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Medicinally Important Weed Flora of Rampur, Shimla, Himachal Pradesh (India)

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Abstract

Weeds have been a source of problem in the agricultural fields since ancient times as they outcompete and affect the yield of the crop plants. These weeds are considered invasive and detrimental to native ecosystems. However, some of these invasive or alien plant species have been in use in the indigenous health care systems especially in the remote or far-flung areas of the country to treat various ailments offering potential therapeutic benefits. Not much work has been done to document the medicinally important weed flora in Himachal Pradesh. Therefore, in the present study, an attempt has been made to list some of the commonly occurring weeds of Rampur, Shimla along with their medicinal uses. A total of 23 plant species belonging to 19 families have been recorded. The study also revealed that the natives of the study area use different parts of these weeds like leaves, roots, rhizomes, seeds etc. in various forms *viz*., powders, pastes, aqueous extracts, decoctions *etc*., for the treatment of different diseases.

Keywords: *Alien plants, Indigenous health care systems, Invasive*

Introduction

"Weed" is a general term used for the plant species that are undesirable and problematic in an area (Klingman and Noordhoff, 1961; Ali and Islam, 1982). These plants often grow aggressively; compete with crop plants or native vegetation for water, space, light and nutrition, leading to ecological imbalances. The fast growth and spread of these weeds prevent establishment of native trees,

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shrubs and grasses thus posing serious threat to the plant biodiversity. The invasion of crop fields by the weeds reduces the yield and deteriorates the quality of crops (Craft and Robbins, 1962). Several alien weeds like *Parthenium*, *Bidens pilosa*, *Ageratum* and *Lantana* are spreading rapidly in the state and causing harm to the native vegetation by interfering with their growth.

Despite of the harmful and deleterious effects of certain weeds, some of the weeds are highly medicinal and are of great ethno-botanical importance. Very few or scattered information is available on the medicinally important weeds of different regions of India (Chauhan, 1999, 2003; Kala, 2003; Kapur; 1993; Khare *et al.*, 2004; Kirtikar and Basu, 1984; Sachan *et al.*, 2012; Sood *et al.*, 2012; Khuroo *et al.*, 2007, 2009, 2010, 2011, 2012; Singh *et al.*, 2010; Bhatt *et al.*, 2012, Sekar, 2012). However, not much work has been done on the medicinal aspect of weeds in Himachal Pradesh. Therefore, the present study is an attempt to document the medicinally important weeds from the remote area Rampur of Himachal Pradesh. Himachal Pradesh, commonly known as 'abode of snow or Devbhoomi' is one of the richest repositories of plant diversity in India. However, urbanization, habitat destruction coupled with human interventions like introduction of invasive exotics, has resulted in the change in ecology of the state. Studies reveal that the alien flora of H.P. comprises of 497 species belonging to 85 families (Jaryan *et al.*, 2013)

Material and Methods

The present study was carried out for gathering information regarding the weed flora of Rampur, district Shimla of Himachal Pradesh. Rampur Bushahr is situated on the left bank of river Satluj and is located between 31º27´ N latitude and 77º37´59" E longitude (Figure 1). It is about 130 km away from capital city Shimla. The area has an average elevation of about 1020 m above mean sea level. The entire tract is mountainous. The city boasts of being home to Asia's largest hydropower Project- the Nathpa Jhakhri Hydro power station built by SJVNL at Jhakhri, Rampur Bsr.

The main objective of the study was to document the medicinally important weed flora of the study area. Extensive field

surveys were carried out in the entire study area to gather ample information about the medicinal weeds used in the study region. The commonly used weed flora of the study area has been listed in table 1 along with their medicinal uses.

Results and Discussion

A total of 23 medicinally important weeds of Rampur belonging to 19 different families have been listed in this research article. All of these weeds holds medicinal importance and plays significant role in the health care systems of the local inhabitants especially the poor as the modern medical treatment is a costly affair and cannot be afforded by everyone in the remote areas. The study also revealed that the natives of the study area use these weeds in various forms *viz*., powders, pastes, aqueous extracts, decoctions *etc*., for the treatment of different diseases. The traditional system of medicine has played a pivotal role in providing healthcare to the people living in remote areas where modern facilities have failed to flourish. While the usefulness of weeds in the Himalayas is often overshadowed by their negative impacts, acknowledging their traditional and cultural significance can offer insights into the complex relationship between humans and their natural environment in the region.

