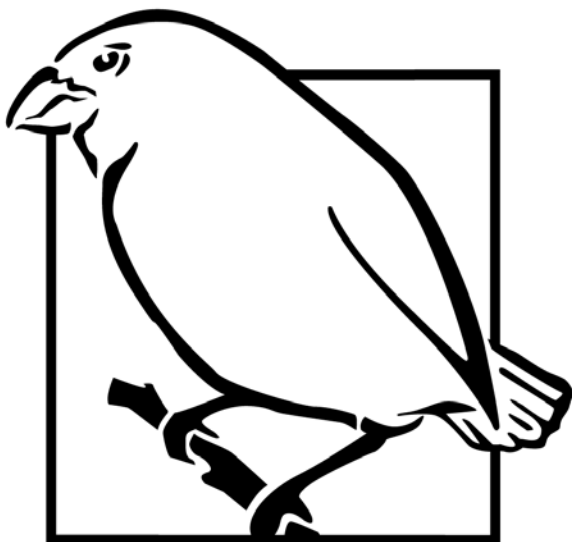


Newsletter

May 2019

Lantana camara,
Credit: RBGE Nepal



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The Darwin Initiative supports developing countries to conserve biodiversity and reduce poverty. Funded by the UK Government, the Darwin Initiative provides grants for projects working in developing countries and UK Overseas Territories (OTs).

Projects support:

- the Convention on Biological Diversity (CBD)
- the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- the Nagoya Protocol on Access and Benefit-Sharing (ABS)
- the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- the Ramsar Convention on Wetlands
- the Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- the Convention on Climate Change (CCC)



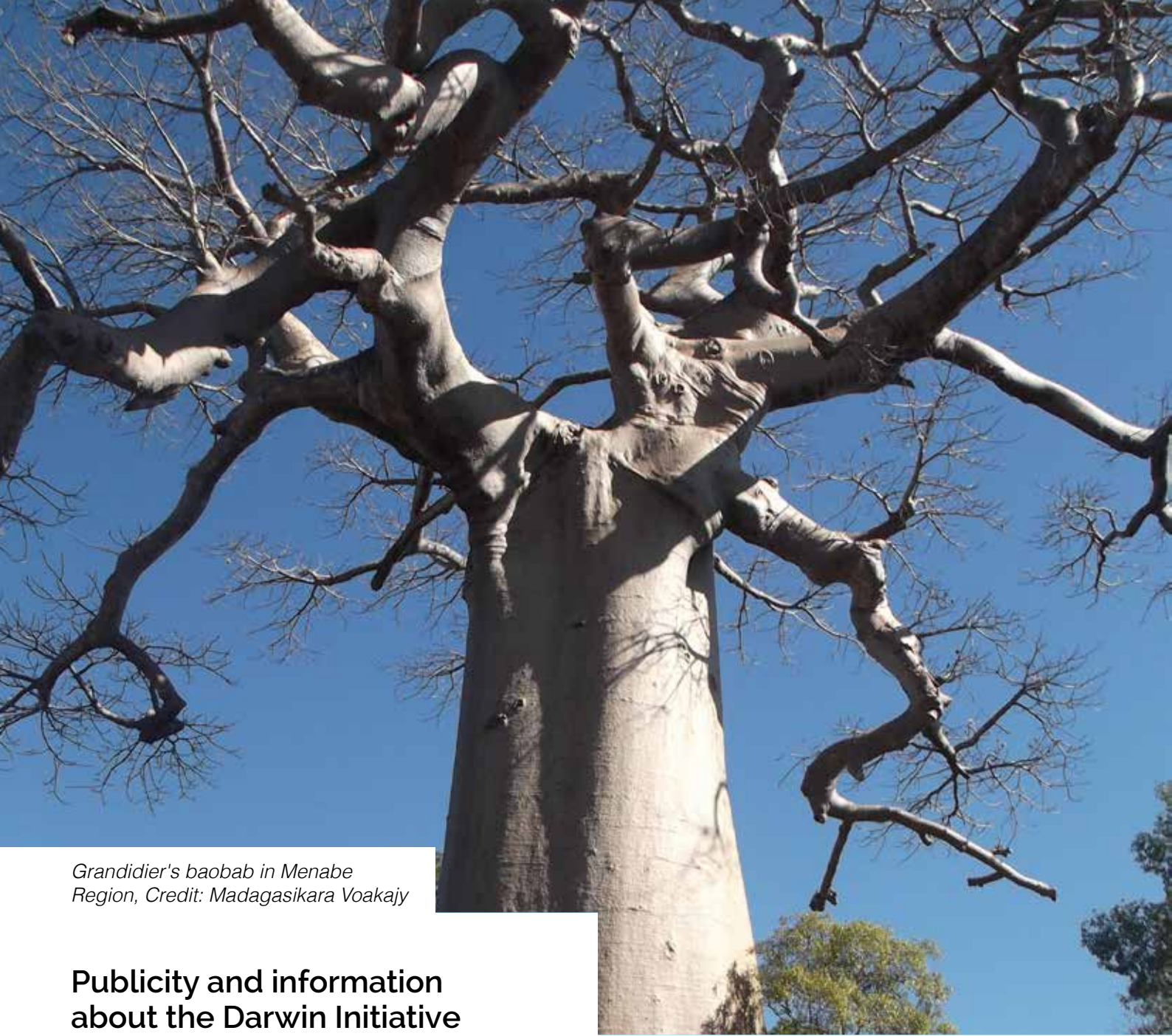
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Argostemma laotica Lanors. & Chantar, Credit: RBGE Nepal

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Granddier's baobab in Menabe Region, Credit: Madagasikara Voakajy

Publicity and information about the Darwin Initiative

For more information on the Darwin Initiative please visit [gov.uk/government/groups/the-darwin-initiative](https://www.gov.uk/government/groups/the-darwin-initiative)

For further details about current and completed Darwin Initiative projects, including their final application forms, please visit darwininitiative.org.uk

We also have a blog, that includes news and thoughts on issues being tackled by the Darwin Initiative – both at the project and programme level. You can read it here darwininitiativeuk.wordpress.com

We're also keen to share other Darwin project blogs. If you have a blog you'd like to share on our website, please get in touch at darwin-newsletter@ltsi.co.uk

Publicity and referencing Darwin Initiative

We kindly remind project leaders that if they are publicising their work then it is important that they make every effort to mention Darwin Initiative funding. This is important as it helps us to ensure the Darwin Initiative retains a high profile and secures continued Government funding.



A villager working with Irvingia gabonensis, Credit: Eva Avila

A word from Darwin

In 1998 the term “plant blindness” was coined by two American botanists as a means of describing the inability for people to see or notice the plants that are present in our everyday environments. Plant blindness may sound like a minute issue, however this under appreciation of plant species has led to a distinct lack of conservation efforts focused on plants and as a result many species have suffered in silence.

Plants have often acted as the backbone of society and have provided nutrition, medicines, fuel and building material for centuries. With the current environmental situation under threat from a rapidly changing climate and a growing population, the importance of plants and the preservation of their biodiversity cannot be overlooked.

The Darwin Initiative is proud to support projects that work to conserve plants and address the issues associated with plant blindness through spreading awareness. This edition of the newsletter highlights the work of those projects sharing stories of newly discovered species, tackling deforestation to improve food security and local livelihoods, and outlining the importance of protecting rare and endangered plants before it's too late.

This newsletter features work on a vast array of plant and seaweed species, from the majestic kelp forests of the Falkland Islands to the endemic species found in the Comoros Archipelago and even a newly discovered species of coffee only found in the highlands of Sierra Leone.

Applications for Round 26 of Darwin Initiative funding is now open for main projects, partnerships and fellowships and for Round 8 of Darwin Plus.

Round 6 of our sister scheme, the Illegal Wildlife Trade (IWT) Challenge Fund is currently open and this year we are welcoming applications from projects tackling illegal wildlife trade of all plant species. The deadline for applications for Darwin Stage 1 is 16th July 2019. More information on applying to the Darwin Initiative is available [here](#), for Darwin Plus please click [here](#) and for further information on applications to the IWT Challenge Fund please click [here](#).

We hope you enjoy this edition of the newsletter and wish you the best of luck with your applications!



A flower from the *Kindia gangan* species, Credit: RBG Kew

22 areas in Guinea are declared the first official tropical Important Plant Areas in Africa

Following three years of research, European and Guinean scientists, NGOs and staff of the Guinean Ministry of Environment, Waters and Forests, have designated 22 Tropical Important Plant Areas in Guinea. These are the first Important Plant Areas (IPAs, TIPAs or ZTIPs in French) that have been identified in the tropics of Africa.

Overall the 22 IPAs cover 3.5% of Guinea's surface area and include more than 60% of the 273 threatened plant species. These areas showcase prime examples of Guinea's nine priority threatened habitats, species-rich sites and important reserves of many socio-economic species, which will now be offered a far better hope of protection for posterity.

