

# CHEMICAL STANDARDIZATION AND TRADITIONAL APPLICATIONS OF *OROXYLUM INDICUM* LINN. AND *GMELINA ARBOREA* ROXB.: KEY COMPONENTS OF DASAMULA IN COMBATING OXIDATIVE STRESS

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## ABSTRACT

The Ayurvedic formulation Dasamula is widely utilized for its therapeutic effects, particularly in addressing oxidative stress and inflammation, which are key contributors to chronic ailments such as cardiovascular syndromes, diabetes, and neurodegenerative conditions. Two primary components of Dasamula, *Oroxylum indicum* and *Gmelina arborea*, are well-known for their potent antioxidant properties. *O. indicum*, rich in flavonoids, tannins and phenolic compounds, has demonstrated significant free radical scavenging activity, enhancing the body's endogenous antioxidant defense systems. *G. arborea*, containing iridoid glycosides, lignans and coumarins, exhibits strong antioxidants and anti-inflammatory effects in oxygen species neutralization and modulation oxidative injury at the cellular level. The objective of this paper was to study traditional applications of *O. indicum* and *G. arborea* in Ayurveda, focusing on their role in combating oxidative stress. It also explores recent advancements in the standardization of these plants, ensuring consistency in their bioactive content for therapeutic use. By standardizing key phytoconstituents, researchers can ensure the efficacy, safety, and reproducibility of Dasamula formulations in modern medicinal contexts. This work highlights the potential of *O. indicum* and *G. arborea* as critical elements in polyherbal therapies aimed at managing oxidative stress, bridging traditional wisdom with contemporary scientific validation.