



Aldabra Clean-Up Project celebrates success with three major events

The Aldabra Clean-Up Project (ACUP) wrapped up in July and August with two major events in the UK that reunited the entire team. The first post-expedition reception was held at Queens College, Oxford University on 30 July. This event was organised to thank our international supporters and sponsors, celebrate the volunteers' experiences on the expedition and show the first screening of the ACUP documentary created by the team members themselves. Feedback about the documentary was extremely positive and will be valuable in informing the editing process. Look out for the final version in the next couple of months as it will be entered into several international film tours and screened in Seychelles free of charge.



The ACUP team and partners at the Eden Project, Cornwall, UK © SIF

On the same trip to the UK the team also visited the Eden Project to attend an evening gathering hosted by Eden Co-Founder and SIF Trustee Sir Tim Smit, who described our clean-up expedition as the as the "wildest beach clean imaginable". He also praised the team, saying,

"We want to use Aldabra as a metaphor for the world, to show people that nature is genuinely under threat and part of the solution is being angry enough for that to matter." Talks from SIF trustees and ACUP team members and a screening of Sky News's "50,000 Flip-flops in Paradise" left an incredible impression on all those who attended. The following day the team took part in an interactive day with members of the public as part of Eden's summer programme Earth Story, which focusses on biodiversity and species loss and features an exhibition on Aldabra and the story of the clean-up.

Back in Seychelles, SIF and the Seychelles People's Defence Forces hosted another post-expedition reception at the Perseverance Coastguard base in August. This reception recognised the invaluable role corporate sponsors, grants and supporters in Seychelles had in the project's success. SPDF in particular played an invaluable role in removing the marine debris from Aldabra's shoreline.



Dr Frauke Fleischer-Dogley, CEO of SIF and Mr Jackson, Managing Director of Mauritius Commerical Bank with the ACUP team © SIF

The ACUP team enjoyed the opportunity to wrap up the project, celebrate their incredible achievements and thank everyone involved at these three outstanding events. This momentous and ambitious project has paved the way for future beach clean ups on a grand scale, and we are proud to have partnered with Oxford University to collaborate on this incredible initiative.

SIF staff member attends Africa-Oxford Visiting Fellows Program

During the months of July and August, SIF science and projects coordinator Jennifer Appoo took part in an exchange program in Oxford UK through the 'Africa-Oxford Nekton Marine Science Fellowship'. The fellowship was offered through a collaboration between the Seychelles Conservation and Climate Adaptation Trust, the Nekton Foundation and the Africa-Oxford Initiative. The trip was a four week exchange visit to analyse data from the Seychelles Nekton Deep Sea Expedition in March 2019, under the guidance of the Nekton team based in Oxford.

During the fellowship, Jennifer analysed video data collected through the Aldabra marine programme and the Nekton Deep Sea Expedition (see March 2019 newsletter). This is part of a research project aimed at determining the abundance, diversity and depth range of marine predators around the UNESCO World Heritage Site of Aldabra, and assessing the effectiveness of Aldabra's zoning strategy. Jennifer learnt new skills in stereo-video analysis and got the opportunity to develop networks and meet other researchers.

Jennifer was amongst 20 distinguished African researchers from 12 African countries who were selected from nearly 250 outstanding applications from 30 countries to participate in the Africa-Oxford Visiting Fellowship Program this year. Jennifer is the second SIF staff member who has won this fellowship; last year Project Officer Jeremy Raguain was also awarded the fellowship for an exchange visit to

the University of Oxford, partner of the Aldabra Clean-Up Project.

We would like to thank the local and international partners involved in this initiative who are supporting Seychellois researchers.

SIF Vacancies

We have several vacancies in the Vallée de Mai and Aldabra which need to be filled urgently. We are actively seeking Seychellois applicants for all of the positions. Details can be found on our website at <http://www.sif.sc/jobs> or contact HR on 432 17 35 if you are interested in any of the following positions:

Vallée de Mai:

- Sales clerk
- Senior Visitor Attendant
- Visitor Attendant
- Housekeeper

Aldabra:

- Cook/Gardener



Yellow crazy ant taskforce launched to control numbers in the Vallée de Mai

In August, SIF launched its dedicated team, the yellow crazy ant taskforce, to control the numbers of this invasive species in the Vallée de Mai. The taskforce, made up of 18 staff members, underwent specialised training to distribute a new type of bait across the Vallée de Mai with the aim of significantly reducing the size of the population. SIF has been awarded \$96,000 of emergency funding from UNESCO to tackle yellow crazy ants, due to the severity of the threat they pose to the delicate ecosystem of the forest.

