Traditional ethnomedicinal knowledge of 101 indigenous leafy vegetables among the Rabha tribes in Assam, India

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Abstract. Traditional ethnomedicinal knowledge (TEK) has received significant attention in recent years for its potential in drug discovery, cultural preservation, health care sustainability, and community empowerment. In this regard, the Rabha community has treasured traditional medical knowledge passed down through generations. Documenting traditional knowledge helps to preserve indigenous cultures and promote cross-cultural exchange. Therefore, the study aimed to document the green leafy vegetables and medicinal plants still used by the Rabha tribes' community in the Rabha Hasong Autonomous Council (RHAC) area of Assam, India. The information was gathered through semi-structured interviews and conversations with 170 respondents aged 50-75, conducted from March 2021 to November 2023. In this study, 101 indigenous leafy vegetables belonging to *Solanaceae* (7 species) 2) *Apiaceae* (5 species) 3) *Malvaceae* (5 species) 4) *Amaranthaceae* (5 species) 5) *Lamiaceae* (5 species) and 6) *Brassicaceae* (5 species) and 7) *Cucurbitaceae* (4 species) families were recorded the highest from the studied area. Ethnobotanical indices, such as Use value (UV) and Relative Frequency of citation (RFC), were used. From the study, it is revealed that *Sarcochlamys pulcherrima* (Roxb.) Gaud exhibited the highest use value (UV), followed by Paederia foetida Linn, Amaranthus spinosus L, and *Hibiscus sabdariffa* Linn. In the study area, a wide range of leafy vegetables were identified as medicinal plants, and they were also consumed as tender leaves. These indigenous leafy vegetables have high nutritional value, which may help people prevent various deficiencies. It was observed that some medicinal leafy vegetables are gradually declining due to various anthropogenic activities. The masses must be made immediately aware of the natural potential of green leafy vegetables to be incorporated into mainstream diets, which is expected to improve nutritional security, reduce malnutrition, and create self-employment. These indigenous leafy vegetables may be studied more rigorously in the near future to develop pharmacological drugs.

Keywords: traditional practices, *Sarcochlamys pulcherrima* (Roxb.) Gaud, medicinal plants, reduced malnutrition, drug discovery.

1. Introduction

Leafy vegetables play a massive role in food stuff, traditional medicinal purposes and nutritional security. Wild leafy vegetables (WLVs) play a pivotal role as alternative food sources and drugs resources other than cultivated vegetables across the globe. Green leafy vegetables (GLVs) are esteemed components of diets worldwide, for their culinary flexibility and high nutritional value (Aslam et al., 2020). Green leafy vegetables are rich in antioxidant and essential nutrients, promoting overall health. Green leafy vegetables are also called "leafy greens" as characterized by their edible

leaves, which can be consumed either raw or processed (Putriani et al., 2022). Ethnic communities particularly tribes regularly consume these vegetables to supplements their nutritional and nutraceutical deficiencies (Patra et al., 2024). Leafy vegetables significantly contribute towards food security and reducing micronutrient deficiency. Green leafy vegetables extend its influence significantly to maintain optimal health and their high antioxidant contents that helps in combating oxidative stress, supporting immunity system and promoting health. Bioactive compounds like flavonoids, carotenoids and polyphenol compounds enhance their role in preventing various chronic diseases such as diabetes, cardio vascular diseases, hypertension and cancer etc. Pharmacologically, several green leafy vegetables are identified for their antimicrobial, anti-inflammatory and antihypertensive properties are often utilized in traditional medicine for their therapeutic effects (Babu et al., 2025). The green leafy vegetables contain different bioactive compounds like flavonoids, alkaloids, terpenoids, phenolic acid and saponins that brings out excellent antimicrobial and antioxidant activities. The World Health Organization (WHO) has estimated that over two billion people globally are facing from deficiency in respect of vitamins and minerals such as vitamin A, and minerals such as iodine, iron and Zinc. (WHO, 2004). It is reported that women and children living in developing countries are affected unprecedently. They are prone to ill health and suffer from retarded in case of physical and mental development, as well as vulnerable to various diseases, including even blindness due to malnutrition. Green leafy vegetables are major components of healthy balance diet and their sufficient daily consumption can support to prevent various diseases. Green leafy vegetables have been traditionally recognized as rich source of dietary fibre. Green leafy vegetables are the least expensive sources of a number of nutrients. Wild leafy vegetables have played a significant role in the nutritional and nutraceutical status of the human health due to its presence of various vitamins (Morales et al., 2016) and carbohydrate, proteins, dietary fibre, minerals such as macronutrients including Ca, K, Mg, Potassium and Sulphur and microelements including Fe, Cu, Mn, Zn, Na, Mo, B and a variety of bioactive compounds (Tarafder et al., 2023). The leafy vegetables are the sources of natural antioxidants such as phenolics, flavonoids, ascorbic acid, carotenoids, betacyanin's, betaxanthins, betalains, chlorophyll a, chlorophyll b, β- carotene etc. that have high radical quenching ability (Sarker et al.,2019). The bioactive compounds have excellent activities against bacteria, viruses, parasites and cancerous cells. The leaf extract such as *Surcholamys pulcherima* has highlighted antimicrobial activities (Pathak et al., 2025). Green leafy vegetables are essential constituents of a balance diet, holding significant position and popularity due to their capacity to offer a diverse array of plant with different characteristics such as colour, taste, texture, in addition to their high nutritional value (Athanasios et al., 2020). Leafy vegetables play an extraordinary key role to rural household (Panda et al., 2015).

Leafy vegetables are a vigorous sources of phytonutrients including natural antioxidant properties (Paul et al., 2010). The phytonutrients are indoles, carotenoids, phytosterol, polyphenols, saponins, flavonoids, vitamins A, K, B_2, B_3, B_5, B_6, alpha-tocopherol, Beta carotene and macro, as well as micro nutrients. Dark green vegetables have varieties of phytonutrients including beta-carotene, lutein and zeaxanthin which play a very vital role in eye health. It is reported that more than two thousand phytochemicals have been identified till date but, all phytochemicals are not adequate for human health. Leafy vegetables are natural source of antioxidants and rich in phytochemicals (Duma et al., 2014 and Kavitha, 2021). In plants, alkaloids protect plants from predation and regulate their growth. Those alkaloids have anti-inflammatory effects on human health. Flavonoids have anti-oxidant properties. Phytonutrients like flavonoids have beneficial anti-inflammatory effects. Phytochemicals are chemical compounds produced by plants, generally helps them resisting bacteria, fungi and plant virus infections (Harborne, 1998). Phytochemical analysis of some medicinal plants revealed that they consist protein, carbohydrates, phenols and tannins, flavonoids and saponins (Yadav and Agarwala, 2011). Vegetables are good sources of vital nutritional components of proteins, vitamins, minerals, dietary fibres, micronutrients, antioxidants and phytochemicals in our day-to-day diet. (Kumar et al., 2020). leafy vegetables are major components of a healthy diet, and their sufficient daily consumption can help to prevent major diseases. Nutritional expert has recommended that an average consumption of (50-100) g of green leafy vegetables per day is necessary for maintaining sound health. These vegetables may help to meet daily requirements of these and other essential nutrients, especially in individuals with marginal nutritional status. (Kumar et al., 2020). Leafy tender leaves of Brassica have various potential benefits to cure some diseases (Banerjee et al., 2016). Leafy vegetables have a very high protective food value. Moreover, it is also very easy to grow (Baskar, 2005). Green leafy vegetables, particularly wild leafy plants are widely distributed in the state of Tripura and local tribal peoples that are used to treat various minor ailments traditionally (Das, 2024). Plants have ethnobotany of religious and supernatural beliefs of the Mishing tribes of Assam (Sharma and Pegu, 2011).

