

Pharmacognostic Studies on Ethnomedicinal Plants

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Hibiscus sabdariffa and *Hibiscus cannabinus* known as Gongura are highly nutritious and have high medicinal value. A comparative analysis of leaves and stems of the two species of *Hibiscus* was carried out. Microscopic analysis revealed the presence of numerous calcium oxalate crystals and mucilage filled cavities in *H. sabdariffa* which were absent in *H. cannabinus*. The total ash value was 8.15% in *H. cannabinus* and 6.61% in *H. sabdariffa*. The extractive value of *H. sabdariffa* was high in chloroform, whereas that of *H. cannabinus* was high in chloroform and ethanol. Fluorescence analysis at 366 nm revealed that *H. sabdariffa* showed orange fluorescence in alcohol, while that treated with water and dilute HCl gave green fluorescence. No fluorescence was observed in *H. cannabinus* with dilute HCl. In 0.1 N NaOH, orange fluorescence was observed in alcohol and green fluorescence was observed when treated with water. Phytochemical analysis showed the presence of resins, flavonoids, alkaloids, starch, proteins and saponins in *H. sabdariffa*, whereas *H. cannabinus* showed the presence of alkaloids, saponins, tannins, starch, proteins and flavonoids.

Rhus chinensis known as Thumbak is known to have high medicinal value. Dried fruit of *Rhus chinensis* are traditionally taken as a decoction for treating indigestion, dysentery and as a paste for treating allergy. Microscopic analysis revealed the presence of starch, stone cells and pericarp containing collenchyma. The total ash value was 3.53%. The extractive value was high in acetone. Fluorescence analysis at 366 nm revealed that *R. chinensis* showed dark brown fluorescence in sodium hydroxide solution, while that treated with acetic acid and ammonia gave light green fluorescence. Phytochemical analysis showed the presence of alkaloids, flavonoids, coumarin, phenol, quinine, saponin, tannin and sugar. The total tannin content was found to be 3.6%, flavanoids 0.56%, alkaloids 14.3% and saponins 15.2%. The zone of inhibition was highest in acetone extract (4.0 mm) and lowest in chloroform extract (1.1 mm). GC-MS studies revealed the presence of furfural with a peak area of 3.37, 3,5-methanocyclopentapyrazole (1.10), 1-ethyl-3-methylbenzene, (0.67), 1,4-dichlorobenzene (0.59), eucalyptol (3.11) and 6-amino-1-hexyl phosphate (0.40).

Artemesia absinthium Linn., commonly called Tethwan is known to have high medicinal value. Tribal people use the leaves of *Artemesia absinthium* in the form of decoction for treating intestinal worms. It is also hung in cupboards for its insect-repellent property. Microscopic analysis revealed the presence of numerous calcium oxalate crystals and trichomes. The total ash value was 9.59%. The extractive value was high in chloroform. *A. absinthium* showed pink fluorescence in acetic acid and ethanol extracts, while with dilute HCl and 0.1N NaOH, light green fluorescence was observed. *A. absinthium* showed the presence of alkaloids, coumarin, quinone and sugar. The total tannin content was found to be 2%, flavanoids 0.58%, alkaloids 7.05% and saponins 9.32%. The zone of inhibition was highest in acetone extract (2.37 mm) and lowest in petroleum ether extract (0.4 mm). GC-MS analysis of ethanol extract of *Artemesia absinthium* revealed the presence of bicyclo[3.1.1]hept-2-en-4-ol (33.14%), eucalyptol (24.21%) and β -myrcene (15.09%).