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THE ST HELENA AMBASSADOR



Editorial

Hi, welcome to the St Helena Ambassador!

In this edition you can find out about a survey that a team of international scientists conducted on St Helena's bird fossils, find out about the research that an independent journalist is carrying out for his new book in which Jonathan the tortoise will feature, and find out more about the newly formatted bus schedules that the GIS Section have created.

If you'd like to contribute a story to the St Helena Ambassador or have any suggestions on what you'd like to see included, please feel free to contact me on tel: 22470 or via email: jodie.s-constantine@sainthelena.gov.sh.

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Team of scientists conduct fossil survey on St Helena

In August 2022, after long delays due to the Covid-19 pandemic, an international team of scientists* led by Antoine Louchart, with the assistance of Dr Rebecca Cairns-Wicks of the St Helena Research Institute, staff of the Research Council, Saint Helena National Trust, in particular Gavin 'Eddie Duff' Ellick, Museum staff and local students, were finally able to undertake palaeontological work on St Helena. This followed in the footsteps of previous scientists, in particular the late Storrs Olson, who described most of the eight now-extinct birds from the Island.

The following is an account from the international team of scientists: *One of a few outstanding conundrums left by previous workers was the incompleteness of the fossil record, and are we even close to understanding the true extent of the original diversity. To address principally this shortfall, we prospected and reworked subfossil bird localities that had been previously recorded, especially those predating human activity on the Island. After a month's survey, the results of our endeavours far exceeded expectations. Not only did we find approximately 7,000 bird bones, but also new fossil areas that hitherto had remained undetected. In addition to the identification of all species represented, future analysis of the material will include ancient DNA that will help elucidate species relationships, and the use of isotopes can determine ancient diets and carbon14 dating will provide the age of the bones. This will provide important information about the life-histories of birds long extinct, and combined with*



Searching for fossils at Prosperous Bay



Figure 1. The discovery of the first beak of the extinct St Helena Rail *Aphanocrex podarces* provided an opportunity to illustrate the bird for the first time. Preliminary sketch by Julian P. Hume.

studies on land snails and the original flora, we hope to be able to reconstruct the lost ecosystem of the Island. Like most reconnaissance missions, more questions arise from the work than can be answered, so this project is a long term one with a return of the team in 2023, and beyond. Initially, all bone material will be studied abroad but eventually returned to St Helena as part of St Helenians' heritage. One could dwell on the loss of the birds that once inhabited the dry plains of Prosperous Bay or those that once sang in the cloud forest of Diana's Peak, but a fossil record can determine their relationships and provide the necessary rewilding basis for the reintroduction of closely related species. Therefore, along with the impressive replanting of endemic plant species, such as those at the Millennium Forest, St Helena may once again boast a bird fauna not seen for over 400 or more years. If our work on this Island assists in any way to reach that aim, we, as a team of scientists, will be immeasurably content, as any move towards reversing the effects of centuries of negative human activity is a major conservation priority and one that should become the main agenda of any government initiative.

Among all the people who supported and helped us, we thank first and foremost Dr Rebecca Cairns-Wicks (St Helena Research Institute), as well as, non-exhaustively, Helena Bennett, Natasha Stevens, Gavin 'Eddie Duff' Ellick (Saint Helena National Trust), Adam Sizeland (Museum of Saint Helena), Annalea Beard, Stedson Stroud, Charlize Henry and other students.

*International scientist team: Palaeontologist, Antoine Louchart (France), Palaeontologist/artist, Julian P. Hume (UK), PhD student, Anaïs Duhamel (France), PhD student, Julien Joseph (France), Giant tortoise expert, Kevin Gepford (USA).

Jonathan the tortoise to feature in book about tortoises

Tortoise longevity is not completely understood by science, but it's a topic that writer, Kevin Gepford, is keenly interested in. Kevin visited St Helena in August 2022, to meet our famous tortoise, Jonathan, as part of his research.

Kevin is an independent journalist currently working on a book on the natural history of tortoises around the world. He is looking for ways to explain science and conservation by finding and telling engaging stories about who tortoises are, what their lives are like, and what makes them wonderful and fascinating creatures.

"One thing I learned on St Helena is how much Jonathan is loved here," Kevin said. "He's been on the Island for so many generations and he is tied into many people's family histories. Of course, he's also the oldest known tortoise in the world, and that's why scientists love him. To science he represents a wonderful subject to study long life, not only in tortoises but also as it relates to humans". Kevin added: "For example, researchers are looking at Jonathan's cells for possible cancer resistance. There are a few ideas about why tortoises are so long-lived, like the special ways they repair their own DNA, or how their slow metabolism might relate to their long lives. The challenge with the write-ups coming out of this



research is that non-scientific readers might find it all a bit esoteric because the papers are produced by researchers for the scientific community."

In light of Jonathan's status and role in the ongoing research, Kevin said: *"The science becomes fascinating - even exciting. What I love about having visited St Helena is that I learned and hope to write about the many other things about the Island that interest me like the native plants, history, geology, and even Napoleon - with Jonathan as the hero of the story, and St Helena as his home".*

On the human side, Kevin said that along with Jonathan he was thrilled to get to know Debbie Yon at Plantation House, and former Island veterinarian, Joe Hollins, along with Teeny Lucy who have taken a keen interest in the care of Jonathan as well as the other tortoises in the paddock at Plantation House.

Kevin's work has taken him to South Africa and the Mojave Desert of California, USA, where he has studied tortoises and met a wide range of experts. Additional research has taken him to Zurich, Switzerland, and the UK, to better understand tortoise cognition, as well as their evolutionary lineage. Future on-location research and reporting will be done from the Galapagos Islands, the Seychelles, and Madagascar.

Kevin said: *"These places and people are helping bring to life the various topics that fascinate me, such as how intelligent tortoises are, the role they play in keeping nature's balance in their wild ...*

environments, the effect of climate change, as well as conservation efforts happening around the world to protect them and help them survive and thrive in a world increasingly taken over by humans. My hope is that people will find my book a fun and entertaining read, learn some new things along the way, and come to love tortoises the way I do and maybe even become their champions and protectors”.

While on St Helena Kevin also spent time exploring the peaks with Dr Rebecca Cairns-Wicks to get a closer look at the endemic plants there and see the work being done in ecological restoration. He also talked with Vanessa Thomas-Williams at the nursery in Scotland. While in the UK Kevin met with Marcella Corcoran who has helped to bring expertise from the Royal Botanic Gardens, Kew in helping to restore St Helena’s native plants.

Newly formatted bus schedules available in bus shelters on-Island

Newly formatted bus schedules are now available in bus shelters around the Island.

The schedules that are now available aims to be more user friendly, simplifying the schedule and creating route maps which correspond to bus stops.

This initiative was developed by the GIS (Geographic Information System) Section within SHG when they were updating a bus stop layer on an existing map of St Helena. Service providers also had the opportunity to work closely with the GIS Section inputting their views at draft stages.

GIS Manager, Devlin Yon, explained:

“As there were no bus schedules available in bus shelters, this project was designed to provide existing information to the public in a more user friendly format and also benefit visitors wanting to use the service. The GIS Section sees this as a way of contributing to the Island and hopes everyone enjoys the combined bus route maps and schedules.”

The GIS Section produces maps from data for varied audiences resulting in impressive visual impacts, ideal for displays, presentations and decision making.



Member of the GIS Section displaying a bus schedule



Bus schedule displayed in bus shelter