PREFACE

Since Pier Antonio Micheli described *Aspergillus* is his *Nova Plantarum Genera* in 1729 the genus attracted an immense interest. Many species were found as spoilage agents, or responsible for human and animal diseases. On the other hand aspergilli were also found as beneficial micro organisms in the fermentation of Asian food and beverages. With the discovery of aflatoxins, the interest and research of the aspergilli increased even more. In the present days *Aspergillus* research has grown to such a level, that it could be stated that aspergilli might be the most studied fungi.

In all these applied fields, the basic systematics has always been very difficult and many mycologists have tried to propose a stable taxonomic classification based on their respective species concept. Although the taxonomy and subsequently the identification of most species has improved, the species concept of many species is still unclear. With the development of various molecular methods new approaches are proposed but it is clear that there is an urgent need to come to a standardisation and consensus how a species in *Aspergillus* is designated. *Aspergillus* is also in the forefront with respect to our genetic knowledge of fungi and with the complete genome sequences of nine *Aspergillus* species (*Emericella nidulans*, *A. oryzae, A. fumigatus, Neosartorya fischeri*, *A. terreus, A. clavatus, A. niger, A. flavus, A. parasiticus*) in advanced states of release, opportunities are upon us to generate data in characterising *Aspergillus* species.

The particular topic to discuss the species concept with a multidisciplinary audience was the aim of the international workshop entitled "*Aspergillus systematics in the genomics era*". The idea was to bring investigators working on various aspects of *Aspergillus* and its species concept to come together to start to address the question - what is a species and how do we recognise it? The workshop was held at the CBS Fungal Biodiversity Centre, Utrecht, The Netherlands on 12–14 April and 39 mycologists participated. The programme consisted of 10 sessions dealing with various topics all related to the species concept. The sessions discussed the current species concept in *Aspergillus* and the use of secondary metabolite profiling and other tools for species recognition. The views of species recognition with regards to *Aspergillus* genomics and genetics were presented. Two sessions dealt with the species identification in the clinical setting and strains typing of human opportunistic aspergilli while the importance of the genus to agriculture and biotechnology was expressed. The constraints with the *Aspergillus* nomenclature in view of the Rules of the Botanical Code were debated while proposals to develop web-based initiatives and tools for analysis were provided. Finally a special session was organised to discuss the Guidelines for species description in *Aspergillus*. This issue of the Studies in Mycology is a summary of these presentations and discussions.

Additionally, the polyphasic methods applied recently on aspergilli resulted in four monographs included in this issue of *Studies in Mycology*, dealing with *Aspergillus* sections *Candidi*, *Clavati*, *Fumigati* and *Usti*. Diagnostic tools developed for the identification of the economically extremely important but taxonomically problematic black aspergilli (*Aspergillus* section *Nigri*) are also covered in a separate paper.

The organisation of this workshop would not have been possible without the financial aid of various international organisations and companies. We are grateful to the IUMS Mycology Division, Schering Plough, Novozymes, DSM, Merck Sharp & Dome, the Fungal Research Trust, ISHAM and Myconosticta for their financial support.

Robert A. Samson and János Varga December 1, 2007