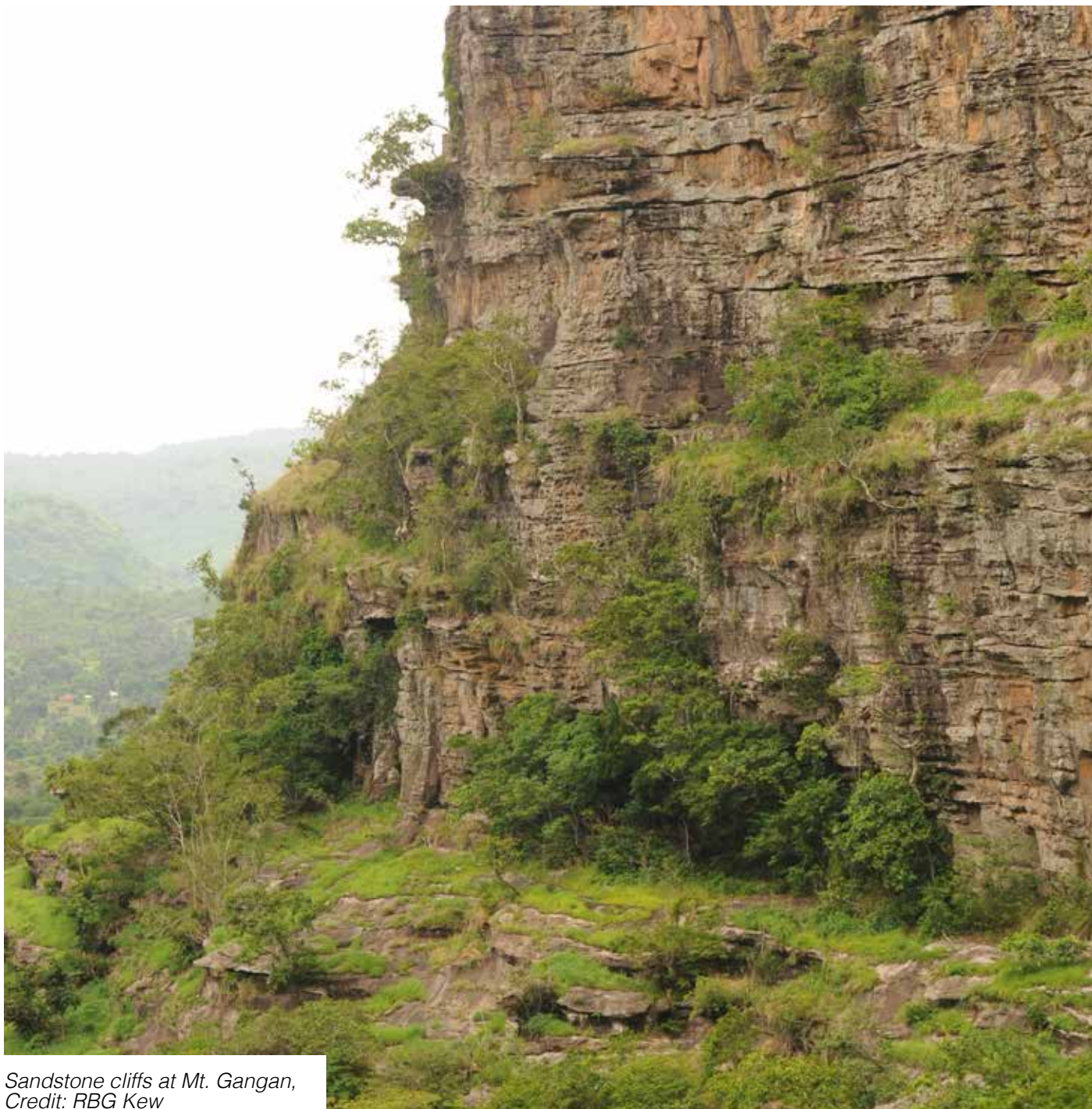
Plantlife International conceived and designed the concept of Important Plant Areas in 2001. These IPAs were introduced to meet Target 5 under Objective II of the United Nations Convention on Biological Diversity (CBD) in an effort to protect plant genetic diversity through effective management. Today, the concept of IPAs has been applied in over 70 countries around the world, particularly those in temperate areas. In 2015 the Royal Botanic Gardens, Kew, through the support of Plantlife, expanded the protected area initiative and introduced IPAs to the tropics (TIPAs). Kew has decades of experience in the tropics since its foundation as a UK government funded botanical research institute in the 1840s.

Guinea is one of seven countries in the tropics in which Kew is seeking to implement TIPAs with local partners as part of its science strategy for 2015-2020.

The introduction of TIPAs is vital in Guinea. Habitat loss has been devastating with an estimated 96% of the country's original forest already destroyed, and that which remains is under severe pressure. As many as 35 species may have already gone extinct in Guinea, from trees to minute herbs, daisies, peas and clematis, all due to human pressures. Out of the total number of species threatened with extinction, 25 of these are or were globally unique to Guinea, increasing the likelihood of global extinctions.

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Out of the total number of species threatened with extinction, 25 of these are or were globally unique to Guinea, increasing the likelihood of global extinctions
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It was only as we analysed our data that the total number of "missing" threatened species in Guinea became clear. We will find the means to intensify our search for these missing species, and we hope to find at least one or two. But the reality is that the majority of these species are very likely extinct, due to habitat degradation and clearance by humans.



*Sandstone cliffs at Mt. Gangan,
Credit: RBG Kew*

The vast majority of these species were confined to the Fouta Djallon highland region, where human activity has substantially modified the original habitat. These species are now only known as dried herbarium specimens preserved in the Herbarium of the Musée National d'Histoire Naturelle in Paris.

The TIPA with the highest number of threatened species is the Guinean Mount Nimba Strict Nature Reserve, which is already a dedicated UNESCO World Heritage Site. Another newly appointed TIPA, the Kounounkan Forest Reserve, is a high priority for protection as it has the highest number of globally unique species of all the new TIPAs in Guinea.

This Darwin Initiative funded project is led by Kew and partnered with Plantlife International and Guinean NGOs, Government and Scientific Institutions. The findings from this three year project were presented at Gamal Abdel Nasser University, Conakry in March 2019. The Head of the Government National Parks Organisation (OguiPar) Col. Sayba Keita, announced that the 22 TIPAs would be recognised by the Government and incorporated into the National Protected Area network, which is hugely positive news!

For more information on project 23-002 please click [here](#).



*Wild avocados collected in El Salvador,
Credit: Aura Morales de Borja*

The importance of crop wild relatives

It is well known that plants are essential for human livelihoods. However, when it comes to climate change and the potential impacts it can have on human populations both currently and in the future, the ancestors of our crop plants play an increasingly important role. These wild plants, known as crop wild relatives (CWR), are naturally adapted to a range of environmental conditions and therefore possess traits that can be transferred by farmers and breeding programs to help crops adapt to a changing environment and to better resist pests and diseases. Many of these wild plants are of direct socio-economic importance and have the potential to secure food production in the long-term through improving yield and production stability.

Mesoamerica is one of the global centres of origin and diversity of CWRs. The genetic diversity of many of these species represents insurance for the future of food security, but this is currently under threat due to habitat loss, degradation, invasive species and passing of genes from genetically modified organisms to wild species. Despite the number of threats faced by CWRs they do not have any dedicated or systematic conservation action. The “Safeguarding Mesoamerican Crop wild Relatives” project, was a Darwin Initiative funded collaboration between partners in Mexico, Guatemala, El Salvador, Honduras and the United Kingdom.

It involved government agencies, local communities, universities and NGOs that worked together to gather baseline information on over 200 Mesoamerican CWR taxa, including those related to crops of high economic importance, such as corn, squashes, beans and cotton. Working closely with taxonomists, ecologists, agronomists as well as policy and decision makers, a methodology for in situ systematic conservation planning was developed and led by project partner Conabio – Mexico’s National Commission for the Knowledge and Use of Biodiversity.



*Project partners and experts at workshop
in Guatemala, Credit: Barbara Goettsch*



Botanist collecting wild avocado in El Salvador, Credit: Aura Morales de Borja

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The collaboration between local and global partners enabled us to lay a solid foundation upon which national strategies for CWR conservation can be developed

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Additionally, the ex situ conservation collection of samples of CWR was led by project partners from the National Research Institute of Forestry, Agriculture and Livestock, the Institute of Agriculture of Science and Technology and the National Centre of Agriculture and Forestry Technology.

The results include an overview of the state of knowledge on regional CWRs in Mesoamerica, new IUCN Red List assessments and the first ever national guidance to identify areas where further information and action is urgently needed. The collaboration between local and global partners enabled us to lay a solid foundation upon which national strategies for CWR conservation can be developed. These strategies will incorporate the genetic variety of species and the cultural and economic diversity of the region.

There are many differences that must be considered when undertaking conservation of CWR compared to other elements of biodiversity, and perhaps one of the most remarkable considerations is that the best way to conserve many CWR species is through their utilisation and sustainable management. For example, through supporting local small-scale farmers that grow and sell CWRs or the purchase of products that only use crop wild relatives. To incorporate sustainable management of CWRs awareness needed to be raised about the importance of these plants among the general public, farmers and other stakeholders and was vital to the project's overall success.

