WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 6.805
Volume 5, Issue 8, 1285-1289. Research Article ISSN 2277– 7105

FLUORESCENCE ANALYSIS OF *LUFFA ACUTANGULA* (L.) ROXB. FRUIT.

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Article Received on
14 June 2016,

Revised on 03 July 2016,
Accepted on 24 July 2016

DOI: 10.20959/wjpr20168-6813

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ABSTRACT

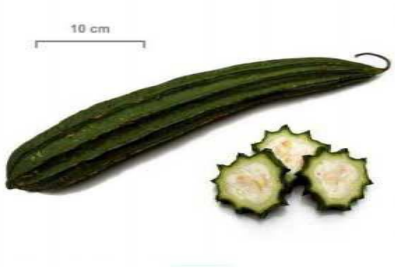
The fruits of *Luffa acutangula* (L.) Roxb. are commonly used as vegetables in most parts of India. It belongs to family Cucurbitceae. The fruit is a It is used in diabetes, immunomodulation, tumor suppression, parkinsonism, as an antimicrobial, in ulcers and for hepatoprotection. The fluorescence analysis of this plant was done in order to look for the presence of bioactive compounds. There is a necessity for standardization of plant materials which can be used as a medicine.

KEYWORDS: *Luffa acutangula*, Cucurbitceae, fluorescence analysis, bioactive compounds.

INTRODUCTION

Luffa acutangula belongs to family Cucurcitaceae (Hooker, 1883) and its fruits are obovate, cylindrical or club – shaped, pale yellowish-brown in colour having 9-12 cm length and 2-4 cm width. These are tapering towards the base and covered with 8-10prominent longitudinal ribs on outer surface. There are three chambers, of which inner part is fibrous and easily detachable from outer one (Almeida, 1990).

Seed- Seeds are black coloured, bitter in taste, having ovoid-oblong shape. The length is generally 0.6-0.8 cm with width of o.5 – 0.6 cm.



Fruit of *Luffa acutangula*

VERNACULAR NAMES

Sanskrit: Gantali, Kosataki, and Ksweda, Benngali : Zinga, English : Ribbed Gourd Gujarati: Turiya, Kadawa, Turiya, Hindi: Turai, Satputia, Kannada: Hire-Valli, Marathi: Dodka Turiya, Punjabi: Turiya, Tamil: Peerkku, Telugu: Beera, Chedu beeha, Varri beera, Urdu: Turai (Kapoor, 1990,)

CHEMICAL CONSTITUENTS & USES: *Luffa acutangula* is the source of many therapeutically important chemical constituents as luffangulin, cucurbitacin, oleanolic acid, myristic acid amino acids, oligosaccharids. It is used in paralysis, asthma, pulmonary tuberoculosis and menstrual troubles. (Bhattacharjee, 1994)

MATERIAL AND METHODS

The plant material for the present work was collected from Virar & authenticated.

The fruits were dried in shade & then powdered, sieved & then used for analysis.

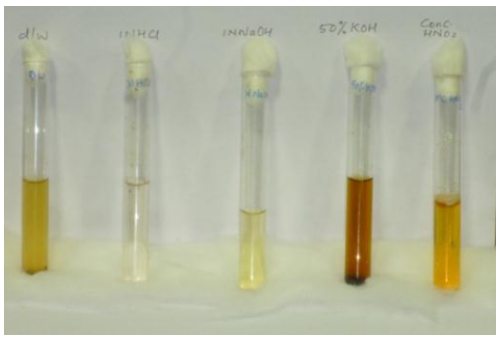
The method used for the analysis is as given by Chase & Pratt ,1949.

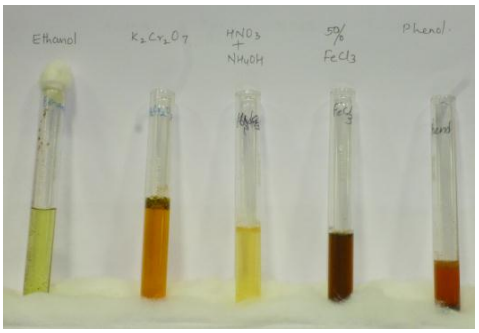
OBSERVATIONS AND RESULTS

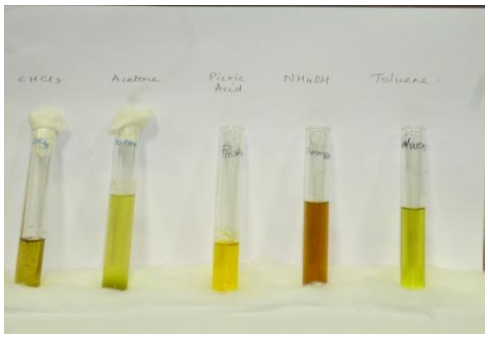
Fluorescence analysis powder of *Luffa acutangula* fruit

