Chemical Examination of the Seeds of *Entada phaseoloides* Merrill

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The isolation of a new triterpenoid acid sapogenin called entagenic acid[1-4], besides oleanolic acid, from the seeds of *E. phaseoloides* Merrill (Syn. *E. scandens*, *E. pursaetha*) was reported earlier. It has been observed by us that during the acid hydrolysis of the crude saponin obtained from the alcoholic extract of the above seeds, a very foul smelling gas is liberated. The present paper reports the characterization of the above volatile constituent and also the isolation of another triterpene acid sapogenin.

The alcoholic extract of the defatted seed kernel was concentrated to a small volume and the crude saponin was precipitated with ether as a gummy mass which on fusion with metallic sodium responded to the usual tests for sulphur. This test together with the nature of the smell of the gas that is liberated during acid hydrolysis of the saponin indicated that the volatile matter may be an alkyl mercaptan. The crude saponin was subjected to acid hydrolysis in the usual way (*loc. cit.*) and the liberated gas was passed through a saturated alcoholic solution of mercuric cyanide and the precipitate was filtered and repeatedly crystallized from acetone, m.p. 173°–74°. It had the same m.p. and mixed m.p. with the Hg(ic) salt of methyl mercaptan prepared by passing methyl mercaptan through a saturated alcoholic solution of mercuric cyanide.

The crude sapogenin was worked up in the usual way and separated into acid and neutral fractions (*loc. cit.*). The acid sapogenin fraction was esterified with ethereal diazomethane and chromatographed over a column of silica gel when a methyl ester, m.p. 213°–215°, was obtained besides methyl oleanolate and methyl entagenate. The above ester formed a diacetate, m.p. 200°–201°. The methyl ester and its diacetate have been identified as methyl echinocystate and diacetyl methyl echinocystate respectively by comparing m.p., mixed m.p. and I.R. spectra with authentic samples.

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