Phytochemistry, 1974, Vol. 13, p. 1991. Pergamon Press. Printed in England.

NAGILACTONE C FROM *PODOCARPUS PURDIEANUS*

ERNEST WENKERT* and CHING-JER CHANG

Department of Chemistry, Indiana University, Bloomington, IN 47401, U.S.A.

(*Received* 11 *February* 1974)

Key Word Index—*Podocarpus purdieanus*; Podocarpaceae; nagilactone C; norditerpene.

In continuation of a study of the terpenic constituents of podocarps[1] the Jamaican tree *Podocarpus purdieanus* Hooker was investigated. Its finely ground bark was extracted with CH_2Cl_2 and then with MeOH and a 60% aq. MeOH solution of the second extract was extracted with EtOAc. Chromatography of the latter extract on neutral alumina gave overwhelmingly a single component whose crystallization from MeOH yielded colorless needles, $C_{19}H_{22}O_7$ (Found: *m/e* 362·1388; calcd: *m/e* 362·1365), m.p. 338–340°. Its IR spectrum in Nujol showed absorption bands at 3460 and 3350, at 1770 and at 1700, 1630 and 1545 cm^{-1} indicative of hydroxy, γ-lactone and α-pyrone moieties, respectively. The 220 McHz PMR spectrum in D_6-DMSO revealed the presence of two methine-attached methyl groups by signals at 1·16 (*d*, 7 Hz) and 1·20 ppm (*d*, 7 Hz), of two methyl groups [1·30 ppm (*s*)] on quaternary centers and of the methine [6·25 ppm (*s*)] of a trisubstituted double bond system. These facts were reminiscent of the structure of nagilactone C, a norditerpene isolated from *Podocarpus nagi* Zoli and Moritzi.[2] Comparison of the PMR data on this compound in D_6-DMSO and D_5-pyridine[3] with those of the *P. purdieanus* constituent revealed the identity of the two substances. In view of the discrepancy of the m.ps of the newly isolated material and nagilactone C (m.p. 290°, dec.)[2] the diacetate was prepared. Unfortunately the derivative (m.p. 310–311°) also possessed melting characteristics which diverged from those reported for the nagilactone C diacetate (m.p. 280°),[2] even though the PMR spectra of the two compounds were identical. Finally, direct comparison of the *P. purdieanus* constituent with an authentic specimen of nagilactone C[4] proved their identity.

Acknowledgements—Grateful thanks are extended to Dr. W. R. Chan (Department of Chemistry, University of the West Indies, Kingston, Jamaica) for the arrangement of the collection and transmittal of the Jamaican podocarp bark, to Dr. S. Ito (Department of Chemistry, Tohoku University, Sendai, Japan) for the sample of nagilactone C and to the U.S. National Science Foundation for support of this work.

* Present address: Department of Chemistry, Rice University, Houston, TX 77001, U.S.A.

[1] WENKERT, E., DE PAIVA CAMPELLO, J., MCCHESNEY, J. D. and WATTS, D. J. *Phytochemistry* in press.
[2] HAYASHI, Y., TAKAHASHI, S., ONA, H. and SAKAN, T. (1968) *Tetrahedron Letters* 692.
[3] ITO, S., KODAMA, M., SUNAGAWA, M., HONMA, H., HAYASHI, Y., TAKAHASHI, S., ONA, H., SAKAN, T. and TAKAHASHI, T. (1969) *Tetrahedron Letters* 2951.
[4] TLC revealed a small amount of impurity in the sample.