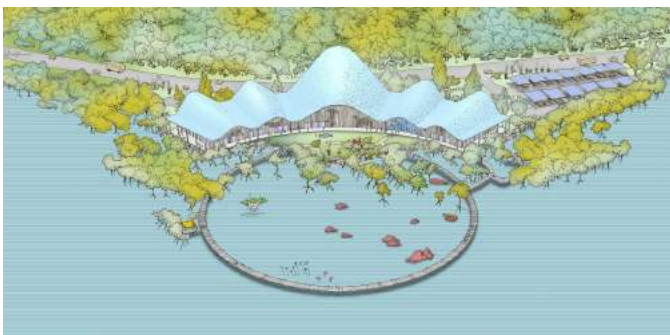




Aldabra House project makes major progress

As Aldabra is in a remote location and is logistically and financially challenging to visit, for several years SIF has been planning to create an Aldabra visitor centre on Mahé. Called Aldabra House, the vision is to give Seychellois and tourists the opportunity to discover a taste of Aldabra, not only to see it but also to feel it. This remote-access visitor centre with its adjacent facilities (café, souvenir, conference, and education space) will not only enable people to experience Aldabra, but will also create a highly attractive tourism product for Seychelles. During October the Aldabra House project was presented to President Danny Faure and the cabinet, and was very well received. The Aldabra House Project has been raised to a project of national importance.



Draft scheme Aldabra House

Following the project presentation to the cabinet in October, the project made excellent progress throughout November with a geotechnical survey carried out onsite in preparation for the planning application. A team of architects, structural and environmental engineers, and a cost consultant, all supported by the Eden Project team in the UK, are working very hard

to ensure that all required preparations for the planning submission are completed by the end of the year.



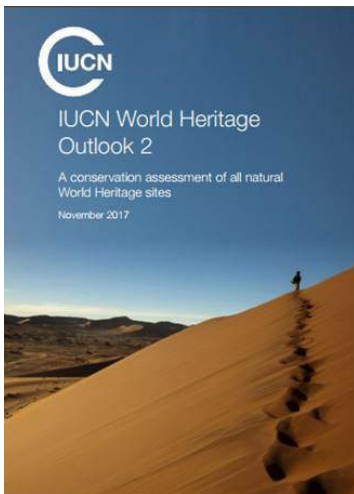
Dr Frauke Fleischer-Dogley experiencing virtual reality
© SIF

Meanwhile the exhibition space design has undergone some exciting developments; the available outdoor areas will now be included in the Aldabra experience. A 2-day workshop was held with the exhibition designers in the UK to discuss and develop the exhibition scheme

design which cumulated in a meeting with Marshmallow Laser Feast, a company that develops state of the art virtual realities and augmented realities. Thrilling possibilities are being explored to include such stunning experiences into the Aldabra exhibition. With excellent support on all levels the project is finally making major long-desired progress, 2018 will be a year of much exciting news and development, so watch this space!

IUCN World Heritage Outlook 2 report assesses Aldabra and the Vallée de Mai

The *IUCN World Heritage Outlook 2* report was released during the UN climate change conference that took place in Bonn, Germany last month. The report assesses all of the 241 natural World Heritage sites, examining their threats, management and the status of the features that led to their inscription as World Heritage sites. As Seychelles' two World Heritage sites, both Aldabra Atoll and the Vallée de Mai



are included in the *IUCN World Heritage Outlook 2*. The conservation outlook for both sites was deemed to be ‘good with some concerns’, the second most optimistic category. In the Vallée de Mai it was found that the protection and management of

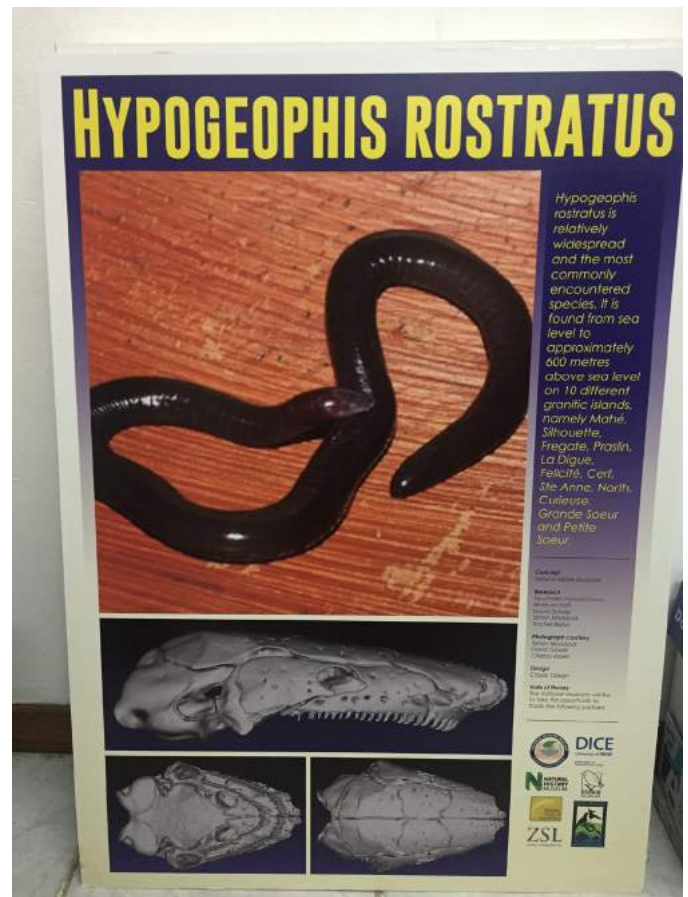
the site is generally effective, and supported by a legal framework. SIF was gratified to be described as “very competent” and recognised for “effectively implementing science based programmes and outreach and education schemes”. The summary for Aldabra also stated that “the conservation outlook for Aldabra Atoll is currently very good” and SIF’s management was described as “extremely professional”.

