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nature
a home

The UK's wildlife overseas

A stocktake of **nature** in our **Overseas Territories**



Northern rockhopper penguins (*Eudyptes moseleyi*)



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Baby iguana on Turk's head cactus.

Foreword

The UK Overseas Territories hold biodiversity of global significance, from vast penguin colonies in the South Atlantic to tropical rainforests in the Caribbean. Some of the species and habitats present are found nowhere else on earth. This Government is proud of such rich and unique natural heritage and recognises that many of these environmental assets would be irreplaceable if lost. This Government also recognises however, that biodiversity is under increasing pressure worldwide, and the fragile ecosystems of the Territories are no exception.

In our 2012 Overseas Territories White Paper, the Prime Minister and Foreign Secretary laid out their vision for the protection of natural environments of the Territories and the implementation of effective management to the highest international standards. This report contributes to achieving these aims, through bringing together for the first time, a complete record of all the known species which inhabit our Territories, as well as their conservation status.

The results are significant and confirm just how valuable the Territories are; they hold 94% of unique British species. Identifying the conservation priorities for the Territories still remains a challenge

however; only 10% of endemic species have had their conservation status assessed and almost all of these are thought to be globally threatened. Establishing the status of the remaining 90% of endemic species will be vital to effective prioritisation and appropriate application of resources.

I am delighted that the Foreign & Commonwealth Office has been able to fund this research and the Government looks forward to working in partnership with Territory Governments, civil society and the scientific community to build on the results of this report, and address the conservation priorities and knowledge gaps it reveals.



Mark Simmonds MP

Minister for Africa, the Overseas Territories, Caribbean and International Energy



Henderson Island World Heritage Site (Pitcairn) is home to over 55 unique species.

Executive summary

With funding from the Foreign & Commonwealth Office (FCO), the RSPB has completed the first ever stock-take of all the species known to occur on the islands of the UK Overseas Territories, and what, if anything, we know about their conservation status.

The islands of the UK Overseas Territories are known to hold a vast wealth of biodiversity, including more penguins than any other nation on earth, and the world's largest coral atoll. Detailed knowledge of this remarkable biodiversity has remained both limited and widely dispersed, and global extinctions are ongoing (the last known OT extinction occurring as recently as 2003). The RSPB therefore completed a study, between January 2013 and March 2014, to bring together all known species records and conservation assessments in one place to enable a more strategic and effective protection of this overseas British wildlife.

With the assistance of many individuals and organisations around the world, we were able to access records for more than 28,000 native species from the island OTs. Although this is a considerable number, we know that there are thousands of species still undocumented, and the knowledge we have about conservation status, population sizes and distributions for most recorded species is negligible and certainly far behind that of metropolitan UK.

The key findings are:

- The OTs hold at least 1,500 endemic species, compared to around 90 endemic species in the UK. This is equivalent to 94% of known endemic British species.
- Much of the endemic OT fauna and flora is threatened, although only 145 species (9%) have ever had their global conservation status assessed. Of these, 111 (77%) are listed as Globally Threatened on the IUCN Red List.
- A few exceptions apart, we have limited knowledge about OT biodiversity (species presence, distribution, population size and conservation status). Particularly lacking information are:
 - Marine biodiversity
 - Invertebrates
 - Non-vascular ("lower") plants
 - Lichen and fungi
- We estimate that the island OTs still hold:
 - Around 50,000 unrecorded species
 - Around 2,100 undiscovered endemic species.
- To date the lack of current knowledge of biodiversity in the island OTs has impeded conservation efforts. The results from this study are a vital step to address this issue strategically.



King penguins, *Aptenodytes patagonicus*, at South Georgia.

Introduction

In May 2013, a partnership of 25 UK conservation organisations published the State of Nature report¹. The State of Nature documented declines in 60% of the 3,148 UK species for which adequate quantitative data were available. Despite lacking a similar level of knowledge for biodiversity of the UK Overseas Territories the authors noted that, “it is clear the UK’s Overseas Territories hold a wealth of wildlife of huge international significance.” Being able to assess the state of OTs biodiversity is a vital step towards better informing conservation action.

Information from better-studied taxonomic groups, such as birds, show that some of the OTs’ wildlife is threatened with global extinction. However, knowledge is lacking for most taxonomic groups and it is impossible to say exactly how many Globally Threatened species are found on the OTs, or indeed how many species occur in total.

The project described in this report takes an important step towards the better understanding of the biodiversity of the island OTs. For the first time, we have collated species records and IUCN Red List assessments for all taxonomic groups across the island OTs and brought them together in a single place. This provides a stock-take of the current knowledge of biodiversity across the island OTs and indicates where the most significant knowledge gaps are.

The aims of this project were:

- To get a broad overview of the biodiversity known to occur on each of the island OTs, including endemic, native and non-native species
- To collate the number of native species that have been assessed using IUCN Red List criteria
- To collate monitoring data for native species, where available
- To identify the major knowledge gaps, in terms of species monitoring, Red Listing or simply cataloguing.

To achieve this, for each island OT we researched information on species records, endemism, IUCN Red List assessments and what, if any, conservation actions or monitoring is being undertaken. A wide range of data sources were used, including published and unpublished literature and communications with collaborating organisations and individual experts throughout the OTs and elsewhere.

¹ Burns F, Eaton MA, Gregory RD, et al. (2013) *State of Nature report*. The State of Nature Partnership

Structure of the report

The first part of the report provides an overview of the results. We identify the largest knowledge gaps and how current knowledge and monitoring is biased towards certain taxonomic groups.

The second part of the report devotes a chapter to each of the island OTs, giving an overview of what we know about their biodiversity. Each chapter describes the depth of our knowledge of biodiversity, how it varies between taxonomic groups and which species in each island OT have been assessed against IUCN Red List criteria.

Methodology

Geography

For the purposes of this project, we restricted data collection to all records within 12 nautical miles (territorial waters) for each island OT. Despite links in their governance, we have treated Ascension Island, St Helena and Tristan da Cunha separately, because each island group is biogeographically different.

This project did not collect data for the British Antarctic Territory, Gibraltar or the Cyprus Sovereign Base Areas. We hope that future work will be able to complete data collection for these remaining OTs.

Data collection

A desk study constructed and populated a database of relevant information, concentrating on literature and sources of information accessible from the UK.

Firstly, we performed web-based searches for literature in Web of Science (isiknowledge.com) and Google Scholar (scholar.google.co.uk). Initial searches were standardised using OT name, plus taxonomic group (e.g. "Pitcairn + mollusc"; "Montserrat + coleoptera") as data was collected, searches targeting data gaps were tailored for each OT (e.g. "St Helena + thysanoptera"; "Diego Garcia + oribatida"). We contacted relevant Government Departments within OTs, along with non-governmental organisations and research institutes both within OTs and elsewhere (mainly

UK-based), asking for any information on biodiversity that had been collated previously. From these initial starting points, we identified and developed a network of contacts across the globe by directly contacting research groups for more information and through other individuals' personal networks.

This approach accessed more than 600 published papers and reports and personal contact with over 100 individuals².

After initial species records were compiled for each island OT, they were made available to relevant experts for review. This formed a critical step in "cleaning" taxonomically complex groups where multiple synonyms had been entered. It also allowed suggestions on where data was missing, leading to targeted data searches to fill gaps.

Information gathered on each species recorded as present in each island OT included: current distribution, status (endemic/native/alien), population counts and estimates, IUCN Red List status, date of record and reference. This information – derived from published literature and other sources – is currently stored in an Excel database, and we are in the process of making this freely accessible to all.

Analysis

For analysis, it was necessary to place species records into taxonomic groups. We chose taxonomic groupings based on ease of understanding, rather than a defined taxonomic level. Therefore, for example, we treated the phylum Mollusca as one, but separated the phylum Chordata into fish, reptiles, amphibians, birds and mammals.

We manipulated data to create species lists and calculate descriptive statistics (numbers of species, number assessed against IUCN Red List criteria etc.). We use infographics to represent data as they enable the display of the large variability in numbers and scale (figure 1). This allows quick and direct visual comparison of each taxonomic group (how many species recorded) and the proportion that have undergone assessment against IUCN Red List criteria.

²We know that many people with whom we communicated sent requests to others they know (including large social network groups) and channelled this information back to us. It is therefore likely that we reached many hundreds of people during the course of the project.

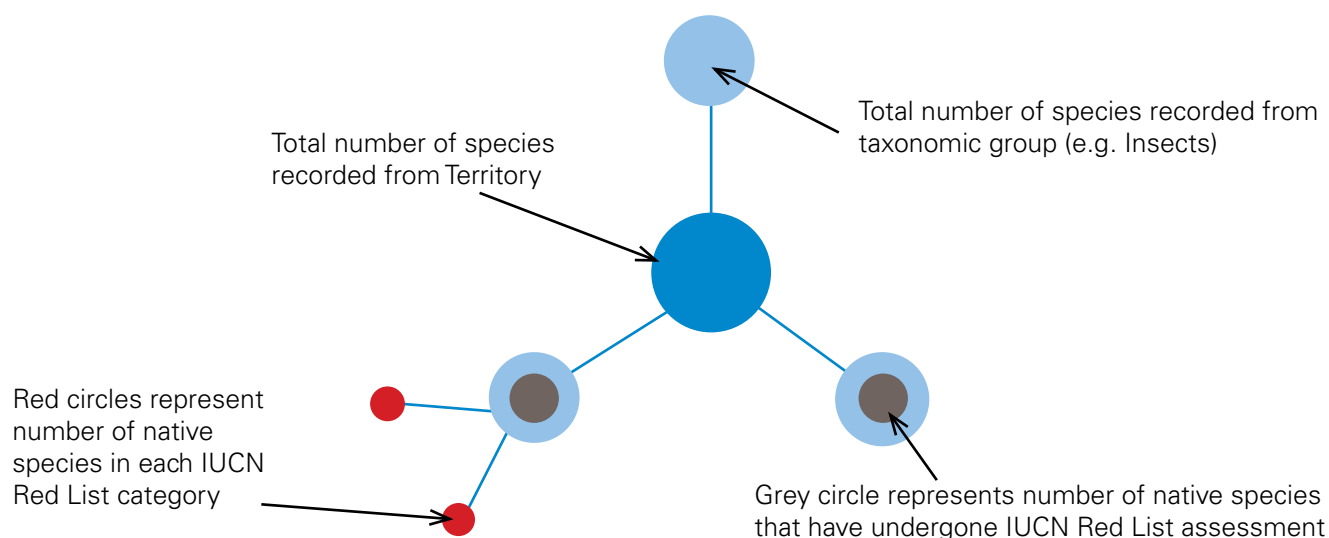


Figure 1. How to interpret infographics used in this report. The area of each circle is proportional to the number of species it represents.

How the Red List of Threatened Species works

Knowledge of whether a species is at risk of extinction is publicly available in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species™ (referred to as the IUCN Red List). The IUCN Red List is widely recognised as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species, aiming to “*provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation*”.

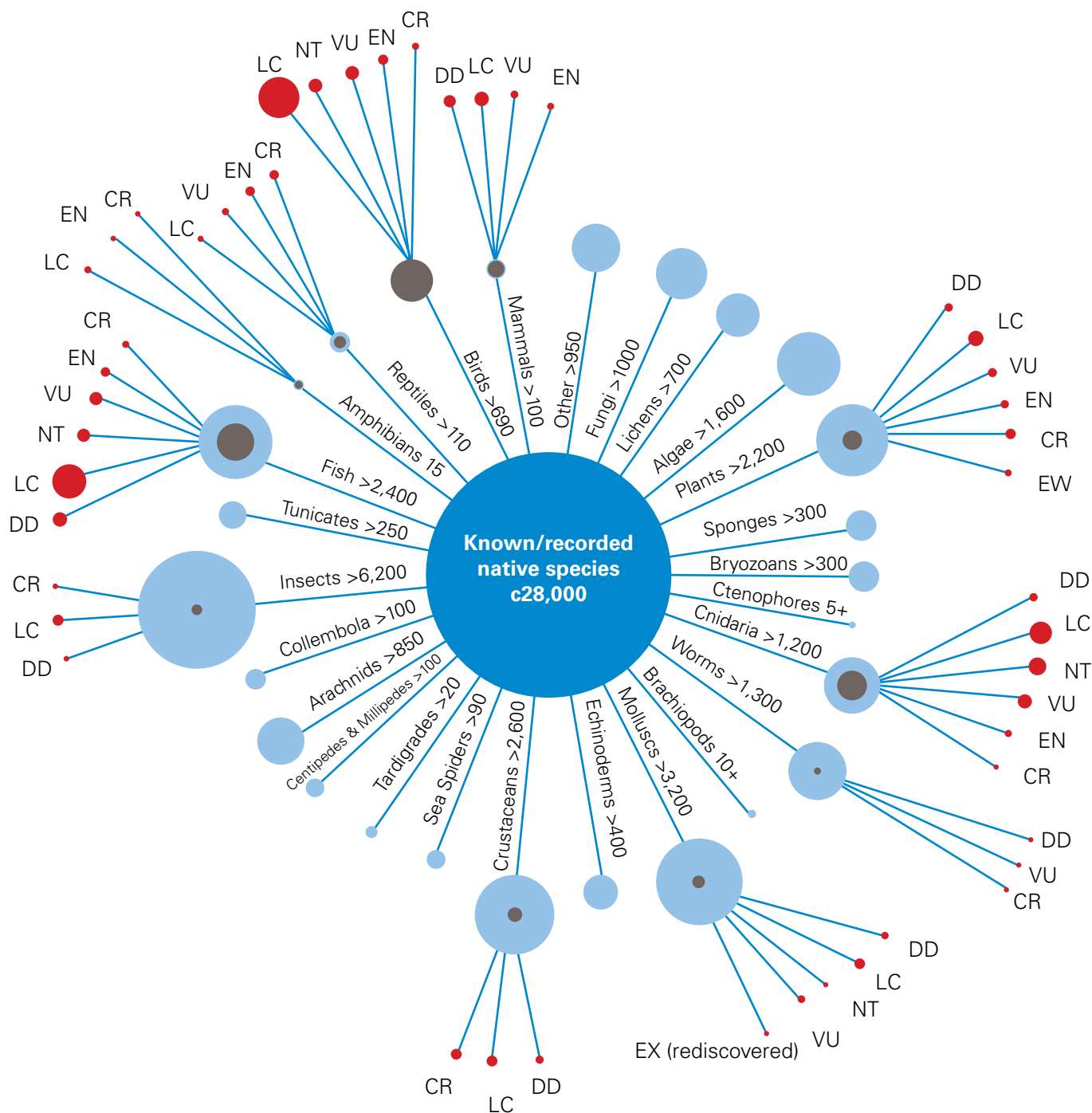
The IUCN Red List assesses species against a set of criteria. Each assessed species is classified under a category that reflects the species’ threat of extinction. The classifications are; Data Deficient (DD), Least Concern (LC), Near Threatened (NT), Vulnerable (VU), Endangered (EN), Critically Endangered (CR), Extinct (EX) and Extinct in Wild (EW).

For more information on the IUCN Red List visit iucnredlist.org



Rebecca Cairns-Wicks

Lost forever: the beautiful St Helena olive tree, *Nesiota elliptica*, is the last known British species to go extinct (2003).



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 2. Infographic visualising the recorded species from the island OTs. The centre circle represents total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN red list criteria and an arm each for the different IUCN categories representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Results overview

Total native species recorded	c.28,000
Known endemic species	1,547
Endemic species assessed for IUCN Red List	145
Endemic Globally Threatened species	111
Known non-native species	2,000+

Results

In total, we documented 26,665 native species, with the taxonomic status of a further c.1,500 species yet to be resolved. We can therefore say c.28,000 native species are known from the island OTs. 1,547 are known to be endemics (although the true number is likely to be higher) and 2,012 species are known to be occurring in the island OTs outside of their native ranges (are non-native).

Knowledge on species presence is not distributed evenly across island OTs or taxonomic groups (Appendix 1); vertebrates are much better studied and Bermuda has more than twice the number of species recorded than any other island OT (Figure 3). This could be due to a range of factors including funding, international research interest, history or the presence of an individual with a passionate interest in biodiversity recording.

We found that, in general, biodiversity in the marine environment is less well-documented than in terrestrial environments; small invertebrates are less well-documented than larger vertebrates; and lower (non-vascular) plants are less well-documented than higher (vascular) plants. Detailed distribution and population data (population estimates or trends) are restricted almost exclusively to birds, breeding turtles and some higher plants. A lot of the information we encountered in our searches were simple lists of species recorded, with little further information on distribution, abundance, etc. Significant gaps in knowledge therefore remain.

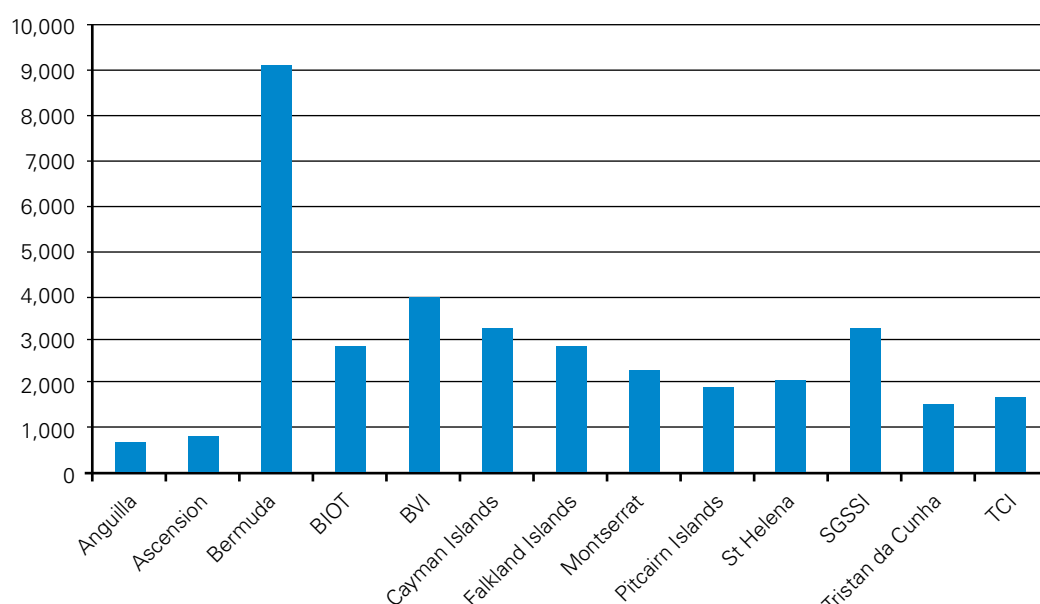


Figure 3. Number of native species recorded from each of the island OTs.

Threatened species

To date, of the c.28,000 native species we found recorded, 1,937 (~7%) species have undergone assessment against IUCN Red List criteria. Of these, 303 are Globally Threatened (i.e defined as Critically Endangered, Endangered or Vulnerable) with a further 158 considered Near Threatened and 111 Data Deficient (figure 4). The majority of these assessments did not specifically consider information collected in the OTs as part of the assessment. It is therefore hard to say how important any given island OT is for a Globally Threatened species that has been reported to occur there, other than for the 145 endemic species to have been assessed.

Endemic species

We found records describing 1,547 species as endemic to a single OT with at least another c.200 that may be endemic. Although every island OT has endemic species, some have far more than others. For example, St Helena has 502 accepted endemics compared to 14 in the British Virgin Islands (figure 5).

Of the c.1,547 endemic species, 145 (9%) have been assessed against IUCN criteria. 111 (78%) of the assessed endemics are Globally Threatened (58 CR, 27 EN, 26 VU). Four are Near Threatened (NT), nine are Data Deficient

(DD), and 19 are Least Concern (LC) (Appendix 2).

Knowledge gaps

For those species that have been recorded on an island OT further information is often lacking. Very little data detailing species ranges and population sizes exists and monitoring is in place for only a handful of birds, reptiles, marine mammals and plants. Even species that are found nowhere else on earth and are known to be highly threatened lack the most basic information (distribution, population size, number of populations, population trends, threats) to be able to track their current conservation status and evaluate required actions to safeguard them in the future.

Knowledge of the marine environment (including the intertidal zone) is weaker than the terrestrial environment and constitutes the largest gap in species records across the island OTs (except British Indian Ocean Territory for which marine knowledge is good). Basic species lists are missing or incomplete for many marine taxonomic groups, particularly for invertebrate groups such as worms, bryozoans and sponges.

