Chapter V

Conclusion and Recommendation

From *Ageratum conyzoides* leaves, simple coumarin was isolated by column chromatography and crystallization. Its structure was determined by spectroscopy. Two flavones, eupalestin and 5′-methoxynobiletin could be isolated subsequently by column chromatography, preparative thin layer chromatography and crystallization. Full characterization of these three compounds have been elucidated and discussed.

Biogenetically, coumarins and flavonoids came from the same precursor, shikimic acid which changes to phenylalanine and then transforms to coumarins, flavonoids etc. *via* phenylpropanes intermediate (Figure 14, page 103). Thus, coumarins and flavonoids could be found in the same plants especially in the Compositae.

The pharmacological study is strongly recommended. From this present investigation, the main constituents of *Ageratum conyzoides* leaves is simple coumarin (0.09% fresh weight) which is pharmacologically active and also moderately toxic to mammals, (LD_{50} orally in rat, guinea pigs; 680, 202 mg/Kg). It is useful in serving flavouring agent (The Merck Index, 1983). *Ageratum conyzoides* Linn. is widely distributed throughout Thailand. Thus, the plant might be of economic value as a natural source for simple coumarin.

The minor constituents are identified as flavone compounds called eupalestin (0.0005% fresh weight) and 5′-methoxynobiletin (0.002% fresh weight). Since the pharmacological activities of some flavones are well established as cardiac stimulants (Fukuda, 1932), strengthening weak capillary blood vessels (Krewson & Couch, 1952) and diuretic (Koike, 1931), the pharmacological activities of eupalestin and 5′-methoxynobiletin would be a valuable research topic to be considered.