



## STUDY OF ANTHOCYANINS OF FLOWER EXTRACTS OF *MOMORDIA DIOICA* (CUCURBITACEAE)

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### ABSTRACT:

The present communication deals with the detection of anthocyanins of flower extract of *Momordia dioica*. Anthocyanins are glycosidic pigments usually found as essential constituents of flower petals or coloured leaves. They are antioxidant, antiviral and antimutagenicity and play important role in biological system. 2.00 g of flower petals of *Momordia dioica* DC were dissolved in 2M Hcl in a test tube and heated 100° C for 5 mts. The solution was cooled and washed with ethyl acetate to remove the flavonoids followed by filtration. The filtrate was further heated with amyl alcohol at 80°C for 5 mts followed by filtration. The filtrate contained anthocyanin so the filtrate was spotted on What man's filter no 1 and was placed in the chromatographic jar for separation of anthocyanins by using the solvents:

1. Forestall conc	-	HCl.CH <sub>3</sub> COOH.H <sub>2</sub> O	-	3:6:1
2. Formic acid conc	-	Hcl.HCOOH.H <sub>2</sub> O	-	2:5:3

The colored spots appeared on the chromatogram indicated anthocyanin. From the colour of the individual spot, anthocyanins were differentiated and detected. The Rf value of the marked spots was noted and different anthocyanins were confirmed by comparing the respective Rf value. The results confirmed three types of anthocyanin namely *cynidin*, *peonidin* and *petunidin*.

### KEYWORDS:

MOMORDIA DIOICA., FORESTALL CONC, AND FORMIC ACID CONC.

### INTRODUCTION

Cucurbitaceous is one of the valuable families from agricultural and pharmaceutical point of view. The cucurbits plant species are distributed throughout the world both in plains and hills. *Momordia dioica* commonly known as spiny gourd or spine gourd it has been a rich source of medicines and proteins.

Anthocyanins are the essential constituents of biological system. They are soluble coloured pigments. In flower petals, there are anthocyanins associated with flavones and flavonoids which them attractive coloured. As the anthocyanins are antioxidant, antiviral and anti-mutagenic, so they are widely used by the health conscious people.

### MATERIALS AND METHODS

2 grams of flower petals of *Momordia dioica* were heated at 100°C in 2M HCl in a test tube for 15 mts, then cooled down and washed with ethyl acetate to remove the flavonoids followed by filtration. The filtrate was further heated with amyl alcohol at 80°C for 5 mts followed by filtration. The filtrate contained anthocyanins (Davis and Mazza, 1997).

Now the anthocyanin solution (filtrate) was spotted on whatman's filter paper no 1 and was placed in a chromatic jar for 12 hours for separation of different

anthocyanins by using the solvent for stall conc (HCl.CH<sub>3</sub>COOH.H<sub>2</sub>O:3:6:1) and conc formic acid (Hcl.HCOOH.H<sub>2</sub>O :2:5:3). The coloured spots appeared on the chromatogram were marked and their colour also was noted. The distance of marked spots travelled on the chromatogram was measured from the source and Rf value of each individual marked spot was calculated by dividing with maximum distance travelled by the solvent. On the basis of Rf value and colour of different spots the anthocyanins were detected and confirmed.

### RESULTS AND DISCUSSION

The anthocyanins are highly stable compounds widely used in medicines (Baldi *et al.*, 1995). Metivier *et al.*, 1980 and Jackman *et al.*, 1996 studied the solvent extraction of anthocyanins and their biochemical properties.

The present studies revealed that three spots were developed on the chromatogram each representing an anthocyanin. The deep magneta colour of the spot indicated cyanidin, magneta colour peonidin and purple colour petunidin. The Rf value of these spots confirmed the presence of cyaniding, peonidin and petunidin in the petal extract of *Momordia dioica*.

TABLE 1: CHROMATOGRAPHIC SEPARATION OF ANTHOCYANINS IN PETAL EXTRACT OF *MOMORDIA DIOICA*.

Sl. No.	Distance travelled by the spot (cms)	Distance travelled by solvent (cms)	Rf	colour of the spot	Anthocyanin detected
1.	5.40	8.00	0.67	Deep magneta	Cyanidin
2.	3.40	8.00	0.42	Magneta	Peonidin
3.	2.15	8.00	0.26	Purple	Ptunidin

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