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Colletotrichum species causing anthracnose disease of chili in China

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Abstract



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Anthracnose caused by *Colletotrichum* species is a serious disease of more than 30 plant genera. Several *Colletotrichum* species have been reported to infect chili in different countries. Although China is the largest chiliproducing country, little is known about the species that have been infecting chili locally. Therefore, we collected samples of diseased chili from 29 provinces of China, from which 1285 strains were isolated. The morphological characters of all strains were observed and compared, and multi-locus phylogenetic analyses (ITS, *ACT*, *CAL*, *CHS-1*, *GAPDH*, *TUB2*, and *HIS3*) were performed on selected representative strains. Fifteen *Colletotrichum* species were identified, with *C. fioriniae*, *C. fructicola*, *C. gloeosporioides*, *C. scovillei*, and *C. truncatum* being prevalent. Three new species, *C. conoides*, *C. grossum*, and *C. liaoningense*, were recognised and described in this paper. *Colletotrichum aenigma*, *C. cliviae*, *C. endophytica*, *C. hymenocallidis*, *C. incanum*, *C. karstii*, and *C. viniferum* were reported for the first time from chili. Pathogenicity of all species isolated from chili was confirmed, except for *C. endophytica*. The current study improves the understanding of species causing anthracnose on chili and provides useful information for the effective control of the disease in China.

Keywords: [DNA PHYLOGENY](#); [MULTI-GENE ANALYSIS](#); [PLANT PATHOGEN](#); [SYSTEMATICS](#)

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