



Plant Environment Development, Vol. 9(2): 1-17, 2023 (December)
Department of Botany, University of Rajshahi,
Rajshahi 6205, Bangladesh
E-mail: plant.viron.dev@ru.ac.bd

Print ISSN 1994-1501
Online ISSN 2311-3529
<http://plantenvdev.com>

Research Paper

Selected Medicinal Plants Used by the Local Peoples for the Treatment of Various Diseases of Rajshahi District

Farhana Khanom, Umma Salma, Most. Sonia Khatun, Most. Habiba Khatun, Mst. Mabia Khatun and A.H.M. Mahbubur Rahman*

Plant Taxonomy Laboratory, Department of Botany, Faculty of Biological Sciences,
University of Rajshahi, Rajshahi-6205, Bangladesh

*Corresponding Author: drrahmanahmm@ru.ac.bd

Abstract

The present paper recorded the traditional knowledge of selected medicinal plants used by the local peoples of Rajshahi district, Bangladesh. The field surveys were conducted from July 2018 to June 2021. A total of 89 informants (52 male and 37 female) between 23 and 83 years of age were interviewed. This paper documents 73 plants species under 68 genera and 44 families have been documented which are used for the treatment of forty eight ailments and mode of application. The current investigation will be useful in identifying the selected medicinal plants for future research and also beneficial to develop the Herbal Medicare.

Keywords: Medicinal plants, herbal drug discovery, Rajshahi, Bangladesh

INTRODUCTION

Using plants as medicine has been a goal for mankind since ancient times. About one fourth of the prescribed drugs are plant origin and more than three quarter people depend on medicines that are derived from

medicinal plants (Hoareau and DaSilva, 1999). An increasing demand for medicinal plants in pharmaceutical industries in recent years has raised its importance to cover a substantial proportion of the global drug

market (Rajesh et al., 2010). Plants still play an important role in the primary health care of about 80% of the World population in developing countries. The use of medicinal plants in India and many other developing countries can be considered a living tradition. The World Health Organization (WHO) estimates that the primary healthcare needs of approximately 80 per cent of the developing world's population are met by traditional medicine (WHO, 1991).

The importance of medicinal plants and their local uses have been documented in previous works in Bangladesh by Sultana and Rahman (2016), Uddin et al (2015), Roy and Rahman (2016), Rahman et al (2015), Rahman et al (2010), Rahman and Jamila (2016), Rahman et al (2012), Rahman and Rojonogandha (2014), Rahman and Rahman (2014), Rahman and Gulsana (2014), Rahman and Akter (2013), Nahar and Rahman (2016), Keya and Rahman (2017), Easmin et al (2021), Debnath and Rahman (2017), Khan (1998), Anisuzzaman et al (2007), Uddin and Hassan (2014), Faruque and Uddin (2014), Choudhury and Rahmatullah (2012) and Yusuf et al (2006).

The objectives of the current research are to identify and uses traditional knowledge of

selected medicinal plants of Rajshahi district, Bangladesh.

MATERIALS AND METHODS

The study is based on an extensive and intensive field survey conducted in the Rajshahi district from July 2018 to June 2021 to collect information on the medicinal uses of selected medicinal plant species. A total of 89 informants (52 male and 37 female) between 23 and 83 years of age were semi-interviewed method (Alexiades, 1996). The collected information was cross-examined at different localities through different sources. Plant parts with either flowers or fruits were collected using traditional herbarium techniques to make voucher specimens for documentation and voucher specimens have been preserved at Herbarium of Rajshahi University, Bangladesh for authentication and future reference.

Collected specimens have been critically examined, studied and identified. Identifications have been confirmed by consulting standard journal and literatures (Hooker, 1877; Prain, 1903; Rahman, 2021; Roy and Rahman, 2018; Rahman, 2017; Rahman et al, 2015) and Ahmed *et al.*, 2008-2009). Nomenclature has been updated

following recent literature (Ahmed *et al.*, 2008-2009; Huq, 1986, and Pasha and Uddin, 2013).

RESULTS AND DISCUSSION

Selected Medicinal Plants used by the local peoples of Rajshahi district, Bangladesh was carried out during July 2019 to June 2021. A total of 73 plant species under 68 genera and 44 families were recorded. Out of the recorded species, herbs, shrubs, climbers and trees represent the number 37, 16, 6 and 14 respectively. Different plant families with different species were distributed in the area like 4 species belong to the Fabaceae and Apocynaceae families each. Asteraceae is represented by 6 species. Each of Amaranthaceae, Combretaceae, Liliaceae and Euphobiaceae families were represented by 3 species. Each of Zingiberaceae, Verbenaceae, Cucurbitaceae, Lamiaceae, Myrtaceae, Poaceae, Rutaceae, Apiaceae, Mimosaceae and Acanthaceae families are represented by 2 species. Each of Vitaceae, Moringaceae, Sterculaceae, Malvaceae, Piperaceae, Oxalidaceae, Bombacaceae, Nyctaginaceae, Boraginaceae, Lythraceae, Arecaceae, Brassicaceae Bromeliaceae, Convolvulaceae, Costaceae, Crassulaceae, Moraceae, Cuscutaceae, Cyperaceae, Gentianaceae, Meliaceae, Menispermaceae,

Musaceae, Papavaraceae, Polygonaceae, Molluginaceae, Ranunculaceae, Asclepiadaceae, Solanaceae and Araceae families are represented by single species (Table 1).

