# SIF News Letter

seychelles islands foundation

Issue 29 - March 2015

## Aldabra welcome Ecoschool competition winners

*Some of the children with the blacktip reef sharks in front of the research station © SIF*

March was an unforgettable month for a group of 12 very lucky students who as winners of the 2014 national Ecoschool competition, were proud recipients of an SIF sponsored prize to visit Aldabra Atoll for five days. This national annual prize has been sponsored by SIF for many years but has not been possible to run for the last 5 years because the risk of piracy in the outer islands was considered too great a threat to the visitors. SIF is therefore delighted to be able to resume our support of this important initiative and continue the visits.

These twelve students were chosen as representatives of their winning schools and were joined by three of their Ecoschool leaders. Early in the morning, the excited group boarded the plane to Assumption for the first step of their journey to Aldabra. On the way, the pilot kindly pointed out some of the other outer islands that could be seen on the way to Assumption. Once at Assumption the group was met byby the SIF board of trustees and CEO, who addressed the children and asked them to 'become ambassadors for Seychelles' World Heritage Sites'. The group were then taken by boat to Aldabra and after a smooth crossing the dream became a reality as Aldabra appeared on the horizon.

*Meeting one of Aldabra's most famous inhabitants © SIF*

The group of students and teachers were warmly welcomed to the atoll by the whole SIF Aldabra team. The team had planned many activities for the children so that they could learn and experience as much of Aldabra as possible. They took a boat trip into the lagoon to see the frigatebird colony, encountering many green turtles along the way. On one of the evenings they joined some of the research staff to participate in the coconut crab monitoring. The children loved this and they learned to identify the different sexes and how to record the data. They also received presentations from the staff on a variety of subjects, undertook a beach clean on Picard, snorkelled, took part in turtle nesting patrols and many others. Their favourite encounter by far was with the black tip reef sharks in front of the research station. It was hard to keep them out of the water, but it was great to see that they felt comfortable around these sharks and were interested in learning more about them.

## Two papers on rat ecology recently published by SIF

*A rat in one of the trapping cages on Aldabra © SIF*

Two SIF authored papers have recently been published on rats. The first paper, published in a special issue of *Biological Conservation*, presents the results of the first year of rat monitoring on Aldabra. The rat research was set up under SIF's EU-funded invasive species project to gain a better understanding of rat ecology and impacts on Aldabra. Potential control measures were also explored to help guide a future rat and cat eradication plan for the atoll. The results of the work show that rat density is high on Aldabra, although comparable to other tropical islands. The most striking result so far was the success of rats in mangrove habitat, where they are more abundant, grow larger, survive for longer, have larger litters and their breeding season is longer compared to the rats in other habitats on Aldabra (scrub and coastal habitats). This is valuable information as little work has been done to date on rat ecology in mangrove habitat, and mangroves present unique problems for eradication attempts. Thus the new research will be relevant for anybody looking to control rats in this challenging habitat.

The second paper was triggered by the rat monitoring established on Aldabra. In researching this work, a search for general information on the ecology and effects of rats on tropical islands highlighted an important gap in this area. Much has been published on rats in temperate locations but compilations of findings from the tropics are rarer. The new paper was therefore written to provide an initial general review of rat ecology on tropical islands, and the extensive impacts of rats on the native biodiversity of such islands. Much more information is still needed, which is highlighted in the paper. The review, published in *Global Ecology and Conservation*, is a step towards addressing the gap and is intended to help managers assess the likely historical, present or future impacts of rats.

Please contact SIF for a copy of the papers. The full details and abstract links are:

Harper G, van Dinther M, Russell J, Bunbury N. (2015) The response of black rats (*Rattus rattus*) to evergreen and seasonally arid habitats: informing eradication planning on a tropical island. Biological Conservation 185: 66–74 (http://www.sciencedirect.com/science/article/pii/S0006320714004698).

Harper G, Bunbury N. (2015) Invasive rats on tropical islands: their population biology and impacts on native species. Global Ecology and Conservation 3: 607–627 (http://www.sciencedirect.com/science/article/pii/S2351989415000244).

