Aristolactams from the stem bark of

*Uvaria hamiltonii*

Choudhury M. Hasan, Kamrun N. Asha, Mohammad A. Rashid*

*Phytochemical Research Laboratory, Faculty of Pharmacy, University of Dhaka, Dhaka-1000, Bangladesh*

Received 22 December 1999; received in revised form 9 March 2000; accepted 22 March 2000

**Keywords:** *Uvaria hamiltonii*; Annonaceae; Aristolactams; Chemotaxonomy

1. Subject and source

*Uvaria hamiltonii* Hook f. and Thoms. is a shrub found in the forests of Sikkim, Bihar and Asam of India and Bangladesh (Hooker, 1872). The stem bark was collected from the hilly areas of Chokoria, Cox's Bazar, Bangladesh in October 1998 and was identified by Prof. Salar Khan, Bangladesh National Herbarium, Dhaka, where a voucher specimen has been maintained under the accession number DACB-27943.

2. Previous works

Although *Uvaria hamiltonii* growing in Bangladesh has not been studied before, two flavanones, an aurone, a chalcone and a tetrahydroxanthene have been reported from this plant (Huang et al., 1998).

3. Present study

A total of five aristolactams have been isolated from the stem bark of *U. hamiltonii*. Four of these were isolated from the dichloromethane extract, while the fifth alkaloid

*Corresponding author. Present address: SAIC Frederick, NCI-Frederick Cancer Research and Development Center, Bldg. 560, Rm. 32-63B, P.O. Box B, Frederick, Maryland 21702, USA. Tel.: +1-301-846-1295; fax: +1-301-846-6157.
E-mail address: rashid@mail.ncifcrf.gov (M.A. Rashid).

0305-1978/01/$ - see front matter © 2001 Elsevier Science Ltd. All rights reserved.
PII: S 0 3 0 5 - 1 9 7 8 ( 0 0 ) 0 0 0 3 5 - 1
was obtained from the methanolic extract. The structures of these alkaloids were established as aristolactam A-III and aristolactam B-II (Crohare et al., 1974), goniopedaline (Talapatra et al., 1988), griffithinam (Zhang et al., 1999) and piperolactam C (Desai et al., 1989) by spectroscopic methods.

4. Chemotaxonomic significance

Except aristolactam B-II, all these aristolactams are reported from the genus *Uvaria*, for the first time, while piperolactam C and aristolactam A-III are the first and second record, respectively, from the Annonaceae. So far 14 aristolactams have been reported from the family Annonaceae in, *Goniothalamus* (Talapatra et al., 1988; Omar et al., 1992; Cao et al., 1998; Zhang et al., 1999), *Oropea* (Mahmood et al., 1986), *Schefteromitra* (Dyke and Gellert, 1978) and *Uvaria* (Yu et al., 1999). The present study suggests a close relationship between *Uvaria* and *Goniothalamus*. Aristolactams were first reported from the family Aristolochiaceae (Crohare et al., 1974) and since then they have been isolated from plants of other four families, e.g. Annonaceae, Menispermaceae, Piperaceae and Saururaceae. From a chemotaxonomic point of view, the limited distribution of the aristolactams in these five families is quite interesting.

References