

## CHAPTER V

## CONCLUSION AND RECOMMENDATION

This present work revealed that the major alkaloids in the leaves of Uncaria homomalla Miq. throughout the year were four unsubstituted pentacyclic oxindole alkaloids of allo and epiallo configuration, viz. isopteropodine, pteropodine, speciophylline and uncarine F. In addition, small amounts of other two unidentified oxindoles with low hRf values together with "base-line" oxindole alkaloid(s) were shown to be present in all samples. Another unidentified oxindole was noticed in samples collected from January to April, 1977. Traces of the corresponding unsubstituted pentacyclic allo heteroyohimbine alkaloid tetrahydroalstonine was detected only in some samples, i.e. samples collected from May to August, 1976 and also from April to June, 1977. Also traces of one pyridino-indolo-quinolizidinone indole alkaloid, angustine, was found in the samples collected in May and July, 1976 and also from January to June, 1977.

Extraction of larger scale of leaves in order to obtain the unidentified oxindole alkaloids insufficient quantities to be isolated out and identified is firstly recommended. Also the identification of "base-line" alkaloid(s) bears a very interesting point to be studied further.

Akuammigine, the corresponding heteroyohimbine alkaloid with epiallo configuration could not be detected in any sample. Thus, further work is recommended to examine other plant parts to ensure the existence of this particular alkaloid in this plant and also to be a useful

evidence to postulate the biogenetic pathway in this species. This could also be aided by conducting feeding experiments using radioactive labelled compounds which is also highly recommended.

A P P E N D I X

Codes used in the Figures

I	= authentic isopteropodine
P	= authentic pteropodine
S	= authentic speciophylline
U	= authentic uncarine F
T	= authentic tetrahydroalstonine
A	= authentic angustine
Jan	= alkaloid(s) in January collected sample
Feb	= alkaloid(s) in February collected sample
Mar	= alkaloid(s) in March collected sample
Apr	= alkaloid(s) in April collected sample
May	= alkaloid(s) in May collected sample
Jun	= alkaloid(s) in June collected sample
Jul	= alkaloid(s) in July collected sample
Aug	= alkaloid(s) in August collected sample
Sep	= alkaloid(s) in September collected sample
Oct	= alkaloid(s) in October collected sample
Nov	= alkaloid(s) in November collected sample
Dec	= alkaloid(s) in December collected sample

- a. Silica gel G/ chloroform + acetone (5+4)
- b. Silica gel G/ chloroform + ethyl alcohol (95+5)
- c. Silica gel G/ ethyl acetate + ether (1+1)
- d. Silica gel G/ ethyl acetate + ether (9+1)
- e. Silica gel G/ ethyl acetate + isopropyl alcohol + strong solution ammonium hydroxide (100+2+1)
- f. Silica gel G/ ethyl acetate + isopropyl alcohol + strong solution ammonium hydroxide (80+15+5)

Dragendorff' spray reagent

Solution A: bismuth subnitrate (850 mg), distilled water (40 ml) and acetic acid (10 ml)

Solution B: potassium iodide (8 g) and distilled water (20 ml)

Solution A and B, each of 5 ml, were mixed, 20 ml of glacial acetic acid and 70 ml of distilled water were added and used as spray reagent.

0.2 M anhydrous ferric chloride in 35% W/V perchloric acid

Plates heated with a hot air stream from hair dryer for 15 minutes.

a.

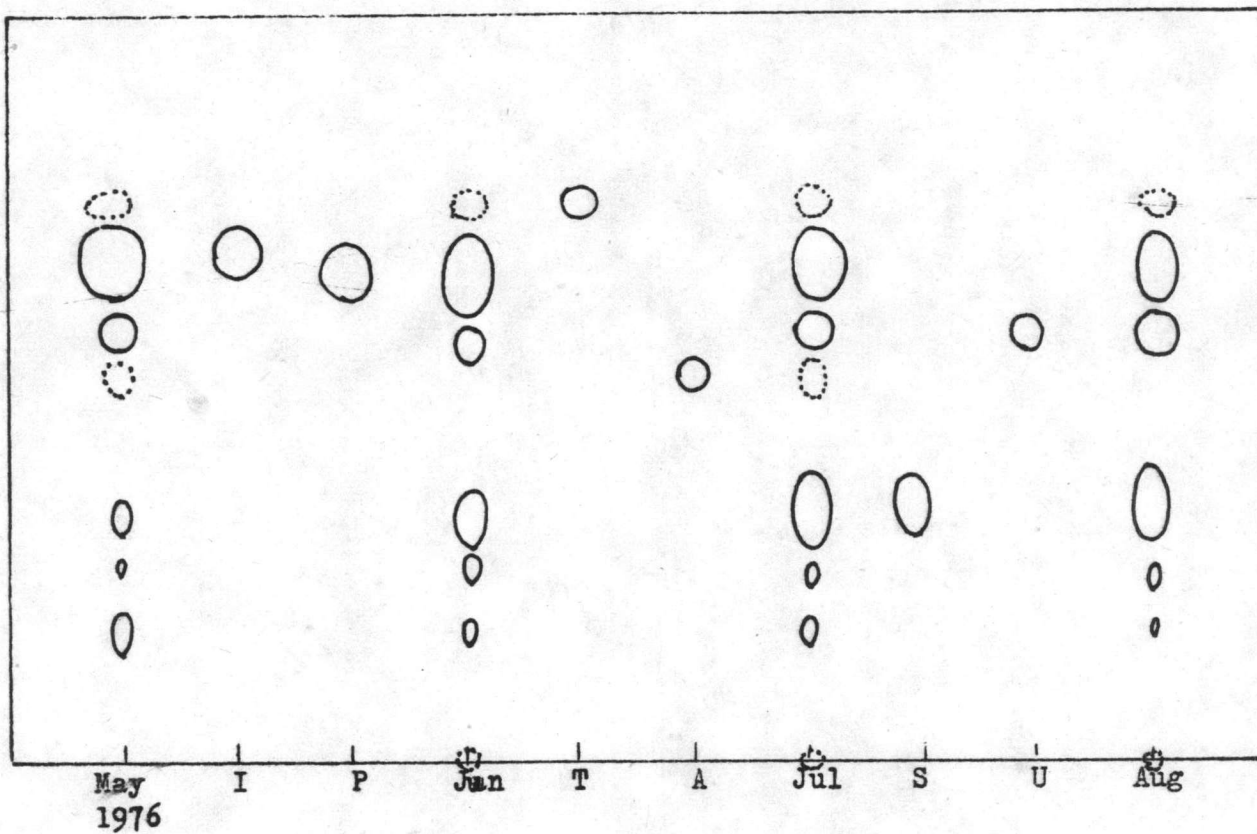


Figure 1 Thin layer chromatogram of alkaloids from the leaves of Uncaria homomalla Miq.

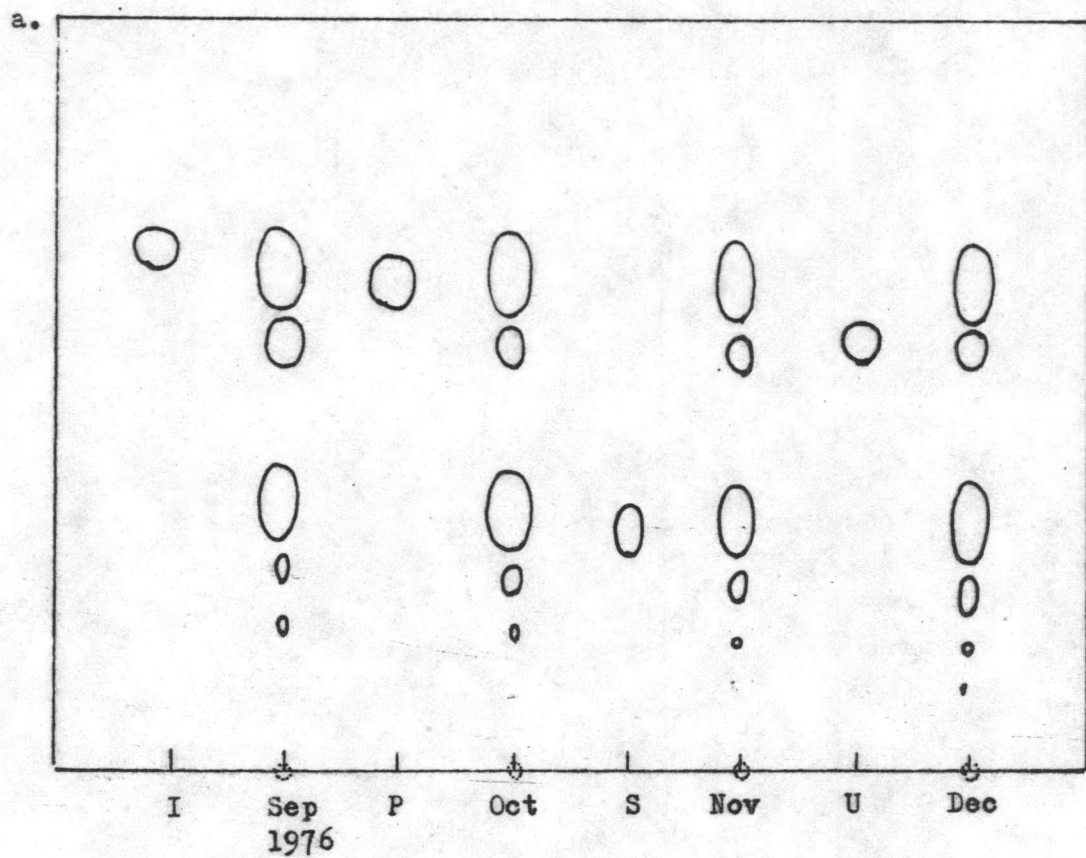


Figure 2 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

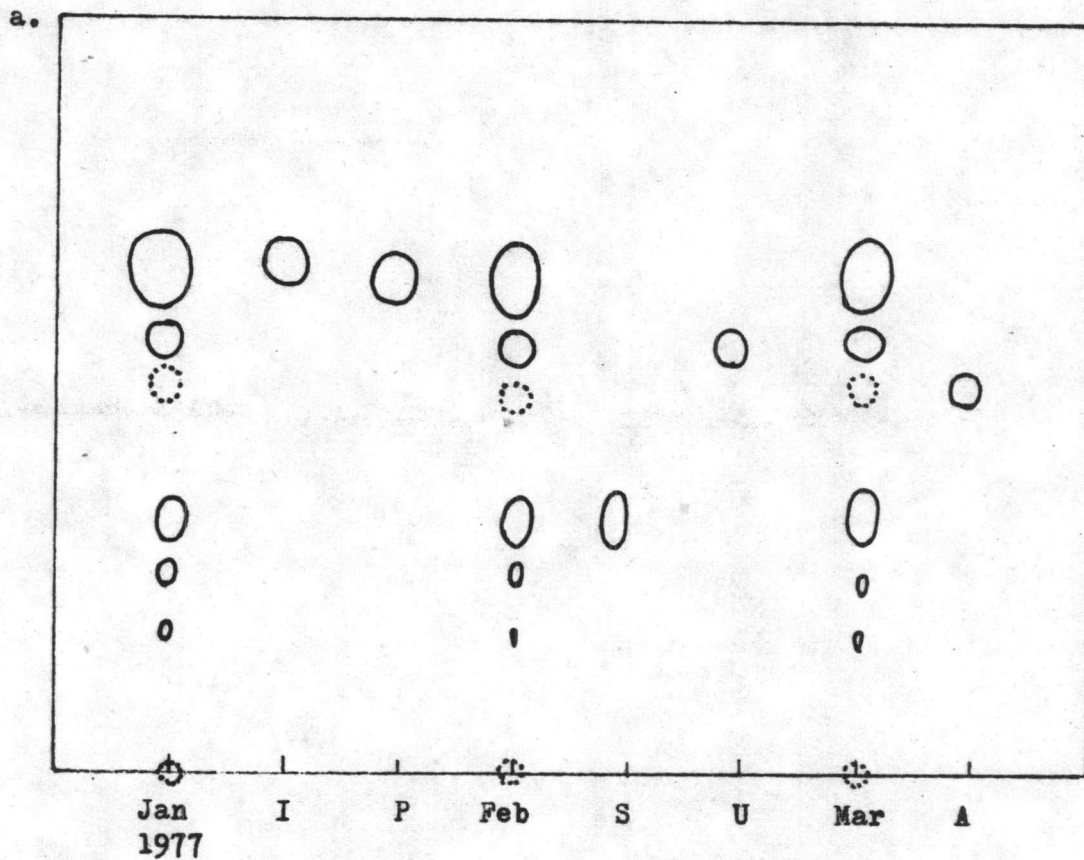


Figure 3 Thin layer chromatogram of alkaloids from the leaves of Uncaria homomalla Niq.





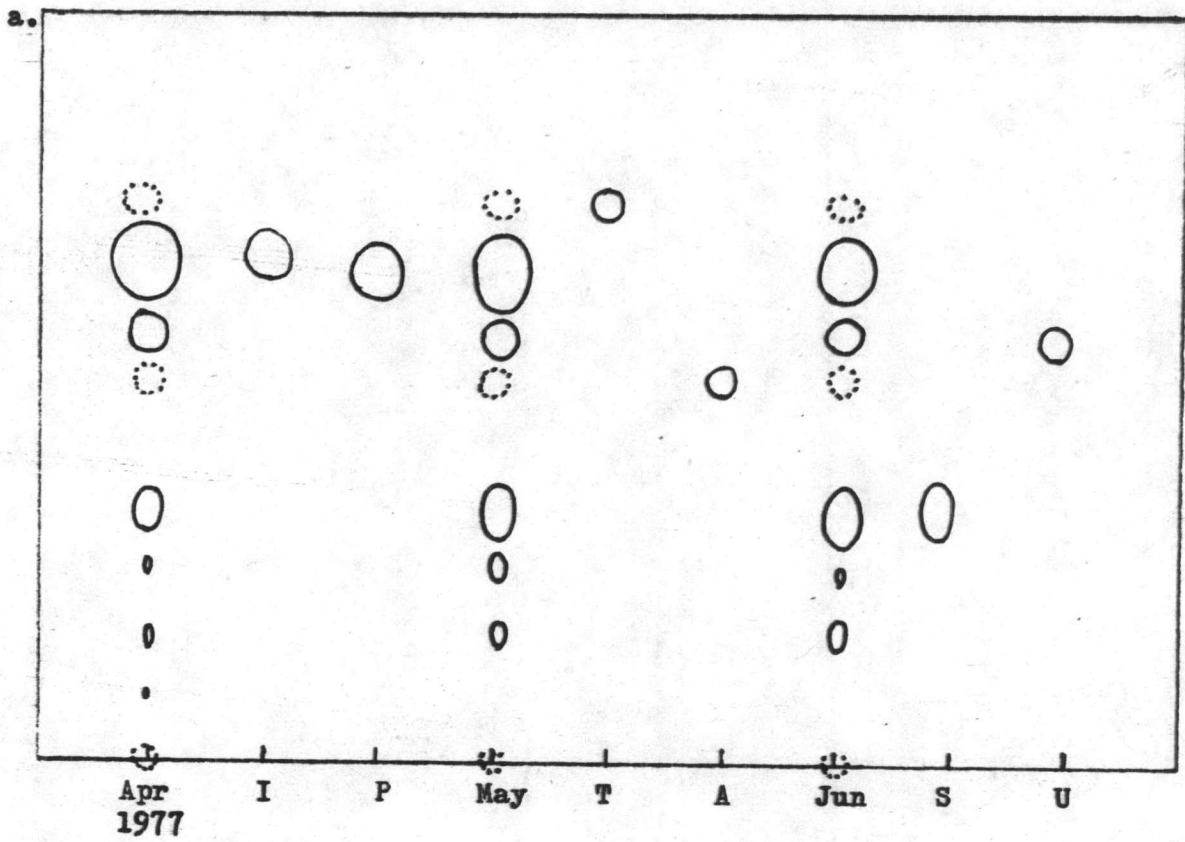


Figure 4 Thin layer chromatogram of alkaloids from the leaves of *Uncaria homomalla* Miq.

