

## LETTERS TO THE EDITOR

### The alkaloids of *Mitragyna stipulosa* (D.C.) O. Kuntze

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In 1963, Beckett, Shellard & Tackie reported the presence of rhynchophylline, isorhynchophylline, rotundifoline, isorotundifoline and mitraphylline in the leaves collected from mature trees of *Mitragyna stipulosa* growing at Kumasi, Ghana and in 1970, Shellard & Sarpong reported on the variations on the alkaloidal content of the leaves, stem bark and root bark collected from the same trees at regular monthly intervals over a period of one year.

At no time were indole alkaloids detected and this appeared to be the only exception to the hypothesis put forward by Shellard, Phillipson & Gupta (1969) and later modified by Shellard & Houghton (1973b) that the oxindole alkaloids found in species of *Mitragyna* were derived from the corresponding indole alkaloids.

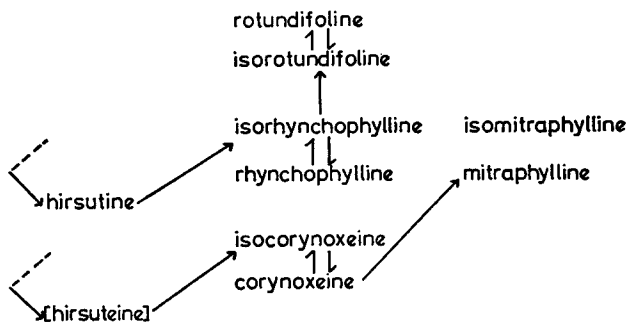
Recently, however, two of us (PJH and KS) collected leaves from very young plants of *Mitragyna stipulosa* growing at Kumasi and subsequent examination of

them (25 g dry weight) revealed the presence of hirsutine, the pseudo C(9)-H open E ring indole alkaloid corresponding to the open E ring oxindole alkaloids previously reported.

There was no indole alkaloid observed to explain the presence of mitraphylline but in a sample of leaves obtained from old trees of *Mitragyna stipulosa* growing in Zaire kindly supplied by Professor P. Delaveau, University of Paris, t.l.c. examination of them (15 g dry weight) revealed the presence of the corynoxines in addition to the usual oxindole alkaloids. The possibility of the open E ring oxindole alkaloids being converted to the closed E ring oxindole alkaloids via the C(20) vinyl analogue—both *in vivo* and *in vitro* has been discussed by Shellard & Houghton (1973a, 1974). However, no hirsuteine, the corresponding indole alkaloid to the corynoxines has been detected in any of the *Mitragyna stipulosa* leaves available to us.

The sequence of alkaloids in *Mitragyna stipulosa* may be indicated as:—

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#### REFERENCES

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