[Jour. Indian Chem. Soc., Vol. 43, No. 5, 1966]

Isolation of D-Mannitol from *Gardenia Lucida* Roxb. and *Plectronia Perviflora* Bedd.

H. K. Dutta, S. N. Ganguly, and A. K. Bhattacharya

As the Rubiaceae family is reported[1] to contain alkaloids, specially with an indole nucleus, the root-bark of *Gardenia lucida* Roxb., the gum of which is bitter[2] and is used in cutaneous diseases[3], and the leaves of *Plectronia perviflora* Bedd. (syn. *Canthium perviflorum* Lam), which have reported use in certain stages of flux[4], have been investigated. Each of these plant materials was worked up in a similar manner (*vide infra*) and the same compound, D-mannitol, was isolated in each case.

Procedure.—The respective plant materials (750g. each) were dried, powdered, and percolated with cold 90% ethanol. The extract was concentrated under reduced pressure till no further solvent distilled. The remaining aqueous concentrate was shaken with light petroleum (60-80°) and chloroform in succession. No crystallisable residue was, however, obtained after removing these solvents. The aqueous layer after extraction with light petroleum and chloroform did not deposit any solid even on keeping in an ice chest for a week. It was then further concentrated to a syrupy consistency and the concentrate poured with constant stirring on large excess of ethanol when a good deposit of a light brown solid was obtained. This was crystallised twice from aqueous ethanol to yield colorless needles, m.p. 165-66° (yield 3% from *G. lucida* and 0.5% from *P. perviflora*). From the solubility, sweet taste, optical activity, elemental analysis, and characteristic reactions, the compound was identified as D-mannitol[5]. R_f values in phenol, saturated with water, is 0.41 and in butanol-acetic acid-water (4:1:5), 0.22. The identity of the compound was further confirmed by preparing its hexa-acetate, m.p. and mixed m.p. 121-22°, and hexabenzoate, m.p. and mixed m.p. 149-50°.

The ethanolic mother liquor after removal of mannitol was concentrated to a small volume, but no crystalline material could be obtained.

The authors thank Mr. R. N. Chakravarty of the University Colleges of Science & Technology, Calcutta, for microanalyses and the C.S.I.R., New Delhi, for a junior research fellowship (to S. N. G.).

Department of Chemistry,
University Colleges of Science & Technology,
Calcutta-9.

Received February 18, 1966.

1. Henry, "The Plant Alkaloids", J. and A. Churchill Ltd., 1949.
2. Stenhouse and Groves, *J. Chem. Soc.*, 1879, 35, 688.
3. Chopra, Nayar, and Chopra, "Glossary of Indian Medicinal Plants", C.S.I.R., New Delhi, 1956, p. 123.
4. *Idem, ibid.*, p. 19.
5. Heilbron, and Burnburry, "Dictionary of Organic Compounds", Voll III, Eyre and Spottiswoode, London, 1953, p. 215.