

ALKALOIDS FROM A TURKISH SAMPLE OF PAPAVER PSEUDO-ORIENTALE

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Some strains of P. bracteatum Lindl. produce thebaine which can readily be converted to codeine (Barber & Rapoport, 1976 and references therein) thus providing an alternative commercial source from that of the Opium Poppy, P. somniferum (Fairbairn & Hakim, 1973). Difficulties may be encountered in distinguishing P. bracteatum from the closely related P. orientale L. and a detailed study of section Oxytona (Macrantha) has resulted in the recognition of three species: P. bracteatum (diploid,  $2n = 14$ ), P. orientale (tetraploid,  $2n = 28$ ) and P. pseudo-orientale L. (hexaploid,  $2n = 42$ ) (Goldblatt, 1974). Furthermore it is claimed that each species is characterised by the presence of a single major alkaloid, viz. P. bracteatum-thebaine, P. orientale-oripavine and P. pseudo-orientale-isothebaine. This implies that the different chemical strains of the first two species which are reported in the chemical literature do not exist and that each of the three species is uniform in the nature of its major alkaloid.

A Turkish poppy, identified as P. pseudo-orientale has been reported to contain salutaridine and a novel 1-benzyl-tetrahydroisoquinoline alkaloid, macrantaline, as the major alkaloids (Sariyar, 1976). A combination of spectroscopy (UV, IR, NMR, MS) and biosynthetic considerations indicates the probable structure of macrantaline as 1-(2'-hydroxymethylene-3',4'-dimethoxybenzyl)-2-methyl-6,7-methylenedioxy-8-methoxy-1,2,3,4-tetrahydroisoquinoline. The corresponding 2'-methyl substituted analogue was prepared and it proved to be identical (TLC, NMR, CD) with the 2'-methyl compound obtained from (-)- $\alpha$ -narcotine thus confirming the structure of macrantaline and establishing its absolute configuration. A new minor alkaloid, macrantoridine, yielded macrantaline on LAH reduction and differs from the latter in having a 2'-carboxyl constituent. The new alkaloids are of interest from a biosynthetic viewpoint and the discovery of major alkaloids other than isothebaine in a sample of P. pseudo-orientale is an indication that the alkaloid composition within Oxytona species may not be as simple as that postulated by Goldblatt (1974).

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