Saving Our Special Nature of Montserrat

Newsletter 12, May 2022

Male Montserrat oriole, Montserrat's national bird on red heliconia, Montserrat's national plant. Photo: Dr Mike Pienkowski

Foreword

Welcome to the 12th issue of the newsletter about the current joint programme of work coordinated by Montserrat National Trust and UK Overseas Territories Conservation Forum, in conjunction with the Government of Montserrat. The current phase of *Adopt a Home for Wildlife* is now well under way, following its launch in October, as reported in *Newsletter 11 (November 2021)*.

Our initial discussions identified an urgent need on Montserrat for expertise in botanical methods to test survey methods and familiarise project officers with them. In return they could benefit with the local project officers' familiarity with Montserrat species. However, the project budget could not extend to extra personnel at this level, although it could contribute to travel and accommodation expenses. We advertised through the UKOTCF network, and candidates were interviewed online by a joint MNT/UKOTF panel. We offered the role to a very well qualified person, Madeline Heap. Maddie then arranged to take 6 weeks of unpaid leave of absence from her job as Environmental Officer for Bristol City Council in UK. Work by Sarita Francis, Delmaude Ryan, Mike Pienkowski and Maddie herself over the Christmas and New Year holiday successfully made arrangements, despite the Covid challenges, allowing Maddie to be in Montserrat for much of January and February.

This issue focusses on the work that Maddie helped set up with the project officers, with help from the team in UK, and extracts of the reports of the project officers over their first 5 months in post. We are pleased to include also an introduction to a new joint project involving Montserrat National Trust, UKOTCF and partners in the Cayman Islands, UK and Belgium. We update on *EcoPlay*, featured in the previous issue. We also tell an interesting story of a link that UKOTCF facilitated between Montserrat and the Falkland Islands, resulting from the efforts of one of our *Adopters* in another role.

In the next issue, we hope to focus on some of the individual *Wildlife Homes* and *Adopters* who are participating in the project, introduce some of the other specialists who are helping and reports on their visits expected over coming weeks, together with items on some of the related work.

We are very grateful for the many kind and encouraging comments from people welcoming the first eleven newsletters. We hope that you enjoy this one too. Comments are always welcome.

Please feel free to show or forward these newsletters to others. If anyone sees these and would like to be added to the circulation list, please send your email address to m@pienkowski.org. Earlier issues can be accessed at: https://www.ukotcf.org.uk/newsletters/. For more information on the project, the main contacts are:

Dr Mike Pienkowski & Mrs Catherine Wensink, UK Overseas Territories Conservation Forum: m@pienkowski.org cwensink@ukotcf.org . See also www.ukotcf.org.uk. Mrs Sarita Francis, Montserrat National Trust: mnt@montserratnationaltrust.ms

Two of the subspecies found only on Montserrat.

Left: Forest thrush *Cichlherminia lherminiea*

Right: Ground lizard *Ameiva pluvianotata pluvianota*

Photos: Dr Mike Pienkowski

Adopt a Home for Wildlife team – our botanist: UKOTCF Voluntary Conservation Officer Maddie Heap

We are very pleased to welcome a new Voluntary Conservation Officer, Maddie Heap. She is helping to set up the project on *Adopt a Home for Wildlife* (DPLUS155) in Montserrat (see following pages).

Maddie graduated with a BSc in Biology from the University of Bristol and completed an MSc in Global Wildlife Health and Conservation, also at the University of Bristol. Her MSc research explored the impacts of different grazing livestock systems on biodiversity.

Maddie's research interests include entomology, plant science and the relationships between plants and animals. She already volunteers at the University of Bristol Botanic Gardens and Tortworth Arboretum, and has carried out fieldwork as a research assistant on the Dwarf Mongoose Research Project in South Africa.

She has also been part of the Bath Royal Literary and Scientific Institution public engagement programme, leading and assisting workshops and providing support to young learners in challenging learning situations with reference to STEM subjects.

Currently she works towards improving the environmental health of Bristol as an Environment Officer.

Maddie responded to our advert for a volunteer to help, and rapidly arranged to spend 6 weeks in Montserrat in January-February. She worked very effectively with the Project Officers in Montserrat and remotely with UKOTCF and Species Recovery Trust personnel in UK to test the survey methods and get these started on several of the Wildlife Homes. Back in UK, Maddie has been drafting management plans for these Wildlife Homes, and will continue to work voluntarily on the project. Some of the following articles say more about aspects of this work.

UKOTCF and MNT are very grateful for Maddie's continuing contributions.

Maddie's work with the Project Team: Working towards a future of Montserratian citizen scientists

First impressions of Montserrat

Maddie writes: Montserrat is stunning. My first observation, in my deliriously tired state being driven from the airport to the guest house was how green and lush the landscape was. All the plants grow so tall and with such vigour, and it was amazing to see tropical fruits like pineapples, guava, avocados and mangoes growing in gardens. It was also my first taste of island life and I couldn't get over the views of the Caribbean sea from the road.

The peace, tranquility and slower pace was a very welcome change from city life in the UK. On many occasions I would have the beach to myself. It was remarkable to enjoy the warmth of the Caribbean climate without the tourism, sun loungers and parasols. Usually a compromise is required!

It also struck me how friendly a place it is and thought it nice that you wouldn't pass someone without greeting them. I found everyone to be so welcoming, kind and generous.

