

Saving Our Special Nature of Montserrat

Newsletter 16, June 2024

Foreword



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

Welcome to the 16th 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 and others. The current phase of *Adopt a Home for Wildlife* is now in the last year of its 3-year duration, as reported previously in *Newsletters 11 (November 2021)*, *12 (May 2022)*, *13 (September 2022)*, *14 (March 2023)* and *15 (August 2023)*.

Building on this, and the 2022-23 project *Blue Iguanas to Blue Vervain – Sharing the colonial histories from the UK Overseas Territories*, part of the *Hidden Histories* programme of the UK Research Institute's Natural Environment Research Council (NERC) and Arts and Humanities Research Council (AHRC), as well as earlier projects, Dawin-funded project DPLUS192 *Delivering biodiversity and human well-being gains for Montserrat's sustainable development* (see *Newsletter 15*) has now completed the first of its three years.

In this issue, we complete our series on individual *Wildlife Homes* and *Adopters* in the first phase of the *Adopt a Home for Wildlife* project. In fact, these two are the longest-running sites because they were both in the 2016-18 project which developed an trialled

what became *Adopt a Home for Wildlife* and have appeared in issues of this *Newsletter* earlier than those mentioned above. Although the grant supporting this project ends in September, the intention is that sites in both phase 1 and 2 – and indeed others – will continue. We include also an article following up the invertebrate work of this project.

This issue includes also several articles on work under DPLUS192.

We are very grateful for the many kind and encouraging comments from people welcoming *Newsletters* so far. 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/>.

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Left: A breeding resident at Montserrat: Cattle Egret. This originally Old World species found its own way to the New World, probably via the West Africa to Brazil crossing. See also article on pages 6-9. Below: *Eburia decemmaculata*, a common species on Montserrat - see article by David Clements on pages 10-12.



Meet the *Adopters* of *Wildlife Homes* in Montserrat's *Adopt a Home for Wildlife* project – part 3: our longest term sites

Ann and Mike Pienkowski of UKOTCF visited Montserrat for the first half of December 2022. Much of the time was spent filming and interviewing *Adopters* on their sites (*Wildlife Homes*) – and, subsequently back in UK, editing to make many published videos. Most of these have now been published online, with some updating material from 2024 to follow soon (<https://www.ukotcf.org.uk/key-projects/adoptahomeforwildlife/>; scroll down to Project Updates) and others will follow. MNT is drawing attention to these in social media.

Adopt a Home for Wildlife is a project which aims to protect Montserrat's unique biodiversity, ecosystems and natural capital through community action. It is being led by the Montserrat National Trust on island and the UK Overseas Territories Conservation Forum, which coordinates support from partners. *Adopters* are those local people or groups who volunteer and are accepted to manage an area of land (*Wildlife Home*) within the project. A network of sites across the island is being established where action takes place to improve conditions for biodiversity and, where possible, opportunities for people to improve livelihoods and well-being are provided. Preliminary ecological surveys of the sites were conducted and, with this information a management plan, was developed between the *Adopter* and the project partners. The plans can be updated in the light of further information and experience.

Some of these visits to *Wildlife Homes* and *Adopters* formed large

parts of *SOS Nature of Montserrat* 14 & 15. Those articles covered *Wildlife Homes* 04 (Friths), 05 (EcoPlay), 06 (Lookout Primary School), 08 and 13 on Hibiscus Drive, 07 and 10 on Lawyers Mountain, 12 (Cassava Drive), and as well as the work of the native plant nursery at MNT's botanic garden to supply plants for *Wildlife Homes* and others.

In this issue, we return to our most long-standing *Wildlife Homes*. The *Adopt a Home for Wildlife* project arose from an earlier 2-year project in 2016-18. In the first year of that project, we identified what we now call *Wildlife Homes* as an approach to address some of the key challenges and opportunities of conservation in Montserrat. In the second year, we tested this successfully on a small number of pilot sites with our first *Adopters*. Three of those first sites stayed with us during the following three years while we tried to secure funding to employ local project officers, key to continuing. They became *Wildlife Homes* 01 (Garibaldi Hills), 02 (Belham River Mouth) and 03 (Cork Hill) in the continued new phase of the project. There are a number of videos about these (and a few other pilot sites) from the first phase still available. There are links to these at: <https://www.ukotcf.org.uk/key-projects/sos-montserrat/> and <https://www.ukotcf.org.uk/videos/>.

We have now added new videos on WH01 and WH02 to <https://www.ukotcf.org.uk/key-projects/adoptahomeforwildlife/>; and will be adding more soon.

Wildlife Home 01: Ventana, Garibaldi Hill



Tropical dry forest on Garibaldi Hill from house and garden (All photos by Ann & Mike Pienkowski)

One of the most threatened ecosystems in the world is tropical dry forest. It is also one of the slowest to regenerate after damage. The project – and Montserrat – are fortunate that Tim Orton is the owner of a relatively intact piece of tropical dry forest and, as part of the project, aims to protect, and where needed, restore it. It serves as a great example, and it would be wonderful if other parts of the very limited remaining areas of tropical dry forest on Montserrat could be appreciated and protected, perhaps by the Government as nature reserves. Much of the tropical dry forest around Garibaldi Hill in Montserrat is unprotected and in danger of being cleared for building. Conserving these habitats is needed to protect unique, endemic species and so they can continue to support communities by providing ecosystem

services and socioeconomic value.

Because the ecosystem is naturally dry (and therefore slow growing) and prone to drought (and consequent sapling death), this is one of the most challenging ecosystems to restore – and Tim points out that he will not see the end of the process, but wants to set the process well on the way for Montserratians. Other individuals can help too. Many of the settlements of Montserrat are on what was originally tropical dry forest, probably because this may have been the most comfortable zone in which to live. That means that conditions in many gardens are still suitable for the plants native to tropical dry forest. Therefore, planting patches of native trees and bushes, and allowing natural processes to continue as these establish over longer periods of

time, can be significant contributions to the conservation of Montserrat's special features.

Tim's experimental work is helping us learn the best ways of helping this ecosystem slowly recover. This is novel work, so it provides opportunities for learning and adapting management techniques.

The site is located on Garibaldi Hill, and covers approximately 0.02 km² (or 2.44 hectares). It is predominantly tropical dry forest but the site grades from tropical dry forest to the north and west of the site to lawn surrounding the house.

This site was the first one to join the 1-year pilot for this scheme in 2017. Indeed, discussions between UKOTCF, MNT and Mr Orton just before this were instrumental in developing *Adopt a Home for Wildlife* as an approach to conservation of native species of plants and animals in the challenging situation of an island on which about 2/3 of the land could not be accessed.

Between the lawn and forest is an area of land which has been partially cleared of acacia trees. Mr Orton removed the acacia trees which are an invasive species on the island and were dominating the area. He is keen to work with the *Adopt a Home for Wildlife* project to replace the acacia with native species suitable for the area, with advice from project partners.

The ground at this site is covered in a thick layer (30cm or more) of ash. This has made planting more difficult. Some of the experimental approaches that Tim has already investigated are noted later.

Site Surveys

The site surveys were conducted during February 2022.

Vegetation is mainly short grass and flowers in the part of the property around the building, interspersed by occasional trees. Towards the east, in the denser forested area, the vegetation is mostly woody trees, vines and epiphytes. Some invasive wild tamarind and acacia are present throughout much of the site including the southern boundary.

The prominent plants in the survey are:

Wild tamarind - Invasive- some uses locally

Acacia - Invasive but can be pioneer species

Guinea grass - Planted for soil stability; less invasive varieties

Butterfly pea vine

Loblolly

Logwood

Fiddlewood

Birch - Regional variety; flowers attractive to pollinators; typical of dry forest

Gum tree - Regional variety; typical of dry forest

Mahogany - Regional variety; Strong wood when mature



Young Lignum Vitae



Above: at WH01, Tim Orton has been experimenting with the challenges of regenerating tropical dry forest in areas with a huge thickness of ash covering the older rock and soil. In the cleared area, Tim has been trying all sorts of techniques to allow native plants to survive. He has nurtured several young trees, and noticed that some growing very slowly for several years, have suddenly grown (tall young trees on the right of picture). He suspects that their roots have at last reached through the new ash to the old soil below.

Below: Young trees growing in the shade do better. Invasive species can then later be removed after the native saplings are sufficiently well grown in their shade. For example, Tim has killed this invasive tree (in centre of image below) by ring-barking.

Photos: Dr Mike Pienkowski



The invertebrate fauna at this site is dominated by butterflies and scale insects. The butterflies were recorded on man-made hard surfaces, possibly looking for sources of sodium which is important for their life cycle. They are probably using the flowering trees that are present on the site. There were also a number of flies, again likely to be using the flowering trees. Scale insects are plant feeding bugs that can feed on a range of different plants, some are pest species and can spread plant diseases, although some will be native and even endemic. This group is thriving on the vegetation on this site. Maintaining the varied range of flowering native trees and shrubs will support butterflies, bees and pollinating flies.

