20. Van den Enden, J.C., and D. Waddington, in preparation.
21. Van Putte, K.P.A.M., and J.C. Van den Enden, JAOCS 51:316 (1974).
22. Johanson, G., Karlshamns Oljefabriker, lecture to Solingen Fachschule, December 1979.

[Received February 10, 1982]

Cyclopropenoid Fatty Acids in *Sterculia colorata* Seed Oil

C.D. DAULATABAD and **R.F. ANKALGI**, Department of Chemistry, Karnatak University, Dharwad-580 003, India.

ABSTRACT

Seed oil of *Sterculia colorata* is found to contain the following acids (wt %): sterculic (4.9%), malvalic (3.2%), myristic (0.3%), palmitic (29.4%), stearic (1.7%), oleic (56.6%), and linoleic (3.9%). The co-occurrence of malvalic and sterculic acids was established by gas liquid chromatography of the silver nitrate methanol-treated esters using *S. foetida* esters as reference standard.

INTRODUCTION

Sterculia colorata, Roxb, is a large tree with ash-colored bark. It has crowded leaves at the ends of the branches. The flowers are about 1 in. long and appear before the leaves. The tree is found throughout the Konkan and Deccan forests (1).

Although the fatty acid composition of some *Sterculia* oils have been determined (2), this paper contains the first report of fatty acid composition of *S. colorata* seed oil.

EXPERIMENTAL

The methyl esters were prepared (3) from *S. colorata* seed oil in the same way as for other *Sterculia* oils (2). Gas liquid chromatographic (GLC) analysis was done using a Hewlett-Packard Model 5730A with automatic integrator. The GLC unit was provided with flame ionization detector and 1.77 m x ¼ in. polyester column (polyethylene glycol, 5% succinate on Chromosorb W, 45-60 mesh). The temperatures at the injection port, detector block and column were 250, 300 and 220 C, respectively. The flow rate of nitrogen was 10-15 mL/min. The digital integrator calculated to obtain the peak area percentage. *S. foetida* seeds were analyzed for reference.

RESULTS AND DISCUSSION

The seed oil nD^{20} 1.4737, obtained from *S. colorata* seeds in 20.7% yield, contained 1.5% unsaponifiable matter. It responded to the Halphen test (4), indicating the presence of a cyclopropenoid functional group. The oil showed the typical nuclear magnetic resonance (NMR) signal at 9.2T for cyclopropene hydrogens and both the oil and the methyl esters of the oil had the characteristic infrared absorption at 1010 cm^{-1}. The quantitation of total cyclopropenoid fatty acids by the HBr titration method (5) indicated the presence of 8.6% by wt of cyclopropenoid acids.

The malvalate (3.2%) and sterculate (4.9%) were found by GLC analysis of the silver nitrate methanol-treated esters from *S. colorata* oil using the corresponding esters from *S. foetida* oil to identify the peaks. The major methyl esters present were oleate (56.6%) and palmitate (29.4%). Minor methyl esters detected were linoleate (3.9%), stearate (1.7%), and myristate (0.3%). The 8.1% total cyclopropenoid acids by GLC is in good agreement with HBr titration determination.

ACKNOWLEDGMENT

The authors thank E.S. Jayadevappa, Department of Chemistry, Karnatak University, for his keen interest and encouragement. The authors are grateful to R. Subba Rao, RRL, Hyderabad, for valuable comments.

REFERENCES

1. Cooke, T., The Flora of the Presidency of Bombay, B.S.I., I:133 (1967).
2. Badami, R.C., et al., Fette Seifen Anstrichm. 82:317 (1980).
3. Schneider, B.L., S.P. Loke, and D.T. Hopkins, JAOCS 45:585 (1968).
4. Halphen, G., J. Pharmacol. 6:390 (1897).
5. Harris, J.A., F.C. Magne, and E.L. Skau, JAOCS 40:718 (1963).

[Received December 14, 1981]

ERRATUM

In the article "Measurement of Lipase Activity in Single Grains of Oat (*Avena sativa L.*)" appearing in the August issue of *JAOCS* (Sahasrabudhe 59: 354 [1982]), the following error was printed: under Results and Discussion, paragraph 2, the second line should read "16 hr after imbibition of buffer" and not "16 hr after inhibition of buffer."