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## Concept development for Aldabra House in full swing

## The black parrot breeding season nears an end

*Terence Payet and one of this season's black parrot fledglings © Sebastian Mühlig / www.sebastianmuehlig.com*

The melodious calls that were being heard throughout the Vallée de Mai for the last few months have now started to quieten down as the Black Parrot breeding season nears its end.

Vallée de Mai Ranger Terence Payet has been leading the black parrot research team this season and all 13 chicks that were being monitored by the team have now fledged. These chicks were from nests around Praslin including in the Vallée de Mai and surrounding National Park, Zimbabwe and Fond Ferdinand. Over the whole season, over 20 active nests were found with nine of these in the Vallée de Mai.

The first nest with eggs was found in early December 2014 in the Fond Peper, and it had four eggs. Later in the season, another nest with four eggs was located in Fond Ferdinand. Black Parrots lay 1–4 eggs per nest but 4 egg nests are not frequently encountered. Once the eggs hatched, the chicks were regularly monitored to assess their progress. The team visited the nests every three days to weigh the chicks and monitor them to ensure that they were being fed by their mothers. Sadly several dead chicks were found, some presumably killed by predators, others from starvation and some from unknown causes. At around 35 days old just before fledging, the chicks were ringed with unique ring colour combinations to allow them to be identified in the field. After fledging at 45 days, the team continued to monitor the chicks which become more difficult to locate but are still dependent on their parents for food.

sharks and were interested in learning more about them.

*The group taking a trip to the lagoon © SIF*

The national Ecoschool competition is coordinated by the Environmental Education Unit at the Ministry of Education. All schools in Seychelles are encouraged to participate by engaging in environmental activities, conduct environmental projects at school and generally adopt more environmentally friendly practices at their school. At the end of the year each school presents the achievements they have made to the judges. The 2014 winning schools were Beau Vallon Secondary (first), Anse Royale Primary (first), English River Secondary (second), Bel Ombre Primary (second), Plaisance Secondary (third) and Anse Etoile Primary (third). Winner of the Best Club member award in the Friends of Vallée de Mai Club on Praslin, Jessica Farabeau, also had the opportunity to join this group and visit Aldabra.

## SIF AGM held on Aldabra

*The Aldabra team and board members on Aldabra © SIF*

The future direction of Seychelles' two UNESCO World Heritage Sites, Aldabra Atoll and the Vallée de Mai, was mapped out on Aldabra when SIF's Board of Trustees met for the organisation's Annual General Meeting.

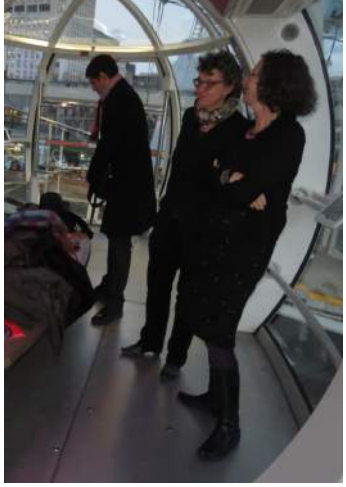
After a successful 2014, the board began reviewing this year by starting the meeting on Mahé where they focussed on the progression of the Aldabra House project. Representatives from Marks Barfield Architects and Real Studios presented concepts and ideas to the board, which were discussed at length as they tried to ensure that the true Aldabra experience will be communicated by this project. They then journeyed to Aldabra where they spent 3 days immersing themselves in the research and work at the atoll. The Aldabra staff gave several presentations to the board on recent and current research projects, as well as organising some opportunities for them to explore the atoll a little further. The trip to Middle Camp was especially appreciated by all of the board and for many it was their first time to this magical place.

Between them the 12 local and international board members bring a huge amount of valuable scientific, technical and educational knowledge and experience to the management of SIF. The Annual General Meetings are an essential part of the successful management of SIF and we are grateful to all of the board members for their continuing contributions and support..

