MATERIALS AND METHODS
The plants material was collected from various places like Coimbatore, Cutt, Bangalore, Hyderabad and Mahabaleshwar. Some plant material was brought from Mhaismal forest near Aurangabad. These materials were preserved in 70% alcohol. Many of the plant species were also cultivated in the botanic garden of Marathwada University, Aurangabad, so that the studies on fresh material at various stages of development could be carried out. In some cases, healthy herbarium material was used.

Herbarium material where used was first boiled in water for 5-10 minutes. Few drops of acetic acid were added to soften and to help recovery of tissues to natural state. With a gap of few minutes after boiling, the material was washed in water and kept ready for the next stage of operation.

Transections of node, petiole or petiolule and leaf lamina were both free hand and microtome. Fresh, preserved and herbarium material were used. For nodal anatomy, serial sections were taken. Sections were stained in safranin (1%) and fast green (1%) and mounted in canada balsam after the customary dehydration. Some of the hand sections were also examined in glycerine. Sudan IV was used to demarcate the cuticle. Phloroglucinol and aniline sulphate tests were carried out for the lignified tissues.
For leaf architecture, the leaves were first cleared in 5% aqueous solution of KOH and lactic acid (Foster, 1949), but satisfactory results were not obtained. Hence the leaves were washed with water and were kept in 10% KOH at 50-60°C in incubator till the leaves get discoloured. Then they were thoroughly washed with water and were transferred to saturated solution of chloral hydrate which was prepared in 20-40 vol. $\text{H}_2\text{O}_2$. When the leaves became transparent, they were again washed thoroughly with water. They were then passed through alcohol-xylene series. The leaves were stained in 1% safranin in a mixture of equal parts of absolute alcohol and xylol and were mounted in canada balsam (Paliwal and Kakkar, 1969).

For better results, the leaves were cleared by immersing in 10 to 20% aqueous sodium hydroxide solution followed by trichloroacetic acid and phenol solution (2:1 by weight) and stained with Kores stamp pad purple ink (Rao et al., 1980). This technique is found to be satisfactory and more efficient as the stain is retained permanently, and the preparations gave better photographs.

The peels for stomatal and epidermal studies were taken from fresh and preserved material and also from herbarium specimens. Chemical methods were used for the separation of peels. Diluted nitric and chromic acids (5-10%) used in different proportions gave best results. Epidermal peels
were stained in safranin (1 %) or aniline blue and mounted in glycerine and made semi-permanent by ringing with rubber solution. Stomatal index (SI) was calculated as defined by Salisbury (1927, 1932) viz.

$$\text{SI} = \frac{S}{E + S} \times 100$$

where 'S' is the number of stomata per unit area, and 'E' is the number of epidermal cells in the same area. Stomatal frequency and stomatal index have been calculated out of an average of 10 readings.

The line and cellular sketches of the figures were drawn using a camera lucida, while some were from projections using a slide projector. A photographic enlarger was used to draw the sketches of the venation patterns. Photographs were taken on Olympus research microscope with Asahi Pentax Camera using ORWO NP 55 film with or without blue filter.

The following is the list of species studied. The genera are arranged as per Bentham and Hooker's system and the species are listed alphabetically.

Family : SAPINDACEAE

Sub-family : Sapindae  

<table>
<thead>
<tr>
<th>Place</th>
<th>Collector</th>
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<tbody>
<tr>
<td>1) <em>Cardiospermum helicacabum</em> var. <em>microcarpum</em> (Kunth) Blume Rumph.</td>
<td>Mhaismal  Author</td>
</tr>
</tbody>
</table>
2) *Cardiospermum halicacabum* var. *luridum* (Blume) Adelb.  
   Place: Hyderabad  Collector: R.R.

3) *Erioglossum rubiginosum* Blume
   Place: Hyderabad  Collector: B.G.  Author

4) *Allophylus cobbe* (L.) Raeusch.
   Place: Hyderabad  Collector: RMP

5) *Cupania glabrata* Kurz.
   Place: Hyderabad  Collector: B.G.  Author

6) *Lepisanthes tetraphylla* Radlk.
   Place: Hyderabad  Collector: B.G.  -do-

7) *Schleichera oleosa* (Lour.) Ocken.
   Place: Hyderabad  Collector: B.G.  -do-

8) *Sapindus emarginatus* Vahl.
   Place: Hyderabad  Collector: B.G.  -do-

9) *Sapindus laurifolius* Vahl.
   Place: Buldhana  Collector: -do-

10) *Harpullia cupanoides* Roxb.
    Place: Coimbatore  Collector: NFV

Sub-family: Dodonaeae

11) *Dodonaea viscosa* L.
    Place: Hyderabad  Collector: B.G.  Author

12) *Filicium decipiens* Thw.
    Place: Hyderabad  Collector: B.G.  Author

(included by some authors under Sapindaceae (Bentham and Hooker treat it under Burseraceae) is also investigated)

Family: ANACARDIACEAE

Tribe: Anacardieae

1) *Rhus javanica* L. *(R. semialata Murr.)*
   Place: Hyderabad  Collector: B.G.  Author

2) *Rhus mysorensis* Don.
   Place: Hyderabad  Collector: B.G.  -do-

3) *Rhus parviflora* Roxb.
   Place: Mahabaleswar  Collector: -do-
4) **Mangifera indica** L.  
   Place: B.G.  
   Collector: Author

5) **Anacardium occidentale** L.  
   Place: B.G.  
   Collector: -do-

6) **Buchanania axillaris** (Desr) Ramam.  
   Place: Hyderabad  
   Collector: R.R.

7) **Buchanania lanzan** Sprengel.  
   Place: Buldhana  
   Collector: Author

8) **Schinus molle** L.  
   Place: Ooty  
   Collector: NPV

9) **Lannea coromandelica** (Houtt.) Merr.  
   Place: Mhaismal  
   Collector: Author

10) **Semecarpus anacardium** L.  
    Place: B.G.  
    Collector: -do-

11) **Holigarna arnottiana** Hook.  
    Place: Coimbatore  
    Collector: NPV

**Tribe: Spondieae**

12) **Spondias pinnata** (L.f.) Kurz.  
    Place: B.G.  
    Collector: Author

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B.G. - Botanical Garden, Marathwada University;

RMP - Prof. R.M. Pai

NPV - Dr. N.P. Vaikos

R.R. - Dr. Raghava Rao