

## Anti-bacterial activity of total flavonoids isolated from *Portulaca oleracea* L

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Flavonoids are ubiquitous in photosynthesizing cells and are commonly found in fruit, vegetables, nuts, seeds, stems, flowers and wine. For centuries, preparations containing these compounds as the principal physiologically active constituents have been used to treat human diseases. *Portulaca oleracea* L is an important medicinal plant that has been used in traditional medicine. The aim of the present study was to isolate total flavonoids and investigate the antibacterial activity of petroleum ether, chloroform, ethanol and total flavonoid extracts of the aerial part of *Portulaca oleracea* L. In the present investigation we have used five standard pathogenic bacterial strains like *Pseudomonas aeruginosa*, *Salmonella enteritidis*, *Proteus mirabilis*, *Klebsiella pneumoniae* and *Enterobacter aerogenes*, among all the bacterial strains *Pseudomonas aeruginosa* and *Proteus mirabilis* have shown maximum zone of inhibition for ethanol extract and total flavonoids respectively and remaining bacterial strains have shown moderate zone of inhibition. The present study supports that these flavonoids have antibacterial properties so helps in the developing antibacterial agents in the form of drugs for the therapy of infectious diseases caused by pathogens.

The present study was aimed to evaluate the effect of *Portulaca oleracea* L on fertility of female albino rats. Albino rats were orally administered with Petroleum Ether, chloroform and Ethanol crude extracts of aerial part of *Portulaca oleracea* L in both high and low dose (500mg and 250 mg / kg of body weight / day, for 7 days), and effect of crude extract on Anti implantation and Abortifacient activity was investigated. The treatment of petroleum ether crude extract has shown 20% and 30% reduction in implantation activity at low (250) and (500) high doses respectively. In case of chloroform and Ethanol crude extracts, the chloroform extract has shown 50% and 60% reduction in implantation activity at low and high doses respectively, whereas Ethanol crude extracts have shown 40% and 50% reduction in implantation sites with respect to low and high dose of extract treatment. Ethanol crude extract treatment has shown abortifacient activity but the petroleum ether and chloroform extract treatment to pregnant rats did not show any abortifacient activity.

**Keywords:** *Portulaca oleracea* L, Anti implantation, Abortifacient.

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## Biotechnology for agricultural by-products utilization

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There is huge accumulation of agro-industrial waste-materials generated by the milling, brewing and various agriculture and food based industries which in total amount to about 500 million tons per year in India. Most of these by-products contain three major structural polymers such as cellulose, hemicellulose and lignin. These are also the main source of feed for animals. A high proportion of this waste material is carbohydrate and phenolic in nature. The vast accumulation of this kind of biomass not only results in the deterioration of the environment, but also a huge amount of potentially important materials are lost. Biological degradation, now-a-days, has become an increasingly popular alternative for the treatment of agricultural, industrial, organic as well as toxic wastes. Cellulose and hemicellulose being the major constituents, these materials can be referred to as valuable resources for a number of reasons, mainly due to the fact that they can be bio-converted easily into valuable products. These wastes can be processed to yield a number of valuable added products, such as biofuels like biohydrogen, bioethanol along with a variety of chemicals. Various treatment methods such as physical, chemical, biological are employed for the production of value-added compounds. Various phenolics like ferulic acid and vanillin, world's most prized flavor compound are obtained through microbial treatment of agrowastes.

### Biography

Hara Prasad Sahoo has completed his Ph.D in Botany from Berhampur University, Odisha, India. He has 30 years of teaching and research experiences in various educational institutions across Odisha. Now he is the Reader and head of the department, Botany, BJB Junior College, Bhubaneswar, Odisha, India. He has guided many M.Phil and Ph.D students during his academic career. He has published more than 30 papers in reputed national and international journals.

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