

A new plant on Heard Island



The first daisy (*Leptinella plumosa*) found on Heard Island.



JENNY SCOTT

Written on Heard Island, February 2004, for the weekly newsletter.

‘One wet and windy afternoon recently, I went for a walk along the gravelly river terrace of the main glacial stream running through Paddock Valley. Big areas of new vegetation had appeared on the terrace since 1987. I knew this from comparing air photos taken back then, with a satellite image of eastern Heard Island taken in January 2003. A big part of my project is to look at vegetation change on the island since 1987, based on these aerial images and a mass of photos and other data that I had collected during two field seasons in 1987 and 1988.

As I expected, the new vegetation on the river terrace was mainly the bright green cushion plant *Azorella selago*, which is expanding its range nearly everywhere on the island. This may be partly due to climate conditions becoming milder.

I wasn't expecting to find anything unusual, although this was potentially a good place. I wandered along, eyes to the ground, and suddenly saw something that made me think I was dreaming! It was a new type of plant; a small feathery-leaved member of the daisy family, *Leptinella plumosa* (formerly *Cotula plumosa*). I stared at it, not believing my eyes. It was nestled at the edge of an *Azorella* cushion and a rock and was only about 10 x 15 cm in diameter, with four or five small, yellow, bud-like flowers. (Daisies in the subantarctic have no petals to attract insects, as there are no flying insects to pollinate them. The wind spreads their pollen instead.)

There are only 11 species of flowering plants on Heard Island, but this made it 12. Were there any other *Leptinella* plants here, or was this the only one? When I told Pep, who was working nearby, she was as excited as I was, and we

walked around the whole river terrace area covering every likely spot.

We didn't find any other *Leptinella* plants, although of course that doesn't mean there aren't others. And other species of plants could be arriving. In a rapidly changing environment like Heard Island's, we expect that other species of plants will arrive; including unwanted, weedy, invasive ones (hence the strict quarantine regulations for the island).

So where did this *Leptinella* plant come from and how did it get here? It is likely that it originated from the French subantarctic islands to the west of Heard Island – Iles Kerguelen and Iles Crozet – where it is abundant. It is a common species in the subantarctic and is found in coastal areas at Macquarie Island.

How it got here is a harder question to answer...possibly a coastal scavenging bird, such as a skua, unknowingly transporting and then depositing the seed on this spot. A tiny sample from the plant will be enough for DNA analysis back in Australia, which may indicate where it originated from.

We will monitor the fate of this little plant with great interest in the future, and hope that it survives the winter and escapes trampling by the fur seals and moulting elephant seals which are all around it on the river terrace. We also hope that additional plant arrivals on the island are also 'friendly subantarctic natives' and not invasive weeds.'

—JENNY SCOTT
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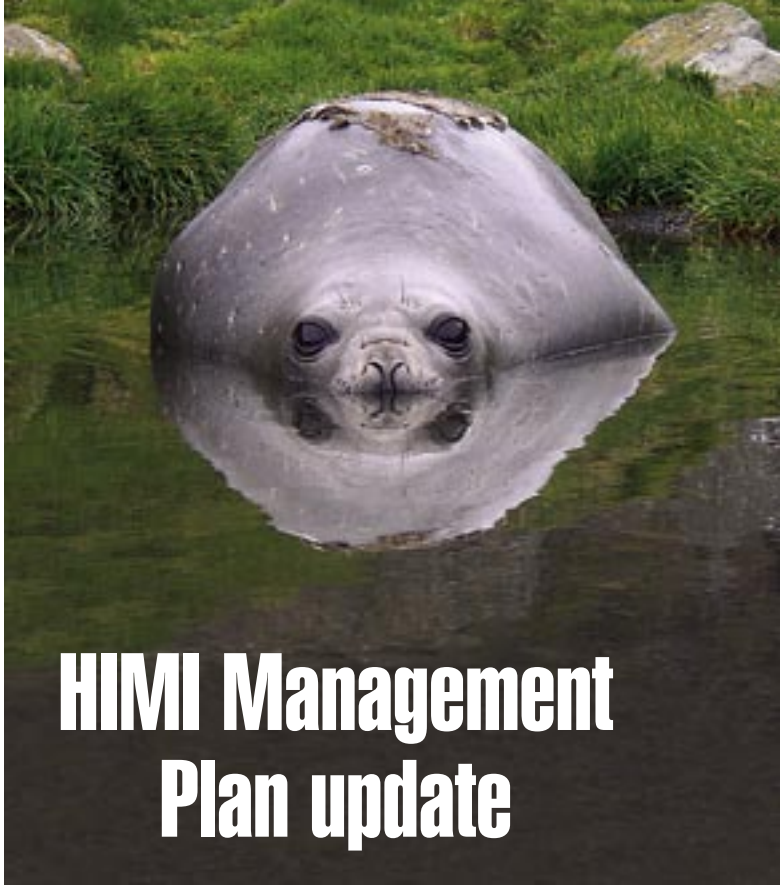
MARCUS SCHORTEMEYER

