

EDIBLE AND MEDICINAL FERNS OF LAKHIMPUR, ASSAM

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ABSTRACT

Investigation on edible and medicinal values of higher plants have often been reported but often neglected for the lower vascular cryptogams. In spite of the luxuriant growth of the plants in an around Assam, North East India they had not been studied medicinally. The present study has been designed to assess the uses of 15 edibles and medicinal Pteridophyte species belongs to 12 families on the basis of field surveys and taxonomic identification of plants used by Ahom tribes of the Assam of North Eastern India in their traditional methods of use as food.

Keywords: Vascular Plants; Anti Diabetic; Wounds; Asthma; Ulcers

INTRODUCTION

Pteridophytes are said to be the primitive vascular plants in the plant kingdom. They are found scattered all over the globe as well as in India and many of them occur in northeastern part of India. Pteridophytes are an interesting group of lower plants with xylem vessels and are often representative of plant evolution occupying intermediate position between cryptogams and phanerogams. They represent the evolution evidence of the starting of seed habit and vascular system form the thallophytic bryophytes towards the phanerogams. Pteridophytes make an important contribution to the earth's plant diversity. Being the second largest group of vascular plants, they form a significant and dominant component of many plant communities. Many ferns and fern allies growing luxuriantly on the Eastern Himalayas are threatened by continuous forest fire, deforestation and frequent landslides. Pteridophytes have been described as medicinal (Caius, 1935; Nayar, 1957; and Kaushik & Dhiman, 1995). Many pteridophytes were used as food, medicine, in ornamentation; and are good trappers of soil. However, due to habitat destruction by

man and more by natural calamities the species richness and evenness decreases at present, therefore, their habitat conservation or *in-situ* conservation of fern life to maintain the ecological balance is the need of the hour. Conserving of the forest will not only help the conservation of the plants but will help the tribal people who depend largely on the forest products for their food, medicine and other needs. The present article tries to outline some the pteridophytes used as food and medicine by the local tribes of Lakhimpur, Assam.

MATERIALS AND METHODS

Study area

Assam, one of the northeastern state of India is located between 24° 44' N to 27° 45' N latitude and 89° 41' E to 96° 02' E longitude, covering 2.4% of the geographical area of the country, i.e. 78,438 sq. km. The annual rainfall ranges between 305 cm. max. to 178 cm. min. with an average of 211.76 cm. The temperature recorded in summer is 37 °C max. and 18 °C min. and 26 °C max. and 7 °C min. in winter, with an average humidity of 83.00% (Baishya, 2015). The study site Lakhimpur is one of the district is located between 26°48' N to 27°53' N latitude and 93°42' E to 94°20' E longitude covered area is 2277 sq.km (Fig. 1).

Data Collection

The present work was focused on edible pteridophyte collection from the study area. The field study was carried out during 2016-17 at different sites of Lakhimpur with the help of local guide. The specimen was collected and later identified referring to literature. Voucher specimens were prepared following chemical sterilization and preserved. Information were collected through interaction using questionnaire on the edible pteridophytes and photographs were taken. Information on plant parts used and local uses was recorded on the labels of herbarium sheets.