Survey techniques

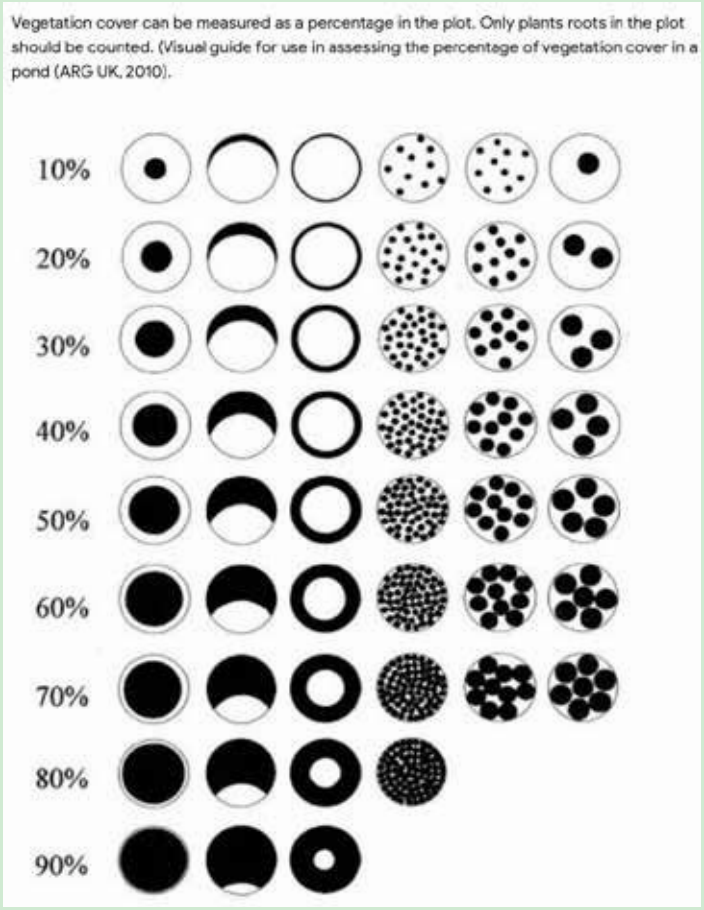
Maddie and Catherine here outline the survey techniques.

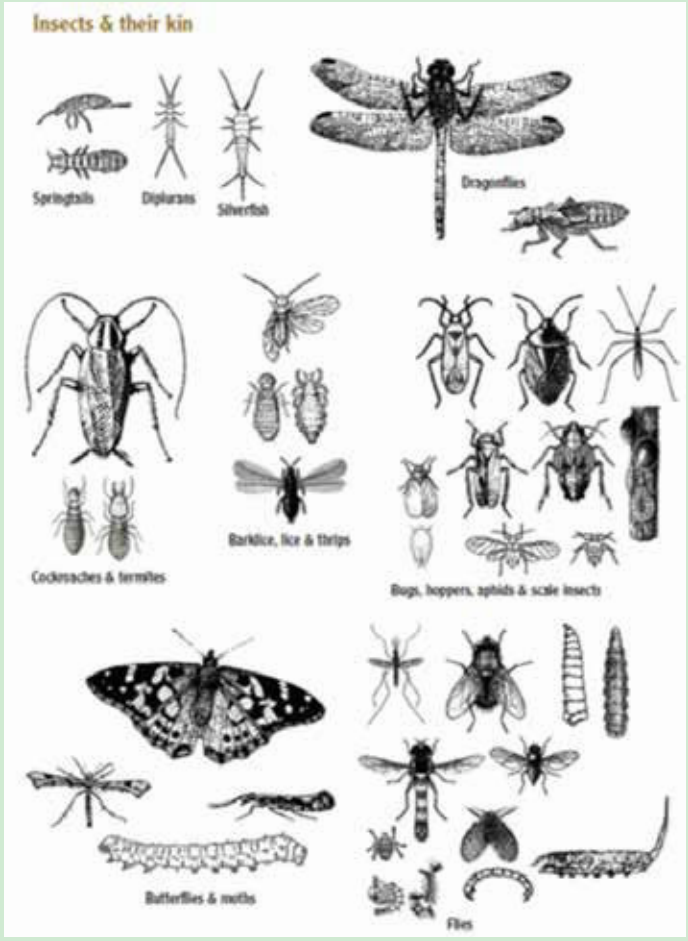
Valuable biological research does not have to complicated. It doesn't even have to be carried out by technical experts or trained scientists. In fact, across the world, those with relatively little training can make a valuable contribution towards our understanding of the natural world. This is widely known as 'citizen science' and can produce a lot of meaningful data which we can then interpret to make decisions on how best to conserve nature.

The surveys we are undertaking as part of this project fit very well within this movement. Methods can be undertaken by anyone even with limited experience or technical knowledge. After all, the project aims to empower people to do something positive for the environment.

They are based on techniques developed elsewhere, but tailored to Montserrat. For each site, two surveys are being conducted: a vegetation survey and an invertebrate survey.

One of the Project Officers, Ajhermae White, carrying out a vegetation survey at one of the Wildlife Home sites. Photo: Maddie Heap





Vegetation surveys

The *Wildlife Homes* vary greatly in size. Where they are quite large, they are divided into zones of roughly equal sizes for consistency. Within these sample areas, 10 random Global Positioning System (GPS) points are generated. Random points are used to avoid bias and for simplicity so that repeat surveys can easily take place with minimal equipment. Google maps system (or similar) is then used to navigate to each exact GPS point. In our surveys we measure out a 5m radius around each point with a tape measure. Within this circular plot, all vegetation is identified, photographed and recorded. The percentage cover of each species is also noted.

After the start-up with Maddie, at the moment Project Officers are carrying out the surveys. Most have some experience in this. However, we are developing a system of identification with information gathered to make it easier for future citizen scientists to carry out surveys also.

Insect surveys

The invertebrate survey method is based on the techniques explored by a large project in the UK, Open Air Laboratories (OPAL) which formed the Bugs Count Survey. The Project Team includes an invertebrate conservationist, Vicky Wilkins who has been making suggestions and providing assistance. Invertebrates cover many groups all requiring their own micro-habitats. Many of these invertebrates are carrying out important roles within the ecosystem: for example, pollination, nutrient recycling, as well as food for other animals. The survey includes a search over a period of 15 minutes for invertebrates on soft ground surfaces, human-made surfaces and on plants. A simple biological key is used to identify the invertebrate by each group and the number is recorded in a tally chart.

We established early on that the best time to conduct these surveys on Montserrat was early in the morning. So, armed with plenty of coffee, the Project Team has been sifting through the undergrowth looking for some of the islands' most secretive residents.

