



End of season for invasive bird eradication at Takamaka



In the field at Takamaka, from l-r: Julio Agricole, Frankie Gamble, Heather Richards and Julio Moustache © SIF

With several of the eradication team leaving to fulfil other duties on the April flight from Aldabra, scientific coordinator Heather Richards and research assistant Julio Agricole, previous team leader of the Assumption introduced bird eradication, joined Takamaka stalwarts Frankie Gamble and Julio Moustache for the final assault of the season on the invasive Madagascar Fodies in this area of Aldabra.

The onset of the South East trade winds and dry season triggers the end of the breeding season when the fodies on Aldabra change dramatically in both appearance and behaviour. The fodies are now moulting or have already moulted out of their breeding plumage and are forming large groups of indistinguishable yellow/brown birds including males, females and this year's fledglings. This has made identifying target birds difficult for the Takamaka eradication team. The groups of birds can contain over 30 birds, all of which forage and fly together, benefiting from the ripe fruits and abundance of insects. The groups also fly much lower and more quietly, which adds to the eradication team's difficulties, as the primary method for locating and tracking the target birds is to follow their calls and spot them flying and perching high. The end of the fody breeding season therefore signals the end of the second season of work on this eradication.



Control of invasive plant species starts with Albizia



Albizia tree (*Falcataria moluccana*) © SIF

After months of experiments, trials and discussions, the invasive species team have started the first integral control of invasive plant species in the Vallée de Mai. The first step of this plan is the elimination of the source of propagules from the most threatening reproductive invasive trees. The recent completion of the big tree survey conducted by the team showed the distribution, abundance and individual characterization of six key introduced species in the Vallée de Mai: Albizia (*Falcataria moluccana*), Santol (*Sandoricum koetjape*), Jackfruit (*Artocarpus heterophyllus*), Bwa zonn (*Alstonia macrophylla*), Lagati (*Adenanthera pavonina*) and Kalis dipap (*Tabebuia pallida*).

This information was combined with a review of available research and advice from local naturalists to identify the most effective methods of managing adult trees of these species. The least abundant of the six species, Albizia, was the first tree to be managed.

Albizia is native to the Moluccas, New Guinea, New Britain, and the Solomon Islands. It was introduced to Seychelles in around 1910 for reforestation and timber production. Even though it is not yet very abundant in the Vallée de Mai, albizia is highly invasive in the tropics, including in Seychelles, where it is considered to be a problematic species. The impacts of albizia are due to its rapid growth, among the fastest on the planet; reaching 35m in height after just 10 years. This allows it to out-compete slow-growing native trees as its tall, broad canopy shades other plants.



Seychelles Black Parrot finally recognised as unique species



The newly classified Seychelles Black Parrot © SIF

After five years of intensive research, SIF is pleased to announce that the Seychelles Black Parrot has been officially recognised as a distinct species, *Coracopsis barklyi*, by taxonomic experts at BirdLife International, bringing the total current number of endemic bird species in Seychelles to thirteen.

As the national bird of the Seychelles, this official recognition of species status will ensure that the Seychelles Black Parrot receives stronger conservation protection and attention and will safeguard its future.

The Seychelles Black Parrot is part of a small group of parrots (*Coracopsis* sp.) found only in the Western Indian Ocean. The species was previously considered a sub-species of the Lesser Vasa Parrot (*Coracopsis nigra*), with three other sub-species occurring in Madagascar and the Comores. The Seychelles *Coracopsis* was long suspected to be a distinct species due to differences in ecology, size and vocalisations. Until recently, however, genetic evidence to confirm species distinction was lacking. Now, following intensive research on the breeding and ecology of the Seychelles Black Parrot by SIF, in partnership with genetic researchers at the Durrell Institute of Conservation and Ecology (DICE) in the UK, who conducted DNA analysis on the samples, this gap has been filled and a decision by taxonomic experts at BirdLife International has been reached to officially recognise the Seychelles Black Parrot as a distinct species from the other parrots in the group!

