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Phytochemical analysis of Sea buckthorn extracts and quantification of flavonoides by HPTLC

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Abstract

Seabuckthorn (*Hippophae rhamnoides* L.) Elaeagnaceae, a unique and valuable plant has recently gained worldwide attention, mainly for its medicinal and nutritional potential. Three species of Sea buckthorn *Hippophae rhamnoides*, *Hippophae salicifolia* and *Hippophae tibetana* are being cultivated in India, of which *Hippophae rhamnoides* L. ssp. Turkestanica is the main variety used commonly. Leaves of seabuckthorn are known to possesss medicinal properties such as anti-oxidant, adaptogenic, wound-healing and anti-inflammatory activities. Very few studies have focused on identification and characterization of the bioactive components from *Hippophae* extracts, which is an important area for the development of Sea buckthorn based pharmaceuticals and nutraceuticals. The present study was undertaken to compare the total phenolic and flavonoid composition along with antioxidative properties of the alcoholic and aqueous extracts obtained from selected species of Sea buckthorn leaves including Sea buckthorn (*Hippophae rhamnoides* ssp. *turkestanica*) and willow-leaved sea buckthorn or sawthorn (*Hippophae salicifolia* L.) The characterization of the extract was carried out using marker compound Gallic acid by High Performance Thin Layer Chromatography and phytochemical analysis in terms of total phenol and total flavonoids. The total phenolic content was found to be higher in alcoholic extracts as compared to aqueous extracts. For both aqueous and alcoholic extract the gallic acid was found to be higher in *Hippophae salicifolia* L. than *Hippophae rhamnoides* L.