A very important aspect of developing these techniques is to enable surveys to be repeated easily, with readily available equipment.

Some results are available, but have yet to be analysed by the team. We look forward to updating you in later issues of this newsletter and on social media.

What are we doing with the data? Management planning

Management plans are being developed for each of the sites. These plans include the aims and objectives of the site management, a summary of the surveys, a description of the site and ownership, a risk assessment and a work programme. Results of the survey and consultation with the owner or manager of the site will form the basis for recommendations and objectives set out in the management plans.

The workshop

On 16th February 2022, a workshop for *Adopters* was hosted at Montserrat National Trust. This was an opportunity to bring together the project team, *Adopters*, friends and interested parties to meet and mingle, learn more about the project – current and future stages – and ask questions. Collaboration is integral to the project, to ensure *Adopters* are happy with plans, and that everyone is engaged in the project and learning from each other. Project officers hosted the session and gave presentations on survey techniques, invasive species, propagation and what plants are available to *Adopters* at the Montserrat National Trust plant nursery. More workshops on various topics will be held throughout the project.

Project Officers' Reports

Every month, the Project Officers, coordinated alternately by the Field Project Officers Elvis Gerald and Ajhermae White, produce an informal report to keep the rest of the team up to date. These reports, which generally relate to the previous month, contain a great deal of interesting information, and the Project Officers have authorised the Editor and Joint Team-Leader to produce this set of extracts below.

Report 1 (December 2021)

Just a few short notes on activities conducted over the past month:

Review of contract protocols read

Project contract signed by MNT

Work-plan developed for Work-experience Intern

Meeting held to discuss work-plan for Project Officers

Work-plan shared with Project Officers as well as Intern.

Weekly supervision of Intern undertaken

Contribution to field work by intern with Mountain Chicken Recovery Project

Contribution to bird count by intern with Department of the Environment

Research of native plants and scientific name by Intern

Forms designed for the collection and tracking of project progress

Minutes recorded for inaugural meeting along with first meeting of Project Officers and Project Leads

Weekly meetings held

Profiles of each Project Officer and Intern drafted and published in Newsletter *Saving Our Special Nature of Montserrat*

Review of criteria for *Adopters* and *Wildlife Homes*

Respond to enquiries on the project for potential *Adopters*

Options for equipment explored and followed up

Propagation of Plants

Local name	Scientific name	Propagated	Date of propagation
Muaby	*Colubrina elliptica*	100	9-Nov-21
Coffee	*Coffea arabica*	93	29-Nov-21
Cocoa	*Theobroma cacao*	69	29-Nov-21
Lignum vitae	*Guaiacum officinale.*	140	29-Nov-21
Windmill palm	*Trachycarpus fortunei*	39	2-Nov-21
Scarlet jungle flame	*Ixora coccinea*	49	17-Nov-21
Sweet basil	*Ocimum basilicum*	29	18-Nov-21
Tarragon	*Artemisia dracunculus*	38	19-Nov-21
Pribby	*Rondeletia buxifolia vahl*	34	20-Nov-21
Red Mulberry	*Morus rubra*	12	21-Nov-21
Flamboyant	*Delonix regia*	23	26-Nov-21
Velvetleaf	*Cissampelos pareira*	12	27-Nov-21
Peruvian ragweed	*Ambrosia artemisiifolia*	43	28-Nov-21
Candyleaf	*Stevia rebaudiana*	32	5-Dec-21
Boxelder maple	*Acer negundo*	8	11-Nov-21
	Total	721	

Report 2 (January 2022)

First Day of field Visits

On 7th January, project officers Elvis Gerald and Delmaude Ryan conducted field visits to some current and potential adopters to get familiar with the sites.

Pictures from the Montserrat National Trust Nursery

Dwayne Hixon at Belham River Mouth, Old Road Bay:

The project officers noted that there were tall castor plants to the east of the pond that could be replaced by some native plants. In the pond, cattails are growing in clusters and spreading. One of the clusters were large and was occupying a significant portion on the pond. A section of this cluster can be removed. Four domestic Muscovy ducks were also in the pond swimming together. During this visit, two migratory ducks were also seen in the pond.

Cattails growing in a large area of the pond

Cork Hill:

The land in the Cork Hill village has many invasive Java Plum trees which is why it would be good to introduce native trees back into the area.

Java plum trees in Cork Hill

Other Current Adopters

On this day (7th January) the project officers visited also the land of the Cork Hill Reunion Committee (see above) and of Tim Orton. Some visits were made to prospective new Wildlife Homes.

Second day of Field Visits

On 11th January, project officers Ajhermae White, Elvis Gerald and Delmaude Ryan visited five potential adopters.

Cherise Aymer at Lawyers Mountain

The first stop was at a residential property in Lawyers Mountain

The area of dry forest in Tim Orton's property that houses the Mountain Chicken enclosure

owned by Cherise Aymer. This property is near the boundary of the Centre Hills Forest Reserve. Cherise was the first person to build her house in this area. During the visit to her house, Delmaude gave Cherise an introduction to the project, then Ajhermae filled in an online application form for Cherise to be an *Adopter*. After this, the three project officers took a look around the yard. At this time Elvis noted at least 4 different plant pests, including: Croton scale affecting the croton plants, citrus aphids affecting a citrus plant and white flies and a scale insect *Icerya seychellarum* affecting a spice guava tree. There was also Black Sigatoka (a fungus) on a young banana tree. Elvis advised Cherise to use soapy water to treat the pests and to treat the Black Sigatoka with a fungicide.

The project officers noted that there were many fruit trees

Above: Croton Scale on a croton plant in Cherise Aymer's yard

Above right: Citrus aphids on the a citrus tree in Cherise's yard

Right: Icerya seychellarum *on a spice guava tree in Cherise's yard*

Black Sigatoka affecting a banana tree in Cherise's yard

planted closely together on her property which provided a good environment for the numerous pests to thrive. Cherise was advised to remove a few trees so that the others would have room to grow and to prevent the pests from affecting the trees.

