

Letter

Ethno-botanical Uses of Some Plants in the Ha'ilian Tradition, Northern Saudi Arabia

Fatma A. Hamada^{1,2}

¹Biology Department, Faculty of Science, Hail University, Ha'il, Saudi Arabia

²Botany Department, Faculty of Science, Aswan University, Aswan, Egypt

Email address:

fatoomaized@yahoo.com

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Abstract: Ha'il community is an important community in the northern Saudi Arabia; has its own culture. The current study is recording the ethno-botanical uses of some plants in Ha'il region, reflecting how surrounding environment and the geographical position affecting this knowledge, and showing even similarities with other Bedouin cultures within other places in nearby countries that has similar or related Bedouin ancestors.

Keywords: Ha'il Region, Ethno-botanical Tradition, Northern Saudi Arabia, Surrounding Environment

1. Introduction

Saudi Arabia, the largest country of the Arabian Peninsula, almost 80% of the Arabian Peninsula with an area of about 2.25 million km² [1], extends between latitude 16° 83' N 32° 43' N and longitude 34° 36' E 56° E. [2]. Ha'il located between 25° 35' and 29° 00' N longitudes and 39° 01' and 44° 45' E latitudes [3, 4]; covers an area of 118.322 km² and is bordered from the west by Tabuk and Al-Madinah Al-Monawara, from the north by Al-Jauf and Northern Frontier, from the south by Al-Qassim and to the east by central and eastern regions [5]; Figure 1. Ha'il community is an important part in the northern Saudi Arabia, and has its own culture.

Plants play a very important role in our lives, in addition to its use as a food source; plants also provide us with fibers for making cloth, rope, paper, dyes and lubricants as well. Moreover, plants have its important usage in medicinal purposes as therapeutic drugs [6]. And ethno-botany concerns with the document, describe conceptual

relationships with their homeland plants [7], and show complex relationships between cultures and uses of plants, primarily focusing on how plants are used, managed and recognized across different human communities. Ethno-botany increasingly becoming a promising tool in searching for new pharmaceuticals, and has played an important role in the development of new drugs in many centuries and helped in defining strategies and actions for conservation, so ethno-botany could play an increasingly important role in sustainable development and biodiversity conservation [8].

Preliminary survey aims to report indigenous uses of plants in daily life tools, record some medicinal herbs in Ha'il region community, and show ethno-botanical uses of some plants in Ha'il region, reflecting the effect of the surrounding environment, as little number of researchers has carried out the ethno-botanic studies in this region and its surroundings.

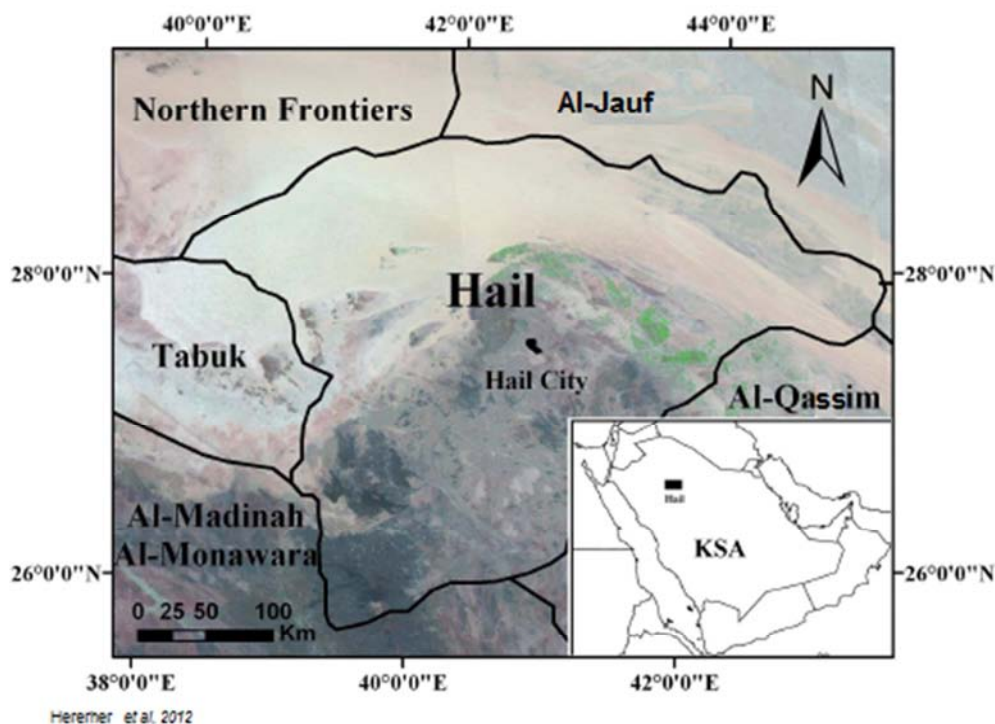


Figure 1. A map shows Ha'il position at Saudi Arabia.

2. Materials & Methods

This survey was done via personal interviews, group discussions using questionnaires, during the period from April 2017 to June, 2017 with Hail sellers in popular markets and Hail heritage market, and some Ha'ilian women. The questionnaires were used to obtain information on the used plants and the medicinal plants with their local names, used, type of preparation and administration, and mentioned species by informants were taxonomically identified or ensured. Data were analysed using Microsoft Excel Program.

