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Phytochemical investigation of fruits of *Cayratia pedata* grown in Kerala.

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ABSTRACT

Cayratia pedata is one of the most important plant, belong to *Vitaceae* family. Fruits and seeds have different active compounds such as alkaloids ,saponins and phenolic compounds, there are no studies in Kerala about fruits of this plant, therefore this study was conducted to investigation of the active compounds in fruits. Material and methods: The fruits were collected from Nilakkal region of Kerala, after cleaned and dried under room temperature. Fruits were extracted by ethanol 70% by used soxhlet apparatus . Results and Discussion: The results of this study were referred to the fruits were contained Saponin, alkaloids and phenols. Conclusion. This plant have pharmacological activity beside nutritional importance because have fruits different active compounds.

Keywords: *Cayratia pedata* ,phytochemical.

INTRODUCTION

Cayratia pedata is one of the most food and economically important plant; belong to *Vitaceae* family *Cayratia pedata (Lam.) Gagnep. var. glabra* Gamble is a weak climber commonly known as kattuppirandai, ainthilai kodi (5-pedata) in tamil, goalilata in hindi, godhapadi in sanskrit and velutta sori valli in malayalam. This species can be found in almost all the regions of Kerala and scrambling over the hedges and trees. *Vitaceae* consist of approximately 14 genera and about 900 species primarily distributed in tropical regions in Asia, Africa, Australia, the neotropics and the Pacific islands .The family is well known

economically for grapes, wine and resins. The leaf decoction of the study genus is used for treating uterine and other fluxes, lukewarm leaf juice is used as ear drops for fungal infections ,leaves are astringent, refrigerant and also used to cure ulcers.

MATERIALS AND METHODS

In this research the *Cayratia* fruits were collected from Nilakkal, the fruits were cleaned and separated then dried under room temperature. The 50 g of dried seeds were placed into thimble the soxhlet extraction process using ethanol 70% as extraction solvent, 350 ml of solvent is poured into the round bottom extraction flask and placed on the heating mantle. After this, the thimble containing the sample was placed into the extraction chamber, lastly the condenser was placed on the top of the extraction flask and all these parts were fixed vertically. The extraction was carried out for 4 hr. after the extraction process, the weight of round bottom extraction flask containing solvent and extracted crude were weighted. The sample was calculated as percentage of extraction.

Phytochemical screening

Preliminary phytochemical screening for alkaloids, phenolics, and saponins were conducted using standardised protocols.((Harborne, 1998).

TEST FOR ALKALOIDS

a.Dragendorff's test

Plant extract was mixed with Dragendorff's reagent (Potassium Bismuth Iodide) resulted in the formation of orange-red colour indicates the presence of Alkaloids.

b.Mayer's test

Two drops of Mayer's reagent(Potassium mercuric iodide) are added to few ml of plant sample extract, along the sides of test tube. Formation of creamy white precipitate indicates the presence of Alkaloids.

c. Hager's test

Few drops of Hager's reagent (Saturated aqueous solution of Picric acid) added to the plant extract. Appearance of crystalline yellow precipitate indicates the presence of Alkaloids.

TEST FOR PHENOLICS

a. Ferric Chloride test

Plant extract(50mg) is dissolved in 5 ml of distilled water. To this mixture few drops of 5% ferric chloride solution(neutral) are added. Formation of dark green colour indicates the presence of phenolic compound.

b. Lead acetate test

The plant extract (50 mg) is dissolved in distilled water and to this 3 ml of 10% lead acetate solution is added. Appearance of white precipitate indicates the presence of phenolic compounds.

TEST FOR SAPONINS

1 ml of the extract , shaken well for 15 minutes with 20 ml distilled water. Formation of a layer of foam indicates the presence of saponins.

RESULTS AND DISCUSSION

Phytochemical analysis of *Cayratia* fruit extract

The results of this study were referred to the presence of phytochemicals such as Saponin, alkaloid, and phenolic compounds were represented in fruit extract, (Table 1). This results were occurred the close correlation between anti-oxidant of dried seeds of grape plant and flavonoids.. Further studies are needed to assess the active ingredients of *Cayratia pedata* fruits and seeds compounds especially phenols .

Table 1: Qualitative Phytochemical Analysis of the Extracts of fruits of cayratia plants.

Phytochemical test *Cayratia* Fruits

Sl.no	**Constituent**	***Cayratia pedata* fruit**
1	Alkaloid	+
2	Saponin	+
3	Flavonoids	_
4	Glycosides	_
5	Terpenoids	_
6	phenol	+

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REFERENCES

Ali, K. Maltese, F. Choi, Y. Verpoorte, R. Metabolic constituents of grapevine and grape-derived products. Phytochem. Rev. 2010, 9, 358–375.

Vivier, M.A. Pretorius, I.S. Genetic improvement of grapevine: Tailoring grape varieties for the third millennium—A review. S. Afr. J. Enol. Vitic. 2000, 21, 5–25.

Ananga, A. Georgiev, V. Tsolova, V. Manipulation and engineering of metabolic and biosynthetic pathway of plant polyphenols. Curr. Pharm. Des. 2013, 19, 6183–6204.

Bogs, J. Jaffé, F.W. Takos, A.M. Walker, A.R.; Robinson, S.P. The grapevine transcription factor vvmybpa1 regulates proanthocyanidin synthesis during fruit development. Plant Physiol.2007, 143, 1349–1360.

Dixon, R.A. Engineering of plant natural product pathways.

Curr.Opin. Plant Biol. 2005, 8, 324–335.

Harborne, J.B.; Williams, C.A. Advances in flavonoid research since 1992. Phytochemistry 2000, 55, 480–503.

Lepiniec, L. Debeaujon, I. Routaboul, J.M. Baudry, A. Pourcel,

L. Nesi, N. Caboche, M. Genetics and biochemistry of seed flavonoids. Ann. Rev. Plant Biol. 2006, 57, 404–429.

Conde, C. Silva, P. Fontes, N. Dias, A.C. Tavares, R.M. Sousa,

M.J. Agasse, A. Delrot, S. Gerós, H. Biochemical changes throughout grape berry development and fruit and wine quality. Food, 2007, 1, 1–20.

Hassan, H.M.M. Hepato protective effect of red grape seed extracts against ethanol-induced cytotoxicity. Glob. J. Biotechnol. Biochem. 2012, 7, 30–35.

Bekhit, A.E.-D.A.; Cheng, V.J.; McConnell, M.; Zhao, J.H. Sedcole, R. Harrison, R. Antioxidant activities, sensory and anti-influenza activity of grape skin tea infusion. Food Chem.2011, 129, 835–843.

Waterhouse, A.L. Wine phenolics. Ann. N. Y. Acad. Sci2002, 957, 21–35.

Sena, L.A. Chandel, N.S. Physiological roles of mitochondrial reactive oxygen species. Mol. Cell, 2012, 48, 155–165.

Heo, J.-H. Lee, H. Lee, K.-M. The possible role of antioxidant vitamin c in Alzheimer's disease treatment and prevention. Am. J. Alzheimer's Dis. Other Dement., 2013, 28, 120–122.

Rubio-Perez, J.M.; Morillas-Ruiz, J.M. A review: Inflammatory process in Alzheimer's disease, role of cytokines. Sci. World J. 2012, 755-759.

Tabas, I. Glass, C.K. Anti-inflammatory therapy in chronic disease: Challenges and opportunities. Science, 2013, 339, 165–167