## Aldabra's PV system still performing above expectations

*The solar panels on Aldabra © A Muller*

This month Aldabra's photovoltaic system produced its 100,000$^{th}$ kWh of clean electricity. In addition, over 110,000 kg



*CEO and Julia Barfield experience the London Eye © SIF*

SIF CEO, Dr Fleischer-Dogley, and the Aldabra House Project Coordinator, Christina Quanz, had the great opportunity this month to meet with the architects for the project, Marks Barfield Architects, and their team for a three day working visit in London. Besides a number of workshops to further develop the exciting concept design, the remaining time was spent going to other interesting and relevant visitor centres. The team had the chance to visit the London Eye, which was first conceived and then designed by Marks Barfield Architects, and other useful visits were paid to the Savill Building, a visitor centre in Windsor Great Park, the Darwin Centre in the Natural History Museum, as well as to the Horniman Museum. To maximise the experience all visits were in the vicinity of London together with the architects and exhibition designers, who organised useful guides in every centre and allowed for crucial 'behind the scenes' knowledge to be shared.

This valuable experience exchange is part of the activities under the "*Aldabra House - Concept development for a centre of excellence to increase public access to the UNESCO World Heritage Aldabra Atoll*" project which is generously supported by the GOS/UNDP/GEF facility.

*The London Eye, designed by Marks Barfield Architects © SIF*

In early March, the architects and exhibition designers visited Seychelles to present the concept development to the SIF board during the Annual General Meeting. Taking the unique opportunity of having all local and international board members together, a full day meeting was allocated to discuss and brainstorm everybody's ideas and visions for the concept as we progress towards the building of the exciting and inspiring Aldabra House we are all looking forward to.

## SIF staff learn new skills in conservation leadership

*Participants at the second workshop © SIF*

Through the ongoing project supported by the Darwin initiative on some of Seychelles distinct fauna or EDGE (Evolutionary Distinct and Globally Endangered) species, SIF was invited to participate in a workshop on conservation leadership. These workshops were organized and facilitated by Dr Simon Black from the University of Kent, UK. Dr Black specializes in researching and teaching conservation

*Two of the research team using mist nets to catch and ring adult black parrots © SIF*

The 2014/2015 breeding season was an exciting one with many new discoveries but also further information gathered on the breeding ecology of this endemic bird. A nest was located in a live albizia tree for the first time, and although it was previously suspected that feral cats could be a predator of nests, camera traps set up this season confirmed this.

The team is now using mist-nets to catch and ring adult birds across Praslin, and they are still monitoring the newly-fledged birds. The birds outside the National Park are still displaying breeding behaviour, so Terence and the team will continue to follow these birds in the Zimbabwe and Amitie areas of Praslin.

A thank you to Terence, Tessa, Mariette and Dillys for their hard work during the 6$^{th}$ black parrot breeding season, who with the assistance of the Vallée de Mai management team and head office have monitored a successful breeding season.

## World Water Day

*Children brainstorming at the water conference © SIF*

To mark World Water Day on 21$^{st}$ March SIF collaborated with partners on Praslin. Children from the Friends of Vallée de Mai club on Praslin and school children from La Digue participated in a water conference organised by the Public Utilities Company (PUC) on Praslin. The theme for World Water Day this year was 'Water and sustainability' and this was the main topic of discussion at the conference. The Principal Secretary for Energy and Climate Change at the Ministry of Environment and Energy, Mr Wills Agricole, was invited to open this conference. This was followed by various presentations from organisations such as Seychelles Breweries Limited, the Meteorological Office, the Ministry of Environment, the CEO of PUC and others. The presentations mainly focussed on ways that participants could conserve water both at home and work. After the presentations the children broke out into groups to write a pledge on how they would help conserve water at their schools and at home. These pledges of commitment were then read out to the audience.

*Learning about the water sources of the Vallée de Mai © SIF*

After these presentations it was time to learn more about the water sources at the Vallée de Mai and how they benefit the local community. The children not only learned about freshwater species that live in the rivers and streams of the Vallée de Mai as well as how they benefit people in the community by providing water for agriculture and their homes.

## Praslin scout group remove invasive plants

of $CO_2$ emissions have been avoided by using photovoltaic power. During 2014 the PV system covered 98% of the station's electricity demand. The backup diesel generator contributed less electricity in 2014 compared to the previous year, with only 84 running hours that provided 839 kWh of electricity. Compared to 2013, the diesel demand was further reduced by 53% to 280 litres only in 2014. This equals a 99% reduction in diesel consumption compared to the average annual consumption prior to installing a renewable energy system on Aldabra. This is a great achievement both for the protection of the environment and sustainable operation of the atoll.