In terrestrial environments, information is weaker for smaller bodied organisms and the largest gaps for recorded species are small bodied invertebrates, lower

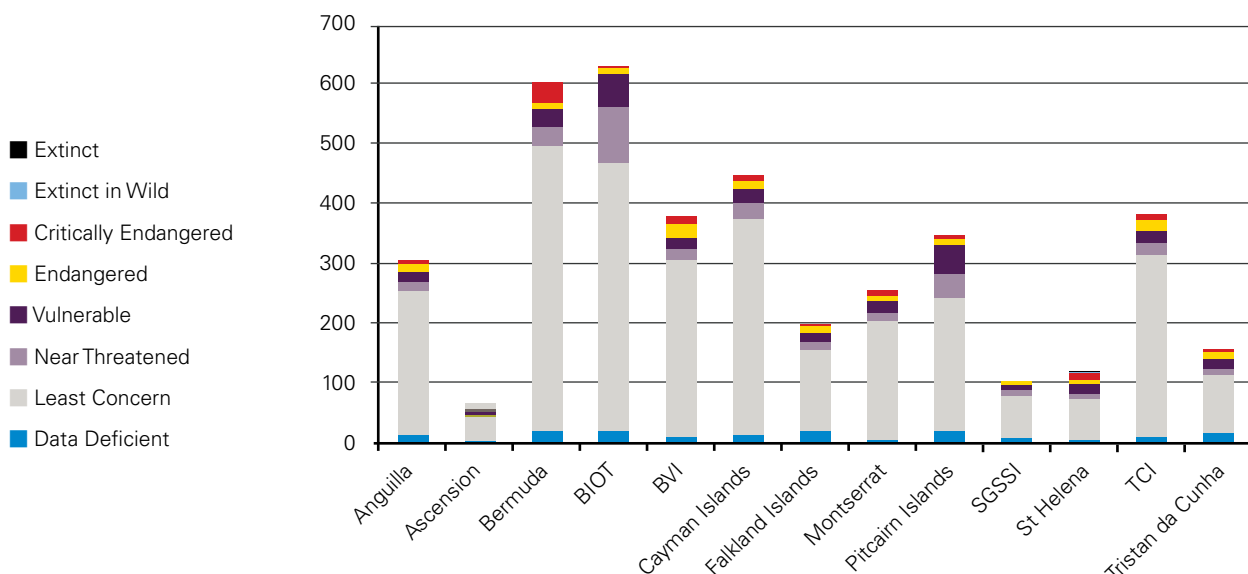


Figure 4. Red List assessed species recorded from the island OTs.

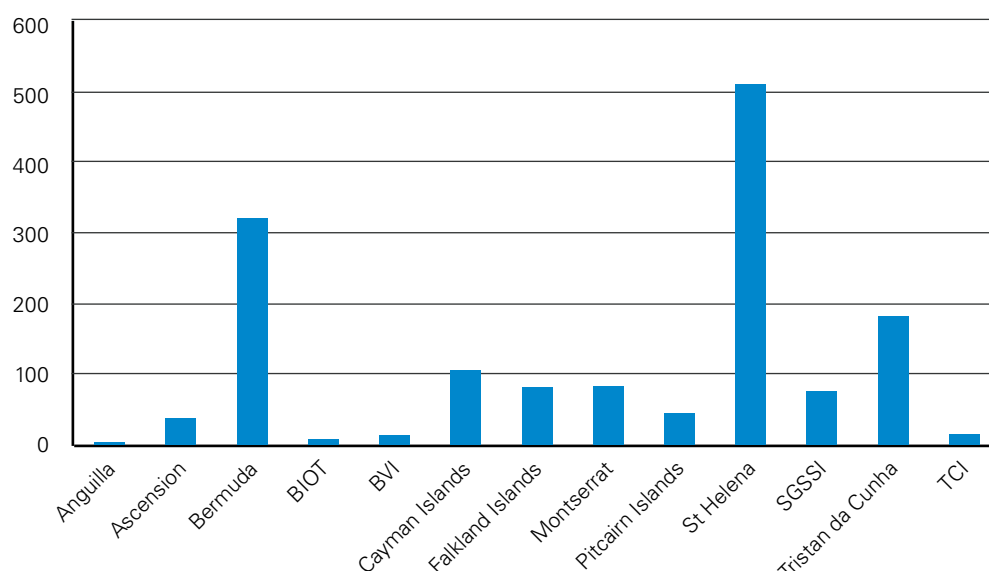


Figure 5. Number of endemic species occurring on each island OT.

plants, lichens and fungi. For each of these groups, taxonomy is complex and changing. It is likely that many species are yet to be recorded from the island OTs and include unknown endemics and species new to science.

Knowing the unknown

Our searches revealed a total of c.28,000 native species known to occur in the island OTs. Undoubtedly other species have been documented, but records have evaded our searches. We know this total to be far short of the true number occurring. By taking data from those species groups and territories for which we believe knowledge to be near

complete, and looking at how diversity varies across taxa and Territories, we have been able to make estimates of the total number of species occurring in the island OTs³.

We estimate the true number of native species occurring in the island OTs to be somewhere between 65,000 and 90,000 (actual estimate 78,000); in effect approaching three times as many as we have found reference to in our searches (figure 6).



EF Salamancia

Volunteers rescuing native plants in the Turks and Caicos Islands.

³By fitting a Generalized Linear Model assuming a Poisson error distribution and with correction for over-dispersion, with territory and taxonomic group (as given in appendix 1) fitted as effects, and species number estimated for those territory-taxa groups for which we believe our knowledge to be substantially incomplete.

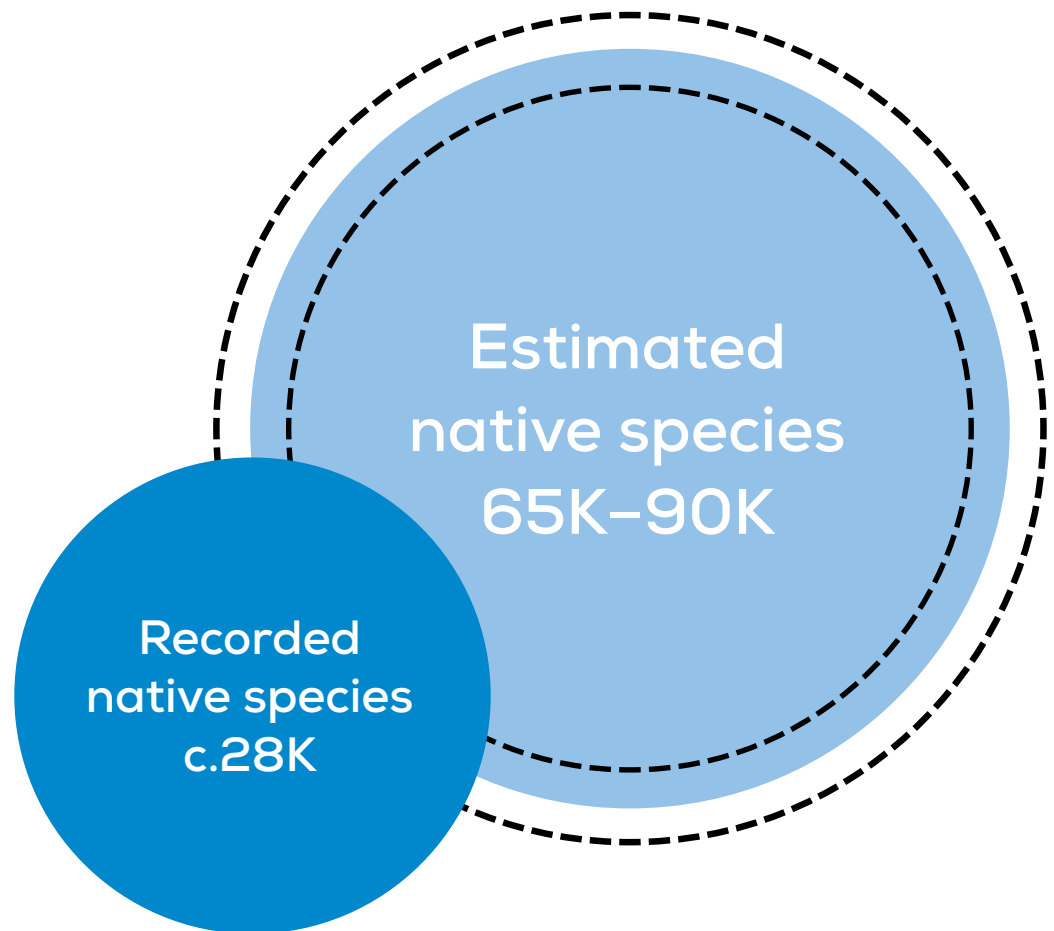


Figure 6. We estimate that there are between 65,000–90,000 (dashed lines) native species on the island OTs (actual estimate 78,000, blue circle). We found records of c.28,000 native species, so there could be 50,000 species still to be recorded.

We used a similar statistical modelling approach to estimate how many endemic species are likely to exist in the island OTs; in addition to the 1,547 we have found reference to so far, we anticipate there might be an additional 2,100 species only found on a single OT and nowhere else.

Finally, we extrapolated from known rates of species threat, from those taxonomic groups for which comprehensive assessments against IUCN Red List criteria have been made, to estimate how many species within the OTs might be at risk of global extinction.

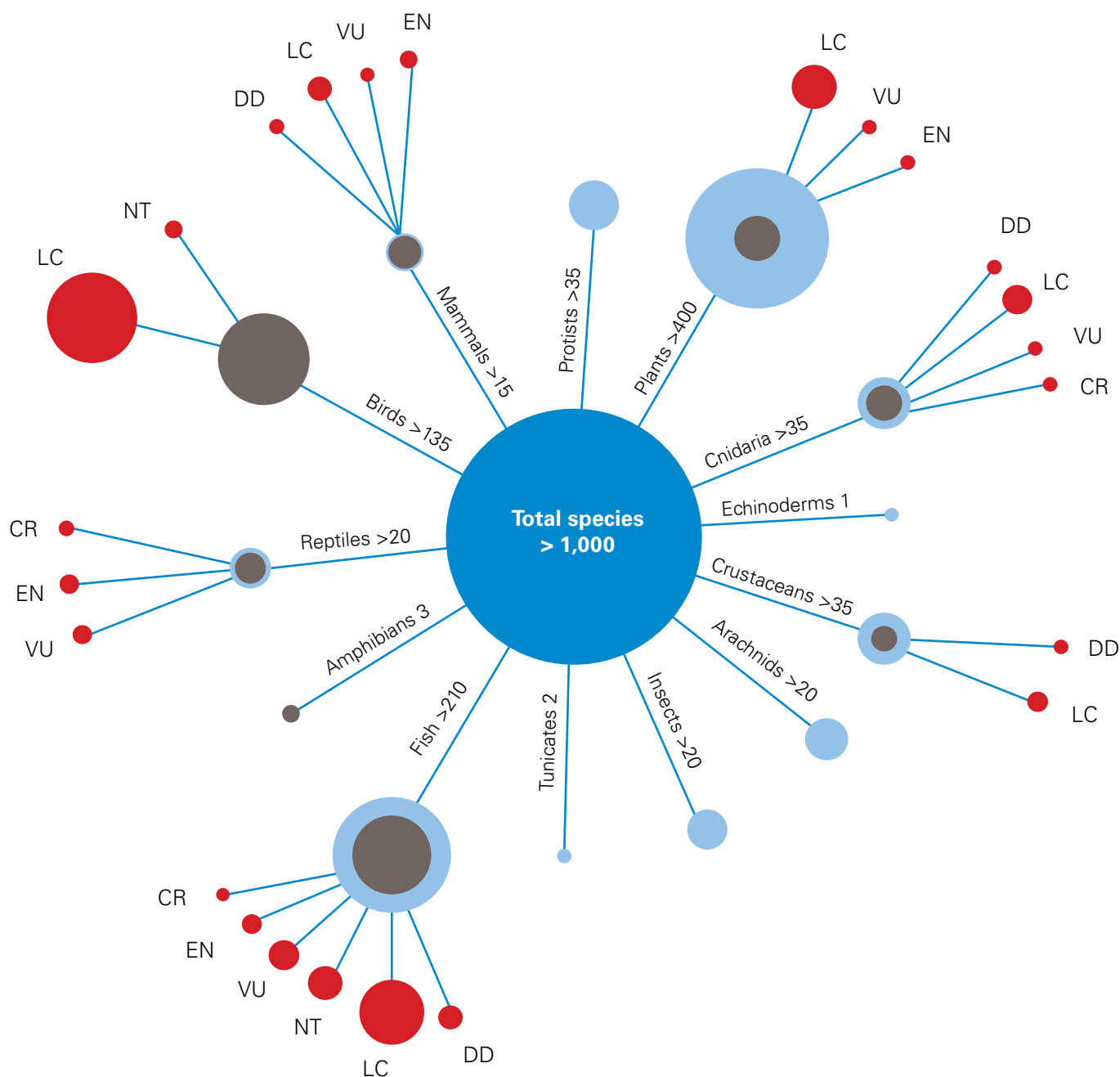
The proportion of Red List-assessed species which are considered Globally Threatened ranges widely: up to 92% of some taxonomic groups (25 of the 27 reptiles that have been assessed)

but much lower for other groups (9% of assessed birds and 10% of fish, for example). If the average across all 1,937 species assessed, 16%, were representative of all biodiversity in the island OTs, we might expect just over 4,000 of the species documented by this project to be at risk of extinction.

Furthermore, if the same level of threat occurs across all (i.e. including undocumented) species, the models suggest that there could be in excess of 10,000 species at risk of global extinction in the island OTs. Of course, the level of threat faced by species in the taxonomic groups that have been assessed may not be representative of biodiversity as a whole, so such extrapolations should be treated with caution.



Tristan albatross, *Diomedea dabbenena*, with chick on Gough Island World Heritage Site.



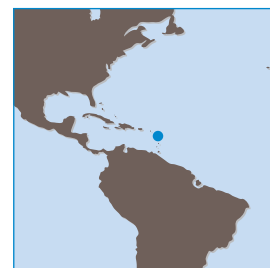
Key

● Species group
 ● IUCN assessed
 ● native species IUCN category

Figure 7. Infographic visualising the recorded species from Anguilla. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Anguilla

Total species recorded	1,003
Native species	761
Known endemic species	5
Endemic species assessed for IUCN Red List	2
Endemic Globally Threatened species	2
Known non-native species	216



Introduction

The Caribbean Territory of Anguilla is the most northern of the Leeward Islands, located at 18°15'N, 63°10'W. Anguilla consists of the main island, which is 26 km long and 5 km wide, and a number of smaller islands and cays. Overall, the total land area of Anguilla is 91 km². Habitats include pond systems on land and coral reef systems in the surrounding waters.

Anguilla proved the hardest of all the island OTs for which to locate data. We were only able to locate good data for the “higher” charismatic species (birds, reptiles, amphibians, mammals, fish and plants).

Knowledge for other groups is very poor; particularly insects, marine invertebrates, fungi and lichens. If this information does exist, we were unable to locate it.

Results

The results are summarised in figure 7 and in the table above. Our knowledge of which species occur on Anguilla is the weakest of all the island OTs – for example, we only found records for 21 species of insect and no records of fungi or lichens.

To date, 304 (40%) of the 761 native species on Anguilla have undergone assessment against IUCN Red List criteria. This percentage of assessed native species is very high, but it does not indicate a wealth of knowledge about the biodiversity on Anguilla as there is a lack of species records from groups that tend to have had fewer IUCN assessments (for example algae, lichens, fungi and insects).

Of the 304 species that have been assessed, 35 are Globally Threatened (VU, EN, CR) with a further 17 Near Threatened and 11 Data Deficient. The remaining 241 are Least Concern.

We found records describing five species as endemic and four species endemic to the Anguilla bank. Seven of these nine endemic or regionally endemic species are reptiles.

Only two endemic species have been assessed against the IUCN Red List criteria – the reptiles Censky's ameiva, *Ameiva corax*, and Sombrero ameiva, *Ameiva corvine* – both of which are Vulnerable. The Globally Threatened bearded anole *Anolis pogus* is now no longer present in Anguilla⁴.

A recent MSc project studied the endemic plant species *Rondeletia anguillensis* and has provided up-to-date distribution maps and the necessary data to formally assess the species for inclusion on the IUCN Red List.

Discussion

As with other island OTs, our knowledge of the species occurring in the marine environment around Anguilla is weak. Our understanding of the coral reef systems is improving and work on marine turtles is very active. However, we were able to find few records for other marine species, particularly invertebrates, and this signifies a significant gap in our knowledge of Anguilla's marine biodiversity and importance in a wider Caribbean and global context.

⁴ de Queiroz, K. and Mayer, G. C. (2011). *Anolis pogus*. In: IUCN. (2013). IUCN Red List of Threatened Species. Version 2013.1. Retrieved 3 September from iucnredlist.org

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Anguilla.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	19	+++	13	0	6
Birds	140	+++	137	0	3
Reptiles and amphibians	26	+++	9	3	9
Fish	216	++	96	0	1
Vertebrate total	401		255	3	19
Insects	21	+	0	1	1
Arachnids	24	++	0	0	0
Crustaceans	37	+	6	0	0
Echinoderms	1	+	0	0	0
Molluscs	25	+	0	0	0
Worms	1	+	0	0	0
Cnidaria	36	++	15	0	0
Sponges	0	+	0	0	0
Other invertebrates	2		0	0	0
Invertebrate total	147		21	1	1
Plants	420	++	28	1	196
Fungi	0	+	0	0	0
Lichens	0	+	0	0	0
Algae	0	+	0	0	0
Fungi/lichens/algae/plant total	420		28	1	196
Other	35		0	0	0
Totals	1003		304	5	216

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)



Brown booby, *Sula leucogaster*, on Dog Island, Anguilla, which is the second most important seabird island in the Caribbean.

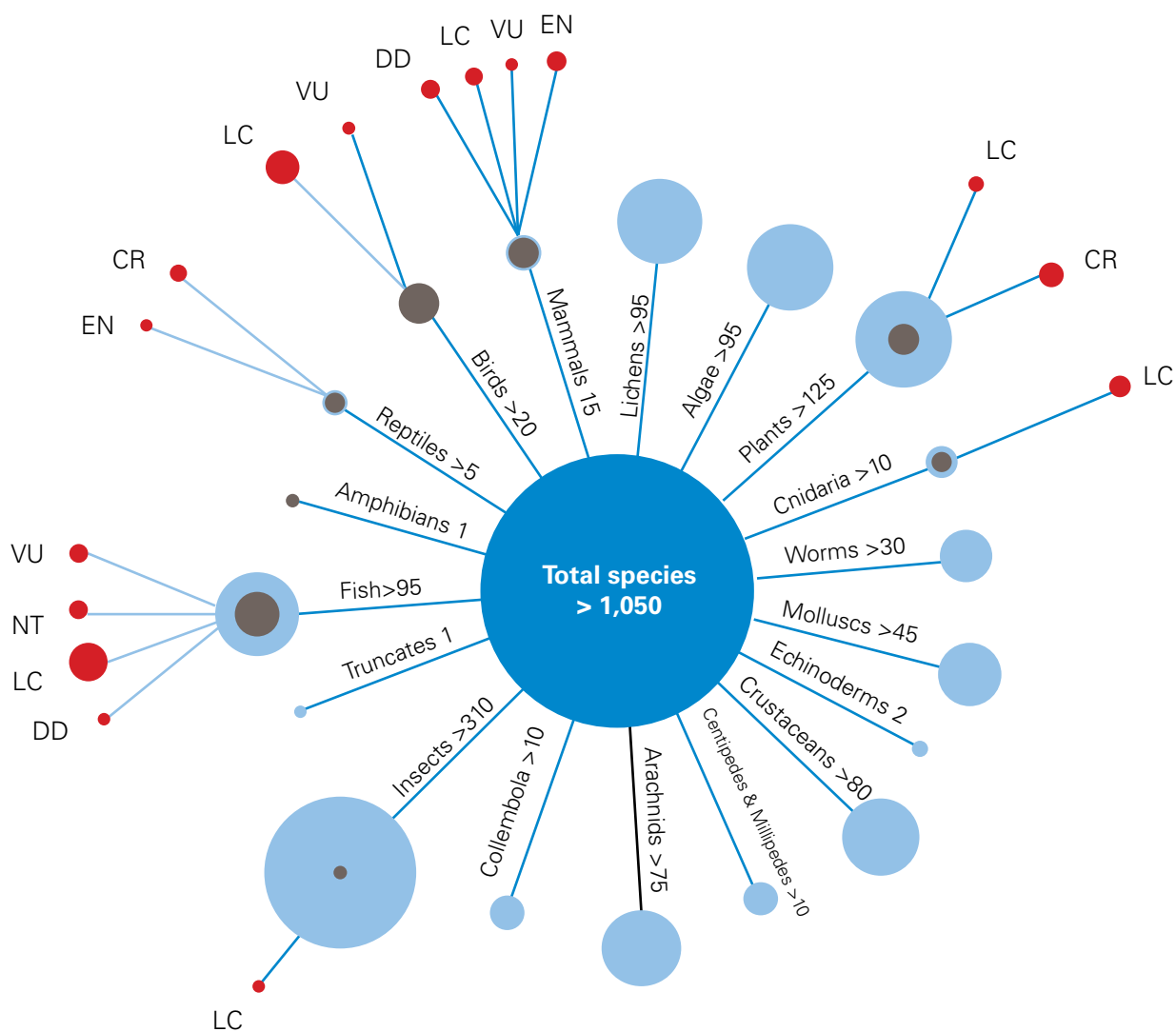
Global importance

Important Bird Areas

Important Bird Areas (IBAs) are a global network of important sites for birds, identified using internationally agreed criteria applied by local experts. To qualify as an IBA, a site must meet one or more of the following criteria, containing 1) species of global conservation concern 2) assemblages of restricted-range bird species 3) assemblages of biome-restricted bird species or 4) globally important congregations of birds. There are IBAs in all of the OTs.

