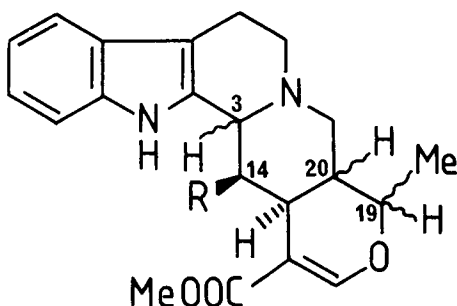


ALKALOIDS OF UNCARIA ATTENUATA FROM THAILAND

J.D. Phillipson, Department of Pharmacognosy, The School of Pharmacy, University of London, 29-39, Brunswick Square, London WC1N 1AX

All 34 species of the pantropical genus Uncaria (Rubiaceae) have been examined for their alkaloid content by extracting small quantities of leaf material obtained from herbarium samples (Phillipson, Hemingway et al 1978). Some species were remarkably consistent in their alkaloids, even though collections came from widely differing localities, whereas other species were diverse in their alkaloid content and different chemical races were indicated. 17 Samples of U.attenuata from 7 different S.E. Asian countries were examined and although 15 of the samples contained tetracyclic heteroyohimbines as major alkaloids two samples from the Philippines contained predominantly pentacyclic heteroyohimbines. At this time no samples were available from Thailand.

Two different Thai samples have now been investigated, the first from N.E. Thailand was initially identified as U.salaccensis Bakh.f. nom provis which is now included in U.attenuata Korth. The major alkaloids of this sample were the pentacyclic heteroyohimbines, 3-isoajmalicine (1) and 19-epi-3-isoajmalicine (2) together with their related normal oxindole alkaloids, mitraphylline and uncarine B (Tantivatana, Ponglux, et al 1980). The roxburghine series of alkaloids were not present, readily distinguishing this material from U.elliptica R.Br. ex G.Don which was formerly thought to be conspecific with U.salaccensis. The second sample, collected in S. Thailand, contain pentacyclic heteroyohimbines with allo and epiallo configuration as the major alkaloids, tetrahydroalstonine (3), rauniticine (4) and the novel 14- β -hydroxy-3-iso-rauniticine (5) (Ponglux, Supavita et al 1980). Tetrahydroalstonine has not previously been isolated from U.attenuata and rauniticine is new to the genus Uncaria. The structure of the novel alkaloid was determined from its UV, IR, MS, PMR and ^{13}C NMR spectra. This is the first time that a heteroyohimbine alkaloid with C-14 hydroxyl substituent has been reported and it is probable that other alkaloids of this type will also exist as natural products. The alkaloids from these Thai samples of U.attenuata more closely resemble those isolated from the Philippine samples than those from other S.E. Asian countries. In order to understand more fully the relationships which exist within this diverse species it is necessary to investigate chemically other samples of U.attenuata.



	C-3H	C-19H	C-20H	R
1. 3-isoajmalicine	β	β	β	H
2. 19-epi-3-iso-ajmalicine	β	α	β	H
3. tetrahydroalstonine	α	β	α	H
4. rauniticine	α	α	α	H
5. 14- β -hydroxy-3-iso-rauniticine	β	α	α	OH

Phillipson, J.D., Hemingway, S.R. et al (1978) *Lloydia* 41: 503
 Tantivatana, P., Ponglux, D. et al (1980) *Planta Med.* In press
 Ponglux, D., Supavita, T. et al (1980) *Phytochemistry* In press