



# SIF Newsletter July 2020

## NOTICE:

During this pandemic, cyber crime has increased and unfortunately, SIF suffered an attack on our website in mid-August. Concurrently, a spam email circulated through our mailing list. This email contained a false announcement of an SIF symposium. Please accept our apologies for any inconvenience caused by this and to disregard such emails. Our IT support team has been able to resolve the issues with our website and email, and operations seem to have resumed smoothly. If you have queries about emails that claim to be related to SIF, are unsure or have any questions please feel free to take a screenshot (rather than opening the mail) and send the photo or question to [info@sif.sc](mailto:info@sif.sc). SIF thanks you for your understanding and will take the opportunity to reassure you that our response will be prompt in the event of such a future eventuality.

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## MV Wakashio Oil Spill

**Mauritius: A Tropical Paradise in Distress**

MV Wakashio Oil Spill Relief Efforts

A photograph of a person wearing a respirator mask and a dark, waterproof suit, standing in shallow, brownish water. They are holding a black bucket and pouring a dark liquid, likely oil, into it. The water appears polluted with oil slicks.

On Saturday 25th July, the Japanese freighter 'MV Wakashio' crashed on the reefs of Mauritius next to one of its most protected atolls; Ile aux Aigrettes. This atoll is home to several species not found anywhere else in Mauritius or the world. The oil spill has since surrounded this atoll and one of Mauritius' best preserved large fringing reefs, which has survived waves of coral bleaching events. SIF has many current and former staff with experience working on Ile aux Aigrettes and other sites hurt by this avoidable disaster and as a guardian of similar protected areas, extends its commiserations to the people and wildlife of Mauritius.

Although the disaster is presently limited to Mauritius, SIF has kept itself informed of its implications for the region and is engaged with national efforts to review Seychelles' contingency measures in the event that the spill heads our way or such a catastrophe happens in our waters. SIF's CEO, Dr Frauke Fleischer-Dogley, attended a workshop organised by the Seychelles Department of Environment aimed at reviewing the country's National Oil Spill and Contingency Plan. Following the workshop, discussions were held with the Director of Maritime Affairs from the Department of Foreign Affairs exploring the option to raise Aldabra's designation with the International Maritime Organisation from an area of avoidance to a particular sensitive area. If you would like to learn more about the disaster and help the efforts in Mauritius, a former SIF team member, Véronique Couttee has created a fantastic resource which can be read [here](#).

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## **Annabelle Constance selected as a West Indian Ocean Governance Exchange Network's Early Career Researcher**



Annabelle share's some of her experiences after working in conservation for nine years © Annabelle Constance

Our very own Annabelle Constance, PhD candidate at the University of Zurich and former Science and Projects Coordinator, was featured as part of the West Indian Ocean Governance Exchange Network (WIOGEN) spotlight on early career researchers. Read more about Annabelle, her research and experiences [here](#).

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## **SIF taking steps to reduce ecological footprint and increase sustainability**

To mark Sustainable Development Goals Day celebrated on 11th July, our Head Office team held a sustainability workshop to present and discuss ways in which SIF can better embody the sustainable development goals, especially those related to production and consumption and protection of the biosphere. The workshop took place on the morning of 29th July, with presentations from Operations Manager, Julio Agricole, Communications and Outreach Coordinator, Jeremy Raguain, and Project Officers, Veronique Banane and Emeline Lafortune, covering concepts such as ecological footprint, e-waste, paper reduction and recycling, general office sustainability and do-it-yourself cleaning products.



*Julio, Jeremy, Veronique and Emeline started the workshop with presentations on various ways to increase sustainability at SIF © Julio Agricole*

While SIF already has an Environment Management System in place for all its sites, this workshop gave the entire team a chance to report on its effectiveness and add new measures. The workshop was a collective evaluation and all suggestions were recorded to be voted on by the team for future adoption of a new sustainability policy. This initiative will put in place benchmarks for regular monitoring on the efficiency of measures being carried out. In addition to this, teams at the Vallée de Mai and Aldabra will also conduct similar activities with suggested solutions shared and adapted across all sites.

