

## CONSTITUENTS OF RHODODENDRON BARBATUM

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*Rhododendron barbatum* Wall ex G. Don (Ericaceae) is a large evergreen shrub, distributed from Kashmir to Bhutan, growing at altitude from 3500-5000 m (1). The plant is used as fish poison (1,2). A search of the literature revealed that no work has been reported on the roots. However, some work has been reported on the leaves (3).

This report records the isolation and characterization of nine compounds, viz. *n*-triacontane, hentriacontanol, friedelin,  $\beta$ -amyrin, oleanolic acid,  $\beta$ -sitosterol, betulonic acid,  $\beta$ -sitosterol- $\beta$ -glucoside, and 5,6,7,4'-tetramethoxyflavone from the roots of *R. barbatum*.

TABLE 1. Constituents of *R. barbatum*

Compound (amount)	Identified by	Reference
<i>n</i> -triacontane (80 mg)	mp, ir, <sup>1</sup> H nmr, eims	4
hentriacontanol (100 mg)	mp, ir, <sup>1</sup> H nmr, eims	4
friedelin (150 mg)	mp, ir, eims	5
$\beta$ -amyrin (70 mg)	mp, ir, eims	4,5
oleanolic acid (120 mg)	mp, ir, <sup>1</sup> H nmr, eims	4
$\beta$ -sitosterol (100 mg)	mp, ir, eims	6
betulonic acid (60 mg)	mp, ir, eims	5
$\beta$ -sitosterol- $\beta$ -D-glucoside (100 mg)	mp, ir, eims	5,7
5,6,7,4'-tetramethoxyflavone (75 mg)	mp, ir, <sup>1</sup> H nmr	8,9

### EXPERIMENTAL

**PLANT MATERIAL.**—Roots of *R. barbatum* were collected from Tungnath, Chamoli, U.P., India. The authentication of the plant material was done at the Botany Department, Garhwal University, Srinagar. Voucher specimens are deposited in the Herbarium of the Botany Department and with us.

**EXTRACTION AND ISOLATION.**—The finely ground air dried roots (2 kg) were exhaustively extracted with petroleum ether (60-80°) followed by EtOH. The first seven compounds were obtained from the petroleum ether extract whereas the EtOH extract yielded the last two compounds.

All compounds were identified by standard spectral data as well as by authentic sample comparison.

Full details of the isolation and identification of the compounds are available on request to the senior author.

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