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## BARK – A POINTER FOR TREE IDENTIFICATION IN FIELD CONDITION

RASHMI PRIYA

### ABSTRACT

Identification of trees belonging to different genera is made on the basis of slashed features of their barks in field conditions. The surface fissuring thickness of bark, depth of rhytidome periderm layers, fibre distribution and ray dilation parenchymatous tissue have systematic patterns which prove to be an asset in distinguishing the bark of individual tree species.

Keywords: Bark, rhytidome, periderm

### INTRODUCTION

The bark structure an useful tool for identification in field, has been a neglected aspect of study. However, a member of workers have exploited the use of bark features in identification of some important trees (Ghouse and Jamal, 1978; Datta, 1981; Iqbal and Ghouse, 1982; Khan et al. 1982).

Such studies may also be helpful in the identification of isolated bark samples. The present study is aimed on some leguminous trees and shrubs.

### MATERIALS AND METHODS

Bark samples along with some sap wood were chiseled out from the main trunk of trees measuring 15 X 10 cm<sup>2</sup> blocks. For each species, samples were collected from five different adult and normal individual plants of similar age and vigour. To examine the microscopic features of the bark under field condition vertical slashes were made on the barks and moistened with water. After sometime, it was stained in Iodine solution for making the differentiation of tissues.

### RESULTS AND DISCUSSION

The prime morphological features of the bark considered were its surface configuration, composition of periderm layers (= of rhytidome), sclerenchyma distribution pattern and ray dilation (= parenchymatous expansion tissue). On the basis of surface configuration the bark includes three groups (Whitmore, 1962; Iqbal and Ghouse, 1982).

1. Smooth bark (= Entire and non-fissured).  
e.g. *Delonix regia* (CAESALPINIACEAE), *Erythrina indica* (FABACEAE).
2. Shallow-fissured (= Fissured less than half of the total depth of entire bark). e.g. *Tamarindus indica* (CAESALPINIACEAE).
3. Deep-fissured bark (=Fissured more than half of the entire bark thickness). e.g. *Prosopis juliflora* (MIMOSACEAE).

The thickness of rhytidome depending upon number and position of periderm layers also includes three types i.e.

- i. Periderm single and superficial.
- ii. Periderm single but deep.
- iii. Periderm more than one  
(Khan, 1985)

Sclerenchyma remains present as a band e.g. *Sesbania grandiflora* (FABACEAE).

The dilated parenchymatous ray expansion tissue remains present as wedge-shaped in fusiform e.g. *Cassia fistula* (CAESALPINIACEAE). The expansion of ray has been found to alleviate the need of fissuring which is, however, indispensable in species where ray expansion or parenchyma proliferation becomes failure to compensate the strain caused by the inner derivatives.

#### REFERENCES

- Dutta. S.K., 1981. Bark anatomy of important laticiferous woody plants. IAWA Bull. N.S. 2:57.
- Ghose, AKM and Jamal A, 1978. Studies on the bark anatomy of *Cassia* spp. Ind. Journ. Bot.:1: 91-97.
- Iqbal M and Ghose AKM, 1982. Comparative bark features of some *Acacia* spp. Phytomorphology 32:372-380.
- Khan KK, Ahmad Z and Iqbal M, 1982. Comparative anatomical features of the bark of some arborescent species of *Bauhinia* spp.
- Whitmore TC, 1962. Studies in systematic bark morphology -1 New Phytol. 61:191-207.
- Whitmore TC, 1963. Studies in systematic bark morphology – 1 K New Phytol 62:161-169.