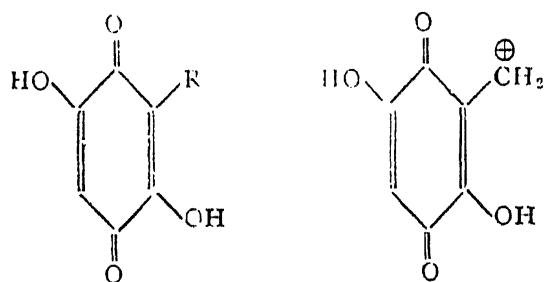


MASS-SPECTRAL ANALYSIS OF PIGMENTS
FROM *ARDISIA MACROCARPA* WALL

Ardisia macrocarpa Wall (Myrsinaceae), a high altitude plant, has been studied for the active principles and isolation of Rapanone (I) and a Leucoanthocyanidin 3, 4, 5, 7, 3', 4', 5'-heptahydroxy flavan has been reported¹. The identity of the quinone as Rapanone (I) has been established by comparison of I.R., U.V. spectra of the samples of rapanone obtained from *Connorous monocarpus*².

Connorous monocarpus yielded a mixture of quinones, whose mass-spectral analysis has been reported³. It has been shown to be a mixture of Homo-rapanone (III), Rapanone (I), Embelin (II), and Homo-embelin (IV). This prompted us to study the composition of the pigment obtained from *Ardisia macrocarpa* Wall to clarify whether the composition of the mixture is alike or different from that obtained from *Connorous monocarpus*.

Wood chippings of *Ardisia macrocarpa* Wall, obtained from Nepal, have been extracted and the quinone has been purified by thick-layer chromatography on silica gel using chloroform, methanol (9:1) as eluent. Rapanone which has been suspected to be a mixture has been analyzed mass-spectrometrically, while TLC showed no separation from the authentic sample. The observation of M, (M+ + 1), and (M+ + 2) peaks are in agreement with the data reported^{4,3}.



- I R = C₁₃H₂₇
- II R = C₁₁H₂₃
- III R = C₁₅H₃₁
- IV R = C₉H₁₉

Rapanone is the major component of the quinone isolated both from *Connorous monocarpus* and *Ardisia macrocarpa* Wall. Mass-spectral data of *Connorous monocarpus* recorded a peak intensity of 90.2 for M⁺ of Embelin, while that of pigment from *Ardisia macrocarpa* Wall recorded only 2.3 while that of M⁺ of rapanone being 100 in both cases. Mass-spectral data of sample under study indicated the presence of Homo-rapanone (III) (M⁺, 350 7.8%), Rapanone (I) (M⁺, 322 100%), Embelin (II) (M⁺, 294 2.3%) and the side chain fragments are C₁₄H₂₉⁺ (197), C₁₂H₂₅⁺ (169), C₁₀H₂₁⁺ (141). Mass-spectrum showed an intense

peak at M/e 153 (70.2%) which could be attributed to the residue (V).

The pigment isolated from *Ardisia macrocarpa* Wall showed the absence of Homo-embelin (IV), while it is found along with Rapanone (I), Embelin (II) and Homo-rapanone (III) in the sample isolated from *Connorous monocarpus*³.

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CHEMICAL EXAMINATION OF THE FATS
FROM THE SEEDS OF *PHASEOLUS* SPECIES

LEGUMINOSAE is one of the families of plants, seed fats of which contain rarer or higher saturated acids¹. *Phaseolus trilobus* (Mungani) and *Phaseolus aconitifolius* (Moth) are the species of Leguminosae family belonging to Papilionaceae sub-family. Their seeds come under pulses, and due to high protein content are used as food.

The fats from the seeds of *Phaseolus trilobus* and *Phaseolus aconitifolius* were extracted with 60-80° petroleum ether. The various chemical constants of the fats were determined by standard methods². The physical and chemical constants are tabulated in Table I.

TABLE I
Physical and chemical constants

Constants	<i>Phaseolus trilobus</i>	<i>Phaseolus aconitifolius</i>
Percentage of fat	5.2	4.8
Specific gravity	0.912	0.931
R.M. value	8.2	7.9
Polenske No.	1.5	1.6
Saponification value	185	105
Iodine value	44	65
Thio-cyanogen value	57	72
Acid value	27	25
Acetyl value	65	61

I.R.³, paper chromatography, T.L.C. methods were used to determine the fatty acid composition of the fats qualitatively by comparing with standard