



Protected Area Planning for the Central Peaks Invertebrates of the Peaks

On the 16th December Philip & Myrtle Ashmole returned to the Island together with Howard Mendel and Edward Thorpe to carry out a survey of the invertebrates of the Peaks as part of the Overseas Territories Environment Programme (OTEP) funded project to establish a protected area plan for the central peaks. Philip & Myrtle have extensive knowledge of St Helena's flora and fauna with specific interest in and knowledge of invertebrates. Their 2003 study of the invertebrates of Prosperous Bay Plain has provided important information in the development of air access proposals. Howard Mendel is an entomologist specialising in beetles. Based at the Natural History Museum Howard has experience working all over the world including in other cloud forests ecosystems. Edward is an Animal Biology graduate, specializing in reptiles, and he provided volunteer fieldwork support to Philip and Myrtle during their 2003 study. Having the involvement of a local person who has received training in invertebrate survey, identification, collection techniques will be a tremendous asset to the Island.

It is widely accepted that often in conservation if you look after the habitats the species will look after themselves. But effective conservation, as has already been demonstrated on St Helena, depends on knowing what endemics are present and understanding something of the threats to particular species.

The primary aim of the invertebrate study is therefore to demonstrate the presence (or implied absence) of endemic species and make an assessment of their ranges. It may also be possible to find out how many of the endemic beetles and other invertebrates specific to the Peaks are still present on the island. Demonstration (hopefully) that many of them are still present would immeasurably increase the strength of the case for long-term conservation efforts.

Report 1, January 2006

Contributed by Myrtle and Philip Ashmole

While everyone else on the island was busy enjoying their Christmas holiday, we were enjoying our work up on the Diana's Peak National Park, High Peak and Peak Dale. Howard Mendel left on the 14 January to return to his post in the Entomology Department of the Natural History Museum in London. His tireless enthusiasm and expertise will be greatly missed. We will be here until mid March, and Edward Thorpe will continue to work with us some of that time. Most of the identification work will be done off island, but it is already obvious that many interesting and attractive endemic invertebrates survive on the Peaks in addition to those that are already well known. This week we can report on three highlights.

The Rainbow Bug

The Rainbow Bug (*Vernonia wollastonia*) is probably one of St Helena's most beautiful insects: we call it the Rainbow Bug because of the bright red and other colours on the body of the adults. It was discovered in 1874 by Thomas Vernon Wollaston and the scientific name was given in honour of him. This is one of the long list of endemic insects living on St Helena and nowhere else in the world. After its discovery the Rainbow Bug was not seen again until 1966, and then again by us last week. It is quite rare and only lives on the Peaks. It belongs to a group of bugs known as damsel bugs. Wollaston and his wife made a very detailed study of insects on the island: he worked on the beetles and she studied the moths. Of the species that they found it is probable that many have survived among the remaining endemic trees, while others have almost certainly become extinct.





The Ammonite Snail

This is a really tiny snail with the scientific name *Helenoconcha relictia*. It is only three millimetres across, which is far smaller than the common Blushing Snail. It was first found alive along Cabbage Tree Road in 1967 by members of the Belgian entomological expedition. There were at least seven closely related species in this endemic group of snails on the island, but they have been found only as fossils, so it is quite exciting to know that one of them still exists up in the Peaks. Now, nearly 40 years after the Belgians visit, it can still be found

occasionally along Cabbage Tree Road. We call it the Ammonite Snail because it looks just like a tiny version of a fossil ammonite.

Spiky Yellow Woodlouse found on the Peaks

The Belgian entomologists who studied the invertebrates of St Helena 40 years ago discovered the Spiky Yellow Woodlouse (*Pseudolaureola atlantica*) on High Peak. In spite of searches by several people since, it has been commonly thought that it was restricted to this one small area. We had heard that someone thought he had seen one up on the Central Peaks, and we can now report that it certainly is there. We saw several last week just below Cuckold's Point, but the species appears to be fussy in its requirements, occurring only patchily, which is probably why it has been overlooked before.



Report 2, January 2006

Contributed by Myrtle and Philip Ashmole

Move over Napoleon – the bugs have you beat!

