

## Examination of the Phytochemical and Biological Activities of *Prosopis glandulosa*

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### Abstract:

*Prosopis glandulosa* Torr. (Family: Fabaceae), Sindhi name: Devi naro, local name: Devi, English name: Honey mesquite, is native to America, it has been also widely naturalized in Karachi and also found most in all parts of Sindh province and other parts of West Pakistan. *P. glandulosa*, is also native to the Southwestern United States and Mexico, growing as far north as southern Kansas and as Far East as the eastern fifth of Texas. Ground leaves of Devi plant is added in mustard oil, which is then applied topically for the treatment of scabies, ringworm and abscess. This plant contains number phytochemicals which has medicinal value.

Phytochemicals are naturally non-nutritive secondary metabolites and biologically active compounds. These Phytochemicals protect plants themselves. In the recent time the phytochemicals have acquired prolonged applications and as such can act as different medications. Many of these phytochemicals can protect animals and humans against various diseases including cancer, diabetes, cardiovascular disorder and many other chronic diseases.

Preliminary phytochemical screening of leaves, stems, fruit and seed of *Prosopis glandulosa* were carried out by using sonication extraction method. Four different solvents namely; ethanol, hexane, acetone and chloroform were selected to obtain extracts of different parts of plant. The extracts were subjected to qualitative phytochemical screening as well as antibacterial activity against two bacterial strains such as gram negative *E. coli* and gram positive *S. aureus* by using reported procedures. The results illustrate that nine phytochemicals were present in several extracts of leaves, stem, flowers and seed of *P.glandulosa*. They are; tannins, carbohydrates, saponins, proteins, flavonoids, phenols, terpenoid, alkaloids. However, the glycosides and coumarins were absent. Thus, four extracts, such as ethanol, acetone, chloroform and hexane extracts from leaves, stem, flowers and seed of *P.glandulosa* were used to test their evidence for antibacterial activity. From that it was observed that the chloroform, hexane, acetone and ethanol extracts of leaves and flowers of *P.glandulosa* were highly effective in next to *E. coli* and *S. aureus* having the MIC values of 01µg/ml, while chloroform, hexane, acetone and ethanol extracts of seed and stem of *P.glandulosa* were examine to be ineffective against *E. coli* and *S. aureus* and therefore no MIC values were observed in two strains of bacteria.

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