



Medicinal Use of Some Common Plants among People of Garur Block of District Bageshwar, Uttarakhand, India

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ABSTRACT

The present study was carried out in Garur Block of Bageshwar district of Uttarakhand state to collect the information of traditionally used medicinal plants by the communities. A total of 39 medicinal plants belonging to 24 families were used by local people to cure different ailments. Local communities, especially, older age class, including women heavily use these traditionally available medicinal plants for health and believe that these are easily available, less expensive, and have no side effects.

INTRODUCTION

The plants have been used as a source of medicines by man from ancient time to the present day. Initially these were the main parts of folk or ethnomedicinal, practiced in India and other parts of the world like China, Middle East Africa and South America (Bisht and Badoni, 2009). Human not only utilize forest plants medicinally but they used domestic plants medicinally in various ways. India has one of the oldest, richest and most diverse cultural traditions called "folk tradition" associated with the use of medicinal herbs based on indigenous belief, knowledge skill and cultural practices (Mathur and Joshi, 2012). Indian system of medicine Ayurveda, Siddha and Unani entirely and homeopathy to some extent, depend on plant materials or their derivatives for treating human ailments (Prajapati et al., 2003).

With the help of literature several studies were conducted in Kumaun region of Uttarakhand on ethnobotany. Gangwar et al. (2010) studied ethnomedicinal plant diversity of Kumaun, Uttarakhand. Kumari et al. (2011) studied medicinal plants of Almora district. Sharma et al. (2011) studied ethnobotanical study of common plants among Tharu tribe of U.S. Nagar district of Uttarakhand. Joshi et al. (2011) conducted a study on traditional use of some leguminous plants in Tarai and Bhawar regions of Kumaun Himalaya, Uttarakhand. Joshi (2011) studied some medicinal plants of submontane forest in a part of Tarai and Bhawar of Kumaun Himalaya. Joshi and Pant (2012) studied ethnobotany of some common plants used among the tribal communities of Kashipur, Uttarakhand. Mathur and Joshi, (2012) documented the traditional knowledge

(medicinal) of some common plants from the Tarai region of Kumaun division. Sah et al. (2014) studied medicinal plant of oak dominated forests in Nainital catchment area of Uttarakhand.

MATERIALS & METHODS

For the present study, Bageshwar district at 29° 42'40" to 30°18'56" North Latitude and 79°23' to 80.9° East Longitude at an altitude of 1646 msl near the bank of river Sariu and Gomti was selected. The study site was divided into five zones viz. North, South, Central, East and West. In the west zone collection centres were fixed at Rawaikhal, Purada, Baijnath, Garur, Kausani, Dangoli, Kandhar, Wajula, Nadigaon and Salani.

The present work was done in 1.5 years extensive field visit from October 2008 to March 2010 was conducted. Extensive field trips were conducted in order to collect the ethnobotanical information. Questionnaire was made including local name of plants, plants parts used, methods of preparation, mode of administration and types of disease treated. The specimens were deposited in the Herbarium of Botany Department, Govt. P.G. College, Bageshwar. In the present study, the information about plants was obtained by frequent field visits, from experience of personals of forest department and the local natives (older household and women). Lists of medicinal plants that are being traditionally used by the local people of area have been prepared. The plants were identified with the help various floras viz. Forest flora of Kumaun (Osmaston, 1926), Flora Simlensis (Collet, 1971), Flora Nainitalensis (Gupta, 1968) and Flora of Mussoorie (Raizada, 1978).