Out of 73 recorded medicinal species, herbs are represented by 51%, shrubs by 22%, climber 8%, trees by 19% species (Fig. 1). Various plant parts of different spp. was used as several diseases like root (20.82%), stem (7.95%), whole plant (18.79%), leaf (48.89%), bark (8.95%), leaf stalk (1.30%), Fruit (15.03%), Gum (2.68%), seed (14.79%), petiole (2.91%), tuber (2.91%), rhizome (14.00%), bulb (2.91%) and latex (1.50%) (Fig. 2). Out of the recorded species, Asteraceae (9.32%), Apocynaceae (6.47%) and Fabaceae (6.47%) are dominant medicinal plant families in the study area (Fig. 3). Dominant diseases was recorded like fever (21%), diabetes (11%), cough (20%), skin disease (17%), dysentery (20%) and hair treatment (11%) (Fig. 4)

The local people of Rajshahi continue to rely on selected medicinal plants used for the treatment of various ailments like Indigestion, Cold-cough, Catarrhal fever, Gout, Arthritis, Paralyzes, Rheumatism, Stomach pain, Scurvy, Jaundice, Tonsillitis, Traumatic injury, Insect bite, Urination problem, Piles and mouth disease, Mother

milk secretion, Pneumonia, Blood pressure, Heart disease, Stop Bleeding, Skin care, Bronchitis, Dysentery, Leucoderma, Stomachache, Constipation, Diarrhea, Cough, Fever, Tumors, Asthma, Skin problem, Hair treatment, Liver illness, Sore, Epilepsy, Menstrual disorder, Urinary inflammation, Malaria, Ear pain, Sneezing Diabetes, Vomiting, Dog bite and other diseases.

The treatment of various diseases were used in selected medicinal plants like *Zingiber officinale*, *Calotropis procera*, *Oxalis corniculata*, *Achyranthes aspera*, *Cajanus cajan*, *Terminalia arjuna*, *Mikania scandens*, *Acacia nilotica*, *Aegle marmelos*, *Adhatoda vasica*, *Terminalia belerica*, *Clerodendrum viscosum*, *Polygonum hydropiper*, *Costus speciosus*, *Lantana camara*, *Coriandrum sativum*, *Cynodon dactylon*, *Datura metel*, *Euphorbia hirta*, *Ficus racemosa*, *Tagetes erecta*, *Glinus oppositifolius*, *Amaranthus viridis*, *Aloe vera*, *Tinospora cordifolia*, *Terminalia chebula*, *Cissus quadrangularis*, *Heliotropium indicum*, *Enhydra fluctuans*, *Curcuma longa*, *Syzygium cumini*, *Hibiscus rosa-sinensis*, *Andrographis paniculata*, *Eclipta alba*, *Amaranthus spinosus*, *Ipomoea aquatica*, *Carissa carandus*, *Nerium*

indicum, *Colocasia esculenta*, *Nigella sativa*, *Saccharum officinarum*, *Mimosa pudica*, *Citrus aurantifolia*, *Lawsonia inermis*, *Wedelia chinensis*, *Acalypha indica*, *Cyperus rotundus*, *Catharanthus roseus*, *Azadirachta indica*, *Portulaca oleracea*, *Clitoria ternatea*, *Piper betle*, *Kalanchoe pinnata*, *Allium cepa*, *Psidium guajava*, *Boerhaavia diffusa*, *Allium sativum*, *Moringa oliefera*, *Cuscuta reflexa*, *Rauwolfia serpentina*, *Argemone mexicana*, *Leucas aspera*, *Dalbergia sissoo*, *Bombax ceiba*, *Brassica napus*, *Areca catechu*, *Tamarindus indica*, *Coccinia grandis*, *Centella asiatica*, *Tridax procumbens*, *Ocimum sanctum*, *Abroma augusta*, *Ricinus communis*. Similar research works were compared by Anisuzzaman *et al* (2007); Ghani (2003); Khan (1998), Choudhury and Rahmatullah (2012), Faruque and Uddin (2014), Islam and Rahman (2017), Uddin and Hassan (2014), Easmin *et al* (2021), Jamila *et al* (2016), Ismail and Rahman (2016), Uddin *et al.*, (2015) and Yusuf *et.al* (2006). The present investigation recorded that the local peoples were used selected medicinal plants as their primary health care. The present research is benefit for further researches in the field of taxonomy, ethno-botany and development of the new drug from natural resources.

Table-1: Selected medicinal plants used by the local peoples of Rajshahi district

Local name	Scientific name and family	Parts used	Ailments and Treatment process
Ada	<i>Zingiber officinale</i> (Zingiberaceae)	Rhizome	Indigestion, Cold-cough, Catarrhal fever, and Gout: Rhizome powder with hot water is taken internally
Akando	<i>Calotropis procera</i> (Asclepiadaceae)	Leaf	Arthritis: Warm leaf with salt is taken externally Paralyses: Warm leaf paste is applied externally Rheumatism: Mustered oil and latex are taken
Amrul	<i>Oxalis corniculata</i> (Oxalidaceae)	Leaf	Stomach pain: Leaf solution mixed with water is taken orally Scurvy: Leaves juice is taken internally
Apang	<i>Achyranthes aspera</i> (Amaranthaceae)	Stem Leaf Root	Jaundice: Leaf paste is taken orally Tonsillitis: Leaf juice is taken internally Traumatic injury: Root extract is taken externally Insect bite: Crushed young leaves is taken externally Urination problem: Leaf decoction is taken orally
Arhar	<i>Cajanus cajan</i> (Fabaceae)	Leaf Seed	Piles and mouth disease: Leaf paste taken externally Jaundice and pneumonia: Juice of leaf is taken orally Mother milk secretion: Decoction of seeds and leaf is used orally
Arjun	<i>Terminalia arjuna</i> (Combretaceae)	Bark	Blood pressure, Heart disease: Decoction of stem bark is used internally
Asamlota	<i>Mikania scandens</i> (Asteraceae)	Leaf	Stop Bleeding, Skin care: Paste of leaf is taken externally
Babla	<i>Acacia nilotica</i> (Mimosaceae)	Bark Leaf	Bronchitis: Bark juice is taken internally Dysentery: Capsules are used orally Leucoderma: Extraction of leaves used orally
Bel	<i>Aegle marmelos</i> (Rutaceae)	Fruit Root	Stomachache: Pieces of young fruit is taken orally Constipation: Fruit juice is used internally Diarrhea: Fruit juice with sugar and milk is taken orally Heart disorder: Fresh root paste used internally
Basak	<i>Adhatoda vasica</i> (Acanthaceae)	Leaf	Cough: Leaf juice is taken internally Fever: Leaf juice is taken internally Bleeding piles: Leaf juice is taken internally
Bohera	<i>Terminalia belerica</i> (Combretaceae)	Fruit	Cough: Extract obtained from young fruit is taken internally
Bhat	<i>Clerodendrum viscosum</i> (Verbenaceae)	Leaf Root	Tumors, Asthma and skin problem: Root and leaf paste taken externally Hair treatment: Paste of leaves is used externally Anti helminthic: Juice of young leaf is taken
Biskatali	<i>Polygonum hydropiper</i> (Polygonaceae)	Whole plant	Liver illness and sore: Whole plant juice is taken internally Epilepsy: Chewing whole plant is taken internally Dysentery: Mature seed mixed with water is used taken orally

