



The fern genus *Dryopteris* (Dryopteridaceae) in Ascension and Saint Helena islands, Atlantic Ocean

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Abstract

The fern genus *Dryopteris* (Dryopteridaceae) in the isolated Atlantic Ocean islands, Ascension and St Helena is reviewed. Three species are known from these islands. *Dryopteris ascensionis* is endemic to and the only *Dryopteris* species known from Ascension Island. This species now appears to be extinct since has not been recorded since 1975, and was not found during repeated searches in the 1990s. Two *Dryopteris* species, *D. cognata* and *D. napoleonis*, are endemic to St. Helena and are rare on that island. *Dryopteris napoleonis* is lectotypified.

Key words: Ascension Island, endemics, oceanic islands, St Helena, U.K. Overseas Territories

Introduction

Dryopteris Adanson (1763: 551) is a genus of about 225 species (Kramer *et al.* 1990: 110) in the strict sense, but is recently enlarged by Zhang (2012) to include several small mostly Asian genera, increasing the total to ca 350 species. It is one of the larger genera in Dryopteridaceae (Christenhusz *et al.* 2011) and has a nearly worldwide distribution. *Dryopteris* is less common in the southern hemisphere and nearly absent from Australia and New Zealand. The chief centre of diversity for the genus is the Sino-Himalayan region and south-western China, with minor centres of divergence in south-eastern and eastern Asia, Oceania, Africa, Europe and the Americas (Roux 2012).

Both Ascension Island and St Helena are oceanic islands positioned along the mid-Atlantic Ocean ridge and are of volcanic origin. Ascension is about 1 million years old compared to St Helena which formed about 14 million years ago (Ashmole & Ashmole 2000).

Ascension Island (7° 57'S, 14° 22'W) is situated about 1,500 km from the coast of West Africa and approximately 1,127 km north of St Helena. The island covers an area of about 88 km² with the highest point, The Peak on Green Mountain being 859 m above sea level. On this island the day temperature at sea-level ranges between 27°C in September to 30°C in January. Green Mountain receives about 680 mm of rain annually and often accumulates cloud and mist making it one of the only sources of water as it seeps through the rocks. The lowlands receive as little as 130 mm of rain per annum and most of it occurs in the form of torrential downpours between March and May. For most of the year the lowlands are arid and desert-like.

The vegetation of Ascension Island has been significantly modified, mainly through the introduction of alien plants and animals. Currently more than 300 non-native plants species occur on the island compared to the 25 native vascular plant species that originally occurred there. Of the native species 12 were endemic to

1. This paper was published posthumously. Dr Roux unexpectedly passed away in a traffic accident on 12 May 2013. We decided to publish the manuscript, submitted on 4 April 2013, taking the positive reviewers comments into account. The plates were based on the preliminary versions sent to us for review purpose.