

News Release

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Ascension Island's 'extinct' parsley fern makes a dramatic reappearance during International Year of Biodiversity

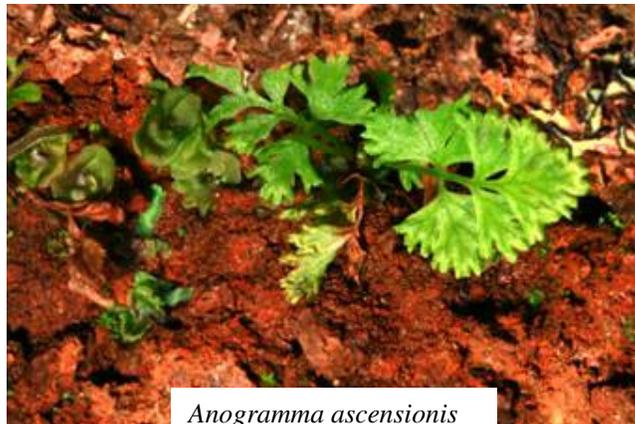
The rediscovery of a fern, long thought to be extinct, is part of a rescue effort to save the plants of the tiny UK overseas territory of Ascension Island in the South Atlantic – a fitting success story during the UN's International Year of Biodiversity⁽¹⁾.



During a routine plant survey, a team from Ascension Island's Conservation Department⁽²⁾ decided to explore an intimidating knife-edge ridge running down the wild southern slopes of Green Mountain, Ascension's dominant volcano. By chance, botanist Dr Phil Lambdon⁽³⁾ with local Conservation Officer, Stedson Stroud, noticed a tiny fern leaf poking out from an almost bare rock face. They instantly recognized it as the long-lost Ascension Island parsley fern, *Anogramma ascensionis*. A detailed search soon revealed four minute plants, clinging to a precarious existence in spite of harsh, dry conditions.

Dr Phil Lambdon and Olivia Renshaw

The diminutive fern is an attractive plant with delicate, yellow-green leaves, which resemble miniature sprigs of parsley. It has always been restricted to Green Mountain, but was once relatively common according to the description of eminent botanist Sir Joseph Hooker, who visited the island in 1876. Although recorded again in 1889, there were few if any further records until British scientist Eric Duffey collected a specimen on the north side of the mountain in 1958. It was not seen again, and officially declared extinct in 2003. The reasons for the demise are unknown, but it seems likely that competition from more aggressive introduced maidenhair ferns (*Adiantum* species) is at least partly responsible. Maidenhair ferns have overwhelmed most of the suitable rock ledges on the mountain and devastated the native crevice-living flora.





Olivia Renshaw

The rediscovery of *Anogramma ascensionis* is only the start of a rescue story that has quietly unfolded over recent months. After their early elation, it was clear that the conservation team had to mount a last ditch effort to save the unstable population. Relocation was not practical due to site difficulties and instead Stedson and his colleague Olivia Renshaw pampered the plants twice a week, scrambling down the ridge with a safety rope to water and weed the patch. As Stedson says,

“Finding it was difficult. Carrying water and hanging onto the safety rope was even harder. However, we will do whatever it takes to keep these ferns alive.” Thanks to this loving care, two of the original four plants survived long enough to produce spores.

Parsley ferns are sensitive plants, and the best chance of successful cultivation was to get them into sterile conditions. The Royal Botanic Gardens, Kew (RBG Kew), a partner in the Ascension project, agreed to help. However, transporting them to Kew Gardens was not an easy task. Once harvested, the spores were vulnerable to drying and contamination, and the team had just 24 hours to



Mr Ross Denny and Mr Stedson Stroud

transfer the precious cargo to the laboratory in RBG Kew’s Conservation Biotechnology Unit (CBU). On the appointed day, Ascension Island’s Administrator, Ross Denny, left his official duties for a few hours to help with the rescue bid. He climbed down the ridge with Stedson to collect the precious spores, which were then placed in a sterile container and rushed to the airfield to be flown to RAF Brize Norton, Oxfordshire, where a car was waiting to race them to Kew Gardens. With the clock ticking, the spores arrived. They were extracted and pronounced to be viable to cheers from RBG Kew’s UK Overseas Territories conservation team.

Since then, Dr Viswambharan Sarasan and Katie Baker of RBG Kew's CBU have managed to rear a large number of young sporelings, which are flourishing well in cultivation⁽⁴⁾. Meanwhile, the team in Ascension has also had success with rearing sporelings of their own, and after further intensive searches they have found a small number of additional parsley fern plants growing near the location of the original find.



Ascension is a young island, covered by bleak, forbidding lava flows, which have never made it a comfortable place for plants to evolve. Only 10 species are known to be truly 'endemic' – found nowhere else in the world⁽⁵⁾. Goats were released onto Ascension by Portuguese explorers in the 1500s, and ate their way voraciously through the island's greenery for 350 years before the flora was even described to science. By this stage, there wasn't much left, and the introduction of rabbits, sheep, rats and donkeys, together with over 200 species of invasive plants, further squeezed out the island's original plant inhabitants. With the rediscovery of *Anogramma ascensionis* the island's surviving six endemic plant species are now boosted to a magnificent seven.

It is hoped that the rediscovered parsley fern will be restored eventually to some of its former wild habitats on Green Mountain, where it perhaps once played a role in helping to stabilize the crumbly cinder cliffs of the mountain. Despite this success story, all of Ascension's endemics remain dangerously close to extinction, and dedicated efforts, like those mounted to save the parsley fern, are needed to prevent the loss of a unique part of the UK's biodiversity heritage.