Anguilla boasts 14 IBAs covering 53 km², each supporting important breeding populations of congregatory birds (seabirds and waterbirds): Dog Island is the second most important seabird island in the Caribbean, with nine breeding species, including over 100,000 pairs of sooty terns, *Sterna fuscata*. In 2012, Dog Island was subject to a rodent eradication operation. Populations of three Lesser Antilles range-restricted species (green-throated Carib, *Eulampis holosericeus*; Caribbean Elaenia, *Elaenia martinica*; pearly-eyed thrasher, *Margarops fuscatus*) occur in three of the seven IBAs. In addition to birds, these IBAs include populations of endemic and regionally endemic reptiles, and breeding sites for three species of Globally Threatened sea turtle.

None of Anguilla's IBAs have legal protection and they could all be under threat from potential future development.



Key

● Species group
 ● IUCN Assessed
 ● Native Species IUCN Category

Figure 8. Infographic visualising the recorded species from Ascension. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Ascension

Total species recorded	1,059
Native species	827
Known endemic species	48
Endemic species assessed for IUCN Red List	8
Endemic Globally Threatened species	8
Known non-native species	232



Introduction

Ascension is an isolated island with an area of 88 km², lying just south of the equator in the mid-Atlantic. It is volcanic with more than half of the area covered in geologically recent lava flows. The north-western half of the island comprises of ash and lava plains, the east rises up to a height of 860 m above sea level at Green Mountain Ridge.

Ascension has been inhabited since 1815, with the current population under 800 people⁵. The environment of Ascension is known to have changed dramatically since the island became inhabited. Pre-habitation, Ascension was probably desert-like in the lowland plains with denser populations of ferns and mosses on the higher slopes.

In modern times, introduced plants have come to dominate the vegetation, and dense scrub covers large areas. The Mexican thorn, *Prosopis juliflora*, is a particular problem⁶. Introduced species have also changed the fauna of Ascension: the introduction of cats and rats caused the local extinction of the seabird colonies that once covered parts of the mainland and may have contributed to the extinction of two endemic land birds. Conservation efforts have focused on the problem of introduced predators with signs of success⁷, December 2012 seeing the endemic Ascension frigatebird breed on the mainland for the first time in 180 years.

Results

The results are summarised in figure 8 and in the table above. Our knowledge of which species occur from each group is good for terrestrial invertebrates, vascular plants and lichens; knowledge of the marine environment around Ascension is poor, even for often well-recorded groups such as marine molluscs. Work is underway, led by the Falkland Islands based Shallow Marine Survey Group, that is starting to address this.

To date, just 64 (8%) of the 827 native species on Ascension have undergone assessment against IUCN Red List criteria. Of these, 18 (28%) are Globally Threatened with a further three Near Threatened and four Data Deficient. The remaining 39 are Least Concern.

We found records describing 48 species as endemic, with at least another 28 that may be endemic. Seven vascular plants are endemic with a further four known to be extinct.

Eight (17%) of the 48 known endemic species have been assessed and all are Red Listed as Globally Threatened (1 VU, 7 CR).

⁵The 2008 population census of Saint Helena – sainthelena.gov.sh

⁶Pickup, A. R. (1999) *Ascension Island Management Plan*. The RSPB, Sandy, Bedfordshire, UK.

⁷Ratcliffe, N., Bell M., Pelembe, T., Boyle, D., Benjamin, R., White, R., Godley, B., Stevenson, J. and Saunders, S. (2009) *The eradication of feral cats from Ascension Island and its subsequent recolonisation by seabirds*. *Oryx*, 44(1): 20–29

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Ascension.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	15	+++	9	0	6
Birds	20	+++	14	1	5
Reptiles and amphibians	8	+++	3	0	5
Fish	97	++	24	9	0
Vertebrate total	140		50	10	16
Insects	317	+++	1	7	79
Arachnids	78	+++	0	14	10
Crustaceans	81	++	0	4	12
Echinoderms	2	+	0	0	0
Molluscs	48	+	0	0	1
Worms	33	+	0	0	5
Cnidaria	10	+	4	0	0
Sponges	0	+	0	0	0
Other invertebrates	26		0	5	6
Invertebrate total	595		5	30	113
Plants	128	++	9	7	103
Fungi	0	+	0	0	0
Lichens	97	+++	0	0	0
Algae	99	++	0	1	0
Fungi/lichens/algae/plant total	324		9	8	103
Other	-	-	-	-	-
Totals	1,059		64	48	232

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)



The world population of the unique Ascension predatory shrimp, *Procaris ascensionis*, is confined to just two rockpools on Ascension Island.

Discussion

As in most OTs, our knowledge of Ascension's marine environment is weaker than for the terrestrial environment, and entire taxonomic groups appear to be undocumented. We would expect groups such as bryozoans, echinoderms and tunicates to be present and more species of marine worms, crustaceans and molluscs than so far recorded. Current projects underway, funded by the UK Government's Darwin Programme, are expected to considerably improve this state of knowledge.

The green turtle, *Chelonia mydas*, is the one marine species where there is particularly good data stretching back over 35 years. Ascension holds the largest nesting population of turtles in the OTs and is the second largest nesting site for green turtles in the Atlantic Ocean, with an estimated 740–4,015 females nesting annually⁸.

In the terrestrial environment, there is good knowledge of birds and vascular plants including distribution and population data for some species. The largest gaps for terrestrial species are for fungi and lower plants.

We found records for 48 species confirmed as endemic to Ascension (although the true number is likely to be higher) and all eight that have been assessed for the IUCN Red List are Globally Threatened. There is a lack of data and monitoring information to assess the status of the remaining 40 known endemic species.

Considering the small size of Ascension and the threat of invasive plants on natural habitats, we can postulate that many of the endemics would classify as *at least* Vulnerable, under criteria that relate to range sizes (B2 and D2)⁹.

Global importance

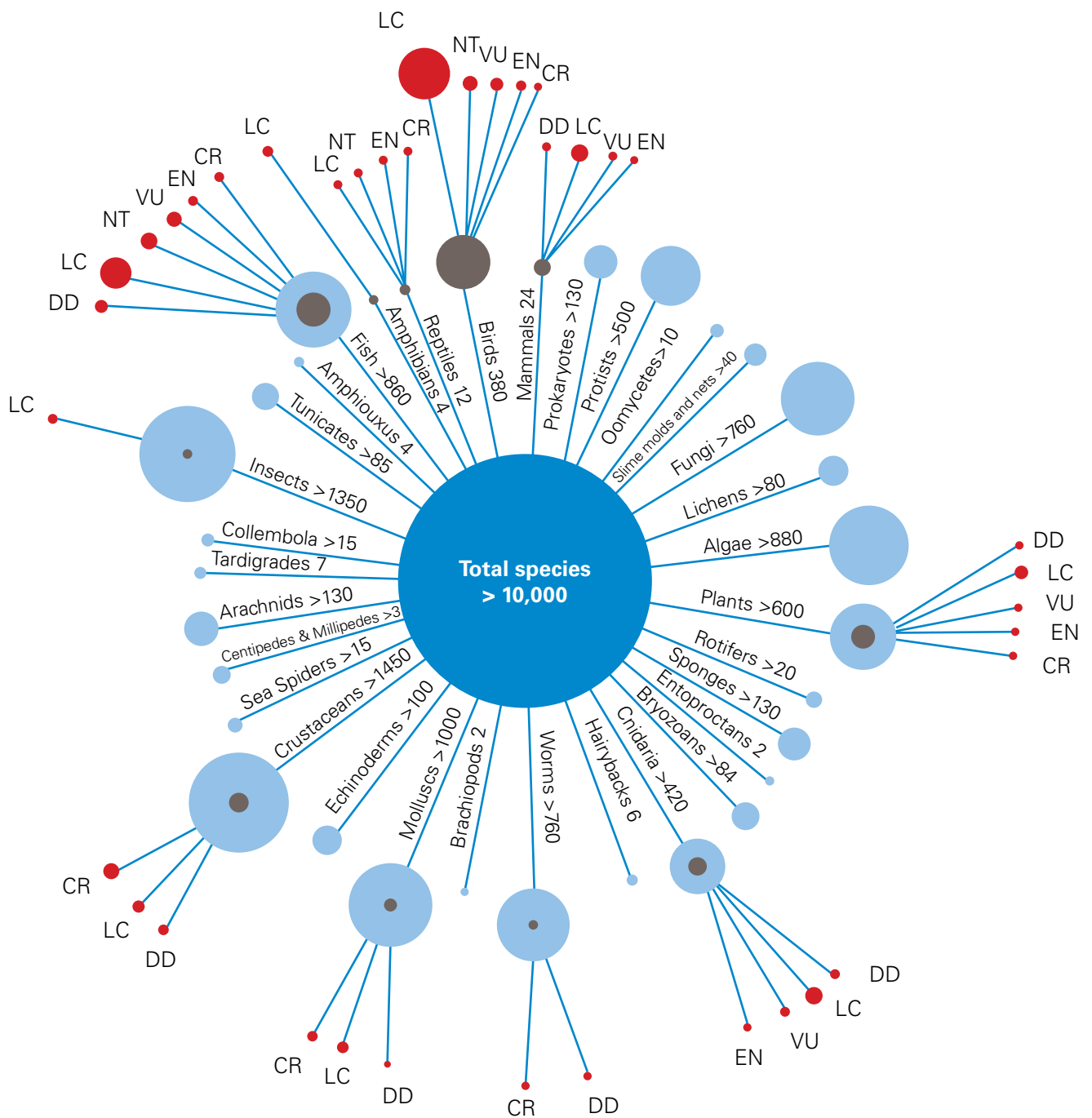
Critical marine habitats

Across the OTs, many of the unique species are restricted to tiny areas of habitat. On Ascension, the entire known global population of an endemic predatory shrimp *Procaris ascensionis* is confined to just two rockpools. Its closest relative occurs in subterranean caves in the Yucatan peninsula, Mexico, illustrating the connective influence of the Mid-Atlantic Ridge. These rockpools are a centre for endemism, as they also hold a unique globular seaweed species *Valonis ventricosa*. However, the rockpools are not a safe refuge as conger eels also live in the pools and prey on the shrimps. Another marine species, the endemic Ascension frigatebird, *Fregata aquila*, was driven from the mainland by feral cat predation.

For decades the global population was restricted to just one small off-shore rock stack, Boatswainbird island, a mere 5.3 ha in area, until a successful feral cat eradication led by the RSPB and supported by the Ascension Island Government, Wildlife Management International, and the Foreign & Commonwealth Office enabled them to return to breed once more on the mainland in 2012. Ascension's marine habitats currently remain unprotected, but given the island's lack of a permanent human population, offer the potential for ambitious marine conservation.

⁸Weber, N., Weber, S.B., Godley, B.J., Ellick, J., Witt, M. and Broderick, A.C. (2013) *Telemetry as a tool for improving estimates of marine turtle abundance*. Biological Conservation, 167: 90-96

⁹IUCN. (2012) *IUCN Red List Categories and Criteria: Version 3.1*. Second edition. Gland, Switzerland and Cambridge, UK: IUCN. Iv + 32pp



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 9. Infographic visualising the recorded species from Bermuda. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Bermuda

Total species recorded	10,029
Native species	9,128
Known endemic species	321
Endemic species assessed for IUCN Red List	32
Endemic Globally Threatened species	30
Known non-native species	901



Introduction

Bermuda lies in the Western Atlantic Ocean approximately 917 km to the east of North Carolina, USA and Bermuda consists of over 150 coral limestone islands and islets. The main islands have a land area of 53.6 km². A high degree of urbanisation (66% of the land is built on¹⁰) means there is relatively little natural habitat left on Bermuda, but there are small patches of woodland, mangrove, inland peat marshes and a network of subterranean caves.

Bermuda has the most comprehensive species list of all the island OTs. There is large and accessible literature addressing the species occurring on Bermuda and Dr Wolfgang Sterrer, a research associate at the Bermuda Zoological Society, has been compiling a species list for Bermuda over the past few decades and kindly provided us with a full copy.

Results

The results are summarised in figure 9 and in the table above. Generally the biodiversity of Bermuda is very well documented. We found records of 10,029 species, more than twice as many as for any other OT. Our knowledge of which species occur from each group is

generally greater than other island OTs. We found records for over 760 species of fungi from Bermuda, making up 72% of fungi records from all OTs. There were more than 1,400 crustaceans, more than three times those recorded on any other island OT; nearly 1,000 molluscs and over 880 algae, both more than double the number recorded on any other island OT.

To date 602 (7%) of the 9,128 native species on Bermuda have undergone assessment against IUCN Red List criteria. Of the 602, 72 are Globally Threatened with a further 34 Near Threatened and 19 Data Deficient. The remaining 477 assessed native species are categorised as Least Concern.

We found records describing 321 species as endemic, with a further 139 potentially endemic.

Thirty two (10%) of the 321 known endemic species have been assessed against the Red List criteria; 30 (94%) of these are Globally Threatened (27 CR, 2 EN, 1 VU) one is Data Deficient and one is Least Concern. Bermuda therefore has the highest number of globally threatened endemics of the island OTs.

¹⁰ Coates, K.A., Fourqurean, J.W., Kenworthy, W.J., Logan, A., Manuel, S.A., and Smith, S.R. (2013) *Introduction to Bermuda: geology, oceanography and climate*. Pp. 115–133 in C.R.C. Sheppard (ed.), *Coral Reefs of the United Kingdom Overseas Territories, Coral Reefs of the World 4*, Springer, London, UK

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Bermuda.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	24	+++	6	0	6
Birds	380	+++	351	1	12
Reptiles and amphibians	16	+++	6	1	9
Fish	861	+++	146	6	5
Vertebrate total	1,281		509	8	32
Insects	1,366	+++	4	30	347
Arachnids	136	+++	0	9	47
Crustaceans	1,493	+++	34	104	1
Echinoderms	101	+++	0	0	0
Molluscs	1,007	+++	7	49	46
Worms	769	+++	2	47	16
Cnidaria	426	+++	27	5	0
Sponges	133	+++	0	18	0
Other invertebrates	277		0	1	10
Invertebrate total	5,708		74	263	467
Plants	607	+++	19	18	402
Fungi	766	+++	0	26	0
Lichens	89	++	0	1	0
Algae	886	+++	0	2	0
Fungi/lichens/algae/plant total	2,348		19	47	402
Other	692		0	3*	0
Totals	10,029		602	321	901

*the three “other” endemic species are two protists and one slime mold.

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Masa Ushioda / Alamy



Large numbers of humpback whales, *Megaptera novaeangliae*, migrate through Bermuda’s waters every year.

Discussion

Bermuda has a particularly high number of Critically Endangered endemic species, many of which are marine invertebrates found only in the subterranean caves: they qualify as Critically Endangered due to their tiny ranges. This unusual set of organisms has undergone assessment because an academic research group (based at Texas A&M University, Galveston) have studied the cave systems for over 20 years. The research has built a picture of distributions, populations and threats for these endemic species, providing the information required to conduct IUCN Red List assessments. Cave systems occur on other Caribbean Territories, but a lack of research on these systems means we have much less knowledge on the biodiversity living in them. We might expect these other Caribbean cave systems to be as unique and important as those on Bermuda.

The reefs around Bermuda are relatively well studied and conservation actions have been instigated following research discoveries. For example, the Pacific lionfish *Pterois volitions*, became established as an invasive species in 2000. Culling activities are underway to try and control the lionfish, which is a voracious predator of small fish. Further research has concluded that there are currently no other threatening marine species in Bermuda.

However, there is limited knowledge of life histories of coral reef species and their dispersal capabilities, population statistics and ecology. The lack of this information prevents the design of an effective and responsive coral reef management plan¹¹.

Global importance

Species recovery

Conservation actions on the OTs can lead to the recovery of a species population and lessen the threat of extinction. The most successful actions for targeted species are those based on good levels of knowledge and evidence.

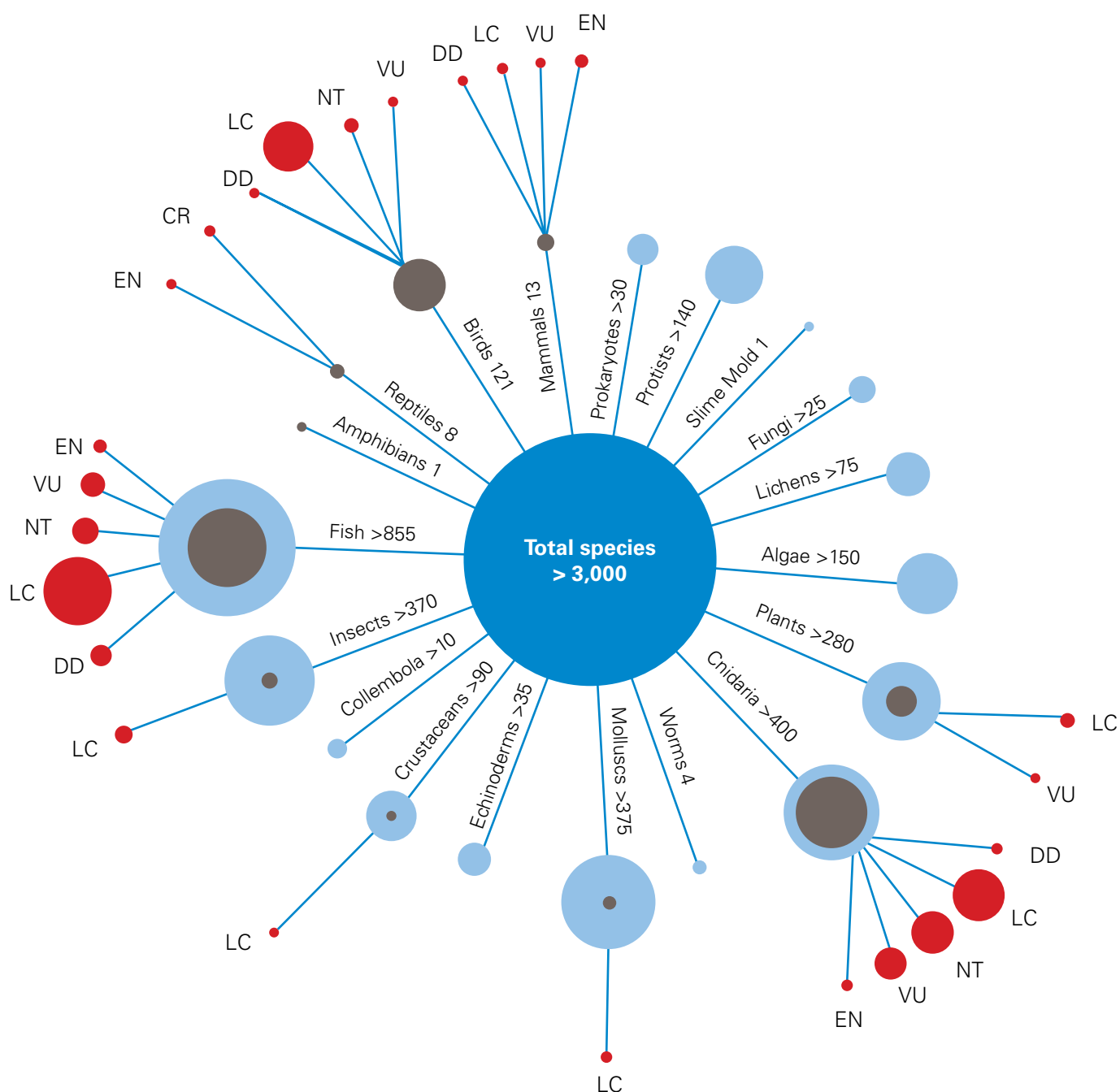
The endemic Bermuda petrel *Pterodroma cahow* had a recorded global population of just 18 breeding pairs in 1951. Research identified a range of threats to the species survival including predation from non-native species and poor nesting habitat.