The species will now undergo threat status assessment for the internationally recognised IUCN Red List, which is used as a global benchmark for conservation recognition of species. The small population size of the Seychelles Black Parrot and the fact it occurs only on Praslin make it likely that the species will be listed as 'Vulnerable to

A group of Aldabra Fodies © H Richards

The windy conditions and changes in the fodies' behaviour have altered the eradication team's focus from tracking and hunting all possible target fodies to concentrating our efforts on observations around the outer edge of the invaded area, to establish the extent of the invasion after eradication efforts so far. The boundary has been identified on the western side of Takamaka where only Aldabra Fodies are present, a very positive sign for the project. There are, however, still possible Madagascar Fodies east of Takamaka, which will be investigated further next season.

Conducting these observations outside the routinely monitored area gave the team a unique opportunity to work in new areas. They were rewarded by coming across a flock of 59 flamingos flying overhead, with the luck continuing as they spotted another small flock of five more in a shallow pool on the same day.

The season has ended in a promising position for this eradication programme. The only male Madagascar Fody known to be still at large is the legendary 'Rasputin', the most flighty bird encountered by any of the team, who has now survived two eradication seasons. There are likely to be a few others in the area but all of these will be targeted once the next breeding season starts in November/December.

Changeover to energy efficient appliances is completed



Installing the new energy efficient air conditioning units © C Quanz

All outdated and electricity demanding appliances have now been replaced with energy efficient appliances at Aldabra station.

To reduce electricity needs to an economical level, which was an objective under the renewable energy project for Aldabra, all outdated appliances which were heavy electricity consumers were to be replaced with energy efficient devices with the lowest possible electricity demand. As well as investing into energy efficient fridges and freezers, and switching to energy star certified laptops and energy saving lights, the major challenge remained the air-conditioning units. Air-conditioning is the biggest electricity consumer on Aldabra, needed for offices, library and the island shop, where food supplies of up to 6 months need to be stored.

After closely monitoring the electricity needs of the old units, SIF trialled two solar assisted air-conditioning units which had promising reduced electricity demand but unfortunately did not last long in Aldabra's harsh conditions. A long period of careful research and negotiations led to a decision to invest in inverter-type units which consume much less energy than conventional units. After carefully researching the local and international market we selected models from Mitsubishi electric (MSZ/MUZ FH series) and were supplied by 'Dresdener Kühlenanlagenbau' in Germany. Although substantial investments are required, the reduced electricity demand results in considerably lower operational costs.

The new units were installed in early 2014 and the first results are very promising, with reduced electricity demand of up to 50% compared to the former units. The units are also silent, can be programmed to different daily or weekly times, and can detect people in the room so can be programmed to automatically enter sleep mode if nobody is present. SIF is delighted to have been able to tick off this final task and complete the energy efficiency



The invasive species team ring barking trees in the Vallée de Mai © SIF

The survey identified 17 albizia trees inside the Vallée de Mai and two in the surrounding firebreak. Ring-barking, or 'girdling', has been successfully used in Seychelles to treat albizia and was the chosen method to tackle this species. Ring-barking involves removing a 50cm high layer of bark from the entire circumference of the tree. This way, the tree is prevented from transporting mainly sugars from leaves to roots, which causes a gradual collapse and rotting of fallen parts.

The invasive species team ring-barked all of these albizia trees on 16th April. The trees will be re-visited in 2 months to check their deterioration, the opening up of any canopy gaps, seedling germination in the surrounding area, and post-treatment defence mechanisms by the trees, such as regrowth of bark or mass fruit production.

The invasive species team will afterwards continue to treat the other target species, adapting the strategies as needed and including other species, such as vya tang, cinnamon and guava to eventually achieve an invasive plant species free Vallée de Mai.

Ring-necked Parakeet eradication reduces numbers by 50%



The Ring-necked Parakeet hunting team in April (left to right): SPDF Cpl Marcus Dick, Team Leader Edme Durup and hunter Pete McIntosh

Avian hunter, Pete McIntosh, helped the team bring the total number of Ring-necked Parakeets targeted to over 50% of the population before he returned to New Zealand in mid-April. Almost 200 parakeets have now been culled since last July, but the latest counts indicate that the population, initially thought to be around 300 birds, is slightly larger than previously estimated, reducing the proportion of targeted birds. Pete's three month stint on the project has confirmed professional hunting to be by far the most efficient method for targeting this invasive species.

The observed population increase is in keeping with predictions for annual increases due to breeding in this species so is not unexpected and the estimate will be fine-tuned in the next few weeks to give the team a better idea of the remaining numbers. Nevertheless, even a conservative (high) estimate puts the total culled at greater than 50%, which is a huge boost for the dedicated team.