More information on project 23-007 can be found on the Darwin Initiative website [here](#) and also at www.psmesoamerica.org



Argostemma laotica is one of the species from Laos that was discovered recently, Credit: A. Soulivanh, B. Keooudone

You can't conserve what you don't know

If you discovered a plant in Laos that sparked your curiosity, how would you be able to find out what it was? Or perhaps find the correct scientific name? These simple questions may be easy to answer in many developed countries but in Laos it is far more difficult.



The literature at that time suggested that there were only about 2,500 species but this seemed ridiculously low when compared to the over 10,000 that could be found in the neighbouring countries of Thailand and Vietnam



When our Darwin Initiative funded project began in 2004, the aim was to produce a new checklist of vascular plants found in this highly diverse tropical country. The literature at that time suggested that there were only about 2,500 species but this seemed ridiculously low when compared to the over 10,000 that could be found in the neighbouring countries of Thailand and Vietnam.

By the end of the project, we had almost doubled the number to more than 4,800.

The results from the project were compiled into 'A checklist of the vascular plants of Laos'. The checklist was created from a taxonomic database held at the Royal Botanic Garden Edinburgh which is currently still in operation and is now the basis of a the most comprehensive [website](#) for flora of Laos in existence.

Since the completion of the project in 2007 the first author, who was trained during the project, has continued to work in plant taxonomy and is now in charge of the herbarium of the Faculty of Forestry, National University of Laos. She currently studies pipeworts (*Eriocaulaceae* species) and through a Darwin Initiative funded Fellowship she spent a year at the Royal Botanic Garden Edinburgh writing a revision for the Flora of Cambodia, Laos and Vietnam which is due to be published in the upcoming year. Currently, she is working on her PhD at the University of Khon Kaen in Thailand.

The Convention on Biological Diversity and other legal instruments such as the Global Strategy for Plant Conservation rely on fundamental knowledge about the



Strobilanthes namkadingensis,
Credit: A. Soulivanh, B. Keooudone

names and distributions of species, highlighting the importance of this work.

Through continuing to build our database, adding new species and new records, and increasing our understanding of distributions and threats we will be able to ensure that conservation of these once unknown species can be assured.

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Several new species and new records have been discovered, enhancing our knowledge of Lao plants as well as our understanding of plant diversity and distribution in this region

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In recent years, botanical research has gradually become more active in Laos and there has been an increase in cooperation with foreign botanists and institutions.

Several new species and new records have been discovered, enhancing our knowledge of Lao plants as well as our understanding of plant diversity and distribution in this region. Further contributions from botanical surveys are necessary to create a more complete picture of the flora of Laos as there is still so much left to discover.

More information on project 13-007 can be found [here](#) and to find out more about the Fellowship project EIDPS033 please click [here](#).



Gentiana laotica, Credit: A. Soulivanh, B. Keooudone



Endangered Livingstone bats roosting on 'Mwaha' (*Nuxia pseudodontatata*), Credit: Dahari

Trees in the mist: domesticating local forest trees to restore the Comoros archipelago

Forming a part of the Madagascar and Indian Ocean biodiversity hotspot is the island of Anjouan. Anjouan has experienced one of the most alarming deforestation rates in the world, having lost 80% of its forest cover in recent decades. This has caused severe soil erosion, habitat degradation and loss of water resources, making life even more difficult for local farming communities. This Bangor University-led project working in collaboration with scientific, development and government institutions is using a transdisciplinary approach to restore landscapes and enhance livelihood resilience around the Moya forest in the south of Anjouan.

“Our trees like Mpori (*Khaya comorensis*) and Mkindri kindri (*Weinmania comorensis*), with their large and dense crowns, are the ones that help trap the clouds in the mountains and bring the rain

”

- Nabouhane Abdallah, President of the water committee in Adda

“Our trees like Mpori (*Khaya comorensis*) and Mkindri kindri (*Weinmania comorensis*), with their large and dense crowns, are the ones that help trap the clouds in the mountains and bring the rain”, explains Nabouhane Abdallah, a farmer in his early 70s and President of the water committee in Adda, a village in the uplands of the Moya forest. The occasion was a series of participatory workshops that brought together groups of women and men from the Anteniju catchment. As they drew maps of land cover changes over the last 20 years, they discussed the linkages between the loss of forest trees and land degradation, drawing on their sophisticated knowledge of their local environment. They spoke of what they once knew as permanent rivers, which have now been reduced to ephemeral streams. They spoke of their problems with water scarcity.

But they are neither hopeless nor despairing. For them there are solutions, starting with a list of native trees that their own experience tells them can help bring the rains or retain water in the soil. In the dry season, they explain that if you dig around Mvuvu (*Ficus*, or fig) trees or around Mkora dzia (*Rheedia anjouanensis*), you can always find water around their roots. For Misbahou Mohamed, Technical Director of the Comorian NGO Dahari and implementing project partner, protecting native trees and promoting sustainable land-use planning around spring and headwaters is the key to restoring degraded ecosystems.



ICRAF domestication specialist demonstrating vegetative propagation for forest species, Credit: Dahari

“
We still have large knowledge gaps about trees and their ecological functions at the landscape scale in the Comoros

”
- Dr Emilie Smith Dumont, the project research coordinator from Bangor University

Some of the species are endemic to the island, and each provides important services or products. Mwaha (*Nuxia pseudodontatata*) and *Ficus esperata*, for example are roosting sites for the endangered Livingstone bats. Other tree species provide fodder, timber or medicine.

With the support of the World Agroforestry Centre (ICRAF), the project has helped build local capacity for the domestication of native and endemic species and for the improvement of tree management.

During the project's 2018-2019 reforestation campaign, over 3,800 native trees from five species including two endemic tree species, were planted in the uplands, either as wildlings or seedlings.

In the coming months, an agroforestry manual as well as tools for tree selection and management integrating local and scientific knowledge, will be launched as part of a series of training workshops.

“We still have large knowledge gaps about trees and their ecological functions at the landscape scale in the Comoros,” says Dr Emilie Smith Dumont, the project research coordinator from Bangor University. For this reason, she adds, “it is very important that scientists, technicians and farmers work closely together to co-design and monitor options that are most locally relevant.” The project team has already developed a new approach to participatory watershed management to promote social learning and collective action around restoration and agroecological intensification. In the next two years of the project, the aim is to scale out this approach to five other micro-catchments, to promote the planting and protection of native tree species with ecological and livelihood benefits. Concurrent work will drive the protection of key areas of forest important for biodiversity conservation.

For more information on project 24-009 click [here](#).



The women's cooperative making organic planting bags, Credit: Bernat Ripoll

Bag to Sapling: Reforesting a Borneo peat swamp with help from community-led nurseries and women's co-operatives

The Sebangau peat-swamp forest in Central Kalimantan in Indonesia is one of the largest relatively intact lowland forests remaining covering 600,000 hectares of land in Borneo. This forest is home to a great variety of plant and animal species, including the largest population of the critically endangered Bornean orangutan (*Pongo pygmaeus*). This area is under constant threat from fire and the peat-lands burn annually due to land clearance and drainage. In their natural state, peat-swamp forests are permanently waterlogged and fire resistant, but drainage channels dug illegally in the past to remove timber is drying the peat, leading to annual dry season forest fires which are intensified by El Niño droughts.

“ The goal is to plant 50,000 seedlings over the next two years. This is a huge and ambitious task for a small NGO like the Borneo Nature Foundation ”

During the 2015 El Niño drought 14% of the Sebangau forest was lost to fire, so as well as tackling the underlying causes, one of the objectives of our University of Exeter and Borneo Nature Foundation Darwin Initiative project is to rehabilitate these areas, with the help of the local communities who are suffering from annual peat-fire smoke related health issues.

The goal is to plant 50,000 seedlings over the next two years. This is a huge and ambitious task for a small NGO like the Borneo Nature Foundation, so the funding provided by the Darwin Initiative is a real opportunity to help achieve this. In September 2018 when the project began, we held a meeting with the local communities and introduced ideas about starting up community tree nurseries. This was met with an extremely positive response with 38 families agreeing to take part, and 5 nurseries being set up to grow and supply the trees.

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One of our main aims of this initiative is to empower these local communities to conserve their environment through the development of a green economy

”

Community land was found and allocated for this project, then training was given and growing could start. From our past research we found four tree species (*Shorea balangeran*, *Pittosporum sp*, *Eleocarpus sp* and *Syzyguim sp*), which are tolerant to the conditions in the degraded area with a 97% survival rate after one year, so these trees will be used for the first stage of reforestation.

We have also found that the survival rates increased if we use organic bags (bakul) rather than the typical plastic poly bags, due to the organic bags being able to degrade. This means that the saplings do not have to be removed from the bags when planted.

The need for these bags provided an opportunity to get the local women and girls more involved. As a result we have now set up a women's co-operative to make these organic bags, which provides an opportunity for older women to pass on their traditional skills to the younger generation. To date, over 3,000 bags have been made.

