

ECOGEOGRAPHICAL AND HOST-SPECIFICITY STUDIES OF *ALTERNARIA* SPECIES NATURALLY ASSOCIATED WITH THE FAMILY BRASSICACEAE IN BRAZIL

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Abstract:

This work describes ecogeographical and host-specificity studies with the fungi species *Alternaria brassicae* and *A. brassicicola*, the two major leaf pathogens affecting members of the Brassicaceae family in the tropical and subtropical areas of Brazil. Leaf spot samples were collected on distinct Brassicaceae species. Three hundred twenty-two *Alternaria* isolates were obtained in all major geographic regions of Brazil (ranging from latitude 4o 10' 01'' S to latitude 31o 46' 19'' S) from the year 2003 to 2008. New alternative hosts and geographical areas of occurrence were reported. *Alternaria brassicae* and *A. brassicicola* induced quite similar symptoms in the same plant host species. *Alternaria brassicicola* isolates were prevalent (187/322), being more frequently isolated from the *Brassica oleracea* complex, whereas *A. brassicae* was prevalent on *B. rapa* complex and weed species. Weeds such as *S. arvensis*, wild mustard and oilseed rape were found as reservoirs of both pathogens. These species might represent intermittent sources of inoculum for infection of the cultivated Brassicaceae crops. This might represent a practical problem in relation to the management of both pathogens in areas where these alternative hosts occur endemically. Host species-specificity of *A. brassicae* isolates was studied in cross-inoculation assays. Isolates from each host and geographic origin were inoculated in accessions of all other Brassicaceae species. No clear host-specificity reaction was observed with all isolates cross-infecting all accessions. The description of a detailed catalogue of *A. brassicae* and *A. brassicicola* hosts will provide ecological and epidemiological information that would be useful in terms of establishing effective disease management strategies. The isolates are now deposited in the culture collection of Embrapa Hortaliças and in the Culture Collection of Plant Pathogenic Fungi "Professora Maria Menezes" (CMM).

Key words: Brassicaceae, *Alternaria brassicae*, *Alternaria brassicicola*, etiology, epidemiology