Overall the report found that climate change is the fastest growing threat facing World Heritage sites across the globe, and this was the case in the assessment for Aldabra; climate variability and severe weather events are considered the biggest threats to the atoll’s ecosystem and species. The report is an update on the 2014 *IUCN World Heritage Outlook* report, and as such it assesses, for the first time, changes in the status and conservation prospects of the sites. Staggeringly, the number of sites threatened by climate change has increased from one in seven sites in 2014 to a quarter of all sites today, a shocking increase in just three years. Coral reefs and glaciers are among the most threatened ecosystems, but a variety of other ecosystems are also threatened by climate change, from impacts as varied as fires and melting permafrost. The report predicts that the number of sites affected by climate change is likely to grow and that climate change will continue to be the biggest threat to World Heritage sites.

In addition to climate change, the report also shows that other threats, such as invasive species, unsustainable tourism or infrastructure development, are also increasing. Invasive species were highlighted as threats to both sites, particularly the Vallée de Mai, and the illegal collection and unsustainable harvesting of coco de mer nuts was also identified as a threat to the palm forest.

The report is available at <https://portals.iucn.org/library/sites/library/files/documents/2017-053.pdf> and its next edition is planned for 2020. All site assessments can be accessed at www.worldheritageoutlook.iucn.org.

Caecilian exhibition at the Natural History Museum



Display at the exhibition © SIF

The Natural History Museum recently organised an exhibition to showcase the seven endemic species of caecilians in Seychelles, including

the newly discovered *Hypogeophis pti*. The exhibition termed “the naked snakes” included information boards on all species, containing impressive volume reconstruction of high-resolution X-ray images showing cranium and mandibles of individual species.



Preserved specimens © SIF

In addition, largely due to the skills of museum staff who were selected as caecilian fellows of the EDGE project, actual whole-body skeletal views of three of the species specimens were on display. The skeletal views showcased the elongated nature of the caecilians trunks; eliminating any resemblance that this group of amphibians might have to earthworms.



Whole-body skeletal view © SIF

The display quality is exceptional and the exhibition is a great initiative and SIF would like to thank the Natural History Museum and Darwin Initiative for generating much needed awareness on the protection of caecilians in Seychelles.

SIF Vacancies

We have several vacancies in the Vallée de Mai and on Mahé that open to Seychellois. Contact HR on 432 17 35 if you are interested in any of the following positions:

Vallée de Mai:

- Sales Clerk
- Visitor Attendant
- Housekeeper
- Property Maintenance Supervisor
- Trainee Field Research Assistant

Mahé Head Office:

- Housekeeper

Aldabra:

- Ranger
- Field research assistant



Seychelles black parrot breeding season update



Female Seychelles black parrot, identifiable as a female by the fluffy feathers on the back of her head © SIF

November has been a quite busy month for the Seychelles black parrot team. The month ended with the wonderful news of the discovery of the first egg of this season in Fond Ferdinand. It was exciting to see that many parrots have already showed interest in nesting and hopefully, after a slow start, the breeding season will finally kick in. The female parrots are making loud breeding calls at the moment; these are easy to hear while walking through the Vallée de Mai. They sit on trees near their chosen nesting cavity, trying to attract male parrots with their call. There were

45 suitable nests identified by the team this month and 39 out of these were accessed for nest checks. Parrots showed breeding activity around 15 nesting cavities.



Black parrot in a tree at Fond Ferdinand © SIF

Besides spotting some of our previously ringed birds, the team has also got a glimpse of the mysterious white Seychelles black parrot in the Kanper area of Praslin. The bird was sighted two times this month which means it's probably healthy and strong. Based on the observations, it is likely a male.