One of our main aims of this initiative is to empower these local communities to conserve their environment through the development of a green economy. So, it is very encouraging to have so many positive families involved. In addition, this project addresses gender inequality and provides women with the means to earn a modest income to help their families. It acts as a great platform to get the conservation messages out, as training days incorporate chats about the forest, how land management practices using fire are destructive and how we can work together to restore the forest for everyone's benefit. It is just a matter of time now, before the bags with the new generation of seedlings can be planted.

More information on project 25-001 can be found [here](#).



Saplings from community nurseries in organic planting bags, Credit: Bernat Ripoll



Makumbi fish breeding area where increased plant growth protects juvenile fish, Credit: RIPPLE Africa

'Fish for tomorrow' protects flora biodiversity today

RIPPLE Africa's Fish for Tomorrow project has been supported through Darwin Initiative funding since July 2018. Fish for Tomorrow is a community led fish conservation project in Lake Malawi, the 9th largest lake in the world which is home to over 850 different fish species many of which are endemic to the lake. This funding has enabled us to extend the project to cover more than 300km of the shoreline. One of the key species we are protecting is *Oreochromis lidole*, known locally as the Chambo, which was once the most commonly caught and prized species in the lake but now is classified by the IUCN as Critically Endangered.

“ Once caught, a thousand of these juvenile Chambo will often be used to make a meal for one family, whereas if these fish were given the chance to grow and return to deeper waters to breed each one would go on to produce over 300 young

”

The project empowers local communities to work in partnership with District Fisheries staff to confiscate illegal fishing gear, restrict numbers of fishers through a local permit system and to protect key fish breeding and nursery areas. One problem faced by fishing communities is that these nursery areas are in lagoons and river mouths close to populated areas and have been extensively targeted by local people using mosquito bed nets to catch huge numbers of juvenile Chambo.

In order to make this process easier, local people have cut back all the surrounding vegetation to provide better access to the lagoon. The cleared land around the lagoons is then used for farming, preventing reed and grass regrowth and damaging the lagoon further through run off. Once caught, a thousand of these juvenile Chambo will often be used to make a meal for one family, whereas if these fish were given the chance to grow and return to deeper waters to breed each one will go on to produce over 300 young. Allowing this to happen is key to increasing stocks of this fish species, which would simultaneously improve biodiversity in the lake as well as increase livelihoods and nutrition in one of the world's poorest countries.



Fish breeding area south of Ngala are now protected, Credit: RIPPLE Africa

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We have already witnessed the fishing communities in our project area making huge efforts to protect these breeding areas with consequent benefits not only for fish, but also for flora

We have already witnessed the fishing communities in our project area making huge efforts to protect these breeding areas with consequent benefits not only for fish, but also for flora. Our community fish conservation volunteers have now stopped the use of mosquito nets in most areas, and are also taking positive steps to encourage the growth of reeds and other plants around the lagoons providing protection to the young Chambo from predators.

Kaweya Fish Conservation Committee have asked farmers to stop the cultivation of maize within 100 metres

of the edge of their local lagoon to encourage the growth of protective plant species and have also stopped all burning of vegetation near to the lagoon, a commonly used agricultural land clearance technique.

It is still early days for the regrowth of species of reeds and grasses in the area where work has just begun but where the project has been operating for several years, reeds and grasses have returned and are growing thickly along the edges and in shallow areas of the lagoon, enabling the baby fish to thrive and find shelter from high temperatures and predators. Species such as *Phragmites mauritanus* and *Phragmites australis* (reeds), *Typha domingensis* (bulrush) and *Cyperus papyrus* are now increasingly being seen again in these nursery areas and the vegetation and larger numbers of fish is also attracting more bird life back to the areas. A win-win situation for all involved!

For more information on project 25-009 please click [here](#).



Variety of fruit and nut products, Credit: RBG Kew

Conserving the fruits and nuts of the South Caucasus

Located at a crossroads between Europe, Central Asia and the Middle East, the Caucasus is truly a unique place both botanically and culturally. However, the region is experiencing biodiversity loss at an alarming rate, mainly brought about by habitat degradation through unsustainable harvesting, pollution and overgrazing by livestock. The biodiversity of the Caucasus forms the foundation of rural livelihoods and its loss would have a significant negative impact on humans, flora and fauna. Its protection, including ensuring the continued income of local communities, is urgently needed.

Holding over 6,500 plant species and an unusually high number of endemic species (plants not found anywhere else in the world) the Caucasus also boasts a high concentration of wild relatives of modern crop varieties, including fruits, berries and nuts. These wild relatives hold an important value both in the region and globally, as some provide direct livelihoods to local communities, while others hold key genetic traits to help adapt modern domesticated crops to future environments. In Georgia and Armenia, fruits and nuts are strongly linked to the economy and culture. Georgia is the fifth largest exporter of hazelnuts, while grape-wine is seen as Georgia's national pride. Similarly, in Armenia, fresh and processed berries, fruits and nuts hold an important place in drink making (e.g. brandy), local cuisine and traditional medicines. As demand for fresh and processed fruits and nuts grows, both in local and international markets, pressures on wild populations will also grow.

“
As demand for fresh and processed fruits and nuts grows, both in local and international markets, pressures on wild populations will also grow”

For the past decade, leading botanists and seed conservationists from Georgia and Armenia have been working as part of Royal Botanic Gardens Kew's Millennium Seed Bank (MSB) Partnership to safeguard the endemic plant species of the Caucasus. Since the start of this long-term partnership, experts in seed conservation from the MSB have trained staff from the National Botanical Garden of Georgia, Institute of Botany of Georgia and Nature Heritage NGO of Armenia in ex situ conservation techniques, saving rare and endemic species from going extinct or becoming further threatened.

Our project, funded by the Darwin Initiative, is a chance to expand on the work of the partnership and for the first time in the partnership's projects, include local communities as key stakeholders in both Georgia and Armenia's plant conservation plans.

Stakeholder engagement activities in the Kachik community in Armenia and the Mchadjivari community in Georgia revealed that there is a wide range of fruit and nut species being harvested. In a recent visit

to Mchadijvari, we met Jambuli, who collects yellow dogwood (or 'shindi' in Georgian), which he boils to make jams. "It is very tasty and full of vitamins" Jambuli tells us.

Led by the local communities, in-country partners are able to identify key species that are a priority for ex situ conservation, and to train local collectors in sustainable harvesting techniques.

To further alleviate pressures from wild harvesting, the next step of the project is to train local communities to propagate (from cuttings and seeds) important fruit and nut species in a community-led gardening initiative. Both communities are keen to plant rare species to help alleviate wild collecting and to educate the next generation about plant conservation.

Another aspect of the project is to globally assess key species against the IUCN Red List categories and criteria. Training from Kew's Red List Assessors in the first year of the project has given local botanists the skills to assess threats to wild relatives of fruit and nut species for conservation action.

This newly acquired knowledge is already being passed to the local community to help them better understand the need for plant conservation in the South Caucasus, and any information they impart will help feed into



Local collector from Georgia talking about shindi, Credit: National Botanical Garden of Georgia

the final global assessment. We believe that this multipronged approach of ex situ (seed banking) and in situ conservation (gardening initiative), coupled with red listing and capacity building activities, all with the local community at its heart, will prove fruitful for plant conservation in the Caucasus.

For more information on project 25-017 please click [here](#).



Collection of rosehips and hawthorn from Kachik community, Credit: Nature Heritage



Harvesting Jatamansi
Nardostachys grandiflora rhizomes,
Credit: Khilendra Gurung

Succeeding with CITES: Sustainable and equitable Jatamansi trade from Nepal

Global trade in wild plants used as ingredients in food, cosmetics, and pharmaceuticals, often broadly referred to as medicinal and aromatic plants, provide an important source of income and livelihoods, underpin industries and healthcare systems, and also act as one of the key drivers of plant biodiversity loss. Check the [Wild at Home report](#) for an overview of harvest and trade in wild plant ingredients. One of these species is Jatamansi *Nardostachys grandiflora*, the subject of an innovative project supported by the Darwin Initiative, which aims to promote legal and sustainable international trade in species through use of the international best practice FairWild Standard.

“
Between 100-500 tonnes of rhizomes are sourced from high-altitude (3,000-5,000m) Himalayan regions, providing at least 15,000 people across nine regions with an average of 25% of their annual income

Jatamansi (or Spikenard) is one of Nepal's most commercially valuable and heavily exploited species. It is listed as Critically Endangered on the IUCN Red List and has been included in Appendix II of the Convention on International Trade in Endangered Species of Wild

Fauna and Flora (CITES), to regulate its international trade. Oil extracted from Jatamansi's rhizomes is used in the aromatherapy and cosmetics sectors worldwide. Between 100–500 tonnes of rhizomes are sourced from high-altitude (3,000–5,000m) Himalayan regions, providing at least 15,000 people across nine regions with an average of 25% of their annual income.

Local income generation is limited by low rates of value addition due to a lack of direct access to international markets, undercutting by largescale illegal export of the rhizomes to India, and declining Jatamansi populations caused by overharvesting for export and habitat loss. The outcome is made worse due to the unclear legal situation around its international trade, putting both the species and local livelihoods at risk.