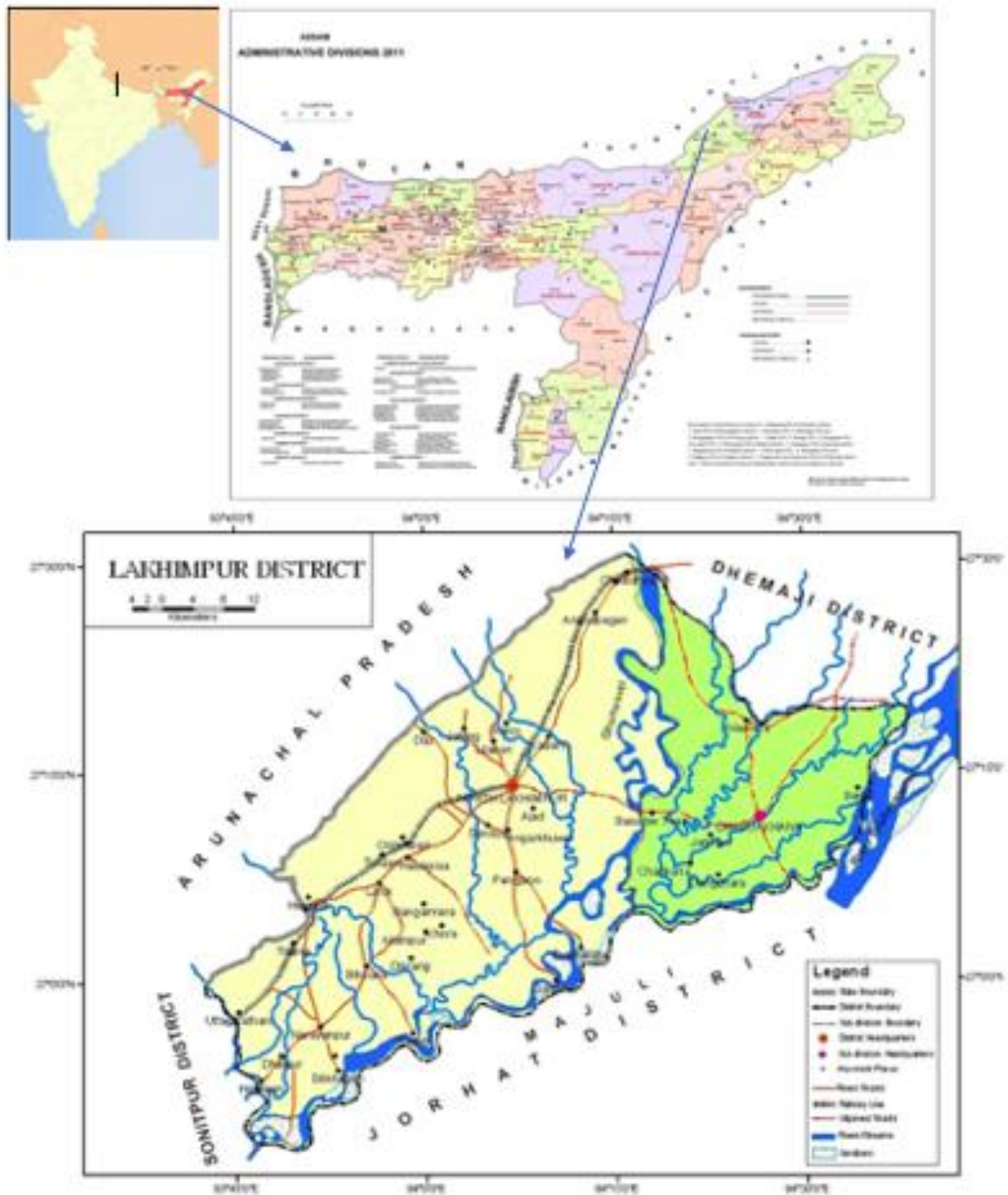


Fig. 1. Location Map of Study site (Lakhimpur, Assam)

ENUMERATIONS

For the presentation of data, all the edible Pteridophyte species collected are arranged alphabetically followed by plant family, field number and brief note on food, medicine and other uses. At the end of each use reference to source of information is given. As much as 25 different pteridophytes were encountered during the survey out of which 15 were known to be edible and enumerated.

Specimen Name: *Adiantum capillus-veneris*

1. FAMILY: Polypodiaceae
2. COMMON NAME: Walking fern or Maidenhair fern
3. DESCRIPTION: Twenty-five species and two varieties of adiantum have been listed for India by Dixit (1984). Of these, nine species have been recorded from Assam including *Adiantum aethiopicum* L. Terrestrial or lithophytes. Rhizome erect, long or short creeping, covered by narrow, blackish scales. Stipes slender, dark, glabrous or hairy; rachis grooved on the upper surface. Lamina simple pinnate to quadripinnate; leaflet fan shaped, margin entire; veins free, simple or forked; texture herbaceous.
4. HABITAT: They generally prefer humus-rich, moist, well-drained sites, ranging from bottomland soils to vertical rock walls. Many species are especially known for growing on rock walls around waterfalls and water seepage area.
5. SPORES: Sori marginal, covered with a marginal reflexed indusium, sporangia large, spores tetrahedral.
6. EDIBILITY: The fronds are used as a garnish on sweet dishes. The dried fronds are used to make a tea.
7. MEDICINAL PROPERTY: The plant use as antidiabetic (hypoglycemic) and anti-inflammatory (Zedan, 2011).
8. COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
9. MONTH AND YEAR OF COLLECTION: February, 2017
10. SAMPLING: Preserved in herbarium (AVSP17001)

