3-METHYLCARBAZOLE FROM CLAUSENA HEPTAPHYLLA*

SHYAMALI ROY, PRANTOSH BHATTACHARYYA and DEBI P. CHAKRABORTY

Bose Institute, Calcutta-700009, India

(Received 26 October 1973. Accepted 14 November 1973)

Key Word Index—Clausena heptaphylla; Rutaceae; alkaloid 3-methyl carbazole.

In CONTINUATION of our investigations on the carbazoles of *Clausena heptaphylla* Wt. and Arn., ¹⁻³ we now report the occurrence of 3-methylcarbazole (1) in the roots of the plant.

The neutral fraction of the oily product obtained from the petrol. $(40-60^{\circ})$ extract of the plant, on keeping in the refrigerator and careful chromatography over alumina, furnished a homogeneous (TLC) crystalline constituent, $C_{13}H_{11}N$, m.p. 207° which gave a picrate m.p. 176° . It had UV spectrum ($\lambda_{\text{max}}^{\text{EtOH}}$ 230, 236, 243, 260, 296, 330 nm, with $\log \varepsilon$ 4·61, 4·63, 4·37, 4·27, 4·28, 3·60) almost superimposible with that of 3-methyl-carbazole. The position of the methyl group at 3-position was readily discernible from the IR spectrum of the compound ($\nu_{\text{max}}^{\text{KBr}}$ 3450, 1600, 1493, 1390, 885, 808 cm⁻¹), the band at 808 cm⁻¹ being characteristic for 3-methylcarbazole. The identity of the compound was further established by direct comparison of an authentic specimen of 3-methylcarbazole obtained in our laboratory (IR, m.m.p., UV, TLC).

The first isolation of 3-methylcarbazole from a plant source is significant from biogenetic considerations as all the phytocarbazoles, so far isolated, have a 3-methylcarbazole skeleton or a modification thereof.

Acknowledgements—The authors thank Professors S. M. Sircar, Director and A. K. Barua, Head of the Department of Chemistry for their encouragement during the work.

- * Part XXXIV in the series "Chemical Taxonomy." For Part XXXIII see Ref. 2.
- ¹ CHAKRABORTY, D. P., DAS, K. C. and ISLAM, A. (1970) J. Indian Chem. Soc. 47, 1197.
- ² BHATTACHARYYA, P. and CHAKRABORTY, D. P. (1973) Phytochemistry 12, 1831.
- ³ CHAKRABORTY, D. P., BHATTACHARYYA, P., ISLAM, A. and ROY, S. (1973) Proc. Fourth Inter. Cong. of Heterocyclic Chemistry held at Utah, U.S.A. pp. 182.
- ⁴ CHAKRABORTY, D. P., DATTA, J. and GHOSH, A. (1965) Sci. Cult. 31, 529.
- ⁵ RICHARDS, R. E. (1947) J. Chem. Soc. 978.
- ⁶ CHAKRABORTY, D. P., DAS K. C. and BASAK, S. P. (1968) J. Indian Chem. Soc. 45, 84.