SIF News Letter

seychelles islands foundation

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Extinct snail rediscovered on Aldabra

The rediscovered Aldabra banded snail © C Onezia

The Aldabra banded snail (*Rhachistia aldabrae*), declared extinct in 2007, was re-discovered alive and well at Aldabra on 23rd August 2014. Before the discovery, the last living individual of this endemic species, which only occurs on Aldabra, was recorded in 1997. Subsequent searches yielded only shell remains and no living specimen has been recorded until now. The snail's apparent demise was linked to declining rainfall on Aldabra (in a paper by Gerlach in 2007) and was widely publicised internationally as one of the first casualties of climate change impacts.

The team of SIF staff were exploring infrequently visited parts of Malabar Island, the second largest island of Aldabra, when the snails were found. The snails were spotted by the keen eyes of Junior Skipper Shane Brice when he noticed a snail that he didn't recognise in dense mixed scrub on Malabar. Senior Ranger and Assistant Training Officer Catherina Onezia's suspicions were immediately raised as the snails were found on one of Aldabra's endemic trees Bwa Mamzel (*Allophylus aldabricus*). On searching the area further, the team located several individuals, including juvenile snails. The discovery of the young snails is very encouraging as the last juveniles were recorded in 1976. The juvenile snails were considered to be particularly vulnerable to desiccation as a result of reduced rainfall.

Biosecurity plan written for Aldabra

Yellow Crazy Ants are a potentially major threat to Aldabra's biodiversity, should they reach the atoll. The biosecurity plan aims to prevent their introduction onto the atoll © T Vattakaven

Under the EU-funded invasive species project, a biosecurity plan for Aldabra has now been finalised. This plan aims to prevent further introduction of invasive species into Aldabra's ecosystem. The plan was developed by Dr Grant Harper in close consultation with SIF. Grant has also worked with SIF leading the rat and cat eradication feasibility research on Aldabra.

There are already a number of invasive alien species on Aldabra, some of which are being tackled by SIF. To further protect Aldabra, however, it is important not only to remove invasive species but also to prevent more introduced species from reaching the atoll. Under the new biosecurity plan, SIF will be putting in place a number of procedures to prevent such introductions. These procedures will involve thorough screening of all supplies destined for Aldabra both on Mahé and Assumption (when necessary), and when they arrive on Aldabra. The plan also makes provisions for ensuring that staff and visitors to the atoll do not accidentally introduce species onto Aldabra.

To implement the plan, biosecurity officers on Mahé and Aldabra have been nominated. They will be responsible for ensuring that biosecurity measures are put in place at all levels. A series of meetings on Mahé and Aldabra have already been undertaken to discuss the implementation of the plan. The team on Mahe is now in the process of implementing some of these new procedures along with partners, for the upcoming supply boat bound for Aldabra.

The biosecurity plan marks a new era in the management of Aldabra as SIF takes an essential step forward in providing even better protection for the atoll.

Progress made on control of introduced trees in the Vallée de Mai

5th SIF holiday camp at the Vallée de Mai

The group of students at the beginning of the camp © SIF

Making the most of the school holidays SIF held its fifth holiday camp last week at the Vallée de Mai. Fifteen children from 7 to 11 years old attended this educational camp for five days at the Vallée de Mai. This was an opportunity for the children to learn about the Vallée de Mai forest ecosystem and Aldabra, and also other aspects of the natural environment. The camp aims to further the children's understanding of the natural world and give them an opportunity to experience nature up close. The SIF holiday camp is held twice a year in August and December at the Vallée de Mai and there are 30 places available at each camp for primary school children.

Investigating the streams of the Vallée de Mai © SIF

A variety of subjects were covered during this five-day holiday camp. The children were taught about them through a mixture of classroom activities, such as presentations and worksheets, but also through sessions in the field, and arts and crafts. The children had the opportunity to learn about the birds of Seychelles, the forest ecosystem, invasive species, sustainable living and renewable energy, and the marine ecosystem. It was a fun and action-packed week with the children learning

The shell of the Aldabra banded snail is unmistakeable © C Onezia

One of the aims of the field expedition was to document invertebrates observed, but the team never dreamed that they would make such a find. The snails are unmistakeable, with beautiful elongated deep purple shells lined with bright pink bands. Identification of the snails has also been confirmed by mollusc experts Dr Vincent Florens (University of Mauritius) and Pat Matyot.

