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NOTE

Fatty Acid Composition of the Seed Oil of *Terminalia Pallida*

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The gas chromatographic analysis of the seed oil of *Terminalia pallida* showed the presence of lauric acid (0.1%), myristic acid (0.2%), isocetic acid (5.5%), palmitic acid (27.3%), stearic acid (9.2%), oleic acid (54.1%), linoleic acid (3.4%). The unsaponifiable matter was found to contain β-sitosterol.

Terminalia pallida Brand[1,2] (N.O. *Combretaceae*) is locally known as *Tellakaraka.* It is a moderate sized evergreen tree, distributed widely in Tirumala hills of Andhra Pradesh. It is used in indigenous medicine in the treatment of diuresis, dysentery and diarrhoea, and it is also used as purgative and antipyretic. The present study describes the chemical composition of fatty acids in the seed oil of *Terminalia pallida.*

2 kg of air dried and finely powdered seeds of *Terminalia pallida* were extracted with pet. ether (60–80°C) in a soxhlet extractor for 20 hrs. The extract (2 lit.) was concentrated under reduced pressure to yield a pale yellow oil (27%).

20 g of this yellow oil was saponified by Hilditch's method[3] and the unsaponified matter was separated from the soap by usual procedure. The saponified matter was neutralised with 4N H_2SO_4 and extracted with ether. The etherial solution was dried over anhydrous sodium sulphate. Removal of the solvent from the extract gave the mixture of fatty acids. The quantitative estimation of the fatty acids was done by gas liquid chromatography using their methyl esters.

The mixtures of fatty acids were converted into their corresponding methyl esters with ethereal diazomethane and were analysed by GLC, to know the exact fatty acid composition. Perkin Elmer model 881 GLC instrument equipped with FID and a stainless steel column (3 M × 3 MM) packed with 15% carbowax—2 M coated on chromosorb G was used. The temperatures used were 230°C for column and 280°C for injector and detector oven. Nitrogen was used as carrier gas with a flow rate of 10 ml/min.

Identification of each acid was made by comparing its retention time with those of the standard samples of fatty acid methyl ethers and the results are recorded in Table 1.

Study of Unsaponifiable Matter

The unsaponifiable matter of the oil on purification over silica gel

TABLE 1

PERCENTAGE COMPOSITION OF THE FATTY ACIDS OF THE SEED OIL OF *TERMINALIA PALLIDA*

S. No.	Fatty acids	%
1.	Lauric acid	0.1
2.	Myristic acid	0.2
3.	Isocetic acid	5.5
4.	Palmitic acid	27.3
5.	Stearic acid	9.2
6.	Oleic acid	54.1
7.	Linoleic acid	3.4

column using benzene as eluent yielded a pale yellow solid. It was crystallised from methanol as white shining needles, m.pt. 134–36°C. The compound was identified as β-sitosterol and its identity was confirmed by preparation of the acetate derivative (m.pt. and mixed m.pt. 126°C).

Table 1 indicated that the predominant acids in the seed oil of *Terminalia pallida* were oleic acid (54.1%) and palmitic acid (27.3%). In addition, the seed oil was found to contain stearic acid (9.2%), isocetic acid (5.5%) and linoleic acid (3.4%). Lauric and myristic acids were present in trace amounts. The unsaponifiable matter contained β-sitosterol.

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