Other invertebrate fauna groups were low, some groups are unlikely in dry forest, such as snails and slugs. However, one would expect more beetles, spiders, grasshoppers etc. in the open drier areas of this habitat. Nevertheless, the invasive *Leucaena leucocephala* appears to be dominating the shrub layer and this is potentially limiting the wider fauna, but it will be augmenting the butterflies. It would be good to get a more native shrub layer, if possible, and also look at the management of the grass areas, with the aim of having a more varied habitat structure to encourage a richer invertebrate fauna.



Above: In December 2022, Tim points out to Mike the tiny self-sown seedlings of a range of trees growing in the shade of neem trees planted for shade by the original builder of the house. Neem has its uses but is non-native to Montserrat and highly invasive. Therefore, unless it is needed and well managed, it is best removed. Although Tim uses also seedlings from the project nursery and cuttings, he prefers seedlings because this maximises natural genetic diversity. To allow the self-set seedlings to start, grass-cutting needs to be prevented in the relevant areas.

Below: Tim leaves the native seedlings but removes the neem seedlings.



In March 2024, after a good year for rain, Tim shows Mike the same seedlings, now well grown. Tim plans to give them more space to grow by removing the lower branches of the neem trees but retaining the higher ones to maintain the shade. Eventually, with the native young trees strong and well grown, he will remove the neem trees completely, possibly by ring-barking.

Management

The site owner, Tim, has indicated that he would love for the dry forest (and the adjacent areas of this ecosystem outside his land) to remain forest and be protected for many years to come. He wants to continue to plant native and endemic trees in his forest (and encourage these from the seedbank), and remove invasive plant species which effect the integrity of the dry forest.

So, the means to this objective are to:

1. Identify and remove invasive, non-native species in the tropical dry forest and replace with native species that thrive in the conditions, either from the seed-bank or by planting saplings from the MNT nursery. Gum trees have already been planted.



Seedling Sea-grape trees from the project's nursery at Montserrat National Trust Botanic Garden, in pots at Tim's veranda in December 2022. However, none of these survived when planted out (unlike many other sites). Tim has noted that this species does not grow on his side of Garibaldi Hill, but what it is about conditions there that prevent this is not yet known.

Other native species appropriate for planting at this site include:

- 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* – but experimental work and observations by Tim have since shown that sea-grape do not thrive in this part of Garibaldi Hill; the cause is not yet known.



The area cleared of acacia will be replanted with some of these species.

2. Encourage more invertebrate fauna

In order to try to give his latest young plants in the open (left) a better chance of survival, Tim is experimenting with planting a tube alongside the stem (close-up below) so that water can be supplied closer to the roots. Tim has found that this works well for some species, including pribby, but is more variable for e.g. cedar.





In the original, cleared, area, Tim's efforts, helped by rain in the last couple of years, have been successful in some trees growing, and producing fruit, like the gum tree below. These seeds and the increasing shade should help new seedlings to establish and grow.



found in tropical dry forest, beetles, spiders, grasshopper species linked to the creation of a more typical plant shrub layer.

Anywhere, tropical dry forest consists of slow-growing species (adapted to low rainfall). The challenges here are exacerbated by the 30cm or more of volcanic ash deposited between 1997 and 2010. Although, after many years, volcanic ash results in rich soil, in its fresh state, it soaks up water without making it available to plants, making it extremely difficult for saplings to establish.

Acacia previously was prolific in certain areas of the site making it more difficult for native species to thrive. The clearance of this area has opened up the area to potential colonisation by invasive species like Wild Tamarind *Leucaena leucocephala* if not managed. We learnt from this that it might have been better to thin the Acacia (which acts as a pioneer species), and under-plant with native species, in order to give the latter shade, which is the state in which these forest trees normally establish.

Young trees growing in the shade, or partial shade, of the forest do rather better than in the open. Invasive species can then later be removed after the native saplings are sufficiently well grown in their shade. For example, Tim has killed a large non-native and invasive tamarind tree by ring-barking, to provide shade for native saplings to develop. The greatly reduced leaf-cover, even before the tree died, allowed the lower storey of young (mainly self-seeded) native trees to thicken considerably. The survival rate for seedlings inside the forest shade has proven very much better; so Tim suspects that ground

Some species, in some situations, do not respond to efforts to help them. Soil-testing is in progress to investigate.



Tim with early-stage compost after some years in the mound behind. The project is acquiring a mobile light shredder to speed and ease compost-production from leaves and fronds.

temperatures may be the main problem with re-establishing areas from bare ground. Hopefully, that means that the survival rate will increase as the older trees start to shade the ground.

Tim noted that the established forest did not seem to have suffered any ill effects from several months of drought. Tim had mentioned previously that 'self-seeders' grew more vigorously than planted ones. Tim noted that: "that was before the months-long drought conditions we experienced over a couple of years recently. Those that became established prior to then are still doing better than the relocated trees from the same period. It would seem that seedlings need more than a single year of good conditions to be able to survive in the longer term. It is important to clarify that I am mainly referring to those in the open, unshaded areas I am trying to re-establish. Those within the shade of the forest have fared much better."

Tim has noted that the rate of growth of saplings which survive is extremely slow for some years but then, in some cases, starts to boost. It seems likely that this occurs when the saplings' roots reach through the new ash to the earlier soil. As a consequence, Tim is now trying a variety of techniques to get water to the roots of new plantings. Some of these, and other approaches are explained in the photos and captions.



Some areas are very steep: we had to move from the video interview site above to prevent falling over. While cutting paths to move on the slope, Tim realised that these could be used as terraces for the trees. This may be applicable also to other steep Wildlife Homes.



Wildlife Home 02: Belham River Mouth, Old Road Bay



Dwayne Hixon looks at migrant shorebirds attracted to the shallow wetland he recreated at Belham River Mouth (now Wildlife Home 02), replacing rare habitat lost by volcanic action and inappropriate human development. From one of the videos noted above. (All photos: Ann & Mike Pienkowski)

Our other long-standing Wildlife Home is at the other extreme from the stable and slow-growing tropical dry forest – highly dynamic coastal wetland. Such ecosystems are subject to rapid change due to storms and (less so in the Caribbean than many other places) tides. Plants and animals tend to be fast growing in the nutrient-rich and well watered habitats. Coastal wetlands are rare in Montserrat, partly due to its high, steep coastal slopes but also because of infilling by volcanic lahars or (as in the case of Pipers Pond) inappropriate built development.

WH02 is located around Belham River Mouth and stretches from Old Road Bay to Isles Bay. The land at this site has been covered and extended into the sea by pyroclastic flows and lahars, most of which were recorded in the period from 1999 to 2006; and a deep layer of ash covers the land. A golf-course existed previously near the Belham River Mouth, close to this site, but this is now under a considerable depth of ash. Alien invasive Australian Pine *Casuarina* colonised the bare ash-

covered ground on the site.

Under the site also is an old stone jetty. As our pilot study (2016-18) was starting, Mr Hixon excavated to find the jetty, and water- shore-birds soon found the water-filled excavations. Mr Hixon also cleared all but a few *Casuarina* trees from the coastal (western) part of the forest, the part he manages. 75% of the site (0.6km²) is a developing golf course. The eastern side of the golf course is scrubby with thick vegetation including Castor Oil plants, Wild Tamarind and Java Plum. To the west, the course is flanked by a narrow stretch of beach and the sea beyond. The west side of the golf course is where most of the small ponds (see below) have been re-excavated in a few places; they lie approximately at right-angles to the coast, and take the form of narrow, twisting creeks – which resemble the natural form.



Above: Part of the golf course, with part of the usual flock of foraging Cattle Egrets.

Below: The excavated old dock, now serving as a bridge over the link between the upper and lower parts of the Belham River Mouth.



Above: Ponds at two different levels in one of the smaller pond complexes.

Below: Towards the seaward end of the large pond.





Pair of American Kestrels taking a break from displaying silhouetted against the sky.



Smooth-billed Anis favour the north-eastern part of the golf course, where they can rest and hide in the bushes but emerge to forage on the grassland. These extended family parties of a species of cuckoo are often heard before being seen: their range of calls is remarkable.

Surveys

The golf course is characterised by flat land and short vegetation, combined with bare ground/ash and interspersed by occasional trees. Castor Oil plants are present in high numbers on the eastern border and, on the site's western border, salt-tolerant Beach Morning Glory thrives.

NATIVE SPECIES

| | |
|----------------------------------|-------------------------------------|
| <i>Euphorbia prostrata</i> | Prostrate Sandmat |
| <i>Grona triflora</i> | Creeping Tick trefoil/Beggarweed |
| <i>Ipomoea pes-caprae</i> | Beach Morning Glory |
| <i>Mimosa pudica</i> | Sleepy Head |
| <i>Phyllanthus amarus</i> | White Chickweed |
| <i>Plumeria alba</i> | West Indian Jasmine or Frangipani |
| <i>Scleria secans</i> | Razor Grass |
| <i>Sidastrum multiflorum</i> | 12 O'clock Broom |
| <i>Trianthema portulacastrum</i> | Desert Horsepurslane, Black Pigweed |
| <i>Vigna luteola</i> | Hairy Cowpea |
| INVASIVE SPECIES | |
| <i>Casuarina</i> | Australian Pine |
| <i>Crotalaria retusa</i> | Rattleweed |
| <i>Cyperus rotundus</i> | Nut Grass |
| <i>Leucaena leucocephala</i> | Tamarind |
| <i>Oldenlandia corymbosa</i> | Diamond Flower |
| <i>Ricinus communis</i> | Castor Oil plant |



Great Egret and Snowy Egret pass each other while both hunt fish near the seaward end of the big pond.