Veta Nicholas in Lawyers Mountain

The next visit was to Veta Nicholas' property also in Lawyers Mountain, directly above Cherise Aymer's property.

The original vegetation on Veta's property was cleared in October 2019, and her house began construction in January 2020. Veta is currently landscaping the yard.

Veta showed the project officers around her property and the trees that she wanted to plant around her property. She was interested in advice on where to plant the trees. The project officers noted some shrubs that were attracting a large number and variety of butterflies (this shrub could possibly be Siam weed). Veta had also planted a few crops; therefore, she was advised not to totally remove the shrub that was attracting the butterflies so that she would have an abundance of pollinators. Ajhermae completed an application form for Veta to become an adopter.

Other potential adopters

The project officers visited Carol Osborne to view the area of Cassava Ghaut that she is maintaining, particularly in a specific area of the ghaut.

A visit was made to the *EcoPlay* land and the project officers had a look at the Pribby *Rondeletia buxifolia* that was planted on the border of the land to be used as a hedge.

After this, the project officers went to the future Government House.

Above: One of the young Pribby plants planted at the boundary of the land designated for the EcoPlay facility
Below: The entrance of the Governor's future residence

Other project activities

Antwone Sinclair continues to assist with the insect husbandry for the Mountain Chicken Recovery Programe and he has also been planting seeds and maintaining seedlings and slips in the propagation unit of the Montserrat National Trust.

To conclude, the project officers have visited all the present and potential adopters in the south of the open part of the island. More field visits will take place to view the properties in the north. Schedules will be created for the officers to regularly visit each property for the duration of this project.

Report 3 (February 2022)

Meeting of Project Officers and Botanist

On 13th January, the project officers and the volunteer experienced

botanist, Madeline Heap, met via Zoom to discuss the work-plans. The officers discussed future site visits and field-work that Maddie planned to complete before she left the island. It was agreed that Maddie would email existing and potential *Adopters* to schedule site visits. It was also agreed that the project officers would join Maddie with plant surveys and other field work that had to be carried out, being developed by Maddie, Catherine Wensink and Vicky Wilkins.

Orientation for Volunteer Botanist, Maddie Heap

Our volunteer Botanist was released from her 5-day mandatory quarantine on arrival in Montserrat on Thursday 13th January following our online zoom meeting. Her first test outside was to walk up to the Montserrat National Trust's compound on the guidance of PO Ryan. She was introduced to the Botanic Garden and a general orientation of the site. She was able to get to the Trust without any challenges. Friday 14th January was set aside for orientation of key points of reference for food, emergencies and main working areas in the Isles Bay and Old Road Bay areas. She was also given a drive-through of potential sites on the way to Lookout. Once a driving permit was issued, Maddie and PO Ryan, drove through these areas, with Maddie driving on her own in the afternoon through the Salem area back to her accommodation. Maddie was able to explore areas on her own over the weekend. Maddie also was introduced to staff of the Montserrat National Trust.

Field Visits

On 14th and 16th of January, project officer Elvis Gerald visited two potential adopters.

Norman Cassell at Olveston

Elvis Gerald visited Norman Cassell on 14th January. Mr Cassell spoke about a number of issues and ideas he had pertaining to the project and voiced his interest and need for technical support. The land area is owned by Mr Cassell and is about ½ acre in size. It is situated next to a ghaut. The area close to the ghaut is eroding due to heavy rain fall and Mr Cassell is in the process of making a retaining wall out of stones to protect that area. Elvis also suggested he plant some native trees as well and razor grass to hold the soil together from erosion or create riparian buffers along both sides of the ghaut since he has permission. He is also interested in rearing some birds, growing native and endemic trees, and operating an aquaponic system in the area; he is interested in making the area a tourist attraction. He welcomes the project officers to visit his site at any time. An online application form was then filled out for Mr Cassell to be an *Adopter*.

Javan Sweeney in Mongo Hill

The next visit was to Javan Sweeney's residence in Mongo Hill on 16th January. Mr Sweeney indicated his interests and that he would like technical support in these regard. He is also interested too in planting native trees to provide nectar and pollen for bees. He currently is in the process of establishing some dragon fruit *Selenicereus undatus* plants in the area. An online application form was then filled out for Mr. Sweeney to be an *Adopter*.

Discussion with Dwayne Hixon

On 17th January at Old Road Bay, Dwayne Hixon was introduced to some of the project officers, Delmaude Ryan, Ajhermae White, and botanist Maddie Heap. The officers had a conversation with Dwayne about phase 2 of the AHW project and explained the next steps that would be carried out. After this meeting, the officers obtained a list of plants that are in Old Road Bay (from a previous plant survey) and some drone footage of Old Road Bay from the Department of Environment. The plant list will make the plant surveys very easy because it will help with plant identification.

Field Visits continue

On 18th January, the project officers, along with Maddie, visited other possible sites. During the visit, the project officers introduced Maddie to names of the local fruits and trees in the area,

The field trip ended at Lookout at another property owned by Elvis Gerald where Madeline was introduced to more local fruit trees and a taste of some of the fruits in the backyard garden.

Field visit to Tim Orton's dry forest at Garibaldi Hill

On 19th Jnuary, project officers, along with Maddie, visited Tim Orton's home and his dry forest. We had some interesting conversations on his porch before we went into the dry forest. Tim indicated that he would love for the dry forest to remain forest and have it protected for many years to come. He also indicated that he wants to continue to plant native and endemic trees in his forest and get rid of the invasive plant species. Below is a list of native trees Tim can plant in his forest.

Common name	**Scientific name**
Spanish cedar	*Cedrela odorata*
Lignum vitae	*Gaiacum officinale*
West Indian mahogany	*Swietenia mahagoni*
Montserrat pribby	*Rondeletia baxifolia*
Pepper cinnamon	*Canella winterana*
Fiddlewood	*Citharexylum fruticosum*
Trumpet bush	*Tecoma stans*
White cedar	*Tabebuia pallida*
Birches	*Myrcia splendens/Eugenia* spp
Barbados cherry	*Malpighia emarginata*
Sea grape	*Coccoloba uvifera*

As plant identification continues at Tim's property, the list of plants that can be planted will be proposed.