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This project, through the collaboration of several organisations, aims to address the above factors. The 'Succeeding with CITES' project is led by TRAFFIC, with key implementation in Nepal by ANSAB, with endorsement from the Ministry of Forests and Environment. Other partners include the ProFound – Advisers in Development, the Royal Botanic Garden Edinburgh, FairWild Foundation, the IUCN/SSC Medicinal Plant Specialist Group (MPSG), and the University of Copenhagen. Collaborators in Nepal include the Department of Plant Resources and private companies, who will help producers and harvesters to conduct Jatamansi resource inventories in pilot collection areas in Jumla and Mugu districts, implement monitoring measures and update local management plans.

At least 2,000 harvesters will receive training, establishing ties with committed responsible companies in Europe. Assistance is provided to government agencies to enable the implementation of sustainable legal trade.

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At least 2,000 harvesters will receive training, establishing ties with committed responsible companies in Europe

This project, while focusing on a single species, offers a glimpse into the complexity of issues around ensuring the sustainability, legality and equitable benefit-sharing in the trade in wild plants, and in particular those listed in CITES Appendix II. A recent study by TRAFFIC presented at a stakeholder workshop, informed by MSPG data, found that over 800 medicinal and aromatic plants are listed in CITES Appendix II, with 43 having been reported as traded from wild-sourcing in 2006–2015.

However, there is shared concern over how effective the implementation of CITES requirements are, particularly in the case of complex supply chains and the low

capacity of government authorities to enforce legislation. Recent research and a workshop analysed how the appropriate voluntary certification standards (VCS) and closer collaboration between industry and government may assist the implementation of CITES requirements (including on proving the legality, traceability, and sustainability of trade) for listed species, while for species not currently in the CITES Appendices, how VCS can provide the assurance needed to reduce the potential future regulatory burden.

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The FairWild Standard and its associated certification scheme, the globally recognized best practice in wild-sourcing of plants is the key project framework. In addition to the rigorous requirements on species and area management plans, built on resource inventories and integrating monitoring, FairWild sets a unique framework for what equitable trade and benefit-sharing to harvesters and workers means in practice. The Jatamansi pilot could be the world’s first CITES Appendix II-listed medicinal and aromatic plant certified against the FairWild Standard, demonstrating the potential win-win for plants, people and economies.

For more information on project 25-018 please click [here](#).



Drying Jatamansi Nardostachys grandiflora rhizomes, Credit: Khilendra Gurung



Mrs Evelyne discussing with Ony from Label CBD, Credit: Madagasikara Voakajy

Transforming the baobab trade to increase benefits

Baobabs are one of the most emblematic species of Madagascar with six of the nine species in the world being found only in this country. In western Madagascar, baobab fruits are consumed and traded by local communities. There, Darwin Initiative is supporting baobab conservation through a project led by Madagasikara Voakajy and its partners, Label CBD Consulting, Fauna & Flora International and the Malagasy Ministry of Environment and Sustainable Development. Our project looks to transform the trade so that both people and biodiversity can benefit. We particularly seek to encourage people to produce, store and consume baobab powder during the hungry periods, and to link community producers to businesses to trade baobab products equitably and sustainably. We are happy to share one success story from the first year of the project: that of Mrs. Evelyne Ramahefamalala.

Mrs. Evelyne Ramahefamalala is from Bepeha village, one of the three target villages. Evelyne lived in Bepeha as a child but went to stay with her uncle in Morondava when she was 8. She returned to Bepeha after finishing secondary school until she moved to Mahabo 10 years ago. She is primarily a farmer who focuses on growing rice but as a child she used to collect and eat baobab fruits in the wild. When she moved to Mahabo, she started selling baobab fruits in the market among other products. Now, she is producing and selling baobab powder and jam to her clients. On the next page we feature an interview with her and the project field coordinator.



Mrs Evelyne extracting the baobab powder, Credit: Madagasikara Voakajy



Mrs Evelyne Ramahefamalala during the interview, Credit: Madagasikara Voakajy

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The next challenge for Madagasikara Voakajy and its partners is to ensure that this link between local communities and the companies becomes a win-win situation for people and biodiversity in the short and long-term

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Mrs. Evelyne's story is not unique, as she is one of many vulnerable women in western Madagascar who can rise out of poverty with the appropriate assistance and support from her community, government and projects like this one. The next challenge for Madagasikara Voakajy and its partners is to ensure that this link between local communities and the companies becomes a win-win situation for people and biodiversity in the short and long-term. We are seeking to implement a sustainable harvesting model that could be replicated widely in the country.

For more information on project 25-026 please click [here](#).

When did you start producing baobab powders?

"In 2015-16, the prices of baobab fruits were dropping in the market. Then, I heard that someone was buying baobab powder in Morondava so I started making them and selling the powder at 5,000Ar/kg (approx. £1)."

Where did you get the fruits from?

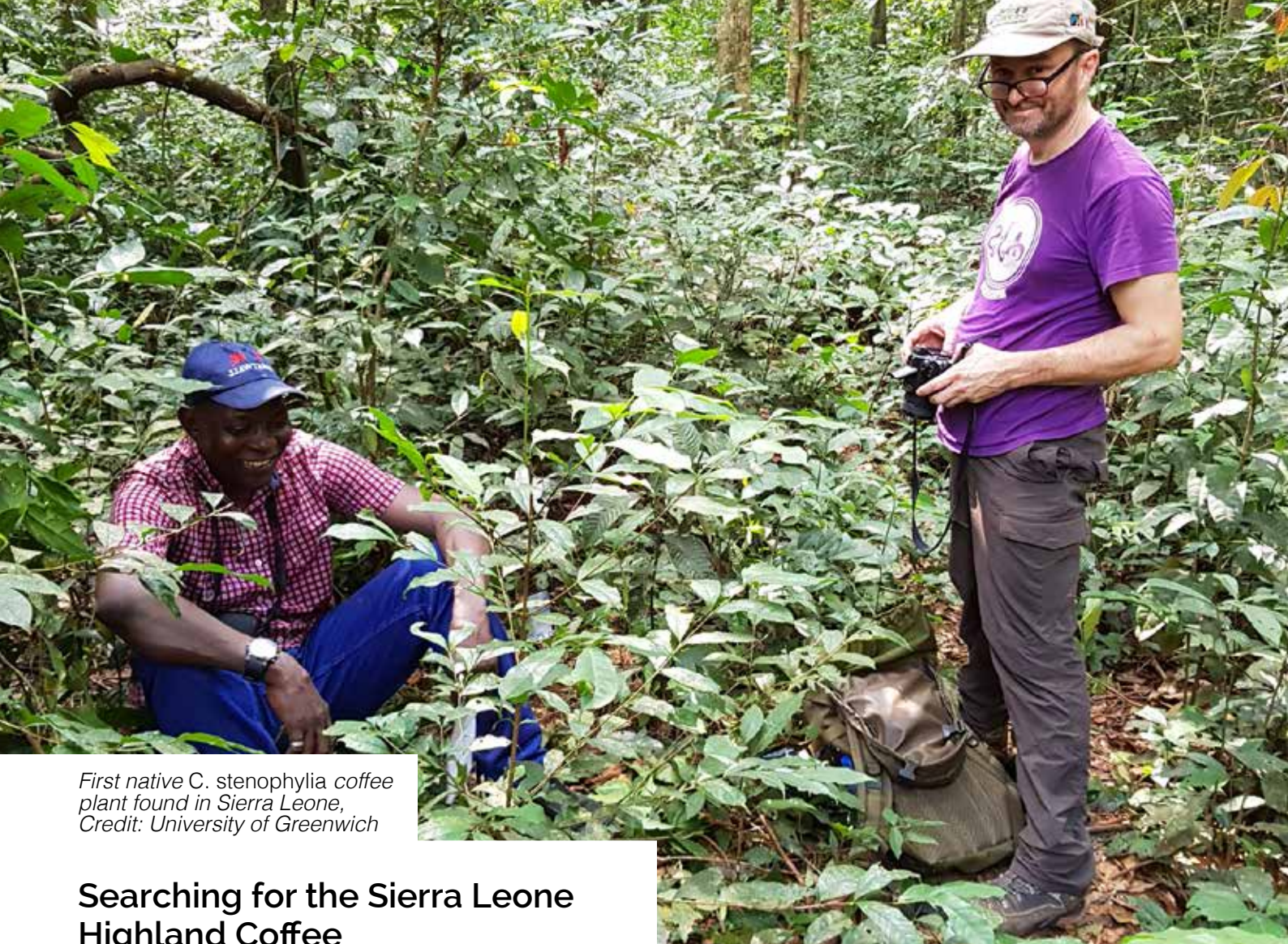
"I am handicapped and can't collect the fruits in the wild. Instead I buy the fruits people bring to the market in Mahabo."

Did you receive training when starting this business?