The taskforce began distributing “AntOff”, a type of bait in the form of granular pellets, across the forest on 26th August. AntOff contains an insecticide called fipronil and a paste made of ground fish, which makes it extremely attractive to yellow crazy ants. Alone, fipronil is a highly toxic substance but it is at such low concentrations in AntOff (only 0.001% of each pellet) that only ants, bees and aquatic invertebrates are sensitive to the bait. Bees are not attracted to the bait due to the fishy matrix it comes in, and the taskforce avoided impacts on aquatic life by not spreading any bait within 5m of any waterways in the forest.

AntOff is the most successful pesticide to have tackled yellow crazy ants in the world, and the taskforce has already seen its impacts on the yellow



Emmanuel Morel, Maria Brioche and Lorraine Cook from the YCA taskforce © SIF

crazy ants in the Vallée de Mai. As the fipronil is in such low doses, the worker ants do not die before they carry the bait to the nests, meaning that this bait gets into the nests and targets every stage of the life-cycle. The effect of the bait is very evident and in treated areas the taskforce have seen piles of dead yellow crazy ants.



The YCA taskforce in action © SIF

The taskforce will now carry out follow-up monitoring over the next few months to assess the impact this new control method has had on the numbers of yellow crazy ants and native

wildlife in the forest. It is foreseen that they will need to do more baiting in future to have ensure that the impact remains significant on the population numbers to protect the native wildlife of the forest.

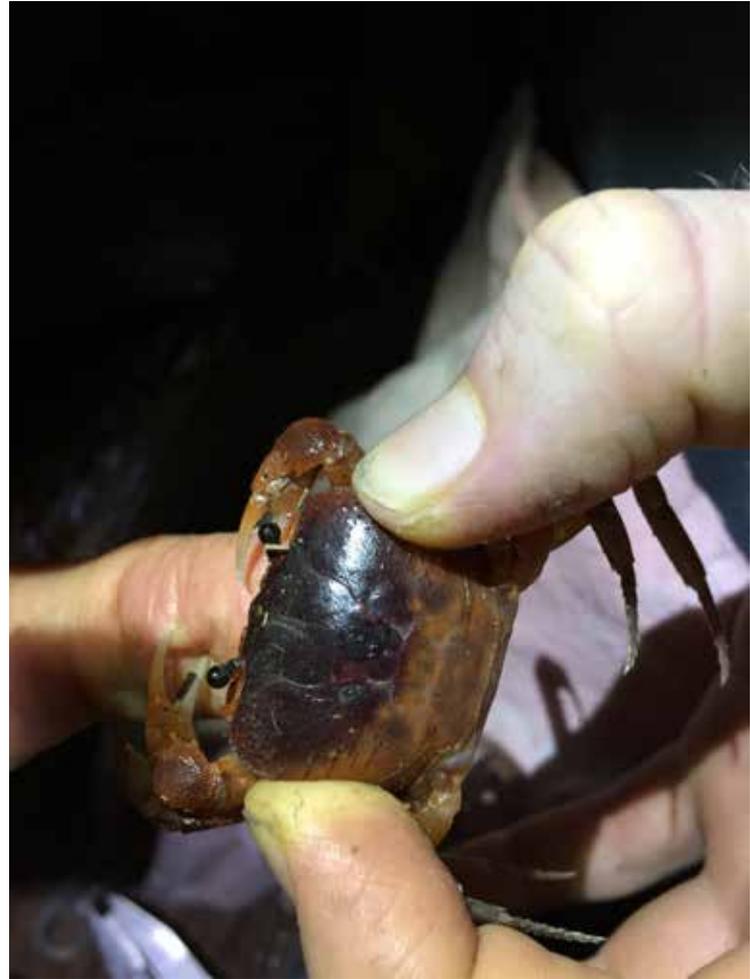
Vallée de Mai team survey fauna in the forest

In preparation for our baiting programme to control yellow crazy ants in the Vallée de Mai, the research team carried out a series of fauna surveys. We wanted to understand the populations of skinks and crabs in the forest, and compare how these changed after the numbers of yellow crazy ants were reduced.