Pictures of Tim Orton's home and dry forest

Field visit to Cork Hill Reunion plot

On 20th January, project officers Ajhermae and Delmaude, along with Madeline and Antwone, visited the Cork Hill Reunion Committee plot. During this visit, Maddie and Ajhermae got familiar with the area that is covered by the project (cricket field and the nursery school, maintained by the Committee). Madeline also got the opportunity to learn about the main invasive species in the area, the blackberry tree.

After this, the group went to the entrance of the Pipers land donation to Montserrat National Trust in Friths to get an idea of the location of the land. Rain prohibited exploring the land by foot.

Field visit to the Governor's future residence in Olveston

On 21st January, the project officers, along with Maddie and Antwone, visited the Governor's future residence. We observed a few invasive plants on the property: neem trees *Azadirachta indica*, Clammy cherry *Cordia obliqua* and a few acacia shrubs. On the plot of land adjacent to the house, the Governor indicated that some of the land will be used for a parking lot and he wanted a kitchen garden in the area below the parking lot. The team recommended that a border to separate the parking lot with some native plant species such as a pribby hedge would attract wildlife to the area of the garden. He was also interested in establishing a herb garden with herbs and tea bushes. The team indicated that the herb garden could be established in an area below the swimming pool. The team also suggested that the tall pine tree (New Caledonia pine tree) in the front of the property be removed and replaced with the Montserrat orchid *Epidemdrum montserratense* in its place, creating a centre piece of orchids, *Heliconia* and palm with a water feature.

The team also suggested that the *Ficus* hedge be removed and replace with the Montserrat pribby *Rondeletia buxifolia*. At the border of the land, close to the edge of the cliff, the trees should be pruned and razor grass *Scleria secans* should be planted to hold the soil in place to prevent further soil erosion.

Pictures of the Governor's future residence

Plant Surveys

On 26th January, Antwone and Maddie started carrying out a plant survey at Tim Orton's property. They were later joined by Ajhermae who assisted in some plant identification. The team of 3 took a break while Maddie printed a map of the area at the MNT offices. When she returned, the group consulted with Tim about the boundaries of his land to see if the points that were being used were useful. After this consultation, it was decided that Maddie had to obtain a new set of coordinates (from Catherine) to carry out a survey that would be more useful to the project.

On 28th January, Antwone, Maddie and Ajhermae revisited Tim's property with a new set of coordinates to carry out the plant survey. Ajhermae left early due to other obligations.

On 29th January, the project officers and Maddie visited Old Road Bay to carry out a plant survey at Belham River Mouth. However, the golf course was occupied, so that the survey could not be carried out. Therefore, the officers made a visit to the Scott's residence in Old Towne, and provided some advice, using the opportunity to encourage the use of more endemic plants in plans for growing more plants on the property; and visited the Pipers plot to determine whether the plant survey coordinates were accessible. During the walk into the Pipers land, at Lower Friths, many plant pests were seen. It was determined that new coordinates were needed to carry out the survey in this land.

Propagation

As the MNT propagation unit was under repair during this period, no new plants were propagated. However, a note on plants of interest was shared with the propagation team. Dwayne was interested in having some flamboyant trees replanted on the lot. These were a feature of the old golf course. He informed that he had planted a few of these trees but they were inadvertently destroyed during a clearing by the Montserrat Tourist Board.

To conclude, data collection has begun on some of the lands. Madeline is getting familiar with the native and invasive plants on Montserrat and is guiding on survey methods. All current adopters have been contacted and dates will be scheduled for site visits shortly.

Report 4 (March 2022)

Visit to Norman Cassell's Land

On Thursday 10th February, Elvis and Maddie visited Norman Cassell's property. At this location, Norman plans to have a tourist attraction, similar to a botanical garden and accommodation. Some of the features he plans to have incorporated into this land space include fruit/vegetable farm, a botanical garden, features for wildlife and a condominium. Ajhermae joined part-way through the visit. Norman gave a tour of his land and outlined his plans for the area. A deep waterway (ghaut) runs through the edge of his land. The edge of his land is the border of a dry forest habitat, which he explained the MNT was in charge of and would like to plant more native trees in the dry forest. Mr Cassell plans to get rid of the invasive plant species and plant more native and endemic species on his plot. He currently has Lignum Vitae *Gaiacum officinale* at his home.

An area of Norman's land where birds have been visiting

Invertebrate Survey

On Saturday 12th February, the team split up to conduct invertebrate surveys. Maddie and Delmaude went to Old Road Bay and Ajhermae and Elvis went to the Governor's future residence. Various types of insects were recorded, such as at least 2 bee species, butterflies, flies, ants and spiders. Maddie took the results of both surveys and uploaded the data.

European honey bee Apis mellifera *on Japanese* Euphorbia *at the Governor's future residence*

Workshop Preparation

Madeline sent invitations to all present and future *Adopters* to attend the Adopters Workshop. In the meantime, she and the project officers prepared their presentations, either written document or on a PowerPoint presentation.

Adopters Workshop

On 15th February at 4:30 pm the workshop commenced. There was no electricity at the beginning of the workshop. Notwithstanding, Delmaude began the introduction to the workshop. During this time, the electricity returned. Next, Madeline gave some information on the work that she has done while on the island and what work she will do for the project when she returns to the UK. After this, Ajhermae gave a presentation on the plant surveys that were conducted and some of the findings. She also gave some information on invasive, introduced and native plants that were recorded during the surveys. Next, Elvis gave a presentation on the invasive plants that can be found on Montserrat. Antwone then gave some information on the work that has been done in the propagation unit and the plants that are available to adopters.

The workshop ended at 6 pm and, after this, the attendees and presenters had refreshments and further discussions about future activities for the project. The team also had an opportunity to express their thanks and well wishes to Maddie, Volunteer Botanist, whose stint on island ended later that week.

