

CHAPTER V

CONCLUSION AND RECOMMENDATION

The present work led to the isolation of three indole and two oxindole alkaloids, possessing four types of basic structures. Full identifications or characterizations of the five alkaloids have been taken. The three indole alkaloids are 16-epi-voacarpine, 19-(Z)-akuammidine and koumine. The two oxindole alkaloids are 19-oxogelsenicine and gelsemine. 16-Epi-voacarpine, 19-(Z)-akuammidine and 19-oxogelsenicine have not previously been reported elsewhere neither naturally nor synthetically. Gelsemine is the main alkaloids in the leaves of *Gelsemium elegans* Benth., while 19-oxogelsenicine was obtained in the smallest quantity of the five isolated alkaloids.

There are other two oxindole alkaloids (GE-3 and GE-4) of which structures have not been elucidated. The mixtures of alkaloids in Fraction D₃ and of polar alkaloids in Fraction D₈ are also present in reasonable amounts. Further work is recommended on the isolation and characterization of these alkaloids which would certainly reveal more interesting features concerning the alkaloidal content of this particular species.

Furthermore, the investigation of alkaloidal pattern, both qualitatively and quantitatively, and site of biogenesis of the alkaloids by studying the leaves, stems and roots, collected at monthly interval over a whole year period is strongly recommended. Studying

alkaloids in the fruits is also very interesting.

The pharmacology of alkaloids is one of the most interesting points recommended to be studied. Among the isolated alkaloids only gelsemine has been reported on its pharmacological activities. The other isolated alkaloids have not yet been subjected to such investigations from which interesting results might be revealed.