Almost no invertebrates were recorded on hard, man-made surfaces. The recorded invertebrate species elsewhere were mostly butterflies, bees, flies, mosquitos and ants. There were some flowering plants on site, and so records of bees, butterflies and flies reflected this. The presence of grasses and sedges saw some grasshoppers being noted, and also spiders that are probably using the shrubby areas or open bare ground. It is worth noting that the timing of survey and weather conditions may have depressed invertebrate numbers, and a wider diversity of invertebrates may be present. The random points did not fall within the excavated ponds. Site visits by a visiting invertebrate specialist suggests that these are very important habitats. Further investigations of these ponds are likely to reveal high freshwater invertebrate density. Opportunistic site visits also revealed that the site is perhaps more invertebrate rich than the initial survey suggests.

A number of species uploaded to iNaturalist included some interesting fly species. It will be worth further exploration of this site throughout the project and perhaps including more detailed surveys sampling of the excavated ponds and keeping a close eye on these to ensure they are maintained as described above.

The vegetation is very open with a lot of bare ground and mixed vegetation, which is supporting some pollinators, but there are a number of invasive plant species. The soil being next to the coast appears to be rich in species and so perhaps not apparent during a timed survey. More thorough surveys are likely to reveal a much more complex invertebrate fauna at this site.

All invertebrate groups will benefit from increased native plant coverage and habitat restoration work on this site.

The northernmost area includes a bar and club-house building development, related to the golf course. The land around this building has potential for native trees, smaller native shrubs and flowers to thrive. In this zone the vegetation resembles Dry Scrub/Shrubby Vegetation/Dry Thicket. Typical vegetation includes:

Shrubby: *Comocladia dodonaea*, Agavaceae, *Croton* spp., *Galactia* spp., *Acacia* spp., *Malpighia linearis*, *Stigmaphyllon* spp., *Tetramicra canaliculata*, *Melochia* spp., *Jacquinia armillaris*, *Corchorus aestuans*, Cactaceae, *Oncidium urophyllum*.



Common Galinule in one of the smaller pond complexes. Note the enormous toes which allow the bird to walk on soft, and even floating, surfaces.

Dry Thicket: *Cordia* spp., *Bouyeria succulenta*, *Oplonia microphylla*, *Cassine xylocarpa*, *Piscidia carthagenensis*, *Pithecellobium unguisati*, *Pisonia* spp., *Coccoloba* spp., Verbenaceae.

There is also a larger re-excavated large pond in this zone. The site is an important wetland area, regenerated by Mr Hixon's excavations.

Management

Within the UKOTCF/MNT/GoM pilot project, Mr Hixon agreed to remove the *Casuarina* (which both shades out other vegetation and poisons it via root secretions, as well as being unstable in storms), and has done this in the area that he controls. The area is managed as a golf course. Grass will be kept short, and large trees mostly prevented from growing except for some for shelter. This will require continual management to prevent *Casuarina* from recolonising. Based on experience elsewhere, effective management could use cattle, provided that they do not avoid grazing the invasives and do not focus only on native species. This would need to be reviewed throughout. Rough areas and edges of golf fairways can be developed using native vegetation such as shrubs and herbaceous plants, creating important wildlife refuges. Mr Dixon has agreed also to keep or plant, as far as possible, natural vegetation and trees on the greens for both shade and ornamentation and, when an alternative is needed, using non-invasive traditional vegetation. The area is quite exposed and so some discussion is needed to ensure adequate shade is provided, if possible by native trees, for those utilizing the area.

Even in some areas where the Australian Pine has been cleared, other invasive plants have colonised, such as Castor Oil plants *Ricinus communis* and Wild Tamarind *Leucaena leucocephala*.



Green Heron – more often seen as a brief glimpse as it flies away.

The latter two plant species are particularly prevalent on the edges of the site, presenting a risk of invasion further into the site. However, the management recommendation of regular maintenance of the golf course via mowing/ grazing should minimize the risk. Control and clearance of *Casuarina* spp and Castor Oil plants should continue, particularly at the edges. to prevent recently cleared plants recolonising the area. This can be mitigated by planting native species such as Sea Grape and those providing shade (see below).

Dwayne Hixon plans to plant Flamboyant Trees *Delonix regia* as a nod to the old golf course, destroyed by the volcano. This has local support due to the historic significance. Although not native to the Caribbean, *D. regia* is considered an iconic species, found throughout the Caribbean in art, on postage stamps and is the national flower of St Kitts and Nevis. Planting should be in one specific small area and careful management to stop spread will be needed as this species is an aggressive invader of tropical dry forest areas.

The beach is a turtle-nesting location. That is one reason why the building is set back from the beach. Monitoring of turtle activity has recently taken place as part of a project between the Government of Montserrat, Exeter University and Marine Conservation Society, which was planned in part through our pilot project (Darwin Plus Project; DPLUS106). Any lights placed in the area of the new building should point inland, to avoid causing problems for nesting and hatching sea turtles, which forage and nest on Montserrat. We understand that Mr Hixon intends to take this into account. In addition, it is important that any sand moving operations at or near the beach avoid turtle nesting periods. The previously mentioned ongoing turtle project could inform this.

In accordance with the MNT/UKOTCF/GoM pilot study (2016-18), ponds have been re-excavated at the site, providing wetland habitat for migrating and resident water- and shore-birds. The ponds have been excavated at different levels, so that standing water and the invertebrates and plants are available at a range of levels of the water-table. The restoration of the wetland was encouraged initially by UKOTCF and MNT, and then short-term funding from a grant to RSPB (via Darwin Plus), and then continued under MNT/UKOTCF *Adopt a Home for Wildlife*.

The site is an important recreational area which is still being developed. It has mixed uses, including (as stated) a golf course, wildlife watching, coastal walks and a sandy beach with several picnic areas. The management of the wetland area that has



Flock of Cattle Egrets forage, rest and preen on the golf course.

already taken place offers a stop-over for migratory birds as well as resident wildlife. The management plan recognises the uses of the area and wishes of the site-manager and aims to enhance its use by the public and visitors alike. The wishes of the Adopter are well expressed in a series of videos of interviews from the pilot project with some of the project team, viewable from links in <https://www.ukotcf.org.uk/videos/>.

Some improvements to the area for tourism and leisure opportunities, e.g. golf course promotion linked to wildlife in the area and or well-being walks when golf course not in use. The site could benefit from a nature trail and leaflet (possibly as a pdf or online access via scanable QR codes). The leaflet could also address etiquette issues. For example, those involved in looking at nature etc should avoid interfering with golfing activities; some of this could be achieved by early morning visits, which tend anyway to be most productive and comfortable. Similarly, the leaflet could explain to golfers the nature importance of the site, possibly even suggesting names based on plants or animals for each fairway/hole.

The wetlands and recent developments

The restored wetland areas are the main reason that the site was included in the pilot study because of the current rarity of this ecosystem in Montserrat, following both covering by volcanic ash and inappropriate development activities by humans. However, the drier areas are becoming of increasing interest as studies proceed.

Provided from the project nursery at MNT Botanic Garden, native Sea Grapes *Coccoloba uvifera* that are characteristic of dry thickets have already been planted around the wetland area. Other native species appropriate for planting at this site to create Dry Scrub/Shrubby Vegetation/Dry Thicket include: West Indian Mahogany, *Swietenia mahagoni* (also important for shade in exposed areas) and potentially the endemic Pribby *Rondeletia buxifolia*, as a natural border.

The sides of this large pond were initially too steep for most shorebirds to use as feeding areas, and the potential for making these sufficiently less steep were limited because of the greater area that this would require. Nevertheless, Mr Hixon is keen to generate shallower slopes, and this is to be welcomed. At times, the smaller narrow ponds in the golf course are more used by water- and shore-birds

With the ash-soil and rapid plant growth, the ponds that have been re-created tend to silt up. Also, while some degree of cover is important for breeding birds and some species at other times, some of the migrant shorebirds need more sparsely

vegetated areas due to their adaptations to lower predation risks. Therefore, dense areas of Castor Oil plants need to be cleared from around the pond, and dense reed-mace (sometimes called bull-rushes) from the pond, as well as desilting of the ponds are needed to maintain usage by these birds. The management plan concluded that it would probably be best to do this on a rotational basis, so that as wide a range of states of vegetation and silting is available at a variety of levels, at any one time. In a more natural system, this would be the result of weather, sea and other natural processes. Some initial surveys have shown there to be interesting freshwater invertebrates and so rotational management will ensure mixed habitat is maintained continuously for a wide range of species.

