

# Past and present human impacts on the biodiversity of Socotra Island (Yemen): implications for future conservation

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**Abstract.** The Socotra Archipelago (Yemen) is globally recognized for its outstanding biodiversity and endemism, designated on this basis a UNESCO World Heritage Site in 2008. The island underwent long geological and political isolation, ensuring preservation of unique ecosystems until the start of the new millennium. Now, Socotra Island is undergoing rapid development, out of balance with conservation. Major causes for biodiversity loss in other global insular ecosystems such as habitat fragmentation and degradation, pollution, invasive species and the impact of tourism, are becoming pressing issues that deserve close attention. Unsustainable resource use, the loss of traditional land management and illegal trade in biota are worrying phenomena that further increase the pressures on Socotra's ecosystems. We provide the first comprehensive review of potential human impacts on Socotra before the 21<sup>st</sup> century, an updated discussion of some of the principal threats to its biodiversity in recent times, discussing local examples within a historical context of known extinction processes on islands, and underline the importance of traditional knowledge in the protection of Socotran ecosystems.

**Key words.** Socotra island, conservation, human impact, extinction, biodiversity, invasive species, tourism.

“Can it be true that only a few years after only being visited by a few more than the occasional sailor or botanist, harmless painter or devoted ant specialist, Soqotra may irrevocably become a paradise lost?” (GLANDER 2009 comparing impressions on Socotra to impressions of 2005)

## Introduction

The United Nations declared 2010 as the International Year of Biodiversity, “*a celebration of life on earth and of the value of biodiversity for our lives*” (CBD 2010). At the same time, our planet is facing a new biodiversity crisis, dubbed by some as the sixth mass extinction, caused by human activities (PURVIS et al. 2000a, NOVACEK 2009). Rates of extinction are presently regarded as 1,000-10,000 times the geological background rate (PIMM et al. 1995). Protecting biodiversity has never been as pressing. Nowhere on earth is biodiversity more apparent and in need of urgent attention than on islands (PAULAY 1994). Recently illustrated by DA FONSECA et al. (2006), islands cover 5% of the global land surface, yet their number of endemics is highly disproportionate: about 20% of the world's vascular plant diversity and 15% of the world's mammals, birds and amphibians are found only on islands. Island