“St Helena is a very special island”. Many people have said that, but perhaps our reason for saying it may come as a surprise to some. The fact is that, from the point of view of invertebrates, St Helena may be the best-studied oceanic island in the world. This makes it unique. Like all remote islands, St Helena has a relatively small fauna, with only about 1,100 invertebrates recorded, but over 400 of these are endemic and there are well over 100 scientific papers describing them. These endemic species have evolved over millions of years. They are mostly hard to find and not very spectacular. We think, however that the fact that the island is host to such a unique assemblage of small creatures is something for the island to cherish and be proud of. Perhaps this animal diversity should be up there with the endemic plants (and Napoleon!) on the various websites promoting the island.

Black Cabbage specialists

Our first days working on the Peaks were especially exciting. For an entomologist, finding seven different kinds of beetle in a couple of hours is nothing to write home about. But the fact that one can find seven species – all endemic to St Helena – in just two four-foot pieces of dead branch on a Black Cabbage Tree is pretty surprising. Add to this the fact that the same two bits of branch were also home to two kinds of spiders, a centipede, mites, springtails and a caterpillar, and one begins to realise how much biodiversity may often lie unseen right under our noses.





Peaks' Burrowing Spider

A trip to visit a patch of Jellico in Taylor's Gut below Cuckolds Peak brought another surprise. Below the Jellico was a bare earth bank, and in it there were several conspicuous holes about half an inch across and six inches deep. These proved to be homes for a large wolf spider – possibly a new species. This spider goes out to hunt for its food; it is quite harmless to people.

From the general tourism point of view inconspicuous invertebrates cannot compete with spectacular birds or mammals in other parts of the world. However an increasing number of people are interested in biodiversity and the survival and preservation of rare habitats. What St Helena is doing to preserve the Peaks is quite outstanding and deserves wider publicity.



Discovery of the Endemic Invertebrates (Part 1).

Report 3, February 2006

Contributed by Myrtle and Philip Ashmole

Knowledge of the invertebrate animals of St Helena – which is far more comprehensive than for most tropical islands – has been built up over the centuries through the work of numerous biologists and observant visitors. The giant earwig, now almost certainly extinct, seems to have been the first endemic insect noted by scientists and was described in 1798. A few years later the botanist W.J. Burchell, schoolmaster on the island, collected a number of animals, including a giant ground beetle that carries his name. The intrepid traveller Charles Darwin, whose visit in 1836 lasted only a few days and who was primarily concerned with the geology of the island, managed to collect an endemic click beetle and other insects as well as taking a serious interest in the fossil snails.

John Charles Melliss was born on St Helena in the year before Darwin's visit. His classic study of St Helena, including all the then known details of the flora and fauna, was published in 1875. During the previous decades he corresponded with numerous scientists in England and sent invertebrate specimens to them for study. Melliss inspired Thomas Vernon Wollaston, a noted beetle specialist, to visit St Helena with his wife Edith in 1875-76. Wollaston studied the beetles while his wife wrote an account of the moths of the island that remained the standard work on this group for 120 years.

The detailed knowledge of the fauna of St Helena that was available by the late 19th century made it a prime example for discussion by biologists in the years following the publication of the *Origin of Species* in 1859. Alfred Russel Wallace, co-discoverer with Darwin of the theory of evolution by natural selection, included a chapter on St Helena in his classic book *Island Life*, published in 1880. In this, he explained that many distinctive plants and animals found on the island were relicts of groups that had been more widely distributed in Africa and elsewhere in the distant past.

During the first half of the 20th century the invertebrates of St Helena were largely ignored, but in 1957 Arthur Loveridge – a herpetologist with much experience in Africa – retired to St Helena. On an island without snakes, Loveridge turned to invertebrates, devoting his retirement years to the study of the St Helena fauna. He found many new species and massively increased knowledge of the insects of

the island. He lived at Varneys – and we would be interested to hear from anyone on the island who remembers him? Loveridge handed over his carefully kept records to a group of Belgian Entomologists who visited the island in 1965 and again in 1966 (more about them in Part 2).

Endemic Weevils on False Gumwood

Below Mount Vesey is the only surviving stand of one the rarest endemic trees on the island, the False Gumwood

Commidendrum spurium. There are only about 5 trees on the edge of a cliff. Living on these trees are at least five species of endemic beetle, some of them almost certainly dependent on this one species of tree. This is an example of how small the habitat for some of St Helena's endemic invertebrates has become.

