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Chemical Investigations on *Picris hieracioides* Linn and *Phaylopsis Parviflora* Willd

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Chemical investigations on the leaves of *Picris hieracioides* Linn[1,2,3] and *Phaylopsis parviflora* Willd[4] resulted in the isolation of three sterols of which two have been characterised as β- and γ-sitosterol.

PICRIS HIERACIOIDES Linn (Compositae), the only available plant of this genus in India is an erect coarse herb, distributed over the temperate Himalayas and Nilgiris. *Phaylopsis parviflora* Willd (Acanthaceae) is a prostrate closely branched herb distributed throughout India (except the N.W.), alt. 0–3000 ft, and is common in Bengal.

Dried and powdered leaves of both the plants were extracted successively with pet. ether (60°–80°), benzene and chloroform. The petrol and benzene extracts were then further separated into neutral and acidic fractions, by shaking with 5% aqueous sodium hydroxide solution.

The neutral and acidic fractions were chromatographed over columns of neutral alumina and silica gel G respectively. The chloroform extract of the plant materials were chromatographed over silica gel G directly after removal of the solvent.

The neutral fractions of the pet. ether (60°–80°) and benzene extracts of *P. hieracioides* yielded the same crystalline material which was purified through repeated chromatographies over columns of neutral alumina and silica gel G and was characterised by its m.p. 135°–136°, and $[\alpha]_D$—34·8° ($CHCl_3$), acetate m.p. 129°–130° [literature[5]; β-sitosterol, m.p. 136°–137°; $[\alpha]_D$—35° ($CHCl_3$); β-sitosterol acetate, m.p. 134°] as β-sitosterol. This was further confirmed by its m.m.p. and by its agreement on T.L.C. with an authentic sample of β-sitosterol.

The chloroform extract of the same plant gave on chromatography over silica gel G another sterol (Liebermann-Burchard test positive) in small quantities, which was obtained pure as its acetate. The sterol acetate which gave a single spot on T.L.C. had m.p. 160°, and its R_f values in the solvent systems of EtOH : EtOAc (1 : 3) and C_6H_6 : EtOAc (3 : 1) over plates of silica gel G were found to be 0·80 and 0·57 respectively. The compound gave a faint yellow colouration with tetranitromethane. Further study and characterisation of the compound is in progress.

The neutral fraction of the pet. ether (60°–80°), extract of *P. parviflora* afforded two crystalline compounds having close R_f values, which were finally separated by chromatography over silica gel G. On elution with pet. ether (60°–80°) : C_6H_6 (2 : 1) a low melting solid, m.p. 74°–75° was obtained, and elution with pet. ether (60°–80°) : C_6H_6 (1 : 1) solvent system followed by repeated crystallisations from $CHCl_3$-MeOH, gave γ-sitosterol, m.p. 146°–147°, $[\alpha]_D$—43·64° ($CHCl_3$), acetate, m.p. 138°–139·5° [literature[5], γ-sitosterol, m.p. 147°–148°, $[\alpha]_D$—43·13° ($CHCl_3$), m.p. of γ-sitosterol acetate, 143°]. Its identity with γ-sitosterol was finally confirmed by its m.m.p. and single spot on mixed T.L.C. with an authentic sample of γ-sitosterol.

Neither of the plants gave any tests for alkaloids, with Mayer's and Dragendorff's reagents.

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