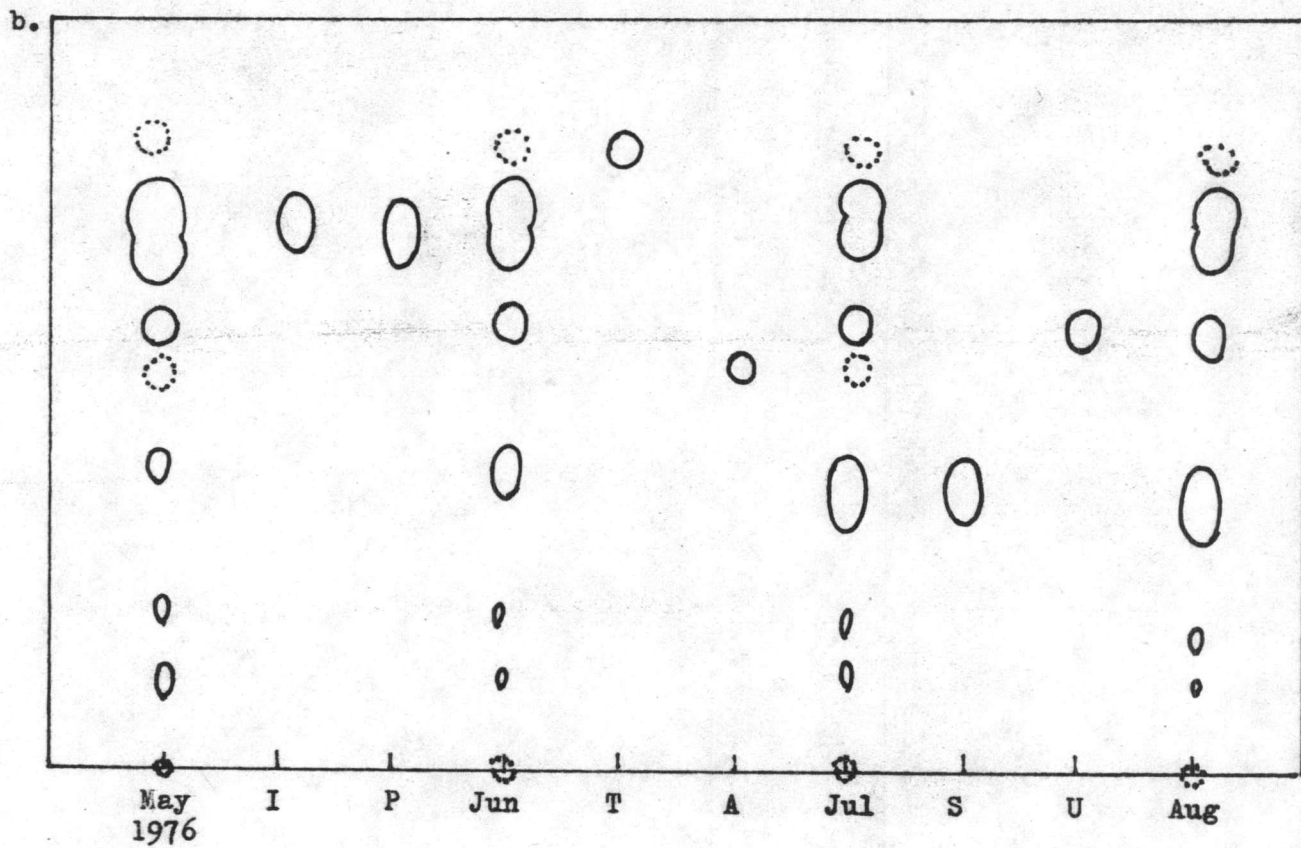


Figure 5 Thin layer chromatogram of alkaloids from the leaves of Uncaria homomalla Miq.