The species was classified as Critically Endangered, and conservation actions were put in place to alleviate pressures through predator control and the provision of artificial nest sites. This intensive management has seen the population of Bermuda petrels increase slowly to an estimated 101 breeding pairs in 2012¹². To further support recovery, the translocation of some birds to establish a new colony on Nonsuch Island began in 2005. By 2011, 22 translocated birds had returned to Nonsuch. Although still Red Listed as Endangered (due to continued small population size and breeding range) if the population continues to grow then it will warrant down-listing to Vulnerable in due course¹³.

¹¹ Locke, J.M., Coates, K.A., Bilewitch, J.P., Holland, L.P., Pitt, J.M., Smith, S.R. and Trapido-Rosenthal, H.G. (2013) Biogeography, Biodiversity and Connectivity of Bermuda's Coral Reefs. IN: Sheppard, C.R.C. (ed) *Coral Reefs of the United Kingdom Overseas Territories*. Springer, pp.153–172.

¹² Madeiros, J. (2012) Cahow Recovery Program, 2011–2012 Breeding Season Report. Department of Conservation Services, Bermuda Government. Pp 28.

¹³ BirdLife International (2014) Species factsheet: *Pterodroma cahow*. Downloaded from birdlife.org on 03/03/2014.



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 10. Infographic visualising the recorded species from the British Indian Ocean Territory. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

British Indian Ocean Territory

Total species recorded	3,017
Native species	2,755
Known endemic species	9
Endemic species assessed for IUCN Red List	1
Endemic Globally Threatened species	1
Known non-native species	262



Introduction

The British Indian Ocean Territory is an archipelago located in the geographical centre of the tropical Indian Ocean (centred around 72° east, 6° south). The archipelago consists of five island atolls, plus submerged atolls and submerged banks covering c.60,000 km² in total¹⁴.

The Portuguese were the first Europeans, and probably the first humans, to discover the islands in the 1600s. In the 1800s the islands were inhabited and coconut plantations were established¹⁵.

Today the islands have no permanent population, although there is a US naval and communications facility on Diego Garcia, which supports around 3,000 staff¹⁵.

Scientific interest in the islands began in 1837 when Moresby mapped the reefs in detail, but was sporadic until the 1990s when regular scientific expeditions began¹⁶. Research has tended to focus on the marine environment, with the British Indian Ocean Territory widely accepted as one of the world's best remaining coral reefs. In 1999, Sheppard and Seaward published the *Ecology of the Chagos Archipelago* bringing together all scientific knowledge prior to publication¹⁷.

Results

The results are summarised in figure 10 and in the table above. Compared to other island OTs, our knowledge is particularly good for the marine environment where the majority of research effort has focused.

To date, 630 (23%) of the 2,755 native species on British Indian Ocean Territory have been assessed against IUCN Red List criteria. Of the 630 native species, 70 are Globally Threatened with a further 93 Near Threatened and 19 Data Deficient. The remaining 448 assessed native species are Least Concern.

We found records describing nine species as endemic, and of these, one, the brain coral *Ctenella chagius*, is Red Listed as Endangered. No other endemic species have been assessed against the IUCN Red List criteria.

¹⁴ Dumbraveanu, D., and Sheppard, C.R.C. (1999). Areas substrate at different depths in the Chagos Archipelago. Pp 44 in C.R.C. Sheppard and M.R.D. Seaward (eds) *Ecology of the Chagos Archipelago*. Linnean Society Occasional Publications 2, London.

¹⁵ Sheppard, C.R.C., Seaward, M.R.D., Klaus, R., and Topp, J.M.W. (1999) The Chagos Archipelago: an introduction. Pp. 1–20 in C.R.C. Sheppard, and M.R.D. Seaward (eds) *Ecology of the Chagos Archipelago*. Linnean Society Occasional Publications 2, London

¹⁶ Sheppard, C.R.C., Bowen, B.W., Chen, A.C., Craig, M.T., Eble, J., Fitzsimmons, N. et al. (2013) British Indian Ocean Territory (the Chagos Archipelago): setting, connections and the marine protected area. Pp. 223–240. in C.R.C. Sheppard (ed.) *Coral Reefs of the United Kingdom Overseas Territories*, Coral Reefs of the World 4, Springer Science

¹⁷ Sheppard, C.R.C., and Seaward, M.R.D. (1999) *Ecology of the Chagos Archipelago*, Linnean Society Occasional Publications 2, London

Numbers of species recorded and our level of knowledge for each taxonomic grouping in British Indian Ocean Territory.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	13	+++	6	0	7
Birds	121	+++	113	0	8
Reptiles and amphibians	9	+++	3	0	6
Fish	859	+++	263	3	0
Vertebrate total	1,002		385	3	21
Insects	374	++	7	3	6
Arachnids	0	+	0	0	0
Crustaceans	94	++	1	0	0
Echinoderms	36	+++	0	0	0
Molluscs	377	+++	2	1	0
Worms	4	+	0	0	0
Cnidaria	407	+++	222	1	0
Sponges	0	+	0	0	0
Other invertebrates	10		0	0	0
Invertebrate total	1,302		232	5	6
Plants	280	++	13	0	235
Fungi	25	+	0	0	0
Lichens	77	++	0	0	0
Algae	152	++	0	1	0
Fungi/lichens/algae/plant total	534		13	1	235
Other	179		0	0	0
Totals	3,017		630	9	262

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Anne Sheppard



The endemic and Endangered brain coral, *Ctenella chagius*, is the only Red List assessed endemic of the British Indian Ocean Territory.

Discussion

The marine environment is well documented, and scientific expeditions continue to monitor reef health and the distribution of marine species. In the marine environment, we were unable to locate any species data for sponges, although sponge cover is a parameter measured by reef ecologists.

The largest knowledge gaps are from the terrestrial environments, particularly invertebrates, lower plants and fungi. Insects are under-recorded and orders such as psocoptera and thysanoptera have no information at species level. We were unable to locate any records for arachnids.

Matching the pattern across many other island OTs, worms are under-recorded from the terrestrial and marine environments.

There is dispute over the continued presence of some non-native vertebrate species. Two introduced freshwater turtles, *Melanchelys trijuga* and *Pelusios subniger*, appear to now be extirpated with the last confirmed records dating from 1885 and 1905 respectively.

Over four years of turtle trapping and searching suitable habitats had not found any individuals by March 2013, despite a claimed sighting in 2012¹⁸.

Global importance

Coral reefs and marine protected areas

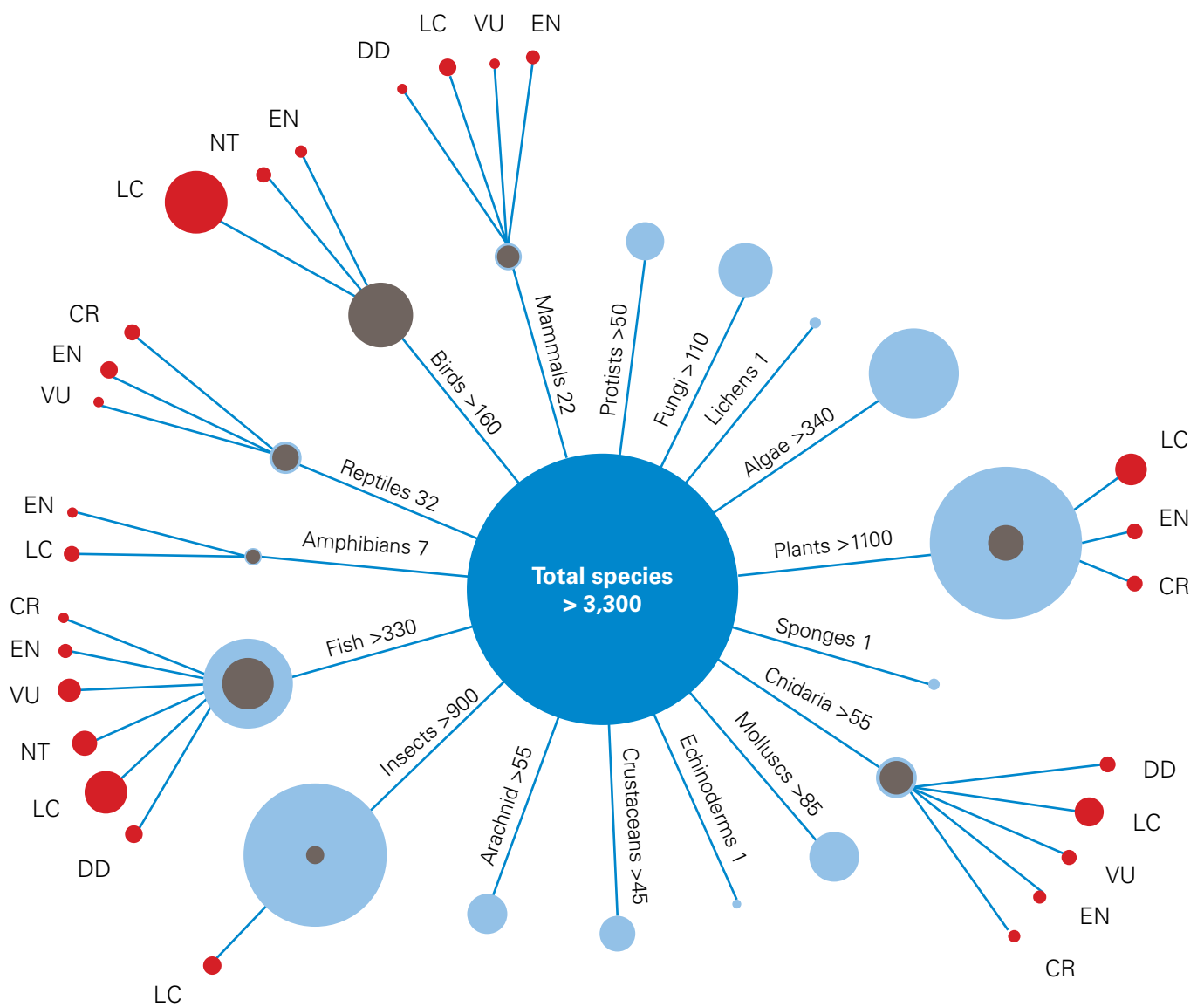
The OTs are globally important for coral reefs. The reef area inside OT waters was mapped at 4,712 km² by the Millennium Mapping Project, which makes the UK approximately the 12th largest reef nation of the world. British Indian Ocean Territory contains some of the best condition tropical coral reefs on the planet. These reef systems comprise at least 25% of the Indian Oceans "Low Threat" reef systems formed of the largest contiguous "Low Threat" reef tracts¹⁹.

One reason for the good health of the reef systems is that they are commercially unexploited. To prevent future exploitation leading to the degradation of the reefs, the UK Government declared a no-take marine protected area stretching to the 200 nautical mile boundary in April 2010 (excluding Diego Garcia to three nautical miles). When declared, it was the largest no-take marine protected area in the world²⁰. It was established in a partnership between the UK Government, the Bertarelli Foundation and the Blue Marine Foundation. The Bertarelli Foundation supports its ongoing protection.

¹⁸ Peter Carr, personal communication

¹⁹ Burke, L., Reynter, K., Spalding, M., and Perry, A. (2011) *Reefs at risk revisited*. World Resources Institute, Washington, DC, 130pp

²⁰ Nelson, J., and Bradner, H. (2010) The case for establishing ecosystem-scale marine reserves. *Marine Pollution Bulletin*, 60: 635–637



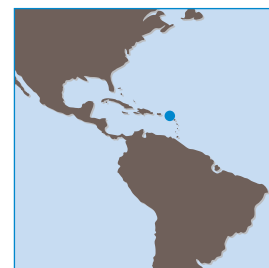
Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 11. Infographic visualising the recorded species from the British Virgin Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

British Virgin Islands

Total species recorded	3,338
Native species	3,315
Known endemic species	14
Endemic species assessed for IUCN Red List	4
Endemic Globally Threatened species	4
Known non-native species	23+



Introduction

The British Virgin Islands are located in the northeastern Caribbean, 60 miles east of Puerto Rico, and consist of approximately 240 islands. Most of the islands are uplifted volcanoes with steep sides. Anegada differs in being a flat-topped emergent coral limestone platform with a maximum altitude of eight metres above sea level.

The British Virgin Islands have been associated with Britain since the English took control of Tortola from the Dutch in 1666. For over 200 years, before the abolition of slavery, the main economy was sugar plantations. After that, the land was sold for smallholdings. Today, the economy is heavily dependent on tourism and financial services.

Intensive scientific research has been carried out on the private island of Guana since the 1970s. These studies have documented much of the biodiversity that occurs on the island and in the surrounding waters. To date, Guana Island is richer in recorded flora and fauna for its size than any other island studied in the Caribbean, and possibly the world²¹.

Results

The results are summarised in figure 11 and the table above. Our knowledge of what species occur from each group is generally good compared to other island OTs for terrestrial species, but is weak for the marine environment.

To date 360 (11%) of the 3,315 native species on British Virgin Islands have undergone assessment against IUCN Red List criteria. Of the 360 native species, 47 are Globally Threatened with a further 21 Near Threatened and 12 Data Deficient. The remaining 280 assessed native species are Least Concern.

We found records describing 14 species as endemic. Four of these have been assessed against IUCN Red List criteria. All four are Globally Threatened (2 EN, 2 CR).

²¹ Lazell, J. (2005) *Island: Fact and Theory in Nature*. University of California Press, Los Angeles

Numbers of species recorded and our level of knowledge for each taxonomic grouping in British Virgin Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	22	+++	12	0	10
Birds	167	+++	166	0	1
Reptiles and amphibians	38	+++	15	9	7
Fish	331	+++	100	0	1
Vertebrate total	558		283	9	19
Insects	903	++	7	1	3
Arachnids	56	++	0	0	0
Crustaceans	45	+	0	0	0
Echinoderms	1	+	0	0	0
Molluscs	85	++	0	0	1
Worms	0	+	0	0	0
Cnidaria	56	++	37	0	0
Sponges	1	+	0	0	0
Other invertebrates	0		0	0	0
Invertebrate total	1,147		44	1	4
Plants	1,125	++	23	4	?
Fungi	113	++	0	0	0
Lichens	1	+	0	0	0
Algae	343	+++	0	0	0
Fungi/lichens/algae/plant total	1,582		23	4	?
Other	51		0	0	
Totals	3,338		360	14	23+

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Alejandro Sánchez



The Virgin Islands dwarf gecko, *Sphaerodactylus parthenopion*, is one of the smallest terrestrial vertebrates in the world. Found on only three of the British Virgin Islands, its conservation status is unknown.

Discussion

We have a good understanding of the terrestrial biodiversity occurring in the British Virgin Islands, with records for a wide range of species groups. We have excellent knowledge of the biodiversity of Guana Island, although knowledge is more limited for other islands.

The weakest area of knowledge is for marine invertebrates; we found very few records for species of sponges, worms and echinoderms. Considering that marine research does occur on the islands we would expect there to be records of species for these groups, although they may not be in an accessible format (such as field notebooks).

The British Virgin Islands are important for Caribbean reptiles. Twenty-two species of native terrestrial reptile have been recorded from the British Virgin Islands, more than on any other island OT, and eight of these are endemic. So far seven of these native terrestrial reptiles have been assessed against the IUCN criteria and all are Globally Threatened (4 EN, 3 CR); three are endemic (1 EN, 2 CR). It is highly likely that some of the 15 yet to be assessed species are Globally Threatened, including some or all of the five endemics. Terrestrial reptiles are therefore a serious conservation concern for the British Virgin Islands.

Global importance

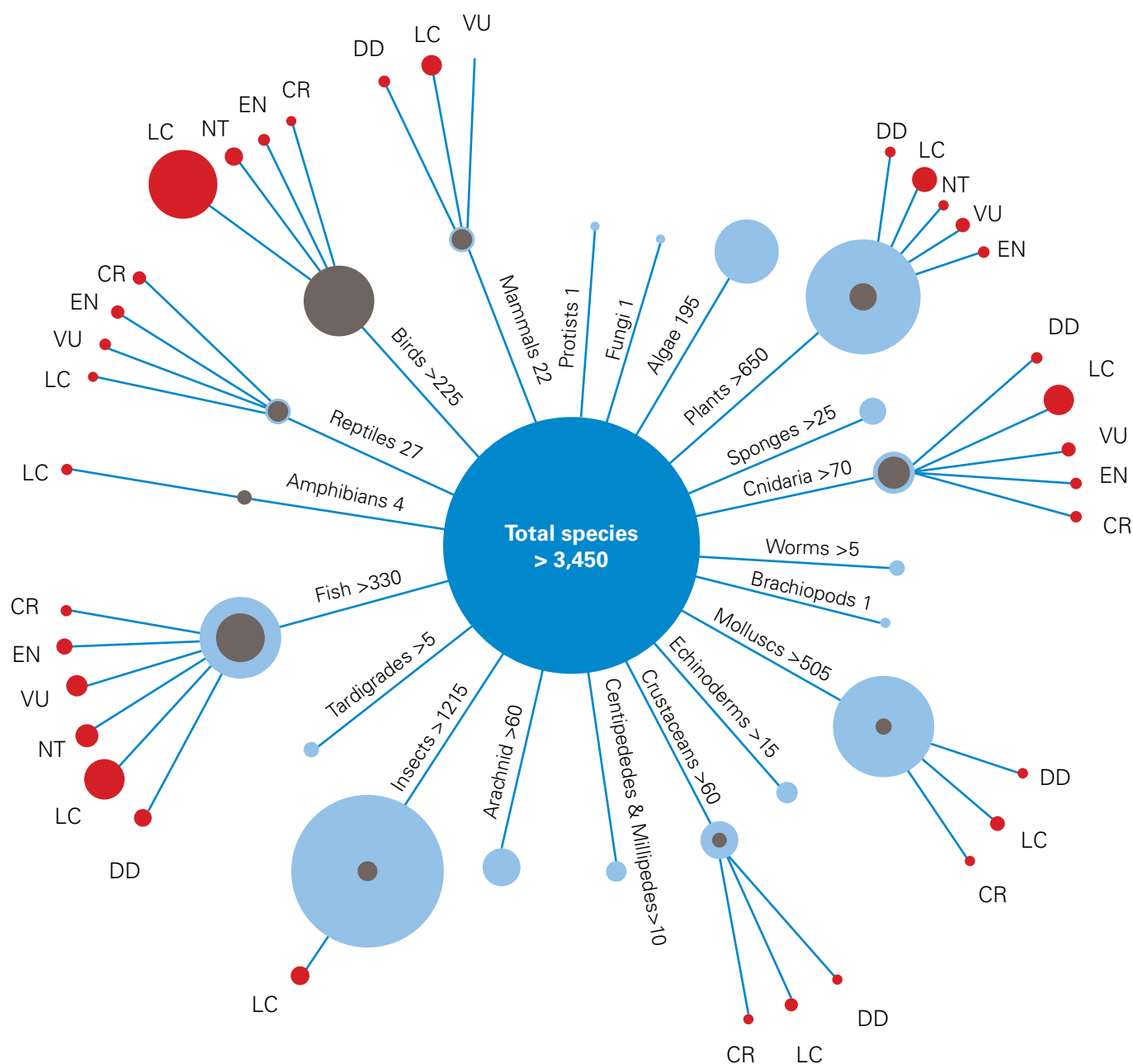
Island treasure troves

The OTs include some of the most pristine and biologically diverse small islands on earth. The privately owned 300 ha Guana Island, in the British Virgin Islands, is home to a huge number of species from a wide range of taxonomic groups²². This is surprising because ecological theories of biogeography predict that the number of species found on Guana Island should be much lower than it actually is for its size.

However, the recorded diversity of species on Guana rivals that of Caribbean islands with a much larger size and it is the most biodiverse island of its size known globally. There is a research station on Guana Island which aims to catalogue the species, gain a better understanding of how the ecosystem functions and use this knowledge to improve how we conserve ecosystems elsewhere.

This research is a true reflection of the high biological value of Guana Island. It also illustrates the impact that a research station and the associated increase in knowledge can have on our perception of conservation importance, and throws into light how under-recorded most other places may be.

