

## STUDIES ON FOLIAR EPIDERMAL MICROMORPHOLOGY AND PRELIMINARY PHYTOCHEMICAL SCREENING OF THREE MEDICINALLY IMPORTANT TAXA OF THE FAMILY VITACEAE

---

**ABSTRACT** : This investigation deals with the studies on foliar epidermal micromorphology and preliminary phytochemical screening of the three medicinally important herbaceous members of Vitaceae. The investigated taxa are – *Ampelocissus latifolia* (Roxb.) Planch., *Cayratia pedata* (Lamk.) Juss.ex Gagnep. and *Cayratia trifolia* (L.) Domin. In each case, the epidermal cells are irregular in shape and the outline of the cells varies from straight to wavy. Stomata are amphistomatic as well as hypostomatic and mainly of anomocytic types. Sometimes, mixed types of stomata (anomocytic and anisocytic) are also found. Distributional frequency of the stomata is from 165.19/mm<sup>2</sup> in *Ampelocissus latifolia* to 286.34/mm<sup>2</sup> in *Cayratia pedata* on the lower surface. Trichomes are mainly non-glandular, unicellular or multicellular, straight to curved and simple type. Needle shaped crystals are present on both the surfaces of the three species. The range of the stomatal index (SI) varies from 9.10 in *Cayratia trifolia* to 10.03 in *Cayratia pedata*. Palisade ratio of the three taxa ranges from 2.60 in *Cayratia pedata* to 3.60 in *Ampelocissus latifolia*. Present study reveals some distinctive features in relation to the leaf epidermal micromorphology among the three taxa. In *Cayratia trifolia*, stomata are present on both the surfaces whereas in *Cayratia pedata* and *Ampelocissus latifolia* stomata are present only on the lower surface. Trichomes are exclusively absent in *Cayratia trifolia*. In *Cayratia trifolia*, only anomocytic stomata are present. The active compounds are identified by the chemical colour reaction tests belonging to the phytochemical groups of alkaloids, reducing sugars, flavonoids, saponins, tannins, etc.

---

**Key words** : *Foliar epidermal micromorphology, phytochemicals, Ampelocissus latifolia, Cayratia pedata and Cayratia trifolia.*

---