Specimen Name: *Asplenium nidus* Linn.

1. FAMILY: Aspleniaceae
2. COMMON NAME: Bird's nest fern
3. DESCRIPTION: *A. nidus* forms large simple fronds visually similar to banana leaves, with the fronds growing to 50 – 150 c.m and 10- 20 c.m broad. They are light green, often crinkled, with a black midrib and exhibit circinate vernation.
4. HABITAT: *A. nidus* can survive either as an epiphytal and terrestrial plant, but typically grows on organic matter.
5. SPORES: Spores develops in sori on the underside of the frond. These sori form long rows extending out from the midrib on the back of the outer part of the lamina.
6. EDIBILITY: The sprouts of *A. nidus* are also eaten as a vegetable in Taiwan.
7. MEDICINAL PROPERTY: It has been locally used in folk medicine for asthma, sores, weakness and halitosis, cough and cold (Singh, 1999 & Quisumbing, 1951).
8. COLLECTED FROM: Charaimaria gaon, Lakhimpur, Assam.
9. MONTH AND YEAR OF COLLECTION: February, 2017
10. SAMPLING: Preserved in herbarium. (Fig. 2) (AVSP17 002)

Specimen Name: *Azolla pinnata* R. Br.

- 1 FAMILY: Salviniaceae
- 2 HABITAT: Aquatic fern
- 3 EDIBILITY: Use as chicken and cattle feed
- 4 MEDICINAL USES: Use to increase the fertility of rice field. They are antibacterial and insecticides (Mithraja, 2011).
- 5 COLLECTED FROM: Local ponds, Lakhimpur, Assam
- 6 MONTH AND YEAR OF COLLECTION: April, 2017
- 7 SAMPLING: Preserved in herbarium (Fig. 3) (AVSP17003)

Specimen Name: *Cyathea spinulosa* WALL. EX HOOK.

1. FAMILY: Cyatheaceae
2. COMMO NAME: Scaly tree fern.

3. DESCRIPTION: Holttum (1964) recognised 191 species of *Cyathea* from Malaysia and only 25 species of the genus from the whole of Asia excluding Malaysia (Holttum 1965). He has divided the genus into many subgenera and sections. Dixit (1984) has listed 11 species of *Cyathea* for India.
4. Tree ferns, with tall, massive, stout trunk. Stem usually unbranched, with persistent leaf bases; the trunk and bases of stipes more or less densely covered by scales; hairs present or absent. Lamina large, bipinnate to tripinnatifid, spirally arranged at the apex of the stem; veins free, forked once or more; texture coriaceous.
5. HABITAT : They grow in habitats ranging from tropical rain forests to temperate woodlands.
6. SPORES: Sori superficial, globose; indusia either complete, globose, at first covering the sorus, finally splitting into lobes, or vestigial or absent; sporangia small, shortly stalked, paraphyses present or not, annulus complete, oblique, with definite stomium. Spores tetrahedral, with perispore.
7. EDIBILITY: Pith is edible, pith and leaves as fodder (Ravi, 2011; Srivastava & Nyishi Community, 2010).
8. MEDICINAL PROPERTY: *Cyathea spinulosa* is useful in prevention of hair loss and graying of hair. It is also used as general hair tonic. Powder of fronds useful as sudorific and aphrodisiac.
9. COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
10. MONTH AND YEAR OF COLLECTION: February, 2017
11. SAMPLING: Preserved in herbarium (AVSP17004)

Specimen Name: *Dicranopteris linearis* (Burm. f.) Underw.