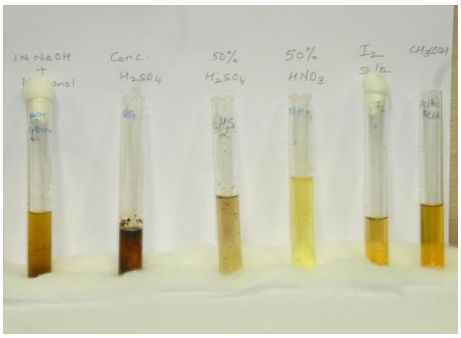
Test	Visible light	Colour reaction in Uv light
Powder+1 N HCl	Colorless	Milky white
Powder+1 N NaOH	Light yellow	colourless
Powder + 1N NaOH + Methanol	Greenish yellow	Dark brown
Powder + 50% KOH	Brownish yellow	Light brown
Powder + 50% H_2SO_4	Light green	Colourless
Powder + Conc. H_2SO_4	Brown	Brownish green
Powder + acetic acid	yellow	Yellowish green
Powder + 50 % HNO_3	Pale yellow	Colourless
Powder + Iodine sol.	Yellow	Light yellow
Powder + D.W	dark green	Greyish white
Powder +$CHCl_3$	Light green	Rosy pink
Powder + Acetone	Light green	Greenish pink
Powder + Picric acid	Yellow green	Yellow
Powder + Ammonia	Clear brown	Brown yellow
Powder + Ethanol	Light green	Rosy pink
Powder + Toluene	Light green	Orangish pink
Powder + $K_2Cr_2O_7$	Dark greenish yellow	Brown
Powder + HNO_3 + NH_4	Pale yellow	Light yellow
Powder + 5% $FeCl_3$	Dark brown	Blackish brown
Powder + phenol	Light brown	Brown

FLUORESCENCE ANALYSIS OF *LUFFA* POWDER IN WHITE LIGHT

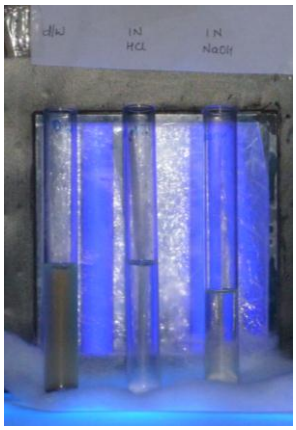


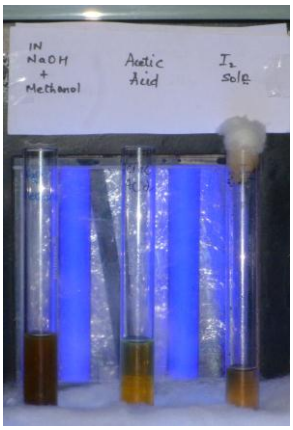


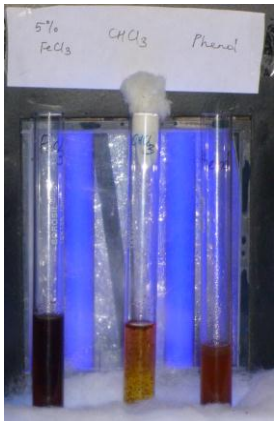




FLUORESCENCE ANALYSIS OF *LUFFA* POWDER IN UV LIGHT







CONCLUSION

The above results show that there are bioactive compounds present in the fruit. Since the plant is commonly available as a vegetable & can easily be consumed so this work is carried out to help detect bioactive compounds. Fluorescence is the phenomenon shown by various chemical constituents present in this plant material. The light absorbed and re-emitted radiations by the various solvents can be used for the identification of the powdered drug as mentioned by Evans (2002). The leaf architecture patterns in some members have already been studied by Vaidya & Mhatre. (2013). So these results will help in standardization of the plant material, which is used so easily. Vaidya, 2016 has also carried out fluorescence analysis of *Musa paradisiaca* leaves.

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