²² Lazell, J. (2005) *Island: Fact and Theory in Nature*. University of California Press, Los Angeles



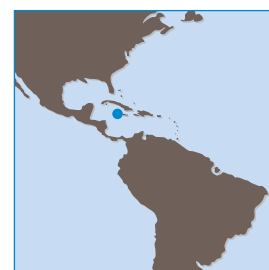
Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 12. Infographic visualising the recorded species from the Cayman Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Cayman Islands

Total species recorded	3,458
Native species	3,194
Known endemic species	106
Endemic species assessed for IUCN Red List	5
Endemic Globally Threatened species	3
Known non-native species	264



Introduction

The Cayman Islands are at the western end of the Greater Antilles in the Caribbean, 240 km south of Cuba, 740 km south of Miami and 270 km northwest of Jamaica. They are formed entirely of calcareous marine deposits and rose from the sea some ten million years ago. Although the Cayman Islands have never been joined to any other land mass, tectonic movement indicates they would previously have been located closer to Jamaica²³.

European discovery of the Cayman Islands was by Christopher Columbus in 1503 when he found them uninhabited. Permanent human occupation did not occur until the late 1700s. Today, the population of the Cayman Islands is over 54,000 people²⁴.

There is a long tradition of scientific study on the Cayman Islands. The first recorded natural history collection was made by Richardson in 1886; although it was the Oxford University Cayman Islands Biological Expedition (1938) and the resulting publication that formed the basis of future scientific work. In 1994, Brunt and Davies published *The Cayman Islands: Natural History and Biogeography* which collated all knowledge on the biodiversity of the Cayman Islands.

More recently, scientific work on the vascular flora led by Fred Burton has successfully assessed all native plants for a regional Red List²⁵.

Results

The results are summarised in figure 12 and the table above. Our knowledge of species occurrence is generally good compared to other island OTs. Importantly, the bulk of the literature is relatively easy to locate and access thanks to the seminal book *The Cayman Islands: Natural History and Biogeography*²³.

To date, 450 (14%) of the 3,188 native species on the Cayman Islands have undergone assessment against IUCN Red List criteria. Of these, 48 are Globally Threatened with a further 28 Near Threatened and 13 Data Deficient. The remaining 361 are Least Concern.

We found records describing 106 species as endemic. Five (5%) of the 106 known endemics have been assessed against the IUCN Red List criteria, and of these, three are Globally Threatened (1 CR, 2 EN) and two are Least Concern.

Recent work has conducted regional assessments for all of the native vascular plant species in the Cayman Islands²⁵. The regional assessments (which follow IUCN criteria) are effectively global assessments for the endemic plants: 23 would qualify as Threatened (15 CR, 5 EN and 3 VU) including upgrading the current global assessments of the climbing cactus *Epiphyllum phyllanthus* (LC) and black mastic *Terminalia eriostachya* (EN) both to Critically Endangered.

²³ Brunt, M.A., and Davies, J.E. (1994) *The Cayman Islands: Natural History and Biogeography*. Kulwer Academic Press

²⁴ Cayman Islands Government 2010 Census Data, gov.ky access 03/02/2014

²⁵ Burton, F.J. (2008) *Threatened plants of the Cayman Islands: the Red List*. Kew Publishing

Numbers of species recorded and our level of knowledge for each taxonomic grouping in the Cayman Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	22	+++	13	0	9
Birds	228	+++	223	0	5
Reptiles and amphibians	31	+++	9	16	4
Fish	330	++	109	1	1
Vertebrate total	611		354	17	19
Insects	1,217	+++	10	30	1
Arachnids	64	++	0	0	0
Crustaceans	63	++	5	1	1
Echinoderms	15	++	0	0	0
Molluscs	505	+++	6	30	0
Worms	5	+	0	0	0
Cnidaria	74	++	42	0	0
Sponges	27	+	0	0	0
Other invertebrates	22		0	0	0
Invertebrate total	1,992		63	61	2
Plants	658	+++	33	28	243
Fungi	1	+	0	0	0
Lichens	0	+	0	0	0
Algae	195	++	0	0	0
Fungi/lichens/algae/plant total	854		33	28	243
Other	1		0	0	0
Totals	3,958		450	106	264

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Christine Rose-Smyth



Endemic Grand Cayman blue-throated anole, *Anolis conspersus*, on the endemic banana orchid, *Myrmecophila thomsoniana*, the national flower of the Cayman Islands.

Discussion

Knowledge of species presence for many taxonomic groups in the Cayman Islands is good, but there are significant gaps. Scientific research has not been conducted on fungi and lichens. We were only able to find one confirmed species record, despite encountering reports of people eating mushrooms in the Cayman islands and wild collected mushrooms being offered in restaurants (presumed to be the chanterelle, *Cantharellus cibarius*). Collections of amateur photographs of unidentified Cayman fungi indicate that a diverse number of fungi and lichen species occur there.

The Cayman Islands possess over 100 known endemic species and, with further research, it is highly likely that

this number will increase. Unfortunately, with the exception of endemic vascular plants, data to assess their conservation status is lacking. Currently, of the five endemic species that have been assessed against Red List criteria, three are Globally Threatened, including the Critically Endangered land snail *Cerion nanus*, confined to an area of only 300 m² and considered by some to be the rarest snail in the world²⁶.

As with other island OTs, knowledge of the marine environment is weaker than for the terrestrial environment. Data on marine invertebrates, such as worms, sponges and bryozoans is particularly lacking.

Global importance

Documenting the OTs flora – Royal Botanic Gardens Kew

Most island OTs do not have as good a botanical inventory as Cayman, with many having outdated baseline taxonomic information. To resolve this problem, Royal Botanic Gardens Kew is working with partner organisations in the OTs and other herbarium worldwide to create the *UKOTs Online Herbarium* (**herbaria.plants.ox.ac.uk/bol/UKOT**). Established with funding from the Overseas Territories Environment Programme, the main aim of the *UKOTs Online Herbarium* is to provide robust, accurate botanical information on which OTs can base conservation management decisions. The virtual herbarium is now being further developed, and maintained as part of the core activities of staff in Kew's dedicated UK Overseas Territories programme.

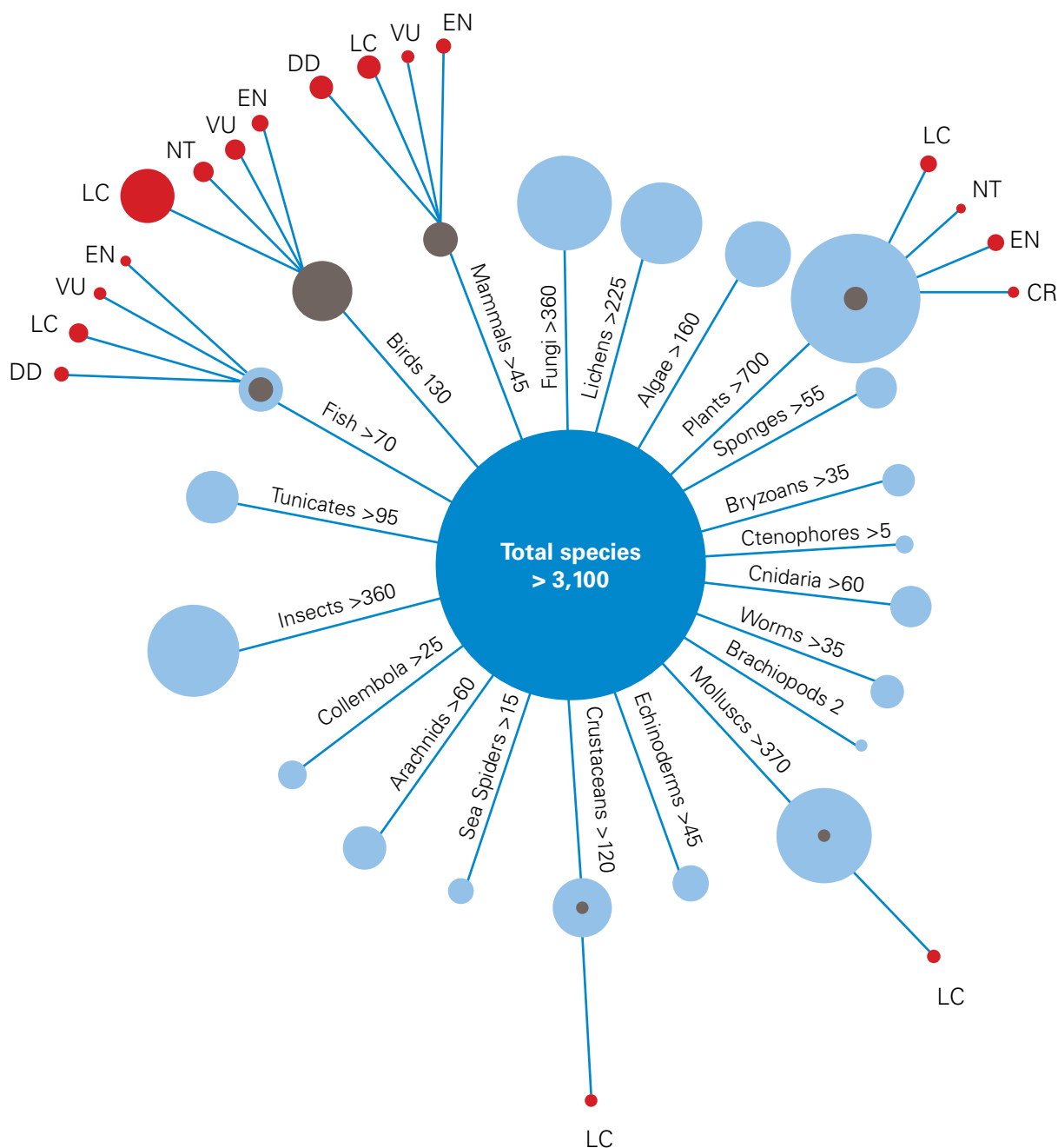
The virtual herbarium allows internet-based access to digitised, geo-referenced herbarium specimens initially from Kew's collection together with associated data, field images and key botanical literature. By the end of 2013, the database contained:

- 19,500 digitised herbarium specimens
- 20,000 scanned specimen images
- 10,000 species names (includes accepted names and synonyms)
- 7,500 gazetteer locations.

Many of the specimens are historical collections and in many cases have not been looked at since they were collected; a common problem across all taxonomic groups in the OTs. Specimens and historical reports require re-examination in the light of changes in our understanding of plant taxonomy and plant distributions to ensure that any mistakes in current OT lists are rectified.

These data are also being used to undertake Red List assessments with the aim of providing a comprehensive Red List for each OT. This is being done in close association with OT partners. Royal Botanic Gardens Kew have started running Red List workshops and in several cases have been able to fund key Territory-based botanists/conservationist to attend these. This work is at a relatively early stage when compared to the size of the challenge.

²⁶ Hounscome, M.V. (1994) Terrestrial invertebrates (other than insects) of the Cayman Islands. In M.A. Brunt., and J.E., Davies (eds.) *The Cayman Islands: Natural History and Biogeography*, 307–331. Kulwer Academic Press.



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 13. Infographic visualising the recorded species from the Falkland Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Falkland Islands

Total species recorded	3,141
Native species	2,805
Known endemic species	82
Endemic species assessed for IUCN Red List	16
Endemic Globally Threatened species	7
Known non-native species	336



Introduction

The Falkland Islands lie in the South Atlantic, between 51–53° south and 57–61° west. The islands are an archipelago consisting of two main islands and 778 smaller islands with a total land area of 12,173 km².²⁷

The Falkland Islands were uninhabited when English sea captain John Davies first sighted them in 1592, but it took until 1690 before the first recorded landing. Settlement began during the latter half of the 1700s and Stanley officially became the capital in 1845. Historically the economy was based on the export of high-grade sheeps' wool, however today the economy depends on the fishing industry supported by varying amounts from agriculture and tourism.

Apart from a dip in population during the 1980s, the population steadily increased during the 20th Century, before becoming static from 2001. The 2012 census put the population at 2,563, with more than 75% living in the capital Stanley²⁷.

Scientific research has a strong history in the Falklands Islands, with many scientific expeditions of the 1800s and 1900s visiting the islands (often as a staging post during their travels). Recent history has seen an increase in scientific research in the Falkland Islands. There are close links with the British Antarctic Survey and there are a number of organisations now carrying out biodiversity research in the Falkland Islands, including Falklands Conservation, the South Atlantic Environmental Research Institute (SAERI), and a research-focused Fisheries Department.

Results

The results are summarised in figure 13 and the table above. Our knowledge of what species occur is good for a range of groups, including fungi and lichens; two taxonomic groups that are often under-researched and under-recorded in the island OTs.

To date, 197 (7%) of the 2,805 native species on the Falkland Islands have been assessed against IUCN Red List criteria. Of the 197 native species assessed, 29 are Globally Threatened with a further 12 Near Threatened and 18 Data Deficient. The remaining 138 assessed native species are Least Concern.

We found records describing 82 species as endemic and there are likely to be other endemic species that have not yet been described. Sixteen (two birds and 14 plants) of the 82 known endemic species have been assessed against the IUCN Red List criteria. Seven are Globally Threatened (1 VU, 5 EN, 1 CR) with the remaining nine Least Concern (LC).

²⁷ Falklands Island Government falklands.gov.fk

Numbers of species recorded and our level of knowledge for each taxonomic grouping in the Falkland Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	48	+++	34	0	14
Birds	130	+++	130	2	2
Reptiles and amphibians	0	+++	0	0	0
Fish	71	++	15	0	1
Vertebrate total	249		177	2	17
Insects	361	+++	0	2	36
Arachnids	63	+++	0	18	12
Crustaceans	123	++	2	0	0
Echinoderms	47	++	0	0	0
Molluscs	374	+++	2	0	0
Worms	37	+	0	0	0
Cnidaria	64	++	0	0	0
Sponges	59	+++	0	0	0
Other invertebrates	187		0	0	0
Invertebrate total	1,315		4	20	48
Plants	712	++	14	60	233
Fungi	364	++	0	0	29
Lichens	259	++	0	0	0
Algae	161	++	0	0	0
Fungi/lichens/algae/plant total	1,496		14	60	271
Other	81		0	0	0
Totals	3,141		197	82	336

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Falklands Conservation



The Queen of the Falklands fritillary, *Yramea cytheris*, is the only species of butterfly to breed on the Falkland Islands.

Discussion

Our knowledge of the species present in the Falkland Islands is very good, with current and planned work programmes continually improving what we know. Weaker areas of knowledge such as marine worms, lower plants and the marine environment are being addressed.

All of the 16 endemic species currently assessed against the IUCN Red List criteria are higher plants or birds. The conservation status of other endemic groups is currently unknown and there is no monitoring in place to enable assessments. A national Red List for vascular plants has been completed,

suggesting that a further 33 plants are threatened on the Falkland Islands, in addition to the six Globally Threatened endemic plants.

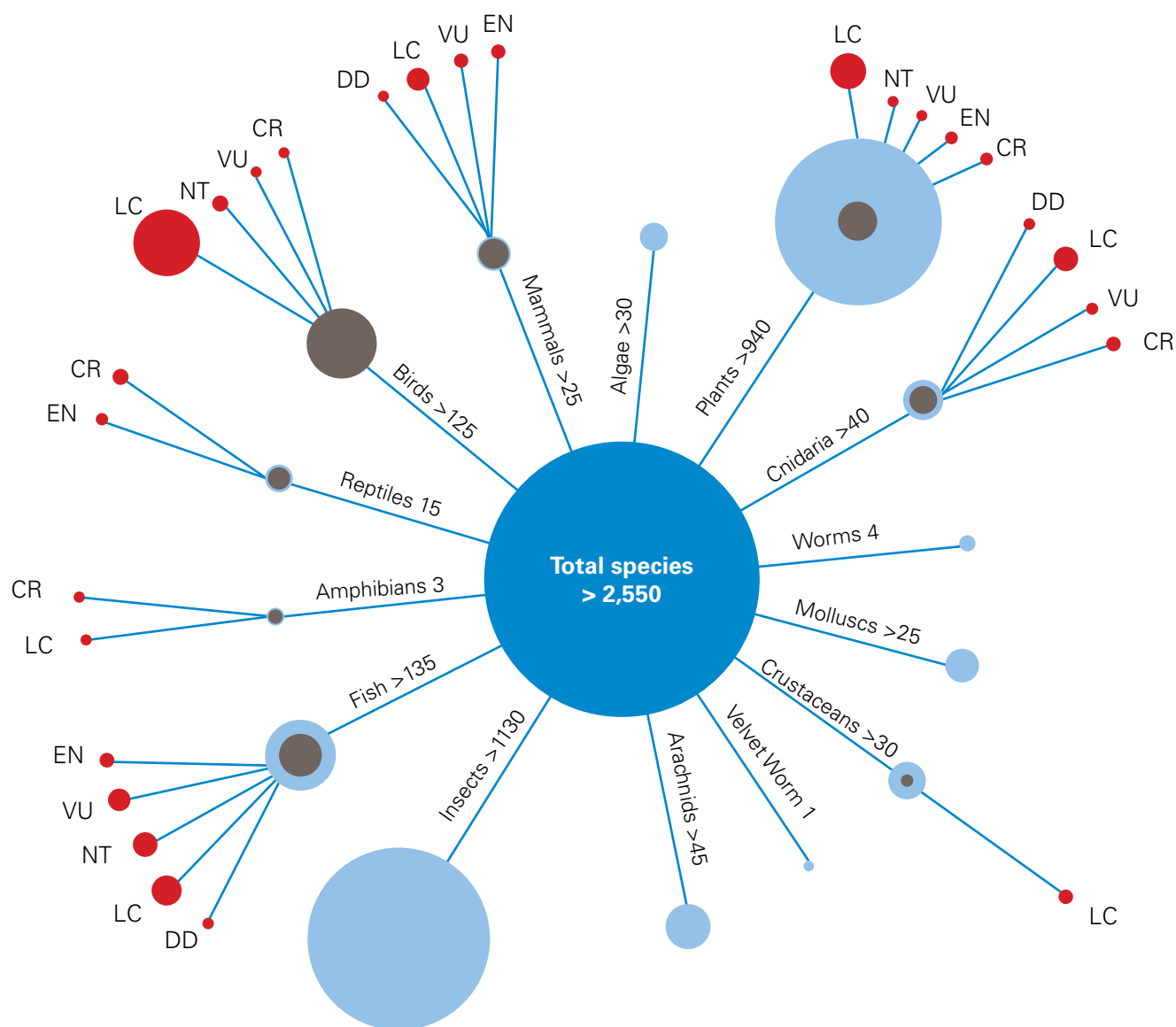
Although information on species occurrence on islands within the Falklands is good, finer scale distribution is limited to birds (population monitoring restricted to seabirds), sea lions and some plants. Understanding the local distributions of endemic species (particularly invertebrates) is crucial in assessing conservation status and potential threats.

Global importance

Scientific studies of seabirds

The UK Overseas Territories are globally important for seabirds, both numerically, and in terms of conservation status. The Falkland Islands hold an estimated 67–70% of the global population of black-browed albatrosses, *Thalassarche melanophris* (NT); approximately 36% of the world's population of southern rockhopper penguins, *Eudyptes chrysocome* (VU); approximately 34% of the world's population of gentoo penguins, *Pygoscelis papua* (NT) and 41.7% of the world's population of Southern giant petrels, *Macronectes giganteus* (LC). Accordingly, fluctuations in local populations impact the global conservation status of these species.

Falklands Conservation initiated the Falkland Islands Seabird Monitoring Programme in 1989/90. Since then, population monitoring has continued on an annual basis with the programme now covering seven seabird species, including those listed above. Falklands Conservation has also conducted five-yearly Islands-wide censuses of black-browed albatrosses, gentoo and rockhopper penguins since 1995. The information gathered from the Falkland Islands Seabird Monitoring Programme and Islands-wide censuses has contributed to the identification of local, regional and global conservation priorities and provided information necessary for IUCN Red Listing.



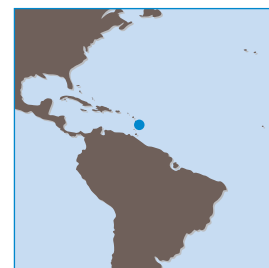
Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 14. Infographic visualising the recorded species from Montserrat. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Montserrat

Total species recorded	2,575
Native species	2,340
Known endemic species	85
Endemic species assessed for IUCN Red List	5
Endemic Globally Threatened species	5
Known non-native species	235



Introduction

The Caribbean island of Montserrat, situated in the Leeward Islands of the Lesser Antilles, is at 16.7°N and 62.2°W. Named by Christopher Columbus on his second voyage in 1493, Montserrat came under British control in the early 1630s when settlers were transported from the over-populated island of St. Kitts²⁸.