The freshwater ponds, following some preliminary assessments, seem to be important habitat for freshwater invertebrates and associated species. Where infilling and vegetation filling are happening, these will need some excavation periodically to ensure these habitats remain viable in wet and dry seasons. When this is done, it must be done with care since Common Gallinules (also known as Moorhens) regularly nest in the reeds. Nests can be destroyed and chicks can be killed if this is not done carefully. Some allowing of vegetation to grow to allow some cover around the ponds should be a priority management action built into the rotational management, with clear areas as part of the rotation also.

This rotational work had started when, in late 2023, severe storms broke through the separation between the sea and the large pond as well as flooding other areas with sea-water. Since then, the ponds have become isolated from the sea again and the sea-water has become brackish. The break-through of the sea and the salt-water intrusion had the effect of a more natural clearing of the excessive vegetation and silt than the human intervention previously envisaged. With time, the waters will become less saline, and the vegetation regrow excessively - until the next storm breakthrough. However, if this does repeat, we will have a rather more natural situation, and probably one less expensive to manage.

Most of the bird species present before the storm are still represented (and all but the first bird photo in this article were taken in this new situation in March 2024), even though their distribution between the pools may have changed. For example, the Common Gallinules were formerly centred in the overgrown vegetation of the large pool, but are now concentrated in one of the smaller pools where similar vegetation has developed. Such a dynamic situation is typical of more natural coastal wetlands and the ever-changing patterns are of interest in themselves.

From Montserrat to Montana – Entomology Travels

by David Clements

Readers of this newsletter may recall that I was lucky enough to go to Montserrat as part of a UK Overseas Territories Conservation Forum (UKOTCF) biodiversity team visit back in July of 2022, at which time I was able to collect and photograph lots of insects and other invertebrates on the island (*SOSNoM 13, September 2022*). On returning home I was faced with the problem of trying to identify the material I had collected, which is less easy than it sounds. The insect fauna of Montserrat is an uneasy composite of native Caribbean species, Central and South American colonists, and invaders from elsewhere all over the world, the latter very often the result of human introductions over the years, whether by accident or deliberately. Sprinkled amongst this diverse mixture are some genuine gems – endemic species which have evolved entirely on the island itself or within some subset of the Lesser Antilles, and which as a consequence occur nowhere else on Earth. Some well-researched and ‘showy’ groups, such as the butterflies or dragonflies for example, are relatively easy to identify although, even amongst these, one needs to keep an eye open for previously unrecorded vagrants or new colonists which may have flown in from the mainland. There also remains the possibility that new and undescribed species, subspecies or geographical races still lurk even amongst the 40-odd butterfly and 17 dragonfly species so far recorded from the island, with at least one of the dragonflies (a *Macrothemis* species) strongly suspected of being undescribed and new to science, as well as two other species which are locally endemic. Less well-studied groups are a different matter entirely, especially when it comes to the many thousands of flies, beetles, wasps, spiders and snails etc which occur everywhere on the island. Faced with a tiny beetle or fly collected from the native forests or volcanic scrublands of the island, for example, it is very difficult to know where to start: the identification literature for the region itself is huge, potentially taking in as it does the vast fauna of the surrounding tropical and subtropical mainlands of Central and South America, let alone the possibility that the specimen you are looking at may actually have originally arrived from Europe, Africa, Asia or even Australia. Where do you start?

Fortunately there is help available. Over many years a number of academic institutions have taken an interest in the entomology of the Caribbean islands and many have mounted expeditions in the past to collect and document their insects and invertebrates.

Several museums and universities in the USA contain important collections of West Indian species and are centres of expertise for the region. One of the most important of these is the West Indian Beetle Fauna (WIBF) project run by Professor Mike Ivie at Montana State University (MSU) based in Bozeman, Montana. This long-running and well-established project has studied the beetles and other insects of the West Indies since the 1990s and has compiled an impressive collection comprising several million specimens from the islands, including Montserrat. In the early 2000s a detailed investigation set out to bring together all that was known at that time about the terrestrial and freshwater invertebrates of Montserrat as part of a larger project to document and evaluate the biodiversity and ecology of the island. Large scale collecting was undertaken over several seasons, concentrating especially in the relatively undisturbed and unmodified native forest habitats of the Central Hills region around Katy Hill but also taking into account the forests of Silver Hills and Soufrière, as well as the habitats of the surrounding lowlands. A subsequent report by Ivie *et al.* (2008) listed some 1,241 invertebrate species from Montserrat, almost tripling the number which was previously recorded prior to 2001 (Stevens & Waldmann 2001) whilst at the same time noting that this must still only be a fraction – perhaps less than 20-25% - of the potential total number. This report also highlighted the presence of many species which were previously either unidentified, clearly misidentified and/or likely new to science. Work at MSU and elsewhere has since increased the Montserrat invertebrate total to over 1,750 species, a number which continues to grow in a comprehensive invertebrate species list which is now being regularly updated for the island. MSU went on to form part of the 2016-2018 project led by UKOTCF and part-funded by Darwin Plus which, amongst other successes, developed the *Adopt a Home for Wildlife* approach on Montserrat. Of these over 1,750 species recorded to date, at least 119 species are known or believed likely to be endemic to the island of Montserrat, with a further 87 or so species confined just to Montserrat and one or two of the adjacent islands. Around 438 of the recorded species are believed to be regional endemics to the West Indies as a whole. New species are being found all the time, especially amongst the beetles which are the main focus of the WIBF project but also amongst other groups including the moths, bees,



The Marsh Labs, Montana State University, home of the West Indian Beetle Fauna (WIBF) project run by Prof Mike Ivie.



The stunning Montana landscape around Bozeman, Montana, where the university is located.



Above: The author at work at the WIBF project, researching the insects and invertebrates of Montserrat.

Below: A drawer-full of Montserrat insects in the collection.



wasps and flies. According to Montserrat fly expert Dr Justin Runyon, an associated alumnus of WIBF, who was on the MSU team visiting Montserrat as part of the 2016-18 project, my own visit alone generated records of five previously unrecorded long-legged flies (Dolichopodidae), together with over 40 species in 23 other Diptera (ie true fly) families, many of which are also likely to be new records.

I was therefore extremely pleased to be able to visit the WIBF project headquarters at MSU in October of 2023 and to spend two weeks in the company of Mike Ivie and his team, exploring the huge collections held at the museum and making use of their extensive library, facilities and expertise. The WIBF project is based in the Montana University entomological collections held in the Marsh Laboratories, a large low-rise building towards the edge of the town of Bozeman, on the outskirts of the main university. There, in a complex which also includes teaching and laboratory facilities, are located several large rooms which are floor-to-ceiling with collection cabinets containing drawer after drawer of insect specimens, all carefully mounted and labelled. While I was there, I was able to compare and identify many of the specimens that I had collected, as well as being able to photograph many of the larger and more conspicuous species which are recorded from the island and held in the collections. As a result of the WIBF project's generosity and cooperation, I was able to image enough of the recorded fauna to be able to begin putting together a basic field-guide to some of the more easily recognised species, a project which I have been working on since I returned and which will continue in 2024 and beyond.



Above: One of the collection rooms at the WIBF project.

Below: Examples of longhorn beetle specimens (*Eburia* spp) in the WIBF project collections.

