

Exploration of Unani Medicinal Plants in Jammu & Kashmir and Strategy for Their Conservation and Cultivation

¹Aminuddin,
²Tariq Ahmad Butt,
³R. Murugeswaran
and
⁴Parwez Ahmad

¹Central Council for Research
in Unani Medicine,
61-65 Institutional Area,
Janakpuri, New Delhi-110058

²Regional Research Institute
of Unani Medicine,
University of Kashmir,
Srinagar-190006 (J&K)

³ Regional Research Institute
of Unani Medicine,
1 West Mada Church Street,
Royapuram, Chennai-600013

⁴Regional Research Institute
of Unani Medicine (CCRUM),
Post Box 70, Aligarh-202002

Abstract

Based on a series of medicinal plants exploration trips conducted in different forests of Jammu & Kashmir for over two decades, the paper highlights 28 taxa of important Unani drugs. Each taxa enumerated has been provided with information on botanical name, Unani and English name(s), voucher specimen number, locality and the therapeutic action and uses as mentioned in Unani text. Some of the important medicinal species for the area studied are; *Achillea millefolium* Linn. (Biranjasif), *Aconitum heterophyllum* Wall. (Atees), *Artemisia maritima* L. (Darmana), *Bergenia ciliata* (Haw) Sternb. (Pakhanbed), *Colchicum luteum* Baker (Suranjan), *Delphinium denudatum* Wall. ex H & T (Jadwar), *Picrorhiza kurroa* Royle ex Benth. (Kutki), *Saussurea lappa* (Dcne) Sch. Bip (Qust) etc. (Fig. 1). Study reveals that some of these species are on the verge of extinction on account of their over-exploitation by drug industry and in local use; therefore, strategy for their conservation and protection has been suggested.

Keywords: Medicinal plants, Conservation, J&K., Unani drugs.

Introduction

Forests have been a source of invaluable medicinal plants wealth since man realized the preventive and curative properties of plants. It is estimated that about 80% of world's population depends on plants or plant products in traditional forms of medicine for primary health care needs. However, more than 70% medicinal plants collection from forests involves destructive harvesting. Consequently, there has been a serious threat to their genetic stock and biodiversity. Under such situation, there is a need for systematic exploration of plants in different parts of the country and suggest measures for their conservation. Besides, there is also an upsurge in the investigation on ethnopharmacological uses of medicinal plants from different forests and rural areas, particularly the tribal pockets to record this fast disappearing wisdom to discover new therapeutic agents unknown to medical science. Based on this rationale, the present paper deals with 28 taxa of highly important Unani drugs collected from J&K forests. Need for conservation and protection of such medicinal plants which are on the verge of extinction because of their over-exploitation has been re-stressed.

The Study Area:

The state of Jammu and Kashmir belongs to the northern part of India. It is situated in the western part of great Himalaya. The valley of Kashmir, in the state

¹*Author for correspondence; Email: ccrum620@gmail.com

is known to the world as 'Paradise on the Earth'. The hilly and mountainous forests in the state harbor diverse type of natural flora. Botanical exploration in Jammu and Kashmir state dates back to the close of the first quarter of the last century. Different researchers and academicians have undertaken floristic studies in forest areas of the state (Sapru *et al.*, 1975; Dar *et al.*, 1983a, 1983b; Dhar & Kachroo, 1979; 1980; 1982; 1983a; 1983b; Dhar & Siddiqui, 1986; Dhar *et al.*, 1999; Yousuf *et al.*, 1986; Jee *et al.*, 1989). But none of the workers have recorded comprehensive data on medicinal plants used in Unani system of medicine. Moreover, in the lesser and inner Himalaya, there are certain places which are either unexplored or under-explored. This is perhaps, because of the rough and dangerous terrain and also due to rigorous weather conditions, like heavy snowfall and rainfall and frequent landslides, which blocks the risky tracks for most part of the year. As a result these areas become difficult to approach.

Material and Methods

Data presented in this paper is based on series of medicinal plants collection trips conducted in the study area for over two decades. All species of plants available during survey were collected alongwith information on their local name, habit and habitat, flower colour & hue, ethnopharmacological uses (where available) and other such characters which can not be deduced in the laboratory from inspection of herbarium sheets. In the laboratory all voucher specimens have been processed in customary way (Jain & Rao, 1976), botanically identified and deposited in the herbarium of Survey of Medicinal Plants Unit of Regional Research Institute of Unani Medicine, Srinagar (J&K), for future reference and study.

The medicinal plants specimens have been further screened for their use in Unani Medicine with the help of available text (Ibn-e-Sina, 1887; Majusi, 1889; Ghani, 1926; Ibn-e-Baitar, 1985; Kabeeruddin, 2007). Of these, present paper deals with 28 such important taxa that are widely used in Unani medicine.