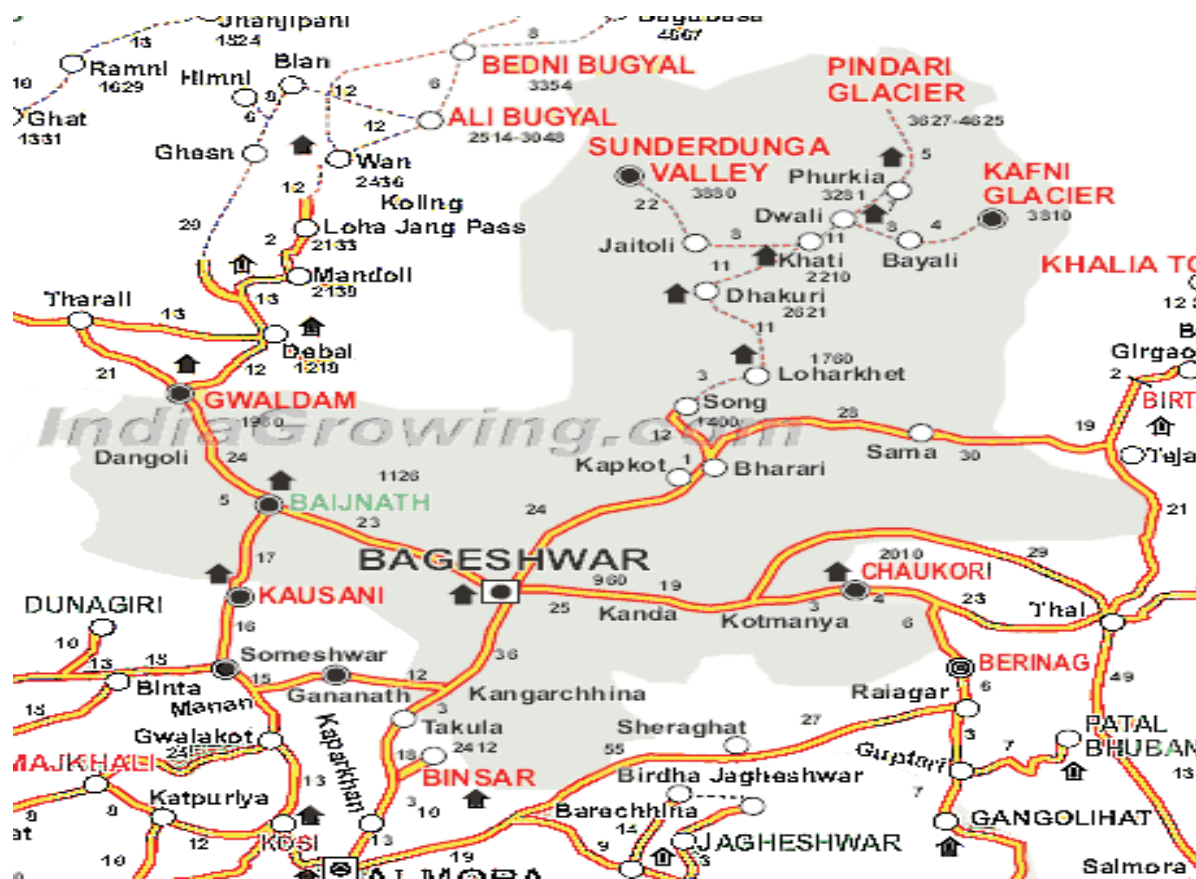


Fig. 1: Map of Study (Source : Inddiagrowing.com)

RESULTS AND DISCUSSION

Based on extensive survey and through frequent field visit and interviews, it was found that nearly 39 plants species belonging to 24 families are being used by people of Garur Block of district Bageshwar to cure various diseases. These plants along with family, common name, habit, collection place, plant parts used, and traditional uses are described below. Such a high plant diversity used as indicator of phytotherapy which play significant role in curing health problems. Most plant species used by the people belongs to family Solanaceae and Malvaceae. Besides, other predominant families in the study area

were Apiaceae, Euphorbiaceae and Asteraceae. The present study documented that herbs, shrubs and trees were the primary source of medicine. The most frequently used plant part was the leaves followed by roots, whole plant, flowers, fruits, seeds and bark respectively. The greater use of leaves for the purpose of medicine is not surprising since these are the most accessible parts and hence used to the maximum extent for medicinal purpose (Gurib-Fakim, 2006; Kumari, et al., 2013). Roots were the second most commonly used plant part and not only roots, even the use of more than one plant part for medicinal purpose has put these plants to the risk of extinction owing to damage inflicted on the plants (Gurib-Fakim, 2006).