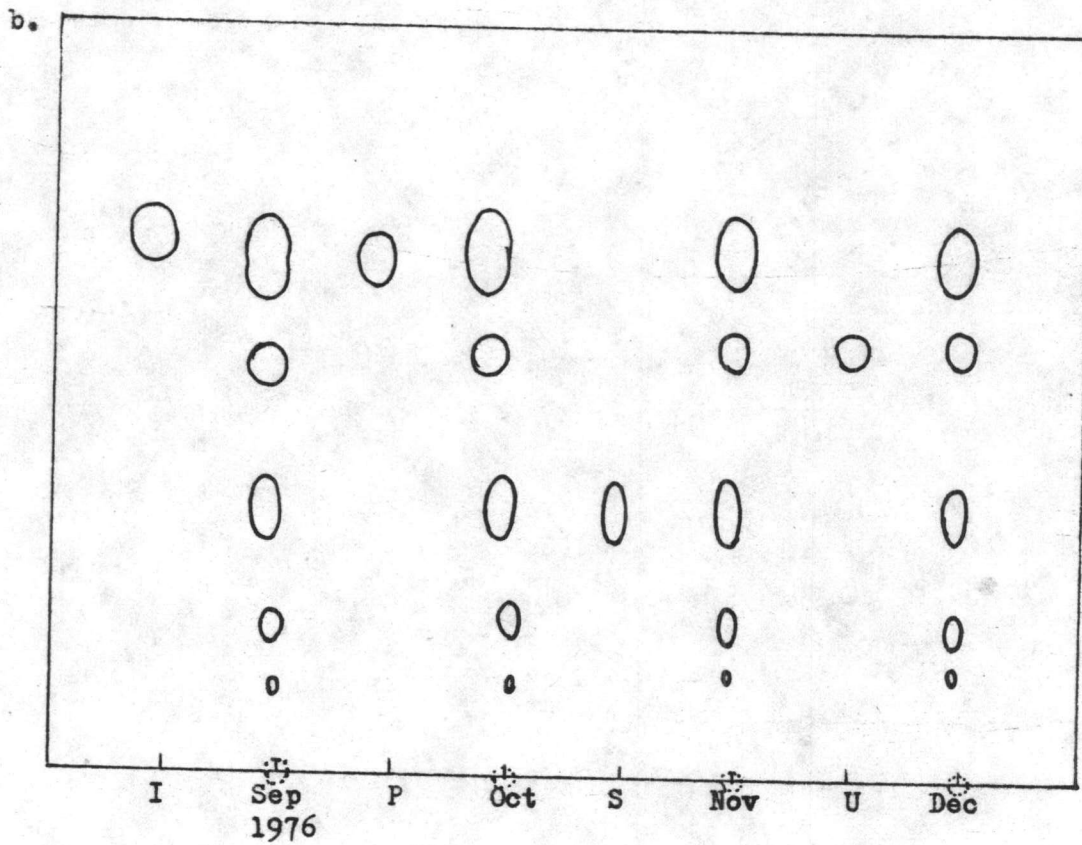


Figure 6 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

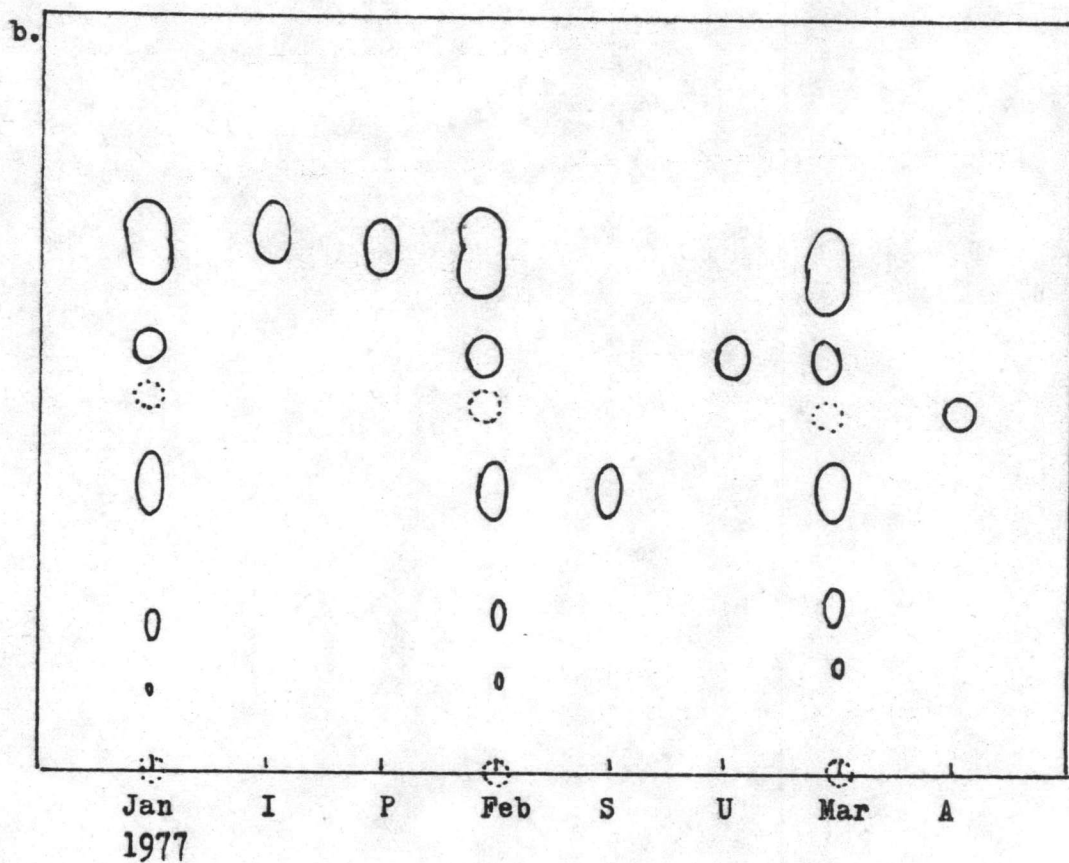


Figure 7 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

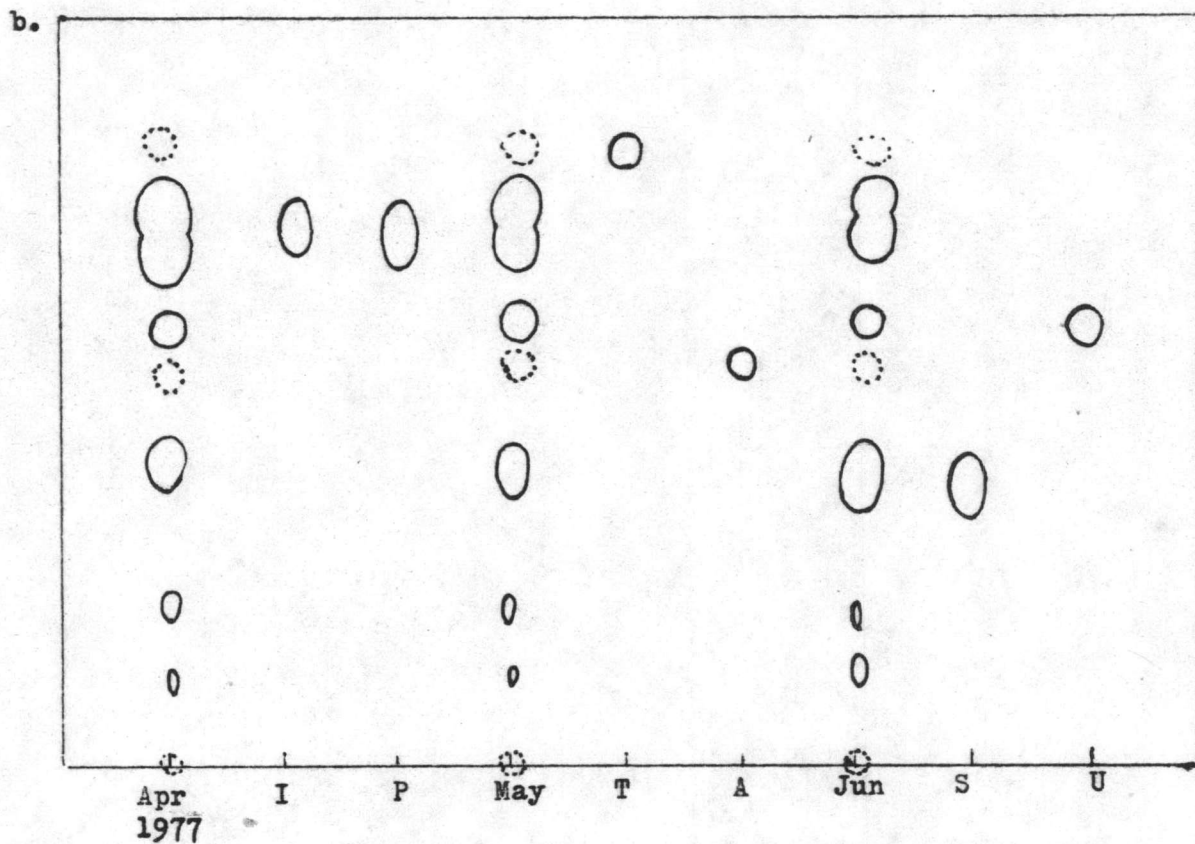


Figure 8 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

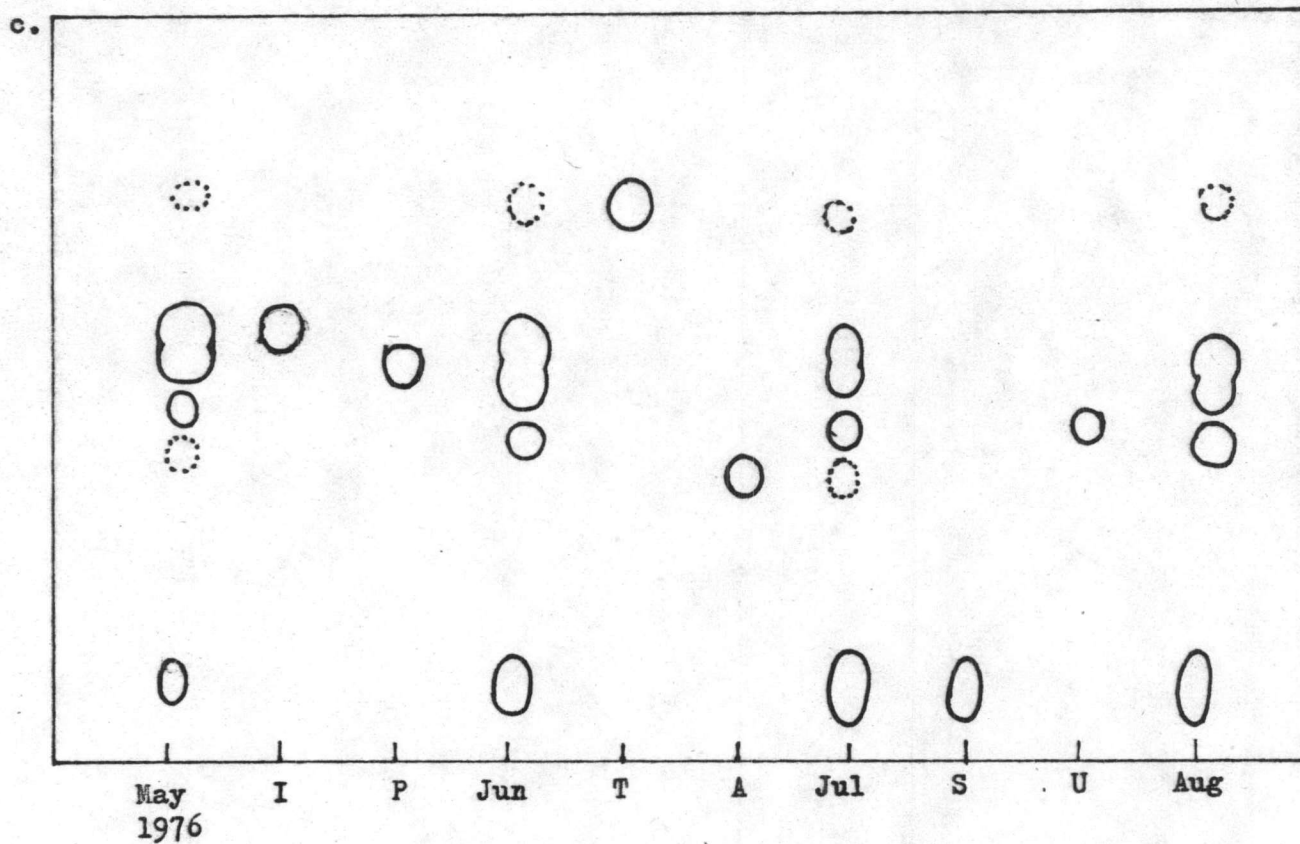


Figure 9 Thin layer chromatogram of alkaloids from the leaves of  
Uncaria homomalla Miq.

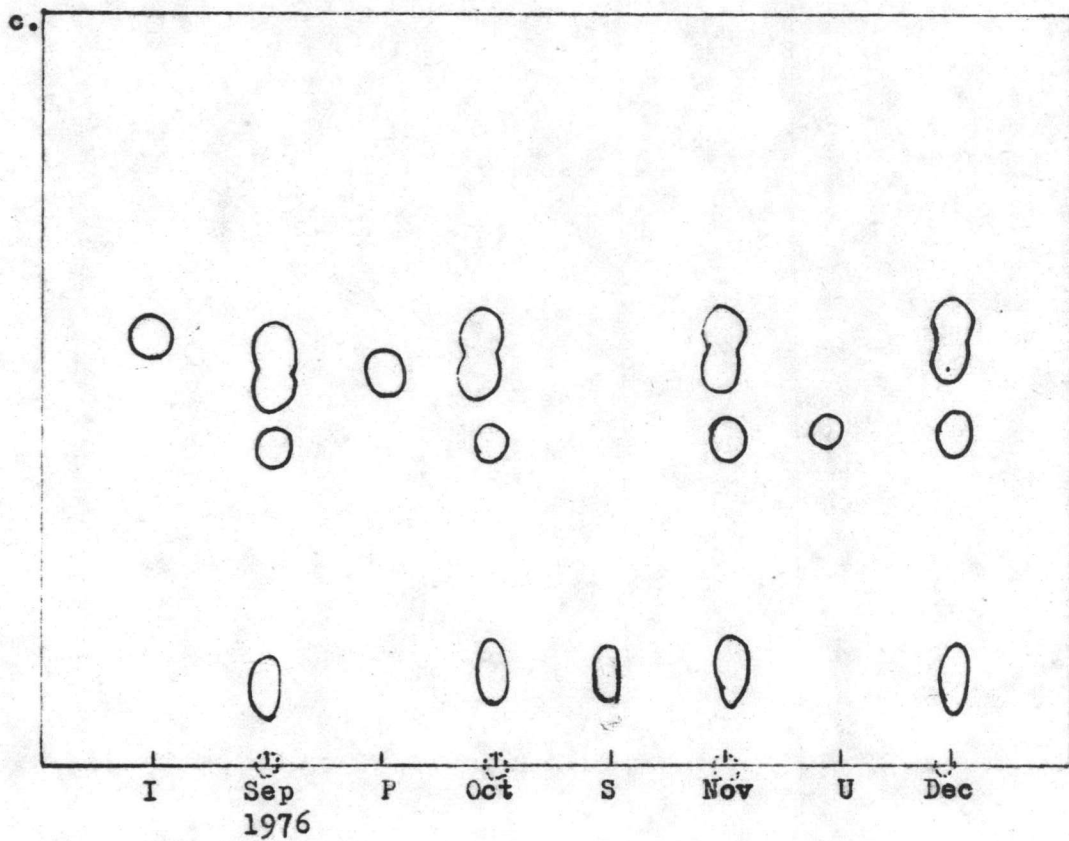


Figure 10 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

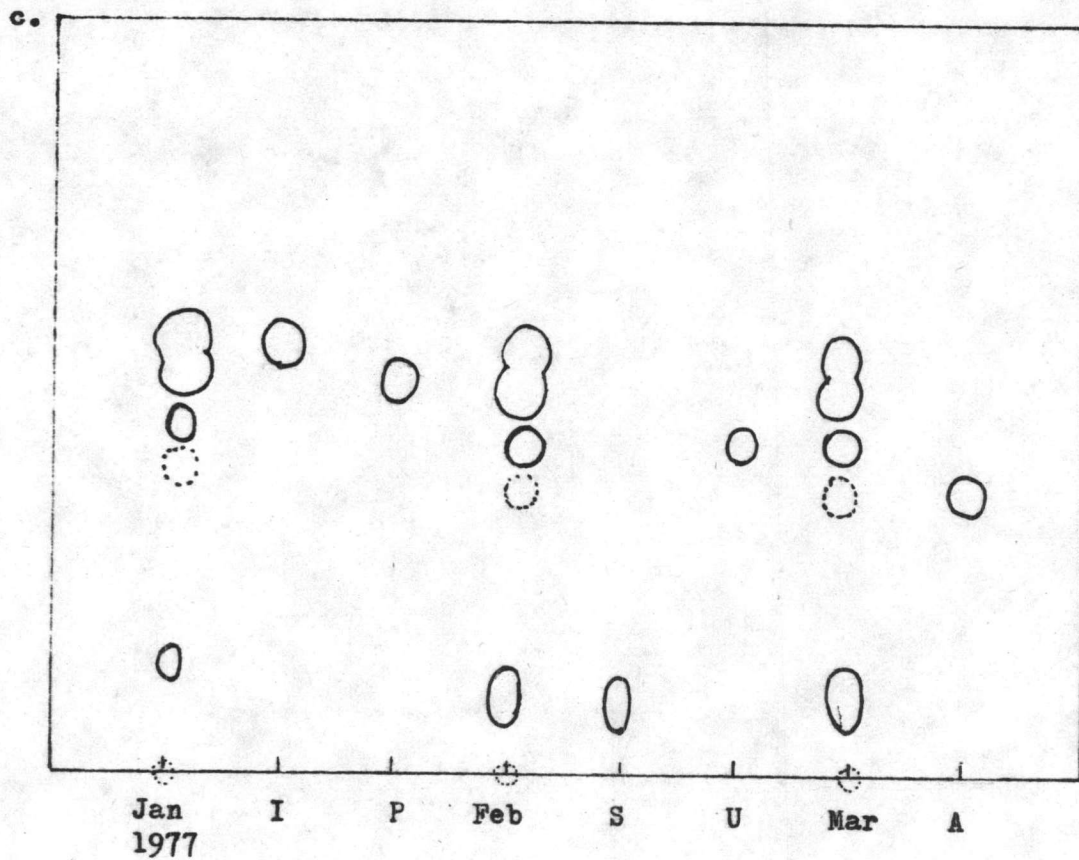


Figure 11 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.



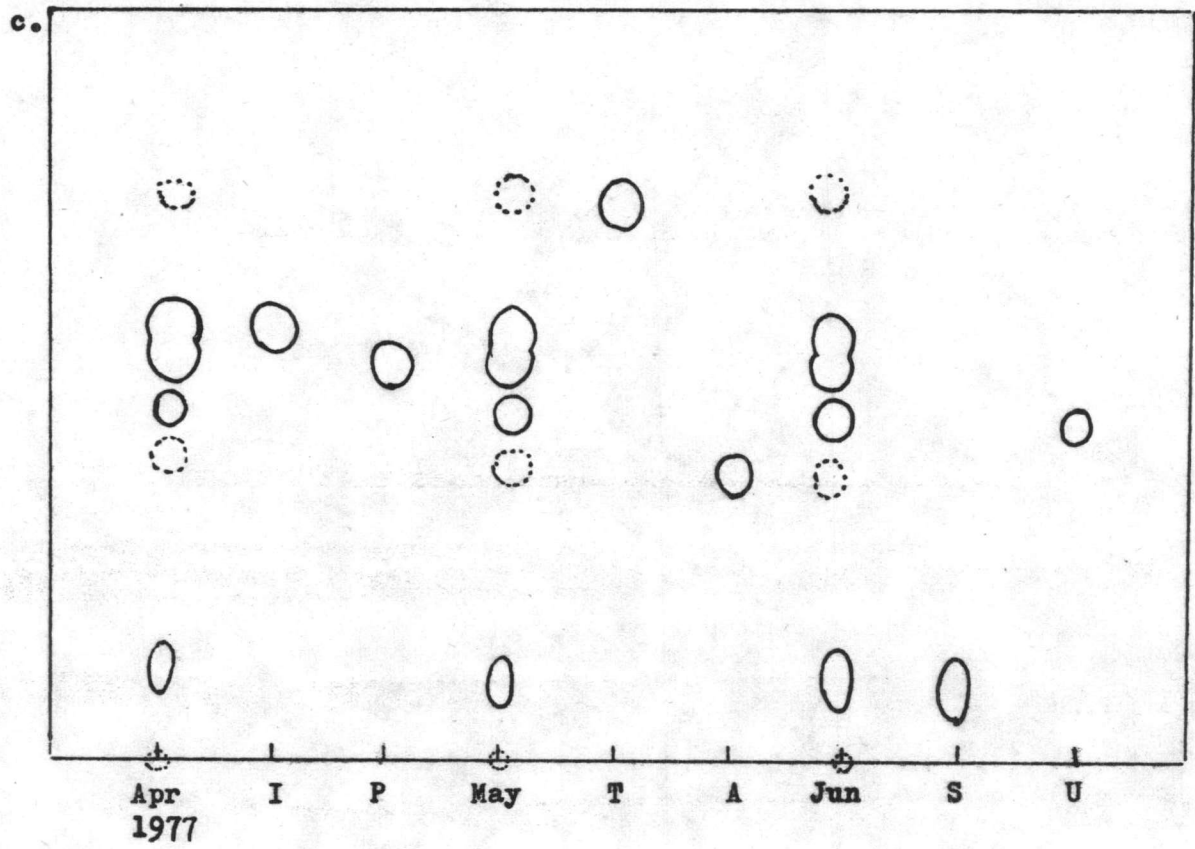


Figure 12 Thin layer chromatogram of alkaloids from the leaves of Uncaria homomalla Miq.