Enumeration

The important plants species collected and identified from the study area are arranged in alphabetical order by their botanical name. Data on each species is presented in the following sequence: botanical name, family; Unani name; English name; locality and voucher specimen number followed by therapeutic action and uses as per Unani text.

Figure 1-6: Important Medicinal Species of the Study Area



1. *Achillea millefolium* L. (Biranjasif)



2. *Aconitum heterophyllum* Wall ex Royle (Atees)



3. *Berberis aristata* DC. (Zarishk)



4. *Bergenia ciliata* (Haw) Sternb. (Pakhanbed)



5. *Colchicum luteum* Baker (Suranjan)



6. *Crocus sativus* L. (Zafran)

Figure 7-12: Important Medicinal Species of the Study Area



7. *Cydonia oblonga* Mill. (Behi)



8. *Delphinium denudatum* Wall. ex H & T (Jadwar)



9. *Orchis latifolia* Linn. (Salab Misri)



10. *Picrorhiza kurooa* Royle ex Benth (Kutki)



11. *Saussurea lappa* (Dcne) Sch. Bip (Qust)



12. *Viola odorata* L. (Banafsha)

Achillea millefolium L. (Asteraceae)

Unani name: Biranjasif

English name: Yarrow

Locality and Voucher specimen no.: Tunnel top, 113

Therapeutic action and uses as per Unani texts: Diaphoretic, stimulant, tonic, emmenagogue. Useful in cold, obstructed perspiration and fever.

Aconitum heterophyllum Wall. ex Royle (Ranunculaceae)

Unani name: Atees

English name: Aconite

Locality and Voucher specimen no.: Kargil, 1068

Therapeutic action and uses as per Unani texts: Antiperiodic, aphrodisiac, astringent, retentive, nervine tonic. Used in bronchitis, fever, diarrhoea, dysentery, piles, polymenorrhagia, facial paralysis, hemiplegia, tremor.

Adiantum capillus-veneris L. (Adiantaceae)

Unani name: Parsiaoshan

English name: The Maidenhair Fern

Locality and Voucher specimen no.: Prang, 2236

Therapeutic action and uses as per Unani texts: Anti-Inflammatory, lithotriptic, expectorant, diuretic, desiccant. Useful in catarrh, cold, cough, fever.

Althaea officinalis L. (Malvaceae)

Unani name: Khatmi

English name: Marsh Mallow

Locality and Voucher specimen no.: Zabarwan, 1900

Therapeutic action and uses as per Unani texts: Root demulcent, emollient; Infusion of flowers; given in bronchial catarrh and in bronchitis.

Artemisia absinthium L. (Asteraceae)

Unani name: Afsanteen

English name: Wormwood

Locality and Voucher specimen no.: Prang, 1196

Therapeutic action and uses as per Unani texts: Flowers: vermicide, tonic. Used in intermittent fever.

Artemisia maritima L. (Asteraceae)

Unani name: Darmana

English name: Wormseed

Locality and Voucher specimen no.: Naranag, 1571

Therapeutic action and uses as per Unani texts: Flower head-exhilarant, deobstruent, diuretic, vermifugal, demulcent, expectorant. Useful in intestinal worm, asthma, hiccough, dysentery and fever.

Atropa accuminata Royle (Solanaceae)

Unani name: Luffah

English name: Indian Belladonna

Locality and Voucher specimen no.: Gulmarg, 179

Therapeutic action and uses as per Unani texts: Sedative, anesthetic, anti-inflammatory. Used in rheumatism, gout, muscular pain, chronic cough, palpitation.

Berberis aristata DC. (Berberidaceae)

Unani name: Darhald, Rasaut, Zarishk

English name: Indian Burberry

Locality and Voucher specimen no.: Sonmarg, 1007

Therapeutic action and uses as per Unani texts: repellent, sedative, constipative. Useful in fever and conjunctivitis.

Bergenia ciliata (Haw) Sternb. (Saxifragaceae)

Unani name: Pakhanbed

English name: Bergenia

Locality and Voucher specimen no.: Agharwat, 1894

Therapeutic action and uses as per Unani texts: Diuretic. Useful in renal and vesicular calculus.

Cichorium intybus L. (Asteraceae)

Unani name: Kasni

English name: Cichory

Locality and Voucher specimen no.: Harwan, 1139

Therapeutic action and uses as per Unani texts: De-obstruent, diuretic, blood purifier. Useful in swelling of liver and spleen.