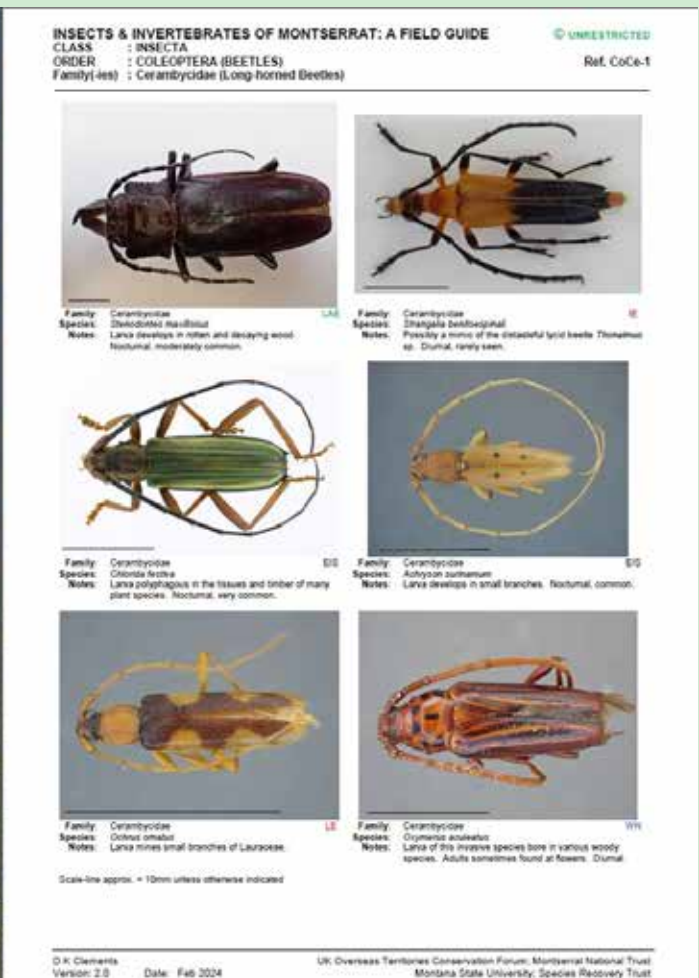
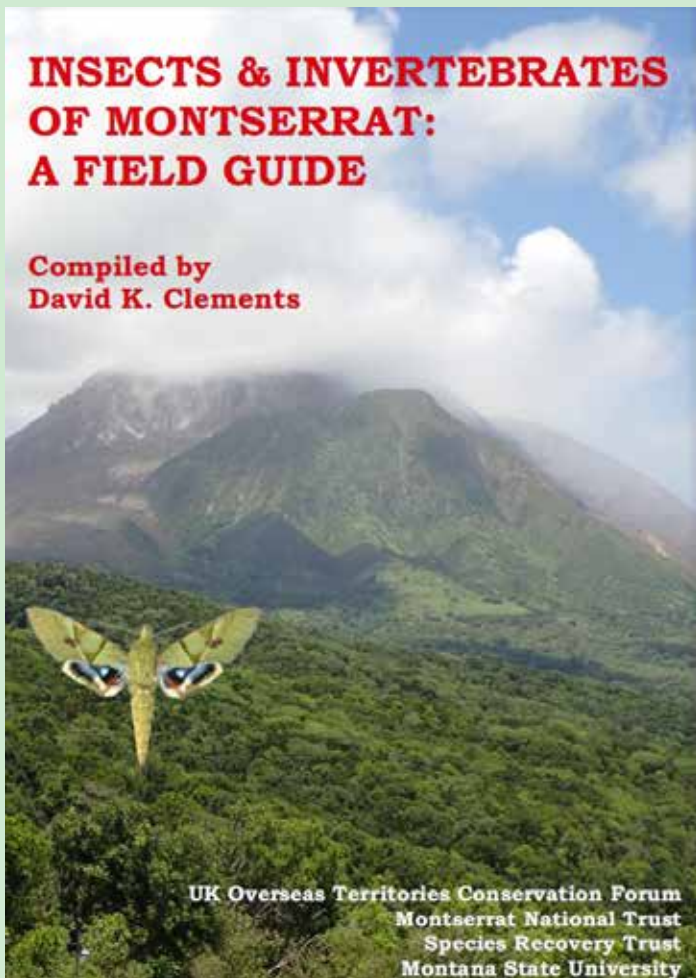


This will eventually be made available in an easily updateable PDF form for use by researchers and conservation staff based on the island, to assist in their day-to-day work of managing and preserving Montserrat's special habitats and fauna.

I am very grateful indeed to Mike Ivie and his colleagues for their hospitality and for making so much of their time and expertise available to me during my visit to MSU. My trip was funded by UKOTCF, partly with Darwin Plus resources, and the UK Species Recovery Trust to whom I am also very grateful. Mike and Donna Ivie very kindly put me up at their house during my



One of the beetle images taken during the visit – *Eburia decemmaculata*, a common species on Montserrat.



Draft page examples from the Montserrat Field Guide, currently in preparation for use on the island.

stay and made sure I was able to commute to and from the Marsh Labs every day even as the weather, as is Montana's wont in October, transitioned miraculously from warm summer sunshine to 20cms of snow in the space of 24 hours!

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Forthcoming visits to help with *Adopt a Home for Wildlife and Biodiversity and Well-being Toolkit*

The preceding articles address parts of project DPLUS155 (*Adopt a Home for Wildlife*) and the immediately following ones DPLUS192 (*Biodiversity and Well-being Toolkit*).

Shortly after publication of this issue, a combined team will be in Montserrat in a series of overlapping visits to work with Montserrat partners in both projects. Mike Pienkowski will be in Montserrat 22-29 June, joined by Catherine Wensink from 26 June (to 6 July) to celebrate with Adopters and other local partners the achievements of *Adopt a Home for Wildlife* and to ensure the continuance of this initiative beyond the forthcoming end of the 3 years of grant support. The later days of Catherine's visit will be concerned mainly with the *Toolkit* project.

They will overlap from about 22 June to 6 July with entomologist Wolfgang Rabitsch (mainly on *Adopt a Home for Wildlife*),

UKOTCF's Jodey Peyton, UK Centre for Ecology & Hydrology's Marc Botham, and Meise Botanic Garden's Quentin Groom and Sofie Meeus (working mainly on the *Toolkit* project).

Shortly afterwards, Leigh Morris (Manx Wildlife Trust and UKOTCF) will make a return visit from 15 July to 6 August to work on both projects. Later in the autumn, his MWT colleague Beth Penhallurik will visit to pursue some of the environmental education aspects of the *Toolkit* project.

Biodiversity and Well-being Toolkit: Sustainable Development addressed as part of new project on Montserrat

The project *Delivering biodiversity and human well-being gains for Montserrat's sustainable development* began in April funded by the Biodiversity Challenge Funds (DPLUS192). Its aims are:

- 1) to develop and publish a framework toolkit which enables biodiversity and well-being to be integrated into physical development. It will include: extensive consultations, and trialling the toolkit to measure benefits;
- 2) to develop a Youth & Education Programme by support to a primary group and creation of a youth group;
- 3) establishment of biological collections on island including herbarium development, data systems and management, citizen science opportunities, natural history collections development, publications and interpretation development on biodiversity and well-being;
- 4) expansion of Montserrat National Trust's botanic garden to facilitate uptake of the toolkit and provide sources of information, demonstrations and provision of native plants;
- 5) communicating and reaching out to the community.

As with most projects, the work began with a review of the work programme and putting in place all necessary financial mechanisms, and completing all the preparatory administration.

The project launch took place at the Montserrat National Trust on 21st June 2023 (as reported in *Forum News* 58, page 11: *Biodiversity and Well-being Toolkit: Sustainable Development addressed as part of new project on Montserrat*). It was attended by about 30 people including a group of Montserrat Community College students, the Chief Physical Planner, Governor and Deputy Premier/Minister of Communications. It was recorded and streamed live on MNT's Facebook page and a permanent post was made on MNT's Facebook social media platform.

Several additional MNT staff have been recruited. Chris 'Virgine' Sealys joined the Montserrat National Trust this year supported by an externally secured grant from the John Ellerman Foundation. Kadine Cabey, an MSc ethnobiologist graduate with an interest in the traditional knowledge of medicinal plants, Sam Paul and J'Shwaun Fenton working on plant propagation and general supporting duties also joined.

Community consultations took place in November with meetings including: a general information session (with general questionnaire) at the Trust offices and one at the Community Centre at Davy Hill; a meeting with the Youth Leadership Group at the Montserrat Secondary School; and a meeting with the Farmers Association. Further consultations are taking place this month with the Youth Parliament. The *Montserrat Heritage Radio Show* continues most Tuesdays and was used to reach out to landscapers and developers to get in touch with the Trust so they could explore how best to consult with them.

Based on the results of the consultations, a series of management options have been developed; using a similar toolkit developed in the UK (by some of the project partners) as a guide. In addition, outline chapters of the framework toolkit have been developed and are starting to be drafted. Chapters include: An Introduction; Global Biodiversity and links to Montserrat; Montserrat's Unique Biodiversity; Montserrat Community Input; Toolkit trials and wider significance for community; Montserrat Natural History Collections; Montserrat Culture & Human Well-being; Monitoring biodiversity on Montserrat; Biosecurity small-scale to big scale; Evaluating Toolkit; Toolkit Products; Biodiversity & well-being management options.

Supplementary to the toolkit project, the Project Team and MNT sought to address limitations in social inclusion as part of the development of a Youth Programme by applying to the Darwin Local grant fund in order to provide for both a youth programme coordinator and vehicle.

This additional project is important because some families of children were not able to provide transport to sessions outside of school time which could have been limiting attendance of those without transport. This makes the activities of the youth programme more accessible to those wishing to attend.

Links with a school on the Isle of Man are being developed by way of follow-up to Leigh Morris' visit last year. It is envisaged that the new MNT education coordinator will work with the Environmental Education officer at the Manx Wildlife Trust to build up a partnership in order to facilitate exchange of information and building capacity, particularly for developing the YUNGA Montserrat initiative.

Montserrat Secondary School visit

In February a visit to the Montserrat Secondary School was arranged to: (1) update the students on the consultations they had responded to and; (2) provide them with a sneak preview of the medicinal plant booklet.

Catherine Wensink provided an overview of the consultations conducted at the Secondary School back in November and shared some of her favourite contributions she has been enjoying reading. When asked about a time they felt connected to nature, inspirational comments from the students included:

"The last time I felt connected to nature is when I went outside and played with dirt and made fake food with plants"

"When I planted my first pepper tree and a couple months later I was eating my own peppers"

"When I am drawing I tend to go outside and lay on the ground to get a sense of inspiration and tranquillity and while doing this I feel as if I am one with nature/mother nature".