The black parrot team has held a ladder training session this month for new staff which will enable them to access the tallest nesting trees. While nesting on such tall trees might be good for avoiding predators getting into the nests, it poses quite a challenge to our team when accessing the cavities! Hopefully, December will come with the discovery of more and more active nests.

8th yellow crazy ant survey conducted and control methods begin

For the 8th consecutive year, the Vallée de Mai research team conducted a pitfall trap survey on invasive yellow crazy ants in the Vallée de Mai from the 6th to 21st November 2017. The 50 core primary points were surveyed. The repeated surveying of the same sites allows for a comparison of the data since the beginning of the survey in 2009, and with each survey

completed since then. As well as the absence or presence of yellow crazy ants, the survey also considers the overlapping occurrence of yellow crazy ants in areas where other native or introduced ants are present such as *Technomyrmex albipes* and *Odontomachus simillimus*. Climatic variables and structural changes are also noted to determine whether they influence the distribution of yellow crazy ants.



Conducting pitfall trapping © SIF

Of the 50 core points surveyed, yellow crazy ants were present at 46 points and absent from four points. This represents a substantial increase in distribution from 74 % to 92 % coverage of the Vallée de Mai in the last 12 months. While they were previously restricted to the northern and eastern areas of the forest, they are now also found in the western parts of Vallée de Mai. The average abundance per point has also increased from 53 yellow crazy ants in 2016 to 88.1 ants in 2017. A maximum of



Yellow crazy ants © SIF

850 yellow crazy ants were recorded at a single point, the highest ever before this year was 651. The considerable increase in the distribution and abundance of yellow crazy ants requires urgent action as they potentially pose a threat to the birds, reptiles and amphibians of the Vallée de Mai.



Counting yellow crazy ants © SIF

Fortunately the new Inva'Ziles project has been hard at work investigating a range of invasive alien species and methods to control them; including yellow crazy ants. In order to determine the number of ants on trees used by black parrots for nesting the team will be setting up cameras to film and count them. The team will also trial novel ways to prevent the ants affecting native species, such as the black parrot through canopy access restriction. This work will include wrapping the trees in which black parrots are nesting in a variety of materials to deter the ants from accessing the nests. They will also be trialling environmentally friendly methods to control the population of ants. Over the next few months things will become very busy, but it is an exciting time as the results of these trials could really help the black parrots breeding success in future years.

Bel Ombre Primary School visits the Vallée de Mai

Throughout the year many school groups from both Mahé and Praslin visit the Vallée de Mai

as part of their curricular activities. These visits include a guided tour of the Vallée de Mai forest and provide an excellent opportunity for the students to learn about the ecological and biological processes of this unique palm forest. In November, 21 children and five teachers from Bel Ombre Primary School visited the Vallée de Mai.



Bel Ombre students © SIF

Visitor attendant Bryna Zialor accompanied them to the reserve, delivering a guided tour of about one and a half hours. Bryna gave them information about the history of the Vallée de Mai reserve and also about the animal and plant species found in the forest. During the tour the children saw several endemic species including six species of palm, the coco de mer snail, green day gecko and giant bronze gecko. They were happy to have visited the otherworldly landscape of the Vallée de Mai, a unique landscape found nowhere else in Seychelles.

Creole celebrations at the Vallée de Mai

After the success of the Creole festival in November a decision was taken that mini Creole festivals would be held throughout the year in order to enhance visitors' experiences of the Vallée de Mai, giving them a taste of Creole culture if they miss the main celebrations in October. Creole activities were therefore organised in the Vallée de Mai on Friday 24th November. Activities organised included sales of local snacks at the café, a live Creole song performance by Brian Brigillia, traditional dance performed by staff and a live demonstration of weaving of raffia by local artisan Florette Punse.



Staff and visitors dancing at the Vallée de Mai © SIF

Activities such as these are a valuable way to preserve Seychellois heritage. Some of the snacks for sale are traditional treats that are generally not available to tourists or even to locals, with only a small number of people still able to make them. Many traditional crafts like weaving have fallen out of favour, by celebrating them regularly the Vallée de Mai staff hope to help ensure that Seychellois crafts thrive. The Creole celebrations were enjoyed by visitors and staff, with energetic dancing by both!



aldabra atoll

Aldabra becomes part of a region-wide tropical cyclone forecasting system



Installation started on the night of arrival! © SIF

As part of a region-wide tropical cyclone forecasting system, in November Aldabra Atoll received its first GPS ground station. The equipment was installed by a team of researchers led by Dr Olivier Bousquet from University of La Réunion, with assistance from Theron Moncherry from the Seychelles Meteorological authority, together with the help of the Aldabra team. The GPS sends a repeated signal, and the time it takes for the signal to be received indicates the water vapour concentration in atmosphere. The water vapour concentration in

the atmosphere will be useful in measuring and predicting tropical cyclones. This new data will improve weather forecasts, allow monitoring of the distribution of water vapour in different areas over time, helping to measure climate change, and evaluate climate simulations. Similar GPS equipment will be installed throughout the South West Indian Ocean and Aldabra received the first instalment.