There is still very little known about the ecology of this rare snail but the rediscovery provides an incredible second chance to protect and study this historical species in the wild and ensure that it is not lost again. Climate change may not have caused the demise of this snail, but climate change impacts remain a likely threat to this species and many others globally.

The re-discovery of the Aldabra banded snail provides a beacon of hope and demonstrates that the protection of unique ecosystems can yield surprises that are often not thought possible. A huge thank you to the team on Aldabra for making this discovery!

Management plan for Aldabra

Aldabra Giant Tortoise © D Hansen

SIF has recently embarked on renewing Aldabra's Management Plan, as part of the GEF Protected Areas project.

A management plan for Aldabra is essential to ensure that SIF has a clear long-term vision and management objectives. Furthermore, it helps to define core site values such as the Aldabra Giant Tortoise or Aldabra's pristine coral reefs, and also to define the threats posed, such as poaching and coral bleaching, respectively. The management plan will recommend ways to strategically evaluate the state of Aldabra's values, and the organisation, and identifies when and how to take action. This plan is of such importance for the well-being of Aldabra and SIF, that it is a requirement of both the Seychelles Government and the UNESCO World Heritage Commission that protected areas have updated plans in place.

Andrew Hill, director of environmental company Range to Reef, from Perth, Western Australia, was recruited in July 2014 as the lead consultant to develop the new Aldabra management plan. Range to Reef has a wealth of experience in management planning. They have recently compiled management plans for Christmas Island, an isolated atoll with minimal human disturbance, and Ningaloo Reef, a UNESCO World Heritage Site and marine protected area.

Introduced trees in the Vallée de Mai

Ring-barked Kalis Dipap trees © SIF

It is now four months since the Vallée de Mai invasive species team started the management of adult introduced trees. Since the last update, great progress has been made. Control of Albizia (*Falcataria moluccana*), Jackfruit (*Artocarpus heterophyllus*) Santol (*Sandoricum koetjape*), Chinese Fan Palm (*Livistonia chinensis*), Round-leaf Fountain Palm (*Saribus rotundifolia*) and Bwa Zonn (*Alstonia macrophylla*) has already been done. Now two more crucial species have been added to the list: Lagati (*Adenathera pavonina)* and Kalis Dipap (*Tabebuia pallida*).

Lagati and Kalis Dipap are among the most abundant invasive tree species in the Vallée de Mai. The survey carried out by the team earlier this year recorded 745 Lagati and 838 Kalis Dipap in the Vallée de Mai. But these high numbers did not prevent the team successfully completing the ring-barking of 644 Lagati trees by the end of August. The rest of the trees have been left for felling or lopping (due to their location near paths or roads).

Meanwhile the team started with the control of one of the other species at the top of their list - Kalis Dipap. The team is ring-barking an impressive 20–30 trees per day, which equates to 100–200 hundred trees per week. Around 300 Kalis Dipap trees have been treated so far.

Jackfruit trees have a defense response of mass fruiting © Tripadvisor

At the same time the team has been monitoring Lagati, Jackfruit and Bwa Zonn trees 2 months after their control. The effects are most marked on Lagati, which shows the highest loss of leaves, mortality rate and unhealthy appearance. Many Jackfruit trees appear to be weakening but all Bwa Zonn tree remain healthy. Lagati's healing responses are also the strongest, with >20% of the trees showing bark regrowth and/or re-sprouting. Mass fruiting has been observed in some of the treated Jackfruit trees, which will be closely monitored.

The team will be continuing to control Kalis Dipap and simultaneously check the effects of control methods on all other species.

many new skills and gaining a better understanding of their environment.

Looking for birds at Glacis Noir © SIF

While learning about invasive species with the SIF invasive species team on Praslin, the children not only took a guided tour with them in the Vallée de Mai to learn about the invasive plants and animals first-hand, but they also helped clear more invasive plants from the community stewardship plot launched by SIF earlier this year. This was a fantastic opportunity for the children to be directly involved in the management of these invasive species and learn how they can help to protect the native biodiversity of Seychelles.

