First Report of Coleosporium ipomoeae on Ipomoea fistulosa in Brazil

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RESUMO

Primeiro relato de Coleosporium ipomoeae em Ipomoea fistulosa no Brasil

O fungo Coleosporium ipomoeae é relatado associado a sintomas de ferrugem em Ipomoea fistulosa pela primeira vez no Brasil (Três Lagoas, MS). Este fungo possui aparente potencial para o controle biológico clássico de I. fistulosa.

Ipomoea fistulosa Mart. ex Choisy (local names: canudo, algodão-bravo, capa-bode, maniorana) is an arbustive perennial, member of Convolvulaceae native to South America. In Brazil, it occurs naturally in the Pantanal Matogrossense and Vale do São Francisco (Lorenzi, Plantas Daninhas do Brasil, 2000). It is also widely distributed in Brazil as an ornamental species (Kissmann & Groth, Plantas Infestantes e Nocivas, 1992). This plant is one of the poisonous weeds most feared by Brazilian cattle ranchers as it is able to cause severe nervous disorders when ingested by bovines, sheep or goats (Tokarnia et al., Plantas tóxicas do Brasil, 2000). Ipomoea fistulosa has been introduced into areas outside the neotropics and now causes serious invasions of native habitats in Southern India, for example, where streams, mangroves and other ecosystems may be blocked, thus hampering irrigation and access (H.C. Evans pers.obs. 1999). The problem is especially acute in Tamil Nadu State, and Indian scientists are attempting to develop a management strategy to combat it. In 2001, a rust disease was observed on the foliage of I. fistulosa plants growing in a temporarily flooded area at Três Lagoas, state of Mato Grosso (Brazil). The causal agent was identified as Coleosporium ipomoeae Burril, which had only been reported on Ipomoea crassicaulis (Benth.) B. L. Rob. (syn. of I. fistulosa) from Cuba (Urban, Rept. Tottori Mycol. Inst. 28: 37. 1990). A description of the fungus specimen from Três Lagoas includes: Lesions on living leaves, which are subcircular and chlorotic, becoming grayish-brown adaxially, and bright orange pustules adaxially; becoming necrotic with age. Spermogonia and aecia not observed. Uredinia hipophyllous, subepidermal, and clustered, 108 – 458 µm wide. Paraphyses absent. Uredinospores subglobose to ellipsoidal, non-pedicellate, 17 - 26 X 16 - 20µm, echinate, thin walled and yellow, pores not differentiated. Telia hipophyllous, subepidermal, often formed around uredinal clusters, 87 – 275 µm diam. Paraphyses absent. Teliospores clavate, oblong to ellipsoidal, with a somewhat beaked apex, 44 – 83 X 19 – 27 µm, 0-4 septate, thin walled, pale yellow to subhyaline, and smooth (VIC 26536). Additional specimens were obtained from Minas Gerais (VIC 27834) and Rio de Janeiro (VIC 26585, VIC 27835).

In Brazil, C. ipomoeae has been reported on I. acuminata (Vahl) Roem. & Schult., I. batatas (L.) Lam., I. cairica (L.) Sweet, I. glabra Choisy and I. pentaphylla (L.) Jacq., (Hennen et al. Arquivos do Instituto Biológico, 49, 1982), but not mentioned before on I. fistulosa. This is, therefore, the first record of C. ipomoeae on I. fistulosa in Brazil. Further studies are necessary in order to evaluate possible host specialization and the potential of C. ipomoeae as a biological control agent.

FIG. 1 - Coleosporium ipomoeae. A. Ipomoea fistulosa plant showing rust symptoms. B. Uredia with uredinospores. C. Telia showing clavate teliospores with beaked apical cell (arrowhead). Bars = 50 µm.