Recent history has been dominated by the Soufrière Hills Volcano, which began erupting in 1995 after over 400 years of relative inactivity²⁹. Two years later, in 1997, the volcano destroyed the southern half of the island including the capital Plymouth³⁰. There is now an exclusion zone covering the southern half of Montserrat and the volcano is under constant surveillance by the Montserrat Volcano Observatory.

Scientific research on Montserrat has been most extensive in the Centre Hills, where various researchers and organisations have been studying birds, amphibians, reptiles and beetles over the years. Knowledge of the Centre Hills was compiled in the Centre Hills Biodiversity Assessment³¹.

Results

The results are summarised in figure 14 and the table above. Our knowledge of what species occur is good for birds, amphibians and reptiles, but is lacking for many other groups.

To date, 253 (11%) of the 2,340 native species on Montserrat have undergone assessment against IUCN Red List criteria. Of the 253 native species assessed, 35 are Globally Threatened with a further 16 Near Threatened and three Data Deficient. The remaining 199 assessed native species are Least Concern.

We found records describing 85 species as endemic with at least another 19 potentially endemic. Five endemic species have been assessed; all of these are Critically Endangered (two plants, two reptiles, one bird). Although the endemic plant *Xylosma serrata* has not been assessed, Royal Botanic Gardens Kew consider it potentially extinct, due to the single known location having been destroyed by volcanic activity and no ex-situ material existing³².

²⁸ Fergus, H.A. (2004) *Montserrat: History of a Caribbean Colony*. Macmillan Education, Oxford, UK

²⁹ Stone, R. (2003) *Stalking nature's most dangerous beasts*. Science, 299(5615): 2015

³⁰ Stone, R. (2003) *Bracing for the big one on Montserrat*. Science, 299(5615): 2027–2030

³¹ Young, R.P. (ed.) (2008) *A biodiversity assessment of the Centre Hills, Montserrat*. Durrell Wildlife Conservation Trust, Jersey, Channel Islands.

³² Hamilton, M.A., Clubbe, C., Robbins, S.K., and Bárrios, S. (2008) *Plants and Habitats of the Centre Hills and Montserrat*. In R.P. Young (ed.) *A Biodiversity Assessment of the Centre Hills, Montserrat*. Durrell Wildlife Conservation Trust, Jersey, Channel Islands.

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Montserrat.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	26	+++	17	0	9
Birds	129	+++	126	1	3
Reptiles and amphibians	18	+++	8	5	4
Fish	137	++	45	0	1
Vertebrate total	310		196	6	17
Insects	1,134	++	0	73	67
Arachnids	49	++	0	2	4
Crustaceans	32	+	2	0	0
Echinoderms	0	+	0	0	0
Molluscs	26	+	0	1	0
Worms	4	+	0	0	0
Cnidaria	41	++	16	0	1
Sponges	0	+	0	0	0
Other invertebrates	1	+	0	0	0
Invertebrate total	1,287		18	76	72
Plants	945	++	39	3	146
Fungi	0	+	0	0	0
Lichens	0	+	0	0	0
Algae	33	+	0	0	0
Fungi/lichens/algae/plant total	978		39	3	146
Other	0		0	0	0
Totals	2,575		253	85	235

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

James Millett



The long-term impacts of the Soufrière Hills volcano eruption are still being felt.

Discussion

There are areas of our knowledge that are weak for Montserrat. The marine environment, in particular, lacks records. We found little or no information documenting crustaceans, molluscs, worms, sponges and algae. There was limited data for cnidaria and fish, two groups usually popular for scientific study.

In terrestrial environments there is good data from the Centre Hills for birds (including population data for some), the mountain chicken (a frog), beetles and higher plants although botanically Montserrat is one of the least surveyed Caribbean Islands. We found little or no data recording species of fungi and lichens.

The assessed endemic species on Montserrat are all Critically Endangered. The Soufrière Hills Volcano has destroyed large tracts of habitat and it is very possible that many other endemics are also restricted to small areas. Their restricted ranges, and the threat of further volcanic activity, suggests that other currently un-assessed endemics are of conservation concern. It is possible that the future activity of the Montserrat volcano could cause extinctions, and it seems to have already caused the extinction of *Xylosma serrata*.

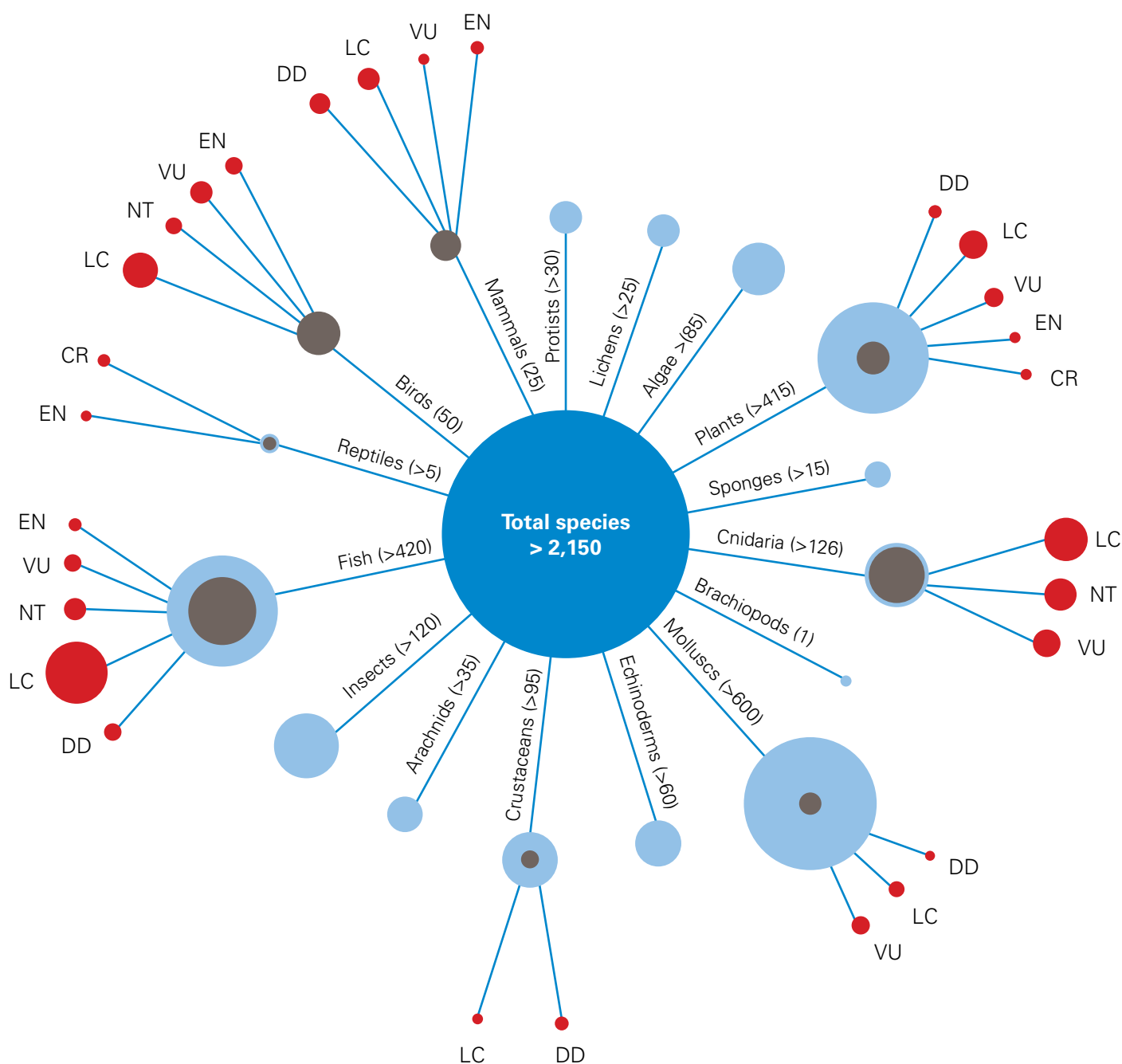
Global importance

Species on the edge

The Centre Hills National Park on Montserrat is an environment under threat. Three Globally Threatened species face different threats that are an example of how fragile some of the biodiversity across the OTs is. The Critically Endangered Montserrat galliwasp, *Diploglossus montisserrati*, an endemic lizard, is only recorded in a small area of forest; during surveys in 2006 there were only three sightings. Introduced mammals (such as cats and pigs) pose the greatest threat to the galliwasp by predateding the adults and the young, as well as changing the structure of the habitat.

The Critically Endangered frog, the mountain chicken, *Leptodactylus fallax*, is restricted to Montserrat and Dominica and has been under pressure from introduced mammals and hunting for meat. The reduced Montserrat population now faces yet another threat from *Chytridomycosis* fungus, which has devastated amphibian populations globally including the mountain chicken population on Dominica. A Darwin Initiative project is focusing on this iconic species.

All the species on Montserrat live with the threat of extreme natural events. Montserrat was hit by hurricane Hugo in 1989, causing widespread damage and the near extirpation of two native bats, *Chiroderma improvisum* and *Sturnira thomasi*, and in 1995 the Soufrière Hills volcano started erupting and extensive tracts have been engulfed in ash, reducing the area of natural forest. Future extreme events could cause the extinction of species restricted to Montserrat. As human induced climate change raises the occurrence of extreme weather events globally, the risk to Montserrat increases.



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 15. Infographic visualising the recorded species from the Pitcairn Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. All circles are proportional in area to all other circles. The area of each circle is proportional to the number of species it represents.

Pitcairn Islands

Total species recorded	2,160
Native species	1,925
Known endemic species	99
Endemic species assessed for IUCN Red List	14
Endemic Globally Threatened species	14
Known non-native species	235



Introduction

The Pitcairn Islands consist of four islands in the south Pacific between 23.9°S–24.7°S and 124.7°W–130.7°W (Pitcairn, Henderson, Oeno and Ducie). Only Pitcairn Island is inhabited, with a population of less than 50 people from a mixed European and Tahitian descent. Evidence shows that Polynesians previously inhabited Pitcairn and Henderson Island, although these human populations disappeared around 800 years ago³³.

The first scientific studies of the Pitcairn islands were undertaken by HMS Blossom in 1825, however the first expedition to spend any length of time on the islands was the Sir Peter Scott Commemorative Expedition to the Pitcairn Islands 1991–1992 with the subsequent publications dramatically increasing our scientific understanding of the group³⁴.

Recent scientific and conservation interest in the Islands has led to the successful eradication of the Polynesian rat, *Rattus exulans*, from Ducie and Oeno in 1998; with a trip to Oeno in 2013 observing an increase in the breeding

seabird population and a new colony of sooty terns, *Sterna fuscata*³⁵. Attention is now focussed on Henderson Island World Heritage Site where Polynesian rats threaten the long-term prospects of the seabirds and negatively affect the vegetation. Following an unsuccessful eradication attempt in 2011, the RSPB is now working towards a second attempt.

The marine environment is also an area of increasing interest with the Pew Environment Group, National Geographic and the Pitcairn Island Council campaigning for the entire Exclusive Economic Zone (all waters within the 200 nautical mile boundary) to be designated a Marine Protected Area³⁶.

Results

The results are summarised in the table above and figure 15. Our knowledge of what species occur is strong for vertebrates and molluscs, but weaker for the invertebrates and lower plants. With the exception of birds, there is little or no distribution and population information.

³³Weisler, M.I. (1995) *Henderson Island prehistory: colonization and extinction on a remote Polynesian island*. Biological Journal of the Linnean Society, 56: 377-404

³⁴Benton, T., and Spencer, T. (1995) *The Pitcairn Islands: Biogeography, Ecology and Prehistory*. Linnean Society of London Academic Press

³⁵Brooke, M. de L., Churchyard, T., and Proud, T. (2013) *An assessment of changes in the population of Murphy's petrels since rat eradication and other ornithological notes from Oeno, June 2013*. Trip report for The RSPB, Sandy, UK

³⁶pewenvironment.org

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Pitcairn Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	25	+++	22	0	3
Birds	52	+++	51	6	1
Reptiles and amphibians	7	+++	3	0	0
Fish	422	+++	147	2	
Vertebrate total	506		223	8	4
Insects	147	+	0	15	3
Arachnids	36	++	0	2	0
Crustaceans	95	++	5	29	0
Echinoderms	62	++	0	0	0
Molluscs	609	+++	10	26	0
Worms	0	+	0	0	0
Cnidaria	126	++	96	0	0
Sponges	15	+	0	0	0
Other invertebrates	1		0	0	0
Invertebrate total	1,091		111	72	3
Plants	419	++	12	19	228
Fungi	0	+	0	0	0
Lichens	27	+	0	0	0
Algae	86	++	0	0	0
Fungi/lichens/algae/plant total	532		12	19	228
Other	31		0	0	0
Totals	2,160		346	99	235

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Tara Proud



Henderson lorikeets, *Vini stepheni*, are one of the 55 species found just on Henderson Island World Heritage Site, Pitcairn.

To date 346 (18%) of the 1,924 native species on the Pitcairn Islands have undergone assessment against IUCN Red List criteria. Of the 346 native species assessed, 63 are Globally Threatened with a further 42 Near Threatened and 19 Data Deficient. The remaining 222 assessed native species are Least Concern.

We found records describing 99 species as endemic, with at least another three potentially endemic. This is certainly lower than the actual number of endemics and further research and taxonomic revision will add to this number. Fourteen (16%) of the 89 endemic species have been assessed against IUCN Red List criteria. All 14 are Globally Threatened (10 VU, 3 EN, 1 CR).

Discussion

Some taxonomic groups are well documented from the Pitcairn Islands. The Sir Peter Scott Commemorative Expedition to the Pitcairn Islands 1991–1992, published detailed studies on the birds (including ecology), turtles, molluscs and vascular plants; and dramatically added to the state of knowledge on insects.

We have an understanding of the threats to endemic species on the Pitcairn Islands, such as erosion (on Pitcairn) and invasive species (Pitcairn and Henderson). However, aside from birds, there is little information about the conservation status of these endemics. We know some Red Listed species have tiny populations – for example, the Critically Endangered red berry tree (*Coprosma rapensis* var. *benefice*, see below). Other yet to be assessed endemic species such as the endemic land snails of Pitcairn and Henderson have small known ranges and unknown population sizes, making a formal assessment of their conservation status currently unfeasible.

Biodiversity knowledge is weaker for Ducie and Oeno than for Pitcairn and Henderson.

Recent expeditions have documented the diversity and pristine condition of the marine environment. There is certainly much more diversity to be discovered amongst the marine invertebrates, particularly the worms. Considering the remoteness of the Pitcairn Islands, there could be many undiscovered endemic species in the marine environment.

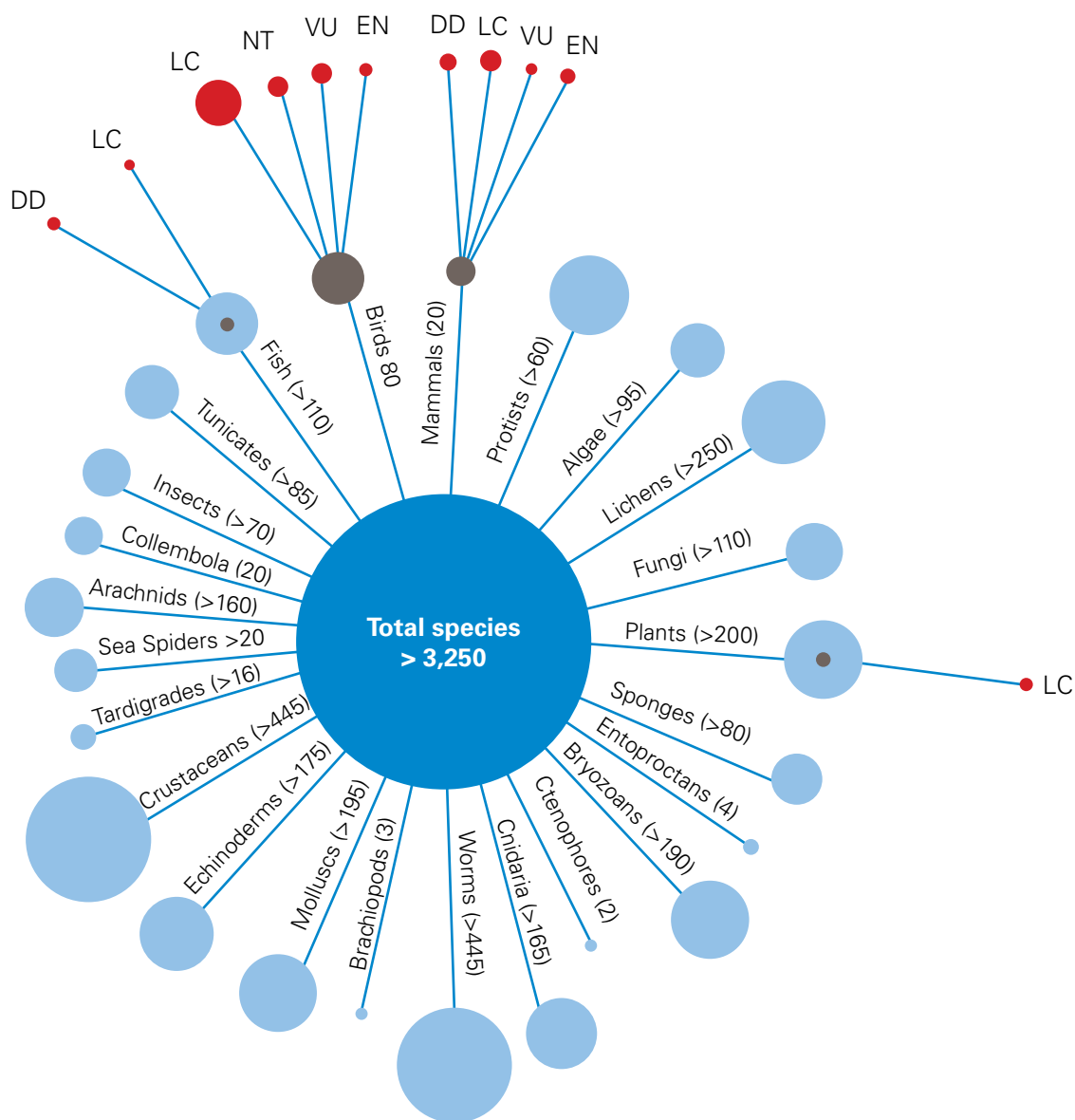
Global importance

The next British plant extinctions?

The most recent documented extinction in the OTs was of a plant species – the St Helena olive tree *Nesiota elliptica*, which disappeared in 2003. It is possible that the next global extinction could be another unique plant, this time on Pitcairn Island.

At present, only one of the nine endemic vascular plant species on Pitcairn, the *Abutilon pitcairnense*, is secured in an off-island population and in RBG Kew's Millennium Seed Bank. Many of the others now appear to be on the cusp of being lost forever: the red berry tree *Coprosma rapensis* var. *benefice* occurs in individuals of different sexes and appears to have been reduced to very few individuals of as yet unknown sex.

The previously common *Bidens matthewsii*, known locally as the “arlihau”, a winding woody shrub with yellow flowers, is down to just four known individuals in the wild. As these all occur in the same area: one landslide could spell global extinction. Local conservationists are now working to propagate the two arlihau currently in cultivation and safeguard the future of this most-threatened plant.



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 16. Infographic visualising the recorded species from South Georgia and the South Sandwich Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

South Georgia and the South Sandwich Islands

Total species recorded	3,297
Native species	3,262
Known endemic species	77
Endemic species assessed for IUCN Red List	1
Endemic Globally Threatened species	0
Known non-native species	35



Introduction

South Georgia and the South Sandwich Islands are two separate island groups situated in the Atlantic south of the polar front. South Georgia lies between 35.8°–38.0°W and 53.9°–54.9°S; the South Sandwich Islands lie approximately 500 km southeast between 26.2°–28.0°W and 56.3°–59.5°S.

South Georgia was first inhabited in 1904 with the establishment of a Norwegian whaling station at Grytviken. Whaling continued from South Georgia until 1965. At the height of the whaling industry, 2,000 people inhabited South Georgia. Today there are no permanent inhabitants on South Georgia and the South Sandwich Islands, but there are two British Antarctic Survey research stations (South Georgia and Bird Island), and government officers and museum curators during the summer months who manage visitors.

