REVIEW OF LITERATURE
Earlier studies on the Sapindaceae concern chiefly the anatomy of the vegetative organs. These have been summed up by Solereder (1908), and Metcalfe and Chalk (1950). Studies on the anatomy of the stem and the anomalous stem structure are chiefly those of Solereder (1908), Haberlandt (1914), Francis (1927), Johnson and Truscott (1956). Francis describes the development of the corrugated stem of *Arvlera lautereriana* and concludes that the woody cylinder is also indented with the ridges alternating with that of the stem surface and bear a relation to the emergence of leaf traces at the nodal level.

Heimsch (1942) has made observations on the wood anatomy. He concludes that the Sapindaceae are more highly specialized with respect to the rays and the septate fibers. Both these are characteristic of the family.

While studying the general anatomy of the plants, Le Renard (1913) demonstrates three separate vascular strands in the base of the leaf of various species of *Artaulitea, Cossignia, Harpullia* etc. which fuse into a triangular and then a circular vascular strand upwards in the rachis. Studies on cortical bundles by Johnson and Truscott (1956) have shown that in *Serjania* a leaf trace may enter the cortex many nodes below the leaf supplied by this trace.
In morphological and embryological studies of *Cardiospermum halicacabum*, Nair and Joseph (1960) have demonstrated the node as trilacunar three-traced, and the petiole is traversed by eight vascicular bundles of which four are conspicuously larger than the rest.

Howard (1963, 1974) has proposed a classification relating to the nodal structure at the level of leaf gaps to the vascular patterns obtained in the petiole for various genera of angiosperms including *Aesculus* and *Acer*. The former was placed in node 3-3, bundles free, and the latter in node 3-3, bundles fused to form a siphonostele. Earlier, Watari (1936) has made observations on the systematic significance of petiolar anatomy in *Acer*.

Dave and Shah (1971) have made a study on the development of tendrils of *Cardiospermum halicacabum* and conclude that the tendril is a lateral floral branch.

In a paper on lower Miocene plants from Styria, Hofmann (1926) describes and figures leaves referred to *Sapindus*. Stomata are not always figured. The leaves are in all cases compared with living species, but without sufficient detail for a really accurate comparison.

Rajagopal (1979) has made a survey of the distributional pattern and taxonomic importance of foliar stomata.
According to him, in the species of Sapindaceae, the leaves are hypo- and amphistomatic. The stomata are mostly irregularly oriented and are present generally in the interstices and not on the costae. Rajagopal and Ramayya (1979) discuss the occurrence and the significance of the stomatal ledges in angiosperms. They also attempt to categorise the families on the basis of this feature. The Sapindaceae (sensu stricto) come under group-I guard cells with ledges.

Farooqui (1982) describes the insertion of glandular hairs in *Sapindus laurifolius* and *S. emarginatus* in pits or depressions of the lower epidermis. The pits in the latter are shallower. Furthermore, she states that the placement of these hairs in depressions indicates that their contents are discharged in these pits or cavities which are shown by dark staining material. Such peculiar type of hairs have been mentioned in the species of *Sapindus* and *Hormea* (Solereder, 1908).

Mouton (1970) is exhaustive, as the former deals with the leaf architecture of the dicotyledons and the latter incompletely with the whole of the angiosperms. He (Melville, 1976) attempts to give what he refers to as a comprehensive and exhaustive terminology of leaf architecture of angiosperms.

The number of basal nerves in the leaf is variable in the different species of *Acer*. This character of the number of basal nerves has been freely used by Hiern (1875) in keying out the species of *Acer* in Hooker's Flora of British India. Studies in detail on venation pattern in *Acer* are those of Banerji and Das (1972), Melville (1976) and Tanai (1978). Banerji and Das are of the opinion that the minor venation patterns provide useful taxonomic clues in the genus *Acer* as well as for the identification of sterile plant material.