Bunoada	<i>Costus speciosus</i> (Costaceae)	Rhizome Stem Tuber	Menstrual disorder and urinary inflammation: Rhizome paste is administered internally Dysentery and other Digestive problem: Chutney made from the brunt tuber, sugar, and tamarind used internally Eye inflammation: Rhizome juice mixed with sugar is taken
Chotra	<i>Lantana camara</i> (Verbenaceae)	Leaf	Aches and pains Measles Tetanus: Turmeric, salt with crushed leaves is taken orally Rheumatism and malaria: Leaf juice is taken internally
Dhone	<i>Coriandrum sativum</i> (Apiaceae)	Seed whole plant	Asthma: Whole plant extract is used orally Sneezing: Seed juice mixed with ginger, jeera, pepper and milk is taken orally Cold and Fever: Whole plant juice is taken internally
Durbaghas	<i>Cynodon dactylon</i> (Poaceae)	Whole plant	Control bleeding: Whole plant paste is taken externally
Dhutra	<i>Datura metel</i> (Solanaceae)	Leaf Flower Fruit	Rheumatic swelling: Paste of leaf is used externally Ear pain and asthma: Leaf smoked to relieve spasmodic asthma and used externally for earache Skin disease: Paste of leaf with neem is used externally
Dudhiya	<i>Euphorbia hirta</i> (Euphorbiaceae)	Whole plant	Dysentery: Paste of whole plant is taken internally Bronchitis: Whole plant grinding decoction is taken orally Edemas: Decoction of whole plant is taken
Dumur	<i>Ficus racemosa</i> (Moraceae)	Fruit Gum	Dry cough: Fruits extract or vegetables is taken Asthma: Young fruits mixed with honey is taken internally Diabetes: Raw fruit powder taken orally
Genda phul	<i>Tagetes erecta</i> (Asteraceae)	Whole plant	Bleeding: Paste of leaf is taken externally Blotch: Crushed leaf paste is used externally Tuberculosis: Leaf dust mixed with goat milk is taken orally Dysentery: Juice of leaf with sugar is taken internally
Gimma shak	<i>Glinus oppositifolius</i> (Mulloginaceae)	Leaf	Constipation, stomachic: Curry made from leaves is taken internally Itches, skin disease: Paste of leaves is taken externally
Gykhura	<i>Amaranthus viridis</i> (Amaranthaceae)	Whole plant	Acidity: Leaves juice is taken internally Leprosy: Whole plant juice is taken orally Immunity: Plant is used internally
Grita kumari	<i>Aloe vera</i> (Liliaceae)	Leaf	Paralysis: Decoction of boiled leaf is used internally Viral Jaundice: Leaf juice is used orally Weakness: Leaf juice with sugar is taken internally Skin treatment: Leaf Paste used is used externally Hair treatment: Leaf juice is used externally
Guloncho	<i>Tinospora cordifolia</i> (Menispermaceae)	Stem Leaf stalk	Discharge of semen, Gonorrhoea: Juice extracted from young stems is taken internally Diabetes: Crushed leaf stalk with neem paste is taken Jaundice: Leaf juice is taken internally
Horitaki	<i>Terminalia chebula</i> (Combretaceae)	Seed Fruit	Vomiting: Honey with seed powder is taken orally Dysentery: Powder of dry fruit mixed with water in used orally

Harjora	<i>Cissus quadrangularis</i> (Vitaceae)	Whole plant	Scurvy and irregular menstruation: Whole plant juice is taken Asthma and Stomach pain: Stem Paste made from stem is taken orally Indigestion: Leaf juice is taken internally Piles: Leaf juice is consumed orally Broken limbs: Whole plant paste is applied externally
Hatisur	<i>Heliotropium indicum</i> (Boraginaceae)	Leaf	Dog bite: Paste /macerated leaf is taken externally Insects bite: Juice obtained from with same portion of castor oil is applied externally
Helencha	<i>Enhydra fluctuans</i> (Asteraceae)	Whole plant	Fever: Whole plant cooked is taken internally
Holud	<i>Curcuma longa</i> (Zingiberaceae)	Rhizome Flower	Eczema: Rhizome paste is used externally Cold fever: Rhizome juice is taken orally Dysentery: Mustard oil, rhizome with rice and salt is taken Gonorrhoea: Paste of flower is externally Gastric problem: Chewing rhizome with salt is used Stop bleeding and wounds: Paste rhizome is externally
Jam	<i>Syzygium cumini</i> (Myrtaceae)	Bark, Seed Fruit	Asthma: Fruit is taken and bark juice is taken internally Diabetes: Seed powder mixed with cold water is taken orally
Joba	<i>Hibiscus rosa-sinensis</i> (Malvaceae)	Flower	Burning injury: Paste of flower is applied externally Menstrual disorders: Paste made from flower with water is taken orally Soothing and antiseptic: Crushed buds with water to make juice is taken internally Treatment of hair: Paste of flower is used externally
Kalomegh	<i>Andrographis paniculata</i> (Acanthaceae)	Leaf	Headache, diarrhea, cholera, fever: Leaf juice is used orally Lung infection: Leaf juice used internally Leprosy: Leaf paste is applied externally Liver disorder: Juice of eaves is taken orally
Kalokeshi	<i>Eclipta alba</i> (Asteraceae)	Whole plant	Diarrhea: Whole plant juice with sugar/honey is taken internally Constipation: Whole plant juice is taken Hair treatment: Paste made from whole plant is used externally
Katakshura	<i>Amaranthus spinosus</i> (Amaranthaceae)	Whole plant	Toothache: Plant extract is taken externally Dysentery: Leaves juice is taken orally Burning wounds: Leaves paste is taken externally
Kolmi shak	<i>Ipomoea aquatica</i> (Convolvulaceae)	Whole plant	Jaundice and bronchitis: Leaf paste with cold water is taken orally Leprosy and fever: Whole plant is taken internally
Koromcha	<i>Carissa carandus</i> (Apocynaceae)	Fruit Root bark	Diabetes: Ripe fruit and root bark is used internally Anti helminthic and wound healing: Decoction of root bark is used orally
Korobi	<i>Nerium indicum</i> (Apocynaceae)	Leaf Root Bark	Ulcers: Root bark solution is used orally Joint pain: Paste of root bark is applied externally Insect bite: Soaked fresh leaves is used externally