The week ended with a final ceremony at which the children gave a performance of some of the poems and songs they had written about the Vallée de Mai and the subjects they had learned about. There was an exhibition of the work they had produced during the week, and then they were awarded with a certificate for their achievement. To close the ceremony SIF invited a representative of each of the 16 organisations that participated in a fun run in June this year to raise awareness of Coco de Mer poaching for World Environment Day. The representatives were invited to read and hang an engraved copy of their pledge that they had given on World Environment Day to protect the Coco de Mer.

50,000th visitor to the Vallée de Mai in 2014

Mr Henri Watienelle and his wife Weckering presented with a Coco de Mer book © SIF

On 8th August at 11:45, the Vallée de Mai staff were proud to welcome their 50,000th visitor this year, Mr Henri Watienelle and his wife Weckering from Luxembourg. After purchasing their ticket at the visitor centre the couple were presented with a book on Coco de Mer, by CEO Dr Fleischer-Dogley, and complimentary drinks at the Kokosye cafe. This visit was even more special as it was Mrs Watienelle's birthday and the couple had been married only the day before. 2013 saw the Vallée de Mai receive 83,805 visitors, the highest to date, and 2014 looks set to be similarly successful.

Visit by National Geographic magazine photographer Thomas Peschak

Coral Reefs at Aldabra © Fotonatura

The management plan for Aldabra will be undertaken in three phases. The first phase involves the drafting of scoping documents, a literature review, and consultation with SIF. The second phase involves a site visit to Mahé and Aldabra, where Andrew will consult further with key SIF staff, and develop a greater understanding of the site, and the management challenges and constraints. Andrew will discuss the management plan in depth with key Aldabra staff to ensure that it is practical to implement. The final document will be completed by the end of 2014.

We are now in the first phase of the process. The scoping documents have been drafted, and several fruitful consultations between Andrew and SIF have put the management plan on the right track. We are looking forward to the completion of the new management plan to guide and sustain SIF's efforts to ensure that Aldabra continues to receive the highest level of management and protection.

Update on Aldabra Rail genetic analysis

The Aldabra Rail © J van de Crommenacker

SIF Researcher Dr Janske van de Crommenacker has been working this month on the genetic analysis of the Aldabra Rail (*Dryolimnas cuvieri aldabranus*) to help clarify its species status. The Aldabra Rail's appearance and behaviour seem to be sufficiently different to its ancestral population on Madagascar to justify its re-classification from sub-species to species: the Aldabra Rail, unlike its remaining living rail relatives in the Western Indian Ocean, has lost the ability to fly. Confirming the Aldabra Rail as a separate species would greatly help its conservation and protection.

Janske with the rail specimens © SIF

So far Janske has successfully extracted DNA from museum specimens of the three rail sub-species; Aldabra Rails, Assumption Rails (now extinct) and Madagascar Rails, kindly supplied by the Natural History Museum of London in Tring. These museum samples are usually a tiny piece of tissue cut from the toe-pad of the birds. Some of the samples are over 100 years old and the quality of the specimen is affected not only by its age but also by the preservatives used. These factors can make the process of DNA analysis more difficult but the first results are promising.

The next goal is to amplify a selection of DNA regions from these extractions to construct phylogenetic trees and assess genetic differences between the three sub-species. Using the public digital GenBank database it is

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Participation in the 2nd Seychelles Sea Turtle Festival

The 'pledge turtle' covered in pledges at the SIF stand © SIF

SIF once again participated in the Seychelles Sea Turtle Festival which was held for the second time on 8th and 9th August 2014. The festival aims to raise awareness of the need to protect sea turtles and also to celebrate these amazing marine reptiles. This was two-day event with a formal opening ceremony on the Friday where presentations were given by turtle researchers, a prize-giving ceremony was held for some school competitions that had been run, and there were performances from many of the school children.

Winners of the sea turtle kite competition at the family fun day © C Mason-Parker

On Saturday an informal family fun day was held at Beau Vallon beach on Mahé. The fun day was a great success, with many local organisations and businesses participating, not only showcasing their work in turtle conservation but also providing numerous activities for the public to participate in. These included face-painting, turtle sandcastle competition, turtle themed arts and crafts, turtle games, a turtle kite competition and many more. The SIF stand was buzzing with excitement all afternoon as members of the public made their pledges to protect sea turtles and even had a go at making their own turtle kites. The festival provided a great opportunity to publicise and talk about the turtle research conducted on Aldabra and the increase in the population of green turtles since their protection. It is hoped that this festival will serve to keep sea turtle conservation on the agenda and at the forefront of people's minds so that these endangered animals will receive the protection they deserve.