The team camouflaging funnel traps © SIF

To capture the skinks and crabs, the team constructed several small temporary fences out of black plastic in different areas of the Vallée. The fences work by creating a barrier, guiding the skinks and crabs into funnel traps that were placed along either side of each fence. The research team hand-made these funnel traps; they have large openings at either end which then funnel to a much smaller one which leads to a larger holding area in the middle. So essentially they work by being easy to get into but hard to get out of. Most importantly, they cause no harm to anything that is captured in them.



A captured crab is carefully removed from one of the funnel traps © SIF

In total the traps captured ten crabs, two Gardiner's burrowing skinks and one Seychelles skink over three days. The traps were checked regularly to ensure no animal spent too long in

them, this meant the team had some late nights and very early mornings. We hope that when the surveys are repeated regularly over the next year there will be a noticeable increase in the numbers of native creatures being caught as the yellow crazy ant numbers are reduced.

Children enjoy week-long holiday camp at the Vallée de Mai

SIF held its 16th children's holiday camp at the Vallée de Mai from Monday 19th August to Friday 23rd August. Here are some highlights from their week.



Children enjoying outdoor activities at the holiday camp © SIF

Children enjoyed a tour of the Vallée de Mai and were excited to learn about birds found in Seychelles. Most of the birds they saw during their walk are endemic to Seychelles and form an important part of the Vallée de Mai ecosystem. The children were very happy to learn about Seychelles' national bird, the black parrot, which is only found on Praslin.

SIF's Education and Outreach Officer Maria Brioche gave a presentation about the threat of yellow crazy ants to the Vallée de Mai ecosystem. The children were passionate about the topic and asked many questions about how yellow crazy ants could be destroyed. We then played some outdoor games to help them understand how quickly invasive species take control of an environment. The children also went for a walk on New Comme trail, one of the



Children on a tour of the Vallée de Mai © SIF

most beautiful nature trails on Praslin.

The children also spent time learning about Aldabra Atoll. Maria gave a presentation about the terrestrial, oceanic and bird species found on the atoll. They also discussed the negative impact of plastic in the ocean, one of the major problems that Aldabra faces. Mr Ivan Capricieuse, one of the volunteers from the Aldabra Clean-Up Project (ACUP), talked about his experience working there. He emphasised the importance of reusing throwaway items and trying to make other beautiful objects from them. He then ran a workshop teaching the children how to make jewellery from old ring pulls and other waste items. In the afternoon the children watched a documentary about the work the ACUP team did on Aldabra.

On the last day of camp parents were invited to Vallée de Mai to see an exhibition of the artwork their children had done during the week.

All children received a certificate of participation during a short ceremony. There were song, poem and drama performances from the children demonstrating some of the things they learned during the week. It was a fun and educational week for everyone involved, and we look forward to welcoming children back to the Vallée de Mai at our next holiday camp.



Children with earrings made from recycled materials
© SIF



Records of marine mammals sighted at Aldabra published in Seychelles Research Journal

The last 10 years of SIF's opportunistic monitoring results on marine mammals in Aldabra's protected waters were published in the Seychelles Research Journal in August. The authors summarised sightings of marine mammals around Aldabra from 2008 to 2018.



Dugong in Aldabra's waters © R Filippin

Aldabra staff documented 783 sightings of marine mammals over the 10-year period, which was

more than double the number of sightings recorded during the previous 10 years (as reported in Herman & Pistorious, 2008). Due to this monitoring being opportunistic, with no measure of effort, there is unfortunately no way of confirming whether the increase in sightings is due to more time spent on monitoring or if the numbers of marine mammals in Aldabra's waters have increased. Either way, we are hopeful that the creation of a large-scale Marine Protected Area (MPA) including the whole of the Aldabra Group namely Aldabra, Astove, Assomption and Cosmoledo, in 2019 will boost the numbers of marine mammals in the region.

