

CHEMICAL COMPOSITION OF *CALOTROPIS GIGANTEA*

Part II. Wax and Resin Components of the Stem Bark

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Received November 8, 1944

IN Part I the examination of the milky latex of the plant was described.¹ The stems have not been examined in the past. They are to some extent used for extracting the useful fibre. Preliminary experiments indicated that the woody portions contribute very little to the total quantity of wax and resin and that they are concentrated in the fibrous bark. Extraction with ligroin and subsequently with ether removed all the waxy components which amounted to about 4% of the dry bark. The subsequent alcoholic extract consisted only of mineral matter.

By digesting with a large volume of alcohol the waxy matter was separated into two major fractions, (A) sparingly soluble solid and (B) alcoholic solution. By direct crystallisation of fraction (A) no crystalline entity could be isolated. It was therefore saponified and the unsaponifiable matter subjected to fractionation. Two main fractions were studied in this case also, a crystalline solid (A_1) and the mother liquor (A_2). Direct crystallisation of (A_1) was again unsuccessful in yielding a sharp melting definite compound. It gave colour reactions characteristic of calotropeols. It was therefore acetylated and the product repeatedly recrystallised from ethyl acetate. The top fraction consisted of a definite compound melting at 250–52° and having the specific rotation of + 98° in benzene solution. It had the formula $C_{32}H_{52}O_2$. On hydrolysis it yielded a triterpene alcohol of the composition $C_{30}H_{50}O$ and the specific rotation + 102.0° in benzene solution. The properties of these corresponded closely with those of α -calotropeol acetate¹ and α -calotropeol respectively; the crystal structures agreed and the mixed melting points were undepressed. The identity was confirmed by preparing the benzoate which melted at 273–74° and was found to be identical with α -calotropeol benzoate.

When (A_1) was benzoylated and the mixed benzoates repeatedly recrystallised a substance melting at 279–80° was obtained. The free alcohol derived from it melted at 216–17°. The structure of the crystals and