A few smiles were seen on the faces of some of the students

which indicated they recognised their own or class-mates words or just enjoyed the responses.

Chris Sealys from MNT provided an overview of the medicinal plants outlined in the booklet and an overview of the importance of plants in everyday lives (see pages 17-20). The students were very knowledgeable about the plants and even provided some additional information on what medicinal properties they had and could be used for.

Rebecca Machin, visiting the island for second time (see pages 15-16) was encouraged by the feedback from the students during her presentation on natural history collections and the importance of documenting our past and present to inform our future. It showed that they were very connected to the nature found around them and that their identification skills were highly developed.

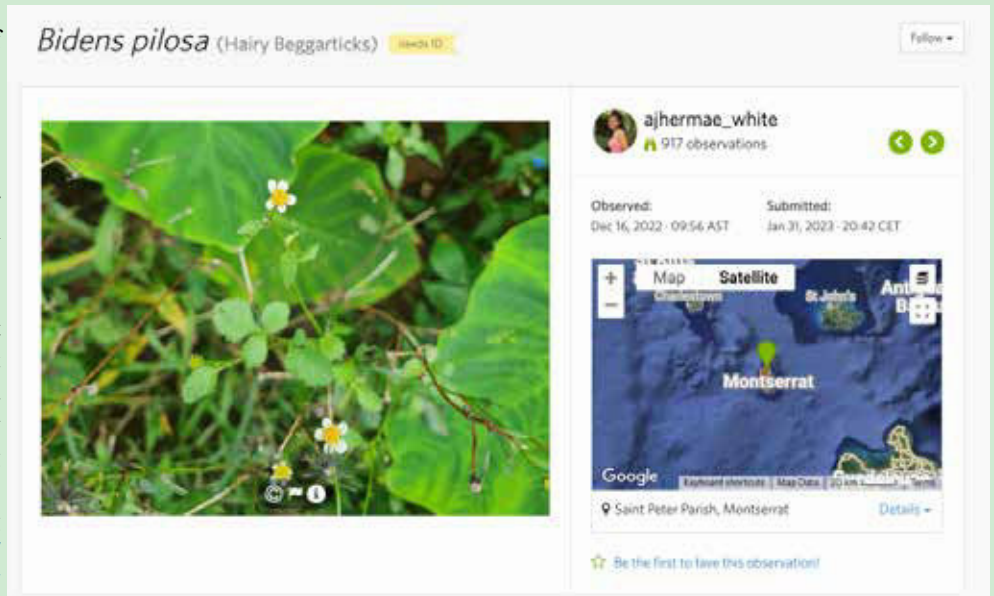
It gave the team a lot of hope for the future of Montserrat's unique environment and the team promised to visit again when they could.

How citizen science can help conservation on Montserrat

by Jodey Peyton, UKOTCF

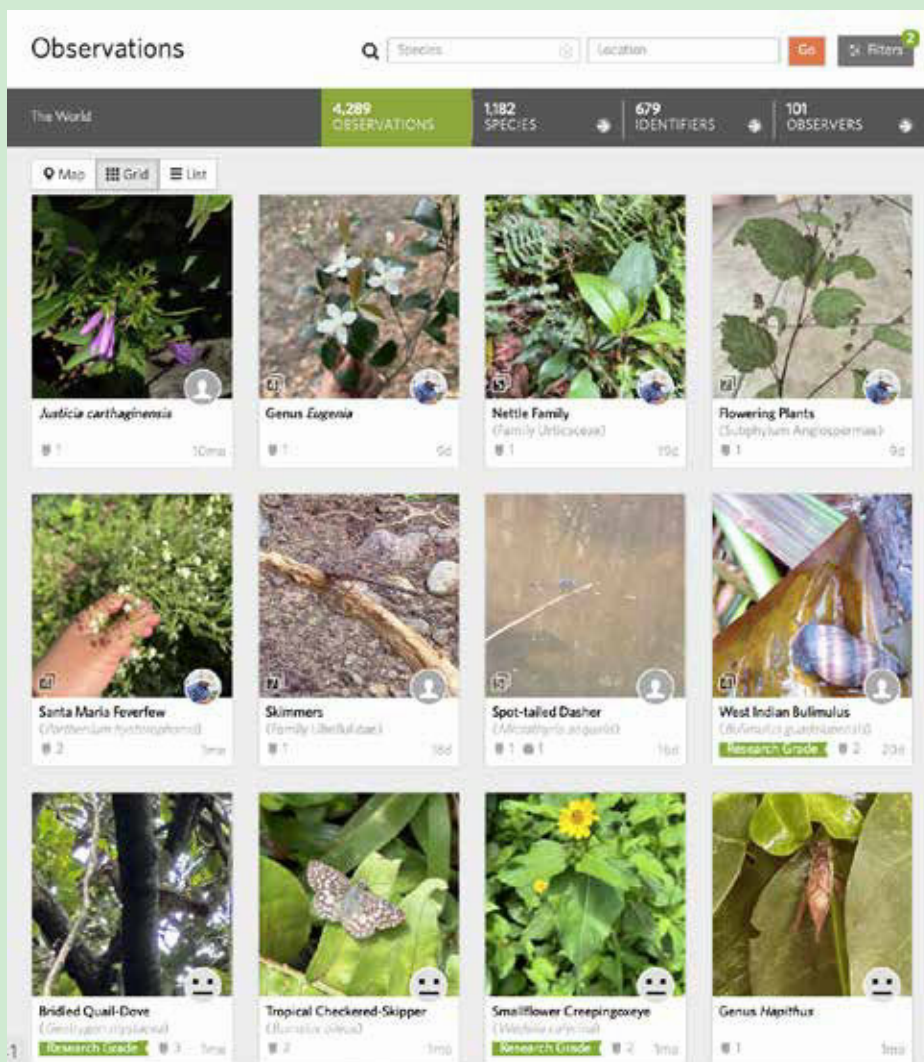
What is Citizen Science?

Citizen Science involves members of the public working together to help collect or generate scientific data. It is a very important mechanism to help researchers, because members of the public have a much greater geographic reach than can be achieved through research projects alone, as well as there being far more members of the public than a research project could employ. Citizen Science is not only really useful for scientific data collection and fun, but increasingly studies are finding that participating in Citizen Science activities is also good for participant mental wellbeing and can help reduce anxiety (<https://www.nhm.ac.uk/discover/news/2024/march/counting-butterflies-can-reduce-anxiety.html>).



Record of Hairy Beggarticks (*Bidens pilosa*) from iNaturalist which is an important plant for pollinating insects on Montserrat. © iNaturalist

Citizen Science on Montserrat



Screen shot of some of the over 4,000 observations of 1,182 species so far recorded on iNaturalist (please see more information on this iNaturalist project here: <https://www.inaturalist.org/projects/biodiversity-of-montserrat-d74f33fd-6145-4b47-aa12-ae6870d80113>).

There are quite a lot of Citizen Science activities on Montserrat and one of these is encouraging members of the public to use the iNaturalist platform to make biological records. A biological record is an observation of a plant or animal, with an associated date, location and recorder. Our previous project *From blue iguanas to blue vervain* set up this iNaturalist project which collates all the observations of plants and animals made on Montserrat into one place, so people can easily see them. As you will be able to see, at the point of going to print, there are more than 4,240 observations of over 1,180 different species and there are certainly many more species to be found!

One of the many useful things about iNaturalist is that you can let it try to identify the species of which you have taken a photograph (or made a sound recording). It does this using information on other observations in the area and image recognition. Once you have uploaded the records they are then available for people to try and confirm the identity of the species. Once the species identification has been confirmed by two or more people, the observation becomes "Research Grade". This means they are made available on a global database of biological records (GBIF: <https://www.gbif.org/>) and can be used by researchers and conservationists on Montserrat and all over the world to study the distribution and spread of species. By including

people in the verification process for the records, it means that people from across the globe can get involved in helping support Montserrat's conservation work. For example, there are more than 650 people who identify the records from the Montserrat iNaturalist project!

How we used the records on iNaturalist on our recent trip

The observations of different species for Montserrat can be used in lots of different ways, such as making checklists of species that are rare or perhaps invasive and non-native (and so can have negative impacts on biodiversity, human health or the economy in Montserrat). The observations can also be used to create areas for conservation or highlight species that need to be managed.

Catherine Wensink, Rebecca Machin and Jodey Peyton, on their trip to Montserrat in February 2024, needed to collect high-resolution images of plants important for pollinator insects in Montserrat. The records collected by Ajhermae White, as well as others, were incredibly helpful for them to navigate their way around the island to find the species they needed to get images of. They were able to locate successfully most of the plants that were on iNaturalist and then take more photographs.