			Swellings: Extract of leaves with hot water is taken externally
Kochu	<i>Colocasia esculenta</i> (Araceae)	Leaf Petiole	Stop bleeding: Petioles juice is used externally Tumors and cancer: Juice obtained from leaf is used
Kalojira	<i>Nigella sativa</i> (Ranunculaceae)	Seed	High blood pressure: Directly seeds are taken orally Asthma, Diabetes: Seed is taken internally
Kushar	<i>Saccharum officinarum</i> (Poaceae)	Stem	Jaundice: Stem juice is taken internally
Lajjaboti	<i>Mimosa pudica</i> (Mimosaceae)	Leaf Root	Diarrhea, Piles: Root juice is taken internally Snake bites: Raw milk with soak the plant's roots is applied orally Muscular pain: Leaf juice is taken orally
Lebu	<i>Citrus aurantifolia</i> (Rutaceae)	Fruit	Catarrhal fever: Honey with fruit juice is taken orally Increase digestive power and appetite: Fruit juice is taken internally Skin irritation and nausea: Juice of fruits are taken orally Balance diet: Fruit juice with warm water is taken internally
Mehedi	<i>Lawsonia inermis</i> (Lythraceae)	Leaf	Skin care: Solution of leaf is taken externally Treatment of hair: Paste of leaf is taken externally
Mohavrin garaj	<i>Wedelia chinensis</i> (Asteraceae)	Leaf	Alopecia, hair disease: Leaf paste is taken externally Stop vomiting: Leaf juice with salt is taken internally
Mukta jhuri	<i>Acalypha indica</i> (Euphorbiaceae)	Leaf	Ringworm: Leaf paste is taken internally Snake bite: Paste made from young parts is administered externally Child constipation: Leaf juice is used orally
Mutha-ghas	<i>Cyperus rotundus</i> (Cyperaceae)	Tuber Root	Fever: Decoction of root is used orally Diarrhea: Crushed root is taken internally Wounds and Sores: Macerated root paste is taken externally
Nayantara	<i>Catharanthus roseus</i> (Apocynaceae)	Whole plant	Child Leukemia: Whole plant juice is taken orally Anti Tumour and Anti Cancer: Alkaloids obtained from leaves and stems is used orally Diabetes and Blood pressure: Juice of leaves is used orally
Neem	<i>Azadirachta indica</i> (Meliaceae)	Leaf	Chicken pox: Leaves paste is taken externally Jaundice: Leaf juice is used orally Pyorrhea: Decoction of leaf used in gargling to treat sore and pyorrhea Skin disease: Leaf paste mixed with warm water is applied externally
Nuniashak	<i>Portulaca oleracea</i> (Portulacaceae)	Leaf	Skin disease, boils, eczema, insect-bite, burns, wound, and inflammation: Leaf paste is taken externally
Oporajita	<i>Clitoria ternatea</i> (Fabaceae)	Root, Leaf	Throat pain: Paste of leaves is applied externally Swellings: Paste of leaves is administered externally Tuberculosis: Decoction of root is used orally

			Headache: Paste of leaves is used externally
Pan	<i>Piper betle</i> (Piperaceae)	Leaf Root	Wound: Leaf juice is taken externally Mouth cancer: Leaf juice is taken orally Diabetes, asthma, liver disease, blood pressure, heart disease, allergy and constipation: Raw betel leaf is taken orally Phlegm: Paste of leaf is taken Toothache and gum disease: Leaf extracts is applied orally Sexual weakness and brain tonic: Leaf juice and mixed with honey is taken internally Eczema and wart: Leaf juice is taken externally Louse removal and dandruff: Leaf juice is taken externally Cough and cold: Leaf juice is taken orally Abortion: Root extract is taken internally
Pathor kuchi	<i>Kalanchoe pinnata</i> (Crassulaceae)	Leaf	Stop Bleeding: Paste of leaf is taken externally Blood dysentery: Juice of leaf is taken orally Stomachic: Salt with smashed leaves is used orally
Piaj	<i>Allium cepa</i> (Liliaceae)	Bulb	Cold, Cough and Headache: Warm bulb juice with mustard oil is taken externally Snake bite and Hair treatment: Bulb juice is applied externally
Piyara	<i>Psidium guajava</i> (Myrtaceae)	Leaf Bark	Diarrhea: Extract of leaf and stem bark are taken Mouth cleaner: Young Tender leaf is used Dysentery: Juice of root is taken orally
Punarnava	<i>Boerhaavia diffusa</i> (Nyctaginaceae)	Root Leaf	Diuretic: Root paste is applied internally Asthma: Roots and leaves extract is used orally Insomnia: Tender leaf paste is used internally
Rosun	<i>Allium sativum</i> (Liliaceae)	Bulb	Cough, Fever, Blood Pressure: Bulb juice is taken internally Scabies and Eczema: Bulb juice taken externally
Sajna	<i>Moringa oliefera</i> (Moringaceae)	Leaf Root Fruit Seed	Blood pressure: Leaves cooked as vegetables is eaten Wormicidal, Abortion: Paste of root bark with water used orally Fever and abdomen pain: Decoction of root are given orally Rheumatism: Seed oil is taken internally Diabetes: Dried leaves powder is taken orally Cold-cough: Leaf Extract of leaf is taken internally Anti-inflammatory: Solution of leaf is given orally
Sarnolata	<i>Cuscuta reflexa</i> (Cuscutaceae)	Stem Leaf	Constipation, liver disorder, and antioxidant: Stem and leaf juice is taken orally
Sarpogandha	<i>Rauvolfia serpentina</i> (Apocynaceae)	Root	Blood pressure, sedative, febrifuge, dysentery: Root juice is taken internally
Sheyal kata	<i>Argemone mexicana</i> (Papaveraceae)	Root Latex	Skin cracks: Latex is used externally Jaundice tumors, cancer: Latex is used internally Malarial fever: Root decoction with betel leaves is taken internally

