

## Book Review

PRISCILA CHAVERRI, MIAO LIU and KATHIE T. HODGE

### Neotropical *Hypocrella* (anamorph *Aschersonia*), *Moelleriella*, and *Samuelsia*

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The *Hypocrella sensu lato* are entomopathogenic fungi (*Ascomycota*, *Hypocreales*, *Clavicipitaceae*) described in the 19th century. They hyperparasite on scale insects (*Coccidae* and *Lecaniidae*, *Homoptera*) and whiteflies (*Aleyrodidae*, *Homoptera*) and are common in the tropics. They form brightly-coloured stromata containing asci with filiform ascospores and pycnidia or acervuli (anamorph *Aschersonia*). Anamorphs are more commonly collected than the teleomorphs. Due to their occurrence on living leaves, these fungi were for a long time considered as parasites or superficial colonisers of plants. Now they are important biocontrol fungi used e.g. in the biological control of citrus whitefly.

The present monograph represents a comprehensive study of neotropical members of *Hypocrella* s. l. based on hundreds of freshly collected material, herbarium specimens (including types), isolates, morphological studies and multigene phylogenetic analyses.

In the introductory part, the authors describe distinguishing morphological features, the current taxonomic conception, geographic distribution, habitats, hosts, life cycles, secondary metabolites, biocontrol applications etc. In Materials and Methods all relevant data are given (e.g. isolation methods, DNA extraction, PCR and sequencing). In molecular studies, three partial gene regions were amplified, i.e. large subunit nuclear ribosomal DNA (LSU), translation elongation factor (EF1-alpha) and RNA polymerase II subunit one (RPB1). The sequences are available at GenBank.

In the chapter Results, morphological and phylogenetic analyses and geographical distribution are combined. Currently, the following genera are recognised: *Hypocrella* s. s. includes species with non-disarticulating ascospores and fusiform conidia (*Aschersonia* anamorph), *Moelleriella* includes species with disarticulating ascospores and fusiform conidia (*aschersonia*-like), and the new genus *Samuelsia* has non-disarticulating ascospores and small allantoid conidia (*aschersonia*-like). In the phylogenetic analyses, three major clades were produced, corresponding to the three genera.

The major part of the monograph includes a synoptic key to the genera, a dichotomous key to the species and particularly species descriptions: 5 *Hypocrella* species, 22 *Moelleriella* species and 5 *Samuelsia* species. Out of these, one genus (*Samuelsia*) and 13 species are newly published taxa; 17 species are new combinations. The species descriptions are documented by excellent black-and-white microphotographs and colour photographs of stromata and colonies. Data on habitat, known distribution and examined specimens are also given. The monograph is completed with References and an Index.

Two monograph authors, i.e. Priscila Chaverri and Kathie T. Hodge belong to reputable specialists in hypocrealean fungi and entomopathogens. Their co-operation with the third author, Miao Liu, was evidently very fruitful. Their work is a successful continuation of the set of other magnificent monographs published in *Studies in Mycology*. It also markedly increases the literature pool of entomopathogenic fungi. The concisely written text and superior photographs make this book very user-friendly. Also the work's free access at internet is very pleasant.

Although the monograph deals with neotropical species of entomopathogenic fungi, it will be unquestionably important for all specialists interested in entomopathogenic fungi and biocontrol and for mycologists interested in *Clavicipitaceae*.

Alena Kubátová