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REGULAR ARTICLE

A NEW ALKALOID FROM THE STEM BARK OF *HOLARREHENA ANTIDYSENTERICA* (LINN) WALL

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SUMMARY

New alkaloid was isolated from the stem bark of *Holarrehena antidysenterica*. The structures of the alkaloids were established as 3β dimethylamino-19β-5, 9 (H) dienine, on the basis of spectroscopic techniques and by chemical means.

Key words: *Holarrehena antidysenterica*, Alkaloids, Spectroscopic techniques, 3β Dimethylamino-19β-5, 9 (H) Dienine

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1. Introduction

Plant

Fresh sample of stem bark of *H. antidysentrica* was collected from Palampur, Himachal Pradesh, in March, 2000 and identified by Dr M.P. Sharma, Department of Botany, and Hamdard University. A voucher specimen has been deposited in the Herbarium of the department.

Uses in traditional medicine

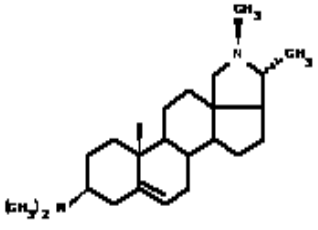
The genus *Holarrhena* is distributed in Asia, tropical areas of Africa, Madagascar, India, Philippines and Malayan Peninsula. The common and only Indian species *H. antidysenterica* belonging to the family Apocynaceae, is found throughout ascending up to an altitude of 13,00 m in the Himalayas, often gregariously in deciduous forests, open waste lands and abundant in sub-Himalayan tract. There are so many alkaloids and other chemical compounds have been reported till date by various workers. We report here the isolation and characterization of three alkaloids from the stem bark of *H. antidysenterica*. This is the first report of the isolation of these alkaloids in this plant [1-4, 9].

2. Result and Discussion

Previously isolated constituents.Alkyl esters, sterols, [5], pentacyclic triterpences [5, 6], fatty acids [7], and polysaccharides [8].

New isolated constituent. 3β dimethylamino-19 β-5, 9 (H) dienine

Fig: 1 Holardysenterine A (1)



Holardysenterine A (1) Fraction 6-9 of the column of elution with petroleum ether on

crystallization from acetone afforded compound A (1), 1.5 g (0.03% yield) as a pale yellow amorphous powder. [α] D^{30} :30° ($CHCl_3$, C 0.4) m.p.:13-114° UV λ max (MeOH) :217 nm (log ε 8.7) IR ν max (KBr):2915, 2835, 1585, 1455, 1370, 1200, 1180, 1035, 995, 885cm^{-1}.^{1}H NMR :δ 5.37 (1H, brs, H-6), 5.26 (1H, m, H-12), 3.26 (1H, d, J=5.0 Hz, H-20 β), 3.03 (1H, d, J = 10.5 Hz, H-3α), 2.35 (2H, m, H_2-18), 2.30 (3H, brs, CH_3-2H), 2.22 (6H, brs, CH_3-22, CH_3-23), 2.16 (2H, m, H-16), 2.13 (2H, m, H-41), 2.06 (2H, m, H_2-7), 1.86 (1H, m, H-17), 1.72 (2H, m, H-2), 1.70 (2H, m, H_2-1), 1.60 (2H, brs, H_2-15), 1.59 (2H, m, H_2-12), 1.45 (2H, m, H_2-12),1.03 (3H, d, J = 6.5Hz, CH_3, CH_3-21), 0.93 (3H, s, CH_3-19).^{13}C NMR :Table –2 EIMS m/z (rel. int):354 $[M]^+$ ($C_{24}H_{38}N_2$) (51.0), 339 (39.1), 310 (6.2), 295 (13.2), ε 270 (5.6), 257 (7.1) 137 (10.0), 122 (11.4), 121 (13.8), 108 (30.1),(10.4), 105 (28.6), 96 (8.2), 95 (21.6), 84 (100), 77(99.1), 57 (88.2), 55 (94.6).

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