The team has included Seychelles People's Defence Force Corporal Marcus Dick for the entire period of Pete's stay. The presence of Cpl. Dick has been instrumental in the progress of the eradication in the last 3 months, and the team developed a close working relationship, ensuring optimal teamwork during difficult sessions and very long working hours. Members of the public continue to be not only highly supportive of the eradication but also extremely helpful, often providing key information in locating promising new areas for targeting, as well as access to private land.

To have reached the half-way point in numbers is very encouraging for the team, who will now need to draw on all of their knowledge and experience, as well as the information from the public, to ensure continued progress in eliminating

extinction' on the Red List.

The Seychelles Black Parrot has a global population of 520–900 individuals, all of which occur on Praslin. The most pressing current threats to the species stem from its restricted range, small population size and limited good quality habitat. These include any threat that might endanger or reduce the remaining palm forest habitat, such as fire, poaching or development, since the parrots depend on mature native palm forest to breed and feed. In addition, the presence of the Ring-necked Parakeet on Mahé poses one of the most serious threats, since, if it spreads to Praslin, it could transmit diseases and compete for nesting and feeding sites with the Black Parrots. The parrots also face nest predation from introduced species such as rats and mynah birds. SIF is currently working with the Environment Department and the SPDF to eradicate Ring-necked Parakeets from Mahé (see article this issue), a project which, if successful, will help to protect our national bird from one of these threats.

Learning about sustainable living for Earth Day



Group photo of the children and GVI staff at the Curieuse research base © GVI

SIF organized for twenty children from the Friends of Vallée de Mai club on Praslin to visit the Global Vision International (GVI) Seychelles research base on Curieuse Island as part of activities for the global event of Earth Day. The children visited the GVI base to learn more the sustainable operations of the base that have been taken to mitigate the effects of climate change. Earth Day is an annual event celebrated worldwide on the 22nd April which aims to raise awareness of global environmental issues, in particular the effects of climate change.

Once on the island the children were given a guided tour by the GVI staff and volunteers of the different elements of their sustainable measures. The first part of the tour was to learn about the photovoltaic system that is installed at the research base, and how light energy from the sun generates electricity for the base through this system. The GVI base manager, Daniel Davies, reported that the research base's electricity needs are now 100% supplied by this system throughout the year significantly reducing their impact on the environment.



Learning about rain water harvesting on Curieuse © SIF

The second part of the tour was to look at how rainwater is harvested on site and stored for use on the base. The water is suitable for cooking, washing and if boiled can be used for consumption. This means that very little water has to be bought to the base from external sources. The final part of the tour was to visit the small kitchen garden that they have planted. Kitchen waste is used to make compost thus reducing the amount of rubbish that is sent to the landfill and local fruits and vegetables have

objective of the project, as well as the Aldabra team being able to enjoy comfortable office working temperatures on hot afternoons!

National Geographic Magazine photographer, Thomas Peschak, visits Aldabra



Thomas Peschak, in action on Aldabra © SIF

Thomas Peschak, award-winning National Geographic photographer, visited Aldabra for four weeks to shoot pictures for an upcoming feature in National Geographic magazine. Tom has had a long-standing connection with the Seychelles after first visiting many years ago, and this inspired him to shoot an article about Seychelles and its unique biodiversity. Tom will also be visiting the Vallée de Mai later this year to capture the biodiversity of the palm forest for the article. We are happy to have been involved in the production of this international article and look forward to its publication.

What happens to waste on Aldabra?



Staff rolling the barrels of waste onto the Enterprise II © SIF

Despite limited infrastructure and a small number of people on Aldabra a certain amount of waste accumulates, which is sorted, stored in empty fuel drums and returned to Mahé. In addition, substantial amounts of waste are washed ashore and accumulate on the beaches around the atoll. Besides preparing waste from the station for transport, the team make regular efforts to clean Aldabra's beaches and collect as much marine debris as possible when a ship is due to go to Mahé.