There is a strong history of scientific research on South Georgia. The British Antarctic Survey (BAS) has had a research station at King Edward Point since 1969 and on Bird Island intermittently between 1957 and 1982 and continuously since then³⁷.

Results

Results are summarised in the table above and in figure 16. Due to the long running scientific interest in South Georgia our knowledge of what species occur from each group is very good, with a thorough knowledge of the species present in both the terrestrial and marine environments.

Thirty-five non-native species have been documented from South Georgia and some are considered invasive such as the brown rat, *Rattus norvegicus*, and house mouse, *Mus musculus*. There have been no records of non-native species from the South Sandwich Islands.

To date, 101 (3%) of the 3,262 native species on South Georgia and the South Sandwich Islands have undergone assessment against IUCN Red List criteria. Of the 101 native species assessed, 13 are Globally Threatened with a further 10 Near Threatened and 6 Data Deficient. The remaining 72 assessed native species are Least Concern.

We found records describing 77 species as endemic. Only one endemic species has been assessed against IUCN Red List criteria the South Georgia pipit, *Anthus antarcticus*, the world's most southerly songbird, is Near Threatened.

³⁷ antarctica.ac.uk/living_and_working/research_stations/index.php (accessed 04/02/2014)

Numbers of species recorded and our level of knowledge for each taxonomic grouping in South Georgia and the South Sandwich Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	20	+++	17	0	3
Birds	80	+++	79	1	1
Reptiles and amphibians	0	+++	0	0	0
Fish	113	+++	3	0	0
Vertebrate total	213		99	1	4
Insects	73	+++	0	0	5
Arachnids	112	+++	0	2	2
Crustaceans	543	+++	0	0	0
Echinoderms	178	+++	0	0	0
Molluscs	200	+++	0	0	0
Worms	448	++	0	0	0
Cnidaria	169	++	0	0	0
Sponges	83	++	0	0	0
Other invertebrates	385		0	9*	1*
Invertebrate total	2,191		0	11	8
Plants	212	+++	2	<11**	23
Fungi	113	++	0	0	0
Lichens	251	+++	0	<50***	0
Algae	99	++	0	4	0
Fungi/lichens/algae/plant total	675		2	<65	23
Other	218		0	0	0
Totals	3,297		101	77	35

*These nine endemic and one non-native invertebrates are all collembolans (springtails)

**These are less than six mosses and less than five liverworts, based on Ron Lewis Smith estimate of c.120 mosses and c.100 liverworts both with less than 5% endemism³⁹.

***Based on Ron Lewis Smith estimate of less than 25% endemism of c.200 lichens³⁸.

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

George Lemann



Vast colonies of King penguins, *Aptenodytes patagonicus*, occur at South Georgia.

Discussion

There is a very developed research programme on South Georgia and the South Sandwich Islands. This will continue to add to our knowledge of species presence and increase our knowledge on the distribution of species. Over the years there has been research into all taxonomic groups giving a rounded understanding of both the terrestrial and marine environments, the vertebrates, invertebrates and plants.

There is much less documentation on the biodiversity of the South Sandwich Islands. No records of non-native species exist for the South Sandwich Islands and it is currently considered to be one of the few places on the planet without any non-native species.

On South Georgia there are ongoing attempts to eradicate priority invasive species. These species include the brown rat, *Rattus norvegicus* and the plants, wavy bittercress *Cardamine flexuosa* and procumbent pearlwort *Sagina procumbens*. A programme to eradicate invasive reindeer *Rangifer tarandus* is nearing completion by the South Georgia Government.

Global importance

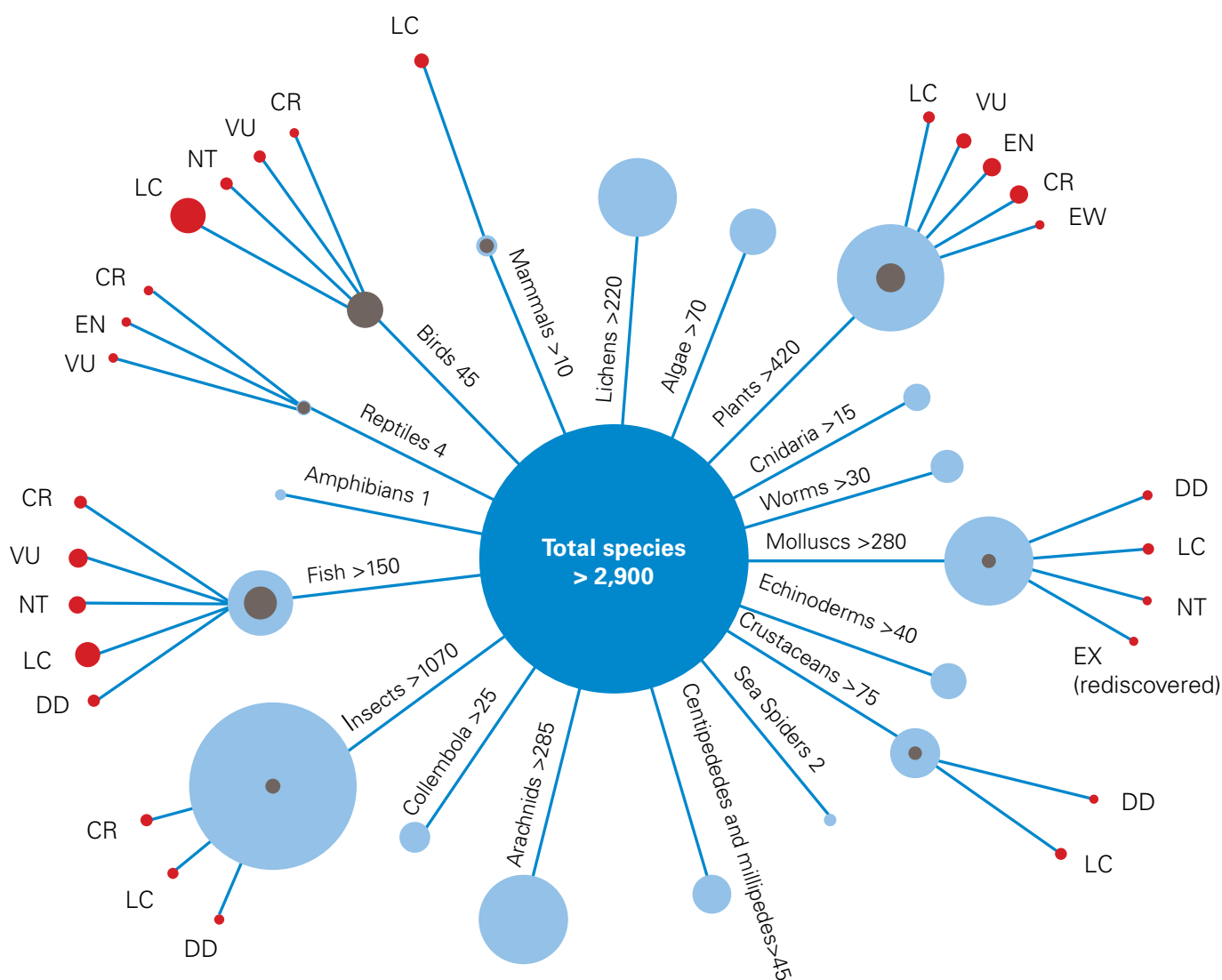
Internationally relevant science

Since the 1950s, South Georgia has been a base for scientists to monitor the health of the southern ocean. Long term studies carried out by BAS, have helped us understand the long term trends in seabird and seal populations, their ecology and reproductive success. This monitoring has recorded the dramatic increase in Antarctic fur seals, *Arctocephalus gazella*, as they recover from hunting in the early 20th century. Unfortunately, the monitoring has also tracked the rapid decline of large seabird species such as albatrosses. The population declines in albatross species on South Georgia are indicative of a much wider issue: fishing gear kills more than 100,000 albatrosses each year across the Southern Ocean, contributing to global population declines.³⁹ South Georgia's fishery, however, has stringent bycatch mitigation requirements.

Only by having uninterrupted data that spans a long period can we confidently measure the change and variability in biological systems, a confidence that does not come with short-term studies. By measuring these changes, the science conducted on South Georgia is helping to inform conservation policy and management to maintain the biodiversity of the Southern Ocean.

³⁸ Burton, R., and Croxall, J. (2012) A field guide to the wildlife of South Georgia. Princeton University Press, Oxford, UK

³⁹ Anderson, O R J, Small, C J, Croxall, J P, Dunn, E K, Sullivan, B J, Yates, O and Black, A (2011) Global seabird bycatch in longline fisheries. *Endangered Species Research*, 14: 91–106



Key

● Species group
 ● IUCN Assessed
 ● Native Species IUCN Category

Figure 17. Infographic visualising the recorded species from St Helena. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

St Helena

Total species recorded	2,932
Native species	2,144
Known endemic species	502
Endemic species assessed for IUCN Red List	26
Endemic Globally Threatened species	21
Known non-native species	788



Introduction

St Helena is located in the tropical Atlantic, approximately 2,000 km west of the African coast and 2,900 km east of South America. The island has an area of 122 km² and a resident population of c. 4,000⁴⁰. It is a volcanic island with a large variety of terrain from flat plains to a high central ridge with a maximum height of 823 m above sea level.

The variety of altitudes, terrain and climate in such a small area across the island has provided the conditions for the evolution of a wide variety of habitats and a large number of endemic species. Unfortunately, despite conservation efforts, one of these endemic species – the Saint Helena olive tree – was the last documented extinction of a species in the island OTs: the last individual died in November 2003. Scientific research on St Helena has focused on terrestrial species and there are conservation focused projects for birds, vascular plants and invertebrates.

Results

Results are summarised in the table above and in figure 17. Our knowledge of species occurring in St Helena is good, particularly for the terrestrial invertebrates. Extensive research over many years has identified more than 1,300 terrestrial invertebrate species – and more than 400 of them are believed to be endemic to the island.

To date 120 (6%) of the 2,144 native species on St Helena have undergone assessment against IUCN Red List criteria. Of the 120 native species assessed, 38 are Globally Threatened with a further nine Near Threatened and four Data Deficient. The remaining 69 assessed native species are Least Concern.

We found records describing 502 species as endemic with at least another 19 potentially endemic. Twenty-one of the 26 IUCN assessed endemic species are Globally Threatened (4 VU, 7 EN, 10 CR⁴¹), whilst there is a further 1 EW and 1 EX (but since rediscovered). The species recorded as extinct and rediscovered is the snail *Nesopupa turtoni*, found by the Ashmole's on Prosperous Bay Plain in 2003⁴².

⁴⁰The 2008 population census of saint Helena – sainthelena.gov.sh/data/files/resources/425/Census-Report-2008.pdf

⁴¹ Some authorities have synonymised the Critically Endangered endemic fish *Callionymus sanctaehelenae* with a worldwide un-assessed species *C. bairdi*

⁴² Ashmole, P. and Ashmole, M. (2004) *The invertebrates of Prosperous Bay Plain, St Helena*. September–December 2003. Report commissioned by the St Helena Government.

Numbers of species recorded and our level of knowledge for each taxonomic grouping in St Helena.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	11	+++	4	0	7
Birds	45	+++	45	1	4
Reptiles and amphibians	5	+++	3	0	2
Fish	152	++	35	12	0
Vertebrate total	213		87	13	13
Insects	1,078	+++	4	312	250
Arachnids	286	+++	0	96	96
Crustaceans	79	++	3	14	13
Echinoderms	42	++	0	0	0
Molluscs	283	+++	5	6	18
Worms	32	+	0	4	24
Cnidaria	19	++	0	2	0
Sponges*	-	-	-	-	-
Other invertebrates	77	-	0	3	35
Invertebrate total	1,896		12	437	436
Plants	530	++	21	44	339
Fungi	-	-	-	-	-
Lichens	222	+++	0	8	0
Algae	71	++	0	0	0
Fungi/lichens/algae/plant total	823		21	52	339
Other	-	-	-	-	-
Totals	2,932		120	502	788

* Sponges were being assessed by a taxonomist at time of press

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)



Ed Thorpe

The unique spiky yellow woodlouse, *Pseudolaureola atlantica*, clings on in a remnant fragment of cloud forest in St Helena. Just c. 90 remain.

Discussion

We have good knowledge of the terrestrial flora and fauna of St Helena. Extensive research by interested individuals has given more effort to some species groups that are less well documented on other OTs, particularly terrestrial invertebrates and lichens.

The largest knowledge gaps are in relation to the marine environment, particularly marine invertebrates. A current Darwin Initiative-funded marine biodiversity and mapping project has discovered some potentially new endemic species. The team is currently working alongside taxonomic experts to identify these fully.

Research has proven that there are a huge number of endemic invertebrates on St Helena, including species waiting for taxonomic description, such as a species of mole spider. We have distribution information for some species that shows distinct species compositions in the

different habitats, such as the Peaks National Park and Prosperous Bay Plain.

Very few of the endemic invertebrates have had their conservation status assessed. Those that have been completed are frequently outdated, and many species could qualify for inclusion on the Red List. Some un-listed species could be threatened with global extinction. Conversely, there is some evidence to suggest that due to the focussed and necessarily limited nature of the work done so far, some species might be considered more endangered than they are in fact. A full assessment of terrestrial invertebrates is underway and is due to be completed by 2016. As part of this project David Pryce, St Helena National Trust and Lourens Malan, St Helena Government have rediscovered several endemic species previously thought to be extinct.

Global importance

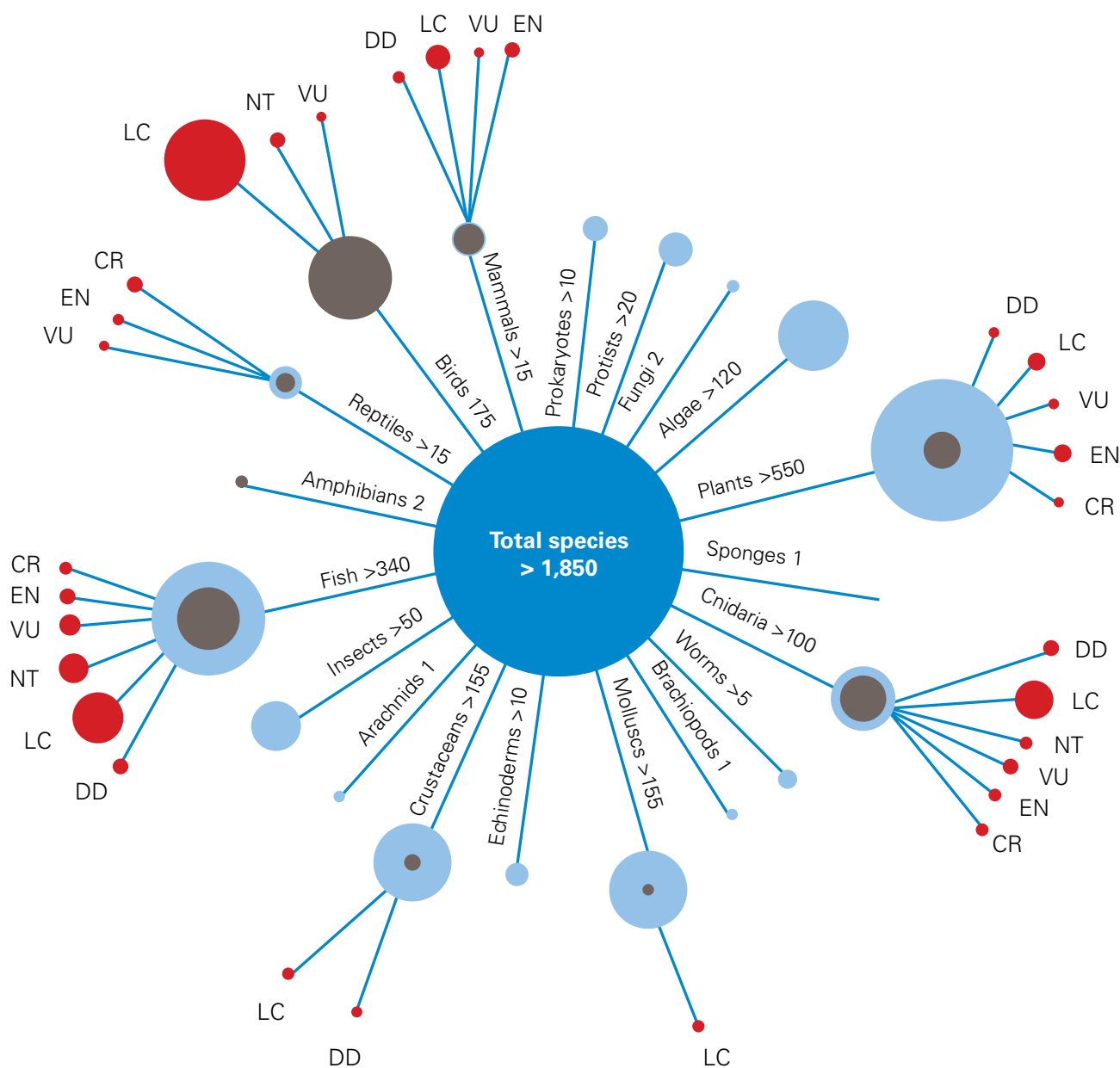
Bugs on the brink project – Buglife

Famous for being Napoleon Bonaparte's final place of exile, St Helena is also known as the "Galapagos of the South Atlantic" because of its unique wildlife. Its wildlife has developed in extreme isolation and now St Helena hosts a staggering number of invertebrate species, over 400, that are not found anywhere else in the world – it actually has more endemic invertebrate species than the UK and all the other OTs put together.

Unfortunately, many of St Helena's unique invertebrates are on the brink of extinction, hanging on in fragments of native habitat. Some of its most iconic species, like the giant earwig *Labidura herculeana*, are feared to have already been lost.

However there are glimmers of hope. Buglife, the St Helena National Trust, the Centre for Ecology and Hydrology and the St Helena Government are working in partnership to conserve what is left of the unique and threatened wildlife of the island. Buglife hope that by helping to restore native habitats, training local staff and teaching people about the vital role played by invertebrates that many of these species can be brought back from the brink of extinction.

Bugs on the brink project: laying the foundations for invertebrate conservation on St Helena is funded by the Darwin Initiative.



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 18. Infographic visualising the recorded species from the Turks and Caicos Islands. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Turks and Caicos Islands

Total species recorded	1,883
Native species	1,747
Known endemic species	16
Endemic species assessed for IUCN Red List	4
Endemic Globally Threatened species	4
Known non-native species	136



Introduction

The Turks and Caicos Islands consist of eight main islands and about 30 smaller islands split into two groups, the Turks Islands and the Caicos Islands, separated by the Turk Island Passage. The islands are situated to the south of the Bahamas in the West Indies and geographically form the southern end of the Bahamas Lucayan archipelago.

The Turks and Caicos Islands were settled by the Taino Indians between AD 750–900, before being discovered by Europeans in the late 1400s. The islands are thought to have been depopulated by 1520³⁹. Re-settlement did not occur until Bermudans started raking salt annually in the mid-1600s. Britain laid formal claim to the islands in 1764. After being part of the Bahamas (1799–1848) and annexed under Jamaica (1872–1962) the Turks and Caicos Islands became a separate crown colony of Britain in 1973⁴³.

Results

Results are summarised in the table above and figure 18. Our knowledge of species occurrence is generally weaker for the Turks and Caicos than for other island OTs, in particular for terrestrial invertebrates.

To date 381 (22%) of the 1,747 native species on Turks and Caicos Islands have undergone assessment against IUCN Red List criteria. Of the 381 native species assessed, 45 are Globally Threatened with a further 23 Near Threatened and 10 Data Deficient. The remaining 303 assessed native species are Least Concern.

We found records describing 16 species as endemic with another four endemic sub-species and 50 species endemic to the Bahamas archipelago. Future research could elevate some endemic reptile sub-species to full species.

Four of the 16 known endemic species have undergone assessment for the IUCN Red List and all four are considered Globally Threatened (3 EN, 1CR).