Plant Identification at Tim's Dry Forest

Tim Orton had expressed his desire to know how to identify the plants in his forest. He also wanted to know which ones were invasive and native so that he would know which plants to remove from the area. Therefore, on 17th February Delmaude, Antwone, Maddie and Ajhermae went with James "Scriber" Daley to identify the plants in Tim's forest. We also welcomed the presence of another intern, Alecia Allison at the MNT to be part of the activity. As the team arrived, Tim greeted them on the driveway and asked Scriber to identify the trees along the driveway. After this, the team entered the lawn and the forest and along the way Scriber gave the common names, local names and family names for numerous plants.

Scriber, Ajhermae, Tim & Maddie at Tim's

Insect survey at the MNT Piper's plot

On Saturday 26th February at 07:35 am, Delmaude, Elvis and Ajhermae carried out an insect survey at the MNT Piper's plot. During this time, ants, grasshoppers, spiders, scale insects and flies were recorded. There was not a wide variety of insects on the ground during the observation. Also there was a lack of flowers in the forest, so it was quite hard to conduct the insect to flower ratio.

Plant survey at Governor's future residence

Immediately after the insect survey on 26th February at 09:00 am, the team of 3 went to the Governor's residence to conduct the plant survey. This went very well and the team was able to complete all 10 points. Pictures were taken of the few unidentified plants. Some sample points were very near to the cliff's edge, so the team listed the plants from a safe distance.

Plant Research

After each plant survey activity, such as at Old Road Bay, Tim's forest walk-through with Scriber and the plant survey at the Governor's residence, Ajhermae spent many hours conducting plant research to compile the list of plants in the area and to find the correct common name and scientific name of each plant. Research was done using books from Antigua and St. Kitts, the Biodiversity of the Centre Hills document, Google lens, an online database of plants in St Lucia, the native plant books from the MNT and the Montserrat ethnobotanical book *Potions, Poisons and Panaceas*. Some plants were not able to be identified to species level. Ajhermae also consulted with other people who work in the environmental field to identify plants. Delmaude and Ajhermae attended a one-hour training on how to use the *iNaturalist* mobile application to help with the plant identification. The Montserrat *Hidden Histories* Project has given us space in supporting plant identification on the *iNaturalist* platform where we can upload plants for identification. Ajhermae and Delmaude are using the app.

More plant research will be done to identify as many plants as possible, then documents would be submitted on the plant survey results at the Governor's future residence and the plant list of Tim's forest.

GIS GPS, Drone Mapping Workshop

Project Officers Ajhermae, Elvis and Delmaude, along with Antwone and Maddie, all attended the two-day workshop on GIS, GPS, and Introduction to Drone Mapping on 16th & 17th February 2022. The team was exposed to the use of QGIS, loading vectors, navigating the map canvas, creating new vector data symbolization and labelling on Day 1 and, on Day 2, an introduction to the Terrasync software when using the Tremble along with the GPS. The team engaged in an outdoor exercise around the Botanic Garden at the Trust to include the EcoPlay Site. We also learnt how to load the GPS points into QGIS as well as how to layout and export the map. The session ended with an introduction to the drone mapping and seeing first-hand the set-up of the drone used at the GIS Unit. This we found was very useful to supporting the *Adopt the Home for Wildlife* programme.

Other Support

Antwone worked along with Maddie throughout her visit during days when Project Officers were not available to assist with vegetation surveys at Tim's and at Dwayne's. The project also continues to support wildlife with the assistance of Antwone to the Mountain Chicken Recovery Project, including conducting surveys of tree-frogs and assisting weekly at the insect facility.

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Invertebrate Survey

On Saturday 12th March, Ajhermae and Elvis went to Tim's residence at Isles Bay at around 7:30am to conduct an insect survey. Various types of insects were recorded, including two types of scale-insect species, butterflies, flies, ants and beetles. After the insect survey, the team of two made a list of plants that were located at the edge of Tim's forest where he has been planting trees. Delmaude was given the results of the survey to upload the data.

Above: Unknown scale insect on an Ixora *plant*
Below: Crypticerya genistae *scale insect*

Insect Survey at the MNT EcoPlay Park

On Saturday 26th March, Elvis, Delmaude, and Ajhermae went to the *EcoPlay* Park around 7:15am to conduct an insect survey. A wide range of insects were present, including bees, termites, butterflies, white flies, scale insects, damsel fly, moths, wasps, beetles, ants, flies, spiders, grasshoppers, mosquitoes, stink bugs, assassin bugs and worms. The team also observed native bottle bees foraging on a blossoming black birch in the plot, and then a bottle bee hive was discovered in a stink toe tree *Hymenaea courbaril* trunk bordering the plot.

Left: Enallagma coecumon *guinea grass blade*
Right: Icerya seychellarum *scale on* Artocarpus altilis *breadfruit plant*

Plant Identification at MNT Piper's plot and Dwayne's plot

On Saturday 26th March, Delmaude, Elvis and Ajhermae carried out a plant survey at the MNT Piper's plot. Only GPS points 4 and 5 were accessible and were completed. Most of the points were very difficult to reach due to the steep terrain of the land. Following the attempts to survey the MNT Piper's Plot at Lower Firths, the team proceeded to Adopter Dwayne's plot at Old Road Bay to redo 5 GPS points given by Maddie to complete the plant survey.

The MNT Plot in Lower Frith's would require another walk through of the proposed hiking trail with Mappie of the Montserrat National Trust and then re-establishing of new GPS points to inform the plant survey in the area.

Plant Research and Plant lists

Ajhermae has been adding to the list of plants at Old Road Bay, by including scientific names and pictures. This plant list also helps to identify plants in other areas that have been/need to be surveyed. Ajhermae has also been creating a list of plants that are found in Tim's residence. This list will help to identify what should be removed from different locations on the land. Researches for these plants were done using numerous books, documents, and the internet along with consulting other people in the Environmental field. Ajhermae consulted with James Daley by showing him pictures of plants that were recorded during plant surveys. Mr Daley was able to provide the scientific names, family names, local names, or common names for plants. This significantly helped with updating and compiling plant lists. *iNaturalist* is also being used to identify plants and insects recorded during surveys.