Green leafy vegetables play a key role in Assamese culture. On the first day of Rangali Bihu, which is celebrated in the month of April, the most traditional important harvesting festival of Assam, the Assamese people collect 101 leafy vegetables from natural habitat to prepare a special recipe, as well as they believe that this special recipe has some medicinal value that maintains them good health for the whole year. Rabha community is also a part of greater Assamese culture. Assam is ethnically rich diverse group, with numerous tribes and communities such as Bodo, Rabha, Karbi, Kachari, Mishing, Miri, Garo and other communities. The Rabha people are a Tibeto-Burmise ethnic group who lives mostly concentrated in Goalpara and Kamrup district of Assam. Besides Assam, they are distributed in Meghalaya, West Bengal, Bangladesh and Nepal. In Assam, Rabha community is existed in

Kokrajhar, Dhubri, Bongaigoan, Chirang, Odalguri, Sonitpur, Nagaon, Bagsa, Golaghat and Dhemaji district too. The Rabha community has eight sub -tribes such as Rangdani, Mayturi, Dahari, Pati, Totla, Biitiliya, Sunga or Koach and Hana. particularly Rangdani and Maituri groups celebrate a harvesting festival "Baikho" in the month of mid-May. They believe that "Baikho" to be the the Goddess of wealth and prosperity. Rabha tribes first celebrated Baikho at Athiyabari village in Rabha Hasong Autonomous Council area of Assam. *Sarcochlamys pulcherrima* (Roxb) tender leaves used in baikho festival. They also normally collect 101 leafy vegetables and herbs to prepare a special dish. They also believe that every herb has some medicinal values to cure some diseases such as dysentery, common cold and cough, fever, ulcer, abdominal pain, constipation, jaundice, colic pain, indigestion, blood pressure, eye health, digestive health, menstruation pain relief and other ailments. Although many previous studies (Deka et al., 2024) have identified and documented a number of ethnomedicinal wild edible plants used by Rabha community of Goalpara district of Assam, mentioning their usage, parts used, mode of formulation. The wild leafy vegetables are very healthy and nutritious as they are good sources of minerals as well as different vitamins (Morales et al., 2016) These wild green leafy vegetables play a key role in reducing deficiency of micronutrient and give nutritional security of indigenous people of Rabha Hasong autonomous council area of Assam. *Sarcochlamys pulcherrima* (Roxb) tender leaves used as a medicinal plant have some neurological effects (Alam et al., 2016). These medicinal plants have antimicrobial and medicinal properties (Ghose et al., 2020 and Mazumder et al., 2015). The tender Leaves of *Sarcochlamys pulcherrima* have antimicrobial activity and medicinal properties (Mazumder et al, 2015 and Goswami et al., 2024). Few leafy vegetables or plants have Antibacterial activity and phytochemical components. (Wasihun et al., 2023).

Green leafy vegetables are highly nutritious, as well as medicinal values (Mazumder et al, 2012). In Rabha Hasong Autonomous Council Area of Assam, indigenous People can be commonly seen collecting these leafy vegetables from natural habitat like wild habitat beside drains, near wetlands or from their home gardens of their houses. Unplanned urbanization is one of the key reasons behind many herbs and indigenous species of plants going extinct in Assam (Pathak et al., 2025). Destruction of land resources, conversion of forest land for other purposes, changes in agricultural practices, changes in life style pattern and other anthropogenic interferences like intensification of agriculture etc. are the reasons of sharp decline and disappearance of various indigenous plant. However, loss of water bodies, chemical weed control, herbicides, insecticides, pesticides are one of the reasons behind some of the herb species becoming rare, as well as gradually disappear on the spot.

Rabha tribe is distinctly prime habitants of Rabha Hasong Autonomous Council (RHAC) area of Assam, India. This tribe is well known for its traditional practices in using various leafy vegetables and herbs to cure diseases. The indigenous medicinal plants of the state of Assam are not widely known

to the local people and tribes of the state and it is yet to be explored in toto. Therefore, present study aims are to record and documenting the green leafy vegetables which are being consumed by the Rabha tribes in the Rabha Hasong Autonomous Council area of Assam, India. A study was conducted to explore the traditional knowledge related to leafy vegetables as well as documenting the traditional uses and local practices of indigenous leafy vegetables in health care system.

2. Methodology

2.1. Study area

The study was conducted in the Rabha Hasong Autonomous Council Area of Assam which is geographically located at the ranges of 22º19´ to 28º16´ North Latitude and 89º42´ to 96º30´ East Longitude. The area shares its boundary East Kamrup district, West Dhubri district, North Barpeta, Bongaigoan and Dhubri district. The study was carried out in Rabha Hasong Autonomous Council, Dudhnoi, Autonomous state covering Joyramkuchi G.P. in Goalpara district to Rani G.P. in Kamrup district. Presently as many as 779 tribal revenue villages with a total population of more than six lakhs (approx.) has been notified by the Honourable Governor of Assam under RHAC. The major tribes are Rabha, Bodo, Garo, and other communities (RHAC, 2020). The studied areas altogether comprised as 779 tribal revenue villages with a total population of more than six (6) lakh as per the official records.