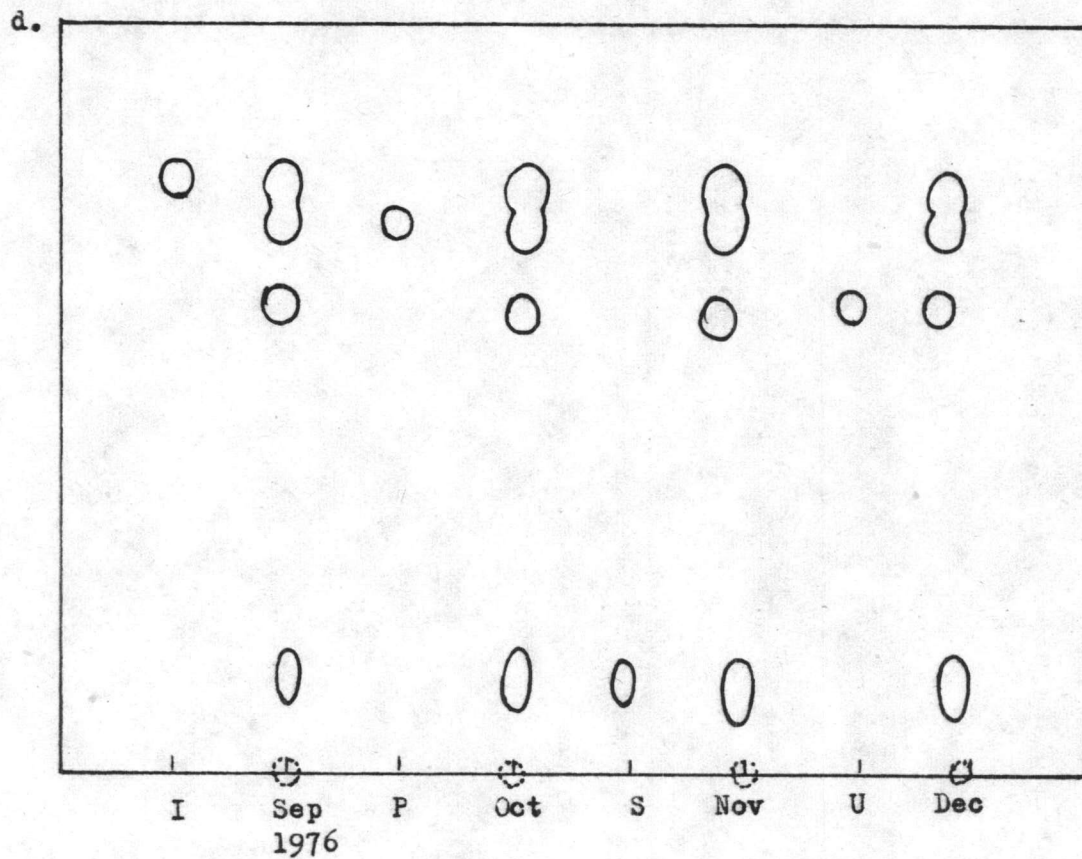


Figure 14 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

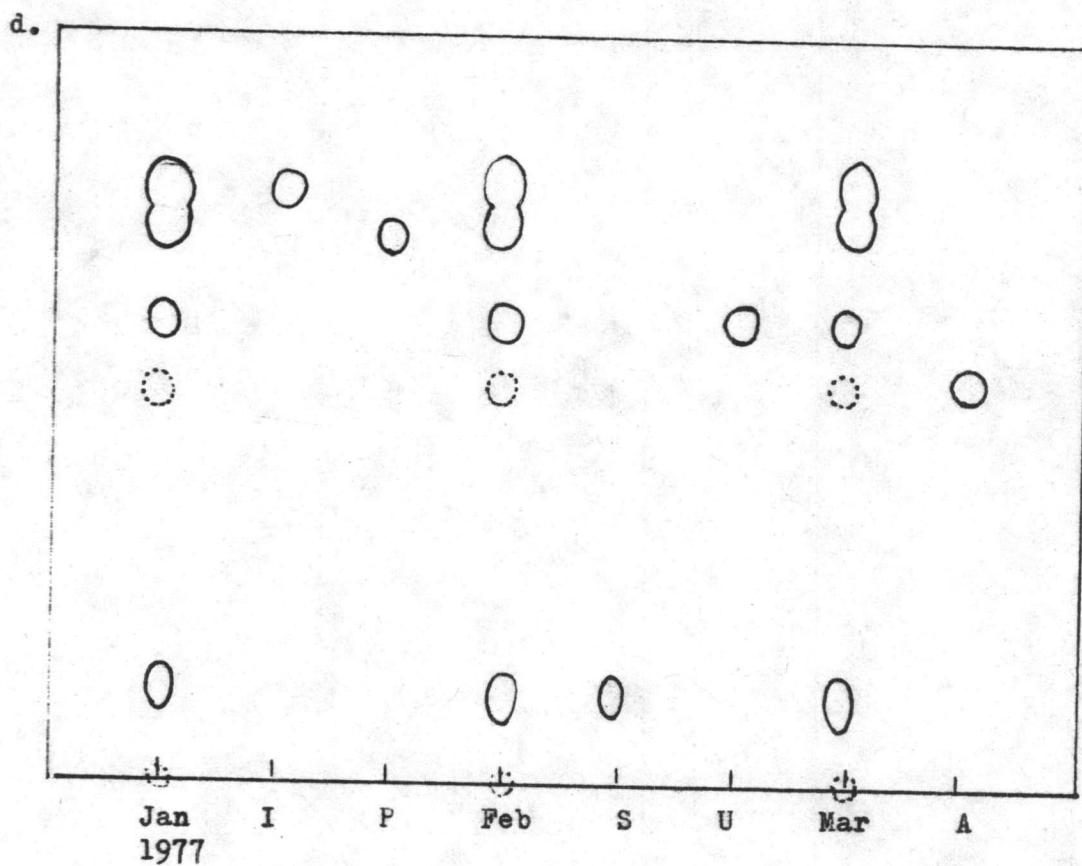


Figure 15 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomella Mic.

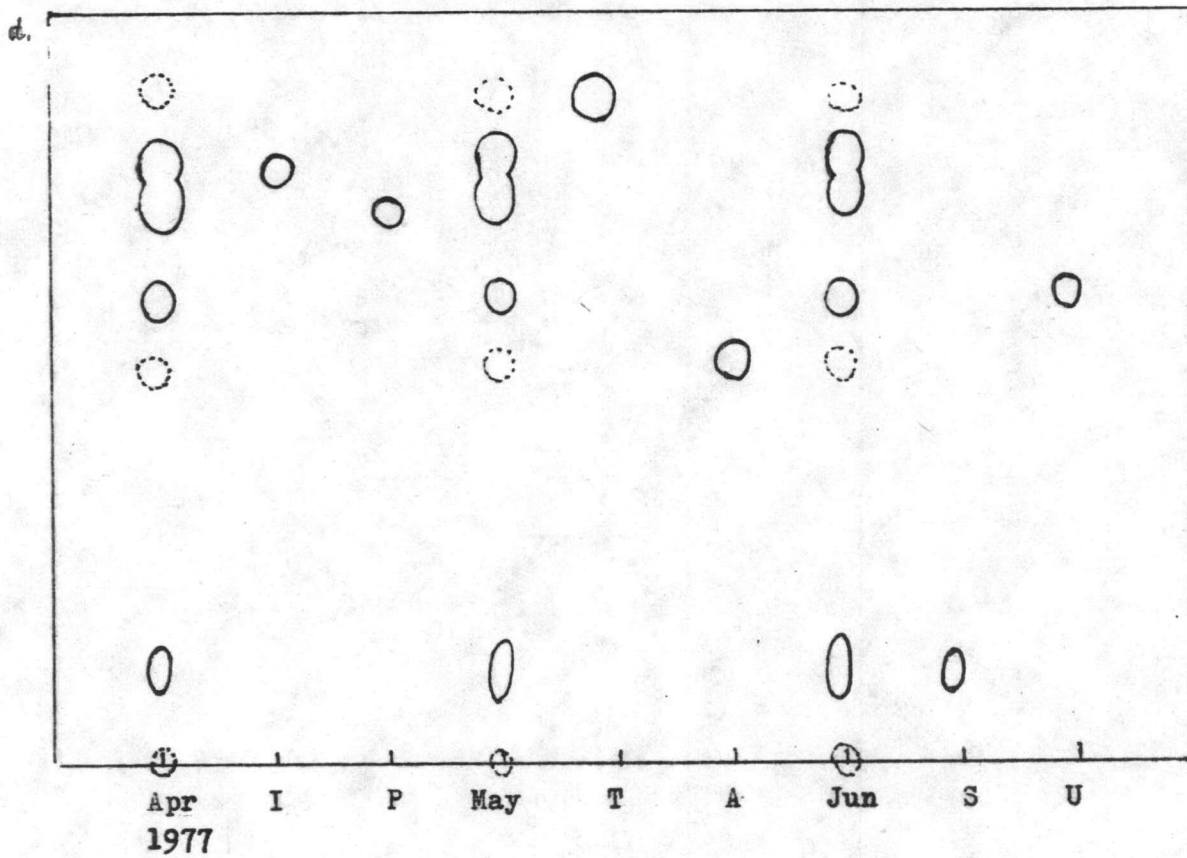


Figure 16 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

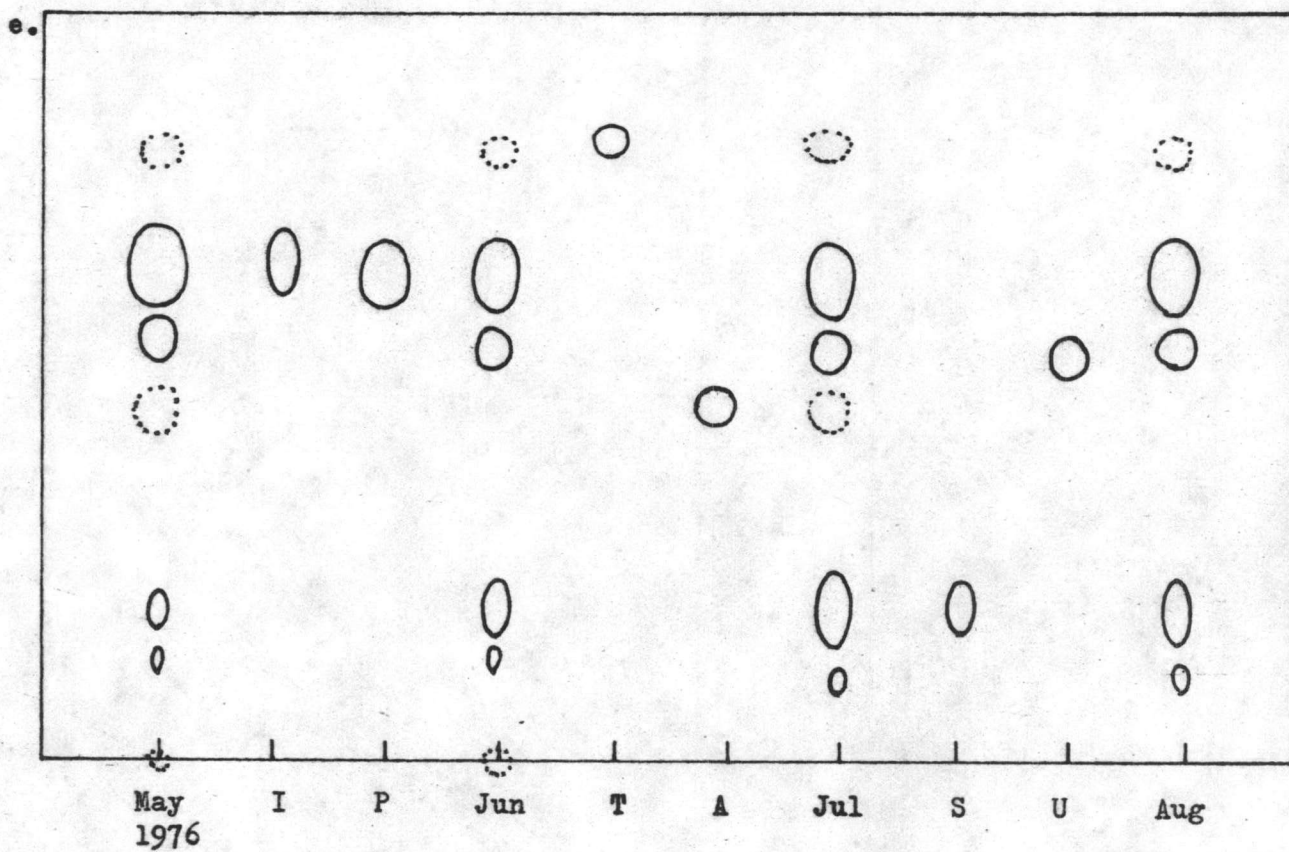


Figure 17 Thin layer chromatogram of alkaloids from the leaves of  
*Uncaria homomalla* Miq.