## National Geographic Pristine Seas expedition visit Aldabra

*A member of the Pristine Seas team undertaking a benthic survey © SIF*

On 21st March the National Geographic Pristine Seas Expedition visited Aldabra Atoll. This was as part of an expedition to the Aldabra group of islands (also including Assumption, Astove and Cosmoledo) and was part of their mission to survey, assess and publicise the last remaining pristine marine ecosystems on the planet to try and enhance their protection.

The Pristine Seas team was comprised of a botanist, fish taxonomist, phycologist and coral expert, in addition to a renowned film crew who were there to capture images and footage of Aldabra's incredible marine life. The SIF team assisted the Pristine Seas team on their research dives and terrestrial transects, and were also interviewed as part of the documentary. The enthusiastic staff team made the most of this opportunity to learn from these experts and improve their identification skills.

During the expedition, transects were walked across the atoll by botanist Dr Mike Fay, to assess the terrestrial habitat and to improve understanding of the connections between the terrestrial and marine environments. SCUBA diver surveys were undertaken to assess the coral and algal cover, benthic diversity, and fish diversity and biomass on Aldabra's seaward reefs. These data can give an indicator of coral reef health as healthy reefs have a higher number of large predatory fish, high coral cover and limited algal growth. Sediment and water samples were also taken by the team to assess palaeoclimate and water quality.

*The Pristine Seas team testing out a drone © SIF*

The Pristine Seas team also took the opportunity to apply hi-tech camera equipment to explore Aldabra from above and below. Two drones were used to capture video and images from heights of up to 150 m above the atoll. This was useful as it provided insight into how this technology could be used for future research projects and surveys by SIF. Below the waves the team deployed a deep-drop camera which was dropped to 1500 m depth in order to capture images of the abyssal slopes and the life that inhabits these dark, unknown waters. Some very exciting footage was captured with a False Cat Shark seen on one of the videos.

The surveys undertaken by the team are standardised across all their expeditions, allowing for a comparison between the Aldabra group and other pristine and remote marine environments that National Geographic have visited during their Pristine Seas missions. The Pristine Seas team held a reception on Mahé on their return and attendees were treated to a glimpse of the footage and data. SIF's CEO was invited to address the audience at the reception and impressed upon them that "Aldabra is amazing because of its message of hope!"

The Pristine Seas team will now complete analysis of their findings and we look forward to seeing the results and footage obtained in the near future. SIF would like to thank the team and their supporters, such as the Waitt Foundation, for realising this expedition which will compare Aldabra to other pristine sites around the world.

leadership and management. He has a background in both conservation science and management which together enable him to teach participants how to manage conservation initiatives effectively and how to improve the effectiveness of staff working in conservation.

The first two day workshop was organized for senior managers and the SIF CEO, Dr Frauke Fleischer Dogley, and Science Programme Officer Ms Wilna Accouche attended. Other attendees at this workshop included managers from other organisations such as Island Conservation Society, the Natural History Museum and Sustainability for Seychelles. The participants were taught about effective leadership styles, skills and attributes needed in conservation, and how best to supervise staff. Through group work, the participants constructed a management plan and discussed ways to make the plan more robust and effective. This exercise allowed participants to learn important points to take into consideration when executing projects.

The second two day workshop, was organized for EDGE species project fellows and team members. This workshop was attended by Vallée de Mai ranger and Black Parrot fellow Terence Payet, and Jessica Moumou team member on the Ring-necked Parakeet eradication project. Through this workshop participants learned how to improve personal effectiveness and how to manage and interact with their co-workers. Dr Black also focused on what makes and effective leader and how those in a leadership position can help resolve any issues that their colleagues may have. Simon did a great job of mixing lectures with practical exercises and group work, which kept the participants engaged throughout the workshop. We are sure they are all keen to put their new found skills into practice!

## SIF on Twitter!

Follow us on Twitter! 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. 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 like our Facebook page! The page has regular news and updates on research and events at both World Heritage Sites. 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/141446607211065?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 scout group plant some seedlings at the stewardship plot © SIF*

The Praslin group of the Scout Association of Seychelles kindly volunteered their time to assist in further clearing of invasive plants from the environmental stewardship plot near the Vallée de Mai.

