Family Papilionaceae (Fabaceae) is of considerable economic importance as the plants in this family are the major crop plants providing pulses, vegetables, oils, fibres, medicinal products, a quality fodder for cattles, even natural fertilizers and timbers etc. It has been recorded that there are about 105 species of cultivated and wild plants of Papilionaceae (Fabaceae) growing in Amravati District, Maharashtra (Dhorse, 1988). Now a days the entire ecosystem has been eroded because of human activities affecting the biodiversity in negative way.

The ecological significance of plant animal relations is unparalleled and the understanding of these interactions is of vital importance in the conservation of plant species, environment and cultivation practices. The plant pollinator interactions have impact on maintaining the structural and functional integrity of natural ecosystems. Many plants of medicinal importance have been exploited without taking due care of their population which otherwise would have been maintained in nature. Therefore, it has been felt necessary to study the palynological aspects such as pollination ecology and floral biology, pollen morphology and fruit set of some plants of the family.

The papilionaceous (Fabaceous) plants prefered for the present study are Crotalaria sericea Retz. and two flower colour morphs of Clitoria ternatea Linn. because of their medicinal importance (Anonymous, 1950, Agrawal, 1986, Chopra et al., 1986; Duke, 1986 and Kapoor, 1990). Another reason is that there is want of information about pollination ecology and floral biology of these plants. Moreover, the plants have been studied within their natural confines to take consistent observations of what really happens in nature. The information about pollination ecology and floral biology of the papilionaceous plants, particularly
from this region is scanty. The majority of species and varieties have not yet been investigated and this leaves wide scope for indepth study.

Pollination ecology is a profitable aspect of palynology which helps to increase the production and quality of seeds. Therefore, an important aspects such as certain varietal differences in nectar secretion associated with flower colour, mutual adaptation of pollinating agents and the flower, interactions between different whorls of flower and pollinator have been worked out in the present study. It is also important to have a precise knowledge of phenology and flower dynamics, flower colour morphism, pollen production, pollen-ovule ratio, pollen viability, stigma receptivity, nectar production and monitoring, mode of reproduction, fruit set and fecundity, visitor behaviour and pollen morphology of these economically important plants.