

CHEMICAL EXAMINATION OF *CARDIOSPERMUM HALICACABUM* LINN.

Cardiospermum halicacabum (Sapindaceae) is distributed throughout the plains of India ascending to an altitude of about 1220 m in N. W. Himalayas.

In the course of routine chemical screening of various plants the presence of saponin and sterol was noticed in this plant.

4 kg of powdered air-dried whole plant were extracted exhaustively with petroleum ether (60°-80°C) in a Soxhlet apparatus. The fat free plant residue was percolated with alcohol; the alcohol was distilled, and the gummy mass obtained was repeatedly defatted with solvent ether. The defatted material was hydrolysed with 5% hydrochloric acid in alcohol medium, for five hours. The alcohol was distilled and 45 gm of aglycone were obtained. The aglycone was soxhletted with solvent ether and 3 gm of material were obtained, which in turn was separated into acid and neutral fractions in the usual way. The neutral fraction (weighing 1.05 gm) was chromatographed over alumina. The material (450 mg) which came down in petrol ether: benzene (1:1) eluent was crystallised from alcohol, m.p. 150°C (yield 0.01%). It gave

bluish green coloration to Liebermann-Burchard reagent and yellow coloration to tetranitromethane in chloroform. With pyridine and acetic anhydride it formed an acetate, which was purified by chromatography over alumina. The product eluted with petrol ether on crystallisation from methyl alcohol in plates melted at 142°C (found C, 81.35; H, 11.44; $C_{31}H_{50}O_2$ requires C, 81.93; H, 11.01). The acetate showed no depression in mixed m.p. determination with an authentic sample of stigmasterol acetate. The sterol was thus identified as stigmasterol. The sterol appears to be present in the form of a glycoside as it was not extracted in the petroleum ether fraction.

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BRUGUIERA HAINESII ROGERS FROM THE SUNDRIANS—A NEW RECORD

Three species of *Bruguiera*—*B. gymnorhiza* (L.) Lam., *B. parviflora* (Roxb.) W. & A. ex Griff. and *B. cylindrica* (L.) Bl. have been reported from the mangrove forests of Sundrians, situated at the mouths of the Brahmaputra and the Ganges and their branches in West Bengal and East Pakistan. Recently the writer collected another species from Swan Island in western Sundrians growing side by side with *B. cylindrica* and *B. gymnorhiza*. This on examination was found to be *B. hainesii* Rogers. This species was first discovered in Burma and later reported also from Malaya, Siam and the island countries of S. E. Asia.

B. hainesii is allied to *B. cylindrica*, both having small flowers, 2-3 in axillary cymes and the calyx lobes deflexed in fruit. In *B. cylindrica* the fruiting calyx is smooth and the tube is obtuse at the base, while in *B. hainesii* the calyx tube is faintly ridged in the upper part and gradually tap-

ering to the base. The younger branches, leaves and flowers of *B. cylindrica* are yellowish green while those of *B. hainesii* are greenish bronze.

The specimens of *B. hainesii* (Mukerjee, 6245) collected from Swan Island have been preserved in the Central National Herbarium.

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