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Powdery mildew disease of Congress grass - a new disease record

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Powdery mildew disease caused by *Erysiphe cichoracearum* DC (oidium state) on *Parthenium hysteropohrus* L. was recorded in June and July, 1998 at various places in Haryana and Uttar Pradesh. It has not earlier been reported and hence is being reported as a new disease record.

Key words: *Parthenium hysterophorus* L. , powdery mildew, *Erysiphe cichoracearum* (oidium state)

INTRODUCTION

Parthenium hysterophorus L. is an erect annual herb belonging to the family Asteraceae (Tribe : Heliantheae). This weed is neotropical in origin. It is commonly known as Congress grass in India, where the flower shape has been fancifully compared to the Congress building in New Delhi (Evans, 1997). It was introduced in India during 1955 and has achieved number one weed status in the past few decades. The weed has become dangerous because of its effect on crop production, animal husbandry, human health and biodiversity (Aneja, 1991; Evans, 1997)

MATERIALS AND METHODS

In order to discover naturally occurring fungal pathogens of *Parthenium* weed, surveys were conducted between 1997 and 1999 in different parts of Haryana, Punjab and Uttar Pradesh. Population of *Parthenium* in Kurukshetra University campus (Haryana) and Ghaziabad (UP) in June/July, 1998 were found to be infected by a powdery mildew disease. Diseased leaves were collected in polythene bags and brought to the laboratory for study of symptoms and identification of the pathogen involved.

RESULTS

On living leaves of *Parthenium* the disease symptoms were characterized as circular to oval white powdery masses on the adaxial surface of the leaves. On maturity fungus spreads over the entire lamina giving a powdery appearence to the plant (Fig. 1). Severe infection leads to defoliation. This fungus was rampant and wide spread. Mycelium hyaline, grows externally, creeping, septate. Conidiophores erect, unbranched, septate, cylindrical, 95.0 - 136.8 x 11.4 -15.2 µm. Conidia catenate, hyaline, cylindrical, single celled, 22.8 -30.4 x 15.2 - 19.0 µm (Fig. 1)

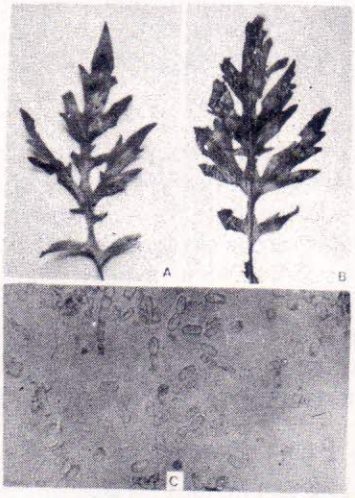

Figure 1. Powdery mildew disease symptoms on *Parthenium hysterophorus* L. (A-B). A: Initial stage; B: Latter stage; C: Single and catenate conidia of *E. cichroacearum*

On the basis of symptoms and sporulating structures produced on the live diseased *Parthenium* leaves this fungal pathogen was identified as *Erysiphe cichoracearum* DC (*oidium* state). Literature search

(Aneja, 1991; Bilgrami *et.al.*, 1991; Evans, 1997; Kumar, 1998) reveals that the powdery mildew disease caused by *E. cichoracearum* on *Parthenium* has not earlier been reported from the world and hence is now being reported as a new disease record.

A total of 18 fungal pathogens have been reported on this weed from various parts of the globe (Evans, 1997; Kumar, 1998). Of these *Puccinia abrupta* var. *parteniicola* and *P. melampodii,* two rusts have shown potential to control this weed and are likely to be released in India and Australia soon. If found host specific, *E. cichoracearum* may be useful biocontrol agent of this notorious weed in India in the near future.

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