⁴³ Mills, C. (2008) *A History of the Turks and Caicos Islands*. Macmillan Education, Oxford, UK

Numbers of species recorded and our level of knowledge for each taxonomic grouping in the Turks and Caicos Islands.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	19	+++	17	0	7
Birds	177	+++	172	0	5
Reptiles and amphibians	20	+++	6	7	3
Fish	344	++	94	0	1
Vertebrate total	560		289	7	16
Insects	54	+	0	0	8
Arachnids	1	+	0	0	0
Crustaceans	157	++	4	0	0
Echinoderms	11	++	0	0	0
Molluscs	149	++	2	0	0
Worms	5	+	0	0	0
Cnidaria	101	++	48	0	1
Sponges	1	+	0	0	0
Other invertebrates	1		0	0	0
Invertebrate total	480		54	0	9
Plants	686	++	38	9	111
Fungi	2	+	0	0	0
Lichens	0	+	0	0	0
Algae	121	++	0	0	0
Fungi/lichens/algae/plant total	809		38	9	111
Other	34		0	0	0
Totals	1,883		381	16	136

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

EF Salamancia



The Critically Endangered Turks and Caicos rock iguana, *Cyclura carinata*, which also has a small sub-population in the Bahamas, is the only terrestrial Red List assessed reptile on the Turks and Caicos Islands. We do not know the status of any of the seven endemic reptile species.

Discussion

Our knowledge of the invertebrates for the Turks and Caicos Islands is particularly weak. For example, we only found records for 54 insect species, clearly much lower than the true number of insects occurring on the islands. There are several reasons for this lack of data including the inclusion of information relating to the Turks and Caicos with information on the Bahamas archipelago, and the inaccessibility of some previous studies.

The Turks and Caicos, like many of the Caribbean Territories, are important for reptiles. There are seven recognised endemic terrestrial reptiles and a further three endemic sub-species. None of these have undergone assessment for the IUCN Red List. Research on two endemic skinks, *Spondyurus caicosae* and *Spondyurus turksae*, recommends they are both listed as Globally Threatened (VU and CR respectively)⁴⁴. This suggests that the reptiles of the Turks and Caicos could be of high conservation concern.

Global importance

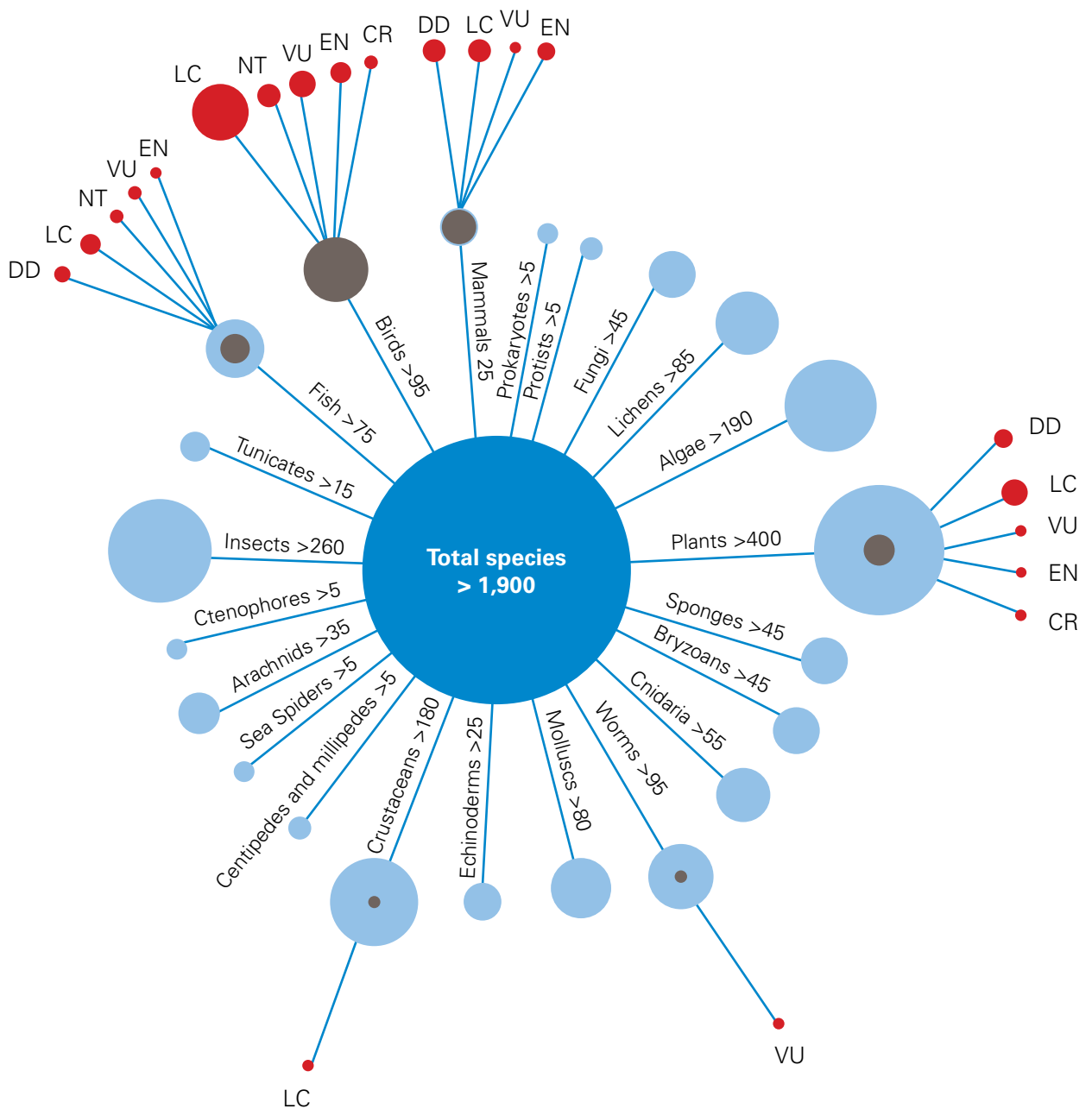
Reptile hotspots

The Caribbean region is one of 25 global biodiversity hotspots⁴⁵, and recognised as a centre for speciation and endemism for many taxonomic groups including terrestrial reptiles.

The Turks and Caicos Islands (one of five OTs that fall within the Caribbean hotspot) are home to seven endemic species and four endemic sub-species of terrestrial reptiles. The only native species assessed against IUCN Red List criteria is the Critically Endangered Turks and Caicos iguana, *Cyclura carinata*. This species faces threats common to many Caribbean reptiles: restricted to a handful of small islands it is vulnerable to the impacts of development and the introduction of invasive non-native species. The introduction of invasive mammals, particularly cats and dogs, has already made this species locally extinct from many islands and it is now restricted to 50–60 small islands with a total land area of 13km². The protection of island habitats where range-restricted reptiles live and the prevention of the further spread of non-native species, particularly mammals, are paramount to keep the Caribbean hotspot hot.

⁴⁴ Hedges, S. B. and Conn, C. E. (2012). *A new skink fauna from Caribbean islands* (Squamata, Mabuyidae, Mabuyinae). *Zootaxa* **3288**, 1–244

⁴⁵ Myers, N., Mittermeier, R.A., Mittermeier, C.G., da Fonseca, G.A.B., and Kent, J. (2000) Biodiversity hotspots for conservation priorities. *Nature*, 403: 853-858



Key

● Species group
 ● IUCN assessed
 ● Native species IUCN category

Figure 19. Infographic visualising the recorded species from Tristan da Cunha. The centre circle represents the total number of species recorded; each arm represents a different taxonomic grouping, the number of species recorded in that group, how many have been evaluated against IUCN Red List criteria and an arm each for the different IUCN categories, representing numbers of native species in each category. The area of each circle is proportional to the number of species it represents.

Tristan da Cunha

Total species recorded	1,921
Native species	1,641
Known endemic species	183
Endemic species assessed for the IUCN Red List	25
Endemic Globally Threatened species	12
Known non-native species	280



Introduction

The Overseas Territory of Tristan da Cunha consists of three main islands in the cool temperate South Atlantic: Tristan da Cunha (96 km²), Inaccessible (16 km²) and Nightingale (4 km²). Gough Island, with an area of 65 km², is 350 km to the south-east.

All are volcanic islands and the volcano on Tristan da Cunha (the only inhabited island with a population of 250–300⁴⁶) has been active as recently as the 1960s. There is a permanently manned South African meteorological station on Gough Island.

The uninhabited islands of Nightingale, Inaccessible and Gough, are home to endemic landbirds and are recognised as some of the most important islands for seabirds in the world, being the only breeding location for some species^{47, 48}. As a result, there has been a considerable amount of research on the birds of these islands (particularly on Gough). More recently attention has turned to the impact alien invasive mice have on bird populations, and the feasibility of eradicating these mice⁴⁹.

Results

Results are summarised in the table above and in figure 19. Our knowledge is comparatively good compared to other island OTs, particularly lower plants and the breadth of marine invertebrate groups documented.

To date 155 (10%) of the 1,641 native species recorded in the Tristan da Cunha Islands have been assessed against IUCN Red List criteria. Of the 155 native species assessed, 32 are Globally Threatened with a further 10 Near Threatened and 17 Data Deficient. The remaining 96 assessed native species are Least Concern.

Of the 183 known endemic species, 25 have been IUCN assessed. Twelve are Globally Threatened (7 VU, 2 EN, 3 CR), one is NT, 5 are DD and the remaining 7 are LC.



⁴⁶ St Helena and Ascension 2008 Census Report sainthelena.gov.sh

⁴⁷ Bourne, W.R.P. (1981) *Fur seals return to Gough Island*. Oryx, 16: 46–47

⁴⁸ Ryan, P.G., Dean, W.R.J., Moloney, C.L., Watkins, B.P. and Milton, S.J. (1990) *New information on seabirds at Inaccessible Island and other islands in the Tristan da Cunha group*. Marine Ornithology, 18: 43–54

⁴⁹ Cuthbert, R.J., Visser, P., Louw, H., Rexer-Huber, K., Parker, G., and Ryan, P.G. (2011) *Preparations for the eradication of mice from Gough Island: results of bait acceptance trials above and around cave systems*. Pp. 47–50 In: Veitch, C. R.; Clout, M. N. and Towns, D. R. (eds.) *Island invasives: eradication and management*. IUCN, Gland, Switzerland.

Numbers of species recorded and our level of knowledge for each taxonomic grouping in Tristan da Cunha.

Species group	Species	Knowledge status	Native IUCN assessed species	Known endemic	Known non-native
Mammals	25	+++	21	0	3
Birds	99	+++	99	9	0
Reptiles and amphibians	0	+++	0	0	0
Fish	75	++	16	0	1
Vertebrate total	199		136	9	4
Insects	262	+++	0	44	99
Arachnids	36	+	0	6	9
Crustaceans	181	++	1	1	1
Echinoderms	25	++	0	1	0
Molluscs	82	+	0	10	3
Worms	98	+	1	2	3
Cnidaria	58	++	0	1	0
Sponges	48	++	0	0	0
Other invertebrates	90	-	0	2	11
Invertebrate total	880		2	67	126
Plants	499	++	17	104	150
Fungi	49	++	0	0	0
Lichens	85	++	0	0	0
Algae	193	++	0	3	0
Fungi/lichens/algae/plant total	826		17	107	150
Other	16	-	0	0	0
Totals	1,921		155	183	280

(Status = +++ species records compiled from authoritative literature, confident of reasonable coverage, ++ records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, + preliminary list known to be largely incomplete)

Sue Scott



The vast majority of Tristan da Cunha's GDP is derived from its carefully-managed sustainable lobster fishery.

Discussion

Although coverage of most taxonomic groups is good, the most recent (and often only) records for many species on Tristan, Nightingale and Inaccessible date back to the Norwegian expedition of 1937–38. The taxonomic status of some species is likely to need revising, and it is unlikely that this single expedition was exhaustive in its findings (particularly for groups such as fungi). There is much more recent and detailed data from Gough Island; collected by the Gough Island Scientific Survey (1955–56), Gough Island Terrestrial Invertebrate Survey and continued research on the island.

As for most of the island OTs, our knowledge of the marine environment around the Tristan islands is weaker than for terrestrial environments.

We have good knowledge of the presence of invasive species, particularly on Gough Island. We know that some

invasive species are negatively affecting the seabirds and vegetation; however, we have a limited understanding of the threat invasive species pose to the endemic invertebrate fauna. Limited data does suggest that populations of introduced mice affect the distribution of the endemic flightless moths on Gough. Flightless moths have become much rarer on islands with introduced mice; *Dimorphinotua goughensis* (endemic to Gough Island) is found predominately above 300 metres, possibly because mice are less abundant at higher elevations⁵⁰.

No information is available on the distribution or abundance of endemic invertebrates on any of the islands except Gough.

Global importance

Areas of outstanding universal value

The OTs include areas that are regarded as being of outstanding universal value to humanity, including two natural World Heritage Sites. The islands of Gough and Inaccessible are a prime example of one of the least disrupted island and marine ecosystems in the cool temperate zone. They contain one of the world's largest seabird colonies and are home to a number of endemic species including the Critically Endangered Gough bunting, *Rowettia goughensis*.

UNESCO designated Gough Island as a World Heritage Site in 1995 (extended to include Inaccessible Island in 2004). The Site has globally important biodiversity and is an area of exceptional natural beauty and aesthetic importance. Given their global significance, it is particularly important that conservation efforts protect the values of the OT's World Heritage Sites: at Gough and Inaccessible, and also at Henderson Island in the Pitcairn Islands.

⁵⁰ Cuthbert, R., and Hilton, G. (2004) *Introduced house mice Mus musculus: a significant predator of threatened and endemic birds on Gough Island, South Atlantic Ocean?* Biological Conservation, 117(5): 483–489

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We would also like to thank those organisations and staff who provided support to the study through those named above including, Royal Botanic Gardens – Kew, Buglife, Coral Cay Conservation, Joint Nature Conservation Committee, Department for Environment, Food and Rural Affairs (Defra), British Antarctic Survey, Shallow Marine Survey Group, Government of Anguilla, Anguilla National Trust, Ascension Conservation Department, Department of Environment Montserrat, Montserrat National Trust, Chagos Conservation Trust, National Trust of the Cayman Islands, Department of the Environment Cayman Islands, St Helena National Trust, Environmental Management Division St Helena, Government of Tristan da Cunha, Government of Bermuda, Falklands Conservation, Government of the Falkland Islands, Government of the British Virgin Islands, Pitcairn Natural Resources Department, South Georgia Heritage Trust, Turks and Caicos National Trust and the Durrell Wildlife Conservation Trust.



George Duffield (Blue Marine Foundation)

British Indian Ocean Territory.



BN Manco

Encyclia caicensis is a native orchid of the Turks and Caicos Islands.

Appendices

Appendix 1.

Number of native species recorded for each taxonomic group in each island OT colour coded for our status of knowledge.

(Status = ■, species records compiled from authoritative literature, confident of reasonable coverage, ■ = records compiled from authoritative literature, coverage of taxonomic classes known or likely to be incomplete, ■ = preliminary list known to be largely incomplete, ■ = no species records located)

Johnathan Hall



St Helena alone holds almost a third of the known British endemic species.

Group	Anguilla	Ascension	Bermuda	BIOT	BVI	Cayman	Falklands	Montserrat	Pitcairn	St Helena	SGSSI	TCI	Tristan	Totals
Mammals	13	9	6	6	12	13	34	17	22	4	17	12	22	80
Birds	137	14	372	110	166	223	128	125	51	41	79	172	99	674
Reptiles	17	3	7	3	27	27	0	12	7	3	0	17	0	86
Amphibians	0	0	0	0	4	1	0	2	0	0	0	0	0	7
Fish	215	98	850	859	330	329	70	136	422	152	113	343	74	2,449
Tunicates	2	1	87			4	97				88		18	279
Insects	20	238	979	368	900	1,219	325	1,068	145	828	68	46	163	5,628
Collembola		12	3	10			29			16	20		3	90
Arachnids	24	68	89		56	64	51	45	36	203	110	1	27	711
Centipedes and millipedes		7	16			11				24			4	65
Sea spiders			17				18			2	57		6	97
Tardigrades			7								16			23
Crustaceans	37	69	1,492	94	45	62	123	32	95	51	543	157	180	2,669
Echinoderms	1	2	101	36	1	15	47		62	2	178	11	25	430
Molluscs	25	47	961	377	84	505	374	26	609	283	200	149	79	3,123
Brachiopodes			2			1	2		1		3	1		10
Worms	1	28	753	4		5	37	4		8	448	5	95	1,333
Cnidaria	36	10	421	407	56	74	64	40	126	19	169	100	58	1,258
Ctenophores							6				2			6
Bryzoans			83				35				194		48	349
Sponges			133		1	27	59		15		83	1	48	340
Vascular plants	198	25	166	44	1,125	415	184	799	80	89	31	575	100	1,607
Non-vascular plants			10	4			278		22	110	125		249	c.750
Algae		99	886	152	343	195	161	33	86	53	99	121	193	1,688
Lichens		97	85	77	1	1	6		27	222	251		85	737
Fungi			823	25	113		259				67	2	49	1,058
Other	35		700	179	51	1	81	1	31		222	34	16	1,118
OT Total	761	827	9,049	2,755	3,315	3,192	2,468	2,340	1,837	2,110	3,183	1,747	1,641	26,665

Appendix 2.

The conservation status of the 145 endemic species assessed against IUCN Red List criteria across the island OTs. 111 are classified as Globally Threatened.

	Assessed	Globally Threatened, Extinct, or Extinct in the Wild					NT	LC	DD
		EX*	EW	CR	EN	VU			
Birds	22			4	4	11	2	1	
Reptiles	10			5	2	2		1	
Amphibians	1				1				
Fish	3			1				1	1
Insects	2			1					1
Crustaceans	23			21				1	1
Molluscs	12	1		4		5	1	1	
Worms	3			1		1			1
Cnidaria	1				1				
Plants	68		1	21	19	7	1	14	5
Total	145	1	1	58	27	26	4	19	9

* EX = one species that is listed as Extinct has subsequently been rediscovered.

Appendix 3.

The conservation status of the 1,937 native species assessed against IUCN Red List criteria across the island OTs. 303 are classified as Globally Threatened.

	Assessed	Globally Threatened, Extinct, or Extinct in the Wild					NT	LC	DD
		EX*	EW	CR	EN	VU			
Mammals	78				4	5		42	27
Birds	674			5	16	35	38	579	1
Reptiles	27			10	9	6		2	
Amphibians	6			1	1			4	
Fish	550			5	8	40	39	408	50
Insects	22			1				20	1
Crustaceans	50			22				19	9
Molluscs	29	1		4		5	1	14	4
Worms	3			1		1			1
Cnidaria	314			2	4	54	78	168	8
Plants	184		1	23	23	18	2	107	10
Total	1,937	1	1	74	65	164	158	1363	111

* EX = one species that is listed as Extinct has subsequently been rediscovered.

Glossary

IUCN – International Union for Conservation of Nature

Globally Threatened – A species assessed for the IUCN Red List as Vulnerable, Endangered or Critically Endangered.

DD – Data Deficient. A species is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.

LC – Least Concern. A species is Least Concern when it does not qualify for a higher threat status. Widespread and abundant species are included in this category.

NT – Near Threatened. A species is Near Threatened when it does not qualify for Vulnerable, Endangered or Critically Endangered status now, but is close to qualifying for or is likely to qualify for one of those categories in the near future.

VU – Vulnerable. A species is Vulnerable when the best available evidence indicates the species is facing a high risk of extinction in the wild.

EN – Endangered. A species is Endangered when the best available evidence indicates the species is facing a very high risk of extinction in the wild.

CR – Critically Endangered. A species is Critically Endangered when the best available evidence indicates the species is facing an extremely high risk of extinction in the wild.

EW – Extinct in the Wild. A species is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalised population well outside the past range.

EX – Extinct. A species is considered Extinct when there is no reasonable doubt that the last individual has died.

OT – Overseas Territory

BIOT – British Indian Ocean Territory

BVI – British Virgin Islands

SGSSI – South Georgia and the South Sandwich Islands

TCI – Turks and Caicos Islands

Taxonomic groups

Bryozoans – A group of aquatic filter feeding invertebrate animals, commonly found in colonies encrusting rocks, seaweed and other items on the seabed.

Ctenophores – Also known as comb jellies, they are a group of marine invertebrates which look superficially similar to jellyfish.

Cnidaria – A group of mostly marine invertebrates including jellyfish, sea anemones and corals.

Brachiopods – Group of marine invertebrates that have two shell halves (valves), these valves are arranged on the upper and lower surfaces of the animal unlike bivalves (clams, scallops etc.) which have the valves on the left and right sides of the animal.

Echinoderms – A group of marine invertebrate animals including starfish, brittlestars and sea cucumbers.

Tardigrades – Also known as waterbears, these small invertebrates are water-dwelling animals that are often found on moss and lichens.

Arachnids – Group of animals including spiders, scorpions, mites and ticks.

Tunicates – A group of marine invertebrate animals often called sea squirts.

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The RSPB is a member of BirdLife International, a partnership of nature conservation organisations working to give nature a home around the world.