Species and ecological diversity within the Cladosporium cladosporioides complex (Davidiellaceae, Capnodiales) - DTU Orbit (24/12/2018)

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The genus Cladosporium is one of the largest genera of dematiaceous hyphomycetes, and is characterised by a coronate scar structure, conidia in acropetal chains and Davidiella teleomorphs. Based on morphology and DNA phylogeny, the species complexes of C. herbarum and C. sphaerospermum have been resolved, resulting in the elucidation of numerous new taxa. In the present study, more than 200 isolates belonging to the C. cladosporioides complex were examined and phylogenetically analysed on the basis of DNA sequences of the nuclear ribosomal RNA gene operon, including the internal transcribed spacer regions ITS1 and ITS2, the 5.8S nrDNA, as well as partial actin and translation elongation factor 1-α gene sequences. For the saprobic, widely distributed species Cladosporium cladosporioides, both a neotype and epitype are designated in order to specify a well established circumscription and concept of this species. Cladosporium tenuissimum and C. oxysporum, two saprobes abundant in the tropics, are epitypified and shown to be allied to, but distinct from C. cladosporioides. Twenty-two species are newly described on the basis of phylogenetic characters and cryptic morphological differences. The most important phenotypic characters for distinguishing species within the C. cladosporioides complex, which represents a monophyletic subclade within the genus, are shape, width, length, septation and surface ornamentation of conidia and conidiophores; length and branching patterns of conidial chains and hyphal shape, width and arrangement. Many of the treated species, e.g., C. acalyphae, C. angustisporum, C. australiensc, C. basiinflatum, C. chalastosporoides, C. colocasiae, C. cucumerinum, C. exasperatum, C. exile, C. flabelliforme, C. gamsianum, and C. globisporum are currently known only from specific hosts, or have a restricted geographical distribution. A key to all species recognised within the C. cladosporioides complex is provided

General information
State: Published
Organisations: Department of Systems Biology, Center for Microbial Biotechnology, CBS-KNAW Fungal Biodiversity Centre, The Royal Botanic Gardens, Korea University, Washington State University, Agricultural Institute of Slovenia, Martin Luther University Halle-Wittenberg
Pages: 1
Publication date: 2010
Peer-reviewed: Yes

Publication information
Journal: Studies in Mycology
Volume: 67
Issue number: 1
ISSN (Print): 0166-0616
Ratings:
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 14 SJR 6.328 SNIP 7.224
Web of Science (2017): Impact factor 11.633
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 14.62 SJR 7.735 SNIP 8.292
Web of Science (2016): Impact factor 14
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 15.65 SJR 7.213 SNIP 8.482
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 11.76 SJR 5.291 SNIP 6.503
Web of Science (2014): Impact factor 13.25
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 9.41 SJR 3.786 SNIP 4.743
Web of Science (2013): Impact factor 9.296
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2