One notable finding was an increase in the number of dugong sightings over the monitoring period. Dugongs are the most endangered marine mammal in the south-west Indian Ocean, and suffer from loss of seagrass habitats. The authors found no clear seasonal patterns in the dugong sightings, which may suggest that the population is resident year-round.



Dolphin in Aldabra's waters © R Filippin

High numbers of humpback whales were observed around Aldabra between July and November each year, frequently with calves, indicating that these waters form part of their migratory route. Spinner dolphins are the most abundant marine mammal in Aldabra's waters, with large pods of up to 500 dolphins seen year-

round. Observers also spotted nine other species of marine mammals during the monitoring period, including new records of minke whale and a species of pygmy or dwarf sperm whale (Kogiidae).

Seychelles has a long history of marine mammal protection and the Blue Economy strategy shows that Seychelles' Government is committed to safeguarding marine habitats. The continued and potentially increased number of sightings of these threatened species around Aldabra further demonstrates the positive impact of protecting marine areas. The opportunistic sightings of marine mammals at Aldabra will continue, but we will be considering ways to improve the programme to include an indication of monitoring effort, so future monitoring data is more comparable. Such data could prove invaluable in understanding mammal populations and distribution over long time periods.

Appoo J, Sanchez C, Burt AJ, Richards H, van de Crommenacker J, Currie J, Fleischer-Dogley F. 2019. The Use of Aldabra and its Protected Waters by Marine Mammals. *Seychelles Research Journal* 1(2): 166-179 (Open Access)

Grassland giant tortoises' favoured habitat on Aldabra, finds new research by SIF

SIF's collaborative research with the University of Zurich on the habitat preferences of Aldabra's giant tortoises was published in the journal *Biodiversity and Conservation* in August. This research paper features the first detailed habitat map of Aldabra produced from satellite imagery, which will be invaluable for future research and management of Aldabra, and is available online. The work is based on the MSc thesis of Rowana Walton and part of the Zurich-Aldabra Research (ZARP) Platform collaboration. Advances in remote sensing techniques mean that we now have the accuracy to visualise different and fine-scale vegetation types. Combining these images with GPS technology to track tortoises enabled the

researchers to identify how giant tortoises used different habitats and which areas they preferred.

Understanding how species use and interact with different habitats is key to conservation. The Aldabra giant tortoise is highly vulnerable to habitat loss as climate change is already affecting the amount of rainfall on the atoll (shown in previous ZARP research by Haverkamp et al. 2017) so this new research will help us to understand the impact of such change. There is also a strong case for 'rewilding' islands which have lost their giant tortoise populations, such as the Galapagos, the Masarenes, Madagascar and some of the granitic Seychelles islands. Re-introducing giant tortoises can be an important conservation tool for these places. Understanding the tortoises' use of their habitats is essential to ensuring the success of these projects.



Giant tortoise on Aldabra © SIF

The authors, including several researchers from the University of Zurich and SIF staff, analysed four years' worth of GPS data on the giant tortoises' movements around the atoll and the habitats they selected and avoided. They combined this data with the detailed terrestrial habitat map of the atoll, and investigated whether seasonal changes affected which habitats were chosen by the tortoises. Grassland was the favoured habitat across all seasons, despite being relatively uncommon, followed by mixed open

scrub. This is perhaps unsurprising as the grassland on Aldabra provides a relatively rich, diverse habitat and is an important food source for the tortoises.

These results confirm that, despite the small land area of grassland habitat on Aldabra, it is of great importance to the giant tortoises and essential habitat to preserve to secure the future of the tortoises on Aldabra.



Giant tortoise in Aldabra's waters © SIF

Walton R, Baxter R, Bunbury N, Hansen D, Fleischer-Dogley F, Greenwood S, Schaepman-Strub G 2019. In the land of giants: habitat use and selection of the Aldabra giant tortoise on Aldabra Atoll. *Biodiversity and Conservation* (in press, Open Access)

April Burt interviews island ecosystem managers in Small Island Developing States in the Western Indian Ocean

Islands like the Seychelles are home to many wonderful and important creatures; giant tortoises, birds and many exotic plant species live on land, while marine turtles, corals, fish and sharks live in the waters around them. But islands are also vulnerable, and the arrival of humans introduced many new threats such as deforestation and invasive species. Humans also created chemical and plastic pollution, and climate change caused by the burning of fossil fuels.