If you would like to calculate your own ecological footprint and see where you can and should make changes to be more sustainable, check out the [ecological footprint calculator](#). Also, if you are interested in joining SIF in adopting another sustainable initiative, consider switching to the search engine, [Ecosia](#), which plants trees when you use them to search online.

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## Keeping the Vallée de Mai safe and open

While the Vallée de Mai was carefully reopened from 1st June to ensure the full resumption of research and maintenance activities, as well as the provision of access to a much sought after green space for the community, it was essential that SIF updated its operations and procedures. These adaptations aimed to mitigate the risk posed by the COVID-19 pandemic by increasing staff awareness of the virus and preparedness on how to deal with several eventualities, as well as raise their and the visitor centre's level of hygiene. Inspections from the Public Health Authority, training on the proper use of personal protective equipment and how to screen staff and visitors as well as the installation of hand sanitizers stations, pedal bins and social distancing signage, ensured the Vallée de Mai not

only remained open to people in Seychelles, but was also following the Department of Health's guidelines.



*An officer from the Seychelles Public Health Authority visits the Vallée de Mai visitor centre, inspecting the facilities and making recommendations © Maria Brioche*

Moreover, while commercial international flights would only resume from 1st August, it was essential that SIF started to prepare Seychelles' most visited natural attraction for tourists. As such, while the above measures were being undertaken at the Vallée de Mai COVID-19 health and safety standard operating procedures were developed to integrate and entrench adaptations, while several major developments to the way people visit and enjoy the Vallée de Mai were introduced. The two foremost developments were the introduction of an 'online booking' system and the switch to only accepting electronic/cashless payments. With the booking system, which involves visitors calling or emailing a day ahead to provide personal details as well as preferred visiting times, SIF will not only be able to limit group sizes to four people, but also ensure that the reserve is not too crowded, allowing ample social distancing, while a shift to electronic payments will mitigate staff's and visitors' exposure to the virus.

To learn more about these new developments please watch and share our short video below before visiting or recommending a visit to the Vallée de Mai.



*The Vallée de Mai is now a safe tourism certified attraction, check out our short by clicking on the label above*

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## First ever black parrot breeding in July!

This July was the most surprising month ever experienced by the black parrot team: For the last 11 years that SIF has monitored black parrots, their breeding 'season' has always been in the middle of the north-west monsoon, starting in October/November and the last fledglings leaving their nests in March or April. However, this year, following an inactive breeding season (with no recorded breeding, which seems to happen every four years), the parrots started showing signs of breeding readiness in June. Then, while the black parrot team were mist-netting at the end of June, they caught a bird that was exhibiting definite signs of breeding. At the same time, a member of the Vallée de Mai research team spotted a parrot nest prospecting (looking for a suitable place to make a nest) in a cavity.

This behaviour is typically observed in November at the beginning of the breeding season, and involves parrots looking inside cavities, climbing in and out, and sometimes modifying the entrance. Accordingly, the black parrot team decided to stop mist-netting for a while and to check known cavities for breeding signs. A surprising number of cavities investigated showed potential signs of breeding, e.g. all debris removed, no spider webs inside cavities. Then, on 2<sup>nd</sup> July, while testing a new way of checking nests, the team made an exciting discovery: a cavity containing two eggs! Even though all the signs had led the team to thinking breeding might be underway, it was still remarkable to actually see eggs in July rather than just suspecting them. In the 11-year history of black parrot monitoring at the Vallée de Mai, SIF has only recorded eggs between November and

January. Thus, the discovery of July breeding activity is a first and currently a mystery!



