AUTECOLOGY STUDY OF *KELUSSIA ODORATISSIMA* MOZAFF. AN ENDANGERED ETHNOMEDICINAL PLANT OF IRAN

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Kelussia odoratissima Mozaff. belonging to the *Apiaceae* family, is an Iranian endemic ethnomedicinal plant, which is highly endangered by severe harvesting and unsustainable herbal collection. In this research, autecological background of this species was studied in the wild habitats, to understand their conservation biology as well as to predict their behavior under artificial cultivation. The study area is located on the SW of the Iran, covering Charmahal-Bakhtiari and Isfahan. Site characteristics, including topography, climate, soil, accompanied plant species and essential oil percentage were determined. The study of habitats features indicated that this species grows in north-facing slopes up to50% with altitudes of 2300 to 2900 m and mean annual precipitation ranging from 330 to 1440 mm and average annual temperature of 6 to 7 °C. This plant grows on loam and clay-silty soils with EC of 0.45 to 0.72 (ds/m), pH of 6 to 8 and medium in mineral content. Height of plants were varies from 140 to 310 cm with crown diameter of 20 to 160 cm. Canopy cover and frequency for this species were 32 and 35 %, respectively. Vegetative growth stage of this species started in late March and ends of vegetative growth in early June, and flowering stage is from early June until early july, and seed ripening in mid september.The whole growth period of this species is a nearly 180 days which are equivalent to 2308.4 GDD. Essential oils of the plant aerial parts, which were collected from four regions Samsami, Koohrang, Bazoft and Feriedanshahre, were yellow and yields were 0.26,0.33, 0.34 and 0.32 % (w/w), respectively. Ecological characteristics of this species need to be considered in management programs of related rangeland ecosystems [1, 2].

References

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IN VITRO ANTILEISHMANIAL ACTIVITY OF *FERULA ASSA-FOETIDA* ETHANOL EXTRACTS AGAINST LEISHMANIA MAJOR PROMASTIGOTES STRAIN MRHO/IR/75/ER

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Leishmaniasis is a family of diseases caused by protozoan parasites of the genus Leishmania. Various Leishmania species can cause human infection, producing a spectrum of clinical manifestations. The current treatments are unsatisfactory, and in absence of a vaccine, there is an urgent need for effective drugs to replace/supplement those currently in use. Several anti-leishmanial drugs of choice are of plant origin. Many of the available drugs against the disease are toxic and in certain cases parasite drug resistance is developed [1]. The development of new compounds is urgently required Ferula assa-foetida is an herbaceous wild plant native to Iran. In Iranian traditional medicine, Ferula assa-foetida gum extract has been used as a remedy for abdominal pain, constipation and diarrhea and as an antihelminthic. Although there is some evidence for the anticoagulant action, antisplasmodic and hypotensive effects of F. assafoetida gum [2].In this study, we want to determine the leishmanicidal activity of the ethanol Ferula assa-foetida extracts against Leishmania major in vitro.The leishmanicidal activity of ethanol extract of Ferula assa-foetida against Leishmania. major free living promastigotes was evaluated, using microscopic examinations .Ethanol extract of Ferula assa-foetida highly effective against Leishmania promastigotes (IC(50)=2+/-0.12 microg/ml; ID(50)=0.65+/-0.02 3 microg/ml; LD(50)=2.1+/-0.096 microg/ml). The extract at 1.25 microg/ml totally eliminated the promastigotes 3 days of treatment.The present study suggests that ethanol Ferula assa-foetida extracts might be a potential source of anti-leishmanial compounds.

References

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