

Morphological and molecular diagnosis of *Cuscuta* sp parasitizing Solanaceae plants in the middle of Iraqi provinces

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ABSTRACT:

The genus *Cuscuta* is represented with 14 species distributed in all the regions of Iraq. Most species belonging to this genus cause a major problem in the fields of many agricultural crops including Solanaceae members which are severely affected by these parasitic plants. Geographical distribution, host-range and phenotypic diagnosis supported by molecular diagnosis as well as host-parasitism (histopathology) studies were conducted to detect the parasitic species of *Cuscuta* on the Solanaceae, and the most widespread. We aimed to create a database facility for providing an Integrated Weed Management (IWM) program in order to increase plant health in Solanaceae cultivation fields in Iraq. The average infection ratio of *Cuscuta* sp on this family members was as high as 70.39 % in the provinces of Najaf, Karbala and Babylon. 10 *Cuscuta* races were registered as new races nationally and then submitted to NCBI database. *C. pentagona* and *C. australis* were recorded for the first time in Iraq in the presented study. However, *C. campestris* was found to be most predominant over other species of Solanaceae. In this study we showed for the first time the ability of *C. campestris* to parasitize on eggplant fruits, which have been proved anatomically in addition to some other traits.

Keywords:

Haustoria, PCR, *C. pentagona*, *C. australis*, *C. campestris*, Eggplant.