



Contents lists available at ScienceDirect

Asian Pacific Journal of Tropical Biomedicine

journal homepage: www.elsevier.com/locate/apjtb



Document heading

© 2015 by the Asian Pacific Journal of Tropical Biomedicine. All rights reserved.

Ethnobotanical inventory and folk uses of indigenous plants from Pir Nasoora National Park, Azad Jammu and Kashmir

Muhammad Shoaib Amjad^{1,2*}, Muhammad Arshad¹, Rahmatullah Qureshi¹

¹Department of Botany, PMAS-University of Arid Agriculture, Rawalpindi, Pakistan

²Department of Botany, Women University of Azad Jammu and Kashmir, Bagh, Pakistan

PEER REVIEW

Peer reviewer

Prof. MJ Potgieter, Department of Biodiversity, University of Limpopo, South Africa.

Tel: +27 15 268 2224

E-mail: Martin.Potgieter@ul.ac.za

Comments

This paper does contain valuable information. In this regard the paper presents baseline data on the use of plant resources by communities surrounding the Pir Nasoora National Park. As such it is valuable from a conservation point of view. Also it could lead to the identification of new and novel pharmaceutical leads from the medicinally used plant species.

Details on Page 239

ABSTRACT

Objective: To document the medicinal and other folk uses of native plants of the area with a view to preserve the ethnobotanical knowledge associated with this area.

Methods: The fieldwork was conducted during a period of one year. Data were collected through a semi-structured questionnaire and interviews with indigenous tribal people and traditional health practitioners residing in the study area.

Results: The present study documented ethnobotanical uses of 104 plant species belonged to 93 genera and 51 families. Results revealed that most of the documented species were used medicinally (78 spp., 44.07%). Leaves were found to be the most frequently used part (69 spp., 42.86%) for the preparation of indigenous recipes and for fodder.

Conclusions: The current research contributes significantly to the ethnobotanical knowledge, and depicts a strong human-plant interaction. There is an urgent need to further document indigenous uses of plants for future domestication.

KEYWORDS

Ethnobotany, Pir Nasoora, Indigenous knowledge, Conservation

1. Introduction

Ethnobotany is the scientific study of the relationships between people and plants. It was first coined in 1896 by the US botanist John Harshberger; however, the history of ethnobotany began long before that[1,2]. Ethnobotany is the study of the relationship between plants, people and environment. Broadly viewed, ethnobotany is the cultural study of how the people perceive the plants, give names, use and organize the information about the plants around them[3,4]. It plays an important role in understanding the dynamic relationships between biological diversity and social and cultural systems[5-7]. Plants are essential for human beings as they provide food, fuel, fodder, timber, fruit and medicines[8-

10]. Ethnobotanical approaches are significant in highlighting locally important plant species, particularly for new crude drug sources. The use of plants as medicine is slowly increasing in the developed world[11] because they have minor or no side effects[12]. Documentation of indigenous knowledge, particularly medicinal values of plant species, provided various modern drugs[13]. The indigenous medicinal information of plants is also helpful to ecologists, pharmacologists, taxonomists, watershed and wild life managers in enhancing the prosperity of an area, besides listing the traditional uses[1,14].

Pakistan has a rich diversity of plants that are being used by local communities for medicinal purposes. Proper usages of local plants are common at the community and end-user level[15].

*Corresponding author: Muhammad Shoaib Amjad, Department of Botany, PMAS-University of Arid Agriculture, Rawalpindi, Pakistan.

Tel: 00923453812987

E-mail: malikshoaib1165@yahoo.com

Article history:

