

## Differentiation of *Azadirachta indica* A. juss and *Melia azedarach* L. by using pharmacognostical and preliminary phytochemical methods

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**Background and Aims:** *Azadirachta indica* A. Juss and *Melia azedarach* L. are two species from Meliaceae which are distributed in the south coast and the north forests of Iran respectively. They are both important due to their numerous pharmacological activities and their usage in traditional medicine but they have very often been confused with each other. The present study was carried out to define referential pharmacognostical and phytochemical parameters which can aid rapid and easy identification and differentiation of these two valuable species.

**Methods:** Various evaluations like macroscopic and microscopic characteristics, preliminary phytochemical screening and fluorescence analysis were carried out on pulp and husk, leaves and seeds of both plants in powdered form.

**Results:** The results showed that the two species can be differentiated macroscopically and microscopically but tests of phytochemical analysis were not absolutely felicitous for this aim. In addition, the obtained information about different colors of the powders on reaction with various reagents and fluorescence analyses of them provided supporting referential parameters for identification and differentiation of these two species.

**Conclusions:** Based on the present study, it can be deduced that pharmacognostical study is a practical and affordable method for differentiating of the species, although to catch this benefit, the fluorescence analysis, can be considered as its great complement.

**Keywords:** Pharmacognostical study; Phytochemical; Meliaceae