1. FAMILY: Gleicheniaceae
2. COMMON NAME: Old world forked fern, Uluhe, Dilim
3. DESCRIPTION: *D. linearis* is a common species of fern. It is one of the most widely distributed ferns of the wet old world tropics and adjacent regions. This rhizomatous fern spreads via cloning, spreading along the ground and climbing on other vegetation. The stem grows from the rhizome, branches at a 45. Angle, and forms fronds that continue to bud and branch. The size

of the specimen ranging from 10-180 c.m tall, though they are more likely to be in the range 60 – 120 c.m. the underside of the leaves is hairy and sometimes waxy.

4. HABITAT: Forest margin or open ground, in poor soils, often colonizing disturbed ground or cleared forest, and nearly always in full sun.

5. EDIBILITY: The roots are source of starch (Upreti *et al.*, 2009).

6. MEDICINAL PROPERTY: (Lai & Lim, 2011)

The leaves are antiasthmatic, febrifuge and poultice. Use in the treatment of asthma and fever.

The young circinate coiled leaves are mixed with cow milk and then used for seven days continuously to remove sterility in women. Extracts of fronds has shown antibacterial and antioxidant activity and used as a poultice when treating wounds, cuts, boils, ulcers.

7. COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam

8. MONTH AND YEAR OF COLLECTION: February, 2017

9. SAMPLING: Preserved in herbarium. (Fig. 4) (AVSP17005)

Specimen Name: *Diplazium esculentum*

1. FAMILY: Athyriaceae

2. COMMON NAME: Vegetable fern, Dhekia (Assamese)

3. DESCRIPTION: This plant is a large perennial fern with ascending rhizome of about 20 c.m high and covered with short rubous scales of about 1 c.m long. The plant is bipinnate with long brownish petioles, and the petiole base is black and covered with short scales.

4. HABITAT: River bank, open places in wet ground.

5. EDIBILITY: Edible, the very young leaves are eaten as vegetable with rice or used in salad.

6. MEDICINAL VALUE: A decoction of the leaves is used as a tonic for women after they have given birth and highly antioxidant (Karthik *et al.*, 2011).

7. COLLECTED FROM: Azad, Lakhimpur, Assam

8. MONTH AND YEAR OF COLLECTION: March, 2017

9. SAMPLING: Preserved in herbarium. (AVSP17006).

Specimen Name: *Drymoglossum piloselloides* (L.) C.Presl.

1 FAMILY: *Polypodiaceae*

- 2 COMMON NAME: Dragon scales
- 3 DESCRIPTION : Rhizome long creeping, ca 0.2 cm thick, wiry, clothed with scales ; scales ca 1 x 0.5 cm, adpressed, diamond-shaped, acuminate, sometimes hair-pointed, peltate, lacinated ; lamina dimorphic, simple ; sterile lamina, ca 1.5 - 3 x 1 - 1.5 cm, sessile or shortly stalked, roundish or obovate, base cuneate, margin entire; texture thick and fleshy ; when young covered by stellate hairs ; stipe of fertile frond ca 1 - 1.5 x 0.2 cm, scaly at base, grooved adaxially, straw-coloured ; fertile lamina ca 5 -10 x 0.5 - 0.8 cm, linear to oblong, apex round, base decurrent, margin entire; veins indistinct, arcolcs copious, with free, froked or simple veinlets ; sori marginal, ca 0.2 cm wide, linear, continuous along the tip of lamina.
- 4 HABITAT: Common, on tree trunks in exposed places.
- 5 SPORES: Sporangia oval, short stalked, with a few stellate paraphyses, dark-brown. Spores oval to elliptic, light-brown.
- 6 EDIBILITY: Not known
- 7 MEDICINAL PROPERTY: According to Giersen, the leaves are used to treat rashes, whilst a decoction is used for pain reliever, smallpox, ringworm, and used in a poultice for headaches (Faridah and Nurulhuda, 1999; Lin, 2005).
- 8 COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
- 9 MONTH AND YEAR OF COLLECTION: February, 2017
- 10 SAMPLING: Preserved in herbarium (Fig. 5) (AVSP17007)