*First ever record of black parrot eggs in July © SIF*

Unfortunately, only 6 days later, the team found that the eggs were missing and the nest had failed. The black parrot team cannot be certain what caused this failure, but it is possible that when the cavity's base collapsed, during the heavy rain, the eggs were smashed. Although disappointed by this failure, it did not make the discovery of eggs in July any less exciting and in fact, proved that our team were reading the signs correctly: the parrots were definitely breeding! After this, the team was extremely keen to search for more active nests. The following day, cavities at Fond Ferdinand were checked and a nest containing half an egg shell was discovered. Although there is no way of knowing if this egg successfully hatched but the chick did not survive, or if the egg was predated, it at least indicated that more than one bird was attempting to breed. The week after the disheartening discovery of the two failures, the team's luck began to change: an active nest was discovered containing two new eggs. The following day, after a lot of searching another nest was discovered, this time containing three eggs! Since then, more nests have been discovered each week with the first chicks found on 24<sup>th</sup> July.

SIF is not sure why the parrots have broken all the usual rules and started breeding at this time of year, but it's certainly a question our team will be attempting to answer over the next few years, as we find out whether this season

is an anomaly or if the parrots return to their normal breeding patterns. Climate change is inevitably raising its head as a potential key cause of such a major seasonal shift, but this requires investigation.

Ultimately for July, seven parrot nests have been discovered, five now with chicks and two that have failed. The next step is to identify the females and any other parrots that are involved in helping at the nest. When the chicks are ready to ring (during August if they survive), the team will be able to create a family history for each chick. This will help SIF understand the importance of family relationships for the black parrots. August is set to be a busy month as we will be ringing chicks and identifying nesting females. The team hopes to continue searching for more nests as the extent of breeding calls heard in the forest suggests there are still nests to be discovered!



*First chick discovered, on 24<sup>th</sup> July, already about a week old. Seen at the base of a very deep cavity with an egg ©*

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## **Yellow crazy ants at lowest distribution in Vallée de Mai for the last 10 years!**

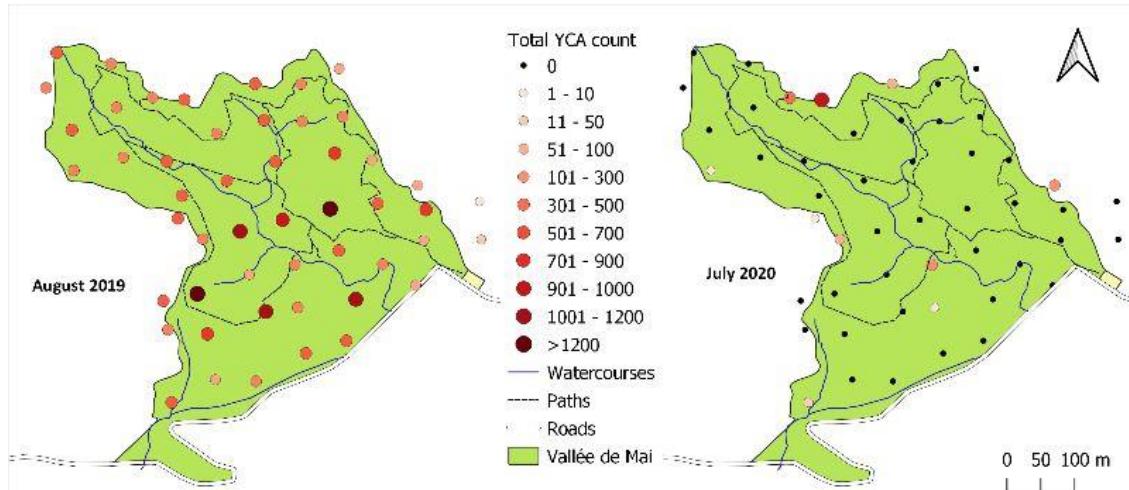
The first ant pitfall trap survey since the last bait deployment was conducted in early July. The pitfall trap survey is our most robust way of surveying the

distribution of yellow crazy ants within Vallée de Mai and the adjacent site of Fond Peper. This survey helps us to understand if our baiting efforts are successful and determine how the ant community is changing as the yellow crazy ants subside. Two dedicated teams set the pitfall traps and collected them 24 hours later. The Vallée de Mai sales clerks joined the yellow crazy ant team for the survey. As research work is new to them, the clerks learnt about setting the traps, collecting samples and the reasons behind conducting pitfall surveys. While doing this, they have to explore areas of Vallée de Mai and Fond Peper unknown to them. The sales clerks also learnt how to use a GPS and got to lead the team in the forest. It was an eye-opening experience for them and they now have extra insight into the kind of work the research team carries out.



