

Two New Macrocyclic Alkaloids from *Albizia inopinata* †

Telmice Simões de ASSIS¹, Reinaldo Nóbrega de ALMEIDA¹, Emídio V.L. da-CUNHA¹
Isac A. de MEDEIROS¹, Micheline de A. LIMA¹, Maria de Fátima Vanderlei de SOUZA¹,
Marcelo Sobral da SILVA¹, Raimundo BRAZ-FILHO² and José Maria BARBOSA-FILHO^{1*}

¹Laboratório de Tecnologia Farmacêutica, Universidade Federal da Paraíba,
Caixa Postal 5009, 58051-970, João Pessoa, Paraíba, Brazil.

²Setor de Química de Produtos Naturais - LCQUI-CCT - Universidade Estadual
do Norte Fluminense, 28015-620, Campos, Rio de Janeiro, Brazil

SUMMARY. Two new macrocyclic spermine alkaloids were isolated as a mixture from the leaves of *Albizia inopinata*. These alkaloids are being reported here for the first time and were given the trivial names felipealbizine A and felipealbizine B. They were identified on the basis of spectroscopic techniques, including 2D NMR experiments, as well as by comparison with related compounds from previous reports. Preliminary studies indicated that the compounds shown a possible pharmacological depressor activity on the central nervous system.

RESUMEN. "Dos nuevos alcaloides macrocíclicos de *Albizia inopinata*". De las hojas de *Albizia inopinata* fue aislada una mezcla de dos nuevos alcaloides macrocíclicos del tipo espermina, denominados felipealbizina A y felipealbizina B. Los nuevos alcaloides fueron identificados en base a técnicas espectroscópicas, incluyendo RMN 2D y comparación con compuestos anteriormente publicados. Estudios farmacológicos preliminares indicaron que estos compuestos muestran una posible actividad depresora en el sistema nervioso central.

INTRODUCTION

The family Leguminosae is widely distributed around the world, mainly in tropical, subtropical and temperate zones, where it is represented by trees of small to medium size. The family is formed by several genera, including *Albizia*. There are approximately 150 species of this genus, yet to be chemically studied. In Brazil, the species *A. inopinata* is found sparsely distributed around the country, and is especially abundant in the Northeast. Its use in folk medicine is not known, but it is very used as ornamental tree in streets and squares¹. There are references to the use of the bark of *Albizia julibrissin* for the treatment of insomnia² and the bark of *Albizia lebbek* for the treatment of asthma in India³. There is also a report of the use of *Albizia zygia* on psychiatric disorders in Nigeria⁴. Studies with seeds of *Albizia amara*⁵

suggested that this genus is rich in several classes of natural products such as saponins, lignans, steroids, triterpenes, and in some species, macrocyclic-type alkaloids. The absence of any reference to *Albizia inopinata* on Chemical Abstracts and on the NAPRALERT database led us to investigate the occurrence of similar alkaloids in this species, as well as the biological activity of these constituents.

MATERIAL AND METHODS

Plant Material

The leaves of *Albizia inopinata* (Harms) G.P. Lewis were collected near the city of Santa Rita, Paraíba, Brazil, in April 1997 and were identified by the botanist Maria de Fátima Agra. A voucher specimen (Agra e Gois 3599) is kept at the herbarium Prof. Lauro Pires Xavier, João Pessoa, Paraíba, Brazil.

KEY WORDS: *Albizia inopinata*, Leguminosae, Macrocyclic alkaloid, Felipealbizine A, Felipealbizine B.

PALABRAS CLAVE: *Albizia inopinata*, Leguminosae, Alcaloide macrocíclico, Felipealbizina A, Felipealbizina B

* Author to whom correspondence should be addressed.

† Part of this work was submitted to the Universidade Federal da Paraíba, João Pessoa, PB, Brasil, in partial fulfilment of an M.Sc. in Pharmacology and Chemistry of Natural Products.