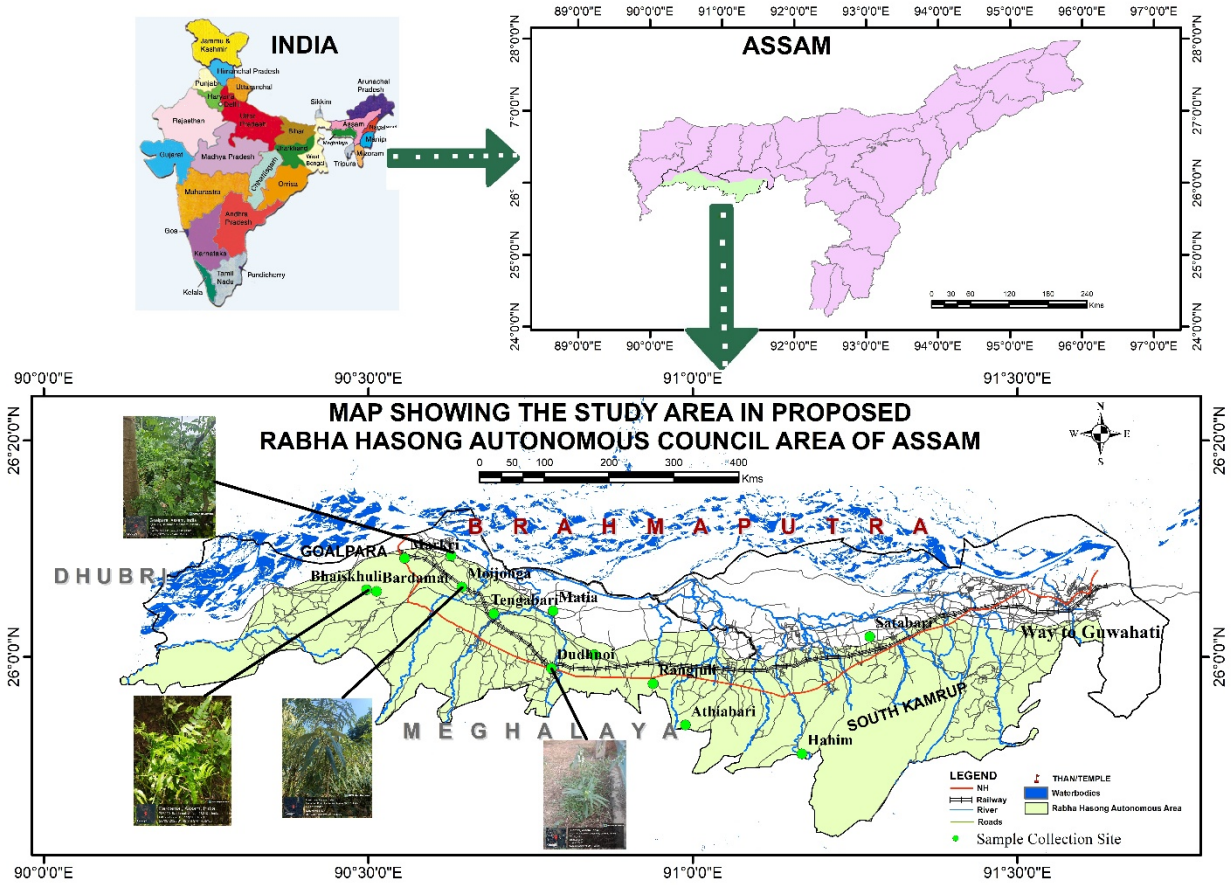

Figure 1. Location of the study area: Rabha Hasong Autonomous Council (RHAC), Assam, India.

2.2 Topography

Flat plain except for few forested hills in the south border of Meghalaya and a large number of Chars in the Brahmaputra River forms the North boundary.

2.3 Climate

The climate of the study area is sub-tropical climate with maximum temperature of 39°C during the months of July-August which drops down to a minimum temperature of 6ºC during the winters in the month of January. Average rainfall 2169 mm and average rainy days 95. Soil is acidic, sandy and clayey loam constitute the major portion and is rich in forest diversity.

2.4. Data Collection and authentication of Plant material

The ethnomedicinal surveys for the data collection was conducted from March 2021 to November 2023 of Rabha Hasong Autonomous Council Area of Assam, India through semi structured validated questionnaire and personal interview with local communities. A total of 170 individuals (100 men, 70 women) between the age group of 50-75 were considered respondents for study purposes. Informants were selected purposive method. Information requested from the informants includes Green leafy vegetables used for illnesses, local name, plants parts used, formulation technique, and mode of administration. The Green leafy vegetables were collected based on the informant's information. All the data were collected from eight (8) revenue circle namely Palas Bari revenue circle, Chaigaon revenue circle, Boko revenue circle, Rang Juli revenue circle, Dudhnoi revenue circle, Matia revenue circle, Balijana revenue circle, and Lakhipur revenue circle.

Fresh, healthy, young leaves of 101 leafy vegetables were collected from natural habitat of RHAC, Assam, India. The Plant materials were identified with consultation of standard literature such as "Flora of Assam" written by Kanji Lal, U.N. The Plant were authenticated by Botanical Survey of India, Shillong and in the Department of Botany, Dudhnoi College, Dudhnoi, Assam. The information of traditional commonly used were collected from respondents of this area, through a standard questionnaire. The voucher specimens were deposited to the Department of Botany, Dudhnoi College, under affiliations of Gauhati University, Assam, India. The nomenclature was validated with online database, such as the World Flora online (WFO) plant list (https://worldfloraonline.org), Plants of the world online (https://powo.science.kew.org). The scientific nomenclature adopted with the International Code of Nomenclature for algae, fungi and plants (ICN). The preliminary survey reveals that most of the leafy vegetables and herbs have sharply decreased due to various anthropogenic activities. The study reveals that there is no documentation or check list of indigenous leafy vegetables in the studied area. However, no proper records or scanty of literature about local health practices in the studied area.

2.5 Data analysis

Use Value (UV)

The UV was calculated using the following formula (Chaachouay *et al.*, 2019)

$$UV = \sum \frac{Ui}{n}$$

Where 'Ui' is number of citations of each species by the informants, and 'n' represent total number of informants in the study area.

Relative Frequency of Citation (RFC)

The RFC was calculated using the following formula (Tardio and Pardo-de-Santayana 2008):

$$RFC = \frac{FC}{N}$$

Where 'FC' is number of informants who have claimed a specific plant, and 'N' are total number of informants.

When Relative Frequency of Citation value is 0, it signifies less known or used. When the value is close to 1, it indicates high significance of a particular species within the community (Tardio and Pardo-de- Santayana, 2008).

Statistical analysis

All statistical computations, graph and other graphics were prepared using spread Microsoft Excel 2021 version 2510. All the data generate in the study were represents as mean ± standard deviation (SD), and subjected to normally testing using Shapiro Wilk test.

3. Results and Discussion

Rabha Hasong Autonomous Council is a treasure house of indigenous leafy vegetables, as well as herbs. These plants are commonly used as edible vegetables and natural medicinal purposes. This tribe is well known for its traditional practices in consuming of various leafy vegetables and herbs to cure diseases (Sharma 2021). The Rabha community are socio-economically very backward due to their lack of knowledge and awareness towards their rights, as well as their ignorance. In the present study, a total number of 101 indigenous leafy vegetables were documented, which are traditionally used by the Rabha tribe of the RHAC area of Assam. the list of plant species mentioned in Table 1. Among the recorded plant families, *Solanaceae*, was the most dominant with 7 species, followed by *Apiaceae*,

Malvaceae, *Amaranthaceae*, *Lamiaceae*, and *Brassicaceae* with 5 species each and *Cucurbitaceae* with 4 species. In the present study, shows that common people leaf extract or whole plant are used to treat various illness. The most commonly used indigenous potent leafy vegetables plant species were listed in Table 2.

It is observed that plants' wings such as leaves, root, shoots, bark, seed, fruits, flowers, and sometimes whole plants are used in traditional practices by Rabha tribes of the studied area. Highly used plants are found in leaves. Our results incorporate with previous reports of studied the medicinal plants used by Karbi tribes in West Karbi Anglong district of Assam, India (Kalia et al., 2025).

Use Value (UV)

Ethnomedicinal indices use value (UV) used to assess the relative importance of reported Green leafy Vegetables, use value (UV), which varied from 0.024 to 0.282, was computed based on the informants' citations for particular leafy vegetables plants in this study (Table 1). The results depicted that *Sarcochlamys pulcherrima* (Roxb.) Gaud exhibited highest UV, followed by *Paederia foetida* Linn, *Amaranthus spinosus* Linn., and *Hibiscus sabdariffa* Linn. High UV indicates a leafy vegetables species is widely used, and valued in traditional medicine. Although those plants with high UVs have been studied for phytochemical analysis by several researchers, it is necessary to validate the pharmacological studies. However, the conservation of these species should also be given prime importance for conservation.