Vallée de Mai sales clerks getting hands on training on pitfall trap surveys © Constance Tragett

Results from this pitfall survey showed that the highest number of yellow crazy ants are located on the Vallée de Mai boundary. While this result reminds us that our work is far from finished and that collaboration with national partners is essential, we also discovered that yellow crazy ants are now only present in 20% of the Vallée de Mai! This is the lowest distribution of this highly abundant invasive alien species in the last 10 years (since the invasion and start of monitoring), which is fantastic news for the project and the Vallée de Mai. Encouragingly, as this invasive ant recedes, a Seychelles endemic ant, *Paraparatrechina illusio*, appears to be recovering.



Map and legend showing the drop in the distribution of yellow crazy ants in the Vallée de Mai © Constance Tragett

Considering the current and past trials and tribulations, it is heartening to reflect on where we were with the yellow crazy ants a year ago and how far we have come since then. While the journey to a Vallée de Mai free of yellow crazy ants is still a long way to go, the destination is within sight, and the potential of going further is made possible by the amazing teamwork this project has experienced.



## Contributions to IUCN Red List Assessments

The Aldabra research station collects a whole host of data for continuous long-term monitoring of species and habitats, as well as for short-term projects that are periodically implemented every few years. All of this data forms the cornerstone of evaluating the conservation management success on the atoll. Data collected from Aldabra is used to inform decisions made by SIF, the Seychelles Government as well as international conservation management authorities. Recently, the Aldabra team have been using Aldabra's data to contribute to the International Union for the Conservation of Nature (IUCN)'s Red List assessments of green turtles (*Chelonia mydas*) and a free-tailed bat

species (*Mops pusillus*). The Red List uses a specific set of criteria to evaluate the conservation status or extinction risk of species around the world.



*Aldabra's green turtle population's recovery has been recorded by SIF's longterm continuous monitoring © SIF*

The Aldabra research station maintains a continuous dataset of nesting green turtles that dates back to the 1980s. This is the result of the dedicated efforts of staff and researchers over nearly four decades. Settlement beach, the beach in front of the research station, is about 2km long and is surveyed for green turtle tracks and nests every morning. Other beaches are surveyed weekly or monthly when rangers are deployed to field camps in the far reaches of the atoll. Through this monitoring programme, the incredible increase of Aldabra's green turtle population, protected from the late 1960s, has been followed since the 1980s. SIF recently submitted all this data to update the IUCN's Red List assessment of the South-West Indian Ocean population.



*A free-tailed bat weighs are tiny, only weighing 7.5 grams © Mariona Bielsa*

Few have had the pleasure to see the free-tailed bat, elegantly fly between the trees at sunset on Aldabra. Thus, unsurprisingly almost nothing is known about this species, so much so that science is still debating what to name it! Its current classification has no common name specific to a species. They weigh in at a mere 7.5 grams and, like most small bats, forage on small flying insects at night. They occur on Aldabra and the four main islands of Comoros. These bats have been studied periodically on Aldabra with the first specimen collected by Abbot in 1893. SIF's assessment has recently been submitted for review and is the first IUCN assessment for the species which gives a bit more of a presence to this little bat in the conservation world.

We will report again once the IUCN has updated the conservation status for each of these species on the Red List!