Postscript

Preventing the human introduction of non-native species and disease to Heard Island is a key goal of the new management plan being prepared by the Australian Antarctic Division (see HIMI Management plan opposite), which will include comprehensive quarantine measures (see Ecological risks to Heard Island assessed, page 14). The management plan will also include provisions for investigating and responding to new species recorded on the island, and the Australian Antarctic Division is currently undertaking an investigation to determine the probable origin of the *Leptinella* plant. It is hoped that genetic analyses and expert advice will indicate the plant to be a 'friendly native' that has arrived by natural means, rather than an unwanted hitchhiker from a previous expedition.

—EWAN McIVOR
Environmental Policy and Protection Section, AAD

ROGER KIRKWOOD



HIMI Management Plan update

The HIMI Management Plan aims to maintain the conservation values of Heard Island, which are recognised on a national and international scale.

Heard Island online

The Heard Island expeditioners shared the daily ups and downs of life and work on Heard Island and aboard the *Aurora Australis* through an online newsletter on the Australian Antarctic Division (AAD) web site <<http://www.aad.gov.au/default.asp?casid=12881>>.

The newsletter was a popular source of information for expeditioners' families and friends and the general public, and detailed the preparations for departure, progress to and from the Island, set-up of camp sites, Christmas celebrations and scientific activities and discoveries.

You can visit the AAD web site to read about these adventures, find information on the plants, animals and glaciology of Heard Island and, thanks to satellite technology, follow the tracks of penguins, seals and albatrosses as they travelled from Heard Island to their feeding grounds in the Southern Ocean.

ROBB CLIFTON



The Australian Antarctic Division (AAD) administers and manages the Heard Island and McDonald Islands (HIMI) Marine Reserve, located in the Southern Ocean some 4000 km south west of Western Australia (see *Australian Antarctic Magazine* 5, page 40). The AAD has prepared a draft management plan for the Reserve which has been considered by the Commonwealth Marine Protected Areas Committee – an interdepartmental body responsible for considering draft management plans for Commonwealth marine protected areas – and by the key stakeholders involved in the process to declare the Reserve. The draft plan will be released for public comment shortly, with announcements to be made via the AAD website, the *Australian* newspaper, the *Government Notices Gazette* and environmental newsletters. The draft plan includes comprehensive measures to prevent the human introduction of new species and diseases (see Ecological risks to Heard Island assessed, page 14), to communicate the Reserve to the Australian and global community (see *Bringing Heard Island to the world*, page 22), and to ensure that wastes, facilities, access and human activities in general are managed to maintain conservation values recognised on a national and international scale.

Readers interested in the management of HIMI are welcome to comment on the draft plan. The draft plan will be revised where necessary to address issues raised during the public comment period and will then be presented to Parliament by the Minister for the Environment and Heritage for formal adoption.

—EWAN McIVOR
Environmental Policy and Protection Section, AAD