

Tristan da Cunha Darwin Initiative Project



Newsletter June 2005



Tristan Island Government

Tristan da Cunha lies in the centre of the south Atlantic and is the most remote inhabited island in the world. A project funded by the Darwin Initiative, 'Empowering the People of Tristan da Cunha to implement the CBD', has been in progress since June 2003.

The overall aim of the project is to involve the people of Tristan da Cunha in producing a Biodiversity Action Plan for the islands, although it is recognised that the small community on Tristan will need help to carry this work forward, in particular from the UK and South Africa.

Two seasons of fieldwork have now been carried out on Tristan, with the aim of establishing baseline information that will enable long-term monitoring of the wildlife of the islands. The initial focus of the project was on the main island of Tristan da Cunha and the neighbouring island of Nightingale, in particular mapping the habitats at all altitudes. Many of the plant species are endemic, however alien species, that were once confined to the coastal plain, are spreading to new areas.

The Team

One of the main aims of the project was to involve at least 10 Tristanians in the fieldwork, providing training and equipment so that they would be able to carry out annual monitoring and other survey work after the project had finished.

Over the course of two field seasons, eleven Tristan islanders were able to work with the project – James Glass, Norman Glass, Simon Glass, Trevor Glass, Warren Glass, Jeremy Green, Matthew Green, Rodney Green, Eugene Repetto, Frank Swain, and Wayne Swain



The Tristan peak (6,800ft) with endemic bog ferns *Blechnum palmiforme* and the alien grass *Holcus lanatus*



Eight members of the Tristan project team on Gough Island, with project manager Alison Rothwell

Yellow-nosed Albatross Monitoring



Simon Glass and Matthew Green ringing an adult Atlantic yellow-nosed albatross

The Atlantic yellow-nosed albatross (known locally as the molly) is endemic to the Tristan islands, and is the most numerous of the three albatross species on Tristan. In order to monitor the population of this species, five study plots have been established – three on Nightingale and two on Tristan – with between 25-45 pairs in each. Four of the monitoring plots were set up during the 2003 and 2004 summer seasons, but the one on the Tristan mountain, by Hottentot Gulch, had been established in the 1980s. The monitoring was done at this time by

the school teachers Jim Kerr and Richard Grundy, who were helped by the older children of the school.

Several of the albatrosses now nesting at the site were ringed there in the period 1984 to 1991. One adult found nesting there in 2004 had been nesting at almost the same spot in 1984, and three chicks ringed in 1990 and 1991 are now back at the colony as breeding adults.

Three albatrosses were fitted with GPS loggers, which will track the movements of the birds, and will be recovered in October 2005. The data will give an indication of the main feeding areas for this species, and thus those areas where it is important to control fishing activities that could endanger the albatross population.

Nightingale Island



Jeremy Green clearing the road to the ponds on Nightingale

Early on in the project it was recognised that the biodiversity of Nightingale Island was important both in global terms and an important resource for the Tristan community. A separate project was set up in January 2004 and funding obtained from the Overseas Territories Environment Program to produce a management plan for the island. Fieldworkers who were trained with the Tristan Darwin Initiative project have been working on Nightingale, carrying out fieldwork.

One of the first tasks was to clear paths through the dense tussock grass to give easier access to the interior of the island, in particular the ponds area where monitoring plots

of albatrosses have been established.

One of the main conservation issues is the presence of alien plants on Nightingale, and in particular those that threaten to take over the native vegetation. The equipment used in November 2004 for clearing paths was then used in March 05 to clear invasive flax plants from Nightingale, which had established on the higher ground. A similar project had been carried out on neighbouring Inaccessible island in September 2004, and it is now hoped that both islands are now clear of flax, although it will require frequent follow-up visits to ensure that they remain clear.

Tristan and Nightingale Marine Survey

Although the economy of the Tristan islands is based almost entirely on the marine life, it is surprisingly little studied. There is no other warm temperate island group as remote and isolated as Tristan, and the arrival of new species has been a rare event – diversity is extremely low compared to mainland coasts in the same temperature range. As on land, species arriving here have subsequently evolved in isolation, so that a large proportion of them are apparently endemic.

Sue Scott, a seaweed expert from the UK, volunteered to work with Paul Tyler, the project fieldworker, to carry out dives and intertidal surveys on Tristan and Nightingale in order to collect seaweed specimens and as much information as possible on other marine life. The pair managed nineteen dives on Tristan and two dives on Nightingale, as well as intertidal surveys at 5 sites on Tristan and 3 on Nightingale.

A comprehensive collection of seaweeds has been established on Tristan with a duplicate collection given to the University of Cape Town for analysis, including DNA sequencing. Results are already coming in from this research, which seems likely to produce some definitive answers on the affinities of Tristan's seaweed flora, and whether species originally thought to be Tristan 'endemics' are really confined to Tristan.