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## **Delving into the genomics of giant tortoises**

Recently, the team on Aldabra have taken on the task of collecting blood samples from tortoises for tortoise genomics research based at the University of Zurich. Taking blood samples from a tortoise is notoriously challenging. Couple this with the need to collect several hundred samples from across the atoll, and it's easy

to see that the team has quite a mission on their hands. Despite the difficult task, two teams of two rangers have each received the necessary training from vets and have now collected an impressive number of almost 100 blood samples in three days on the south coast of Grande Terre. This achievement was managed on top of conducting other essential monitoring activities! The teams refined the process of recording all the measurements, Passive Integrated Transponder (PIT)-tagging, and collecting the blood samples, making it remarkably efficient. Each team member fulfilled essential well-rehearsed roles during the process. A PIT-tag is a 'tag' smaller than a grain of rice that is easily inserted below the skin using a hypodermic needle and, when read with the PIT-tag reader, it recalls a unique identification number for the tortoise. This ensures tortoises are identifiable, not sampled twice and allows them to be monitored on an individual level over time, aligning with other PIT-tagging projects for mark-recapture programmes. Only a very small amount of blood is required for genomics analyses therefore, a small volume of 0.3 ml of blood was collected from each animal.



*A ranger takes approximately 0.3ml of blood for genomics analysis.*

The blood is taken from the tortoises' 'armpits' between its leg and plastron © Bruno

These blood samples are being collected for an ongoing collaborative project with the University of Zurich, as a continuation and expansion of the former Zurich-Aldabra Research Platform (ZARP). The aim is to understand the population structure at the genomic level (complete genetic makeup) of the Aldabra giant tortoise, both in its natural environment on Aldabra as well as in other captive and re-wilded populations. The population structure analysis will look at levels of

variation (genetic differences between individuals in a population) and differentiation (genetic differences between populations). On Aldabra, this will be of particular interest as the populations on the different islands of Aldabra are, for the most part, isolated. However, there are rare events where tortoises are caught by the tide and drift onto the beach of a nearby island that would add to the genetic mixing of island populations. In the past, some tortoises have intentionally been translocated between Aldabra's islands by, among others, James Spurs, the first lessee of Aldabra in the late 19<sup>th</sup> century, to supplement small populations that were once over-harvested. Consequently, this genomics study will hopefully shed light on these events and how they have shaped the genetic make-up of the different sub-populations of tortoises on the various islands of Aldabra.

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## Humpback whales return to Aldabra

Humpback whales (*Megaptera novaeangliae*) can be found in every ocean on earth. They are one of the larger species of baleen whale. These whales are found near coastlines and in deeper waters, and feed on krill, plankton, and small fish. Humpbacks migrate annually from summer feeding grounds near the poles (Arctic and Antarctic waters) to warmer winter breeding waters closer to the Equator (tropical and subtropical waters) to give birth and breed. In Seychelles, humpback whales are usually observed during the end of the south-east season, from July to October on Aldabra. This year's first sighting for the Aldabra research station was on Saturday 18th July and whales have been sighted almost every day since. Some have even been seen with calves, which keep close to their mothers for the year they are nursed for. The whales are mainly seen spouting (when it reaches the water's surface after a dive and expels "old" air in one breath), fin-flapping (flapping pectoral fins on the water's surface), fluking (tail lifting before diving) and occasionally breaching (leaping to a point whereby at least 40% of its body is out of the water).



*Humpback whales are annual visitors to Aldabra, with staff seeing groups and individuals between July and*

*October © Martin van Rooyen*

While humpback whales are still hunted by several countries, their numbers were in severe decline before being listed as vulnerable by the IUCN and the 1985 ban on commercial whaling coming into force. Today, the numbers of many humpback population groups have started to increase, leading to the change of their status to “least concern” by the IUCN, with the exception of two subpopulations. At present, the biggest threats to humpback whales are collisions with ships and entanglement in fishing gear. With an estimated 80,000 humpback whales worldwide, Aldabra is fortunate to host these ocean greats as they pass through. The breaching sound of the whales is a reminder that though the present season has us bound to the shores, our sea is very much alive. We all await what the rest of the migratory season of the humpbacks has in store for our waters.



*Fluking © Martin van Rooyen*

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