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Research Article

Isolation and Characterization of Compounds from Fruits of *Anamirta cocculus* (Linn.)

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ABSTRACT
Compounds from fruits of *Anamirta cocculus* were isolated and characterized. The phytoconstituents present in fruits were isolated by soxhlet extraction with methanol. The compounds were separated by column chromatography and characterized by chemical and spectroscopic methods. These compounds were identified as sesquiterpenoids and aliphatic amides containing carbonyl and hydroxyl functionalities namely,5,8-dihydroxy-12-methyl-2-oxo-6-(prop-1'-en-2'-yl)-3,11-dioxatetracyclo,dodecane-7carboxylicacid(CompoundA1),1-hydroxy-14 (2'-hydroxypropan-2'-yl)-13-methyl-4,7,10-trioxapentacyclo,tetradecane-6,11-dione (CompoundA2) & Methyl 1, 6 – dihydroxy-2-methyl-5-oxo-10-(prop-1'-en-2'-yl)-4,8-dioxatetracyclo,dodecane-11-carboxylate (CompoundA3) and two aliphatic amides namely (2Z,4Z)-N-methyltetracosa-2, 4-dienamide (Compound A4)& N –Ethyl-5-O -β-d –Glucopyranosyl pentanamide (CompoundA5) were isolated and characterized.

Keywords: *Anamirta cocculus*, Column chromatography, Spectroscopic methods, Sesquiterpene lactones, aliphatic amides.

INTRODUCTION

Anamirta cocculus is found in South East Asian and Indian Subcontinent and belongs to the family Menispermaceae[1].The seeds are known as *Cocculus indicus* (Fructuscocculi) and Indian berries. The plant possesses a strong, climbing shrub, with a corky, ash-colored bark having deep cracks or fissures. Fruit is a drupe, nearly spherical, 1cm in diameter when dry, smooth and hard[2]. It is distributed throughout India in dense forests and has been used in the indigenous system of medicine in curing different types of diseases like bronchitis, foul ulcers, dermatophytosis, phthisis, inflammation, fungal infections, vertigo, vitiated condition of vata and kapha[3], breast cancer[4], scabies[5] and antidote for morphine poisoning[6]. It has also been suggested to possess larvicidal[7] and antioxidant activity[8]. The fruit contains alkaloids menispermine and paramenispermine[6]. Four quaternary alkaloids berberine, palmatine, magnoflorine, columbamine and one tertiary alkaloid (-)-8-oxotetrahydropalmatine in an investigation of the non-quaternary alkaloid fraction of *Anamirta cocculus*[9]. One new triterpenoid, 2α, 3β, 23-trihydroxyolean-12-en-28-oate and 2α, 3β– dihydroxy-23- β-d-glucopyranosyloxyolean-12-en-28-oic acid, are reported from the stem of *Anamirta cocculus*[10].

MATERIALS AND METHODS

Experimental Section -General

Melting points were determined on labard scientific melting point apparatus. The IR spectra in KBr were recorded on Spectrum 400 Perkin Elmer. λ_{max} values were measured on UV-1800 Shimadzu spectrophotometer. ^{1}H NMR and ^{13}C NMR spectra were recorded on Brucker Evance II400 MHz spectrophotometer and LC-MS on a Shimadzu spectrophotometer. The column chromatography was carried out on Silica gel G (60-120) for column chromatography activated at 110^{o} C for 1hr and TLC on silica gel G[11]. Spots were viewed in UV chamber and by iodine vapours. All the solvents and chemicals used were of Analytical reagent grade.

Plant Material

Fruits of *Anamirta cocculus* were collected from Wayanad district of Kerala in the month of December 2009, in a quantity sufficient for all the experiments. The plant material was authenticated by Dr. H. B. Singh, Scientist & Head, Raw Materials Herbarium & Museum, NISCAIR, Dr K. S. Krishnan marg, New Delhi and specimen was submitted and preserved for future reference [Voucher specimen No.1397/194]. The *Anamirta cocculus*fruits were washed under running tap water and shade dried for 15days. The shade dried fruits were powdered using a dry grinder to get the coarse powder (sieve no. 10/44). The powder was stored in air tight container for further use.

Extraction and isolation of the compounds

The fruits (4kg) shade dried, cleaned, powered, and defatted with light petroleum ether (28Ltr, b.p.60-80^{o}) by maceration for seven days. Filtered and filtrate was rejected and the residue was subjected to extraction in soxhlet apparatus with absolute methanol (40Ltr) for 36

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