ALKALOIDS OF UNCARIA ELLIPTICA FROM THAILAND

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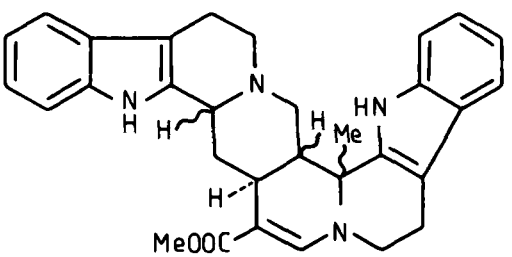
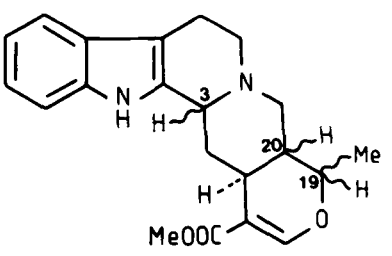
The roxburghines are a series of alkaloids which are derived from two tryptamine units and secologanin and which possess general structure (1) (Phillipson and Zenk 1980, and references therein). These alkaloids appear to be restricted not only to the genus Uncaria, but also to be unique to only one of the 34 species, namely U. elliptica R.Br. ex G. Don (U. dasyoneura Korth.). U. elliptica is used in folk-medicine in a number of S.E. Asian countries. Small quantities of U. elliptica leaves obtained from Thailand, E. Sumatra, Malaysia and S. Vietnam have been investigated previously for their alkaloid content and all of the samples yielded roxburghines as major alkaloids (Phillipson et al 1978). Only one sample, namely U. rostrata Pierre ex Pitard, considered to be conspecific with U. elliptica, yielded pentacyclic heteroyohimbines (2). All samples contained unidentified alkaloids which were tentatively identified as roxburghines on the basis of chromatographic colour reactions. Hence further investigation of U. elliptica alkaloids was indicated.

Four collections of U. elliptica obtained from the south of Thailand have now been investigated and the major isolated alkaloids identified on the basis of their UV, MS, PMR spectra and chromatographic properties. The major alkaloids proved to be of the pentacyclic heteroyohimbine-type (2) but in all four samples the alkaloids were different. The four major alkaloids which were isolated were identified as rauniticine (2, C-3 H α, C-19 H α, C-20 H α), isorauniticine (2, the corresponding C-3 H β analogue) which has not been isolated previously from the genus, 19-epi-ajmalicine (2, C-3 H α, C-19 H α, C-20 H β) and 19-epi-3-iso-ajmalicine (2, the corresponding C-3 H β analogue). None of these alkaloids has been reported previously from U. elliptica. Roxburghines (1) were not detected in any of the four samples examined and hence U. elliptica is chemically more variable than hitherto has been supposed.



1.



2.

Phillipson, J.D., Hemingway, S.R. et al (1978) Lloydia 41: 503-570.
Phillipson, J.D., Zenk, M.H. (1980) Indole and biogenetically related alkaloids, Academic Press, London, p.75.

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