Specimen Name: *Lygodium flexuosum* (L.) S.W

- 1 FAMILY: *Lygodiaceae*
- 2 COMMON NAME: Chepti – dhekia (Assam)
- 3 DESCRIPTION: Rhizome creeping, short, ca 0.5 cm thick, covered by dark-brown, multicellular, uniseriate hairs. Stipes ca 40 x 0.3 cm, glabrous, abaxially rounded, adaxially flattened, dark-brown. Fronds wide- spreading, tripinnate, glabrous; primary pinnae alternate, 15 cm apart, with ca 3 mm long common stalk forked once and bearing a dormant bud on the forking axis, each forked branch ca 12 - 40 x 10 - 30 cm, bears two to three pinnules alternately; pinnules ca 6-10 x 2.5 cm, oblong-lanceolate, simple or terminal leaflets forked, basal leaflets often large, separate or lobed with 2 -3 leaflets, apex acute or acuminate, base cuneate in simple pinnules,

forked or lobed pinnules subtruncate or cordate, stalks ca 0.2 - 0.7 cm long; sterile leaflets finely toothed; texture firm; rachis and costa densely or sparsely pubescent all over; veins distinct, 1 -3 forked, free, reaching the margin ; fertile leaflets a little narrower than the sterile ones.

4 HABITAT: Common both in shady and open areas, often twining on bushes.

5 SPORES: Sporangia arranged adaxially. sporangia large, short stalked. Spores small, trilete, yellowish-green.

6 EDIBILITY: Edible. Young shoots are used as leafy vegetables.

7 MEDICINAL PROPERTY:

8 Plants are used as expectorant. rhizome boiled with mustard oil and locally applied to carbuncles and in rheumatism, sprains, scabies, ulcers, eczema and cuts (Chopra et al 1956, 1969; Dixit & Vohra 1984; Ambasta 1986).

9 The aqueous extracts of the rhizome cure gonorrhoea. The paste of the rhizome is applied on piles and rhizome is also tied on the waist (Singh et al 1989).

10 The leaves are used to prepare rice-beer cake by the Deoris and several other tribes of Assam.

11 COLLECTED FROM: Azad, Lakhimpur, Assam

12 MONTH AND YEAR OF COLLECTION: March, 2017

13 SAMPLING: Preserved in herbarium (AVSP17008).

Specimen Name: *Microsorium punctatum* (L.) Copel.

1 FAMILY: *Polypodiaceae*

2 English Name: Fishtail strap-fern

3 HABITAT: Epiphytic fern

4 DESCRIPTION: *Punctatum* refers to the minutely pitted or dotted nature of the lamina. Its rhizome is shortly creeping, 8mm thick. It mainly occurs in the Southeast Asia and from Southern China to India. It's mostly found in leaf litter and mosses on rocks in forks of trees. Of its leaf, purgative and enema juices are made. They are also used as a diuretic and to heal wounds.

5 EDIBILITY: Use as chicken and cattle feed

6 MEDICINAL USES: Use to increase the fertility of rice field. They are antibacterial and insecticides (Mithraja, 2011).

- 7 COLLECTED FROM: Local ponds, Lakhimpur, Assam
8 MONTH AND YEAR OF COLLECTION: April, 2017
9 SAMPLING: Preserved in herbarium (Fig. 6) (AVSP17009).

Specimen Name: *Nephrolepis cordifolia* (L.) C.Presl.