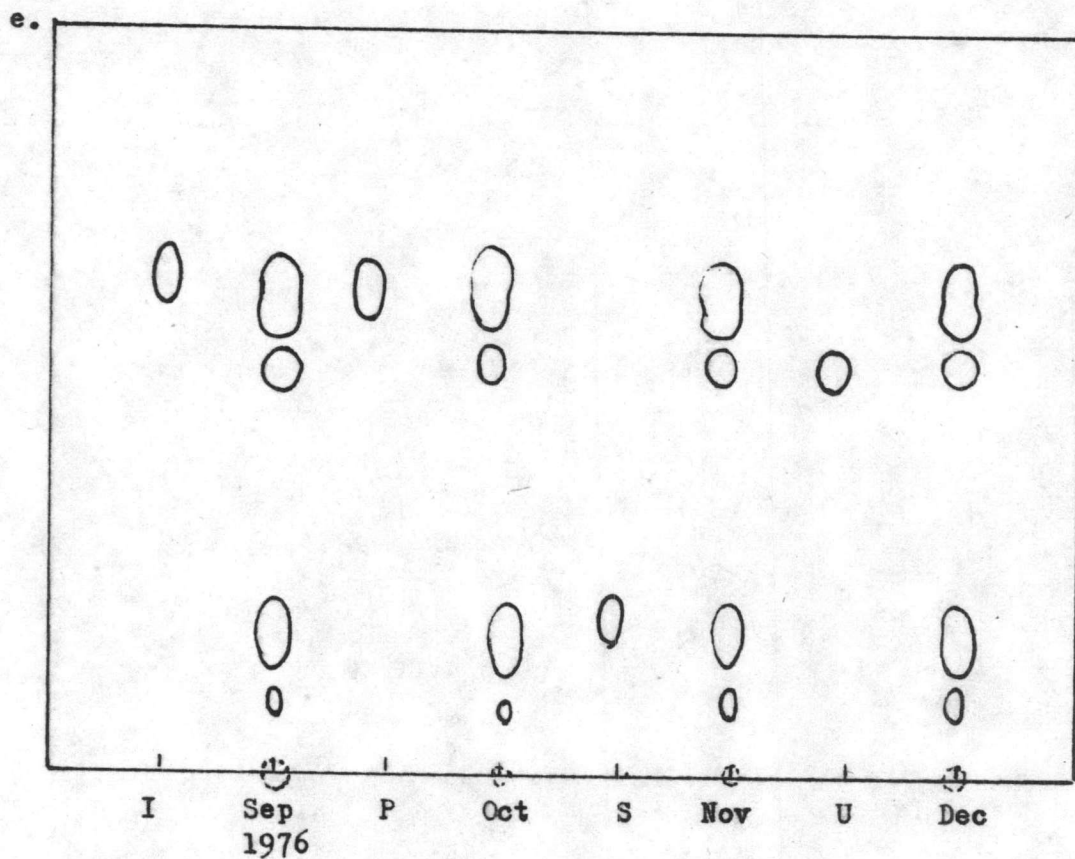


Figure 18 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

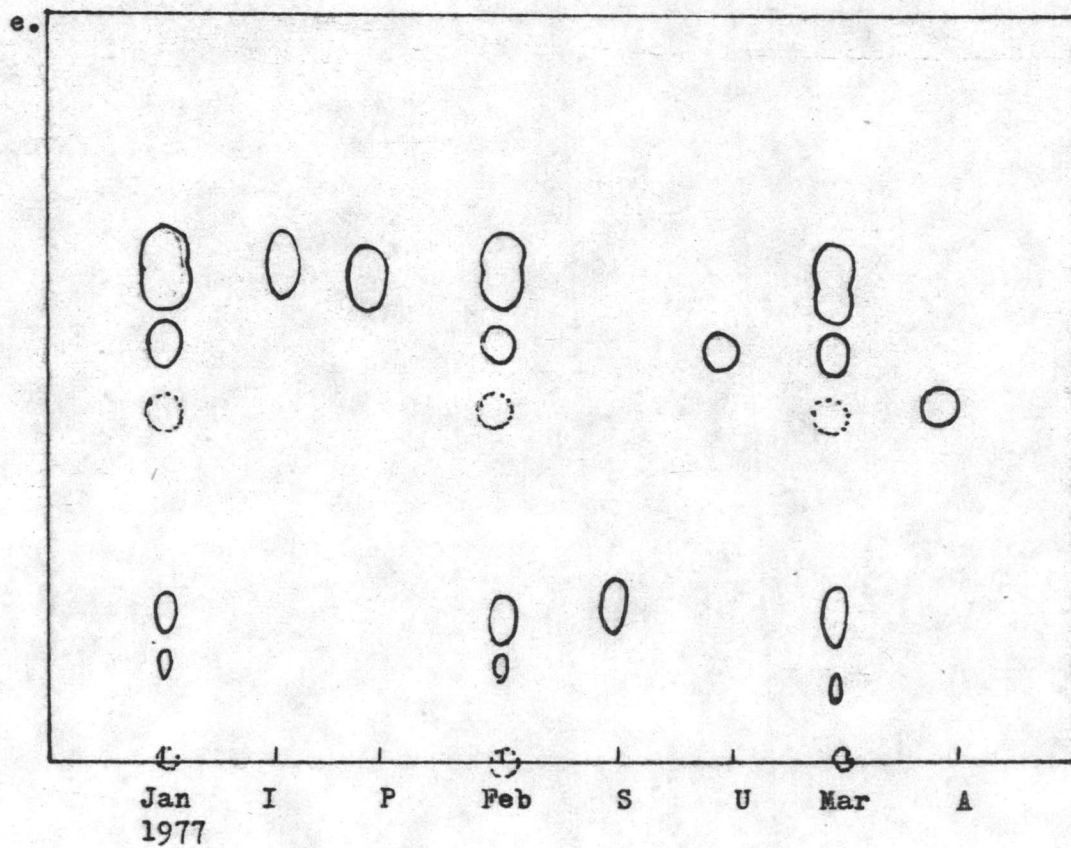


Figure 19 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

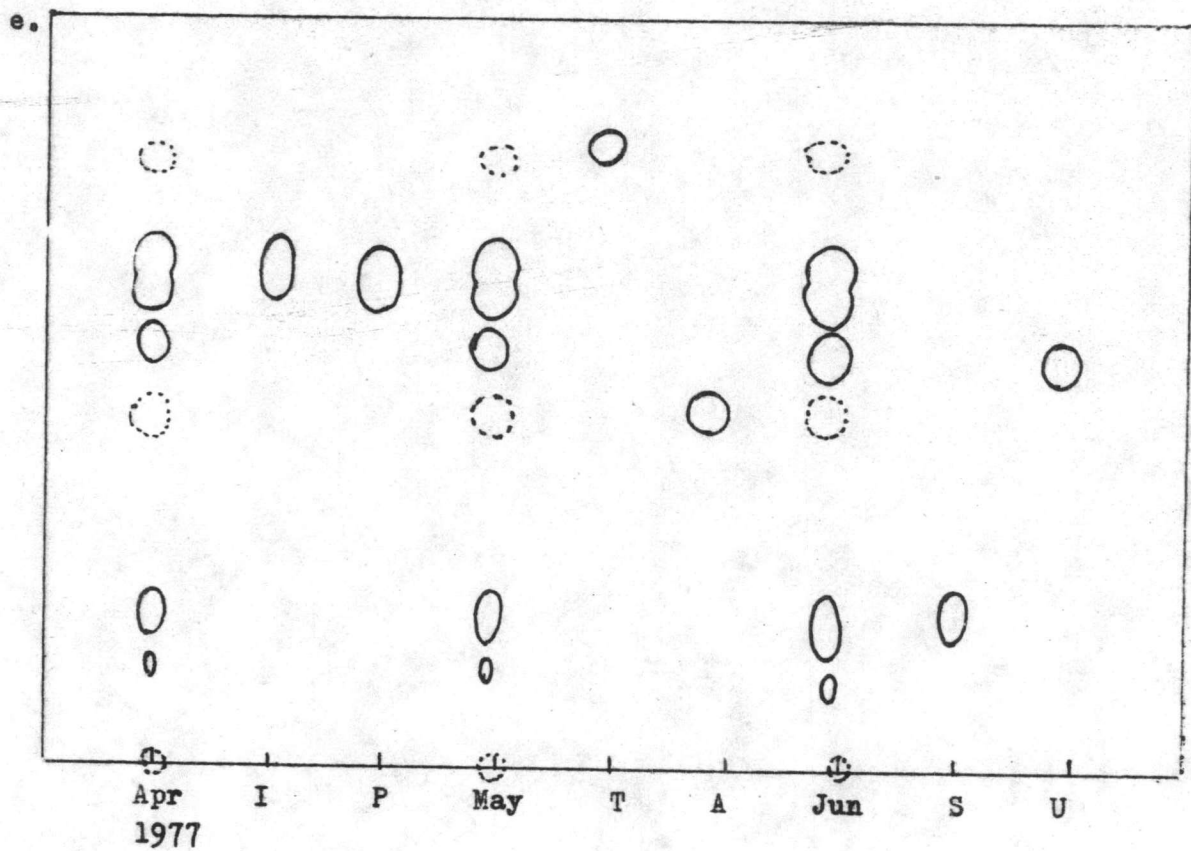


Figure 20 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.



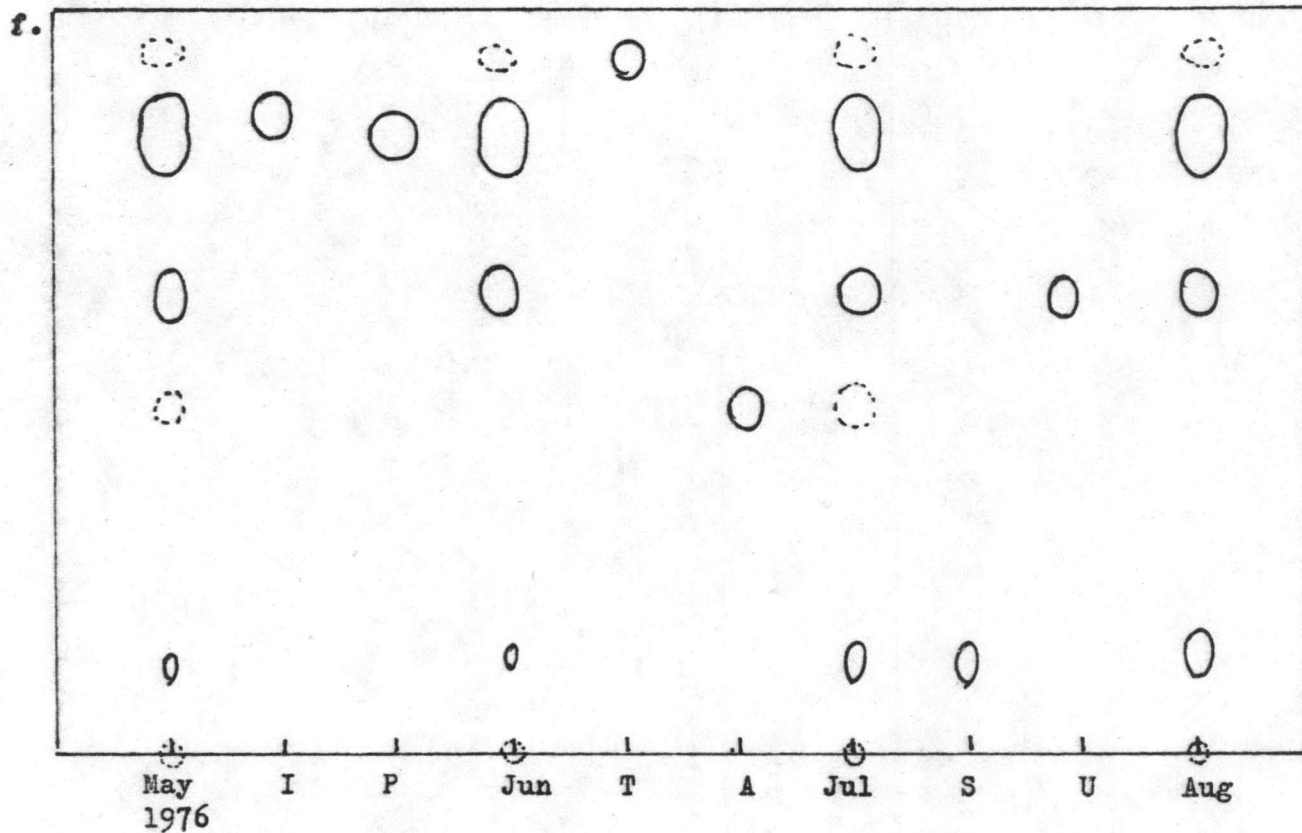


Figure 21 Thin layer chromatogram of alkaloids from the leaves of  
Uncaria homomalla Miq.

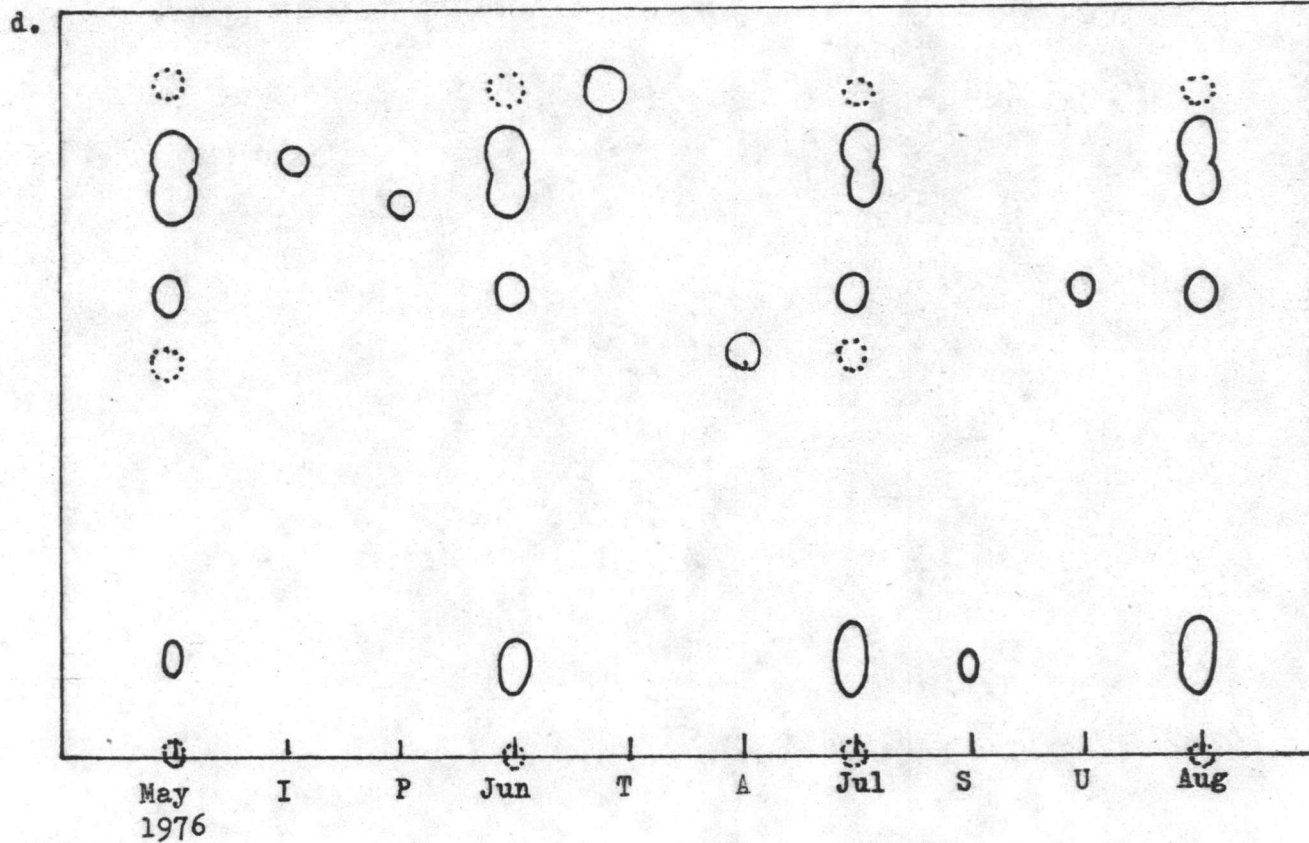


Figure 13 Thin layer chromatogram of alkaloids from the leaves of  
Uncaria homomalla Mio.

