

## Phyto, Physicochemical Standardization of Medicinal Plant *Enicostemma Littorale*, Blume

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**Abstract :** *Enicostemma littorale*, Blume (Gentianaceae) is a glabrous perennial herb and it is found in open, sandy places among sparse grass close the beach throughout the dry zone in Sri Lanka. It is traditionally used to treat inflammatory and painful conditions like arthritis, back pain; diabetes mellitus and to regulate bowel functions. Phyto, physicochemical standardization of dried, matured whole plants of *E. littorale* has been carried out in the present study. The study includes organoleptic characters along with estimation of its physicochemical parameters such as loss on drying, pH, ash values, extractability in water and ethanol and preliminary phytochemical screening. The generated information of the present study will provide data which is helpful in the correct identification and authentication of this medicinal plant and may help in preventing its adulteration.

**Keywords -** *Enicostemma littorale*, Indian gentian, Physicochemical, Phytochemical, Standardization

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### I. INTRODUCTION

Medicinal plants have been a major source of treatment for human diseases since time immemorial. One fourth of the world population i.e. 1.42 billion people are dependent on traditional medicines, particularly plant drug for curing ailments [1]. Herbal medicines are promising choice over modern synthetic drugs. They show minimum/no side effects and are considered to be safe. Generally herbal formulations involve the use of fresh or dried plant parts. Correct knowledge of such crude drugs is very important aspect in preparation, safety and efficacy of the herbal product. The process of standardization can be achieved by stepwise pharmacognostic studies [2]. Standardization is a system to ensure that every packet of medicine that is sold has the correct amount and will induce its therapeutic effect [3]. Determination of extractive values, ash residues and active components (saponin, alkaloids & essential oil content) plays a significant role for standardization of the indigenous crude drugs [4]. *E. littorale*, Blume belongs to family Gentianaceae, commonly known as 'Vellarugu' in Tamil, 'Indian gentian', in English, 'Mamajaka' in Sanskrit. It is a flower producing glabrous perennial herb which grows up to a height of 1.5ft is found throughout India [5-7].

In Sri Lanka, it is found in open, sandy places among sparse grass close the beach throughout the dry zone particularly from northwestern to northeastern coastal belt [8]. It is traditionally used to treat (a) inflammatory and painful conditions like arthritis, back pain, (b) diabetes mellitus, and (c) to regulate bowel functions [6, 9]. This herb is also known for its anti-inflammatory effects [10, 11] anti-diabetic activity [12], antioxidant [13], hepatomodulatory [14]. hypolipidemic and anti-arthritis activity[15]. The plant possesses valuable medicinal properties but most of the advantages are still confined to tribal areas because of raw knowledge and absence of proper scientific standardization. For the useful application of the plant parts in modern medicine, physico-chemical and phytochemical standardization is very important [16], so that the medical benefits of the plant may be used properly and scientifically and reach to the larger populations of the world. There fore, in the present research work was to evaluate the physicochemical parameters and phytochemical constituents of the whole plant of *E. littorale*.