

3-O17-1

Advances in the taxonomy of phytopathogenic fungi

Yasmina Marin Felix^{1,2}, Pedro W. Crous²

¹Department Microbial Drugs, Helmholtz Centre for Infection Research, Germany

²Westerdijk Fungal Biodiversity Institute, the Netherlands

Purpose: Phytopathogenic fungi are important agents of plant disease, resulting in major annual losses to agricultural and forestry industries. Since the advent of molecular DNA techniques, many species of plant pathogenic fungi have been shown to represent species complexes or to be members of genera that are para- or polyphyletic. Moreover, for many genera and species type material has not been designated or/and the vast majority of these taxa were described before the DNA phylogenetic era and thus lack DNA barcodes. To address these issues, the "Genera of Phytopathogenic Fungi" initiative was launched, whose main objective is to provide a stable platform for the taxonomy of phytopathogenic fungi.

Methods: For each genus, a morphological description and information about its pathology, distribution, hosts and disease symptoms are provided. In addition, these data are linked to primary and secondary DNA barcodes of the presently accepted species.

Results: Hitherto, 62 genera of phytopathogenic fungi have been studied. For some of these genera new barcodes were generated allowing us to redefine them, e.g. *Dichotomophthora* and *Metulocladosporiella*. Moreover, new species and new genera such as *Verkleyomyces* and *Wingfieldomyces* were introduced to accommodate new taxa. Moreover, numerous new combinations were proposed to correct the classification of known species of phytopathogenic fungi. Finally, some asexual-sexual links were resolved, as in the case of *Pyrenophora* and *Drechslera*.

Conclusions: Since the start of the "Genera of Phytopathogenic Fungi" project, 62 genera have been treated, resulting in the introduction of five new genera, 88 new species, 38 new combinations, four new names and 13 typifications. This project has therefore revealed huge potential for advancing the taxonomy of phytopathogenic fungi.