Setodron	<i>Leucas aspera</i> (Lamiaceae)	Leaf Root	Snake-bite: Paste or macerated leaves is taken orally and macerated roots is used externally Rheumatism: Leaf juice is used orally Stomachic: Leaf decoction mixed in a small amount of rock salt are applied internally Psoriasis and other skin disease: Leaf paste is used orally Antihelminthic: Cooked plant paste is used internally
Sisso	<i>Dalbergia sissoo</i> (Fabaceae)	Leaf Bark	Hemorrhage: Dry bark powder is taken externally Gonorrhoea: Leaf decoction is used orally Dysentery: Decoction of leaf used orally
Shimul	<i>Bombax ceiba</i> (Bombacaceae)	Gum Root	Burning sensation: Gum paste is applied externally Male weakness: Tender root decoction is taken internally Rheumatism: Grinding of root bark is used orally
Sorisha	<i>Brassica napus</i> (Brassicaceae)	Seed	Hair treatment: Seed oil is slightly heated and applied externally Insomnia: Oil obtained for seed is applied to the scalp Skin crack: Oil obtained from seed is applied externally Gout: Seed paste is taken externally Cough and Neuralgic: Warm seed oil is taken externally.
Supari	<i>Areca catechu</i> (Arecaceae)	Seed Root	Taeniasis: Seed extract is used orally Dyspepsia: Young fruit juice is taken orally Blood Dysentery: Seed decoction is taken internally Toothache: Root powder mixed with dry nut powder is taken Sore: Dry fruit powder is applied externally
Tetul	<i>Tamarindus indica</i> (Fabaceae)	Fruit Seed Leaf	Fever, Gastric: Fruit pulp is used internally Dyspepsia: Crushed seed is taken orally Blood Dysentery: Fresh leaf juice taken internally Mouth disease: Decoction of stem and bark is used orally
Telakucha	<i>Coccinia grandis</i> (Cucurbitaceae)	Leaf Fruit	Diabetes: Fruits and leaves are used orally Hypertension: Leaf juice is taken orally Fever and vomiting: Crushed leaves juice with water is taken Insomnia: Paste made from cooked leaves are used
Thankuni	<i>Centella asiatica</i> (Apiaceae)	Whole plant	Dysentery and stomach pain: Whole plant paste is used orally Tuberculosis: Whole plant juice is taken internally
Tridhara	<i>Tridax procumbens</i> (Asteraceae)	Leaf	Dysentery and Diarrhea: Leaf decoction is taken internally Bronchitis: Leaf extract combined with water is taken orally Bleeding: Leaf power is applied externally
Tulsi	<i>Ocimum sanctum</i> (Lamiaceae)	Leaf	Cough: Leaf extract is taken internally Bronchitis and cold: Orally Warm leaf juice is taken Gastric disorder and ringworm: Juice of leaf is used internally

Ulot kربول	<i>Abroma augusta</i> (Sterculiaceae)	Petiole Seed Leaf	Weakness: Petiole pulp taken internally Stomach pain: Crushed seed combined with water used internally Leuchoria: Leaf decoction with crushed pepper powder is taken orally
Verenda	<i>Ricinus communis</i> (Euphorbiaceae)	Leaf Seed	Jaundice: Leaf juice is taken orally Dysentery: Fresh leaf juice with sugar is taken Constipation: Oil obtained from seed is taken orally