- 1 FAMILY: Nephrolepidaceae
2 COMMON NAME: Similar to Boston fern or Sword fern
3 DESCRIPTION: Rhizome semierect, ca 2 cm thick, densely scaly; scales ca 3 x 1 mm, ovate-lanceolate, apex acuminate, margin hairy, brown. Stipes ca 10 -15 x 0.5 cm, tufted, abaxially rounded, adaxially grooved, densely scaly at base, sparsely above, grey-brown. Lamina ca 75 x 12 cm, oblong- lanceolate, simple pinnate, apex short-acuminate; lateral pinnae up to 25 pairs, rather close, subopposite or alternate, sessile, largest one ca 6 - 10 x 1.5 cm, oblong-lanceolate, apex acute, base broadly cuneate, auricled on the acroscopic base, margin entire or crenate, veins slightly distinct, free, forked once to thrice, not reaching the margin; texture subcoriaceous; lamina pale- green, glabrous or scaly when young.
4 HABITAT: Common, on moist but exposed situations along forest margins.
5 SPORES: Sori submarginal in two rows, reniform, at the tip of veins, one per two or three veinlets: indusia reniform. Spores reniform or planoconvex, exine granulose (Pl. 209).
6 EDIBILITY: Tubers are edible.
7 MEDICINAL PROPERTY: This Plant is safe for cats to eat. It is known to be non-toxic (Benniamin, 2011).
8 COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
9 MONTH AND YEAR OF COLLECTION: February, 2017
10 SAMPLING: Preserved in herbarium (Fig. 7) (AVSP17010)

Specimen Name: *Oleandra wallichii* (Hook.) Presl.

- 1 FAMILY: *Oleandraceae*
2 COMMON NAME: Nil
3 DESCRIPTION: Rhizome long creeping, ca 0.2 - 0.5 cm thick, densely covered by scales all over; scales ca 0.4 x 0.1 cm, lanceolate, apex long-acuminate, hair tipped, subulate, ferruginous,

light-brown. Stipes, ca 2 - 5 x 0.2 - 0.4 cm, abaxially rounded, adaxially grooved, scaly at base, glabrous above, brown. Lamina ca 20 - 35 x 3 - 5 cm, simple oblong, apex suddenly and sharply acuminate, base obtuse or rounded, margin entire, wavy; midrib distinctly raised above and below, grooved above rounded below, sparingly pubescent with lanceolate scales; veins free, forked once or twice near the base, parallel from midrib to margin, pubescent on the ventral surface; texture coriaceous; lamina dark-brown when dry.

4 HABITAT: Rare; in moist, dense forest.

5 SPORES: Sori round, compact, in a single row on either side of the midrib. Spores oval, hyaline, dark-brown.

6 EDIBILITY: Rhizome eaten during sickness after boiling.

7 MEDICINAL PROPERTY: A triterpene monohydroxy alcohol wallichiniol, its acetate and dihydroxy triterpene alcohol have been isolated as minor constituents from the fern *O. wallichii*. Beta – Sitosterol and sucrose have also been obtained from it. *Oleandra wallichii* (Hook.) C.Presl (Oleandraceae). Rhizome powder and spores mixed with milk taken as antidote against snake bite. Also, leaf is used for rejuvenation by aged person (Ambasta, 1986).

8 COLLECTED FROM: Azad, Lakhimpur, Assam

9 MONTH AND DATE OF COLLECTION: February, 2017

10 SAMPLING: Preserved in herbarium (AVSP17011)

Specimen Name: *Pitryrogramma calomelanos* (L.)

1 FAMILY: Pteridaceae

2 COMMON NAME: Not known

3 DESCRIPTION: A new world fern, cultivated in gardens throughout the world. Plants are oblong, lanceolate, broad at base. Underside densely covered by white to yellowish farina. Rhizome erect or sub erect, scaly. Stipe purple black. Pinnae many pairs, oblique, basal pair largest, lanceolate pinnules 10 – 15 pairs.

4 HABITAT: Mesophyte or lithophytes in open places.

5 SPORES: Sori elongate, grows along veins, confluent, exindusiate.

6 EDIBILITY: Not known

7 MEDICINAL PROPERTY (Dixit & Vohra, 1984):

- 8 Leaves are used externally to heal wounds and stop bleeding.
- 9 The root is bechic. An infusion is used to treat pulmonary condition
- 10 An infusion of leaves is used in the treatment of bronchitis, cold and stomach
- 11 COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
- 12 MONTH AND YEAR OF COLLECTION: February, 2017
- 13 SAMPLING: Preserved in herbarium (AVSP17012).

