Ethnobotanical Study of Medicinal Plants Used by Bedouins in the Badia Region of Jordan

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Introduction

Badia is an Arabic word used to describe an arid to semi-arid region of the Middle East where rainfall averages less than 200 mm. Despite the harsh and delicate environment that the Jordanian Badia harbors, and overexploitation of the land, the dry ecosystem still provides local people with precious services, such as desert plants of high medicinal value. More documentation on Traditional Knowledge (TK) related to medicinal plants is needed in Jordan, and particularly in the Badia, to prevent valuable information from being lost after the death of elderly secret keepers. This is also important because medicinal plants are crucial for health and have an economic role within biodiversity, and the new Bedouin generations are showing little interest in these treasures of knowledge that their ancestors owned.

Objectives: 1. Document the old traditional knowledge of the Bedouins on the use of wild plants to treat health problems, to conserve this valuable knowledge from loss. 2. Identify the key plant species used. 3. Calculate the Informant Consensus Factor (ICF) by category of health disorder.
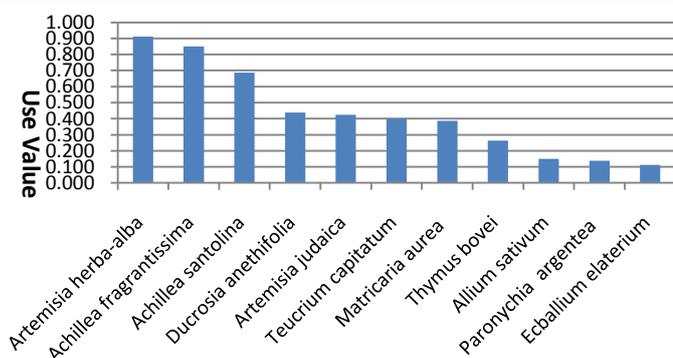
Methodology

Survey area: Villages and open areas inhabited by the nomads of the Jordanian Badia.

Interviewees: Bedouins who are raising or used to raise livestock, including nomads, semi nomads, fully settled Bedouins and women in the Badia. Of the 80 interviewees, 54% were above 50 years old and 39% were above 70 years old. The targeted knowledge period is about 30 years ago.

Data collection: Data was collected using a questionnaire. One interviewer asked questions and led the discussion, while another person took notes. In addition, five focus groups were conducted and some videos were made about medicinal plant preparations and knowledge.

Data analysis: The data was organized and analyzed. The Informant Consensus Factor (ICF) was calculated to define how homogeneous the information is, and the Use Value (UV) of the species was calculated to indicate the importance and rank the priority and species used by the Bedouins.

Fig. 1: Use values for medicinal plants in the Badia region of Jordan

Results and Discussion

The highest UV values were scored for the native species *Artemisia herba-alba*, *Achillea fragrantissima*, *Ducrosia anethifolia* and *Artemisia judaica*. This indicates their importance as safe plants in traditional medicine in the Badia region.

The highest value for the Informant Consensus Factor (ICF) was scored for **dental pain (0.97)** followed by **gastrointestinal disorders (0.95)** and j**aundice (0.85)** (Table 1). This may indicate high incidental occurrences and the Bedouins' knowledge of the plants in their surroundings, and beyond in some cases, for medicinal purposes.

Table 1: Informant Consensus Factor (ICF) by ailment category

Ailment Category	No. of use citations	No. of species	ICF
Dental pain	35	2	**0.97**
Gastrointestinal disorders	299	16	**0.95**
Jaundice	21	4	**0.85**
Renal problems	13	3	**0.83**
General pain	27	15	**0.77**
Respiratory disorders	18	5	**0.76**
Wound healing	11	5	**0.6**
Diabetes	1	1	**0**
Skin problems	5	5	**0**
Cancer	2	2	**0**

Bongardia chrysogonum

Ducrosia anethifolia