

Preparation and Evaluation Anti-Inflammatory Gel of Polyalthia Longifolia Leaf Extract

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Abstract: *Polyalthia longifolia* (Sonn.) Thwaites is a large, evergreen tree from the Annonaceae family, native to India and various tropical regions. It is highly valued for its aesthetic appeal and is commonly planted along streets due to its effectiveness in mitigating noise pollution. This tree contains a wide range of bioactive compounds, including steroids, alkaloids, terpenoids, phenolics, and flavonoids, which have long been used in traditional medicine to address ailments such as fever, skin conditions, diabetes, and parasitic infections. *Polyalthia longifolia* demonstrates a variety of pharmacological properties, such as antimicrobial, antioxidant, anti-inflammatory, anticancer, hepatoprotective, and antifungal effects. This study explores the formulation and assessment of a topical anti-inflammatory gel, which incorporates Ashoka leaf extract (*Saraca asoca*), a plant with a long history of use in Ayurveda for its healing properties. Inflammation is a natural bodily response to harmful stimuli, but when persistent, it can lead to various health issues. The aim of this formulation is to leverage the combined therapeutic effects of plant compounds to provide a natural solution for managing inflammation.

Keywords: *Polyalthia longifolia*, herbal medicine, anti-inflammatory activity

