Chinese Chemical Letters Vol. 13, No. 5, pp 426 – 427, 2002
http://www.imm.ac.cn/journal/ccl/html

A New Benzylisoquinoline Alkaloid from *Sabia parviflora*

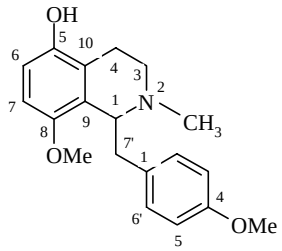
Jin CHEN, Bin CHEN, Jun TIAN, Feng E WU*

Laboratory of Natural Materia Medica, Chengdu Institute of Biology, Academia Sinica, Chengdu 610041

Abstract: A new benzylisoquinoline alkaloid, 1, 2, 3, 4-tetrahydro-5-hydroxyl-8-methoxyl-2-methyl-4'-methoxyl-benzylisoquinoline, was isolated from the arial parts of *Sabia parviflora.* Its structure was established on the basis of spectral analysis.

Keywords: *Sabia parviflora*, benzylisoquinoline alkaloid, 1, 2, 3, 4-tetrahydro-5-hydroxyl-8-methoxyl-2-methyl-4'-methoxyl-benzylisoquinoline.

Sabia parviflora Wall. Ex Roxb is widely distributed in Yunnan, Guizhou province and Guangxi Zhuang Autonomous Region, China[1]. Its arial parts is used as traditional medicine for the treatment of hepatitis A and B. This species have not been studied chemically before. The present paper reports the structure of a new benzylisoquinoline alkaloid 1, 2, 3, 4-tetrahydro-5-hydroxyl-8-methoxyl-2-methyl-4'-methoxyl-benzyl isoquinoline (**1**) from *Sabia parviflora*.



Compound **1**, colorless needles, mp 87-89°C, showed positive reaction to Dragendorff's test on TLC. The MS showed the molecular formula of $C_{19}H_{23}NO_3$ (found 313.1668, req. 313.1685), which was consistent with the ^{13}C and ^{1}H-NMR spectral data. Its NMR data showed the presence of two methoxyl groups, a four-substituted aromatic ring with two *ortho* coupled protons, a 1, 4-substituted aromatic ring, a methyl group connected with nitrogen atom, a methene and three methine groups. The UV absorption at 275 nm, together with -OH (3320cm^{-1}) and phenyl (1610, 820cm^{-1}) absorptions in the IR spectrum showed characteristics of a

*E-Mail: FEWu@cib.ac.cn

1-benzylisoquinoline derivative. The ^{1}H-NMR spectrum was very informative with two *ortho* coupled aromatic protons at δ 6.73 and 6.60 (J = 8.1 Hz), a pair of two *ortho* coupled aromatic protons at δ 7.19 and 6.76 (J = 8.4 Hz), methoxyl singlets at δ 3.87 (3H), 3.76 (3H) and methyl singlet at 2.47 (3H) which was attached to nitrogen atom. The HMBC experiment indicated the relations between H-4 and C-5, H-6 and C-5, 7, 10, H-7 and C-6, 8, OMe and C-8 respectively, suggesting one methoxyl group and one OH group were attached to C-8 and C-5, respectively. So compound **1** was elucidated to be 1, 2, 3, 4-tetrahydro-5-hydroxyl-8-methoxyl-2-methyl-4'-methoxyl-benzylisoquinoline, and its ^{1}H- and ^{13}C-NMR spectra (**Table 1**) were completely assigned by detailed 2D-NMR experiments.

Table 1 ^{1}H-(500MHz) and ^{13}C-(125MHz) NMR spectral data for compound **1** ($CDCl_3$, TMS)

Proton	δ ppm, J (Hz)	Carbon	δ ppm	Carbon	δ ppm
H-1	4.30, dd, (2.8, 7.2), 1H	C-1	60.7	C-4'	158.1
H-3a	3.32, m, 1H	C-3	45.8	OMe	55.4
H-3b	2.90, m, 1H	C-4	23.3	OMe	56.3
H-4a	2.59, m, 1H	C-5	142.7	NMe	42.7
H-4b	2.88, m, 1H	C-6	109.4		
H-6	6.73, d, (8.1), 1H	C-7	119.5		
H-7	6.60, d, (8.1), 1H	C-8	144.6		
H-7'	3.09, m, 2H	C-9	123.3		
H-2', 6'	7.19, d, (8.4), 2H	C-10	127.0		
H-3', 5'	6.76, d, (8.4), 2H	C-7'	38.4		
OMe	3.87, s, 3H	C-1'	132.5		
OMe	3.76, s, 3H	C-2', 6'	130.6		
NMe	2.47, s, 3H	C-3', 5'	113.7		

Signal assignments are based on 2D-NMR (^{1}H-^{1}H COSY, HMQC and HMBC) spectra.

Acknowledgments

We are greatly indebted to Professor X. H. Hu for his help in identification of the plant material, and to Professors B. R. Bai and P. Su for measuring NMR spectra.

Reference

1. Guizhou Zhiwuzhi Bianjiweiyuanhui, *Guizhou Zhiwuzhi* (in Chinese), (*Flora of Guizhou*), Sichuang People's Press, Chengdu, **1988**, 93.

Received 20 August, 2001