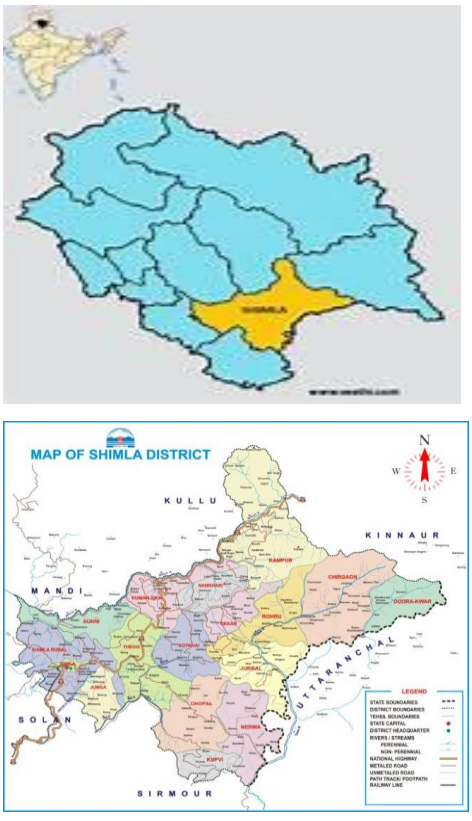

Figure 1: Map of the study area

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Table 1: Medicinally important Weed flora of Rampur, District Shimla, Himachal Pradesh

Sl. No.	Botanical Name	Common Name	Family	Flowering/ Fruiting	Part used	Medicinal uses
1.	*Abutilon indicum*	Thuthi	Malvaceae	September-April	Leaves and Roots	Fever and chest infections, cures boils and ulcers
2.	*Achyranthes bidentatai*	Puthkanda	Amarathaceae	June-August	Stem and Roots	Decoction of stem used for uric acid and of root is effective against snake bite
3.	*Acorus calamus*	Varja	Liliaceae	June-July	Rhizome	Paste of rhizome along is used for fever and cough
4.	*Ajuga parviflora*	Neelkanthi	Lamiaceae	May-June	Leaves	Leaves paste and poultice against skin diseases in cattle
5.	*Amaranthus spinosus*	Chaulai	Amaranthaceae	December- April	Leaves	Decoction of leaves is used to treat kidney problems
6.	*Argemone mexicana*	Prickly poppy	Papaveraceae	May-September	Seeds	Seed oil is purgative, possess analgesic and anti-inflammatory properties

7.	*Artemisia capillaris*	Kubish	Asteraceae	August-September	Seeds	Seeds are used for joint pain
8.	*Boerhavia diffusa*	Eat-seat	Nyctaginaceae	April-October	Leaves	Leaves relished as vegetable and good for rheumatism
9.	*Calotropis procera*	Ak	Asclepiadaceae	February-May	Latex	Latex applied for toothache; used for baldness
10.	*Cannabis sativa*	Bhang	Cannabinaceae	June-October	Leaves and Fruits	Sedative and anti-inflammatory agent
11.	*Cirsium arvense*	Bhruce	Asteraceae	May-June	Roots and Leaves	Given to cattle for enhancing lactation
12.	*Cynodon dactylon*	Bermuda grass	Poaceae	March -September	Leaves	Decoction of leaves cure diarrhea, acidity, vomiting
13.	*Datura stramonium*	Dhatura	Solanaceae	April-October	Leaves	Leaves used against asthma
14.	*Euphorbia hirta*	Dudhghas	Euphorbiaceae	November- April	Stem	Used for bronchitis, asthma and piles

15.	*Lantana camara*	Verbena	Verbenaceae	April-June	Leaves	Leaf paste against sprain and has insecticidal properties
16.	*Oxalis corniculata*	Malori	Oxalidaceae	April-October	Leaves	Leaves eaten raw, refrigerant
17.	Ranunculus arvensis	Jaldhar	Ranunculaceae	April-June	Leaves	Leaf paste for boils
18.	*Rumex hastatus*	Churki	Polygonaceae	November-April	Stem and Leaves	Stem chewed by children, refrigerant, coolant; leaf decoction for malarial fever
19.	*Rumex nepalensis*	Jangli palak	Polygonaceae	November-April	Leaves and Roots	Decoction of leaves and roots used for piles
20.	*Solanum nigrum*	Makoi	Solanaceae	January-July	Fruits	Ripe fruits edible; used as antiseptic, diaphoretic, diuretic, expectorant, laxative,
21.	*Sonchus asper*	Dodak	Asteraceae	March - April	Leaves	Decoction of leaves have anti-inflammatory, antioxidant, anti tumor

						activities
22.	*Stellaria media*	Chick weed	Caryophyllaceae	March-April	Leaves and Stems	Aerial parts used in mixed vegetable and a good fodder
23.	*Woodfordia fruticosa*	Dhaun	Lythraceae	March-June	Flowers	Nectar of flowers consumed by children; also used for making local wine

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