



A method for establishing taxonomic research priorities in a megadiverse country

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Abstract

A coordinated strategy for biosystematics research that addresses the needs of end-users can improve the relevance and impact of research products. The basic types of information that taxonomists provide, common to all organisms, are the names, descriptions, and a mechanism for identifying components of biodiversity, and associated data such as distribution information. This information is provided through taxonomic research.

A biosystematics research strategy has been developed in South Africa to focus on the main gaps in taxonomic knowledge. A prioritisation process has been developed and applied to plants, but can potentially be used for all organisms. The methodology for development of the taxonomic priorities to formulate a research strategy is described. Determining priorities for taxonomic research and development of the strategy will facilitate bridging the gaps among compilers, users and implementers of taxonomic information, and streamline the taxonomy-conservation impediment.

Introduction

Biosystematics research underpins biodiversity and all other organismal-related studies. Such studies involve the discovery, naming, description and classification of biological organisms. In this paper, the term taxonomy is used in the broad sense to include the organisation and classification of information about organisms. The recognition and interpretation of genetic variation in organisms is at the heart of taxonomy (Van Wyk 1996). Taxonomists collect and organise foundational biodiversity data, which is built upon by other fields of science. If the foundational information is lacking, flawed or unstable, it not only impedes all other fields of biological research, but also hampers and frustrates the work of the many other end-users of taxonomic information.

The critical importance of taxonomy in the field of conservation, all other areas of biological science, as well as society at large, is well established and has been recognised in the Global Strategy for Plant Conservation (GSPC) (Lowry & Smith 2003, Smith *et al.* 2008, Victor & Smith 2011, Ebach *et al.* 2011). At the Conference of the Parties to the Convention on Biological Diversity (COP 11), held in Hyderabad, India, in 2012, a capacity building strategy for the Global Taxonomic Initiative (GTI) was adopted with the aim of identifying gaps and prioritising capacity-building needs, and to generate and maintain taxonomic information to meet the identified taxonomic needs. The first strategic action proposed in this regard is to “review taxonomic needs ... and set priorities to implement the Convention and the Strategic Plan for Biodiversity 2011–2020” (COP 2012). Development of a national biosystematics research strategy will contribute to a government’s obligations to fulfil the aims of the capacity building strategy for the GTI.

A Biosystematics Research Strategy was developed by the South African National Biodiversity Institute (SANBI) covering all living organisms of the country (Victor *et al.* 2013). This Strategy provides guidelines for research priorities; communicates the value of taxonomic research to the public, academic institutions and funding agencies; makes the most strategic use of limited time and resources; guides future decisions on capacity development, staff recruitment and training; stimulates dissemination of priority taxonomic information to end-users; and provides a shared vision to guide research.

During the development of the research strategy for South Africa, the authors consulted taxonomists from local universities, as well as abroad, to share, and where appropriate, incorporate views beneficial to strategy development

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