"No I didn't. A few months after I started, I heard from my brother who lives in Bepeha that Madagasikara Voakajy and Label CBD gave training on producing baobab powders and they also started doing it. I learned from my brother and used their techniques. The main difference from what I did before and after the exchange with my brother was on fruit drying requirements. Before, I didn't allow the fruits to dry properly and I had some seeds mixed in the powder. I thought it would make the weight heavier and that is good. When I dried them properly, there were no more seeds in my powder, it is much better and in 2017, I could sell it at 10,000Ar/kg (approx. £2). I attended the latest training they organized in November 2018 and learned a lot about the hygiene aspect. I can now produce high quality baobab powder that I sell at 20,000Ar/kg (approx. £4)."

Did the benefit you derive from baobab trade increase?

"Yes it did. Since I applied the techniques for drying the fruits and producing the powder, my benefits doubled."



First native *C. stenophylla* coffee plant found in Sierra Leone, Credit: University of Greenwich

Searching for the Sierra Leone Highland Coffee

Whilst leading a project to rehabilitate Robusta coffee production in Sierra Leone, with the Natural Resources Institute (NRI) and in-country partners, we heard about another coffee that is native to Sierra Leone. Known botanically as *Coffea stenophylla* and colloquially as the ‘highland coffee’, this species was first found in Sierra Leone in 1834, and has probably been cultivated since the 1850s. Reports from the 1920s indicate that the native coffee was of “exquisite” flavour, as good as the best Arabica coffee, and sought after by French coffee buyers. Accompanied by Daniel Sarmu from Welthungerhilfe we asked coffee farmers from across Sierra Leone to bring us any strange coffee they had on their farms. The closest we found to highland coffee were three plants in the coffee collection held by the Sierra Leone Agricultural Research Institute, but genetic analysis showed that they were hybrids between *C. stenophylla* and *C. liberica*.

In 2018 scoping funding from the Darwin Initiative enabled NRI and Aaron Davis from the Royal Botanical Gardens Kew to search for the highland coffee in its native forest habitat. We visited the Western Peninsula National Park with John Brima (Director of Forestry Research) and Charles Showers (President of Conservation Society of Sierra Leone (CSSL)).

“ Fortunately the deeper that you ventured into the reserve the health of the forest improved due to the lack of human disturbances and we were able to explore the well forested slopes and more open ridge tops ”

The park is on the southern edge of Freetown and has suffered from encroachment from people seeking land to build houses, collecting firewood and poaching for bush meat. Fortunately, the deeper that you ventured into the reserve the health of the forest improved due to the lack of human disturbances and we were able to explore the well forested slopes and more open ridge tops. Past reports had indicated that *C. stenophylla* was common in such areas, but we did not have a precise location. No coffee was found, despite the reassurance from local forest guards that claimed that they knew of the local bush coffee.

We continued on to the Kasewe Hills Forest Reserve, which is the last known location where *C. stenophylla* had been collected in the wild, in 1954. On exploring Kasewe it became apparent that much of the reserve has been deforested, and we needed to reach the few patches of hill-top forest that remained to have any chance of finding wild coffee. After much searching of different coffee relatives (plants of the Rubiaceae family), Aaron finally found a plant he believed to be *C. stenophylla*. The plant was found in a forest patch only

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Bringing this species into cultivation again and developing it as a unique coffee crop could provide a unique and valuable product, which would benefit local communities and future generations of Sierra Leonean farmers
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about 500m across and was the only one of its kind as an extensive search did not reveal any more hidden highland coffee plants.

Although *C. stenophylla* had not previously been recorded in Kenema District, the Kambui Forest Hills Reserve is one of the closest protected forests to the Kasewe Hills. With the help of the District Forest Guards we explored the logging trails in the lowland forest, but in order to reach the areas where we thought *C. stenophylla* might be we had to create a new trail up-hill through the forest towards the ridge top. As we made our way through mature primary forest, across streams, and up to 390 metres above sea we found our first *C. stenophylla* plant. Within 100m of this we found another 15–20 plants including three mature trees about 6–8m tall.

In both Kambui and Kasewe the plants had no flowers or fruits, which made it difficult to be completely sure that we had indeed found *C. stenophylla*. Despite this, leaf samples were used for a subsequent genetic (DNA) analysis, which confirmed that the plants from these locations were indeed the missing highland coffee of Sierra Leone. The Kambui Hills are also under threat from encroachment from the town of Kenema, artisanal gold mining and deforestation for subsistence agriculture, but there is still a significant block of primary forest at its core. CSSL is implementing a Community Base Forest Management project in the south of Kambui Hills which if extended to the north section would cover the area where the native coffee is found.

Furthermore, bringing this species into cultivation again and developing it as a unique coffee crop could provide a unique and valuable product, which would benefit local communities and future generations of Sierra Leonean farmers.

For more information on project DARSC196 please click [here](#).



*Kambui hills coffee plant,
Credit: University of Greenwich*



Giant kelp forest around the Falkland Islands, Credit: Natural History Museum

Protecting the rich seaweed biodiversity of Falkland Islands fantastic marine forests

Seaweed-dominated habitats are fundamental to coastal ecosystem functioning and services. Such seaweed habitats girdle the many islands of the Falklands, supporting economically important squid populations as well as a highly diverse invertebrate fauna, numerous fish species, and charismatic marine birds and mammals.

There has been a long history of scientific seaweed exploration dating back to the early 19th Century, and a number of recent expeditions have begun to examine the diversity and distribution of Falklands seaweed species in more detail. However, there has been a significant lack of a more comprehensive and integrated view of seaweeds, until now. There is a growing understanding and appreciation of the ecological role and value of large kelp canopies and diverse seaweed understories. A greater understanding of seaweed species will contribute directly to the critical need for monitoring and sustainable management of the marine environment, in light of the potential threats posed from offshore oil exploration, fishing activities, invasive species and climate change.

In 2018, Prof. Juliet Brodie and Dr. Rob Mrowicki from the Natural History Museum (NHM), hosted by Dr Paul Brickley director of the South Atlantic Environmental

Research Institute (SAERI), and Dr Paul Brewin of the Shallow Marine Surveys Group (MSG) undertook a month-long expedition to document and collect seaweeds from around the Falklands as part of their Darwin Plus project (DPLUS068 Building foundations to monitor and conserve Falklands marine forest habitats). This resulted in the collection and preservation of over 1,100 seaweed specimens from 30 shores, including sites where no phycologists (algae scientist) had been before.



Local school children learning seaweed species, Credit: Miriam Carter-Fraser



Charismatic red, green and brown seaweeds found in the Falklands, Credit: Juliet Brodie

Back at the NHM, identification using molecular techniques revealed a rich diversity of species, including some with relationships to seaweeds in Chile and Tristan da Cunha, others that are recognised non-natives elsewhere in the world, and – most excitingly – many that appear to be undescribed and do not even fall into known species groups! Not only has this new knowledge revolutionised our understanding of seaweed biodiversity in the Falklands, but it also has important implications for marine biogeography in the South Atlantic and perhaps even further afield.

In addition to collecting and examining new specimens, the project has involved cataloguing the entire collection of Falklands seaweeds in the NHM herbarium. Dating from as far back as the 1820s and containing an estimated 1,700 specimens, this historic collection provides a unique window into the past, enabling us to look at how the diversity and distribution of seaweeds have changed over time. Further, it serves as a genetic repository and important resource for future scientific research.

