

DESERTAS WOLF SPIDER

Desertas Grande Islands, Madeira

The Desertas wolf spider (*Hogna ingens*) is endemic to Vale da Castanheira, Desertas Islands, Madeira, Portugal. Despite having an impressive 40mm body size and being the largest known species of wolf spider, very little is known about this species.

Even though some taxonomists have provided redescriptions, every other aspect of this remarkable species has remained unknown until recently. It was assessed as Critically Endangered according to the IUCN (Cardoso 2014) but is not protected by any international, national or regional legislation or agreements.

In the absence of any native terrestrial mammals, this spider is a top predator in its habitat. Although its major prey consists of other invertebrates, such as beetles, woodlice and millipedes, adults have also been seen preying on juvenile lizards. The latter, along with birds and mice, are the major predators of *H. ingens*, mostly during its juvenile stage. This is when the spider is most vulnerable to predators, because in addition to its smaller size, it tends to disperse in order to find new shelters, thus maximizing the likelihood of encounters with potential predators. As spiders grow and find proper shelters, mostly below rocks but also in soil crevices, their inclination to disperse gradually decreases. It takes about two years for spiders to reach maturity.

The small valley where the spider lives is currently mostly covered by *Phalaris spp.* The colonization of this grass in the Vale da Castanheira was hidden for some years due to the presence of rabbits that grazed and controlled the spread of the plant. With the eradication of rabbits from the Valley in 1996, *Phalaris* lost its main predator and now proliferates. This grass appears to not only displace many native plants, but also many of the native animals. It covers the surface of the soil and rocks, making the microhabitats below the rocks harder to access for the spiders.

A workshop was held in Funchal, Madeira, on May 9 - 10, 2016. Participants from the Regional Directorate of Environment, Madeira Natural Park Services (two bodies that have now merged under the Institute of Forests and Conservation of Nature - IFCN), University of Madeira, IUCN Species Survival Commission and Bristol Zoological Society were involved. Following this an ex-situ programme was started for the species with the focus being at Bristol Zoo Gardens, where an EAZA EEP is being coordinated in line with the management proposals discussed during the strategy workshop.

Five year objectives:

- To restore the ecological balance in the Castanheira Valley through reduction of *Phalaris* density on the assumption that a viable population of spiders will persist across the entire valley
- To analyze the genetic structure of the population, its habitat preferences and the potential consequences of climate change
- To maintain and breed a second spider population at Bristol Zoo Gardens
- To raise awareness of the importance and uniqueness of the spider to visitors at Bristol Zoo Gardens



CONSERVATION INITIATIVES

Long-term population monitoring

Assist rangers to monitor spider populations and support monitoring of other threatened invertebrate taxa



PHOTO: MARK BUSHELL

Habitat Restoration

Work with park rangers and use our horticultural knowledge for habitat restoration



PHOTO: MARK BUSHELL

Captive breeding

Coordinate a captive breeding programme to advance knowledge of life history and produce a reintroduction population

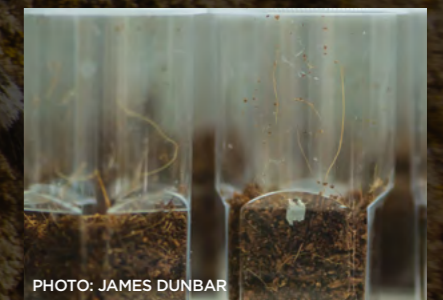


PHOTO: JAMES DUNBAR

Building capacity

Demonstrate that invertebrate conservation is a feasible and effective tool, and share best practice to encourage other zoos to undertake similar projects



PHOTO: MARK BUSHELL