The group of 20 children helped to remove some of the smaller invasive plants that had grown since the previous clearing and also planted 50 latanier lat and 50 *Pandanus* seedlings at the site. Vallée de Mai ranger, Dainise Quatre, also gave a short briefing of the work that is being done in the Vallée de Mai to control invasive plant species in the reserve. This stewardship plot was launched in May 2014 and community groups have continued to assist in maintaining this area free from invasive plants. It is hoped that this will raise awareness with the public of the threat of invasive plant species to the native biodiversity of the Vallée de Mai and other areas of palm forest by taking an active role.

## Deadly amphibian fungus undetected so far in Seychelles

*The Sooglossid frogs could be at risk from the chytrid fungus © SIF*

Amphibians across the world have been suffering declines and extinctions from a fatal fungal infection caused by the *Batrachochytrium dendrobatidis* pathogen or 'chytrid'. With five endemic species of frog and six endemic species of caecilian in Seychelles, there has been significant concern that chytrid could have severe effects on these amphibians if it reaches the country. However, until recently no screening had been done to determine if it was already here.

A new paper published in *Herpetological Review* reports the results of the first large-scale screening for chytrid in Seychelles amphibians. The study was led by PhD student Jim Labisko, who is conducting his PhD research with SIF on the Praslin *Sooglossus* frog and is based at the Durrell Institute of Conservation and Ecology at the University of Kent, UK. The screening work was carried out alongside Jim's PhD research and supplemented by several leading amphibian researchers to ensure that a range of species and locations was covered.

A total of 291 skin samples were taken from 10 of the 11 endemic amphibian species across six islands, including 213 frogs and 78 caecilans. All of these samples tested negative for chytrid infection and no symptoms of the disease were observed during sampling. The results suggest that chytrid was absent from the Seychelles during the period tested (2010–2013). This is good news for Seychelles amphibians but the threat of the pathogen entering the country remains high.

Following the publication of the paper, a meeting was held between several stakeholders to discuss the potential emergence of chytrid and possible mitigation measures to protect the amphibian populations. Shortly after this meeting, on 26th March 2015, the Seychelles government announced a ban on the import of most aquarium living organisms, and increased sanitary regulations for the remaining organisms with immediate effect. SIF applauds and supports this move and rapid response by the Seychelles government to this substantial threat. The aquarium trade is not the only transmission route of the pathogen but it is an important one and the ban is therefore a positive step in protecting these unique species.

The full details of the paper are: Labisko J, Maddock ST, Taylor ML, Chong Seng L, Gower DJ, Wynne F, Wombwell E, Morel C, French GCA, Bunbury N, Bradfield KS. (2015) Chytrid fungus (*Batrachochytrium dendrobatidis*) undetected in the two orders of Seychelles amphibians. Herpetological Review 64: 41–45. Please email SIF if you are interested in receiving a copy.

# Green turtle tagged on Aldabra identified in Kenya

*Green Turtles at Aldabra © S Balderson*

Further proof of the incredible long-distance travels of Green Turtles came to light recently with the discovery of a dead Green Turtle on the Kenyan coast.

The turtle was found by beach monitors of the Diani Turtle Watch programme based on Kenya's southern coast. The monitors saw that the turtle had a metal flipper tag inscribed with the number E1460 and 'Return to Seychelles'. They took the initiative to contact Dr Jeanne Mortimer, a turtle expert in Seychelles, who confirmed that the turtle tag belonged to a female Green Turtle, originally tagged by SIF in 1996, while nesting on the south coast of Aldabra. She has only ever been recorded at Aldabra on that single occasion, and has therefore not been seen for the past 20 years! Due to the state of the turtle carcass it is possible that E1460 was killed by a shark, but at least we now know that this turtle travelled between Aldabra and Kenya and has nested at least once on Aldabra.

We would like to thank Diani Turtle Watch, which is a subsidiary programme of the Local Ocean Trust in Kenya, for sharing this finding, and to Jeanne Mortimer for assisting in uncovering this mystery.

**Articles contributed by**: *Rowana Walton, Nancy Bunbury, Wilna Accouche, Heather Richards, Philip Haupt, Maria Brioche, Christina Quanz.*