPTERA: PSYCHIDAE) FROM THE CANARY ISLANDS

By Yeray Monasterio

C

D

The Spanish Association for the Protection of Butterflies and their Environment (Asociación Zerynthia) and the CSIC Institute of Evolutionary Biology discovered two new species of nocturnal butterflies exclusive to La Gomera and El Hierro, Canary Islands.

A team of researchers led by Yeray Monasterio, from the Zerynthia Association, publishes in the latest edition of the "Bulletin of the Aragonese Entomological Society" evidence that in reality the night butterflies present on the five most western islands belong to three different species, not to one.

According to the study, these species separated from their sisters in the rest of the Canary Islands some 2.5 million years ago.

They are two new strains of the Psychidae family, a type of butterflies and moths with many singularities compared to their better-known relatives: most females do not have wings, males can fly, but generally do not survive more than one day, when adults and their caterpillars build their shelter carrying materials found in their environment, as a hermit crab would.

These species live in similar environments: on the coast and in the hinterland, below 800 meters in altitude and environments such as the cardinal-tabaibal, the thermophilic forest and, to a lesser extent, around the laurel masses.

The species names allude to the islands' aboriginal past: the new night butterfly of El Hierro is called *Amicta moneiba* (image C, source Monasterio et al., 2020), in honour of the mother goddess adored by Bimbache women, and that of La Gomera is named *Amicta gara* (image D, source Monasterio et al., 2020), after the princess of the famous legend of Gara and Jonay. The pdf copy of the original paper can be download on the following link:

https://www.researchgate.net/publication/342571377_DESCRIPCION_DE_DOS_NUEVAS_ESPECIES_DE_AMICTA_HEYLAERTS_1881_LEPIDOPTERA_PSYCHIDAE_ENDEMICAS_DE_LAS_ISLAS_CANARIAS

"According to the study, these species separated from their sisters in the rest of the Canary Islands some 2.5 million years ago".

UPDATE ON THE COLONISATION AND DISTRIBUTION OF *AZANUS UBALDUS* (STOLL, 1782) (LEPIDOPTERA: LYCAENIDAE) IN CANARY ISLANDS.

By Yeray Monasterio

E

The Spanish Association for the Protection of Butterflies and their Environment (Asociación Zerynthia) recently published a paper related to the colonisation and distribution of the *Azanus ubaldus* butterfly in the Canary Islands.

It is reported the temporary colonisation event on the island of Tenerife (Canary Islands) of the lycaenid *Azanus ubaldus* (Stoll, 1782) documented in January 2019 (Image E, source Monasterio et al. 2020).

Also, new information regarding its presence on La Palma, Gran Canaria and Fuerteventura is given, and a distribution map that includes all the records published so far is presented for the first time.

Besides, photographs of the imagos nectaring at Schizogyne glaberrima DC, a plant endemic to Gran Canaria, on which it acts as a pollinator. The pdf copy of the original paper can be download on the following link:

https://www.researchgate.net/publication/342571432_Colonizacion_temporal_de_Azanus_ubaldus_Stoll_1782_en_la_isla_de_Tenerife_Lepidoptera_Lycaenidae_Espana_islas_Canarias_y_puesta_al_dia_de_su_distribucion_en_Canarias

New information regarding its presence on La Palma, Gran Canaria and Fuerteventura is given, and a distribution map that includes all the records published so far is presented for the first time.

NEWLY AWARDED PROJECTS AND PUBLICATIONS FOR ST HELENA

By Liza Fowler


F

There have been many exciting matters occurring at the St Helena National Trust over the last few months. Firstly, the St Helena National Trust has been successfully awarded both of their submitted Darwin Plus projects as follows: A 3-year project 'Conserving St Helena's endemic invertebrates through invasive control' aka 'Invasive invertebrate project' will facilitate endemic invertebrate recovery and re-establish their associated ecosystem functions, by testing and establishing invasive invertebrate control methods. The focus will be on the Common wasp (*Vespula vulgaris)*, key ant species (e.g. *Pheidole megacephala*) and the Springbok mantis (*Miomantis caffra*).

The MAIISG (hosted by the Species Recovery Trust) is a partner on the Invertebrate Project, having helped with development and will be providing support and expertise.

Also, secured is the 'Community supported multispecies invasive vertebrate control on St Helena' aka 'Vertebrate project' which aims to understand the invasive vertebrate distribution and interactions better, leading to community-supported control to promote recovery of native species, habitats and promote agricultural activity. These two projects will complement one another, and the key vertebrate species to be addressed are the Myna bird (*Acridotheres tristi*) feral cats and rats and rabbits.