3. Results

The present study showed the creativity of the indigenous community surveyed. Women were skillful in using palm

leaves (fronds) in making baskets, dishes and different shapes of various pots designs; Figures (2, 3 and 4), depending mainly on palm trees in order to obtain their raw materials

Bedouins showed more creative ability in using surrounding plants as tools decorated by parts of animal's wool. Also, their ability was much confined to their environment and the available and surrounding plant raw materials.

The present study shows that majority of the traditional tools are mainly made of flaked of date palm trees. Most sellers ensured that only some of Al-haet district women out of the Ha'ilian women, who still interested in making these tools from palm flakes. Also, it was observed that the most common medicinal plants in these markets are *Artemisia* species and variety of local and imported spices.



Figure 2. Different shapes of dishes.



Figure 3. Different designs of baskets.

4. Discussion & Conclusions

The present study showed that the geographic position affected on the prevalence of some plants usage, as they grow in the surrounding arid climate and desert environment; and mainly date palm trees were the most common, indicated that there were similarities between different cultural populations as they are considered as geographical neighbours; has similar or related Bedouin ancestors; i.e. compared with the south and south-eastern Bedouins of Egypt [6]. So, the current plant knowledge is a result of exchanged knowledge with neighboring tribes, and surrounding people, and has been passed around the world frequently since the beginning of time leading for spreading of plants themselves as well [8].

The similarities between different cultural populations and

their nearby geographical neighbours ensure that ethno-botanical uses can arise in parallel in different areas where related plants are available [9] according to similarities in the environmental conditions, or may show similarities with other Bedouin cultures within other places that have similar or related ancestors as a result of Islamic conquests, or commercial trading.

Traditional medicine has its significant participation in the Saudi Arabia's heritage and it is widely practiced [10], so difficulties facing these skills and different ways of improvement these skills and its people should be studied in the future, as these skills could have a good economical impact on the country economy, and biodiversity conservation.



Figure 4. A) Different types of pots, B) Different types of manual fans, C) Two types of commonly used home brushes.

The current work could be a good preliminary contribution to the conservation of local knowledge of using plants as tools and in traditional herbal medicine, as the scientific knowledge application relating to bioresources and in respond to welfare demands on socio-economic aspects, impacts directly on environment and biodiversity conservation [8].

Governmental organizations should be endeavoring to pass through this knowledge to the next generations, raising awareness of the importance of keeping this part of the culture. In addition, medicinal plants could consider as good sources for finding alternative or complementary treatments for many diseases [11, 12].

Further study is required in order to be applied on large population and to find out to what extent this ethno-botanical knowledge is still present among the younger generations in this area of Hail, and what methods might be adopted in order to stop this gradual loss in knowledge.

References

- [1] Almazroui M.; Islam, M.; Athar H.; Jonesa P.; Rahmana, M. (2012). Recent climate change in the Arabian Peninsula: annual rainfall and temperature analysis of Saudi Arabia for 1978-2009. *Int. J. Climatol.*, 32: 953–966.
- [2] Meelad, M. (2006). Flora Study Series in Saudi Arabia: A Study of the Soil of Makkah- Madinah Road until Rabigh. Umm Al-Qura. Univ. *J. Sci. Med. Eng.* 18:13-29.
- [3] Al-Turki, T. A., Al-Olayan, H. A., 2003. Contribution to the flora of Saudi Arabia: Hail region. *Saudi J. Biol. Sci.* 10, 190–222.
- [4] El- Ghanim, W. M.; Hassan, M. L.; Galal T. M and Abdelfattah B. (2010). Floristic composition and vegetation analysis in Hail region north of central Saudi Arabia. *Saudi Journal of Biological Sciences*, 17: 119–128.
- [5] Alshammari, A. M. and Sharawy, S. M (2010). Wild plants diversity of the Hema Faid region (Ha'il province, Saudi Arabia). *Asian journal of plant sciences*, 9 (8):447-454.
- [6] Hamada, F. (2013). Ethnobotanical Survey for Some Remote Communities in South Egypt; Best poster award in the International Conference on New Horizons in Basic and Applied Science, 21-23rd September 2013, Hurghada, Egypt.
- [7] Mandaville, J. P. (2011). Bedouin Ethnobotany; Plant Concepts and Uses in a Desert Pastoral World, 352 pp.
- [8] Pandey, A. K. and Tripathi, Y. C. (2017). Ethnobotany and its relevance in contemporary research. *Journal of Medicinal Plants Studies*, 5(3): 123-129.
- [9] Saslis-Lagoudakis, C. H.; Klitgaard, B. B.; Forest, F.; Francis, L.; Savolainen, V.; Williamson, E. M. and Hawkins, J. A. (2011). The Use of Phylogeny to Interpret Cross-Cultural Patterns in Plant Use and Guide Medicinal Plant Discovery: An Example from Pterocarpus (Leguminosae). *PLOS ONE*, 6 (7): e22275
- [10] Al-Essa MA, Al-Mehaidib A, Al-Gain S (1998). Parental awareness of liver disease among children in Saudi Arabia. *Ann. Saudi Med.*, 18(1): 79-81.
- [11] Jamila, F.; Mostafa, E. (2014). Ethnobotanical survey of medicinal plants used by people in Oriental Morocco to manage various ailments. *J. Ethnopharmacol*; 154(1): 76-87.
- [12] Teixidor-Toneu, I; Martin G. J.; Ouhammou A.; Puri, R. K. and Hawkins, J. A. (2016). An ethnomedicinal survey of a Tashelhit-speaking community in the High Atlas, Morocco. *Journal of Ethnopharmacology*, 188: 96–110.