

## A NEW DISEASE OF PLUMBAGO ZEYLANICA L.

M . K. RAI

*Department of Botany, Danielson College, Chhindwara – 480001, Madhya Pradesh, India.*

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**ABSTRACT:** A disease of *Plumbago Zeylanica L.* caused by *Phoma exigua* is reported for the first time from India.

### INTRODUCTION

*Plumbago zeylanica* Linn. (Sans. Chitraka) a member of family plumbaginaceae contains high medicinal value. It is locally known as Chita or Chitawar and the powdered seeds of the plant are applied on boil and other skin diseases by Gond and Bharia tribes of patalkote and Tamiya, District Chhindwara. Common preparations of Ayurveda which include *Chitrak* are *Chitrabadi-guttika*, *Chitrak Haritki*, *Chitrak ghrita*, *Chitrapadiehurna*, *Sudarshana churna*, *Yograj guggulu*, *Arogya vardhini* and *Chandraprabha vati* (Dey, 1980).

During the survey of phytopathogenic fungi of medicinal plants, we came across a disease of *Chitrak* in nursery of Danielson

college garden in August, 1991. In fact, this plant was transferred from Seetadongri nursery to the nursery of the college.

It is a new host-pathogen combination, and is being reported for the first time from India (Bilgrami *et al.*, 1979, 1981).

**Symptoms :** The disease incidence was more in lower leaves in comparison to the leaves of apical portion. The disease started from the margin of the leaf – blade producing pin-head-like dots in circular in irregular spots. Later, the spots coalesce to form diffused irregular structures (Fig.1). The spots were ashy-grey with brownish zonation, finally forming shot-holes.

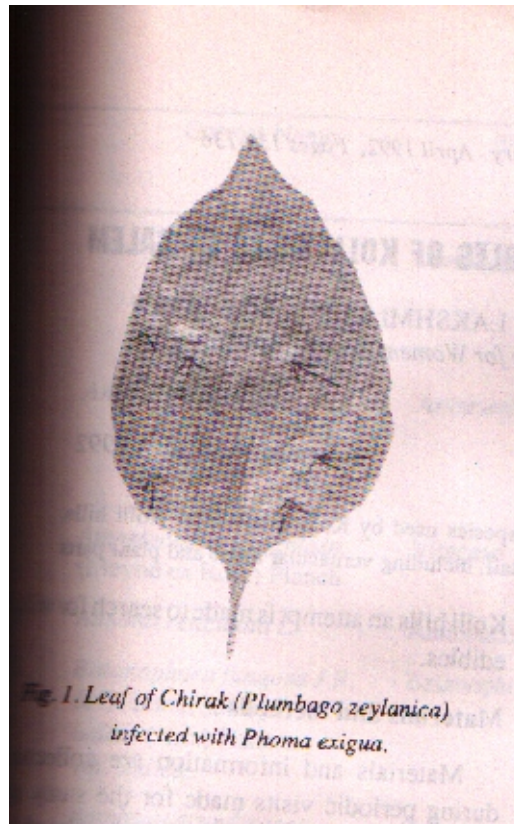


Fig 1. Leaf of Chirak (*Plumbago zeylanica*)  
infected with *Phoma exigua*.

### **In vitro studies:**

Pscnidia brownish to grey, globose to flask shaped with distinct ostiole, parenchymatous, embedded in the host tissue; conidia hyaline, 1-celled, ellipsoid, few ovoid, few kidney-shaped, guttulated, 2.5 – 3 x 2.5 – 5 mm; no chlamydospores produced.

Colonies initially white, later grayish – black with much aerial mycelium and irregularly scalloped margins, attaining a dia. of 7 cm on malt – agar in a week; mycelium septate, profusely branched, hyaline; pycnidia globose, sub-globoae to flask-shaped, ostiolate, parenchymatous, 80 – 350 m; conidia hyaline, 1 – 2 celled, mostly ellipsoid, guttulated, 3.5 – 11 x 2.1 – 3.6 mm.

On the basis of the above cultural and morphological studies the pathogen is

identified as *Phoma eigua* which is a ubiquitous fungus. (Rai, 1981)

Pathogenicity test;

The pathogenicity of the fungus was confirmed by spraying the spore suspension prepared in sterile water on the foliage of 4 – month old plant. Test leaves were covered in polythene bags to maintain the humidity for the first 24 – hours. Typical leaf-spot symptoms were discernible after 10 days. Reisolations yielded the same fungus identified in all respects with original culture.

### **Acknowledgements**

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## REFERENCES

Bilgrami, K. S., Jamaluddin and Rizwi, M. A. Fungi of India, Part I & II Today and Tomorrow's Printers and Publishers, New Delhi (1979, 1981).

Deay, A. C. **Indian Medicinal Plants used in Ayurvedic preparations**, Bishen Singh Mahendra Pal Singh, Dehradun 202 (1980).

Rai, M. K. Studies on some Indian Sphaeropsidales with Special Reference to **Phoma** and related fungi. Ph.D. Thesis, Univ. of Jabalpur (1981).