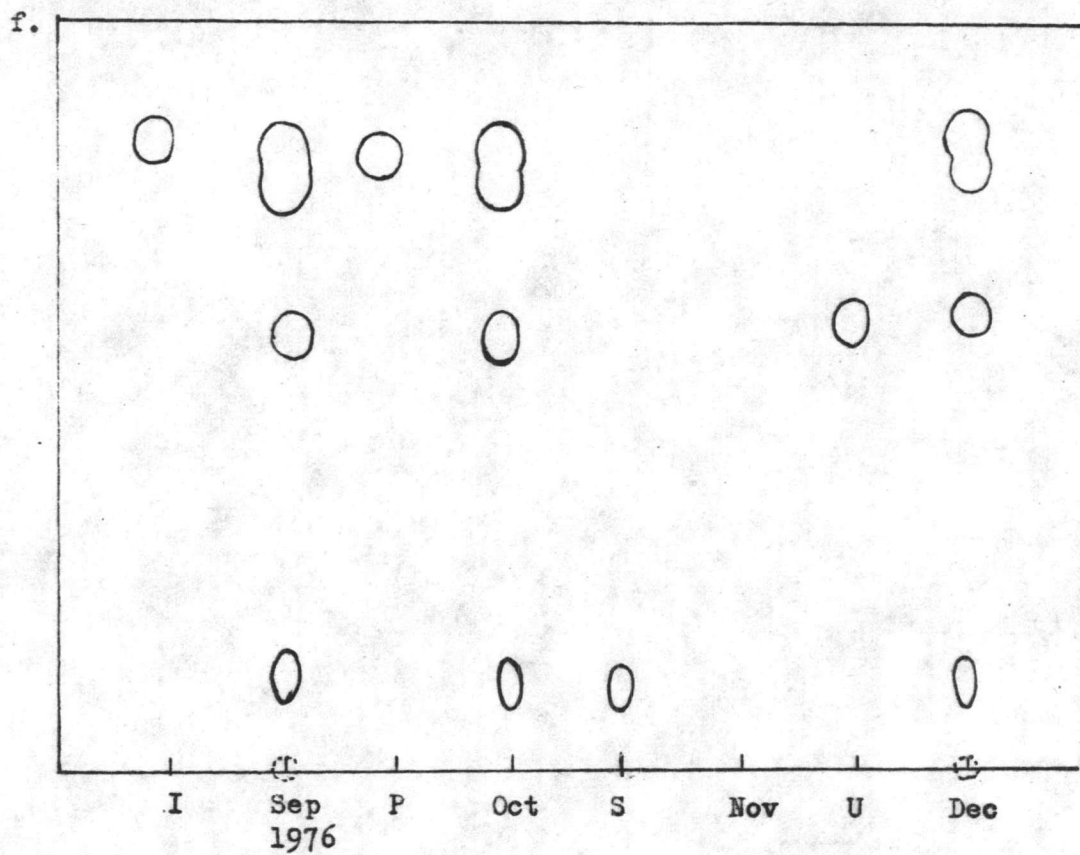


Figure 22 Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

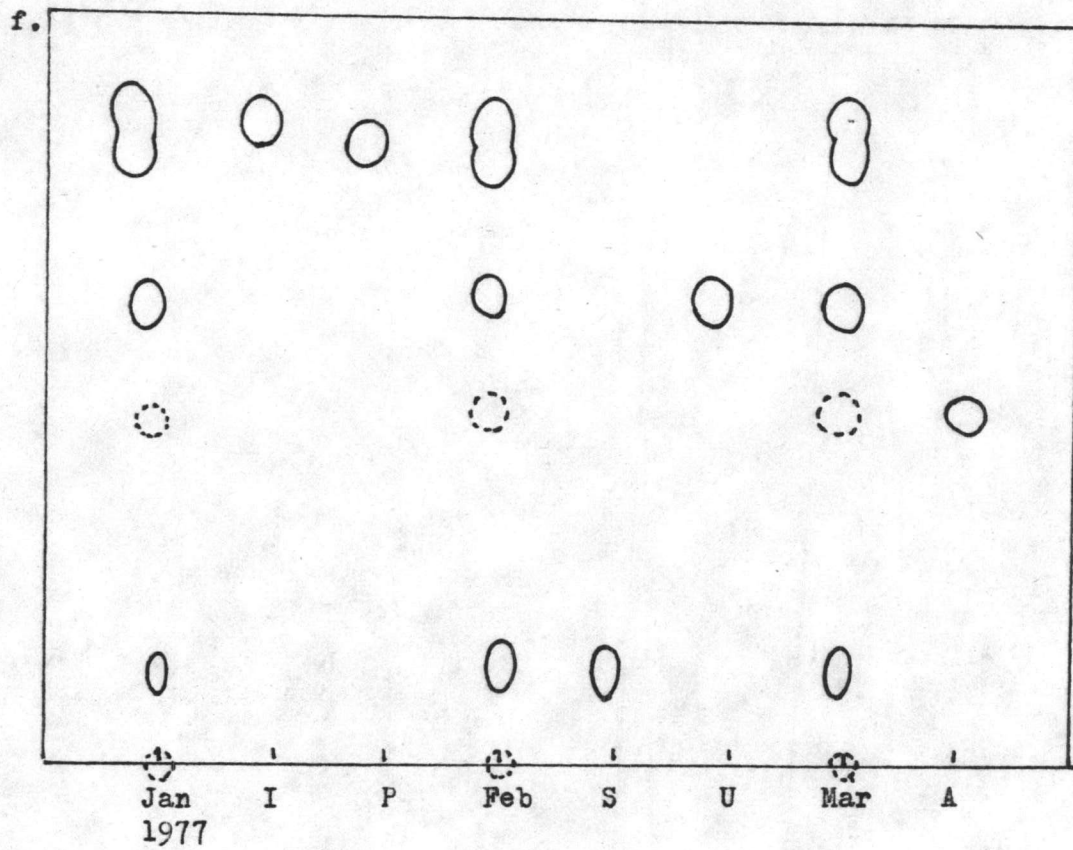


Figure 23 Thin layer chromatogram of alkaloids from the leaves of Uncaria homomalla Miq.

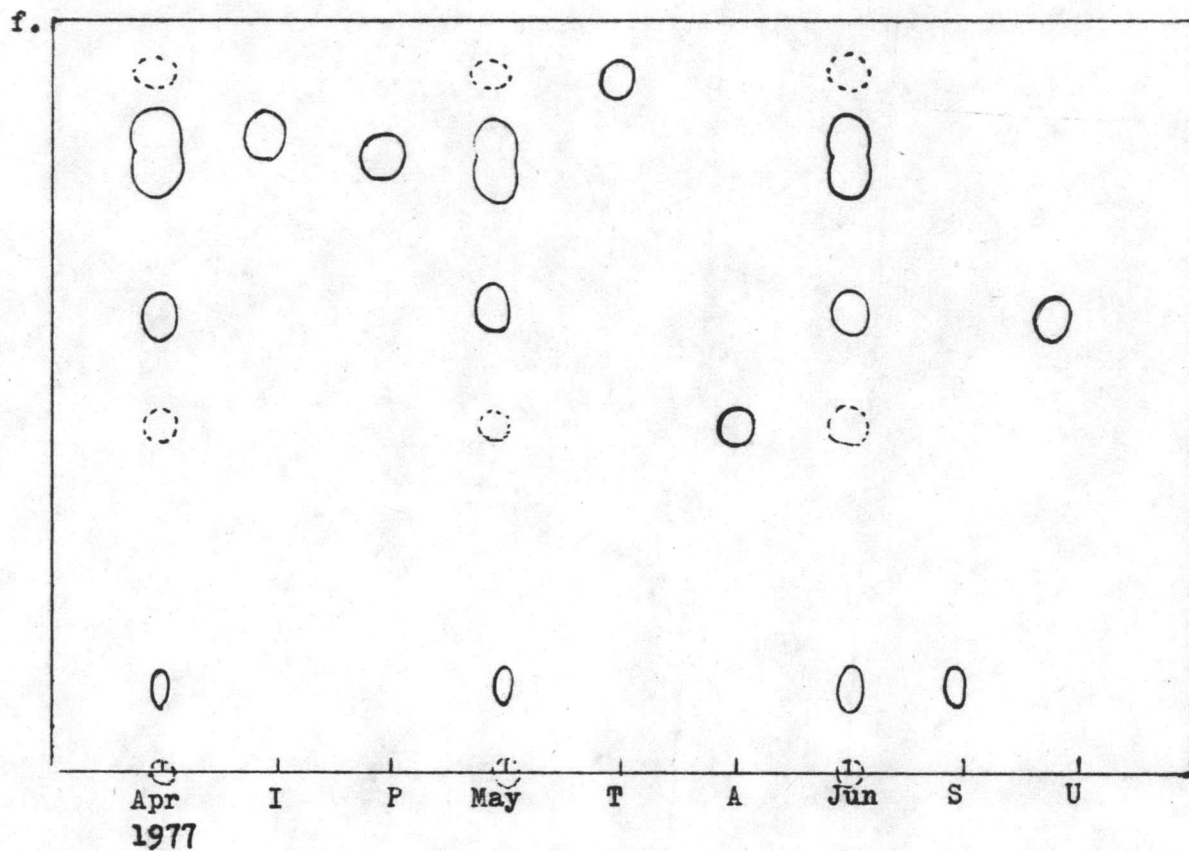


Figure 24. Thin layer chromatogram of alkaloids from the leaves  
of Uncaria homomalla Miq.

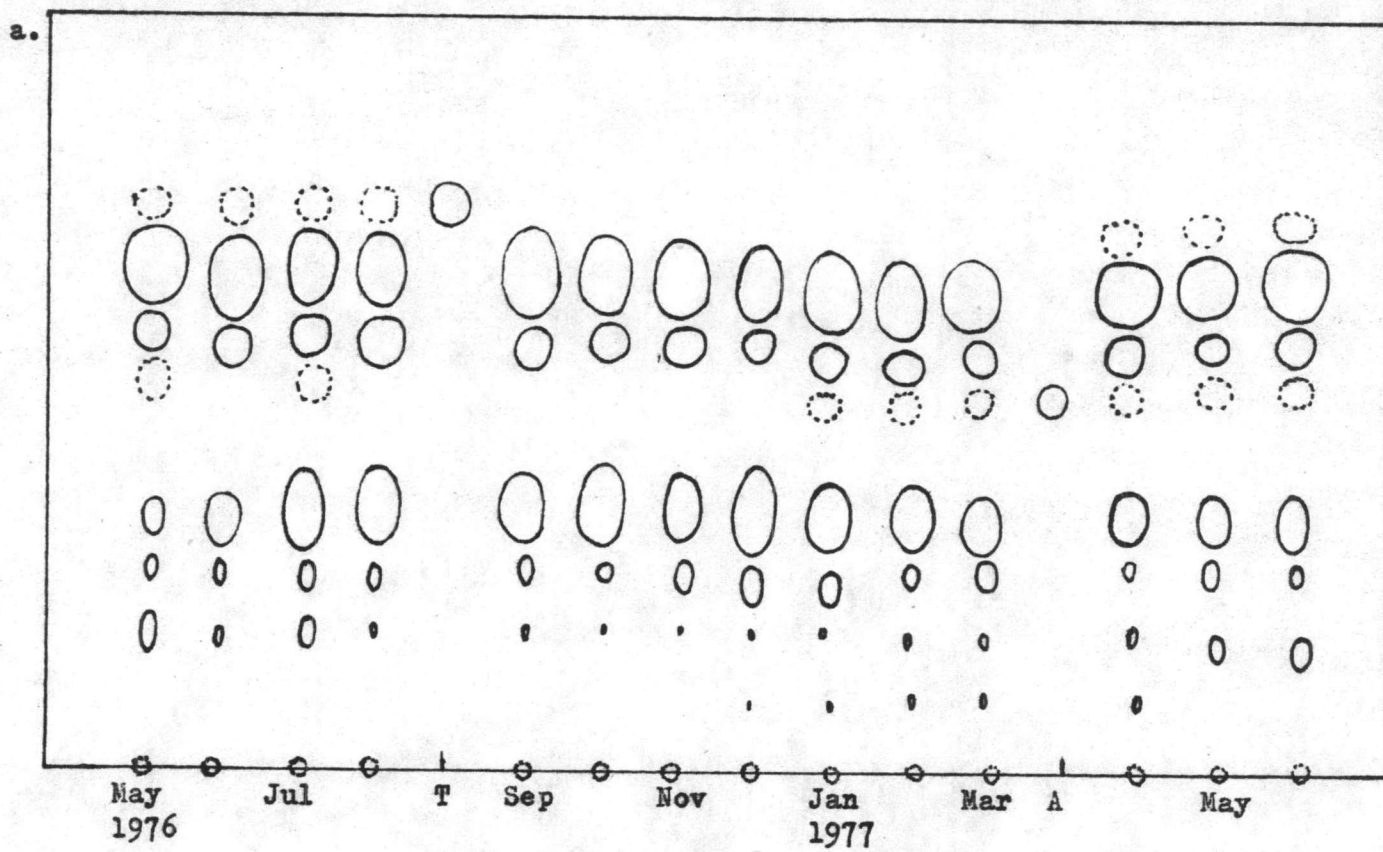


Figure 25 Thin layer chromatogram of alkaloids from the leaves of  
Uncaria homomalla Miq.

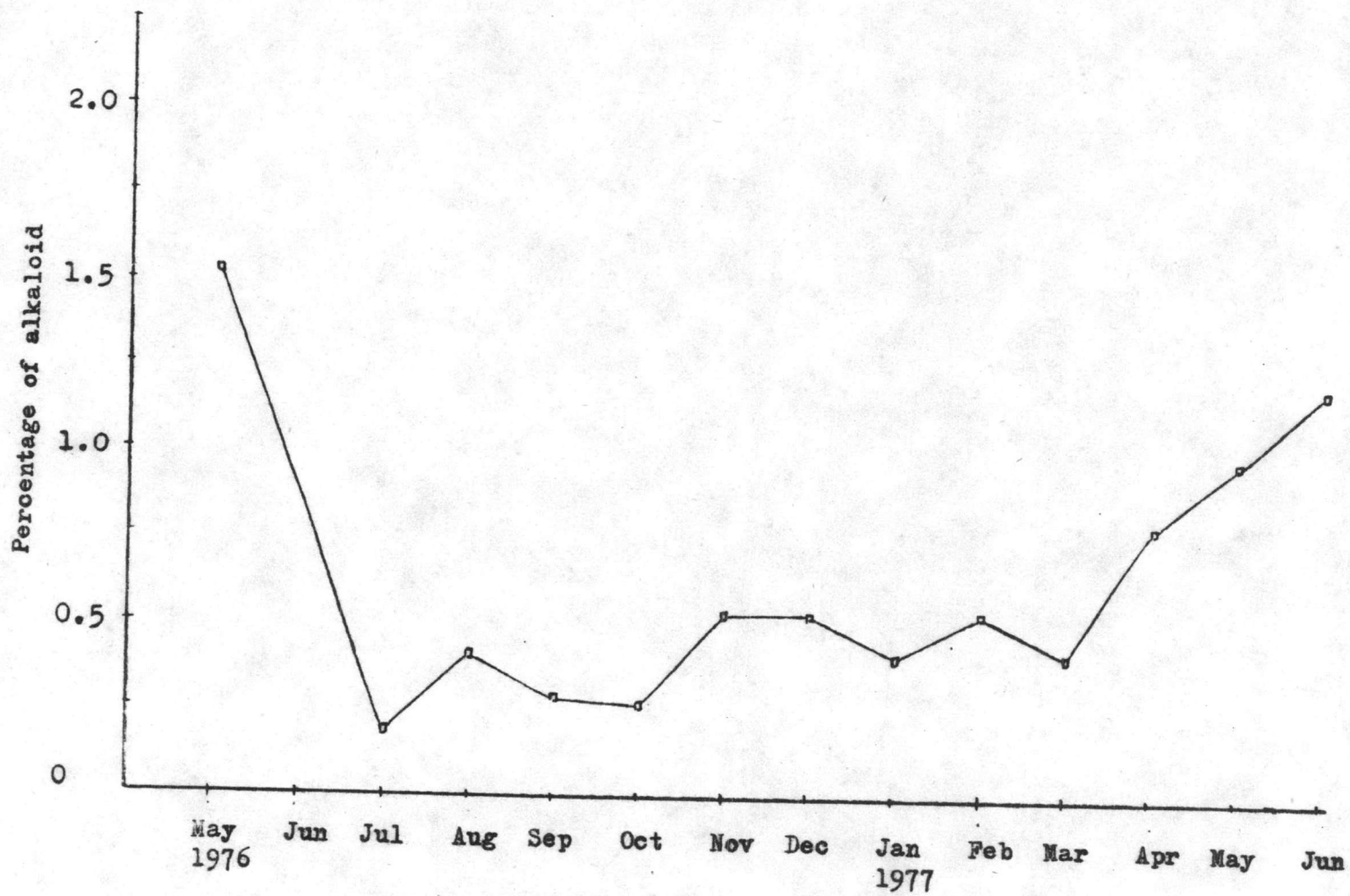


Figure 26 Total alkaloids in the leaves of Uncaria homomalla Miq.