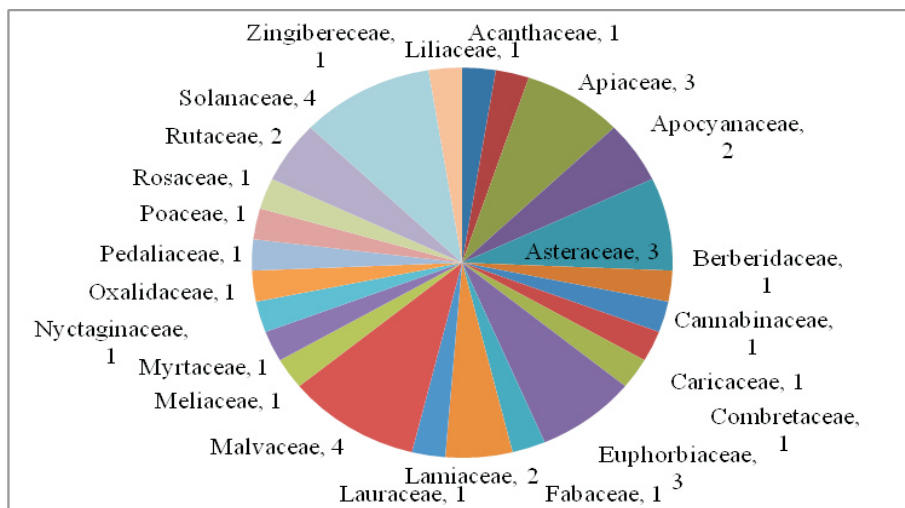


Fig. 2. Distribution of medicinal plants of Garur Block of district Bageshwar.

Table 1: Plants documented as used medicinally among people of Garur Block of district Bageshwar