Other Support

The MNT's Propagation Unit was recently refurbished, which is welcome support in the ability to propagate a wider variety of plants. Some of the plants propagated were affected by the relocation during the reconstruction of this Nursery, and this will not remain a problem with the new nursery now established. Antwone has been keeping stock of the plants being propagated and the health of the plants. The Table at the bottom of the page highlights the plants we have propagated to date at the time of reporting. The red figures show poor survival due to temporary problems while the nursery was refit to avoid such problems in future.

Antwone has also being assisting with other wildlife support through the Mountain Chicken Recovery Programme. During the month of March, he has assisted on a weekly basis at the Insect Facility where the insects are being bred as feed for the Mountain Chickens and in particular the Tree Frog Surveys.

Antwone (left) conducting Tree Frog Survey-March 2022

PROPAGATION OF PLANTS

Local Name	Scientific Name	Date of Propagation	Starting Quantity	Died	Current Quantity
Broom Palm	Coccothrinax	Mar 13 2022	39	0	39
Flambloyant	Delonix regia	Mar 13 2022	26	0	26
Lignum Vitae	Guaiacum Officinale	Mar 13 2022	96	0	96
White Cedar	Thuja Occidentails	Mar 13 2022	53	0	53
Lantana	Lantana Camara	Mar 13 2022	17	0	17
Cacao Tree	Theobroma Cacao	Mar 13 2022	43	0	43
Mountain Ebony	Bauhinia	Feb 10 2022	32	0	32
Punica granatum	Pomegranate	Feb 13 2022	73	0	73
Fishtail Palm	Caryota	Jan 24 2022	160	43	117
Pribby	Rondeletia Buxifolia	Jan 24 2022	216	0	216
Coffee	Coffea arabica	Nov 29 2021	93	93	0
Windmill palm	Trachycarpus fortunei	Nov 2 2021	39	0	39

A flag goes home – UKOTCF links Montserrat and the Falkland Islands in an important exercise in cultural history

HMS Invincible, the flagship of the Falklands task force, with its Harrier strike aircraft, helicopters and crew are welcomed back to Portsmouth after the liberation of the Falkland Islands 1982. Photo: Royal Navy, OGL v1.0 (https://commons.wikimedia.org/wiki/File:Defence_Imagery_-_45149908_-_HMS_Invincible_returning_home.jpg) (http://NationalArchives.gov.uk/doc/open-government-licence/version/1/), via Wikimedia Commons). Crown Copyright.

The aircraft carrier *HMS Invincible* was the flagship in the war to liberate the Falklands Islands in 1982. Warships in battle fly a huge flag, the battle ensign, when fighting. This is a tradition maintained since the days of sail when it was dishonourable not to indicate the ship's nationality before firing.

Invincible had 3 battle ensigns, and these were raffled to the crew for good causes, on return to the UK from the Falklands in 1982. Tim Orton, an engineer on *HMS Invincible*, was one of the winners.

Mike and Ann Pienkowski met Tim in Montserrat, where he had settled, in 2016. He was already planning to restore the tropical dry forest – a globally threatened ecosystem – on his land. So he gladly accepted an invitation to become one of the first to join the UKOTCF/Montserrat National Trust project *Adopt a Home for Wildlife*.

During one of our visits, Tim explained how he came to possess one of the three battle ensigns of *HMS Invincible*, and asked us to investigate whether some institution in the Falkland Islands would like it.

Through the good offices of UKOTCF's local partner, Falklands Conservation, we contacted the Falkland Islands Museum's Director, Andrea Barlow. She was delighted at being offered the ensign, particularly as they were preparing a special exhibition in 2022, the 40th Anniversary of the Falkland's liberation.

Mike hands over the ensign to the Falklands Islands Government Representative in London, Richard Hyslop.

Planned transportation was delayed for 19 months due to Covid-19 restrictions. However, during the visit in October 2021, Tim presented Mike Pienkowski with the ensign.

Tim Orton, at his home in Montserrat's tropical dry forest, hands the ensign over to Mike Pienkowski for transporting to UK and then the Falklands. Photo (and others uncredited on this page): Ann Pienkowski

We made arrangements to take the ensign to the Falkland Islands Government Office in London, to hand over to the Falklands Islands Government Representative, Richard Hyslop. He would then liaise with the Museum to take it to Stanley in time for the special exhibition.

Everyone is very grateful to Tim for generously donating the ensign to the Falkland Islands Museum.

UKOTCF is delighted that it has been able to make this rather unusual link between Montserrat and the Falkland Islands by helping the transfer of the battle ensign.

Commander British Forces presenting the ensign, on its arrival in the Falklands, to Museum Chairman Richard Cockwell. Photo: Falkland Islands Museum

New project for Montserrat: *From Blue Iguanas to Blue Vervain – Sharing the colonial histories from the UK Overseas Territories*

UKOTCF, working with other partners, has helped secure a grant from a novel fund for more research work in Montserrat, with funding going to Montserrat National Trust. It is a rare case of securing funding for the UK Overseas Territories (UKOTs) from research, rather than conservation, funds.

Funding is provided under the United Kingdom Arts and Humanities Research Council (AHRC) and the Natural Environment Research Council (NERC) as part of the new call: *Hidden Histories of Environmental Science: Acknowledging legacies of race, social injustice and exclusion to inform the future.*

Our bid was put together in the later months of 2021. Originally, we had hoped to include more UKOTs but, as funding limits became clear, we realised that a maximum of 2 UKOTs would allow reasonable funding to be made available to project partners, in particular the territory bodies. The two lead UKOTs are the contrasting ones of Montserrat and the Cayman Islands. However, some elements will bring in other UKOTs, and we hope the project will open further opportunities for Montserrat and other UKOTs.

This collaborative project is led by the UK Centre for Hydrology & Ecology with partners at the National Trust for the Cayman Islands, The Montserrat National Trust, Meise Botanic Garden, Belgium; Leeds Museum and the UK Overseas Territories Conservation Forum.