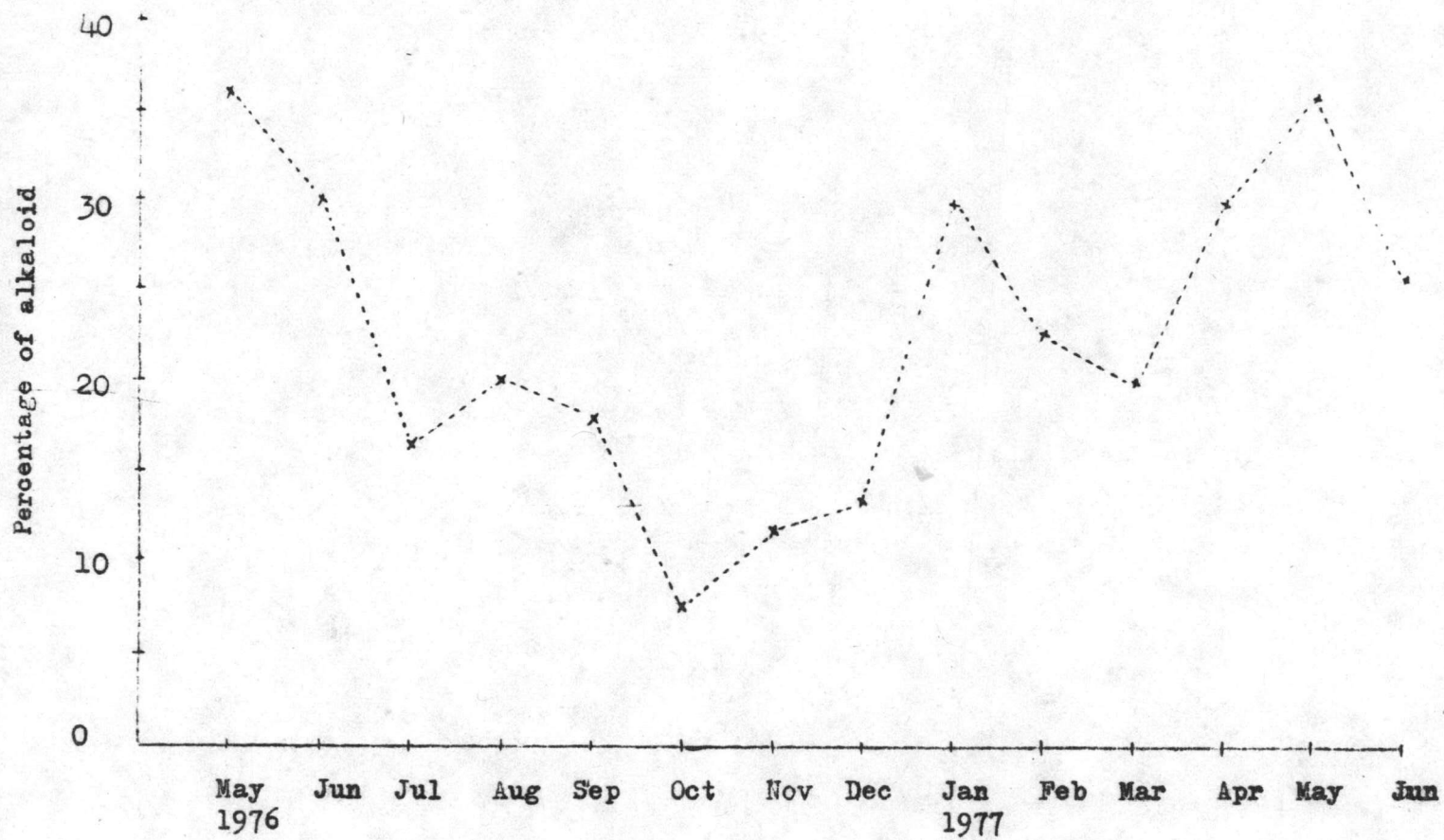


Figure 27 Isopteropodine in the leaves of Unacaria homomalla Miq.



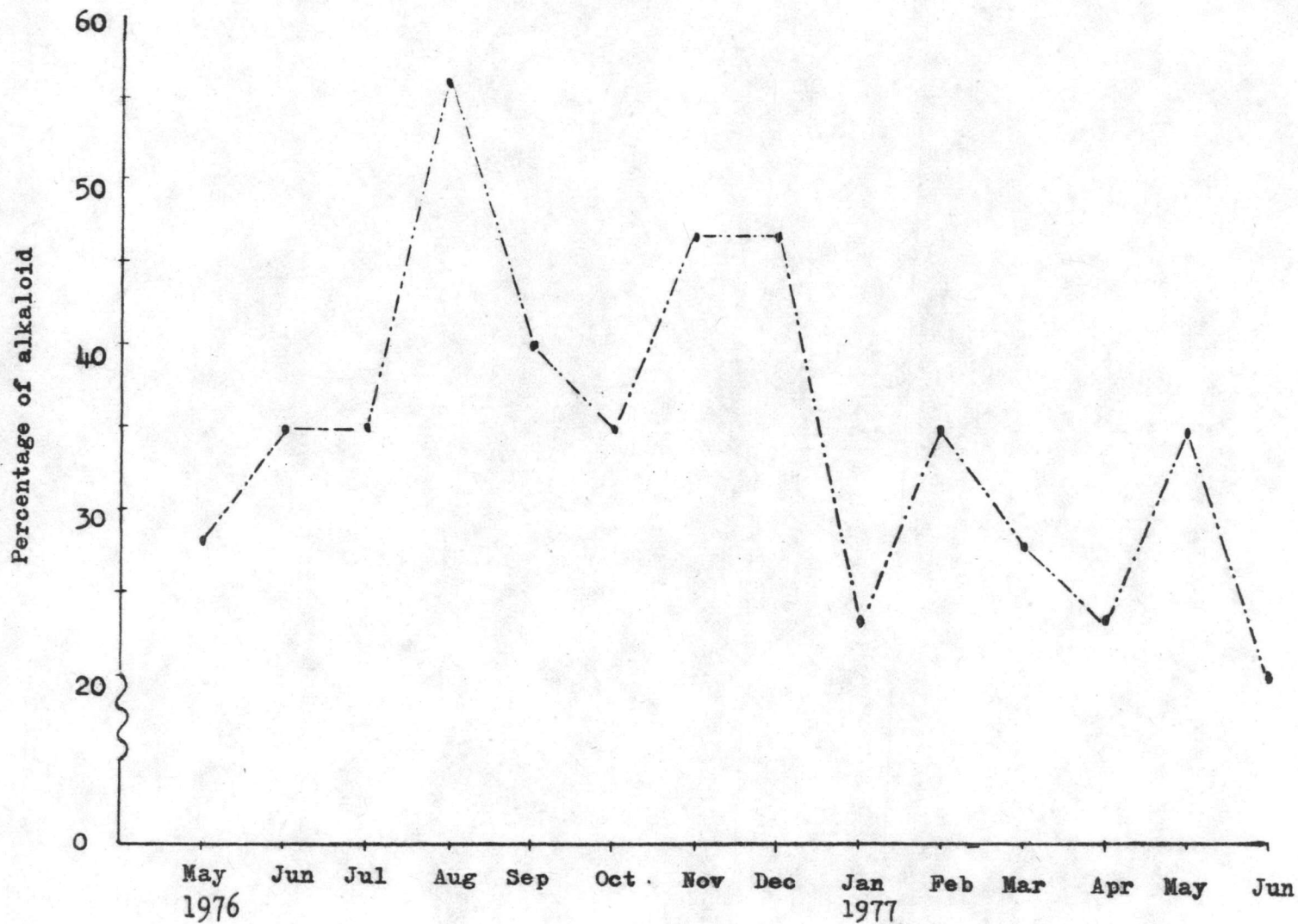


Figure 28 Pteropodine in the leaves of Uncaria homomalla Miq.

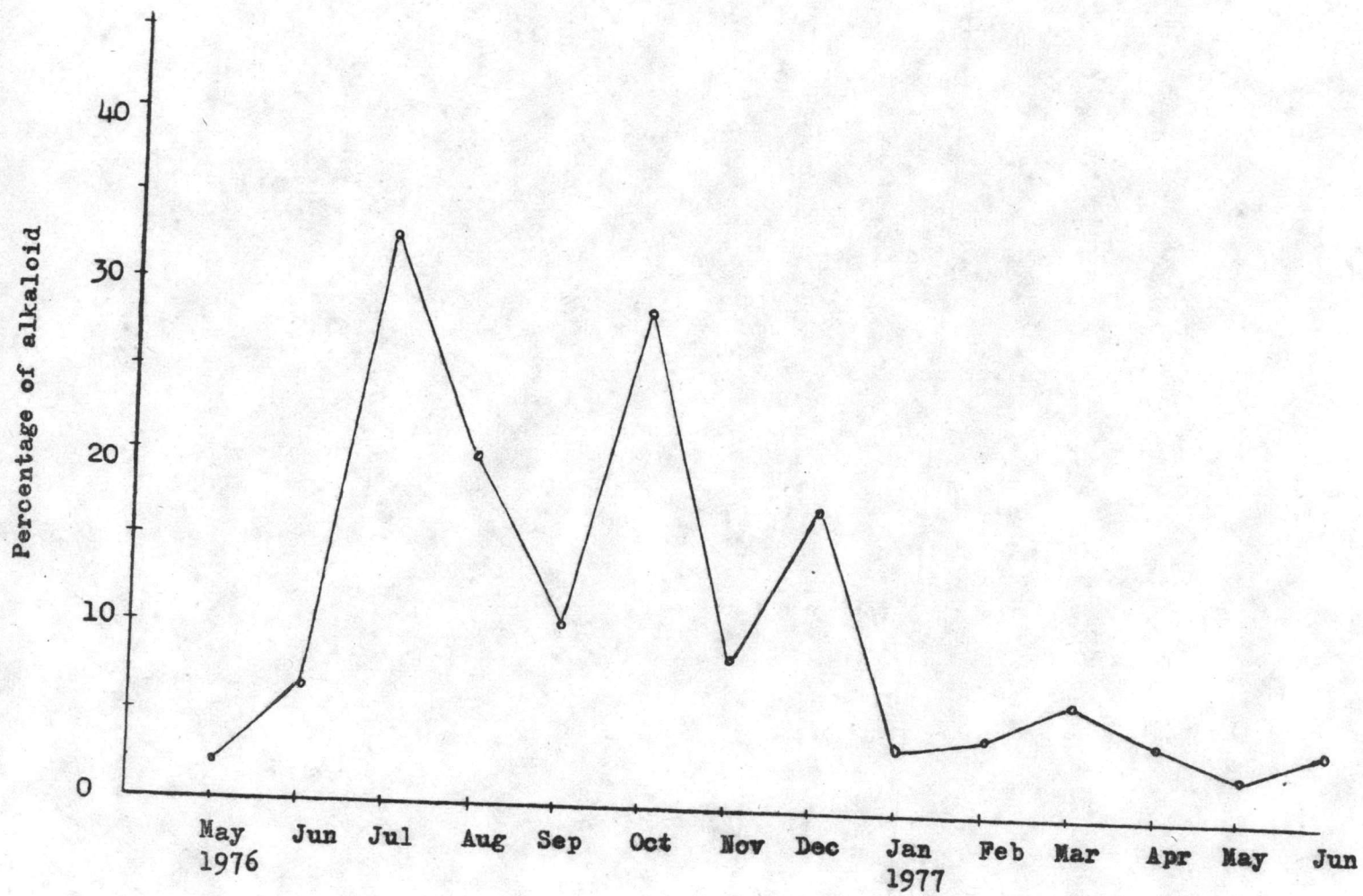


Figure 29 Speciophylline in the leaves of Uncaria homomalla Miq.

