PREFACE

"Scientific papers will come and go, and many be forgotten. The true scientific legacy of a mycologist, however, will be what remains in culture collections, enabling future generations to test hypotheses old and new"

"How do you celebrate 100 years of fungal biodiversity and ecological research?" was the question we asked ourselves. The answer to this was to organise an international meeting dealing dedicated to these topics. To this end, then, the special symposium, "CBS Centenary: 100 years of Fungal Biodiversity and Ecology," was organised on 13–14 May 2004 at the Trippenhuis in Amsterdam. The Trippenhuis, one of the grandest buildings in Amsterdam, is the headquarters of the Royal Academy of Arts and Sciences (RNAAS), which in total manages 18 institutes, including the Centraalbureau voor Schimmelcultures (CBS).

Contrary to current practice for meetings, we decided not to publish the proceedings, but to rather solicit specific papers dealing with the description of at least 100 new species, to celebrate the vast, untapped wealth of fungal diversity that surrounds us every day. Those who work in this area are familiar with the many potentially valuable, culturable organisms begging for collection, description and characterisation of their unique properties and attributes. Or recognition of this situation culminated in the present volume of *Studies in Mycology* (SIM). The volume consists of two parts, and contains 51 papers in which 119 taxa are described as new to science (incl. 2 new families and 18 genera). A further 26 comb. nov.'s, and 1 nom. nov. are proposed, and several older synonyms are resurrected. In total, 15 new holomorphs had both their teleomorph and anamorph named.

CBS is primarily a fungal culture collection. In keeping with this, the analysis of fungal cultures, based on a polyphasic approach using various data sets, always has and always will be the signature of a typical CBS research paper. It was therefore appropriate to stipulate that all papers had to be based on strains that were deposited in CBS, thus making them available for future generations, and that all strains had to treated in a manner reflecting the current state of the art in the specific group, thus incorporating the various types of data sets used today.

DIRECTORS OF THE CBS

F.A.F.C. Went (1904–1907), J. Westerdijk (1907–1953), A.L. van Beverwijk (1953–1963), J.A. von Arx (1963–1987)

R. Kokke (1987–1990), D. van der Mei (1990–2002), P.W. Crous (2002–)

In recent years it has become clear to all working with fungi that we have reached the end of the road for expert opinions that fail to incorporate data going beyond the phenotype. Nearly every name we treat turns out, in molecular analysis, to be a complex of cryptic species. Frequently, such discoveries lead to a recognition that some of these cryptic species are restricted to certain countries, or have distinct patterns of response to fungicides, or have unique features in other important attributes such as their virulence, modes of distribution, patterns of infection, and so on. The cryptic entities revealed by polyphasic approaches are frequently shown, at the level of population genetics, to be functional species. This has significant implications for international trade and disease control, in that introductions of various phenotypically uniform but cryptically speciated pathogens must be controlled along with the traditionally monitored phenotypically distinct organisms.

In the present volume, there was no specific stipulation or requirement about which types of organisms could be submitted for consideration. The focus of the volume was not on taxa per se, but rather on the approaches used to describe these organisms. This topic connects to a vital current issue, namely, the future vision of how such organisms will be dealt with in the virtual laboratory that links all mycologists via the internet. The current volume, then, also coincides with the launching of *MycoBank* (an online directory of mycological nomenclatural novelties and their associated descriptions and illustrations), as well as unique species identifier codes; we regard these developments as the most significant of all the programmes designed to launch us into the next millennium. As part of the RNAAS's vision to support "Open Access" journals and publications, *Studies in Mycology* is also now freely available via the CBS web site <www.cbs.knaw.nl>. It is hoped that this initiative will further help to promote mycology, especially in developing countries where few laboratories can afford hard copies of the journal. To the same end, authors will also be given PDF's of their papers to distribute freely as reprints, and to place on their own web pages. We trust, also, that our new policy of publishing in colour will do justice to all the beautiful organisms treated in this volume!

We hope that the current compilation of papers proves stimulating to those who love fungi, and who interact with them at different levels: in the field and in the laboratory; through a microscope or though pipetting into a microtube; or, ideally, in all of these ways. To set the stage for this volume, we solicited a paper by David Hawksworth to discuss species numbers and diversity, to make us reflect on what we know, and what we suspect still awaits description. A historic overview by Rob Samson and colleagues reflects on the origin of the CBS, its progress through the years, its various trials and tribulations, and the famous mycologists who over the years have dedicated themselves to keeping this collection alive, constantly improving its quality, and adding data on the strains for the benefit of future generations.

Culture collections are the living DNA banks of the future. They belong to all of us, and their mandate should be actively supported, as they remain but a poor reflection of the abundant fungal biodiversity out there, begging to be collected, studied, cultured and preserved. Collections such as the CBS are the keepers of metabolically active, ex-type strains that will be essential reference points in years to come. When speaking to mycologists, I say, "These strains are your true legacy, as they will enable others to reanalyse your hypotheses using the state of the art techniques that have not yet been developed." The novel strains cited in this volume are therefore available through CBS for further study. The sequences are in GenBank, the trees in TreeBASE, and the names and morphological details in MycoBank. The table is thus properly set for a feast of new fungal species. Please enjoy!

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Pedro W. Crous, Utrecht, December 15 2004