Colchicum luteum Baker (Liliaceae)

Unani name: Suranjan

English name: Colchicum

Locality and Voucher specimen no.: Kupwara, 332

Therapeutic action and uses as per Unani texts: Sedative, anti-inflammatory. Useful in joint pain, piles.

Crocus sativus L. (Iridaceae)

Unani name: Zafran

English name: Saffron

Locality and Voucher specimen no.: Pampore, 1134

Therapeutic action and uses as per Unani texts: Anti-inflammatory, detergent, cardio-tonic, brain tonic. Useful for liver inflammation.

Cydonia oblonga Mill. (Rosaceae)

Unani name: Behi

English name: Quince

Locality and Voucher specimen no.: Dhara, 1147

Therapeutic action and uses as per Unani texts: Exhilarant, diuretic, tonic for heart, brain, liver and spleen. Useful in palpitation, bilious diarrhoea.

Delphinium denudatum Wall. ex H & T (Ranunculaceae)

Unani name: Jadwar

English name: Delphinium

Locality and Voucher specimen no.: Poshkar, 1445

Therapeutic action and uses as per Unani texts: Antidote to poison, exhilarant tonic for vital organs, anti-inflammatory, demulcent, coctive, antipyretic, lithotriptic, sedative. Useful in phlegmatic and bilious fevers.

Hyoscyamus niger L. (Solanaceae)

Unani name: Ajwain Khorasani, Bazrulbanj

English name: Henbane

Locality and Voucher specimen no.: Mahadev, 1174

Therapeutic action and uses as per Unani texts: Sedative, anesthetic, haemostatic. Useful in cough and joint pain, sciatica, toothache, gout.

Iris ensata Thunb. (Iridaceae)

Unani name: Irsa

English name: Iris

Locality and Voucher specimen no.: Dhara, 1945

Therapeutic action and uses as per Unani texts: Anti-inflammatory, demulcent, emetic, expectorant, desiccant, diuretic, antidote. Useful in phlegmatic disorders, catarrh, coryza, asthma, jaundice.

Mentha arvensis L. (Lamiaceae)

Unani name: Pudina, Nana

English name: The March Mint

Locality and Voucher specimen no.: Hazratbal, 1141

Therapeutic action and uses as per Unani texts: Coctive, anti-inflammatory, demulcent, vermicial, sedative, diuretic, emmenagogue, diaphoretic, carminative, stomachic. Useful in abdominal disorders, loss of appetite.

Morus alba L. (Moraceae)

Unani name: Shahtoot

English name: White Mulberry

Locality and Voucher specimen no.: Batapora, 1743

Therapeutic action and uses as per Unani texts: Diuretic, laxative, deobstruent, appetizer, aphrodisiac, deobstruent, renal tonic, brain humectant, liver corrective. Used in palpitation, throat pain.

Nepeta cataria L. (Lamiaceae)

Unani name: Badranjboya

English name: Catmint

Locality and Voucher specimen no.: Naranag, 155

Therapeutic action and uses as per Unani texts: Exhilarant, cardio-tonic. Used in cardiac disorders.

Orchis latifolia Linn. (Orchidaceae)

Unani name: Salab Misri

English name: Salep

Locality and Voucher specimen no.: Tunnel, 127

Therapeutic action and uses as per Unani texts: Nervine tonic, aphrodisiac, spermatogenic, inspissate to semen.

Paeonia emodi Wall. ex Hk. f. (Paeonaceae)

Unani name: Ood Saleeb

English name: Himalayan Peony

Locality and Voucher specimen no.: Verinag, 31

Therapeutic action and uses as per Unani texts: Antispasmodic, nervine tonic. Useful for epilepsy, convulsion, neurasthenia.

Picrorhiza kurooa Royle ex Benth (Scrophulariaceae)

Unani name: Kutki

English name: Gentian

Locality and Voucher specimen no.: Gumri, 674

Therapeutic action and uses as per Unani texts: Stomachic, carminative, laxative, vermicide, antipyretic, useful in indigestion, fever, intestinal worms, dropsy.

Plantago major L. (Plantaginaceae)

Unani name: Bartang

English name: Plantain

Locality and Voucher specimen no.: Koulpathri, 2064

Therapeutic action and uses as per Unani texts: constipative, retentive useful in diarrhoea dysentery, piles and polymenorrhagia.

Polygonum viviparum L. (Polygonaceae)

Unani name: Anjabar

English name: Bisstort

Locality and Voucher specimen no.: Wangat, 1534

Therapeutic action and uses as per Unani texts: Constipative, styptic, stomachic, intestinal tonic, antiseptic. Useful in diarrhoea, bleeding, anorexia, bleeding piles, nausea.