Secondly, the National Trust's invertebrate team (Liza Fowler Amy-Jayne Dutton and Natasha Stevens) in collaboration with Dr Timm Karisch (scientist and curator of Entomology and Botany (acting)) from the Museum für Naturkunde und Vorgeschichte Dessau, Germany have successfully published two papers on endemic moth species. The first paper '*Elachista trifasciata* (Wollaston. 1879) on St Helena (Lepidoptera, Elachistidae, Elachistinae)' - authored by Timm Karisch and Liza Fowler - provide information about the habitat and ecology of this endemic species. The second paper authored by all 4, focused on three flightless species in the *Opogona* genus (image E) 'Three new *Opogona* species with wing reduction from St Helena Island, South Atlantic Ocean (Lepidoptera: Tineidae: Hieroxestinae)' see links here:

- http://metamorphosis.org.za/?p=articles&s=Results

- http://metamorphosis.org.za/?p=articles&s=Details&i=1533

"National Trust's invertebrate team in collaboration with Dr Timm Karisch (Museum für Naturkunde und Vorgeschichte Dessau, Germany) have successfully published two papers on endemic moth species".

LISTING OF THE GIANT PSEUDOSCORPION ON ASCENSION ISLAND, AS A STARTING POINT FOR BROADER INVERTEBRATE CONSERVATION ON THE ISLAND

By Vicky Wilkins

The world's largest pseudoscorpion *Garypus titanius* (image A, © Nicola Weber) has entered the Red List as Critically Endangered. Reaching 1.5cm, this giant mini-beast related to scorpions lives on a 5-hectare islet off the UK Overseas Territory of Ascension Island. This species occurs in rocky areas as inland cliffs and mountain peaks, and there has been a continuing decline in its habitat area, extension and quality.

The Giant Pseudoscorpion is under threat due to invasive predatory invertebrates, such as the American Cockroach (*Periplaneta americana*). Control and management of these invasive predators is the key to its long-term survival. Although an action recovery plan was developed towards species conservation, it still lacks the necessary implementation of a systematic monitoring scheme.

Future funding is also needed to implement the necessary conservation measures to prevent the species extinction in the future.'

The species Red List assessment can be consulted and downloaded using the following link: https://www.iucnredlist.org/species/135739408/135745815.

"The world's largest pseudoscorpion Garypus titanius has entered the Red List as Critically Endangered."

HOPE FOR AZOREAN INVERTEBRATES

By Paulo Borges

In February, snail and arthropod experts, farmers, government officials, tourist guides, and IUCN Species Survival Commission representatives gathered on the island of Santa Maria, Azores, for a two-day workshop to plan for the conservation of the endemic invertebrates of the island.

Co-facilitated by the Mid-Atlantic Islands Invertebrate Specialist Group, the AZORESBIPORTAL-PORBIOTA project, the Santa Maria Natural Park, and Conservation Planning Specialist Group, the workshop gathered what's known about 43 threatened invertebrate species found almost exclusively on this one, small island, to collectively decide how to reverse their downward trend.

Working groups coalesced around particular land management practices, including forestry, farming and tourism, and invasive plants, to better understand what is going on, why, and what solutions could be found to support the species and without compromising human livelihoods.

The result is a 10-year plan with a 30-year vision of restoring the native forest of the island along corridors connecting small pockets of remaining woodland and allowing marginal farmland to revert to wild spaces.

Though the plan is not yet off the press, the results of the workshop have inspired a number of significant decisions to be made and actions to be taken at the island and archipelago level. One of these is the aligning

of stars between this species conservation plan and an update to the existing Natural Park plan, encompassing the Pico Alto mountain range at the centre of the island. The needs of the invertebrates for native forest are now being built into the new Natural Park, which should see a significant extension to the existing designated area, creating forested tendrils across the island.

At the same time, based on feedback from the workshop, the Regional Secretariat for the Environment of the Azores Government announced the decision to develop an EU LIFE proposal that, if successful, will see substantial funding directed towards on-the-ground action to recreate native spaces for the islands endemic invertebrates.

These actions have the potential to benefit not just the wider biodiversity of the island and the Azores as a whole but address the needs of an often-ignored taxonomic group.

The plan is available for consultation on the following link: http://www.cbsg.org/content/relat%C3%B3rio-do-workshop-de-planeamento-para-os-invertebrados-de-santa-maria-a%C3%A7ores

> *"The result is a 10-year plan with a 30-year vision of restoring the native forest of the island along corridors connecting small pockets of remaining woodland and allowing marginal farmland to revert to wild spaces."*

Image credits:

A. *Oedosphenella* bob Smit, nov. sp. (*source: Penado et al. 2020)*

B. *Field survey, São Tomé and Principe (© Martina Panisi).*

C. Amicta moneiba (source: Monasterio et al., 2020).

D. Amicta gara (source: Monasterio et al., 2020).

E. Azanus ubaldu (source: Monasterio Y. (2020).

F. Opogona genus (© Liza Fowler).

G. Garypus titanius (© Nicola Weber).

H. Leiostyla tesselata (© A. F. Martins, source: Azores Bioportal, https://azoresbioportal.uac.pt/pt/).

I. *Tarphius pomboi* (*source: Azores BioPortal, https://azoresbioportal.uac.pt/pt/).*

FINAL REMARKS

We wish to thank all the members who contribute to this newsletter and congratulate them on their excellent work.

We look forward to more news and developments about your ongoing projects, and we would love to include those contributions in the December newsletter.

Until then, be safe.

Vicky, Paulo and Dinarte