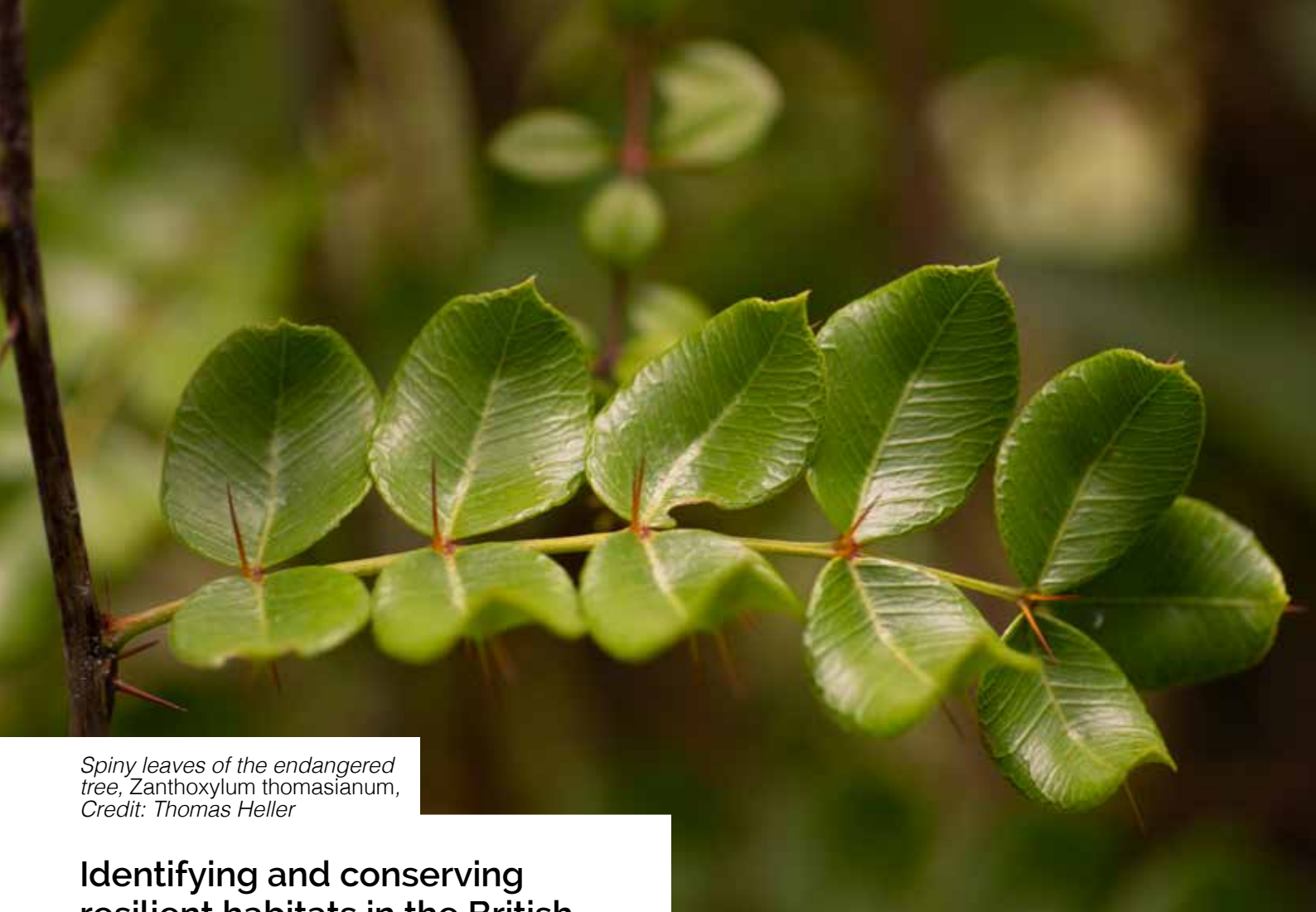
Juliet and Rob returned to the Falklands in 2019 for two weeks of outreach activities and more specimen collecting. After a week of TV and radio interviews,

public talks, guided walks, workshops and school visits, they collected another 400 seaweed specimens including from remote sites that had not been surveyed previously.

Working with Falklands Conservation and SAERI, they were also able to initiate a citizen science project – the Falklands Big Seaweed Search, based on a prototype that Juliet set up at the NHM. The interest and enthusiasm of local scientists, managers and members of the public has been key to the success of this project and demonstrates how much the people of the Falklands appreciate their natural environment.

Does obtaining this knowledge matter? The answer has to be yes. The Falklands Islands appear to have been an important species refugium during the last Ice Age, harbouring founder populations for potential recolonization of related regions in the geographical area. Equally, these seaweeds are the framework of remarkable marine habitats, and providing baseline biodiversity knowledge is the foundation of future monitoring and environmental protection.

For more information on project DPLUS068 please click [here](#).



Spiny leaves of the endangered tree, *Zanthoxylum thomasianum*,
Credit: Thomas Heller

Identifying and conserving resilient habitats in the British Virgin Islands

In August 2017, Hurricane Irma tracked a course from the eastern Atlantic westwards towards the Caribbean, reaching Category 5 on the 5th September. The following day, it struck the Leeward Islands and the Virgin Islands with maximum sustained winds of 180 mph, making it the fifth strongest cyclone to make landfall globally. In the UK Overseas Territory of the British Virgin Islands (BVI), Irma caused extensive damage, stripping vegetation bare, buildings and roads destroyed with a total death-toll of four people. In the 18 months since the devastating storm, the islands have been slowly recovering, with the people rebuilding and the forests beginning to regrow.

The BVI's forests support globally threatened biodiversity including 27 plant and 14 animal taxa. Twenty years of collaboration between the Royal Botanic Gardens, Kew, the National Parks Trust of the Virgin Islands (NPTVI) and Fort Worth Zoo, has resulted in an enormous expansion of knowledge surrounding BVI's threatened species, their distribution and threats. However, there is still a gap in understanding of community-level characteristics and their importance for threatened species.

As observed following the devastation of Hurricane Irma, forests play a key role in the resilience of the landscape and its natural resources to destructive events.

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With the forests of BVI still recovering from the impacts of Hurricane Irma, a unique opportunity exists to quantify the responses of vegetation and threatened species to such disturbances

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With the forests of BVI still recovering from the impacts of Hurricane Irma, a unique opportunity exists to quantify the responses of vegetation and threatened species to such disturbances. The ability to identify the qualities important for sustaining viable populations of threatened species is paramount to inform management, recovery and priority setting to mitigate against future natural disasters. Kew, NPTVI and Fort Worth Zoo are partnering on a new Darwin Plus project to deliver capacity building, habitat-level survey, and globally threatened species census to enable local stakeholders to respond to, and mitigate against the impacts of natural disasters.

Exemplar species on four islands (Anegada, Fallen Jerusalem, Tortola, Virgin Gorda) are being used as case studies, including five Endangered or Critically Endangered tree species associated with distinct forest types: *Calypttranthes kiaerskovii*, *C. thomasiana*,

Vachellia anegadensis, *Varronia rupicola*, *Zanthoxylum thomasianum*; and two Critically Endangered animal species: the Anegada rock iguana (*Cyclura pinguis*), and the Anegada skink (*Spondylurus anegadeae*).

Through field survey and mapping, the project will improve our understanding of the status of the BVI's forests and the globally threatened plant and animal species and ecosystem services they support. Our international partnerships will deliver up-to-date biodiversity information and resources, bolster ex-

situ collections of globally threatened plant species and strengthened local capacity key to habitat recovery and mitigation of natural disasters.

This will enable management that encourages future resilience and BVI partners will be empowered to secure biodiversity into the future.

For more information on project DPLUS084 please click [here](#).



Battered vegetation recovering in Gorda Peak National Park one year after Hurricane Irma, Credit: Thomas Heller



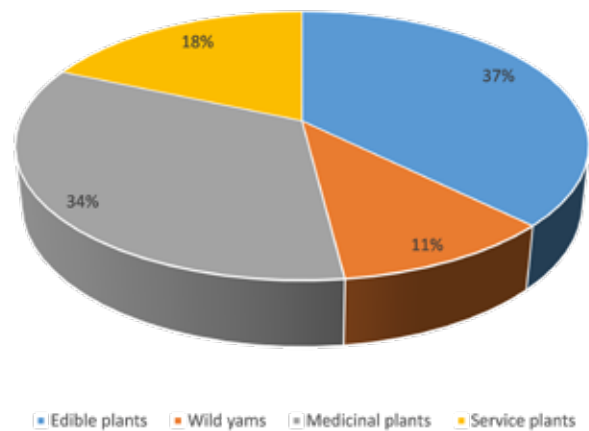
Members of the Baka community collecting wood for cooking, Credit: Eva Avila

Understanding the importance of forest plants to Baka communities in southeastern Cameroon

Non-timber forest products (NTFPs) remain central to the lives of the people who live in tropical rain forests throughout the world. Most references to NTFPs usually means wild meat, also known as bushmeat, which for many indigenous people is an important source of animal protein. However, forest plants offer fundamental supplies of many commodities, not just food. An exciting new collaboration with local researchers has enabled us to investigate the importance of forest plants in the daily lives of the Baka Pygmy communities, the main focus of our Darwin project in south-eastern Cameroon.

Research on how wild plants and animals are used for food and other purposes by the Baka in our study area will enable us to better understand and support these communities to sustainably manage their wildlife resources. The Mintom subdivision of the Dja et Lobo is covered by dense tropical rainforest, an extension of the Dja Biosphere Reserve forests to the north. The Dja remains one of the least disturbed expanses of dense rain forests within the Congo Basin region.

Our Darwin Project is collaborating with Prof. Jean Lagarde Betti from the University of Bertoua to create a directory of plant species and characterise their traditional usage. In addition, the team will conduct market chain analyses of all NTFPs traded by both Baka and Bantu communities.



Pie chart showing the percentages of plants used for different purposes by Baka villages, Credit: John Fa



*Young child preparing reeds for weaving,
Credit: Eva Avila*

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As many as 180 plant species are used for medicine, 57 species as food and 35 species as service plants

Between January and March 2019, four postgraduate students (Nana Afiong Natacha, Pascal Billong Fils, Oumar Farick Njimbam and Stéphanie Tientcheu) worked in four separate villages cataloguing the plant species used. After a period of sensitisation during which meetings were held to introduce the project, village informants participated in detailing the use of plants obtained from the forest. We gathered as many as 4,448 citations of plant uses, from a total of 75 household interviews; an average of 59.31 citations per household.

The most cited plants were used as food followed by those used for medicinal purposes. The team will continue working to identify all the different plant

materials collected during the field campaign with the assistance of botanists at the National Herbarium of Cameroon, in Yaoundé. All voucher specimens will be deposited at the National Herbarium.

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Forest inventories are planned during 2019 to determine the relative abundance of the plants mentioned in the interviews with the aim of establishing their importance and possible endangerment. The market chain analyses work will be undertaken with the collaboration of Dr. Guillaume Lescuyer from CIFOR at the beginning of 2020. All work will be published in scientific papers and will be sent for publication before the project end.