The marine debris continually being washed onto Aldabra's beaches is a major challenge. Regular beach cleaning is maintained around the research station and field camps, but it is not always possible to collect debris in the more remote and difficult to access beaches of the atoll which require substantial logistic planning and finances in addition to staff time. To maximise and maintain marine debris collection around the whole atoll in future, SIF is looking into additional funding options to implement a project that will target the problem of marine debris around the atoll to maintain and protect Aldabra's

this highly intelligent and very flighty species.



Staff participate in coral reef monitoring training



Coral reef of Aldabra © Fotonatura

At the end of April three SIF staff, Terence Mahoune, Christina Quanz and Jessica Moumou, got the chance to participate in a 3-day coral reef monitoring workshop on Mahé, conducted by Harold Cambert and Mathieu Sere from ARVAM in Reunion Island.

On the first morning of the workshop there was a presentation about the 'Reef check' monitoring system. Training in identification of different substrates, substrate diseases and fish, was given. The staff found the most interesting parts were learning about the different stages of substrate, e.g. recently killed coral, rock or rubble, and about coral bleaching. The first day focussed on theory and prepared the attendees for the practical aspects of setting up and monitoring transects.



Terence Mahoune, undertaking the practice coral reef surveys © J Moumou

The second and third days involved more field work, with the team going to the St Anne Marine Park. The first snorkelling site was in front of Cerf Island, where transects were set up and people were divided into teams of three to cover all three types of data: fish, substrate and invertebrates. Later, there was a debriefing session to ensure that all participants understood the basic monitoring, and the site was identified for the third day. This site, at the aquarium feeding area at St Anne, despite some current on the third day and the presence of tourists feeding fish and snorkelling, saw more transects set up and more practice in the methods. Some attendees were confident enough to progress to the second level of monitoring. All attendees received a certificate of completion and reef check competency. We would like to thank Harold Cambert, Mathieu Sere, and the Seychelles National Parks Authority for the very useful training.

Participation in Carnaval International

is sent to the island and local fruits and vegetables have been grown to feed the staff and volunteers on base.



Having fun creating their own Earth Day banner © SIF

The day ended with all of the children, staff and volunteers coming together to create their own banner for Earth Day. The whole day was a great experience, and was really beneficial for the children to see measures first hand that can help to mitigate the effects of climate change. Our thanks to GVI Curieuse for hosting this event.

Coco de Mer genetic research fieldwork gets underway



Emma Morgan, out in the field © SIF

ETH Zurich PhD student Emma Morgan returned to Praslin last month to continue collecting data to investigate the demographic and genetic processes of regeneration in the Coco de Mer. This field season, Emma will be expanding her leaf tissue sampling from patches of Coco de Mer showing a more natural 'clumped' distribution. By sampling and genotyping a larger radius of male trees surrounding patches of Coco de Mer females and juveniles, Emma hopes to better pinpoint the pollen-donors /fathers of the offspring. This will give a better indication of how far Coco de Mer pollen really travels and could help us answer some important questions such as the likely pollinator and whether there are differences between Coco de Mer growing in different habitat types on the islands of Praslin and Curieuse, as certain pollinators could be more important in some areas compared to others.

As well as tissue collection for genetic analysis Emma is also exploring the relationship between reproductive success (seed set) in female palms and the degree of isolation from males. It is hypothesized that the greater the distance between female and male trees, the more limited the pollen availability and therefore the lower the seed set. With help from SIF staff, seed and flower counts and distances to the nearest males are being measured in several locations across Praslin. Soil samples and ion-exchange resin bags will detect levels of the important, limiting nutrients- nitrogen, phosphorus and potassium, available. In a couple of months Emma will return to Zurich to analyse her samples and explore this relationship in more detail.

Over 300 children visit the Vallée de Mai



status as unspoiled environment.

Removal and return to Mahé of such large amounts of waste is logistically challenging. Thanks to the Islands Development Company it was possible to schedule the most recent supply boat in February to beach on Aldabra. After a huge effort by SIF staff, all of the waste accumulated from marine debris and the research station was cleared from the atoll on this vessel, helping SIF to maintain Aldabra's pristine environment and minimise the impact of the small research station on the atoll.