Relative Frequency of Citation (RFC): Relative frequency of citation is a commonly used quantitative measure in ethnobotanical research to access the importance of green leafy vegetables species based on how frequently informants are cited. High Relative Frequency of Citation value indicates a green leafy vegetables species widely used within community. In the present study, green leafy vegetables plants exhibited Relative Frequency of Citation value ranging from 0.012 to 0.46 (Table 1). It was found that *Zanthoxylum oxyphyllum* Edgew plant species widely used medicinal plants by Rabha Tribes. Among 101 plant species *Sarcochlamys pulcherrima* (Roxb.) Gaud., were found to be most prominent and well-known species among the indigenous leafy vegetables used by Rabha tribes.By quantifying the frequency of citation, Relative Frequency of Citation can help validate the effectiveness of traditional leafy vegetables. Several ethnomedicinal survey reports have ethnobotanical traditional knowledge (TEK) keepers are always illiterate, poor, and rely on agricultural for a livelihood (Deka et al., 2024). All of the respondents were local healers with a long record of practising traditional medicine. It was revealed that much of their knowledge of medicinal leafy vegetables plants was passed generation to next generation (Deka et al., 2024). Many other researchers

have revealed that leaves are the most commonly used parts in the formulation of medicine, similar to our observations (Das et al., 2023 and Kalita et al., 2025).

The survey also revealed that the majority of the leafy vegetables mentioned by the local healers are still available in the study area. Many species have disappeared from the natural wild habitat as a result of various anthropogenic disturbance. Some of green leafy vegetables plant such as *Sarcochlamys pulcherrima (Roxb.)* Gaudich., *Amorphophallus bulbiter* Roxb, *Colocasia esculenta* (L.), *Leucas aspera* (Roth) Spreng, *Paederia foetida* Linn., *Solanum torvum* SW., *Centella asiatica* (L.) Urban, *Enhydra fluctuant* Lour, *Amaranthus viridis* Linn, *Enhydra fluctuant* Lour, *and Ipomoea aquatica* Forsk were classified as a high-priority medicinal plant because of their tremendous significance in curing a various disease (Kalita et al., 2025).

Table 1. Use report (UR) of 101 list of Species

Sl. no.	Botanical name	Vernacular name	Family	Types of plant	Common use	Ui UV RFC
1	*Sarcochlamys pulcherrima* (Roxb). Gaud	Fok xaak	*Urticaceae*	Dogal tree/shrub	Eye drops, ulceration of tongue, digestion.	48.0; 0.28; 0.64
2	*Ipomoea batatas* Linn.	Mitha alu	*Convolvulaceae*	Perennial herb	Healthy digestion. Eye health, hair.	40.0; 0.24; 0.048
3	*Carica papaya* Linn.	Amita pat	*Caricaceae*	Small tree	Helps in digestion, night blindness, anti-cancer properties.	60.0; 0.36; 0.19
4	*Beta vulgaris* Linn.	Beet paleng	*Chenopodiacea e*	Herb	Increase haemoglobin	40.0; 0.24; 0.083
5	*Hydrocotyle sibthorpioides*Lam	Soru mani Muni	*Apiaceae*	Herb	Dysentery, memory, eye health	40.0; 0.24; 0.012
6	*Physalis minima* Linn.	Pok mou	*Solanaceae*	Climber	Urinary and skin diseases	40.0; 0.24; 0.048
7	*Allium cepa* Linn.	Piyajor-pat	*Liliaceae*	Biennial plant	Antibacterial, blood	40.0; 0.24; 0.03

					increases, cough	
8	*Zingiber officinale* Linn.	Ada	*Zingiberaceae*	Evergreen herbaceous Plant	Digestive, common cold and cough	16.0; 0.95; 0.036
9	*Lablab purpureus* (L.) Sweet	Urohi	*Fabaceae*	Climber	Increases sperm	6.0; 0.36; 0.03
10	*Solanum nigrum* L.	Laskowski	*Solanaceae*	Shrub	Worms	10.0; 0.59; 0.048
11	*Solanum melongena* Linn.	Begena agg	*Solanaceae*	Shrub	Blood increases	6.0; 0.36; 0.036
12	*Amorphophallus bulbifer* (Roxb.) Blume	Ol kosu, Vusi	*Bignoniaceae*	Herb	Piles, indigestion, dysentery	10.0; 0.59; 0.048
13	*Nyctanthes arbor-tristis* L.	Sewali gosor pat	*Nyctaginaceae*	Tree	Worms, fever	20.0;1.18; 0.31
14	*Colocasia esculenta* (L.) Schott	Kola kosur thuri	*Araneae*	Herb	Constipation, eye health, weight management.	18.0;1.06; 0.20
15	*Zanthoxylum oxyphyllum* Edgew	Mejenga	*Rutaceae*	Spiny shrub	Healthy digestion and nutritious	32.0;1.89 0.46
16	*Oroxylum indicum* (L.) Kurz	Bhat ghila	*Bignoniaceae*	Small tree	Pain	6.0; 0.36; 0.036
17	*Zanthoxylum nitidum* (Roxb.) DC	Tejmui	*Rutaceae*	Small tree	Intestinal disorder	60.0; 0.36; 0.15
18	*Vitex negundo* Linn.	Posotia	*Verbenaceae*	Small tree	Teeth, insecticide, anti- fungal, skin	18.0; 1.06; 0.20
19	*Acmella paniculata* (Wall.exDC.)	Suhani ban	*Asteraceae*	Herb	Mouth ulcer, cough, cold, fever, toothache	8.0; 0.48; 0.059

20	*Corchorus olitorius* L.	Mithamor a	*Malvaceae*	Annual shrub	Worm, vegetables	0.8; 0.048; 0.11
21	*Calamus rotang* L.	Bettor Gaj	*Aceraceae*	Climber plant	Digestive health, blood purification.	8.0; 0.48; 0.083
22	*Coriandrum sativum* L.	Dhaniya	*Apiaceae*	Annual herb	Night blindness, pain	4.0; 0.24; 0.083
23	*Peperomia pellucida*. (L.)	Ponou noa	*Sapindaceae*	Herbs	Increases haemoglobin, ulcer	6.0; 0.36; 0.25
24	*Cardiospermum halicacabum* L.	Kopal futah lota	*Sapindaceae*	Climber	Fever, prostate gland	6.0; 0.36; 0.059
25	*Gardenia angusta* (L.)	Togoror agg	*Rubiaceae*	Evergreen shrub	Cholera, sexual weakness	4.0; 0.24; 0.03
26	*Curcuma longa* L.	Halodir agg	*Zingiberaceae.*	Small tree	Germicide, anticancer properties, ulcer, colic pain	10.0; 0.59; 0.48
27	*Pogostemon benghalensis.*	Suk loti	*Lamiaceae*	Herbs	Useful for lactation mother	8.0; 0.48; 0.059
28	*Piper nigrum* L.	Jaluk pat	*Piperaceae*	Climber	Skin diseases and intestinal disorder	80.0; 48.0; 0.11
29	*Justicia adhatoda* L.	Boga bahok	*Acanthaceae*	Shrub	Common cold and cough	20.0; 1.18; 0.31
30	*Hedyotis corymbosa* (L.)	Saliki thengia xaak	*Rubiaceae*	Herbs	Healthy digestion	40.0; 0.24; 0.03
31	*Polygonum esculentum* D. Don	Modu suleng	*Polygonaceae*	Herbs	Healthy digestion, eye diseases, colic pain	16.0; 0.95; 0.036
32	*Clerodendrum colebrookianum* Walp.	Nepha Phu	*Lamiaceae/ verbenaceae*	Shrub	Blood pressure control.	4.0; 0.24; 0.071