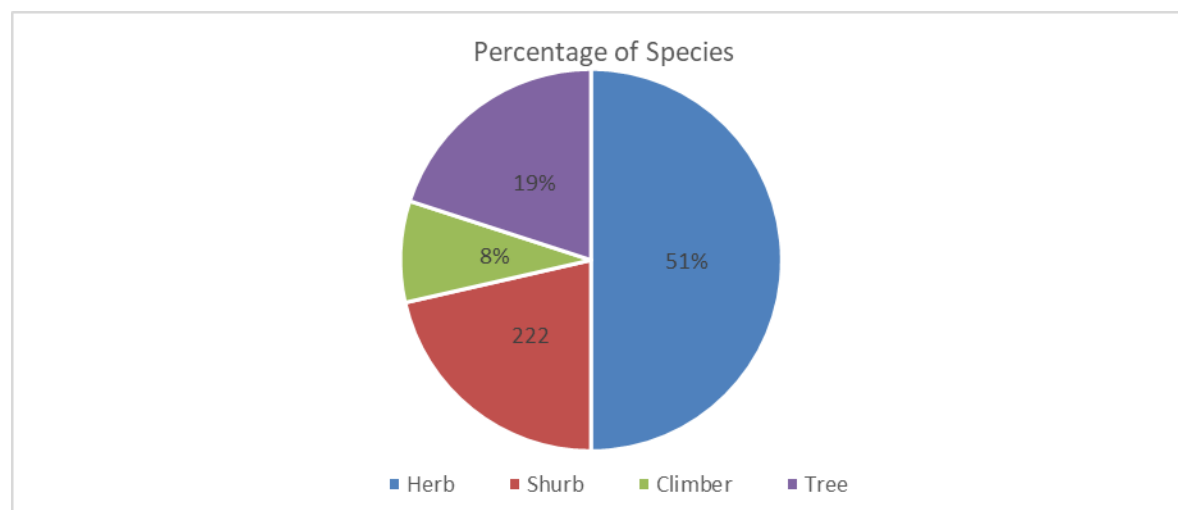


Fig. 1: Plant habit in the study area

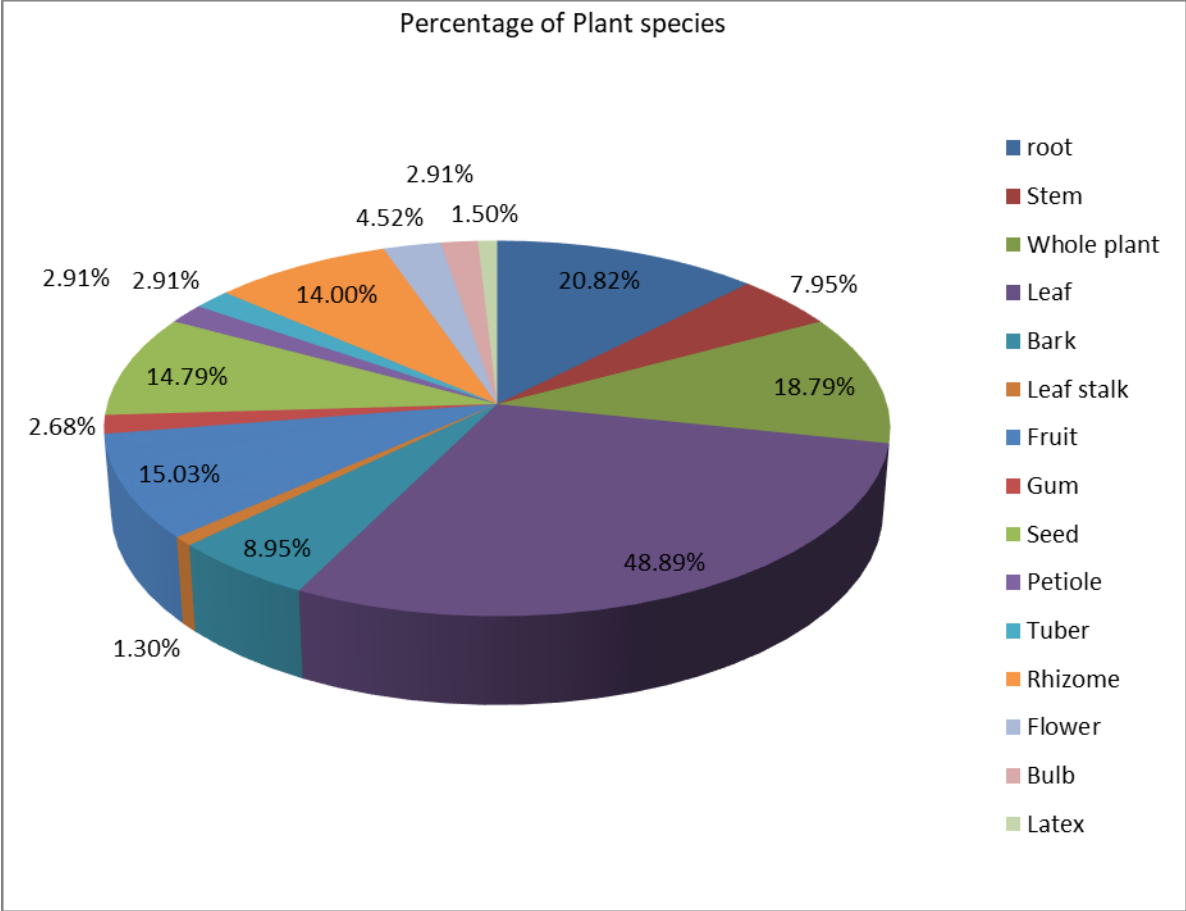


Fig. 2: Plant parts used as medicinal purposes

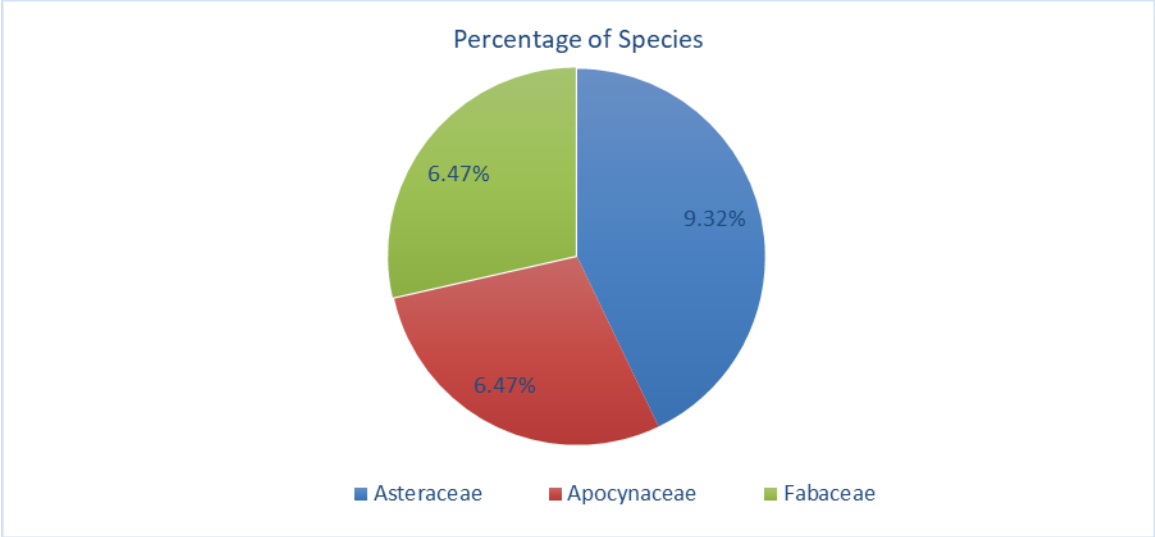


Fig. 3: Recorded Dominant Families in the study area

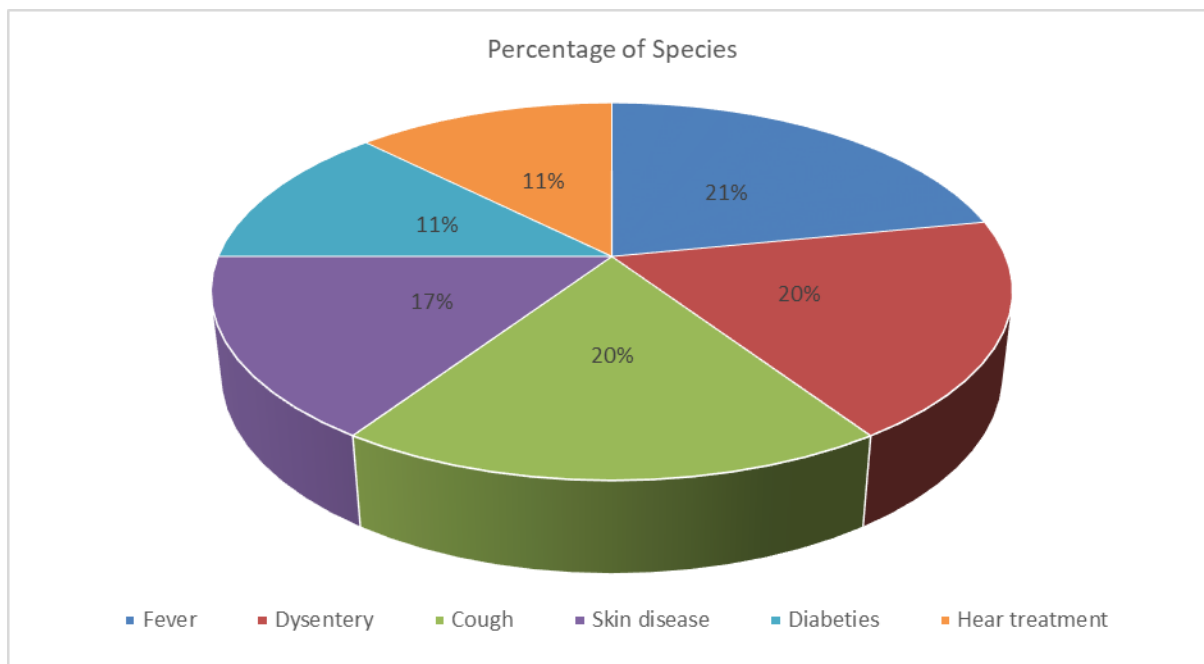


Fig. 4: Recorded dominant diseases

CONCLUSION

Selected medicinal plants were used by the local peoples of Rajshahi district, Bangladesh was carried out during July 2018 to June 2021. A total of 73 medicinal plant species belonging to 68 genera and 44 families have been documented which are used for the treatment of forty eight ailments and mode of application. Present study unravels the relevance of selected medicinal plant species in treatment of diseases. Further research work has to be carried out for the scientific validation of the traditional herbal therapy and deduce an appropriate dosage for curing various ailments.

ACKNOWLEDGEMENTS

The authors are grateful to the local peoples of Rajshahi district, Bangladesh for their co-operation and help during the research work.

REFERENCES

- Ahmed, Z.U, Z.N.T.Begum, M.A.Hassan, M. Khondker, S.M.H. Kabir, M. Ahmad, A.T.A. Ahmed, A.K.A. Rahman and E.U. Haque (Eds). 2008-2009. Encyclopedia of Flora and Fauna of Bangladesh. Vols. 6-10. Asiatic Society of Bangladesh, Dhaka.
- Alexiades, M.N (Ed), 1996. Selected Guidelines for Ethno Botanical

- Research: A Field Manual. The New York Botanical Garden, New York. 305pp.
- Anisuzzaman, M., A.H.M.M. Rahman, M.H. Rashid, A.T.M. Naderuzzaman and A.K.M.R. Islam, 2007. An Ethnobotanical Study of Madhupur, Tangail. *Journal of Applied Sciences Research*. 3(7): 519-530.
