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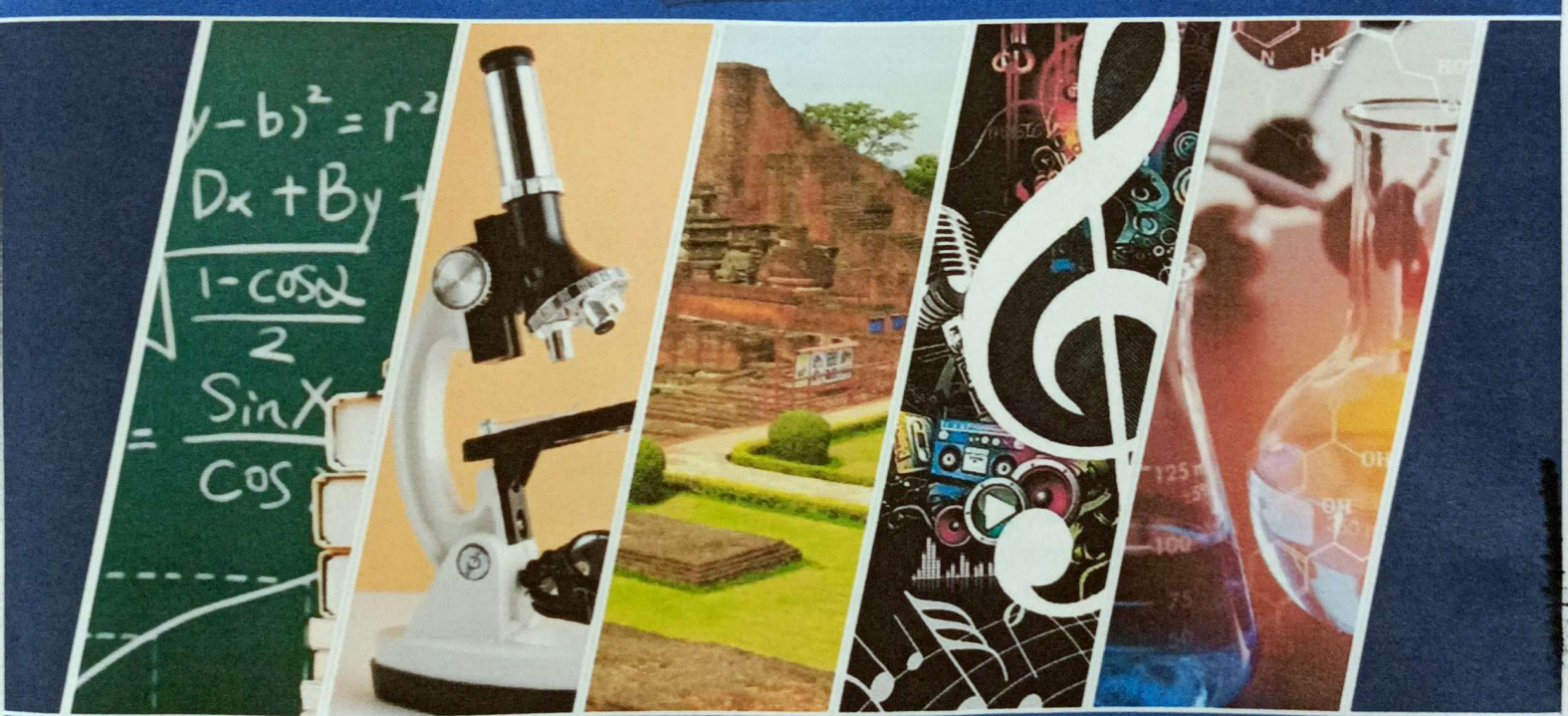

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Lcms Studies of Ethanolic Extract of *Amaranthus Cruetnus*

Ms. Wadkar Snehal S.
Department of Botany, Vivekanand College (Autonomous), Kolhapur
E mail: snehalwadkar.bhosale@gmail.com,

Abstract

Untargeted phytochemical profiling from plant extracts would aid in the investigation of multiple groups of compounds and the identification of new bioactive compounds, eliminating duplication in compound identification. This study investigated and evaluated the possible bioactive phytochemicals found in Amarantus cruentus , is leaf and grain vegetable crop which are cultivated while some of Amaranthus species which are weedy and wild. Liquid chromatography coupled to electrospray ionisation and quadrupole time-offlight mass spectrometry were used to analyse the untargeted phytochemical composition of active ethanolic leaf extracts. Preliminary screening results revealed that ethanolic extract has a high efficiency as an amino acid, plant hormone, effective antioxidant, and anti-inflammatory agent, as well as a significant amount of total phenolics and flavonoid content. Thus, ethanolic extracts of Amaranthus cruentus leaves were submitted to untargeted metabolite profiling to identify its chemical contents. The analysis of liquid chromatography-mass spectrometer spectra revealed the identification of 16 key therapeutically relevant common components, including leaves, p-Aminobenzoic acid, Pentoxifylline, Phyllanthin, Primaquine, Simvastatin, Tamsulosin, Tegafur, and Trichodermin.

Keywords

Amaranthus cruentus, LCMS, antioxidant, anti-inflammatory.

Introduction

Amaranthus is a large taxonomic group with a varied range of species that share traits such as tolerance to biotic and abiotic stressors, high yield, nutritional value, and economic value[3]. Amaranth is composed of 60-70 different species, 40 of which are indigenous to South America. Over 400 variations of such species can be found worldwide in temperate and tropical regions, and are classed as grain, vegetable, ornamental, or weed types[14]. Amaranthus is a very narrow annual plant that had rapid growth, is drought resistant, and is adaptive to different surroundings. Its various species have unisexual flowers and seeds that are compact, black in colour with shiny lustre. Multiple raised in captivity aspects are grown up in Tamil Nadu, Andhra Pradesh, Karnataka and Kerala in India[8]. Amaranth is also commonly known as Rajgira (king seed) and Ramdana (God's seed). It is a pseudo-cereal with high protein and nutritious value when compared to cereal crops. The plant's various parts are used to treat respiratory infections, visual issues, tuberculosis, fleshy tumours, liver disorders, and inflammations. Ayurvedic leaf decoction is used to treat chest ailments and gastroenteritis. Seeds can also help with sores. The seeds and leaves are used as an astringent to treat diarrhoea,