Much of the other marine life recorded and photographed has yet to be identified. Two species of Tunicates (sea squirts) and one soft coral were found, neither of which has been recorded in Tristan waters before. Species of starfish and seafans were found that also appear to be new to Tristan, and a rarely seen fish species *Medosoma lineatum* was photographed.



Five-finger Acantholatris monodactylus in kelp forest



Unidentified cushion star at the edge of the drop off at 40m

Invertebrate Survey

One of the key proposals for the Tristan Darwin Initiative project was to establish a terrestrial invertebrate collection, and a South African entomologist Christine Hanel was employed by the project to train the Tristan team in invertebrate sampling techniques and make a start on a reference collection. Members of the Tristan community helped out by collecting reporting specimen finds, and various methods were used to collect samples from different habitats on Tristan and Nightingale.

Invertebrates were collected from 23 sites at 8 different places on Tristan, and 10 sites in the two main regions on Nightingale. This has resulted in a substantial invertebrate collection, most of which has been preserved using wet methods. The bulk of these specimens need to be positively identified – the majority are thought to be species that are known to occur on the islands, but there are a number of species not previously recorded from any of the Tristan Islands.

Amongst those not known

to be listed for any of the Tristan Islands is a species from the order Dermaptera (earwigs). Also apparent were a number of species from the order Hymenoptera (wasps), including a braconid type wasp found at Nightingale, and a yellow and black striped wasp found on Tristan.

Many of the invertebrate species in the collection are alien pests – probably introduced with fresh foodstuff or animal fodder. This highlights the main threat to the native wildlife of Tristan – that of competition with introduced species.

Gough Island



Darwin team on the summit of Edinburgh Peak



Ringling Tristan albatross

Rockhopper Penguin

The only penguin species breeding in the Tristan islands is the rockhopper, and it is found on all the main islands in the group. Global numbers of this species are in decline, and there is evidence to suggest that numbers of breeding rockhopper penguins on the Tristan islands are also declining.

The project aimed to establish an annual monitoring program for this species on Tristan and Nightingale. The smallest and most surveyed colonies are on Tristan,

Although the emphasis of the project fieldwork was on Tristan and Nightingale, the team were asked to help with the monitoring of the Tristan albatross on Gough Island, one of the Tristan islands although it is 250 miles to the south of Tristan. This was a unique opportunity for a Tristan team to be involved with survey work on Gough, indeed only one of the team had ever visited Gough before, so in late January 05 nine members of the team left for a five day trip to Gough.

Bad weather hindered the survey, but counts were possible at several of the key nesting areas for the Tristan albatross (a type of wandering albatross). The this species is unique to Tristan, and is in rapid decline as adults birds are being killed during long-line fishing

and these are relatively easy to count the numbers of incubating adults. On Nightingale, the numbers are much higher and the birds nest in dense tussock grass, so it was only possible to map the extent of the colonies. It is assumed that any contraction in the range of the penguins will suggest a decline in the numbers of breeding birds in the colony.

A full count of incubating penguins was carried out at the Tristan colonies in October

in the south Atlantic, and chicks are dying at the nesting grounds as a result of mice predation.

The Tristan albatross only breeds once every two years, so the counts for 2005 were compared back to a complete survey in 2001. This shows that there has been a substantial decrease in the numbers of breeding pairs between the two breeding seasons.

The Tristan team were able to spend some time ringling birds and checking ring numbers. One bird was found to have had a ring put on by Australian bird ringers, and was possibly caught whilst feeding in Australian waters.

2004. Comparisons with previous counts suggest that the colonies on Tristan doing well. However, it is unlikely that this represents a general trend for all the Tristan islands, as penguin eggs were collected on Tristan until 1992, and any increase since then could be a result of the colonies recovering after the cessation of harvesting. Initial results from repeat counts on Inaccessible and Gough suggest that in fact the overall population of rockhopper penguins on Tristan is declining significantly.

UK Workshop

It would be impossible for the Tristan community to carry out all the recommendations in the Biodiversity Action Plan (BAP) without considerable outside help, particularly from the UK and other UK overseas territories. To identify ways in which UK agencies can inform and assist the Tristan Government to forward the plan, a workshop was held in Bedfordshire in July 04. This brought together representatives from relevant agencies and organisations in the UK and UK territories, and other interested individuals, to discuss issues that the BAP must address and identify ways of implementing it. Organisations represented at the workshop were RSPB, UKOTCF, JNCC, Royal Botanic Gardens Kew, BAS, DEFRA, FCO, Falklands conservation. The policeman and conservation officer, Conrad Glass represented the Tristan government.