April Burt on Aldabra © April Burt

80% of known extinctions have occurred on islands, yet we rely so heavily on the services these ecosystems provide. It is crucial that these ecosystems are healthy and given the best chance of survival. This comes down to how well they are managed by us humans. The responsibility of implementing successful conservation measures in biodiversity-rich islands falls to the individual organisations tasked with their management. From 330 marine protected areas within the Indian Ocean, management effectiveness assessments concluded that management of three-quarters of these was considered ineffective or only partially effective (ICRI, 2018). There is clearly a need to understand the current level of management of these critical ecosystems, and identify the factors influencing the ability of management practitioners to turn data into useful information and meaningful actions.

April Burt, who has worked in Seychelles for a number of conservation organisations, is now conducting PhD research to determine how biodiversity-rich ecosystems within Small Island States are managed and monitored. She hopes to use these findings to make recommendations on how management and monitoring could be made more effective. To do this, she aims to find out the level of connectivity/

coordination among sites, factors influencing effective management and ways in which management could be improved.



Aerial view of Aldabra Atoll © SIF

The best way to obtain this information is to talk directly to people in the frontline of island ecosystem management. The first phase of the research is therefore to hold interviews with conservation practitioners and island managers, before a more quantitative questionnaire will be developed and launched online. We therefore ask anyone who works in conservation or island ecosystems management who wishes to participate in a short interview or is interested in doing the online survey to get in touch via [april.burt@queens.ox.ac.uk](mailto:burt@queens.ox.ac.uk).

Aldabra's logistics team makes great progress in maintenance and repairs

When you are recruited for a position at Aldabra, just like anywhere, you are hired for the skills you possess. The logistics team's abilities are crucial for maintaining the research station. If you are thousands of kilometers away from a specialist shop, with no chance of any help, you need to have the right skills!



Logistics team working on the biosecurity building © SIF

Aldabra is a tough place to work. The salt spray means everything corrodes quickly (including doors, tools and equipment), the constant shifting of sand and rock is tough on boats and engines, there is no way to dock and raise boats for maintenance, and the constant 'surprises' make it a challenge to get the planned work done. Not only do team members pull their weight, but they also become skilled in other fields. Multiple hands are usually needed for each project, therefore, the skippers become skilled at constructing and redesigning kitchens, the mechanic also becomes the electrician and construction hand, and the technician must know a wide range of skills from plumbing, to fixing anything you need. Your job title, although accurate, does not fully cover everything that you are now capable of.



Logistics team working on the trolley © SIF

In the past few months, the biosecurity building has made incredible progress. This building will enhance SIF's efforts to prevent non-native plants and animals from being introduced on Aldabra, allowing the team to carry out more thorough biosecurity checks in a sealed environment. We hope that the biosecurity building should be ready and in use by December. The team also succeeded in repairing the trolley used to transport supply boxes. There are no machines on Aldabra (only human power), and when we do get supplies here, they come in large batches of 6 months' worth of supplies at a time. Moving boxes from the landing stage of a supply boat to their destination takes a lot of energy, let alone time, and time is not something we always have in abundance. The trolley is a much-needed assistant, and although it has tried to quit several times, it has been creatively welded, and we are confident it will not break now!



Logistics team repairing the trolley © SIF

Some of the large, time-consuming surprises of the past few months include finding and fixing a leak in the fresh water (the culprit was underground; Casuarina roots were infiltrating a pipe), troubleshooting the two week communications blackout (Wi-Fi suddenly cut out), and problems with the solar panels system and the generator.

It's easy at times to forget how far away Aldabra is, and this is in part due to the skilled and hardworking staff we have. Good work team!

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Articles contributed by: Sophie Adams, April Burt, Cheryl Sanchez, Jeremy Raguain, Jennifer Appoo, Luke A'Bear and Maria Brioche.

Edited by: Sophie Adams, Dr Nancy Bunbury and Dr Frauke Fleischer-Dogley