33	*Rumex maritimus* L.	Lo Barua	*Polygonaceae*	Shrub	Digestion	6.0; 0.36; 0.03
34	*Smilax perfoliata* Lour	Tikoni barual	*Malvaceae*	Shrub	Energy giver	6.0; 0.36; 0.059
35	*Leucas aspera* (Roth) Spreng	Dronful	*Lamiaceae*	Herbs, annual plant	Cough, common cold, appetite, small pox	16.0; 0.95; 0.036
36	*Alternanthera sessilis* (L.)	Mati kaduri	*Amaranthaceae*	Perennial herb	Eye health, dysentery.	6.0; 0.36; 0.03
37	*Typhonium trilobatum* L.	Syama kosu	*Araceae*	Wild herbs	Constipation	16.0; 0.95; 0.036
38	*Drymaria diandra* L.	Lai Jabari	*Caryophyllaceae*	Annual herb	Eye health	6.0; 0.36; 0.03
39	*Kalanchoe pinnata* (Lam.)	Pate gaja	*Crassulaceae*	Herbs	Kidney stone	16.0; 0.95; 0.036
40	*Basella alba*	Puroi xaak	*Basellaceae*	Climber Plant	Healthy digestion, constipation	8.0; 0.48; 0.12
41	*Eclipta alba*	Keh raj/ bhringaraj	*Asteraceae*	Annual dwarf plant	Blood purifies, hair growth	8.0; 0.48; 0.59
42	*Cassia occidentalis*	Medelua xaak	*Fabaceae*	Herbs	Healthy digestion.	8.0; 0.48; 0.03
43	*Azadirachta indica* A. Juss	Neem	*Meliaceae*	Perennial tree	Diabetes, antibacterial activity, antibiotics.	18. 0;1.06; 0.20
44	*Musa balbisiana*	Kol posola	*Musaceae*	Perennial herb	Prevents constipation, tuberculosis, paste	16.0; 0.95; 0.16
45	*Zanthoxylum armatum*	Mejenga	*Rutaceae*	Small tree	Digestive health, colic pain	4.0; 0.24; 0.012
46	*Rubus ellipticus*	Jetuli poka aag	*Rosaceae*	Small tree	Digestive health	6.0; 0.36; 0.095

47	*Glebionis coronaria*	Babri xaak	*Asteraceae*	Herbs	Worm, skin smoothness, eye health, sperm health	4.0; 0.24; 0.013
48	*Lactuca sativa* Linn.	Salad	*Asteraceae*	Annual herbs	Prevents constipation.	4.0; 0.24; 0.012
49	*Elaeagnus latifolia* Linn.	Mirika tengar aag	*Elaeagnaceae*	Shrub	Healthy heart, dysentery, skin	4.0; 0.24; 0.036
50	*Spondias pinnata*	Amra aag	*Anacardiaceae*	Climber plant	Prevent dysentery	8.0; 0.48; 0.03
51	*Phlogacanthus thyrsiflorus* (Nees) J.B.Imlay	Ronga bahok	*Acanthaceae*	Shrub	Common cold, cough	16. 0; 0.95; 0.36
52	*Portulaca oleracea* Linn.	Malvog khutura	*Portulacaceae*	Herbs	Blood dysentery, salad weight loss, blood pressure, diarrhoea	8.0; 0.48; 0.03
53	*Ficus racemosa* Linn.	Bor dimoru aag	*Moraceae*	Herbs	Digestive	8.0; 0.48 0.059
54	*Ardisia colorata* (Roxb.)	Nol tenga	*Primulaceae*	Small tree/ shrub	Digestive	8.0; 0.48; 0.12
55	*Moringa oleifera* (Lam.)	Sojina	*Moringaceae.*	Medium tree	Night blindness	6.0; 0.36; 0.03
56	*Psidium guajava Linn.*	Modhuria m aag	*Myrtaceae*	Medium tree	Ulcer	6.0; 0.36; 0.059
57	*Cinnamomum tamala*	Tej pat	*Lauraceae.*	Small tree	Healthy heart, indigestion	6.0; 0.36; 0.03
58	*Brassica alba* (Linn.)	Boga soriho	*Brassicaceae*	Herbs	Gas, cough and eye health	4.0; 0.24; 0.071
59	*Pogostemon parviflorus*	Sukoloti	*Lamiaceae*	Shrub	Joint pain, useful for lactation mother	6.0; 0.36; 0.03

60	*Bacopa monnieri* Linn.	Brahmi xaak	*Scrophulariaceae*	Creeping herb	Memory, immunity	16. 0; 0.95; 0.036
61	*Rumex vesicarius* Linn.	Xuka xaak	*Polygonaceae.*	Herbs	Gas, anti-cancer properties	6.0; 0.36; 0.03
62	*Stellaria himalayensis*	Moroliya xaak	*Caryophyllaceae*	Herbs	Inflammation	6.0; 0.36; 0.059
63	*Trigonella foenum-graecum*	Mithi xaak	*Fabaceae*	Herbs	Blood sugar level, obesity.	16.0; 0.95; 0.036
64	*Eryngium foetidum* L.	Man dhoniya,	*Apiaceae*	Perennial and annual herb	Malaria, diarrheal and blood pressure	6.0; 0.36; 0.03
65	*Coriandrum sativum* Linn.	Dhoniya	*Apiaceae*	Perennial herb	Mouth ulcer, mouth wash, common cold	6.0; 0.36; 0.059
66	*Paederia foetida* Linn.	Bhedailota	*Rubiaceae*	Climber	Amoebic dysentery, nutritious	34. 0; 2.0; 0.33
67	*Talinum fruticosum*	Pireli paleng	*Talinaceae*	Herbs	Highly nutritious	6.0; 0.36; 0.03
68	*Fagopyrum esculentum* D. Don	Modhu suleng	*Polygonaceae*	Annual herbaceous plant	Abdominal diseases	8.0; 0.48; 0.12
69	*Corchorus capsularis*	Titamora	*Malvaceae*	Annual plant	Worm, fever, headache	10.0; 0.59; 0.25
70	*Hibiscus sabdariffa* Linn.	Mesta-tenga	*Malvaceae*	Shrub	Healthy, abdominal pain, eye sight, fatty liver	26.0;1.53; 0.28
71	*Momordica cochinchinensis* Spreng	Bhat kerelar agg	*Cucurbitaceae*	Climber	Intestinal troubles	6.0; 0.36; 0.095
72	*Benincasa hispida*	Kumara	*Cucurbitaceae*	Climber,	Digestion	6 0;0.36; 0.095

73	*Lagenaria siceraria* (Molina)	Pani lau, Jati-lau	*Cucurbitaceae*	Climber	Healthy heart	4.0; 0.24; 0.012
74	*Cucurbita maxima* Duch.ex Linn.	Ronga lau aag	*Cucurbitaceae*	Climber, annual plant	Anaemias, ulcer, weight management, obesity.	6.0; 0.35; 0.03
75	*Lasia spinosa* (L.) Thwaites.	Sengmora xaak	*Araceae*	Herbs	Leaves use piles, intestinal disorder, digestion	10.0; 0.59; 0.25
76	*Mentha viridis* Linn.	Pudina	*Lamiaceae*	Herbaceous perennial plant	Digestive health	6.0; 0.35; 0.03
77	*Murraya koenigii* (L.)	Noro-singha	*Rutaceae*	Small tree	Diarrhoea, colic pain, vomiting	16.0; 0.95; 0.11
78	*Alocasia fornicata* (Roxb.) Schott.	Kasur thuri	*Araceae*	Annual herb	Hb, night blindness, increase Appetite.	18.0;1.06; 0.20
79	*Brassica oleracea* Linn.	Bandha Kobi pat	*Brassicaceae*	Perennial herbs	Healthy digestion.	6.0; 0.35; 0.03
80	*Raphanus sativus* Linn.	Mulla xaak	*Brassicaceae*	Herbs	Prevent constipation,	4.0; 0.24; 0.012
81	*Spinacia oleracea* Linn.	Paleng	*Amaranthaceae*	Herbs	Anticancer properties	6.0; 0.35; 0.03
82	*Malva verticillata* L.	Lofa xaak	*Malvaceae*	Annual herbs	Irritable bowel syndrome	6.0; 0.36; 0.095
83	*Brassica juncea* (L.) Czern.	Lai xaak	*Brassicaceae*	Perennial herbs	Gastric	4.0; 0.24; 0.012
84	*Diplazium esculentum* (Retz). Sw.	Dhekiya xaak	*Anthyriaceae*	Perennial fern	Eye health. Low blood pressure, fever	18.0; 1.06; 0.20