S. No.	Name of Plant	Family	Habit	Common Name	Collection Place	Traditional Use
1	<i>Aegle marmelos</i> Corr.	Rutaceae	Tree	Bengal Quince, Bel	Gagrigo (Garur Block)	The fruit is effective against bacillary dysentery, chronic cases of diarrhoea and dysentery. The powder of the dried pulp is given as a tonic and is an antiscorbutic and antidysenteric. The juice of ripe fruit is used in treatment of chronic constipation and dyspepsia.
2	<i>Aloe barbadensis</i> Mill.	Liliaceae	Shrub	Barbados aloe, Ghikanvar	Garur	The leaves are effective in remedy of liver enlargement, removing indigestion and menstrual disorder. One spoon fresh juice of leaves and 2 gm <i>Terminalia bellarica</i> (Harad) is effective in treatment of constipation, also fresh juice of <i>A. barbadensis</i> along with <i>Curcuma longa</i> and <i>Zingiber officinalis</i> is given in cough and cold.
3	<i>Anacyclus pyrethrum</i> D.C.	Asteraceae	Herb	Spanish Pellitory	Paye (Garur Block)	Its paste is used as toothache and mixed with mustard oil is beneficial remedy for paralysis. Powder is used in cough and asthma, epilepsy, skin disease and leprosy.
4	<i>Azadirachta indica</i> L.	Meliaceae	Tree	Margosa tree, Neem	Kausani (Garur Block)	Leaves are used in ringworm and fungal infection. Juice of fresh leaves is given in diabetic purpose. Bark of neem and babool is beneficial in leucorrhoea. Paste of leaves also used as face pack to prevent wrinkles and skin disease. Stem is used as tooth brush.
5	<i>Berberis aristata</i> (D.C.)	Berberidaceae	Shrub	Indian Barbery, Kilmora	Tilsari (Garur Block)	The roots are used in treating ulcer, jaundice and fever. Decoction of root is used in dysentery. The decoction of root bark mixed equally with milk is dropped in ear to treat earache, also decoction of root bark with camphor and butter is applied on pimples and boils.
6	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae	Herb	Punamava	Tilsari (Garur Block)	Juice of root mixed with Harar is useful in jaundice. Paste of root is beneficial remedy in swelling and skin disease.
7	<i>Bombax ceiba</i> L.	Malvaceae	Tree	Semal, Red Silk Cotton	Bajjnath (Garur Block)	Young flower buds are used as vegetable. The bark paste is applied twice a day for treatment of itching in animals. Decoction of bark is used orally in fever.
8	<i>Cannabis sativa</i> L.	Cannabaceae	Herb	Indian Hemp	Kansari (Garur Block)	Crushed leaves are used in skin disease. Juice of fresh leaves used in ear troubles. Juice mixed with sugar used in cuts and wounds.
9	<i>Carica papaya</i> L.	Caricaceae	Tree	Papaya	Dhaina (Garur Block)	Fresh juice of leaves used in cardiac disease. Milky latex of fruits given in treatment of liver enlargement. Paste of ripe fruit is used in skin disease. Papin is obtain from the green fruits only and is used in removing skin diseases, stomach ulcer and other gastrointestinal disease.
10	<i>Centella asiatica</i> L.	Apiaceae	Herb	Brahmi, Indian Pennywort	Kansari (Garur Block)	The fresh juice of leaves mixed with milk and liquorice is an effective remedy for jaundice and fever. Its leaves are used in leprosy. The powdered leaves along with milk is used for cognitive impairment.
11	<i>Cinnamomum zeylanicum</i> L.	Lauraceae	Tree	Cinnamom Bark, Dalchini	Garur	Paste of bark produce relief against headache and also effective in indigestion. Leaf oil is useful in cough, eczema and piles. Powdered bark with honey using three times in a day (TDS) effective in diarrhoea, vomiting and gastritis.
12	<i>Citrus medica</i> L.	Rutaceae	Tree	Lime	Kansari	Juice of fruit is used as refrigerant drink and allaying thirst. With ginger it is beneficial in cough and throat disorder. Juice is also useful in diarrhoea and liver trouble.
13	<i>Coriandrum sativum</i> L.	Apiaceae	Herb	Coriander	Simar (Garur Block)	The powder of coriander, cardamom and black pepper with mishri used in indigestion. Paste of fruits checks bleeding from wound.
14	<i>Curcuma longa</i> L.	Zingiberaceae	Herb	Haldi, Turmeric	Dhaina (Garur Block)	Turmeric boiled with milk is useful for cold, diarrhoea, liver disorders and purifying the blood. Turmeric lotion is applied to small pox and chicken pox eruption to promote scale formation. Paste is applied on cuts and wounds.
15	<i>Cynodon dactylon</i> L.	Poaceae	Herb	Dub grass	Dangoli (Garur Block)	Juice of leaves is used in blood purification and diabetes. Starch of rice mixed with dub is used in vomiting.
16	<i>Datura metel</i> L.	Solanaceae	Herb	Dhatura	Kausani (Garur Block)	Paste of leaves applied on boils and sores. Juice of plant applied to scalp for curing dandruff and hair fall. Powder of leaves mixed with black pepper is used in cold and cough.
17	<i>Daucus carota</i> L.	Apiaceae	Herb	Carrot	Kausani (Garur Block)	Carrot is cooked with curd and pomegranate is used in treatment of piles.
18	<i>Embolia officinalis</i> Geartn.	Euphorbiaceae	Tree	Amla	Purara (Garur Block)	The fruit are richest source of vitamin C. The dried fruit is considered to be a good blood purifier, refrigerant and stomachic. Juice is applied for curing dandruff and loss of hair. The amla powder along with haldi take two times in a day (BD) is effective in diabetes.
19	<i>Eugenia jambolana</i> Lamk.	Myrtaceae	Tree	Black Plum, Jamun	Tilsari (Garur Block)	Powdered seed are given in diabetes. Powder of leaves with honey useful in diarrhoea and dysentery. Powdered leaves with mango powder and honey are given in treatment of vomiting.
20	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Herb	Dudhi	Dhaina (Garur Block)	The white latex TDS on skin is effective in warts. Roots are effective in prevention of vomiting.
