

Title The biology of *Colletotrichum capsici* infecting chili (*Capsicum annuum*)

Author Paul Taylor, Kevin Hyde, Calvin Lam, Rajesh Jeewon, Chatchamas Kanchana-Udomkan, Rebecca Ford, Allison Gurang, Kinlay Tshering, Po Po Than, Edward Grand, Siriporn Pongsupasamit and Orarat Mongkolporn

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### Abstract

*Colletotrichum capsici* is the most important post harvest disease of chili in Asia. However, *C. capsici* has also been recorded to infect a wide range of plant species but very little is known about the taxonomy and the ability of these isolates to infect chili. The genetic diversity and taxonomic relationship is being studied using molecular markers (microsatellites) and gene sequence analysis. Comparative analysis of the rDNA inter transcribed region revealed two major groupings of *C. capsici* but neither of these groups associated with host type or location. A fruit bioassay was developed to assess germplasm resistance and pathogenicity of isolates within these groups. The fruit bioassay consisted of using a microinjector to inoculate mature chili fruit with a spore suspension ( $10^5$  spores/ml), and then measuring lesion size 7 days after inoculation. *C. capsici* not only infects and colonises chili fruit but also infects seeds that reduces germination. Inoculated stems of 14 days-old-plants became infected and were colonised endophytically by the pathogen up to 10 cm in advance of the inoculation site and 5 cm below the inoculation site. On going research aims to study the phylogenetics and adaptability of this pathogen, elucidate the disease cycle, understand the host-pathogen relationship and to identify pathotypes. (NO SHOW)