3,3'-bisjuglone monomethyl ether (4). 3,3'-Bisjuglone (25 mg) in $CHCl_3$ (35 ml) was shaken with MeI (2 ml) and Ag_2O (150 mg) at room temp. Formation of the monomethyl ether of 3,3'-bisjuglone was followed by TLC. The monomethyl ether was isolated after chromatography and crystallized from C_6H_6 in yellow crystals (10 mg), mp 270°; ν_{max}^{KBr} cm^{-1}: 3060, 1660, 1630 and 1610, λ_{max}^{MeOH} nm; 255 (4.44), 412 (3.93).

Dimethyl isobisjuglone (5). 3,3'-Bisjuglone dimethyl ether (20 mg) in $CHCl_3$ (15 ml) and a little EtOH, was exposed to sunlight for 3 hr. Dimethyl *iso*-bisjuglone separated as deep purple coloured crystals (19 mg), mp 324°. (Found: C, 69.61; H, 3.59, $C_{22}H_{14}O_6$ requires: C, 70.59; H, 3.77%). ν_{max}^{KBr} cm^{-1}. 3325, 2900, 2820, 1650; $\lambda_{max}^{Dioxane}$ nm: 265(2.47), 295(1.83), 370(1.29) and 490(1.53).

3,3'-bisjuglone hexaleucoacetate (2). 3,3'-Bisjuglone (50 mg), dry NaOAc (100 mg), Zn dust (240 mg) and Ac_2O (9 ml) were refluxed for 2 hr. The product, after chromatography and crystallization from CH_2Cl_2–MeOH, was colourless (45 mg), mp 275°. (Found: C, 63.80; H, 4.51. $C_{32}H_{26}O_{12}$ requires: C, 63.87; H, 4.35%). ν_{max}^{KBr} cm^{-1}: 2920, 1745, 1600, 1490, 1415; λ_{max}^{MeOH} nm: 235(4.80), 253 sh (4.60), 280(4.07) and 292(4.07).

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2-METHYLANTHRAQUINONE FROM *CLAUSENA HEPTAPHYLLA*

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Key Word Index—*Clausena heptaphylla*; Rutaceae; 2-methylanthraquinone; alkaloid biosynthesis.

In the previous communication [1], we reported several carbazole alkaloids including 3-methylcarbazole [2] (1), the progenitor of the carbazole alkaloids, from *Clausena heptaphylla* Wt. & Arn. We now report the isolation of 2-methylanthraquinone from a petrol extract of the stem bark of the same plant. It had mp 178°, M^+ 222 ($C_{15}H_{10}O_2$) and NMR signals δ 7.7–8.6 (*m*, 7, ArH) and 2.65 (*s*, $ArCH_3$). It was identical by mmp, UV, IR and TLC with authentic material.

The co-occurrence of 2-methylanthraquinone and 3-methylcarbazole in *Clausena heptaphylla* suggests that the ring C of carbazole alkaloids is of mevalonoid origin, as is ring C of 2-methylanthraquinone [3]. Proof of the mevalonoid origin of ring C of carbazole alkaloids however awaits biosynthetic investigation.

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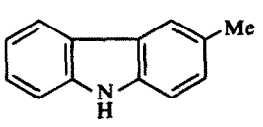

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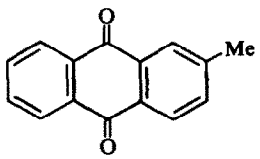

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