85	*Amaranthus tricolor* L.	Datha xaak	*Amaranthaceae*	Annual herbs	Digestive health	10.0; 0.59; 0.25
86	*Chenopodium album* Linn.	Bothua xaak. Jill mil	*Amaranthaceae*	Herbaceous plant	Antioxidant, immunity	12.0; 0.71; 0.18
87	*Ipomoea aquatica* Forssk.	Kolmou xaak	*Convolvulaceae*	Climber plant	Eye health, small pox,	16.0; 0.95; 0.16
88	*Enhydra fluctuans* Lour.	Helencha xaak	*Asteraceae*	March herb	Prevent constipation Inflammation, diarrhoea	12.0; 0.71; 0.18
89	*Amaranthus viridis* L.	Khutura xaak	*Amaranthaceae*	Herbaceous plant	Constipation, inflammation	16.0; 0.95; 0.16
90	*Oxalis corniculata* Linn.	Soru tengesi tenga	*Oxalidaceae*	Creeping herbs	Indigestion, anti-cancer properties, memory	18.0; 1.06; 0.20
91	*Houttuynia cordata* Thunb	Mosundur i	*Saururaceae*	Perennial herb	Pneumonia, fever,	16.0; 0.95; 0.036
92	*Centella asiatica* (Linn.)	Boor man Muni	*Apiaceae*	Herbaceous plant	Intestinal disorder, nerve, medicinal herb	32.0; 1.89; 0.46
93	*Amaranthus spinosus* L.	Hati khutura	*Amaranthaceae*	Herbaceous plant	Digestion, prevent constipation, asthma and allergic bronchitis treatment.	26 .0;1.53; 0.028
94	*Oxalis debilis* (DC) Lour.	Boor tengesi	*Oxalidaceae.*	Herbs	Healthy digestion	10. 0; 0.59; 0.048

95	*Pisum sativum* L.	Motor Mah gosor pat	*Fabaceae*	Annual climber plant	Heart health, lactogenesis	6.0; 0.36; 0.036
96	*Garcinia lanceifolia* (Roxb)	Rupohi thekera	*Clusiaceae*	Small tree	Dysentery	18.0; 1.06; 0.39
97	*Solanum lycopersicum* L.	Kon bilahir agg	*Solanaceae*	Shrub	Vegetables	10.0; 0.59; 0.059
98	*Solanum torvum* Sw.	Hati bhekurir aag	*Solanaceae*	Shrub	Worms, vegetables, digestion	4.0; 0.24; 0.012
99	*Solanum nigrum* Linn.	Tita bhekurir aag	*Solanaceae*	Shrub	Blood purification, worms	4.0; 0.24; 0.083
100	*Momordica charantia* Linn.	Tita kerelar ag	*Cucurbitaceae*	Climber	Blood purification, diabetes, obesity management.	6.0; 0.36; 0.19
101	*Phlogacanthus thyrsiflorus* Nees	Titaful	*Acanthaceae*	Shrub	Cough, worms	8.0; 0.48; 0.20

Ui= numbers of citation of each species by the informant

UV= Use Value

RFC= Relative Frequency of Citation

Table 2. The most commonly availability and used leafy vegetables (Use Value) plant species were listed in study area.

Sl. No.	Species	Vernacular name	Types of the plant	Season of availability	Traditional use	Ref.
1	*Zanthoxylum oxyphyllum* Edgew	Me Zenga	Shrub/Small tree	Rainy	Healthy digestion, colic pain	Sharma. 2021
2	*Amaranthus spinosus* L.	Khurta xaak	Herb	Rainy	Urinary tract infection colic pain,	Sharma. 2021

					asthma and allergic bronchitis treatment.	
3	*Diplazium esculentum* (Retz). Sw..	Dhekiya xaak	Herb	Rainy	Ulcer, lung disease, respiratory troubles, cough, prevent constipation.	Sharma. 2021
4	*Sarcochlamys pulcherrima* (Roxb). Gaud	Fok xaak	Dogol tree	All season	Eye-related disease, gastro intestinal disorder	Sharma. 2021
5	*Paederia foetida* Linn.	Bhedailota or Bhebelilota	Climber Plant	All season	Remedy for abdominal discomfort, body pain, gas, diarrhoea, dysentery, piles, cough, arthritis, inflammation of spleen and liver	Sharma. 2021
6	*Centella asiatica* (Linn.)	Borman Muni	Herb	Rainy	For treating Menstrual irregular, abdominal pain, ulcer, gastrointestinal disorder.	Sharma. 2021
7	*Ipomoea aquatica* Forssk.	Kolmu xaak	Herb	Rainy	Ringworm, small pox, itching, gonorrhoea.	Sharma. 2021
8	*Murraya koenigii* (L.)	Norosingh xaak	Shrub	All season	Diarrhoea, dysentery, eye health.	Sharma. 2021
9	*Hibiscus sabdariffa* Linn.	Mesta Tenga	Shrub	Winter	Abdominal pain, eye health common cold and cough.	Sharma. 2021

10	*Alocasia fornicate* (Roxb.)	Koshur thuri	Herb	All season	Blood purification, Constipation.	Sharma 2021