SIF on Twitter!

Continuing the development of SIF's communications and social media tools, we have launched our official page on Twitter! We hope that Twitter will allow us to reach and communicate with an even wider audience. As one of the top ten most used social media websites, Twitter offers us a chance to connect and share with a truly international audience.

Tom photographing in the Vallée de Mai © SIF

National Geographic magazine photographer Thomas Peschak, and his assistant Otto Whitehead, spent time in the Vallée de Mai this month photographing for an upcoming article on Seychelles.

Tom and his team were on Aldabra in March earlier this year shooting for the same article. Although perhaps more famous for his marine conservation photography Tom was equally at home in the palm forest of the Vallée de Mai. Tom was ably assisted in the forest by the SIF research staff, namely Terence, Mariette and Dyllis as well as Site Manager Marc Jean-Baptiste. They were fantastic is showing Tom some of the Vallée's most cryptic and mysterious wildlife, and several trips were taken at night when the forest truly comes alive.

Tom will be back later in the year during the rainy season to spend more time photographing the Vallée de Mai. We look forward to welcoming him back!

Second visit under SNYC initiative

Students from the SNYC initiative at the beginning of their visit to the Vallée de Mai © SIF

Following on from the first visit in April under the Seychelles National Youth Council (SNYC) initiative, another group of 150 secondary school children visited the Vallée de Mai this month.

The aim of the SNYC nationwide outreach programme is for Seychellois children to have some educational experiences out of their normal learning environment. On this visit the students were from schools on Praslin and La Digue. SIF staff conducted guided tours of the forest for the children in smaller groups throughout the day where they could discover the flora and fauna of the Vallée de Mai. They had the chance to see many different endemic species such as the Seychelles Chameleon, Black Parrots, Seychelles Tree Frog and endemic plant species in the Vallée de Mai. After each tour the children answered questions about one of these species. This outreach programme will continue later in 2014 and SIF looks forward to welcoming more schoolchildren to the Vallée de Mai.

Vallée de Mai opportunities at Praslin job fair

possible to compare the DNA sequences of these rail samples with those of close and further relatives elsewhere in the world, to get a better picture of the relationship of *Dryolimnas* rails with other rails. Through the American Museum of Natural History in New York, Janske also obtained specimens of Aldabra Rails that lived on Picard before their extinction on this island. It's possible that even fine-scale genetic differences may be detectable, such as between Aldabra Rails living on Aldabra's different islands (Picard, Polymnie, Malabar and Ile aux Cedres) or between the current reintroduced population on Picard and its pre-extinction population. Understanding more about the genetics of these unique rails will also help SIF make decisions on the conservation management of the population.

Tracking the elusive Malabar tortoise

Aldabra Science Coordinator, Heather Richards, on the hunt for the Malabar tortoise © R Filippin

Finding the elusive tagged Malabar male Giant Tortoise was top priority for the Aldabra research team this month, as he had not been seen since December 2013 despite several searches.

To investigate home range and activity patterns of Giant Tortoises 31 individuals on the islands of Picard, Malabar and Grande Terre were fitted with GPS transmitters in 2012. The aim is to find these tortoises every two months to download the data and carry out any maintenance necessary to ensure the device stays attached to their shells. The tortoises are located using radio telemetry, with the transmitter emitting a signal for three hours per day so the tortoise can be found. Unfortunately during the previous months of searching not even a faint signal for the Malabar male was detected, which was starting to cause concern.

A team set off for Malabar to track the tortoise. They used the location data downloaded previously from this transmitter to target the search efforts, with Richard Baxter (University of Zurich MSc Student analysing the tortoise data) providing a map and GPS points of areas this male had used previously at different times of the year.

Rebecca finds the tag in the scrub © H Richards

Disappointingly no radio signal was picked up in the mixed scrub where the tortoise had been seen before so the team ventured further into the dense vegetation. Taller trees were climbed to try and get a higher vantage point to detect the signal. As the team penetrated further into the depths of the pemphis scrub there was great relief when a very weak signal was detected. On scrambling further through the pemphis, the signal strengthened. The tortoise had to be found before noon as this is when signals stopped for the day. With a strong signal, hope was high that the tortoise was close by, but after following

If you are regular Twitter user then you can find us under @SIF_Seychelles. For those of you new to this social media page why not sign up now? You can find the link to our page here, https://twitter.com/SIF_Seychelles, and can follow all of our latest updates and news.