Bird visitors to Aldabra this season



A Wood Warbler seen on Picard © W Falcon

The north-west monsoon (November to April) commonly brings vagrant birds to Aldabra. Now that the season and wind direction has shifted and the south-east trade winds are blowing, the chance of seeing visiting birds reduces. There have been several exciting sightings of non-resident birds this north-west season. Some of these are annual visitors, such as Barn Swallows, Broad billed Rollers, Spotted Flycatchers and Tree Pipits. Other species are true vagrants, often rarely seen in Seychelles. For example the Greater Short-toed Lark has only been sighted on six occasions in the Seychelles according to Seychelles Bird Records Committee data. Other notable sightings of the last season include the Common Pratincole, Eleonora's Falcon, the beautiful Eurasian Golden Oriole, European Roller, Red-backed Shrike and the European Cuckoo.

It is always exciting to spot an unusual bird on the atoll and the team have been keen to observe and document any sightings of birds outside the usual Aldabra avifauna. It also triggers awe and appreciation of the astonishing distances these birds may have travelled before reaching Aldabra. For example, a Wood Warbler was seen on Picard in late 2013 for several days feeding on insects. Wood Warblers breed in Europe to Central Russia and migrate to sub-Saharan Africa. This bird was only the sixth of this species recorded in Seychelles.



Red-backed Shrike seen on Grande Terre © H Richards

The Red-backed Shrike observed on Grande Terre is probably race *kobylini* (Seychelles Bird Records Committee). The *kobylini* race of Crimea to Iran is highly migratory and has been recorded in Kenya and the Altai Range. The migration loop of these birds passes further east on the spring migration in comparison to the autumn migration meaning they are most likely to be seen in Seychelles in March. This is the 8th record of this species in Seychelles with most previous observations having occurred on Aldabra.

With the start of the south-east trade winds many annual

SIF-News-letter de Victoria



SIF head office staff in their costumes for the carnival © J Larue

The 4th edition of the Carnaval International de Victoria was held on 26th April and SIF staff participated on a float alongside other partners from the Environment Sector. The carnival is one of the highlights of the Seychelles calendar and attracts many international visitors. It is a fusion of carnivals from around the world with China, Zambia, Brazil, UK, Germany, Italy and many others coming to participate in this colourful event. SIF partnered with several other organisations such as the Ministry of Environment, Landscape and Waste Management Authority, Meteorological Office, and the Public Utility Corporation. The theme for this float was 'Small Island Developing States' (in line with the same theme of 2014 by the United Nations). Participants on the float were dressed in the traditional clothes of the various countries including; Solomon Islands, Sao Tome and Principe, Marshall Islands, Seychelles and many others. It was a great experience for all the staff and we look forward to participating in the carnival again next year.



SIF Vallée de Mai staff in their costumes for the carnival © J Larue

The Vallée de Mai also demonstrated SIF support of this national event by welcoming many journalists to the forest with a complementary ticket. In conjunction with Seychelles Tourism Board, the carnival was an opportunity for SIF to share this unique World Heritage Site with a variety of international journalists.

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.

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.



CEO of SNYC, Alvin Laurence, addressing the children before their visit © SIF

As part of a nationwide outreach initiative by the Seychelles National Youth Council (SNYC), over 300 secondary school children visited the Vallée de Mai on 23rd April. The aim of the SNYC outreach programme is for Seychellois children to have some educational experiences out of their normal learning environment. Over 300 students from the S1 classes (aged 11/12 years) at Beau Vallon, Belonie and English River secondary school visited the Vallée de Mai. Prior to their visit SIF Education Officer Maria Brioche conducted a presentation on the Vallée de Mai in each of the schools, giving them some background information on the Vallée and to get them excited for their visit!

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. The day ran smoothly with the children enjoying their experience, particularly considering the number of children that visited! This outreach programme will continue throughout 2014 and SIF look forward to welcoming more schoolchildren later in the year.

migrants depart for their breeding grounds, which has been observed recently with the decrease in number of many wader species including Turnstones (*Arenaria interpres*), Bar-tailed Godwits (*Limosa lapponica*) and Crab Plovers (*Dromas ardeola*). Although Crab Plovers occur on Aldabra throughout the year the greatest numbers are observed from October to April.

At this time of year there are not only bird departures; our Facebook followers will be aware that we welcomed back the stunning Caspian Terns (*Hydroprogne caspia*) to Aldabra last month. A number of pairs have now been observed in areas where previous breeding attempts have been documented and it is hoped that it will be a good nesting year for the Caspian.



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!

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