

# Ascension Island 'extinct' parsley fern rediscovered during International Year of Biodiversity

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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.

During a routine plant survey, a team from Ascension Island's Conservation Department 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 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.

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.

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 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. 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. 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."

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.

Provided by Royal Botanic Gardens Kew

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