Chapter – IX

SUMMARY
1. Extensive field surveys on the flora of Thoubal district was carried for 24 months (1st July, 1994 to 31st June, 1996) at a regular intervals of 10 days to find out the plant species and their pollination mechanism.

2. The phenology of the flowering such as date of blooming, flowering, mode of pollination and prevalence were noted down along with their local name for trees, shrubs & under shrubs, herbs and climbers.

3. A heterogeneous composition of plants 118 trees, 70 shrubs and undershrubs, 163 herbs and 32 climbers and twiners
along with *Parthenium hysterophorus* as a new record from this district.

4. The flowering periods of the plants growing in Thoubal district were grouped into five types following Singh *et al.* (1979), i) spring flowering, ii) Summer flowering, iii) Autumn flowering, iv) Winter flowering and v) Seasonless flowering.

5. Outdoor pollen airspsora of Thoubal district was carried out by using Burkard personal slide sampler for 24 (twenty four) months (from 1st Oct, 1996, 1996 to 30th Sept, 1998). Exposures were made between 10:00 am to 11:00 am keeping the sampler at a height of 1.5m above the ground level.

6. Twenty seven airborne pollen morphotypes were identified and their correlation with meteorological parameters have been discussed. A total of 9299 pollen grains were trapped. Out of which 8841 were identified and 458 were unidentified. The common types were *Acacia, Artemisia, Cassia, Nerium, Ricinus, Rhus*, etc.

7. The highest catch of pollen grains was recorded in the month of October, 1996 with a total catch of 1080 and the lowest catch (93.3) was in the month of June 1997.
8. Poaceae ranked first with a total catch of 3529 followed by *Eucalyptus* (433), by Asteraceae (420). *Rumex* pollen was encountered minimum with a total catch of 13.3 during two years period.

9. Meteorological parameters such as temperature, relative humidity and rainfall showed significant effect on the occurrence of different types of airborne pollen.

10. Statistical analysis revealed that pollen airspora was significantly higher in the year ($Y_1$) 1st Oct 1996 to 30th Sept 1997 than that of the year ($Y_2$) 1st Oct 1997 to 30th Sept 1998.

11. Indoor pollen airspora of Thoubal district was carried out for 24 months (1st Oct 1996 to 30th Sept 1998) using Burkard personal slide sampler. Exposures were made in a cowshed in Thoubal Ningombam, Thoubal district.

12. The Indoor atmospheric pollen count was less both in types and their frequency as compared with outdoor environment.
13. A total of 1556 pollen grains were encountered covering 18 (eighteen) types. Grass pollen was found predominant inside the cowshed with a total catch of 290. The common types were *Ageratum, Eucalyptus, Mangifera, Callistemon*, etc.

14. The minimum catch of pollen grain was recorded in Nov., 1996 with a total catch of 66.7. Whereas the minimum catch (13.2) was during the month of January, 1998.

15. From the allergenic point of view, the following plants of allergenic significance were observed viz., *Acacia, Brassica, Callistemon, Cassia, Eucalyptus*, Grass pollen, *Mangifera, Plantago, Ricinus, Rosa, Ageratum* etc.

16. The results were statistically analysed applying t-test and analysis of variance and was found to be significant.

17. Pollen grains of known allergenic plants such as *Acacia australiansis, Acacia nilotica, Tithonia diversifolia, Artemisia vulgaris, Pandanus fercatus, Ricinus communis, Xanthium strumarium*, Grass pollen, *Gol mohor, Amaranthus* were analysed chromatographically for different amino acids contents.
18. Protine, Tyrosine, Serine, Glutamine, Alanine, Lysine, Cystine, Tryptophane, Valine, Isolucine, Argenine and Glysine were present frequently.

19. The highest number of amino acids were present in *Acacia australiansis, Tithonia diversifolia, Pandanus fercatus* whereas the lowest number of free amino acids was found in *Artemisia vulgaris.*