Catherine Wensink and Rebecca Machin looking for plants in the Silver Hills in February 2024. Photo: Jodey Peyton

If you are interested in helping with making observations of plants and animals, why not try visiting the iNaturalist website to learn more. Please scan this QR code to download the iNaturalist application for your mobile device. If you do not have a mobile device, you can also login to the iNaturalist website and upload records from a camera.

If you need help using iNaturalist, you can see the iNaturalist Help page <https://www.inaturalist.org/pages/help> or contact Jodey Peyton jpeyton@ukotcf.org.

Please note although iNaturalist is an incredibly useful tool, we do not recommend it is used to identify species for use in for example, identifying medicinal plants, as it cannot identify the species with 100% accuracy.



Monty's Messengers at the Museum of Montserrat

by Rebecca Machin, RSPCA

An important element of our project is providing opportunities for children and young people to contribute their thoughts and ideas to sustainable development in Montserrat; they will be sharing Montserrat's future, so are vital stakeholders. Looking at the natural objects we find around us everyday is an easy way

to notice biodiversity, and things like shells, seeds and coral washed up on beaches can also be added to iNaturalist, so can add to our knowledge of Montserrat's biodiversity. Unlike living things, some of these objects can also become part of museum collections, for other people to research and learn from.



Above: Monty's Messengers collecting at Little Bay.

Before my current role, I worked with natural science museum collections, so I was thrilled to meet Dr Samantha Lauren, the new curator of the National Museum of Montserrat. The museum's collection is focused towards the fascinating human history of the island, but Samantha generously offered to host a Monty's Messengers session on 24 February, linking natural objects to the new Amerindian exhibition (now open!).

At the museum, we discussed some of the animals and plants that the group share Montserrat with, and thought about whether Amerindian people would have seen them. Animals which are now extinct would have been seen and used by Amerindians, while some new animals and plants have been introduced which they would have never seen. We realised that nature was important to Amerindians, and that it's important to us too. As well as talking about how useful plants and animals can be for food and medicine, we also shared why nature was so important to us, and how it can improve our wellbeing.



Above: Collection tags.

Below: Interesting items collected from the beach.



Then we donned our hi-vis jackets and walked down to Little Bay, to do some beachcombing! Apart from staying safe, we didn't have any rules on what to look out for; everyone found things that attracted them for different reasons. Between the Monty's Messengers who attended, their parents and guardians, and staff from the Montserrat National Trust, we collected a



Rebecca Machin curating the collection ready for the museum.



The group gather back at the Museum to discuss items collected and label them.

beautiful range of natural objects. We also enjoyed watching a pelican who was fishing near us!

Before we got too hot and tired, we headed back to the museum, to curate our objects. We thought about what we would like to tell museum visitors about them, and why they were special to us, and then labeled our collection with museum labels and pens. Samantha has kindly included the objects Monty's Messengers collected as part of the Amerindian exhibition. She has also displayed labels we made sharing why nature is important to us; visitors to the exhibition can add their own thoughts.

Another great outcome of our visit is that we hope to work with Samantha and other colleagues at the Montserrat National Trust to develop the museum's outside space into a wellbeing garden, also linked to the Amerindian collection, that is welcoming to both people and other nature. It is clear from the children and young people we have met in Montserrat, including students from Montserrat Secondary School, that they have a strong understanding of, and concern for, biodiversity; I'm really excited to continue working with the Montserrat National Trust on this project.



The finished collection.

AGM and prelaunch of booklet

The Montserrat National Trust's AGM took place on the 29th February.

Toolkit Project Officers, Delmaude Ryan, Catherine Wensink and Jodey Peyton provided an overview of both MNT/UKOTCF projects DPLUS155 *Adopt a Home for Wildlife* and DPLUS192 *Biodiversity Toolkit* to a room of members and interested persons.

In his address to the AGM, Charles Kirnon, Honourable Minister of Education, Health, Social Services, Youth Affairs, Sports and Ecclesiastic Affairs said on the booklet:

"54 years later, the Trust is going very well. They are fulfilling most of their objectives... Making the island aware of the value and beauty of the island's heritage. In that heritage I see these booklets that are being produced where part of our heritage is the medicinal plants of Montserrat which are now being documented so that they are now in an era where the whole world has turned, going back to where we started: to basics. Cause before with all the tablets and everything else. Name it, there was a bush for everything you could think of. You could understand that the pharmaceutical companies extracted from these to give us all the medicine they are giving us. But..., you know when you start to drink some soursop bush it doesn't come in a prescription. Some people are more inclined to take some tablets. Rather than boil some water and make a soursop bush and drink. People [can] have their own prescriptions. There are certain things that you cannot drink at certain times. You [would] get 3-4 leaves of everything. [Then] you were supposed to draw [infuse the leaves] and [add] hot water; [then] let it steep and that is what was supposed to happen. So we have reached the first book and then the second book now.

"I was involved in the first booklet and now have a second book and you will get used to using these for your own health benefits. The world has moved on to where we started. As it was in the beginning so shall it be."

Mrs Sarita Francis provides an overview of the Trust's work and recent set of accounts. Mrs Delmaude Ryan gave a summary of

the *Adopt a Home for Wildlife* project as well as Darwin Local projects and future work.

Catherine Wensink, in her reflections of the last few years working on *Adopt a Home for Wildlife* and now the *Toolkit* project, said: *"Partnerships have been a key element where MNT, UKOTCF, MAHLE and other partners have worked together to identify needs and fill gaps. A good example of this was last May when UKOTCF Council member Leigh Morris, horticulturalist extraordinaire, came to work alongside Mr Chris Sealys as he arrived on Montserrat to look at various aspects of the botanic garden including biosecurity and some of its processes. Several training events took place including on techniques such as grafting and air-layering.*

"Perhaps one of the most exciting elements of empowering the community to get involved in more conservation is the use of iNaturalist; a free online tool to record sightings of any living thing (actually dead things qualify too); if you haven't already had a look at this please do. You too can be a biological recorder!

"This shows how far it has come since encouraging folks to use it around 2022. There were about 180 records and now you can see there are over 3800. The more records there are, the cleverer the system gets in helping identify species – so we still have a way to go.

"I leave you with this image of a tridax daisy – a familiar sight around the island. This little daisy, probably considered a weed due to its abundance, should be an icon. It provides all year-round refuge and pollen for so many different pollinators that we need for food. Let's cherish its role in the ecosystem and maybe cut around it or leave a few patches next time we are out in the garden."

Jodey then provided an overview of the *toolkit* project which gave a flavour of what is to come in the next few years.

The meeting was also live-streamed by 664Montserrat and can be viewed at: <https://www.facebook.com/share/v/f5kgZQ138Yz tLpmC/?mibextid=WC7FNe>



Speeches at AGM (left to right, above and below): Hon. Charles Kirnon, Minister of Education, Health, Social Services, Youth Affairs, Sports and Ecclesiastic Affairs; Mrs Sarita Francis, Executive Director, Montserrat National Trust; Mrs Delmaude Ryan, Montserrat National Trust; and Mrs Catherine Wensink & Ms Jodey Peyton, UKOTCF. Photos: UKOTCF



A Delightful Day at the Montserrat National Trust Tea Party

Hey everyone! I'm Vernaire Bass, Communications Officer, and I'm excited to share my experience at the Montserrat National Trust's annual flower show and tea party on 14 March 2024. It was an unforgettable day as we launched the *Thirty Popular Medicinal Plants of Montserrat* booklet, produced as part of the project *Biodiversity and Well-being Toolkit*, supported by UK Government's Darwin Plus programme.



Left: Inside the MNT meeting room.



Right: Vernaire's display of posters, the booklets and real plants.

The event kicked off with inspiring speeches by Her Excellency the Governor of Montserrat, Mrs Sarah Tucker, and the Director of the Montserrat National Trust, Mrs Sarita Francis. This year's theme was *Embracing Montserrat's Peace and Tranquility*, and let me tell you, it was truly enchanting. When the Governor cut the ribbon to open the doors of the Trust's conference room, I was immediately captivated by the stunning display. As you stepped into the room, you were greeted by a mockup of the island's petroglyphs and a natural archway adorned with flowers and plants from local gardens and Montserrat's forests. It was so breathtaking, I could've spent the entire day soaking in the beauty.

But duty called, so I headed back to my booth. I had designed posters showcasing the medicinal plants and stuck them outside

the conference room. To make things more interactive, I also set up a touch-and-smell station with the plants. It was a hit! Guests were intrigued, sparking wonderful conversations about the properties and uses of the 30 plants featured in the booklet. I even had chats with the Minister of Agriculture and the Premier of Montserrat.

As the tea party commenced, ladies arrived in their stunning dresses and hats. While a volunteer helped me at the booth, I couldn't resist joining the festivities. I made sure to grab the mic between activities at the tea party to tell everyone about my booth, the booklet and the Trust's fundraising efforts for the Ecoplay Children's Park.

All in all, the event was a huge success, and the books were a hit. It was a fantastic day filled with beauty, conversation, and community spirit!



Vernaire discusses her stand and the booklet with visitors, including (right) Hon. Cranston Buffonge, Minister of Agriculture, Housing, Lands & Environment.