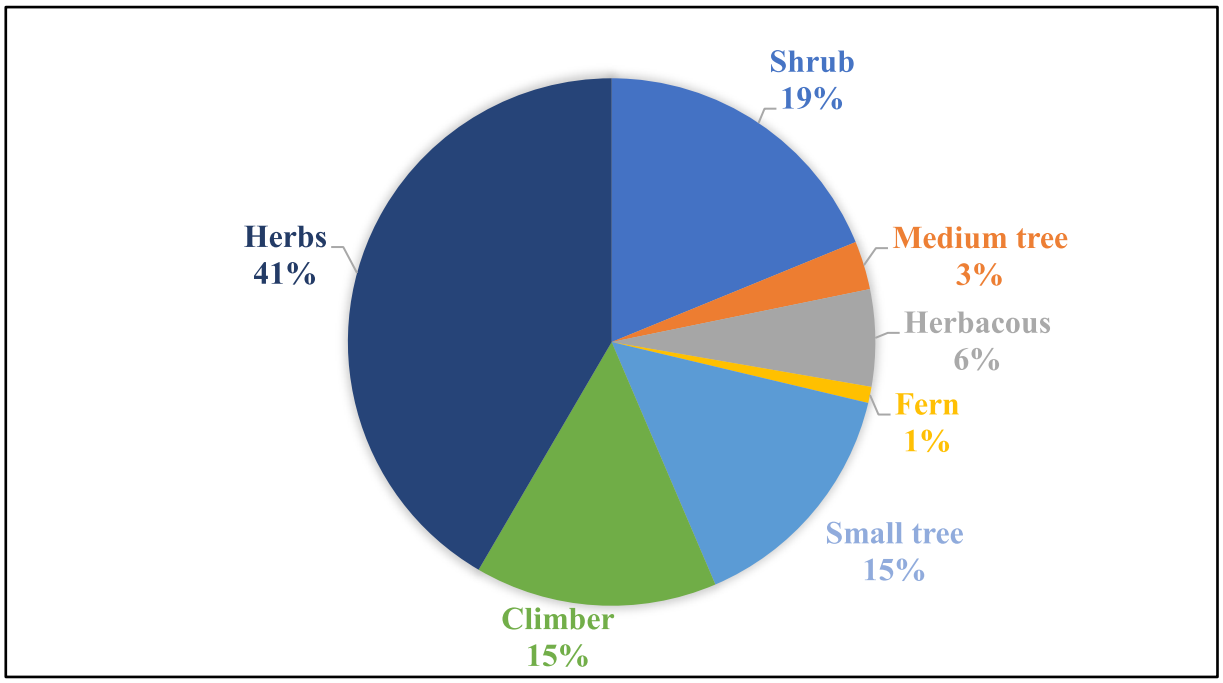

Figure 3. Percentage of types of leafy vegetables used by the Rabha tribes in study area

Conclusions

Rabha tribe is distinctly prime habitants of Rabha Hasong Autonomous Council (RHAC) area of Assam, India. This tribe is well known for its traditional practices of consuming various leafy vegetables and herbs to cure diseases.

The present survey was conducted in Rabha Hasong Autonomous Council area of Assam, India. We have documented total 101 indigenous leafy vegetables used by Rabha tribes. This exploration has brought to the light that few of these green leafy vegetables have high Use Value such as *Sarcochlamys pulcherrima* (Roxb.) Gaud, exhibited highest Use Value (UV), followed by *Paederia foetida* Linn., *Amaranthus spinosus* L., and *Hibiscus sabdariffa* Linn. A total number of 101 species were documented for the first time as ethnomedicinal leafy vegetables' plants for Rabha tribe in the present study which suggests high richness of green leafy vegetables plants in the studied region. It is observed that the mostly used plants' wings are tree leaves. Certain green leafy vegetables still scientifically unexplored in the studied area. Therefore, it is highly recommended to make further scientific study in

details in order to produce effective alternative medications. The present study indicates that the Rabha tribe community normally collect leafy vegetables from natural wild habitat, consume vegetables and uses different parts of the plant to cure various minor ailments. They earn their livelihood by selling of leafy vegetables in the local market. The finding of present investigation shows that lack of scientific management some of the leafy vegetables are rapidly decreasing in this studied region. However, there is no documentation and health practices record of leafy vegetables in this area as well as on the age-old tradition of Assamese community of eating 101 leafy vegetables on Rangali Bihu. As a result, a large amount of data and effective conservation strategies are urgently needed to ensure the long-term survival of these leafy vegetables plants. Therefore, it is urgently needed to conserve the plant biodiversity and further scientific research for therapeutic drugs discovery.

Modern phytochemistry play a vital role to identification of bioactive constituents from traditionally used leafy vegetables. The bioactive molecules exhibit diverse pharmacological actions relevant to human health such as antioxidant activity, anti-inflammatory effects, neurotransmitters modulation, anti-cancer properties etc. Modern drug discovery often starts with traditional plan leads.

Future research should also be made to obtain ethnopharmacological characteristics, as well as nutritional insights of leafy vegetables, emphasizing their safety and effectiveness by dint of clinical investigations.

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Statement and Declaration

Ethics statement: Permission was obtained from RHAC office, Dudhnoi, Assam to conduct the study. All the respondents gave their consent orally during the survey.

Conflict of interest: The authors declare that there are no conflicts of interest related to this study.

Author contribution: BP, JCK and RB: Field survey study, data collection and analysis, and prepared of the original manuscript. Finally, all the authors received and approved.

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Informed consent: Participants were given full consent for data collection and publication.

References

Alam M., Abeden M., Islam M., Sayeed M., Chowdhury S., Chowdury M.,and Taasin S., 2016, Evaluation of In-vivo Neuropharmacological Effect of *Sarcochlamys pulcherrima* Leaf Extract in Animal Model. European Journal of Medicinal Plants 11(2): 1-8.

Aslam, tahreem., Maqsood, mehreen., Jamshaid, Iraj., Ashraf, kiran., Zaidi, Farheen., Khalid, Sidra., & Noureen, Saba 2020, Health benefits and therapeutic importance of green leafy vegetables (GLVs). European Academic Research, *3*(7)4213-4229.remediation. Discover Plants, 1(1), 56.

Athanasios Koukounaras., Filippos Bantis., Nikolaos Karatolos., Christos Melissas., and Antonios Vezyroglou., 2020, Influence of Pre-Harvest Factors on Postharvest Quality of Fresh-Cut and Baby Leafy Vegetables le. Scientific Reports, 9(1), 18233.

Babu A., C Rajesh., G K., Pandiselvam R., 2025, Sustainable Post-Harvest Processing: Effect of Ozone Treatment on Microbial Decontamination and Nutritional Preservation in Fresh Tomatoes. Ozone: Science & E.

Banerjee A., Datta J. K., Mondal N. K., 2012, Biochemical changes in leaves of mustard under the influence of different fertilizers and cycocel. Journal of Agricultural Technology 8(4): 1397-1411.

Begum S. S., Gogoi R., 2007, Herbal recipe prepared during Bohag or Rongali Bihu in Assam. Indian Journal of Traditional Knowledge. 2007, 6:417-22.

Bora D., 2020, Determinants of livelihood diversification among Rabha tribes of assam: A case study. Pal Arch’s Journal of Archaeology of Egypt/ Egyptology, 17(7), 4058-4069.

Chaachouay N., Benkhnigue O Fadli., M El Ibaoui., and H., Zidane L., 2019, Ethnobotanical and ethnopharmacological studies of medicinal and aromatic plants used in the treatment of metabolic diseases in the Moroccan Rif. Heliyon, 5(10).

Das M., Pegu A.,2013, An Ethnobotanical Survey of Medicinal Plants Used by Mishing Tribe of The Gohpur Sub-Division of Biswanath District, Assam. Journal of Complementary Medicine Research, ISSN: 2146-8397 Vol. 14, No. 2, 2023 (pp. 233-250).

Das G, 2024, Green Leafy Vegetables of Tripura: A Case study. Pharmacognosy Research, 16(3): 594-603.

Deka S., Das, J Bora., A., Tripathi O., P., Angmo R., and Das N., 2024, Ethnobotany of wild edible plants used by Rabha community of Goalpara district in Assam, India. Journal of Bioresources, 11(1), 24-28.

Duma M., Alsina I., Zeipina S., Lepse L., Dubova L., 2014, Leaf vegetables as source of phytochemicals. In 9th Baltic Conference on Food Science and Technology "Food for Consumer Well-Being" FOODBALT 2014 Conference Proceedings. Jelgava, LLU, 262-265.

Ghosh C., Bhowmik J., Ghosh R., Das MC., Sandhu P., Kumari M., Bhattacharjee S., 2020, The anti-biofilm potential of triterpenoids isolated from Sarcochlamys pulcherrima (Roxb.) Gaud. Microbial pathogenesis, 139:103901.