Background

British colonialist policies have had, and continue to have, significant social and environmental impacts throughout the UKOTs and former colonies. UKOTs are UK sovereign territory; their citizens are UK citizens. They have played a vital role in the UK's history and cultural development; they support important archaeological and built heritage sites and are home to the most globally important ecosystems and species for which the UK is responsible under international agreements such as the Convention on Biological Diversity. Each of the 16 UKOTs has a unique history of control and domination by European colonialists, all of which are connected to the imperialist foreign policy and former colonial powers exercised by Britain across the world. While Britain's forced migration of millions of enslaved people from Africa to the Americas was most destructive between 1640-1807, it extended from the early 16th century, and its impacts are still felt today in legacies of racial inequality. During this period British colonial practices removed cultural artefacts and materials, natural heritage and scientific capital to the UK and other European collections and only now is repatriation of these valuable collections being considered. British colonialism also impacted the UKOTs' environment practices such as deforestation, land clearance for agriculture, and the mass movement and establishment of non-native species both deliberate and accidental, leading to significant impacts on ecosystems.

The establishment of invasive non-native species (INNS) has negatively impacted global biodiversity, human health and economies. INNS interact with climate change, being described as a "deadly duo" by the International Union for Nature Conservation (IUCN), increasing the likelihood of extinction events occurring. However, the mass importation and establishment of non-native species has included species that have had positive impacts. Some introduced species can provide climate regulation and prevent soil erosion, whilst others provide food, textiles and medicines. Medicinal plant use can either involve species brought from their original homelands, or the use of species in the new environment similar to known species

Blue Vervain taken at the Montserrat National Trust Botanic Garden. Photo: Jo-Diaz Tye/MNT

Blue iguana, carrying individual markers from the Blue Iguana Recovery Project. Photo: Dr Mike Pienkowski

from the homeland.

It is evident that human movement, whether free or forced, has had, and continues to have, a significant impact on the UKOTs' unique biodiversity and habitats, and the ability of the local communities living there today to conserve them. The UKOTs form ideal case studies because they are spatially discrete 'island laboratories' acutely affected by INNS and climate change but are also home to plants used for positive impacts such as medicine. This project will focus on the current impacts and the role of colonialism on the UKOTs to understand the historical importance of non-native species in shaping the current cultural and ecological climate on the UKOTs. Through two case studies in Montserrat and the Cayman Islands, the project seeks to address three questions relating to re-discovering hidden knowledge on people, plants and animal species to empower data sharing between the UKOTs and UK.

1. What is the role of colonialism in shaping the current perceptions of children and young people in Montserrat of "weeds and bush" known culturally as medicinal plants?
2. What is the role of colonialism in shaping conservation needs and local views on the endemic blue iguana on the Cayman Islands?
3. How are data and materials from the 16 UKOTs represented in overseas museum and herbarium collections, displays and educational materials? How best can they be shared between the UKOTs and UK to ensure equity in data use in informing education, research and nature conservation?

In answering these questions, we seek to address the loss of cultural and ecological heritage in the UKOTs whilst raising awareness of UKOT museum and herbarium collections, highlighting the lack of equity in funding to UKOTs and offering potential solutions to this.

Project Outcomes

Community engagement and raising awareness on Montserrat and Cayman Islands; datasets and paper (UKOTs); tools and processes for data sharing between UKOTs and UK; Cross UKOTs-UK partnership research opportunities identified.

Project Objectives

Chronicle of environmental history of colonialism (cross UKOTs); datasets on species on Montserrat and Cayman Islands; Interpretation materials and signage; Online UK and UKOTs museum exhibits; Co-developed template on best practice for sharing data across UKOTs, the UK and elsewhere; Creation of knowledge sharing network and catalogue of data and materials from UKOTs.

Key Stakeholders

Our project will work with a range of stakeholders including UKOT NGOs; UKOT government; UKOT scientists; UKOT community (both on and off UKOTs- school children, general public, medicinal plant practitioners, environment officers, farmers and herbalists); UK museum and herbaria curators; UK (global) academics; UK government; UK NGOs.

Success criteria

Increased understanding of Montserratian community members of cultural benefits of medicinal plants; increased awareness of Caymanian community members of impacts of INNS; Establishment of UKOTs-UK Knowledge sharing network; UKOTs aware of and can utilise materials held in UK museum and herbarium collections.

Monty's Messengers and fundraising for *EcoPlay*: update

Montserrat National Trust (MNT) launched officially its new children's group *Monty's Messengers*, with a Kids Fundraising Fun Day. This took place on Easter Monday, 18th April 2022 in the Belham Valley Area (near Old Road Bay). The Fun Day sought to establish greater community cohesion through an entertaining and family-orientated experience, while also raising funds for the *EcoPlay* Children's Park.

Director of the Montserrat National Trust, Ms Sarita Francis, said, *"The Montserrat National Trust is pleased to be once again involved in the lives of children of Primary School age, in a Group known as Monty's Messengers. The concept of Monty's Messengers was developed over 30 years ago, but it was dissolved because of the volcano."*

Ms Francis mentioned also that young children show improved all round performance when they are interacting with nature. *"That is why we are also encouraging the entire population to come on board to assist us with creating a space for children called EcoPlay, where children can engage in activities sponsored by the Trust, our partners and the wider community."*

UKOTCF continues to support fundraising for *EcoPlay* by using its PayPal account to accept UK and US donations. For more information: https://www.ukotcf.org.uk/eco-play-montserrat/

The current phase of *Adopt a Home for Wildlife* project (DPLUS155 *Securing Montserrat's threatened endemic species and natural capital through community-action*) is currently resourced by the following organisations:

UKaid from the British people

OVERSEAS TERRITORIES CONSERVATION.UK

MONTSERRAT NATIONAL TRUST

Partners in earlier phases of the Saving Our Special Nature of Montserrat programme included some of those at the top of page 1, plus:

TREWEEK ENVIRONMENTAL CONSULTANTS