- Choudhury, A.R. and M. Rahmatullah, 2012. Ethnobotanical study of wound healing plants among the folk medicinal practitioners several districts in Bangladesh. *American- Eurasian Journal of Sustainable Development*. 6(4): 371-377.
- Debnath, A. and A.H.M.M. Rahman. 2017. A Checklist of Angiosperm Taxa at the Village Pandit Para under Palash Upazila of Narsingdi District, Bangladesh with Special Importance to Medicinal Plants. *Species* 18(58): 23-41.
- Easmin, M F, L.A. Faria, R, Rani and A.H.M.M. Rahman. 2021. Asteraceae: A Taxonomically and Medicinally Important Sunflower Family. *American International Journal of Biology and Life Sciences*. 3(1):1-17
- Faruque, M.O. and S.B. Uddin, 2014. Ethnomedicinal study of the Marma community of Bandarban district of Bangladesh. *Academia Journal of Medicinal Plants*. 2 (2): 014- 025.
- Ghani, A. 2003. Medicinal Plants of Bangladesh. Asiatic Society of Bangladesh, Dhaka.
- Hoareau, L and E, J, DaSilva. 1999. Medicinal plants: a re-emerging health aid. *Electron. J Biotech*. 2:3-4.
- Hooker, J.D. 1877. The Flora of British India, Vols. 1-7. L. Reeve & Co. Ltd. Kent, London.
- Huq, A.M. 1986. Plant Names of Bangladesh. Bangladesh National Herbarium, BARC, Dhaka, Bangladesh.
- Ismail, M. and A.H.M.M. Rahman. 2016. Taxonomic Study and Traditional Medicinal Practices on Important Angiosperm Plant Species in and around Rajshahi Metropolitan City. *International Journal of Botany Studies*. 1(3): 33-39.
- Islam, M.H. and A.H.M.M. Rahman. 2017. Folk Medicine as Practiced in Bagha Upazila of Rajshahi District, Bangladesh. *Plant Environment Development*. Bangladesh. 6(1): 13-24.
- Jamila, M., M.J Islam and A.H.M.M. Rahman. 2016. Folk Medicine Practices for the treatment of Abortion, Body weakness, Bronchitis, Burning sensation, Leprosy and Gout of Santal Tribal Practitioners at Jamtala Village under Sadar Upazila of Chapai