Tea bush

Last year MNT set up a *Medicinal Bush Plants Committee*, made up of highly knowledgeable nursery staff, senior managers and young staff and other members of the community. The Committee developed a short list of traditional medicinal plants for the second Montserrat Medicinal Plants booklet, *Thirty popular medicinal plants from Montserrat*. MNT's Heritage Radio show facilitated the involvement of the community in selecting the medicinal plants to be chosen with a phone-in. Shortly after, the list was finalised and visits were organised to meet with elders in the community to produce texts on each of the plant species, which were then developed into the publication.

Information was collated by the team at MNT. They and UKOTCF worked with the Field Studies Council in the UK to lay out the publication. Images of the plants in the book were taken throughout the Montserrat Botanic Garden by MNT staff.

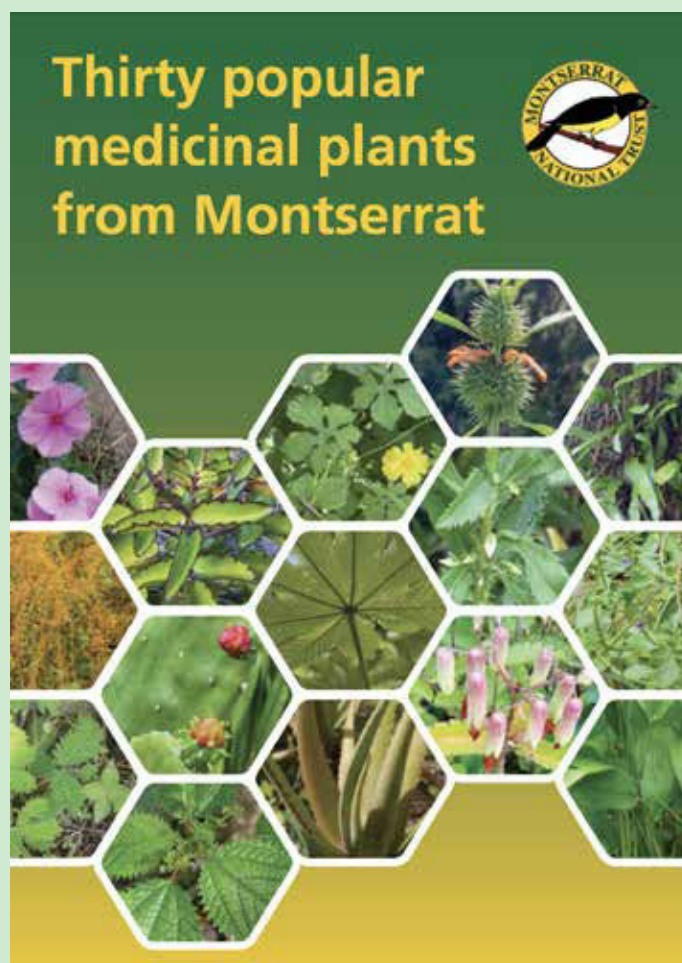
The full list of (now) 30 medicinal plants includes:

1. Sensitive Plant *Mimosa pudica*
2. Love Vine *Cassytha filiformis*
3. Bay Leaf *Pimenta racemosa*
4. Inflammation Bush *Peperomia pellucida*
5. Arrowroot *Maranta arundinacea*
6. Mosquito bush *Ocimum campechianum*
7. Soursop *Annona muricata*
8. Tisane *Capraria biflora*
9. Body Cutter *Jatropha gossypifolia*
10. Guava *Psidium guajava*
12. Lemon Grass *Cymbopogon citratus*
13. Broad Leaf Plantain *Plantago major*
14. Devil's Horsewhip *Achyranthes aspera*
15. Bitter Ash *Picrasma excelsa*
16. Milk Thistle *Silybum marianum*
17. Aloe *Aloe vera*
18. Trumpet Bush *Cecropia schreberiana*
19. Periwinkle *Catharanthus roseus*
20. Blue Vervain *Stachytarpheta jamaicensis*
21. Davis Root *Chiococca alba*
22. Pung Coolie *Momordica charantia*
23. Prickly Pear Cactus *Opuntia cochenillifera*
24. Leaf of Life *Kalanchoe pinnata*
25. Rainfall Bush *Gliricidia sepium*
26. Ramgoat Bush *Eryngium foetidum*
27. Stinging Nettle *Laportea aestuans*
28. Lord Lavington *Leonotis nepetifolia*
29. Gumbark Tree *Bursera simaruba*
30. Cattle Tongue *Pluchea caolinensis*

An excerpt from the booklet highlights the information gathered and collated by the team:

Bay Leaf *Pimenta racemosa*

Found throughout the island, from dry forests to elfin forests on Katy Hill in the north of the island, the Bay Leaf tree grows to heights of over 60 feet and has a smooth light brown bark. It bears tiny white flowers which produce tiny purplish



berries that have a peppery taste. The berries are edible and mainly consumed by birds and bats.

It is commonly seen in many of the native house yards in Montserrat as it is used frequently to make tea, used to alleviate period pains and stomach problems. It is said to have blood purifying capabilities.

It is traditionally used as a flavouring for porridges such as arrow root, oats, and in locally ground cocoa tea. It is also used in cooking meat as it is said to reduce the fat content and take away any raw smells when cooking meat such as goat and pork (and, traditionally, turtle).



During the 19th and 20th centuries, trees were planted intentionally to produce bay/ myrica oil that was used in the Bay Rum industry on Montserrat. The leaves were crushed, and the oil extracted and mixed with rum. Bay Rum is used as an analgesic and for relief from arthritic pains. Men also use the oil as aftershave, and people use this as a room freshener or as a mosquito repellent.

It is said that the leaves are chewed to provide relief from toothache and to numb the gums before having a tooth extracted.

The interviewees also use the leaves in linen cupboards to keep away pests and to create a lovely smell.

With considerable effort, the booklet was finalised and delivered to Montserrat and launched at the MNT's AGM and annual Flower Show at St Patrick's festival in February 2024 (see page 18). The sales at the event provided a modest income for the MNT.

The booklet can be purchased from the Montserrat National Trust Gift Shop.

A small stock of booklets is being held in the UK to facilitate sales to the diaspora living in UK.

It is the intention to make the booklet available as a purchasable download also in due course.

Visit to the farm



Elvis shows Jodey and Rebecca some of the crops, including sweet butternut squash (below) Photos: UKOTCF.

Regular readers will know that Mr Elvis Gerard, Department of Agriculture, has been working with the Trust for several years providing technical advice to a number of projects. Jodey, Rebecca and Catherine were lucky enough to be shown around Elvis' farm in Brades and at Mongo Hill where they were treated to a feast for the eyes in the food, tea bushes and herbs Elvis grows.

Elvis talked about his background in crop production and technology demonstrating efficient irrigation and pest management. In his own words he said of his plots: *"Here everybody getting water and sun – everybody happy."*

"Enjoy [it] and the health benefits. Pick your own vegetables. No harsh chemicals. They are very nutritious. Keep you young, keep you going. No gym. I come here [to my farm] and work. Feed whole family; never go to supermarket."

Elvis showed the visiting team all the systems he is using to ensure that his crops are well watered and fed, including an irrigation system which provides liquid fertilizer to the plants.

It is clear that Elvis' vast knowledge of companion planting and how things grow leads to very productive harvests all year round.

Some of the practical aspects of the farm management include re-using household items such as plastic bottles. He cuts a whole in the side and adds a pheromone which attracts pests away from his crops. These useful tips will feed into the *toolkit* management

options as they show results and can contribute towards Montserrat's food security.

Not forgetting the wildlife, his farm is scattered with native Tridax daisies which bees and butterflies love, bringing them to the area. While they are there, they most certainly pollinate his pumpkins and cucumbers, so he welcomes them all.

Interestingly, and what is so important for Montserrat, is that Elvis grows food all year round. While aware that there are times of the year when conditions can be severe, he diversifies his crops so that plants which grow lower to the ground and are protected from the elements.

Other tips include growing some of the medicinal plants which can spread rapidly in pots so that they do not overwhelm other plants in the farm/garden. These can be from re-used containers which mean that they do not go to land-fill.

Elvis welcomes opportunities to share these tips with the community; another is shredded paper as a mulch





Marigolds are good companion plants for crops as they attract pests away from anything else to eat. They are also edible.

Above and below: more crops and work on the farm.

around the base of fruit trees.

The *toolkit* is seeking to capture some of this knowledge and, by working with botanical artist Lizzie Harper (who illustrated the medicinal plants in the first booklet), the intention is to work all of the tips and tricks into a schematic drawing which can be used for promotion of a wonderful space for wildlife, peace and tranquillity – and also a supermarket in the backyard.



The current phase of *Adopt a Home for Wildlife* project (DPLUS155 *Securing Montserrat's threatened endemic species and natural capital through community-action*) and the project *Delivering biodiversity and human well-being gains for Montserrat's sustainable development* (DPLUS192) are currently resourced by the following organisations:

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

