Short Communication

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CHEMICAL CONSTITUENTS OF CORCHOROUS OLITORIUS AND CORCHOROUS CAPSULARIS

Part I.—Identification of Sugars from the Roots and Seeds of the Jute Plants

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The isolation of raffinose, jute oil, β-sitosterol, β-sitosterol D-glucoside, strophanthidine, and corchorosides A, B and C have been reported[1–5] from the seeds of *Corchorous capsularis*. No investigations appears to have been carried out so far on the roots of any of the two varieties of jute plants.

The seeds and the fresh roots of both *Corchorous capsularis* and *Corchorous olitorius* were extracted by soaking them in ethanol at room temperature. The seeds were extracted without crushing and the roots were extracted after chopping them to ½-inch pieces. The dialysed extracts so obtained were then evaporated under reduced pressure to give a mainly aqueous concentrate. On cooling in refrigerator a solid precipitated. Investigation on these solids are now being carried. The jute roots of both varieties have given a crystalline solid, which on further purification gave an acidic compound m.p. 289–92° dec. Isolation of this will be dealt with in a later communication.

The aqueous mother liquors obtained from the above four samples, viz. roots and seeds of *C. olitorious* and *C. capsularis*, were chromatographed on Whatman No. 1 fiter paper with butanol–acetone–water solvent. (4:5:1). The elution time was 28 hr at room temperature. After drying, the chromatogram was developed with silver nitrate reagent (1 ml saturated aqueous solution, diluted to 100 ml with acetone), followed by ethanolic caustic soda solution spray (0.5N), dried in a current of hot air and finally dipped in 4% sodium thiosulphate solution and dried in oven.

The chromatograms clearly showed eight spots out of which six have been identified as those of raffinose, sucrose, arabinose, fructose, galactose and glucose. All the four samples (indicated above) showed identical spots except that only trace amounts of sucrose and galactose were detected from the root extracts. The sugars thus identified were also confirmed by spraying the chromatograms with the test reagent, resorcinol–trichloroacetic acid whence raffinose, sucrose and fructose gave brownish-red spots. Arabinose gave a light green spot, but was masked by the red spot of fructose running close to it. The identified

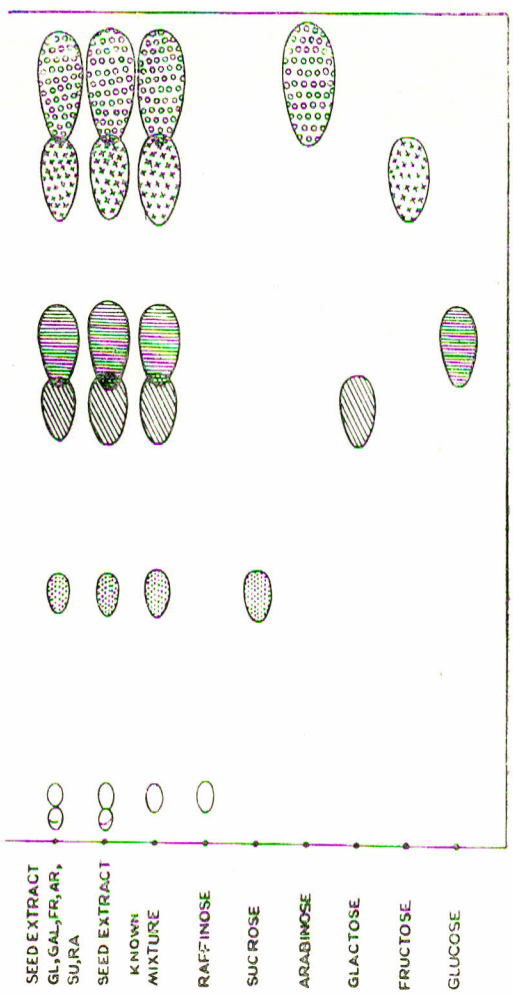

Fig. 1.—Chromalography of jute seed extract, Solvent system: n-butyl alcohol–acetone–water (4:5:1). Development time: 24 hr. Spray reagent: silver nitrate and sodium hydroxide and sodium thiosulphate. Key: White spots are unidentified spots. Gl glucose, FR fructose, Gal glactsoe, Ar arabinose, Su sucrose, RA raffinose. Elution: descending chromatography (from left to right as shown).

sugars were also confirmed by running a chromatogram containing the unknown mixture, unknown mixture plus identified sugars and a mixture of the identified sugars, when identical number of spots for the sugars were observed—two additional spots from the mixtures are possibly due to some glucosides and are being investigated separately.

References

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