Find us on Facebook

Don't forget to join us on our Facebook page that was launched last year! The page has regular news and updates on research and events at both World Heritage Sites and has been well received. We would invite all friends, supporters, partners, colleagues, and anyone else who has an interest in staying up to date with the management and protection of the UNESCO World Heritage Sites in the Seychelles, or in Seychelles' biodiversity and conservation in general to become a fan of our page. For those who have a Facebook account already please use this link https://www.facebook.com/pages/Seychelles-Islands-Foundation-SIF/1414466072110654?hc_location=stream and 'Like' our page. For those that are not on Facebook then perhaps you can receive updates through a friend or family members account, or maybe now is the time to join Facebook for yourself! We look forward to welcoming you onto this page!

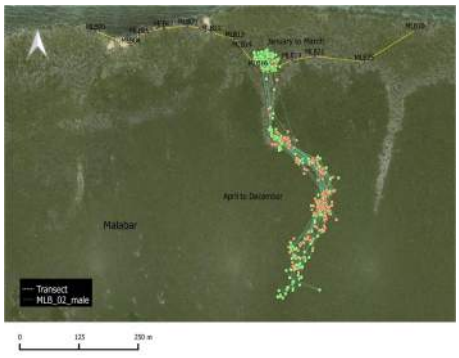
Members of the public at the SIF stand © SIF

SIF joined a job fair held on Praslin on 14th August at the Baie Ste Anne community centre to advertise job opportunities and recruit new staff.

The Ministry of Labour and Human Resources, had organized this job fair on Praslin to promote job opportunities on Praslin and assist businesses and organisations in recruiting new staff. SIF was amongst many organizations that participated in the event.

Staff from the Vallée de Mai hosted a small exhibition that provided information on the wide variety of jobs available at the Vallée de Mai. There are many work opportunities at this World Heritage Site, including positions as security guards, fieldworkers, sales clerks as well as rangers and research assistants. Many visitors came to the SIF stand to enquire further about working for SIF, in fact several visitors completed application forms right then and there!

the signal, the transmitter was finally found on the ground with its owner nowhere in sight.



Map showing the Malabar tortoise's movements © R Baxter

With the tortoises bulldozing their way through dense vegetation, especially pemphis, it is a risk that these tags will be pulled off as they squeeze through. Although the Malabar tortoise search did not have the desired outcome the team were pleased to have recovered the tag. This allowed the data to be retrieved for the tortoise's movements prior to its detachment, and revealed that the tag came off at the end of March. If the original tortoise cannot be located in the next month, a new male will be selected in the same area. This will help to shed more light on the seasonal movement patterns and habitat use of Aldabra's Giant Tortoises.

Work towards a sustainable water supply for Aldabra

An early start for the team to work on the water tank © SIF

To make progress towards a sustainable water supply for the Aldabra research station, the team focussed this month on completing the first phase of renovation on one of the old concrete water tanks.

Aldabra research station is reliant on rainwater harvesting and a small desalination plant for its water supply. To ensure that the maximum amount of rainwater can be harvested in the rainy season, and to reduce dependence on the desalination plant, renovations are being undertaken on some of the concrete water tanks.

The whole Aldabra team started a long day of work in the early hours of 5th August to complete the concreting of the tank floor. A spotlight was set up, and everybody was in action, with some filling buckets with aggregates, which others transported to the mixer. Within 15 mins the first concrete mix was ready to be laid. This process continued throughout the day and by 19.15, Samuel made the final stroke to level off the last patch of cement to complete the floor.

Sam makes the last stroke on the concrete floor © SIF

The coordination and camaraderie of the team created a fantastic atmosphere to work in. In spite of the sweat, muscle pain and blisters, the team spirit ensured that this task was accomplished for the long-term benefit of the Aldabra community – a huge thank you to all of the team members for completing the job so efficiently and with such a positive attitude.

Articles contributed by: *Rowana Walton, Nancy Bunbury, Maria Brioche, Heather Richards, Lucia Latorre Pineiro, Wilna Accouche, Philip Haupt, Janske van de Crommenacker.*