Ascension Island's Plant Officer, Matti Niissalo, who trained at Kew Gardens, says, "Taking this fragile plant to cultivation has so far gone to plan, probably better than anyone expected. However, even if the future of the species in the nursery becomes secure, this does not mean that plants in the wild need any less attention from the conservation team."⁽⁶⁾



Stedson Stroud with Matti Niissalo

Professor Stephen Hopper, Director, RBG Kew, says, "At a time of unprecedented loss of biodiversity, this exciting discovery gives us hope that species can cling on and that recovery of species is a very real possibility. The UK Overseas Territories are

home to the UK's richest biodiversity. Kew has a long history of working in partnership with local conservationists of the UK Overseas Territories and it is thrilling that this species from Ascension has been nurtured back from the brink of extinction during International Year of Biodiversity."

Work on the rescue project was conducted as part of the Ascension Island Endemic Plants Conservation Project, funded by OTEP, the Overseas Territories Environment Programme, a joint programme of the Foreign & Commonwealth Office and the Department for International Development.

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For further information, images or to set up interviews please contact Olivia Renshaw, Assistant Conservation Officer, Ascension Island Government Conservation Department olivia.renshaw@ascension.gov.ac. Or, the Royal Botanic Gardens, Kew press office on +44 (0)208 332 5607 or pr@kew.org.

Notes to editors

(1) For further information about the UN's International Year of Biodiversity <http://www.cbd.int/2010/welcome/>

(2) For more information about the Ascension Island Government Conservation Department <http://www.ascensionconservation.org.ac/>

(3) Dr Lambdon is now working for the St Helena Nature Conservation Group on an OTEP (Overseas Territories Environment Programme) funded project to produce a botanical field guide to St Helena, in partnership with RBG Kew.

(4) RBG Kew's Conservation Biotechnology Unit (CBU) has successfully grown *Anogramma ascensionis* gametophytes (sporelings) and sporophytes in culture. Thousands of gametophytes of this fern have been produced over the last six months. Sporophytes are developing fast from gametophytes and early results show thousand of sporophytes can be produced in a short period of time. This will help develop large number of sporophytes for reintroduction in the wild, and for the ex-situ living collections at Kew and on Ascension Island. Through offering training and support, the CBU is also helping the Ascension Island Conservation Team develop its capacity in country to grow *Anogramma ascensionis* and other ferns in culture.

(5) Ascension Island's 10 endemic plant species are:

Name	IUCN threat category
<i>Anogramma ascensionis</i> (fern)	Extinct – although rediscovered, it is listed as extinct while its conservation status is reassessed
<i>Asplenium ascensionis</i> (fern)	Near threatened
<i>Dryopteris ascensionis</i> (fern)	Extinct
<i>Euphorbia organoides</i> (Ascension spurge, a species of plant in the Euphorbiaceae family)	Critically endangered
<i>Marattia purpurascens</i> (fern)	Near threatened
<i>Oldenlandia adscensionis</i> (shrub)	Extinct
<i>Pteris adscensionis</i> (fern)	Critically endangered
<i>Sporobolus caespitosus</i> (grass)	Vulnerable
<i>Sporobolus durus</i> (grass)	Extinct
<i>Xiphopteris ascensionense</i> (fern)	Near threatened

(6) Stedson Stroud, a native of St. Helena (another of the UK's overseas territories), is no stranger to the art of rediscovering extinct species. It is his third find after previously playing a major role in the reappearance of both the bastard gumwood (*Commidendrum rotundifolium*) and boxwood (*Mellissia begoniifolia*) on his home island. Others involved in the conservation of *Anogramma ascensionis* are

Olivia Renshaw, AIG Conservation Department, and Phil Lambdon, who participated in the original find; Colin Clubbe, Marcella Corcoran and Martin Hamilton of RBG Kew's UK Overseas Territories team. For further information about RBG Kew's work in the UKOTs

<http://www.kew.org/science/directory/teams/UKOverseasTerritories/index.html>.

The Royal Botanic Gardens, Kew is a world famous scientific organisation, internationally respected for its outstanding living collection of plants and world-class Herbarium as well as its scientific expertise in plant diversity, conservation and sustainable development in the UK and around the world. Kew Gardens is a major international visitor attraction. Its landscaped 132 hectares and RBG Kew's country estate, Wakehurst Place, attract nearly 2 million visitors every year. Kew was made a UNESCO World Heritage Site in July 2003 and celebrated its 250th anniversary in 2009. Wakehurst Place is home to Kew's Millennium Seed Bank, the largest wild plant seed bank in the world. RBG Kew and its partners have collected and conserved seed from 10% of the world's wild flowering plant species (c.30, 000 species) and aim to conserve 25% by 2020. More information www.kew.org

'Biodiversity Year at Kew' in 2010 will celebrate the importance of plant diversity in underpinning biodiversity through a programme of themed and seasonal horticultural displays, art exhibitions, educational activities for all the family and scientific announcements. For a full programme of events see www.kew.org/biodiversity

The Royal Botanic Gardens, Kew is part of the world-wide celebrations of 2010 as the International Year of Biodiversity, and is one of over 300 UK organisations, charities and groups supporting this global awareness campaign. The diversity of life on earth is crucial for human well-being and now is the time to act to preserve it. For information on events, initiatives and exhibitions across the UK during 2010 visit www.biodiversityislife.net



ASCENSION ISLAND GOVERNMENT