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Bioactive Coumarins From The Leaves Of Murrayo Omphalo Carpa. A Review

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----------*ABSTRACT*----------

Using antiplatelet aggregation as a guide to fractionation eight coumarins omphalocarpinol The chemical composition of the leaf oils of murraya koenigi spring and M. paniculata Jack from Bangladesh was studied by gas charotography mass spectroscopy (G.C.M.S) M. Koeigii oil contained 39 compounds of with the major is 3 carene 154.2% followed by caryophylene (9.5%) oil of M. the study of the chemical constituents of the whole plant of geranium wallichianeum has resulted in the isolation and characterization of six copounds.

KEY WORDS → *Murraya omphalocarpo, aggregation coumarin, steroid murraya, sitophilus Zeamais, Tribolium castaneum, steroid murraya, fumigant.*

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I INTRODUCTION

Murrayo Omphalocarpo Hayata is a Shrub or small tree that grous photochemical in Taiwan at law altitudes[1.]In previous Photochemical studies the coumarins 5.7 dimethoxy .8 (3. methyl 2. oxobuty coumarin. [2.] A systematic study on the medicinal and aromatic plants is being carried out in Bangladesh. Among these plants on finds murraya koenigi.[L] These data suggested the structure of bismurrangatin[1] to be composed of two 7 Methoxy 8(1,2 dihydroxy 3 methyl 3 butenyl) coumarins nuclei such as murrangatin (2). A systematic study on the medicinal and aromatic plants is being carried out in Bangladesh. Among these plants one finds murraya koenigi[L] botanical Pesticides have the advantage of providing novel modes of action against insects that can reduce the risk of cross-resistance as well as offering new leads for design of target specific molecules[6] fumigation in stored products [1] cumulating studies mainly based on experimental animal models for O/A have suggested an important procatabolic role for Wnt/β cartenin signaling in the pathogenesis of O/A[2] These diseases are responsible for morbidity, mortality economic loss and social dicruption[4]M. paniculata is also Known as chalcas exotica. Chalcos paniculata and comunium exoticum [1] Dyslipidemia is defined as an abnormality in or an abnormal amount of serum lipids or lipoproteins in the blood. Drugs are effective but produce adverse effect in a signify cant proportion of patients.

II PLANT METERIAL

The fresh Leaves of M. Omphalo carpo were collected from pingtung hesien, Taiwan in about one weak. Plant material. The M. exotica leaves employed in this study were collected at Zhang Zhou. Murraya paniculata Samples were collected in vila velha (Es Brazil): Latitude:- 20.3557 and longtitude:- 40.3142 feom August to December 2013. Literature data was collected from very well reputed scientific data bases pubmed and google scholar.

III EXTRACTION AND ISOLATION

The fresh leaves (1.53kg) of M. omphalocarpo were extracted repeatedly with MEOH at room temperature. Leaves were harvested and air dried for about one weak. The oils were obtained by hydrodistillation for 4 hours in a Clevenger type apparatus.

Isolates: → colorless prisms (CHcl3); mp 153-154 "c; $[d]_{D:}^{24}$ 24.7 (CO.05.MeoH): UV:d_{max} =239(3.68), 261(4.02), 326_{nm} (4.28); IR;V_{max} =3450,1700,1620 $cm^{-1:}$ ^{1}H-NMR ($CDcl_3$, 400MH_z): δ=7.59 (1H,d,J=9.6H_z H-

4), 7.37 (1H,d, J=8.8H_z, H-5), 6.85(1H,d,J=8.8H_z H-6) Ganguly and Sarkar [1978] reported a new carbozole alkaloid, exozoline from the leaves of M. Exotica. I to et at.

X- ray Structure determination: →
Crystals of 1 and 8 for diffraction study were all obtained from MeoH/ $Chcl_3$ solvent mixture structures were solved Via direct Methods (SIR92) and refined with a full matrix least squares program using the TEXSAN.

Biological Assay: → Platelet aggregation testing carried out according to chen Ks,Ko,FN, Teng Cm, Wu YC. Antiplatelet and vasorelaxing actions of some benzylisoquinaline and phenanthrene alkoloids. Nat prod 1996; 59: 531-4.

IV RESULTS AND DISCUSSION

The MeoH extract of the leaves of M. omphalocarpo was fractionated by solvent partitioning and guided by in vitro antiplatelet aggregation tests.

Further separation and purification by silico gel column chromatography furnished eight coumarins. The essential oils from the leaves of M. Koenigi and M Paniculata were analyed by G.C. ms presented in table 1.m. koenigi oil contains 39 Compounds of which the major is 3. Careen (54.2%) followed by caryophyllene (9.5%) other notable Compounds by caryophyllene in the M. Koenigii oil are a thujene (1.5%) allyl (Methoxy) dimethylsilane (2.6%) B. myrane (3.2%) a terpinene (2.4%) g. terpinene (2.7%) Cis sabinenehydrate (1.5%) 4. Terpineol (2.8%) B. elemene (1.9%) a- caryophyllene (2.8%) g elemene (2.96%) caryophyllene acide (1.02%) and 3. Phenylbutyrophenone (1.15%) The presence of 3. Careen as major compound in M. Koenigii is not reported from elsewhere completely differs from those reported by rainaet al. (2002) and walde et. Al. similar results of the composition of the essential oil were found in India by chowdhury et al. (2008) describing the presence of B. caryophyllene and S. caryophyllene among the main components. But not for S Zingiberene. On One hand another study also made in India with the essential oil of M. Paniculata Leaves, found 2- Zingiberene and B. caryophyllene as major compounds representing 10% and 9.7% respectively as major compounds (Raina et al 2006) on the other hand the oil obtained in Prarious study does not show and similarity since the major components were spathulenol (17.7%) and pinene (13.2%) (Li et al. 2%) Such Similarities and differences may be related to differences in climatic Conditions of the regions from which the Leaves were Collected since those studied by chowdhury et al.

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