Evaluation of antimicrobial activity of endophytic fungi from *Camptotheca acuminata* (Nyssaceae)

T. Ding¹, T. Jiang², J. Zhou¹, L. Xu² and Z.M. Gao¹

¹School of Plant Protection, Anhui Agricultural University, Hefei, China  
²School of Life Science, Anhui Agricultural University, Hefei, China

Corresponding author: Z.M. Gao  
E-mail: gzm@ahau.edu.cn

Received May 1, 2010  
Accepted July 27, 2010  
Published October 26, 2010  
DOI 10.4238/vol9-4gmr809

**ABSTRACT.** Agricultural research of plant-derived endophytic fungi has grown in recent decades. We isolated 26 endophytic fungi from the leaves, stems and fruits of “the tree of life”, *Camptotheca acuminata*, and tested them for antimicrobial activities based on growth inhibition measurements in a modified agar diffusion method. Fermentation broths from most of the isolates exhibited antifungal activity and 50% exhibited antibacterial activity; some of them also exhibited strong broad-spectrum antimicrobial activity. The strongest antimicrobial activity was exhibited by strains XSY10 and XSY15 against *Rhizoctonia solani* and *Fusarium oxysporum f. sp. vassinfectum*, with 75% and 67% inhibition, respectively. Strain XSJ01 gave strong activity against pathogenic bacteria, with inhibition zones more than 20 mm in diameter. The isolates were identified by molecular methods as belonging to nine taxa: *Nigrospora, Diaporthe, Alternaria, Colletotrichum, Pestalotiopsis, Sordariomycete, Guignardia, Penicillium*, and *Zythia*. Based on
these results, we conclude that the endophytic fungi of *C. acuminata* are promising sources of novel bioactive compounds.

**Key words:** *Camptotheca acuminata* Decne.; Endophytic fungi; Antimicrobial activity