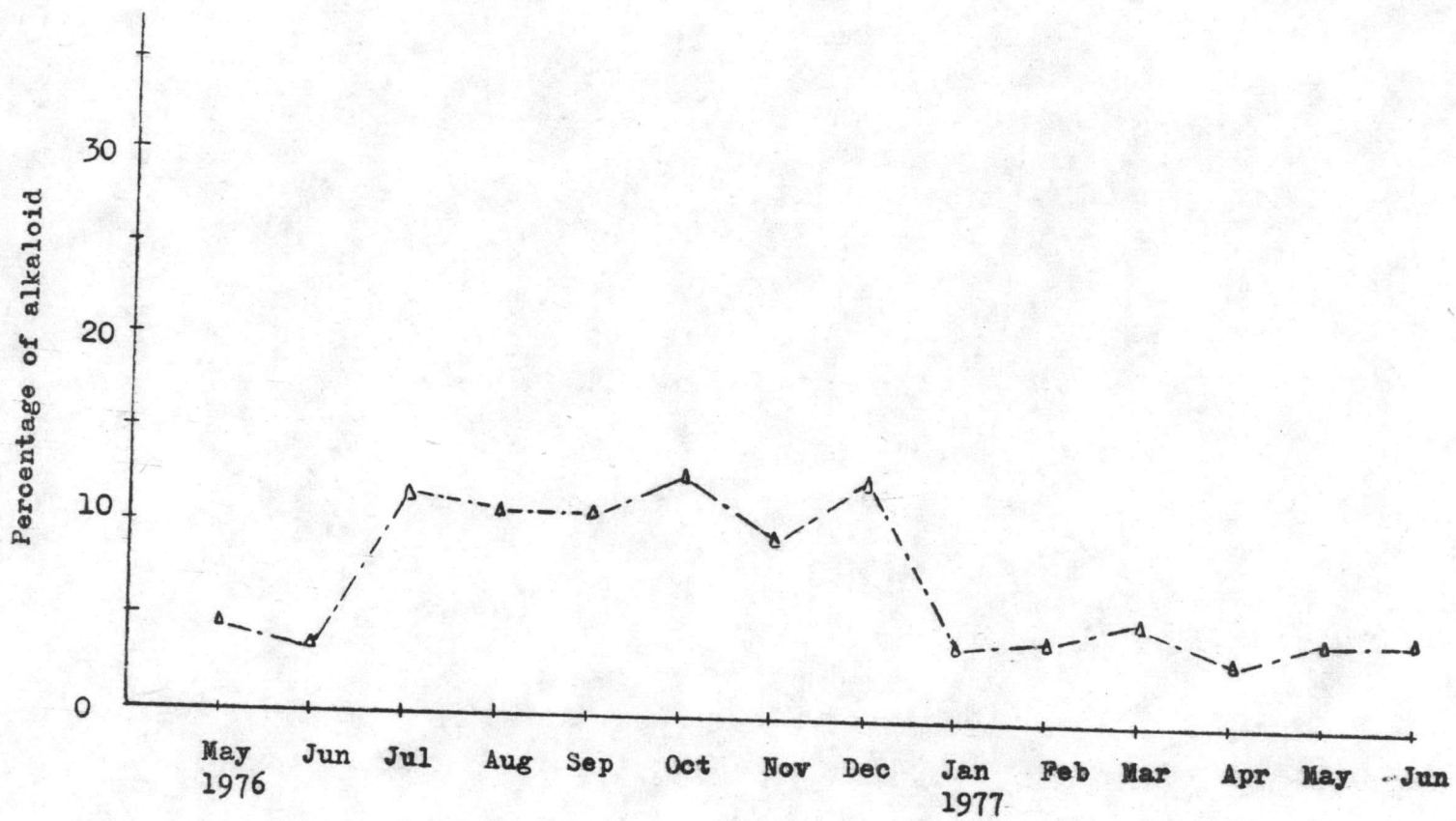


Figure 30 Uncarine F in the leaves of Uncaria homomalla Miq.

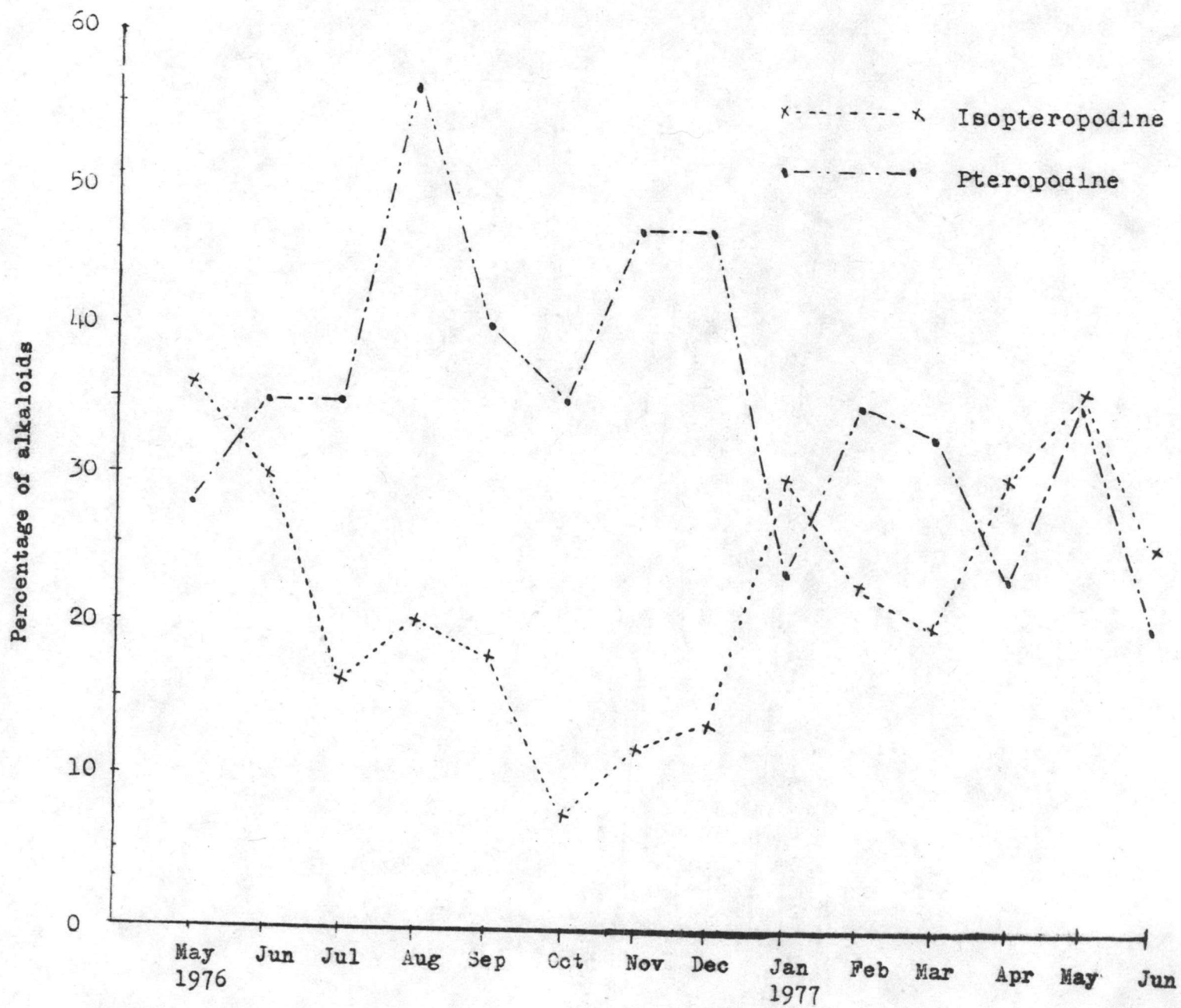


Figure 31 Isopteropodine and pteropodine in the leaves of Uncaria homomalla Miq.

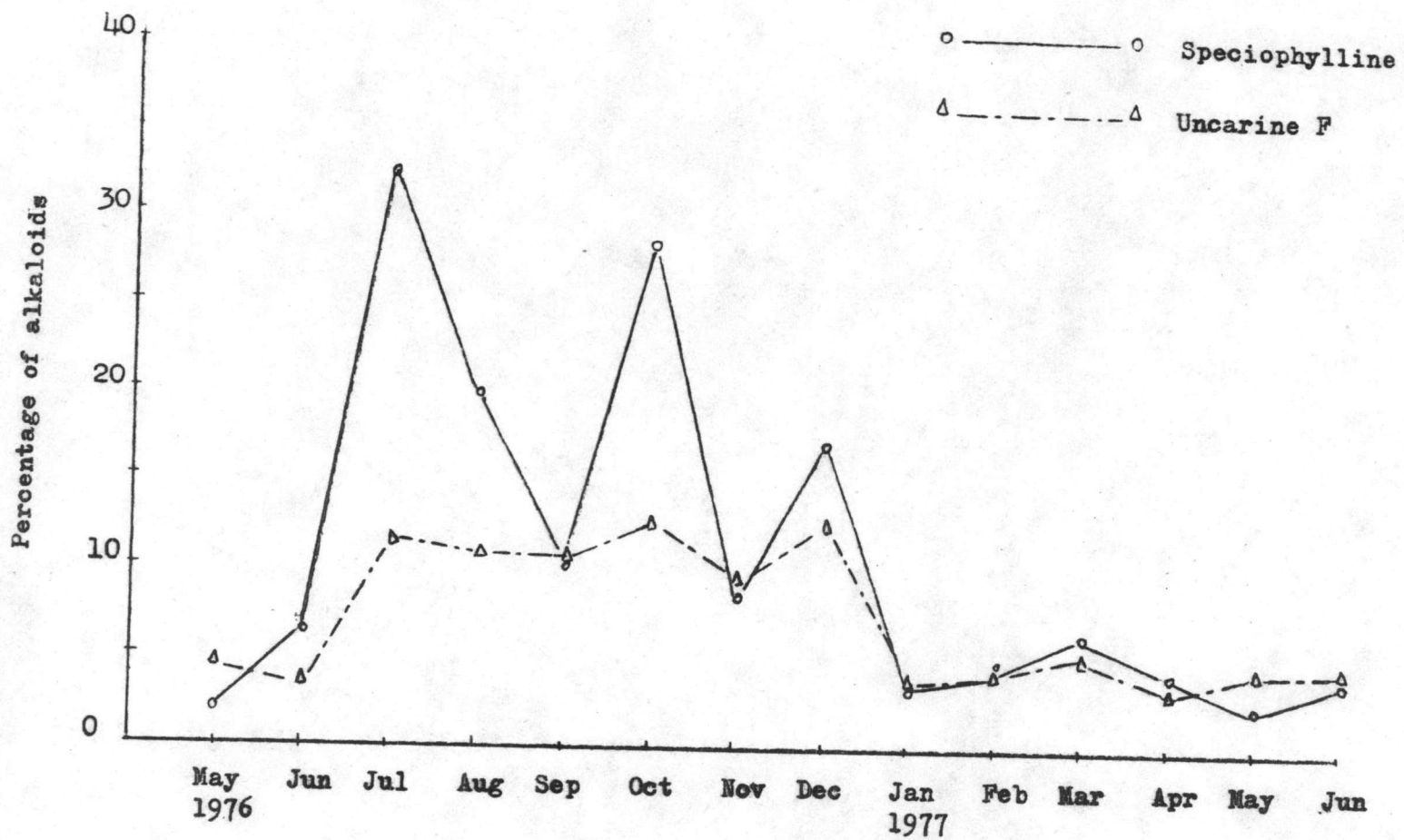


Figure 32 Speciophylline and uncarine F in the leaves of Uncaria homomalla Miq.

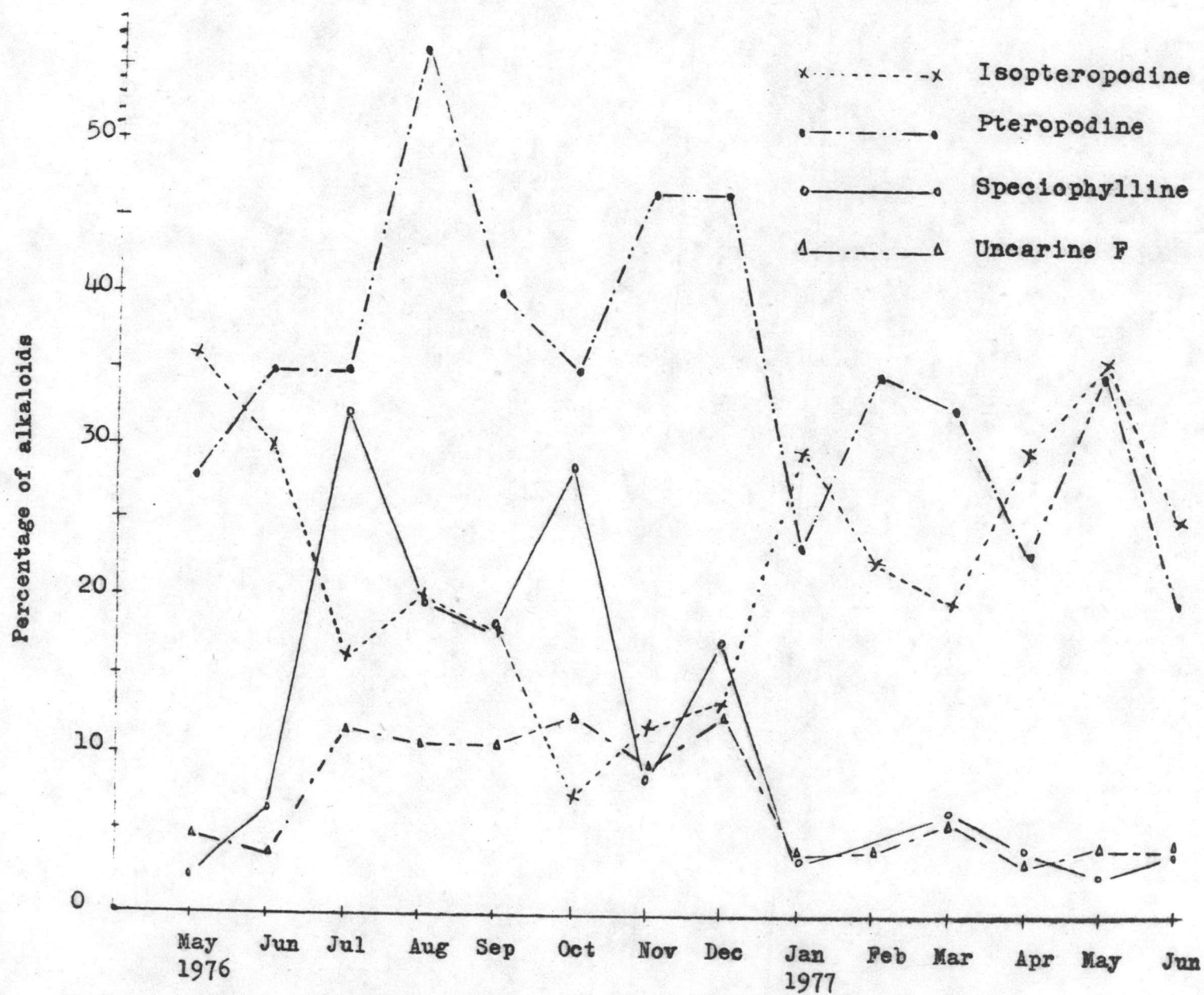


Figure 33 Isopteropodine, pteropodine, speciophylline and uncarine F in the leaves of Uncaria homomalla Miq.