## SHORT COMMUNICATION

## CONSTITUENTS OF PIPER HOOKERI\*

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Abstract—1-Phenylethanol benzoate has been reported for the first time from a plant source. Triacontane, triacontanol and  $\beta$ -sitosterol were also isolated.

Plant. Piper hookeri L-Piperaceae.

Occurrence. Western Ghats, India.

Uses. Species of Piper have considerable medicinal and economic value.

Previous work. Not reported. On sister species, P. nigrum, P. betel, P. longum, P. chaba, P. cubeb, P. methysticum, P. peepuloides, P. futokadzura and P. bette. 10

Leaves. Vacuum dried petroleum ether extract chromatographed over neutral alumina. New Cpd. 1-Phenylethanol benzoate; This compound has been reported to occur for the first time from a plant source. Hydrolysis with alcoholic KOH yielded 1-phenylethanol (b.p.,  $n_D^{15}$ , Co-TLC, 3,5-DNB, m.p.) and benzoic acid (m.p., mxd. m.p., Co-TLC, superimposable u.v. and titrimetric mol. wt. determination). 1-Phenylethanol on oxidation yielded acetophenone (Co-TLC, 2,4-DNP, m.p. and mxd. m.p. and semicarbazone, m.p.). Identity of the ester was confirmed by comparison with a synthetic sample (b.p., Co-TLC,  $n_D^{21}$  and superimposable i.r. Found: C,  $78\cdot176$ ; H,  $6\cdot67$ .  $C_{15}H_{14}O_2$  required: C,  $79\cdot64$ ; H,  $6\cdot19$  per cent): from later petroleum ether fractions obtained as a major component by preparative TLC on SiO<sub>2</sub> (n-hexane: ethyl acetate, 1:99).

Triacontane.  $C_{30}H_{62}$  (m.p., mxd. m.p., Co-TLC and i.r. Found: C, 85·1; H, 14·30.  $C_{30}H_{62}$  required: C, 85·3; H, 14·69 per cent): from earlier petroleum ether fractions and crystallization (CH<sub>3</sub>COCH<sub>3</sub>).

Triacontanol. C<sub>30</sub>H<sub>62</sub>O (m.p., TLC and i.r. of alcohols, its acetate. Found: C, 81.66;

- \* Part VII in the series "Studies on the Genus Piper"; for Part VI see K. L. DHAR and C. K. ATAL, Indian J. Chem. 5, 588 (1967).
- <sup>1</sup> A. K. NADKARNI, *Indian Materia Medica*, pp. 960-72, Popular Book Depot, Bombay (1954).
- <sup>2</sup> F. S. SPRING and J. STARK, J. Chem. Soc., 1177 (1950).
- <sup>3</sup> S. S. NIGAM and R. M. PURDHIT, Reichstoffee Aromen 12, 185 (1962).
- <sup>4</sup> A. Chatterjee and C. P. Dutta, Tetrahedron Letters 16, 1797 (1966).
- <sup>5</sup> S. S. MISHRA and J. P. TIWARI, J. Pharm. Sci. 53, 1423 (1964).
- 6 R. K. RAZDAN and S. C. BHATTACHARYA, Perfum. Essent. Oil Rec. 46, 8 (1955).
- <sup>7</sup> R. HÄNSEL, Pac. Sci. 22, 293 (1968).
- 8 C. K. ATAL, P. N. MOZA and A. PELTER, Tetrahedron Letters 11, 1397 (1968).
- <sup>9</sup> A. Ogiso et al. Tetrahedron 23, 1769 (1967).
- <sup>10</sup> U. EINOSUKE and T. SAKVSASKI, J. Pharm. Soc. Japan 71, 559 (1951).

H, 13·96.  $C_{30}H_{62}O$  required: C, 82·19; H, 14·15 per cent): from benzene fractions and crystallization (EtOAC).

 $\beta$ -Sitosterol. (M.p., mxd. m.p. and Co-TLC of sterol, its acetate): from CHCl<sub>3</sub> fractions and crystallization (MeOH).

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