Received 16 Nov 2014

Received in revised form 1 Dec 2014

Accepted 15 Jan 2015

Available online 2 Feb 2015

According to Hocking[16], 84% of Pakistan's population is dependent on traditional medicines for their primary health care. A significant number of studies reported on this from various parts of the country[17-28]. With reference to Azad Jammu and Kashmir, some studies are reported from different areas including Kotli, Poonch, Muzaffarabad, Bagh and Bimber by various researchers[29-32]. Various studies contributed ethnobotanical enumerations from areas nearby to the Pir Nasoora National Park. For example, Pie and Manandhara reported that in the Himalayan ranges at least 70% of the medicinal plants and animals in the region consists of wild species and 70%-80% of the population in this region depends on traditional medicines for their primary health care[33]. As a further example, Bokhari investigated the ethnobotany and did a vegetation analysis of the Machyara National Park Muzafarabad Azad Jammu and Kashmir and reported 10 plant communities in different regions of the National Park[34]. Similarly, Zandial working on the ethnobotany of the National Park Machyara reported 104 important plant species used by local people[35]. People living in the mountains of Pakistan use plants in many ways such as medicines, timber wood, fire wood, food, and fodder[36]. The medicinal plants of Himalayas are specific[37] and their distribution is scattered and restricted to small areas. However, there are many parts of the country which remain unexplored from an ethnobotanical point of view. Since most of the population of the area is rural with a low literacy rate and lack modern health facilities, they are more dependent upon natural resources, especially plants for their healthcare and livelihood requirements. The present study reports on the ethnobotanically important resources from the Pir Nasoora National Park, Azad Jammu and Kashmir, Pakistan and analyzes the indigenous traditional knowledge on the utilization of the most commonly used plants. This research will contribute a lot in providing the useful information on the conservation and sustainable use of the natural resources of the area.

2. Materials and methods

2.1. Study area, climate and vegetation

Pir Nasoora National Park lies between 31.3° E latitude and 74.5° N longitude, covering an area of 1850 km, situated north of Kotli at an altitude of 1300 m to 2050 m. The investigated area has no population but the surrounding villages are densely populated. The area is covered with forest and residents from adjoining villages use it for a variety of purposes such as medicine and fuel timber amongst other. The climate of the area is of subtropical humid type in which chir pine [*Pinus roxburghii* (*P. roxburghii*)] and reën [*Quercus dilatata* (*Q. dilatata*)] are the most dominant tree species. Due to cool and humid conditions for most of the year, the vegetation in the area comprises a wide diversity of

trees, herbs, shrubs and climbers. Ground cover comprises a wide variety of angiosperms along with ferns and mosses.

2.2. Field work and data collection

Field surveys were conducted during August 2012-July 2013 to document ethnobotanical information through oral interviews and designed semi-structured questionnaire from local herbalists (Hakeems) and the elderly people who were familiar with traditional uses of plants particularly for medicinal, veterinary, fruit, vegetable, fodder, fuel and others. The queries were repeatedly made to increase the reliability of the data.

During the field survey, 155 local inhabitants of 12 villages were selected based on age and gender (Table 1).

Table 1

Age and gender wise distribution.

| Age Group | Gender | No. of questionnaires |
|------------------|--------|-----------------------|
| Old (50+) | Male | 50 |
| | Female | 23 |
| Middle age (25+) | Male | 45 |
| | Female | 20 |
| Youngster | Male | 12 |
| | Female | 5 |
| Total | | 155 |

2.3. Plant identification

Plant specimens were collected, pressed, dried and mounted on herbarium sheets and identified with the help of floristic literature[38,39]. The correctly identified specimens were deposited as voucher specimens in the herbarium of the Department of Botany, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan.

3. Results

A total of 104 plant species belonging to 93 genera and 51 families are recorded in the present study, which are being used for a variety of purposes by native people. The detailed inventory is provided in Table 2, which includes botanical names, followed by local name, family and ethnobotanical uses.

The analysis of the ethnobotanical data showed that area was best suited to the medicinal plant and rangeland. Ethnobotanical use categories showed that major proportion of species were used for medicinal purposes (78 spp., 44.07%) as well as fodder for domesticated animals (51 spp., 28.81%). It was followed by others (25 spp., 14.12%), fuel (15 spp., 8.47%), timber wood (8 spp., 4.25%). With reference to their ethnobotanical uses (Figure 1), leaves were commonly used parts for making indigenous recipes and as a fodder (69 spp., 42.86%), followed by stem (29 spp., 18.01%) and fruit (20 spp., 12.42%).

Download English Version:

<https://daneshyari.com/en/article/2032657>

Download Persian Version:

<https://daneshyari.com/article/2032657>

[Daneshyari.com](https://daneshyari.com)