Our collaboration with Prof. Betti and his team has been exemplary and we are most grateful for their hard work and dedication!

For more information on project 24-029 please click [here](#).



Local people clearing *Lantana camara* in Bardiya district, Credit: L. N. Sharma

Fighting the Invaders - Combating Non-Native Plants in Nepal

Biological invasion is a major threat to global biodiversity, with increasingly dramatic effects being seen worldwide, accelerated by human activities and climate change. Invasive plants threaten the livelihoods of local people, by smothering their fields and choking community forests, diminishing crop yields and reducing the availability of natural plant resources. In extreme cases farmlands are rendered unusable and woodlands destroyed. In Nepal invasive plants are aptly called *ban mara* – ‘forest killer’.

“ To date at least 219 alien plants have been recorded as naturalised in Nepal - 26 of which have become notorious as problematic invasive plants ”

Nepal is a biodiversity hotspot, with over 7,000 species of flowering plants. This diversity has been created by its huge altitudinal gradient, varied climate and rugged landscape. But this diversity of habitats is an Achilles heel, offering opportunities for invasion to a wide range of non-native species. Manmade ecological disruption also creates space for newcomers. To date at least 219 alien plants have been recorded as naturalized in Nepal - 26 of which have become notorious as problematic invasive plants.

The impact of such alien invasive plants is felt more acutely in developing countries, like Nepal, because of the lack of expertise and limited resources to tackle the problem. Our project aims to develop the scientific knowledge-base and in-country capacity to address the challenges faced by invasive plants. We are working in partnership with national organisations and local communities to promote the recognition, control and utilization of invasive plants whilst helping people fight these invaders and restore their infested lands.

The accurate identification of introduced species, and the early detection of invasive alien species, are important for raising awareness and management of these harmful plants. In collaboration with Tribhuvan University's Central Department of Botany and the Nepalese Government's Department of Plant Resources, more than 50 students have been trained in plant collection and identification. Three MSc students have completed research projects on the naturalized weeds of three districts. This is building the knowledge-base needed to understand the biology and distribution of these species, which ultimately underpins practical action. We are also working with local people in rural areas to develop image-rich identification materials in Nepali, which they can use for plant identification and get information on management strategies. A poster depicting the 26 most problematic invasive alien plant species of Nepal has become popular among the Community Forest User Groups.



Chromolaena, Credit: RBGE Nepal

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So far 15 local forest user groups in three parts of lowland Nepal have been involved in the project, and are undertaking the management of invasive plant species in their area
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So far 15 local forest user groups in three parts of lowland Nepal have been involved in the project, and are undertaking the management of invasive plant species in their area. Barren lands that were previously covered with invasive species have now been cleared and converted into productive land by the planting of economically important plant species. In the Nawalparasi district of central Nepal, 30 hectares of land was totally covered with *Chromolaena odorata*, but this has now been cleared and the land planted with useful trees such as *Cinnamomum tamala*, *Mangifera indica* (mango) and *Litchi sinensis* (litchi).

Scientists from the Nepal Academy of Science and Technology have worked with local people to enable them to produce charcoal through the partial combustion of woody biomass from invasive plants and waste products. Biochar can be made through an activation

process, by mixing the charcoal with cows' urine and is used as a soil conditioner and as a means of sequestering carbon. Local communities are now using biochar to improve their crop yields, and to support the establishment of economically useful plants on the cleared lands. An MSc research project supported by the project has shown a 16% increase in the yield of maize when activated biochar is used. Untreated char (charcoal) can be used as an alternative fuel for cooking, with the benefit of reducing the harmful effects of smoke inhalation. Char can also be sold to manufacturers of biofuels, creating a new revenue stream for villagers.

The clearing of invasive plant species from Community Forests and the conversion of biomass into biochar is a recent innovation for Nepal, and its potential had not been adequately incorporated into in forest management planning, at either the national or local levels. Project partners have worked with the District Forest Offices and Community Forest User Groups to include major invasive clearing programmes and biochar production in Community Forest operational plans, securing the continued action against these pernicious invasive plants.

More information on project 23-031 can be found on the Darwin Initiative website [here](#) and also at <http://www.invasiveplantsnepal.org>



A chimpanzee outside of the forest, Credit: Nebat Auhura

Social worth of safeguarding trees found in the Bugoma Landscape forests

“Elderly men from time immemorial have been drinking boiled concoctions made from barks of the *Prunus africana*, a globally threatened species used to treat prostate complications” states Ssezi Mugisa, a 61 year old Forest Manager of Itohya Forest - 393 hectares of privately owned forest. Ssezi went on to say that “in every elderly man’s suitcase you will find tree bark pieces of *Prunus africana*, but the tree has been over harvested, and programmes that contribute to forest conservation such as the one by Chimpanzee Trust are important in preserving the culture, the stories and the medicines of indigenous forests”.

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This project aims to tackle the issue of human wildlife conflict in the area and is targeting 32 villages in the Kikube district in Uganda

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Chimpanzee Trust, a Ugandan Non-Governmental Organisation, is leading the Darwin Initiative project titled “Community adaptability to loss occasioned by wildlife in Uganda.” This project aims to tackle the issue of human wildlife conflict in the area and is targeting 32 villages in the Kikube district in Uganda.

To protect the biodiversity in these villages, Chimpanzee Trust is establishing community led compensation mechanisms. These mechanisms shall ideally improve the relations between affected communities and wildlife originating from the Bugoma Central Forest Reserve and adjacent private and community forests. The project is using an education strategy, with an academic research component in order to influence a change in attitudes, minimise damage, compensate affected persons and improve local livelihoods. At the same time, this project is implementing several actions outlined in the National Wildlife Policy and Wildlife Act.

The project has trained local people as Conservation Champions and Facilitators from all 32 target villages. These champions will increase the awareness about sustainable forest conservation amongst their own communities. They shall help their communities design local solutions to address poverty reduction and human/wildlife conflict in their areas through dialogue, community livelihood programmes and through prioritising the conservation of wildlife habitats to limit negative human/wildlife interaction.

Forests in the Bugoma Landscape have three key tree species that are loved by the communities around and these are tree species *Prunus africana*, *Teclea nobilis*, and *Funtumia elastica*. These species have been over harvested by the communities, leading to loss of the species locally. Chimpanzee Trust is working with



Baboon raided Maize stalk, near Bugoma Forest, Credit: Chimpanzee Trust Uganda

species of reptiles, 20 species of amphibians with one of the amphibian species being endemic to the Albertine Rift. Over 250 species of trees and shrubs can be found here and seven of those species are only found in the Albertine Rift, a further 12 are globally threatened and 14 listed as threatened on the IUCN Red List (Forest Department, 1996, Plumptre et al., 2003).

Kyaligonza Robert, a Conservation Champion and Facilitator from Kinywambeho village noted that “the *Teclea nobilis* tree has culturally been used as a hoe handle and the source of building poles, as our forefathers told us that it was the best tree for that purpose. I just learnt that the same tree is the most popular for nesting species in the forest section that borders my village. We are literally competing with chimpanzees.” Kyaligonza is proud to work with the project to raise awareness on how to sustainably conserve the *Teclea nobilis* tree species.

communities by raising awareness concerning forest tree species values. However, conversion of forests to agriculture amplifies human-wildlife conflicts including crop damage and attacks on humans. Attaching social values to forest flora species is significant for the community conservation.

Bugoma Central Forest Reserve is important for the conservation of biodiversity found in this region, as there are a number of tree and mammal species that are listed on the IUCN Red List. Out of the 38 species of mammals that can be found here, four are globally threatened and nine species are listed as threatened on the IUCN Red List. The forest reserve is home to nine

“The Bugoma Forest Supervisor once called it the rubber tree” states Ntegeka Bosco, a Local Community Leader of 13 villages in the Bubogo parish “but for me, that tree (Funtumia Elastica) has good timber, but people have noticed that this very tree usually has chimpanzee nests, as it grows straight and high”. The project is engaging local leaders and coming up with a mutual ways to conserve these important tree species for the wildlife and the forest.

For more information on project please 25-028 click [here](#).



A farmer guarding at his maize garden at Bugoma Forest Boundary, Credit: Chimpanzee Trust Uganda



*Villagers conversing,
Credit: Chimpanzee Trust, Uganda*

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Secretariat is based in Defra and includes Tim Pryce, Siriol Leach, Shaluki Perera and Scott Nelson.

If you have any general queries about how the Darwin Initiative operates please e-mail us at darwin@defra.gsi.gov.uk

For any queries on project applications or existing projects please contact our Darwin Administrators (LTS International) at darwin-applications@ltsi.co.uk or darwin-projects@ltsi.co.uk

This newsletter is produced quarterly. To include an article on your project please contact us at darwin-newsletter@ltsi.co.uk

The UK Government's Darwin Initiative aims to promote biodiversity conservation and sustainable use of resources around the world including the UK's Overseas Territories. Since 1992, the Darwin Initiative has committed over £161 million to 1,155 projects in 159 countries.