The GPS ground station © SIF

This activity is part of a project entitled the 'ReNovRisk-Cyclones' project. The main goal of the project is to study the meteorological and oceanographic impacts of cyclones on the territories of the South West Indian Ocean at present and in the future. The overall project is funded by the European Union and will include several other south western Indian Ocean countries such as Madagascar, La Reunion, Mozambique and Mayotte.

The ReNovRisk-Cyclones project team will also potentially be developing an exploratory approach to use seabirds to measure sea surface temperature and currents near tropical cyclones or areas of heavy convection. As Aldabra has a breeding population of tropicbirds, the atoll might be included as part of this component in which case the project team may potentially visit again during the next few years. Green turtles could also be a potential source of information. Although the project will run for three years, the GPS is to remain in place indefinitely for data collection.

Drones considered as a conservation tool at Aldabra

Aldabra is the last remaining place in Seychelles where dugongs can be found, but little is known about the atoll's elusive dugongs. There is uncertainty about how many dugongs live in the lagoon, what areas of the lagoon they use, whether the atoll is a nursery ground for females to give birth and if they are permanent residents or migrate to Aldabra. The species is listed as vulnerable to extinction by the IUCN and SIF is planning to monitor Aldabra's dugong population to understand more about them.



Dugong in the lagoon © SIF

The remote and isolated location of Aldabra makes monitoring mobile animals logistically complex. Surveying marine mammals over large water bodies usually includes expensive aerial surveys by crewed aircraft which are dangerous and put personnel lives at risk. In the 21st century a new era of digital conservation is taking place. Remotely piloted aircraft commonly known as 'drones' are being used to monitor wildlife. Drones come in a variety of shapes and sizes; equipped with a camera they can capture images and videos from the sky. SIF is currently assessing the feasibility of using drones as a tool to monitor the distribution and number of dugongs living within the shallow lagoon waters of Aldabra.



A drone at the research station © SIF

Information gathered could expand current knowledge of dugongs within the West Indian Ocean and guide conservation measures to protect them. In the region, dugongs likely survive at Aldabra because its status protects them from exploitive human activities, but globally, dugongs are faced with the loss of their primary habitat, seagrass. They are hunted for meat, and are victims of by-catch, pollution, and boat collisions. It is thus vital to understand the impact of strictly protected refuges like Aldabra for the species at a regional level.

There are numerous environmental and biological factors to consider when flying a drone within a strict nature reserve. Despite the many positive potential applications of drones they often carry a negative stigma regarding their use, reaching media headlines for the wrong reasons. However, in addition to drones as a conservation tool, there is rising interest among tourists and film crews to use drones to capture footage of Aldabra's scenery and biodiversity.



Drone's eye view © SIF

To ensure that drone use does not cause any disturbance to wildlife, regulations are currently being drafted that will govern all future drone use on the atoll. These will ensure that drone technology has a positive impact on Aldabra, aiding in conservation and helping to share footage of this beautiful atoll without harming any of its inhabitants.

Landbird breeding season in full swing



Sunbird chicks, days old © SIF

Landbirds on Aldabra need to raise their chicks during the northwest season when rain and resources are abundant, nesting therefore begins at the start of the season. After a slow start due to a prolonged dry southeast season, courtship and nest building activity accelerated noticeably after the first heavy rain events in November. The Aldabra research team are now busy following the fate of Souimanga sunbird, Aldabra fody and Aldabra drongo nests occurring around the settlement by searching for nests and checking their progress every two or three days.

Sunbirds are the most conspicuous nesters of the landbird species. In addition to being the most common of the landbirds, they also regularly construct nests in or on buildings

around the settlement, making them easy to spot and easy to monitor. In fact, almost every house on Aldabra now has a sunbird nest attached somewhere. Fodies and drongos prefer to build nests in vegetation, often out of the easy reach of rangers.



Sunbird nest in a building at the research station © SIF

Frequent monitoring enables research staff to determine the ultimate outcome of the nests and sometimes the cause of nest failure. Already this season, staff have observed a Madagascar coucal preying on eggs from a fody nest, a drongo harassing young chicks in a sunbird nest, and a Madagascar bulbul stealing nest material from an active sunbird nest - demonstrating that it is not an easy road to a successful nesting attempt for the landbirds of Aldabra. At the end of the breeding season, the research team will use the monitoring data to report on the rate of nesting success for the three species.



Newly hatched drongo chick and eggs © SIF

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