*Available online at* **www.joac.info**

ISSN: 2278-1862

*Journal of Applicable Chemistry*

2019, 8 (5): 2142-2150

(International Peer Reviewed Journal)

# Phytochemical Investigation and Thin Layer Chromatographic Studies on the Fruits of *Solanum incanum* In Areza sub-zone, Zoba Debub, Eritrea

**Imran Ahmed[1,2]*, Tewelde Sahle[1], Ahmedin Hiya[2], Alexander Berhane[2,] Sunil Melda[3] and Biplab Manna[4]**

1. College of Science, Department of Chemistry, Anjuman Mahavidyalaya Makrana, dist Nagaur, Rajasthan, 341505. **INDIA**
2. College of Science, Department of Chemistry, Eritrea Institute of Technology, Asmara, Eritrea, **NORTH EAST AFRICA**
3. Department of Chemistry, Banasthali Vidyapith Niwai Tonk. Rajasthan, **INDIA**
4. Department of Chemistry PNKS Govt. Science and Commerce College, Dausa, Rajasthan, **INDIA**

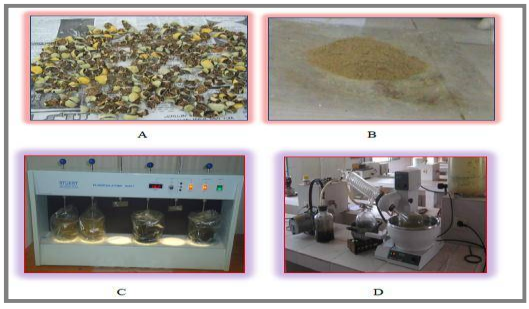
Email: imrangesawet@gmail.com, imranahmedchem@gmail.com

**Accepted on 10th August, 2019**

## ABSTRACT

*Solanum incanum (Solanaceae) is bushy herb up to 1.8 m tall, native to Northern and North-Eastern Africa including Eritrea. It is a well-known medicinal plant. Throughout tropical Africa a sore throat, angina, stomach-ache, colic, headache, painful menstruation, liver pain and pain caused by onchocerciasis, pleurisy, pneumonia and rheumatism are treated with Solanum incanum. This research project is aimed at Phytochemical screening of Solanum incanum fruit, in Areza sub-zone, Zoba Debub. The fruit of Solanum incanum (200 g) was macerated and extracted with 800mL 70% ethanol at room temperature for 48 h with occasional shaking. This process was repeated twice at room temperature, filtered and concentrated using Rota vapor to give yellowish extracts. Then the resulting extract was filtered using filter paper (S & S filter paper circles Ø 125mm). The filtrate was then evaporated to dryness in vacuum using Rota-vapor at 60°C to yield 41.23 g of crude extract. Phytochemical screening revealed the presence of carbohydrates, proteins, alkaloids, phenols, flavonoids, glycosides, saponins, triterpenes, tannins and steroids as a major class of compounds. A qualitative analysis by Thin Layer Chromatography (TLC) also shows the different components like alkaloids, saponins, flavonoids, sugars and glucosides, phenol and tannin. The $R_f$ values of the developed spots in the different solvent systems are calculated.*

## Graphical Abstract




A. Shade, B. dried powdered fruit, C. Extraction using 70% ethanol solution in incubation shaker, D. Evaporating solvent from extract in rota-vapor.

**Keywords:** *Solanum incanum*, fruit extract, Phytochemical screening, TLC, $R_f$ values.