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A cultured endophyte community is associated with the plant *Clerodendrum inerme* and antifungal activity

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ABSTRACT. Fungal endophytes live in the inner tissues of *Clerodendrum inerme* and may be significant resources for new chemicals in drug discovery. A total of 242 endophytic fungi were recovered from 602 sample segments of *C. inerme*; 66 were purified. The 66 fungi belonging to 16 taxa and 11 genera (*Alternaria*, *Nigrospora*, *Bartalinia*, *Pestalotiopsis*, *Fusarium*, *Mycoleptodiscus*, *Trichoderma*, *Phomopsis*, *Diaporthe*, *Lasiodiplodia*, and *Curvularia*) were identified by morphological characteristics and fungal internal transcribed spacer sequences. The most abundant genera were *Alternaria* and *Lasiodiplodia*. Some of the endophytes exhibited tissue specificity. The colonization frequencies of endophytes in the stems were evidently higher than those in the roots and leaves. The crude ethyl acetate extracts were tested against 6 endophytes isolated from *C. inerme*. Three of 10 (33.3%) endophytes, which were identified as *Phomopsis* sp, *Curvularia* sp, and *Mycoleptodiscus* sp, displayed distinct antifungal activity against ≥3 tested fungi. To our knowledge, this is the first report of an endophytic community associated with *C. inerme* in China and its antifungal activity *in vitro*.

Key words: Endophyte; *Clerodendrum inerme*; Antifungal activity; Latent pathogen

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