- Nawabganj District, Bangladesh. *International Journal of Advanced Research*. 4(6): 587-596.
- Keya, M.A. and A.H.M.M. Rahman. 2017. Angiosperm Diversity at the Village Sabgram of Bogra, Bangladesh with Emphasis on Medicinal Plants. *American Journal of Plant Biology* 2(1): 25-34.
- Khan, M.S. 1998. Prospects of Ethnobotany and Ethnobotanical Research in Bangladesh. In: R.L. Banik, M.K. Alam, S.J. Pei and A. Rastogi (eds.), *Applied Ethnobotany*, BFRI, Chittagong, Bangladesh. Pp. 24-27.
- Khatun, M., M.A. Hassan, S.N. Islam and M.O. Rahman, 2013. Taxonomy of the Leafy Vegetables in Bangladesh. *Bangladesh J. Plant. Taxon.* 20 (1): 95-123.
- Nahar, J and A.H.M.M. Rahman. 2016. Floristic Diversity of Naogaon Sadar, Bangladesh with Special Reference to Medicinal Plants. *Discovery* 52(252): 2352-2368.
- Pasha, M.K. and S.B.Uddin, 2013. *Dictionary of Plant Names of Bangladesh*. Janokalyan Prokashani. Chittagong, Bangladesh.
- Prain, D. 1903. *Bengal Plants*, Vols. 1-2. Botanical Survey of India, Calcutta.
- Rahman, A.H.M.M. 2017. Annotated List in the Graveyards Trees of Rajshahi City, Bangladesh. *Discovery*. 53(254): 107-116.
- Rahman, A.H.M.M., Z, Ferdows, S.K. Nitu and A.K.M.R. Islam. 2015. Herbaceous Plant Species in and around Rajshahi Metropolitan City, Bangladesh. *International Journal of Advanced Research*. 3(5): 1002-1018.
- Rahman, A.H.M.M. and M. Akter. 2013. Taxonomy and Medicinal Uses of Euphorbiaceae (Spurge) Family of Rajshahi, Bangladesh. *Research in Plant Sciences* 1(3): 74-80.
- Rahman, A.H.M.M. and M.I.A. Gulshana. 2014. Taxonomy and Medicinal Uses on Amaranthaceae Family of Rajshahi, Bangladesh. *Applied Ecology and Environmental Sciences* 2(2): 54-59.
- Rahman, A.H.M.M. and M.M. Rahman. 2014. An Enumeration of Angiosperm weeds in the Paddy field of Rajshahi, Bangladesh with emphasis on medicinal Plants. *Journal of Applied Science And Research* 2(2): 36-42.
- Rahman, A.H.M.M. and Rojonigondha. 2014. Taxonomy and Traditional Medicine Practices on Malvaceae (Mallow Family) of Rajshahi, Bangladesh. *Open Journal of Botany* 1(2): 19-24.
- Rahman, A.H.M.M., J.E. Gulsan, M.S. Alam, S. Ahmad, A.T.M.

- Naderuzzaman and A.K.R.M. Islam. 2012. An ethnobotanical Portrait of a Village: Koikuri, Dinajpur with Reference to Medicinal Plants. *International Journal of Biosciences*. 2(7): 1-10.
- Rahman, A.H.M.M and M. Jamila. 2016. Angiosperm Diversity at Jamtala Village of Chapai Nawabganj District, Bangladesh with Emphasis on Medicinal Plants. *Research in Plant Sciences*. 4(1): 1-9.
- Rahman, A.H.M.M, E.Z.M.F, Kabir, S.N. Sima, R.S.Sultana, M. Nasiruddin and A.T.M. Naderuzzaman. 2010. Study of an Ethnobotany at the Village Dohanagar, Naogaon. *Journal of Applied Sciences Research*. 6(9): 1466-1473.
- Rahman, A.H.M.M., S. Akter, R. Rani and A.K.M.R. Islam, 2015. Taxonomic Study of Leafy Vegetables at Santahar Pouroshova of District Bogra, Bangladesh with Emphasis on Medicinal Plants. *International Journal of Advanced Research*. 3 (5): 1019-1036.
- Rahman, A.H.M.M. 2021. A Preliminary Assessment of Angiospermic Flora in and around Rajshahi metropolitan city, Bangladesh. 2021. *Applied Ecology and Environmental Sciences*, 9(4): 440-449
- Rajesh P, S, Latha, P, Selvamani and VR, Kannan. 2010. *Capparis sepiaria* L. - Pharmacognostical standardization and toxicity profile with chemical compounds identification (GC-MS). *Int. J Phytomed*. 2:71-79.
- Roy, D and A.H.M.M. Rahman. 2016. Systematic Study and Medicinal Uses of Rutaceae family of Rajshahi District, Bangladesh. *Plant Environment Development*. 5(1): 26-32.
- Roy, T.R. and A.H.M.M. Rahman. 2018. Inventory of Angiosperm Diversity in Ishwardi Pouroshova of Pabna District, Bangladesh, *Discovery Science*, 14: 9-22.
- Sultana, R and A.H.M.M. Rahman. 2016. Convolvulaceae: A Taxonomically and Medicinally Important Morning Glory Family. *International Journal of Botany Studies*. 1(3): 47-52.
- Uddin K, A.H.M.M. Rahman and A.K.M.R. Islam. 2014. Taxonomy and Traditional Medicine Practices of Polygonaceae (Smartweed) Family at Rajshahi, Bangladesh. *International Journal of Advanced Research* 2(11): 459-469.
- Uddin, M.Z. and M.A. Hassan, 2014. Determination of informant consensus factor ethnomedicinal plants used in Kalenga forest, Bangladesh. *Bangladesh J. Plant Taxon*. 21 (1): 83-91.
- Uddin, M.Z., M.G. Kibria and M.A. Hassan, 2015. Study of Ethnomedicinal Plants used by local

- people of Feni District, Bangladesh. *J. Asiat. Soc. Bangladesh, Sci.* 41 (4): 735-757.
- WHO (World Health Organisation). "Guideline for Assessment of Herbal Medicines"
- Yusuf, M., M.A. Wahab, J.U. Choudhury and J. Begum. 2006. Ethno-medico-botanical knowledge from Kaukhali proper and Betunia of Rangamati district. *Bangladesh J.Plant Taxon.* 13 (1): 55-61.