Goswami MJ., Boruah JLH., Saikia R., Dutta U., Kakati D., 2024, Synthesis, antimicrobial and antioxidant bio evaluation of silver nanoparticles using leaf extract of *Sarcochlamys pulcherrima*. Next Nanotechnology, 5:100063.

Harborne JB, 1998, Methods of extraction and isolation. Phytochemical methods, 3: 60-66.

Harborne JB, 1998, Phytochemical Methods. Chapman and Hall Ltd, London, 40-179.

Kalita, P., Medhi., H., Sarma., U. D., 2023, Ethnographic Study of The Rabha Tribal People of Kamrup District, Assam Dr. Chunamoni Das. Societal Challenges and Sustainability: Socio-economic and Environmental Perspectives, 48.

Kalita, C. K., Das, P., Mech, B., Das, S., & Mili, C. (2025). A study on ethnomedicinal plants used by Karbi tribes in West Karbi Anglong district of Assam, India. *Vegetos*, 1-15.

Kanjilal UN., 2013. Flora of Assam, Vol. I Part II

Kavitha R., 2021, Phytochemical screening and GC-MS analysis of bioactive compounds present in ethanolic extracts of leaf and fruit of Trichosanthesis dioica roxb. International Journal of pharmaceutical sciences and Research. 12(5): 2755-2764. https://doi.org/10.13040/UPSR.0975-8232. 12(5).2755-64

Kumar D., Kumar S., Shekhar C., 2020, Nutritional components in green leafy vegetables: A review. Journal of Pharmacognosy and Phytochemistry, 9(5): 2498-2502.

Mazumder A H., Das J., Gogoi H. K., Paul S. B., 2015, Pharmaceutical scope of a phytochemically unexplored medicinal plant, *Sarcochlamys pulcherrima* (Roxb.) Gaud.: A review. Pharmacognosy reviews, 9(17), 81. https://doi.org/1041030973.7847.156358

Mazumder AH., Das J., Gogoi H. K., Chattopadhyay P., Paul S. B., 2014, Antimicrobial activity of methanol extract and fractions from *Sarcochlamys pulcherrima*. Bangladesh Journal of Pharmacology 9(1): 4-9.

Mazumder A. H., Das J., Gogoi H. K., Chattopadhyay P., Singh L., Paul S. B. 2012, In vitro activity of some medicinal plants from Cacher district, Assam (India) against Candida albicans. Pharmacognosy Journal, 4(33): 35-39.

Nagaya S., Bora D., Yugandhar., P Srinivasulu., C Yashpal., B Tripathi., A. K., Srikanth N., 2021, Documentation of ethno-medico-botanical claims of Rabha tribe, Ri-Bhoi district, Meghalaya. Journal of Drug Research in Ayurvedic Sciences, 6(1), 50-61.

National biodiversity Centre. Species Records Details: *Sarcochlamys pulcherrima* (National Biodiversity Centre- National Biodiversity centre Plinian core Resources) *Sarcochlamys pulcherrima* 2011.

Pathak B., 2016, Anthropogenic impact on forest coverage area of Goalpara district, Assam. Science and Technology for Sustainable Development, Proceedings of 61st Annual Technical Session of Assam Science Society, volume 17, Published by Assam Science Society.

Pathak B., Kalita J., Bhuyan R., 2025. Phytochemical Screening and Identified Bioactive Compounds of Leaf of Surcholamys Pulcherrima (ROXB.) Gaud By GC-MS, journal of Neonatal Surgery, Volume14, issue7(2025) page 847-853

Panda T., Mishra N., Pradhan, B. K. Mohanty R. B., 2015 Diversity of leafy vegetables and its significance to rural households of Bhadrak district, Odisha, India. Scientific Agricultural, 11(3): 114-23.

Patra S., Shand H., Manna A., Bose D., Some S., Mondal, R. 2024, Ethnopharmacological and nutritional insights into wild leafy vegetables: implications for food security, nutraceutical potential, and environmental remediation. Discover Plants, 1(1), 56.

Paul SB., Mazumder AH., Gogoi HK., Gogoi BJ., Chaurasia AK., Singh L., Srivastava RB., 2010. Evaluation of In vitro Antioxidant Activity of Some Plants of Cachar District, Assam. Pharmacognosy Journal, 2(9), 289-292.

Putriani N., Perdana, J., Meiliana., Nugrahedi P. Y., 2022, Effect of thermal processing on key phytochemical compounds in green leafy vegetables: A review. Food Reviews International, 38(4), 783-811.

Rajan GB., Leafy Vegetables, 2005, Eds, Khan IA & Khanam A, Ukaaz Publication, Hyderabad, 1-178.

RHAC., 2020, An illustrative Hand Book of Rabha Hasong Autonomous Council in connection with Rabha Hasong Cultural Festival,2020 & Celebration of 25 Glorious years of RHAC.: Publish by RHAC.

Shiddamallayya Nagaya D. B., Yugandhar P., Srinivasulu C., Yashpal B., Tripathi A. K., Bandi, V., Srikanth N., Documentation of ethno-medico-botanical claims of Rabha tribe, Ri-Bhoi district, Meghalaya.

Sarker U., Oba S., 2019, Antioxidant constituents of three selected red and green colour Amaranthus leafy vegetable. Scientific Reports, 9(1), 18233.

Sharma S., 2021, Bono oukhadhir leseri butoli. Moinak publication, Bokakhat, Golaghat, Assam.

Sharma U K., Pegu S., 2011, Ethnobotany of religious and supernatural beliefs of the Mising tribes of Assam with special reference to the 'Dobur Uie'. Journal of ethnobiology and ethnomedicine *7*: 1-13.

Tarafder S. K., Biswas., M Sarker., U Ercisli., S Okcu., Z Marc., R. A., Golokhvast K. S., 2023, Influence of foliar spray and post-harvest treatments on head yield, shelf-life, and physicochemical *qualities of broccoli. Frontiers in Nutrition, 10, 1057084.ngineering, 1-15.*

Tardio, J., & Pardo-de-Santayana, M. (2008). Cultural importance indices: a comparative analysis based on the useful wild plants of Southern Cantabria (Northern Spain). *Economic botany*, *62*(1), 24-39.

Wasihun Y., Alekaw H., Weld H. Dires A.K., 2023, Antibacterial activity and phytochemical components of leaf extract of Calpurnia aurea. Scientific reports, 13(1): 9767.

WHO/FAO, vitamin and mineral requirements in human nutrition, 2nd ed; World Health Organization and Food and Agriculture Organization of the United Nations: Bangkok, Thailand,2004

Yadav R. N. S., Agarwala M., 2011, Phytochemical analysis of some medicinal plants. Journal of phytology 3(12):10-14.

Supplementary Materials:

- Name: _____
- Age: _____
- Sex: Male/ Female
- Address: _____
- Contact number: _____
- Collected area: _____; Date: _____
- Habitat of the plant: Water/ Land/ Swamp area/ Agricultural land/ Jungle/ Others
- Types of Plant: Herb/ Shrub/ Climber/ Tree.
- Use Parts: leaves/ Bark/Seed/Fruits/ Stem/ Shoot/ Others.
- Other Uses: _____
- Medicinal Uses: _____
- Common Use: _____
- From how many generations you have gathered this Knowledge:
- Wild/ Cultivated; If cultivated which seasons it blooms.
- Plant species availability/ decreasing:
- Any strategies to conserve this species: _____
- If yes how In-situ conservation or Ex- situ conservation.
- Signature of Respondent _____

Figure 2. Field datasheet format for documenting leafy vegetables plant information along with ethnomedicinal knowledge.