GRACILIFLORIN, AN ANTIBIOTIC INDOLE ALKALOID FROM A MALAYSIAN RUBIACEAE *PAVETTA GRACILIFLORA* Wall.

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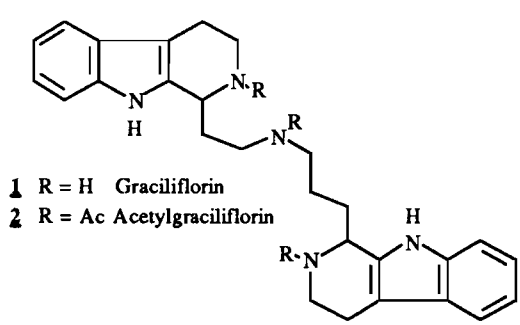
Résumé : *d'une Rubiaceae de Malaisie,* Pavetta graciliflora, *qui montre une certaine activité antibiotique* in vitro, *un alcaloïde bisindolique, la graciliflorine 1, est isolé.*

Abstract : Pavetta graciliflora, *a Rubiaceae from Malaysia, exhibiting a certain antibacterial activity* in vitro, *leads to the isolation of a bisindole alkaloid, graciliflorin 1.*

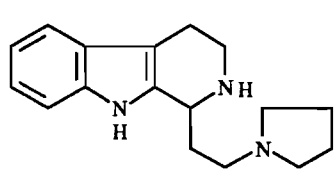
In the framework of the phytochemical survey of Malaysia (collaboration programme between CNRS and the University of Malaya) (1), we have selected, from a general antibacterial screening on G+/G- bacteria, a leaf extract of a Rubiaceae, *Pavetta graciliflora* Wall., a plant growing at Genting Simpah, near Kuala Lumpur.

Classical procedure affords a crude alkaloid extract which after chromatography on silica gel, leads to the isolation of very polar alkaloids.

In order to find the active substance in the crude extract, a direct sowing by *Staphylococcus aureus*, of the TLC plates (silicagel) is carried out. After incubation, a significant inhibition area of one spot is observed, corresponding to graciliflorin 1.



1 R = H Graciliflorin
2 R = Ac Acetylgraciliflorin

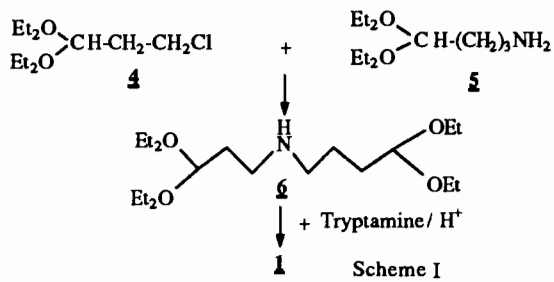


3 Dihydroelaeocarpidine

Graciliflorin is isolated under its acetylated form 2. Spectral data (EIMS, ^{1}H ^{2}D NMR) are in agreement with the dimeric structure 1.

Such a structure is reminiscent of dihydroelaeocarpidine 3 (previously tarennine), an alkaloid with diuretic properties (2) isolated from an African Rubiaceae, *Tarenna bipindensis*.

Synthesis of graciliflorin of unknown stereochemistry, has been performed by Pictet-Spengler condensation of tryptamine with the appropriate bisdiethylketal according to the Scheme I.



Scheme I

Antibiotic assay (Gif /Yvette, Rhône-Poulenc-Rorer) shows a medium activity *in vitro* (*S. aureus*: : MIC= 1µg, *E. coli* : MIC= 4 µg, *K. pneumoniae* : MIC = 8 µg), but nothing *in vivo* on infected mice. An alkaloid of a closely related serie, tchibangensine, exhibits also a strong antibacterial activity (3).

References

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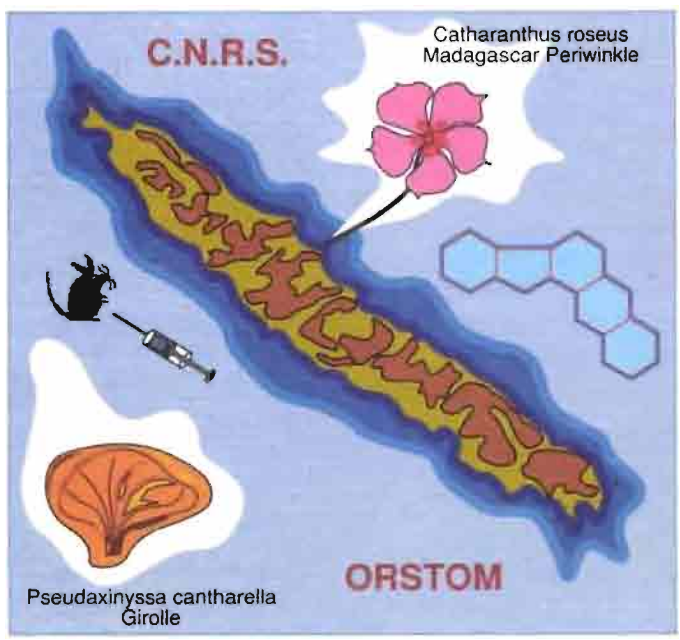

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