

Phytochemical and biological studies of *Schinus polygamus* growing in Egypt

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Abstract

The leaf ethanol extract of *Schinus polygamus* (Cav.) Cabrera has evidenced medicinal value as hepatoprotective. It demonstrated inhibitory effects on standard microbes (approximated to) 50% potency of ofloxacin. The same extract evidenced in vitro cytotoxicity on human cell lines viz, liver carcinoma HEPG2, larynx carcinoma HEP2, and colon carcinoma HCT116 when compared to doxorubicin. The leaf ethanol extract of *S. polygamus* showed variable anti inflammatory, analgesic, and antipyretic activities. Analysis of the hydrolyzed methanol extract of *S. polygamus* by HPLC allowed the identification of four phenolic acids and five flavonoid aglycones. Gallic acid and chlorogenic acid were identified as major phenolic acids. Major identified flavonoid aglycones were luteolin, kaempferol, quercetin, naringenin, and apigenin. The anti-inflammatory, analgesic, and antimicrobial activities support scientifically the use of *S. polygamus* in folk medicine for the fore mentioned variable uses. The content of plant constituents as polyphenols of the leaves of *S. polygamus* justify to some extent the hepatoprotective, anti-inflammatory and analgesic activity with pain tolerance. DNA fingerprinting of the leaves of *S. polygamus* was carried out as a mean of identification of the genetic profile of the Egyptian plant. Keywords: *Schinus polygamus* Cabrera; polyphenolics; hepatoprotective activity; antimicrobial activity; cytotoxic effect

International Journal of Traditional and Herbal Medicine. - 2013, August