Physicochemical analysis of *Curcuma pseudomontana* J. Graham Rhizome

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Abstract
The present article deals with the study of physicochemical analysis of *Curcuma pseudomontana* J. Graham Rhizome a member of family *Zingiberaceae*. The rhizome of curcuma *Curcuma pseudomontana* J. Graham reported to have good medicinal values in traditional system of medicine .physicochemical screening of the rhizome powder showed 13.98% total ash, 1.40%, water soluble ash 4.25% water soluble extractive 18.95%, alcohol soluble extractive 13.68% and ph 3.8. this information will be helpful in standardization for quality ,purity and sample identification.

Keywords: *Curcuma pseudo montana* J. Graham, physicochemical parameter.

1. Introduction

Domestication is a process in which a group of organisms live together in an environment sustainably. Human history is evident for domestication of plants and animals from last Man since time immemorial has been using plants or natural product as medicine to promote and maintain good health [1]. Curcuma pseudomontana J. Graham belongs to the family Zingiberaceae, commonly known as Hill Turmeric. This species is a rhizomatous herbaceous perennial, which is found in usually moist shady places on the fringes of wet forests or grasslands, in riparian areas, at moderately high altitude along the western side .Scientific classification of plant Kingdom Plantae Super division Spermatophyta Division Magnoliophyta Class Monocotyledonae Order Zingiberales Family Zingiberaceae Genus Curcuma Species C pseudomontana J. Graham [2]. C. pseudomontana has, small root stock, bearing small almond like or sub globose tubers at the ends of the fibres (but no sessile tubers); tubers pure white inside and it is edible. Leaves are uniformly green, reaching 2ft or more long (including the petiole), 4-6' broad, lanceolate oblong acuminate, tapering to the base, petioles 8-15 in long. Flowers are bright yellow appearing with the bracts, 2 or 3 in each bract, in autumnal central narrowly oblong spikes 2-5 by 1-1 ¾ inch; peduncles 3-4in long embraced by leaf- sheaths; flowering bract 1 ¼- 1 ¾ by 5/8 – 7/8 inch., obovate-lanceolate, the lowest with purple edges only. The inflorescence of C. pseudomontana is lateral in the early part of the rainy season and terminal later in the season. The colour of the coma is variable within the species. [1] Flowering starts from the month of June and ends in the month September. The Savara, Bagata, Valmiki tribes of 30 Andhra Pradesh use tuber extracts to cure jaundice and Bagata tribes use this plant for Diabetes.

2. Material and Method

Identification and authentication of rhizome of Curcuma pseudomontana J. Graham Fresh and healthy rhizomes of Curcuma pseudomontana J. Graham (Zingiberaceae) was collected from the ambabarva forest, during September 2012. The plant was properly identified with the help of authentic literature and documented with their characteristic features. The rhizomes were dried in hot air oven at 450 °C for 72 hours and powdered for further analysis.

2.1 Preparation of plant extract

The powder plant material was subjected to hot continuous extraction in a soxhlet apparatus. The powder plant drug was successively extracted with methanol, distilled water, and chloroform. The liquid extracts were collected in tarred conical flask. The solvent was removed by distillation. These extracts were used for further analysis.

2.2 Physicochemical evaluations

Physicochemical parameters such as, ash values, extractive values, moisture content etc. were determined as per procedures mentioned in accordance with WHO Guidelines5, 6.

3. Physicochemical Parameters

Table 1: Physicochemical analysis of *Curcuma* pseudomontana J. Graham Rhssizome

Sr. No.	Physicochemical Parameters	Results (%w/w)
1.	Ash values	
	Total ash	13.98%
	Water soluble ash	4.25%
	Acid insoluble ash	1.40%
2.	Extractive values	
	Chloroform extractives	2.0%
	Alcohol soluble extractives	13.68%
	Water soluble extractives	18.95%
3.	Moisture content	4.0%
4.	PH	3.8

Physicochemical evaluation of C. pseudomontana rhizome was shown that the results of physicochemical constants found within limit. (Table no. 2) This indicates that the quality and purity of raw material was good enough. The rhizome of the plant was having 13.98% w/w of total ash, 4.25% w/w of water soluble ash and acid insoluble ash is about 1.40% w/w. The water soluble extractive value was 18.95% w/w which was high as compared to alcohol soluble extractive value which was 13.68% w/w. So the plant shows high water soluble ash and water soluble extractive value. The result of moisture content 4.02% w/w implies that the

drug is properly dried and stored. The pH value of crude drug was found to be near about 3.8 which indicate acidic nature of rhizome. These data's were helpful for identifying and ascertaining the quality of the collected crude drug. (Table1).

4. Result and Discussion

The Physicochemical parameters such as, PH, total ash, acid insoluble ash, water soluble ash, water soluble extractive and alcohol soluble extractive value were observed. These values can be useful to detect adulteration. All studied standardization physicochemical parameters provide the knowledge in the identification authentication of *Curcuma pseudomontana* J. Graham.

5. Reference

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