21	<i>Gossypium arboretum</i> L.	Malvaceae	Shrub	Indian Cotton	Bajjnath (Garur Block)	Bark of root with flower and water is applied in skin disease. Its leaves are used in blood dysentery. Bark of root with starch rice is effective in treatment of menstrual disorder and leucorrhoea.
22	<i>Helianthus annuus</i> L.	Asteraceae	Herb	Sunflower	Bajjnath	Juice of flower mixed with milk is used in stomachic. Paste of its leaves is effective in snake bite and diarrhoea. Vegetable of its leaves useful in swelling.
23	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Habit	Gudhal	Bajjnath (Garur Block)	Gulkand is made from its flower with mishri (sugar) used as energizer. Decoction of its root is used against cough. One spoon of dry leaves taken two times in a day (BD) is effective in urinary disease.
24	<i>Justicia adhatoda</i> Nees.	Acanthaceae	Shrub	Adusa	Tilsari (Garur Block)	Paste of its leaves is used in contraction of muscle, cough and cold. A decoction of the leaves is used for chronic bronchitis and asthma. A warm decoction of the leaves is used for scabies and nose bleeding. Paste of flower and leaves used as a face pack to improve fairness.
25	<i>Mentha spirata</i> L.	Lamiaceae	Herb	Mint, Pudina	Gagrigo (Garur Block)	Juice is effective in dyspepsia, cough, cold and chronic fever. Paste of leaves with anar dana is used in stomachic and diarrhoea. 5-6 gm leaves and 2-3 gm cardamom is boiled with 2 litre water, is effective in cholera.
26	<i>Ocimum sanctum</i> L.	Lamiaceae	Herb	Holi Basil, Tulsi	Garur	Fresh juice of leaves effective in fever, cough and cold, dysentery and dyspepsia. Also juice is helpful for curing vomiting, skin disease and earache. The decoction of leaves is given in malaria, gastric diseases of children and liver disorder. Leaves extract with ginger and honey given in cough and throat problem.
27	<i>Oxalis corniculata</i> L.	Oxalidaceae	Herb	Indian sorrel, Khattimethi	Garur	The filtered juice of fresh leaves is effective in eye infection. Paste of fresh leaves with Jatropha leaves, alum, turmeric, common salt and clove is used in toothache. The powdered leaves taken in morning (2 gm) is effective in piles and indigestion. The paste of fresh leaves also used in wound healing and facial cream to prevent wrinkles.
28	<i>Ricinus communis</i> L.	Euphorbiaceae	Shrub	Castor	Simar (Garur Block)	Its leaves are effective in cough and cold. Castor oil is given in treatment of constipation with milk. Castor oil with Aloe juice is beneficial in treatment of piles.
29	<i>Rosa centifolia</i> L.	Rosaceae	Shrub	Rose	Garur	Rose water is used in dermatological disorders. Fresh juice of petals and Neem are applied on skin disease.
30	<i>Sesamum indicum</i> L.	Pedaliaceae	Herb	Til	Silli (Garur Block)	Take 25 gm seed early in morning for strong and shining teeth. Its oil is used to prevent dandruff. Juice of plant applied to scalp curing dandruff and loss of hair.
31	<i>Sida cordifolia</i> L.	Malvaceae	Shrub	Country Mallow	Purara	Infusion of root mixed with ginger is useful in chronic fever. Decoction of its root is beneficial remedy for heart patient. Powder of its root is useful in asthma. Infusion of root is beneficial in urinary disease, piles and chronic dysentery.
32	<i>Solanum nigrum</i> L.	Solanaceae	Herb	Makoy	Simar (Garur Block)	The decoction of the plant is given to cure jaundice and liver enlargement. The fresh juice of leaves is effective in inflammation of kidney and urinary bladder, dropsy piles and spleen enlargement. The heated leaves give much relief when applied on swollen and painful testicles. The fruits are given in fever and diarrhoea.
33	<i>Solanum surattense</i> Brums.	Solanaceae	Shrub	Kantakari	Dangoli (Garur Block)	The paste of fruit is applied on healing of wound and cuts. Juice of fruits is useful in soar throat. Decoction of fruit useful in gonorrhoea.
34	<i>Tabernaemontana divaricata</i> L.	Apocynaceae	Shrub	Chandani	Garur	Juice of flower used in visual defects, skin disease and mental disorders. Milky juice applied to wound to prevent inflammation. Root is used as toothache.
35	<i>Tagetes erecta</i> L.	Asteraceae	Herb	Marigold	Garur	Dried flower are used in treatment of constipation. Juice of flower and leaves is mixed with salt and mustard oil and used to tooth paste for shining teeth. Soup of dried flowers and leaves with tulsi, kalimirch and adrak used in cold and cough.
36	<i>Terminalia chebula</i> Retz.	Combretaceae	Tree	Harad	Dhaina (Garur Block)	Powdered seeds mixed with honey are used in curing vomiting. Powder is used as a toothpaste ingredient. Powdered seed with amla and bahera (Trifla Churna) useful in gastrointestinal disorders. Powdered seed mixed with ghee and honey is beneficial in dysentery.
37	<i>Trigonella foenum-graecum</i> L.	Fabaceae	Herb	Methi	Simar (Garur Block)	Decoction of seed with honey is beneficial in piles. Powdered seeds are given in diabetic patients. In dysentery take juice with mishri two times in a day.
38	<i>Vinca rosea</i> L.	Apocynaceae	Shrub	Sadabahr	Kausani	Its leaves are effective in diabetes and hypertension. Juice of its leaves useful in honey bee bite. Vinca is a well known antineoplastic agent.
39	<i>Withania somnifera</i> L.	Solanaceae	Herb	Aswagandha	Bajjnath	Powdered seeds are given in renal calculi, hypertension, gout and improve immunity. Its roots are used in ulcer and painful swelling. Leaf which is used as vegetable used in skin disease. Its oil with almond oil and rose water is used as home facial.