Salix caprea L. (Salicaceae)

Unani name: Bed Mushk

English name: Musk Willow

Locality and Voucher specimen no.: University campus, 57

Therapeutic action and uses as per Unani texts: Cardio-tonic, demulcent, exhilarant. Useful in palpitation, weakness of heart, liver and abdomen.

Saussurea lappa (Dcne) Sch. Bip (Asteraceae)

Unani name: Qust

English name: Costus Root

Locality and Voucher specimen no.: Razdhani, 2162

Therapeutic action and uses as per Unani texts: Detergent, anti-inflammatory, desiccant, nervine tonic, expectorant, analgesic, carminative, vermicide, diuretic, emmenagogue. Useful in facial paralysis, hemiplegia, trembling, rheumatism, gout, inflammation of spleen worm infestation, amenorrhoea.

Solanum nigrum L. (Solanaceae)

Unani name: Enabus-Salab, Mako

English name: Black Night Shade

Locality and Voucher specimen no.: Dharwanee, 1221

Therapeutic action and uses as per Unani texts: Anti-inflammatory, repellent, desiccant, sedative. Used in swelling of liver, spleen, intestine, uterus, pharyngitis, tonsillitis.

Viola odorata L. (Violaceae)

Unani name: Banafsha

English name: Sweet Violet

Locality and Voucher specimen no.: Gulmarg, 174

Therapeutic action and uses as per Unani texts: Alterative, demulcent, diaphoretic. Used in fevers, coryza, catarrh, pneumonia, cough, sore throat.

Results and Discussion

Data included in the paper reveals that 28 plants species used in Unani system of medicine were found mostly growing wild as well as under cultivation. During the course of field studies it was observed that numerous plants are commonly used by the natives as folk drugs. Based on the therapeutic action and uses recorded from the Unani text, it was observed that most of the species included in the paper have been duly reported exhibiting potential effect on the diseases prevalent among the inhabitants of the state due to cold climatic conditions, such as cold & cough and other respiratory disorders, joints pain, fever etc. It has been found that majority of the plants species reported in the paper have effective role to treat such ailments in local population of the study area.

It was observed that forests, the major amass of medicinal plants diversity have considerably declined in recent decades for various reasons including rapid industrialization and urban development, over grazing and heavy extraction of crude drugs, fuel and fodder etc. These activities have resulted into deterioration of potential habitats of medicinal plants. Hence, some important medicinal species have become scarce e.g., *Aconitum heterophyllum* (Atees), *Artemisia maritima* (Darmana), *Inula royleana* (Rasan), *Saussurea lappa* (Qust), *Picrorhiza kurrooa* (Kutki) etc. It is felt that many more plants species of medicinal value in the area may be decreased in number soon, if such activities continue to be practiced.

As already stressed by earlier workers, there is an urgent need of combined efforts, to protect and conserve the biological diversity of the area. In view of this some measures are suggested for protecting and conserving diversity of medicinal plants.

1. Public awareness programme about conservation of wild medicinal plants species may be intensified.
2. Sensitive habitats of the threatened flora should be protected on priority basis.
3. Illegal extraction of medicinal plants from the wild should be checked.
4. Social forestry operation of fuel, fodder and fibers species should be encouraged.
5. Agro-techniques for cultivation and preservation of high demand medicinal plants of the area should be developed.
6. Promoting the rationale and sustainable utilization of medicinal plants.
7. In order to protect and propagate the threatened species, botanical gardens should be established at different agro-climatic zones.
8. Large scale cultivation of scarce, endangered and threatened species may be planned, particularly to meet the demand of plant material for medicinal and other commercial purposes to reduce the pressure on existing wild population of the flora.
9. Local farmers should be encouraged to take up cultivation of medicinal plants particularly in wastelands and orchards.
10. Local medicine men should be involved in the conservation efforts, since they use plant remedies in their homes and are generally respected by the villagers.

As far as the status of Unani medicinal plants in the state of Jammu and Kashmir is concerned, no specific report(s) is available so far. Therefore, it is suggested that;

1. The forest areas of the state may be explored extensively to record maximum number of Unani medicinal plants.
2. The species collected may be properly identified botanically as well as for Unani nomenclature.
3. Controversy, if any, regarding Unani/Tibbi name may be ruled out.
4. An update and comprehensive data on the findings may be compiled.

As a result, the database so prepared on plant materials in systematic and scientific manner will be of immense importance to the scientists, researchers, academicians, pharmaceutical industries and others interested in Unani Medicine.

Acknowledgements

Authors are grateful to the Director General, Central Council for Research in Unani Medicine, New Delhi, for providing necessary facilities during the course of survey tours. Sincere thanks are due to the Deputy Director, RRIUM, Srinagar for help and encouragement to the survey team of the Institute.

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