CONCLUSION

The study concludes that people of Garur Block of district Bageshwar utilize 39 plant species as medicines for curing different ailments. These medicinal plants are the source of common primary health care practiced by local natives. Efforts are, therefore, required to conserve and protect this traditional knowledge which will be helpful for researcher and pharmaceutical industries to find out the other uses of plant which will be helpful in modern health care system of India. Further, the frequent use of these plants, especially roots, is a point of concern since this practice may put them to the risk of extinction leading to the consequent loss of the species from the area.

REFERENCES

1. Bisht C, Badoni A (2009), Distribution and Indigenous Uses of Some Medicinal Plants in District Uttarkashi, Uttarakhand, India, *Researcher*, 1(6):38-40.
2. Collet H (1971): *Flora Simlensis*. 3rd impression.
3. Gangwar K.K, Deepali, Gangwar R.S (2010), Ethnomedicinal plant diversity in Kumaun Himalaya of Uttarakhand, India, *Nature and Science*, 8(5):66-78.
4. Gupta R.K (1968), *Flora Nainitalensis*. Navayug Traders. New Delhi. 489 pp.
5. Gurib-Fakim A (2006), Medicinal plants: Traditions of yesterday and drugs of tomorrow, *Mole. Aspects Med.*, 27:1-93.
6. Joshi B (2011), Medicinal Plants of submontane forest in a part of Tarai and Bhawar of Kumaun Himalaya, *Nature and Science*, 9(5):95-99.
7. Joshi B, Pant S.C (2012), Ethnobotanical study of some common plants used among the tribal communities of Kashipur, Uttarakhand, *Indian Journal of Natural Products and Resources*, Vol. 3(2):262-266.
8. Joshi, B, Kumar P., Pant S.C (2011), Traditional Use of some Leguminous plants in Tarai and Bhawar regions of Kumaun Himalaya, Uttarakhand, *Environment Conservation Journal*, 12(1&2): 65-67.
9. Kumari P, Joshi G.C., Tewari L.M (2011), Diversity and status of ethno-medicinal plants of Almora district in Uttarakhand, India, *International Journal of Biodiversity and Conservation*, 3(7): 298-326.
10. Kumari S, Batish D.R, Singh H.P, Negi K, Kohli R.K, (2013), An ethnobotanical survey of medicinal plants used by Gujjar Community of Trikuta Hills in Jammu and Kashmir, *Indian Journal of Medicinal Plants Research*, 7(28): 2111-2121.
11. Mathur A, Joshi H, (2012), Traditional remedies in Tarai region of Kumaun, Uttarakhand, *Indian Journal of Traditional Knowledge*, 11(4): 652-657.
12. Osmaston A.E (1926), *A Forest Flora for Kumaun*. International Book Distributors, Dehradun, India.
13. Prajapati N.D, Purohit S.S, Sharma A.K, Kumar T (2003), *A Hand book of Medicinal Plants*. Agribios (India) 553pp.
14. Raizada M.B (1978), *Flora of Mussoorie*. Bishen Singh & Mahendra Pal Singh, Dehradun. 645 pp.
15. Sah S, Ram J, Pala N.A, Tripathi P, Kumar M (2014), Medicinal plant wealth of oak dominated forests in Nainital catchment area of Uttarakhand, *Academia Journal of Medicinal Plants*, 2(1): 006-013.
16. Sharma J, Gairola S, Gaur R.D, Painuli R.M (2011), Medicinal plants used for primary healthcare by Tharu tribe of Udham Singh Nagar, Uttarakhand, India, *Int. J. Med. Arom. Plants*, 1(3): 228-233.