Specimen Name: *Pronephrium lakhimpurenses* (Rosenst.) Holtt. Blumea

- 1 FAMILY: Thelypteridaceae
- 2 COMMON NAME: Dhekia – loti (Assam)
- 3 DESCRIPTION: Rhizome long creeping, ca 2 cm thick, scaly; scales ca 2 x 0.5 mm, lanceolate, acuminate. Stipes ca 40 - 90 x 0.5 - 1 cm, adaxially grooved, abaxially rounded, glabrous, pale-brown. Lamina ca 50 - 150 x 25 - 60 cm, simple pinnate, lanceolate, with a long acuminate apical pinna similar to lateral ones ; apical pinna larger than the distant lateral pinnae ; lateral pinnae 9-12 pairs or more, alternate, sessile or slightly petiolate, largest pinnae ca 20 x 4 cm, lanceolate, apex tapering and suddenly long acuminate, base caudate, margin entire or slightly undulate ; rachis similar to stipe ; midrib distinctly raised below and rounded ; costae slightly raised below, veins distinct, upto 20 pairs, all anastomosing, excurrent veins often free; texture subcoriaceous; lamina glabrous above and below, pale-green when fresh; become reddish-brown when dry.
- 4 HABITAT: Not common, inside shady forest floor or epiphytic.
- 5 SPORES: Sori small, superficial along veins, exindusiate; sporangia lacking setae.
- 6 EDIBILITY: Not known
- 7 MEDICINAL PROPERTY: *Pronephrium lakhimpurenses* (Rosenst.) Holttum, *Dryopteris lakhimpurenses* Rosenst, *Abacopteris lakhimpurenses* (Rosenst.) Ching, (Thelypteridaceae), *Ruhra* Whole plant is used in worship of God during illness (R C Srivastava & *Adi* community, 2009).
- 8 COLLECTED FROM: Lakhimpur, Assam
- 9 MONTH AND YEAR OF COLLECTION: February, 2017
- 10 SAMPLING: Preserved in herbarium (AVSP17013)

Specimen Name: *Pteris vittata* L.

1 FAMILY: *Pteridaceae*

2 COMMON NAME: Brake ferns

3 DESCRIPTION: *Pteris* is one of the most diverse genera. Most species of this genus occur in tropical and subtropical areas, but a few live in temperate regions. Species of *Pteris* are usually distributed at lower altitudes, below 2500 m, but *Pteris coriacea* Desv. can be found up to 3500 m. Some species have ornamental value, especially those with pale marks on the leaves. A few species are cultivated worldwide and some have become naturalized. With 250–300 species. Many of them have linear frond segments, and some have sub – palmate division.

4 HABITAT: *Pteris* L. (*Pteridaceae*) is a cosmopolitan fern genus growing either terrestrially or lithophytically (on rocks) in forests, coastal areas and xeric niches.

5 SPORES: *Pteris* is a homosporous fern. The sorus of *Pteris* is called coenosorus. The sporangia of *Pteris* form a continuous linear sorus along the margin, hence the individuality of sorus is lost.

6 EDIBILITY: Not known

7 USES: They are antibacterial and antiviral and in pollution control (Singh, 1999; Grin, 2007).

8 COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam

9 MONTH AND YEAR OF COLLECTION: February, 2017

10 SAMPLING: Preserved in herbarium (AVSP17014)

Specimen Name: *Pteris wallichiana* J. Agardh

1 FAMILY: *Pteridaceae*

2 COMMON NAME: Chinese ladder brake fern

3 DESCRIPTION: *It* is large, evergreen, and clumping. Both sterile and fertile fronds have nearly the identical look and dimensions. The stipe stands almost vertical, is completely smooth and scale less, and accounts for over 2/3 of the frond length growing up to 130 cm high. At the highest point of the stipe the frond branches out in three directions. The outer branches divide once more to form two forked branches. The center branch grows the longest and doesn't divide again. The result is a palmate blade forming a lopsided circle ranging from 60-80 cm wide.

- 4 HABITAT: Grows in moist, shaded places, avoid direct sunlight.
- 5 SPORES: Sori are born on the margins of the pinnules and are protected by false indusia that are in fact the pinnule margins folding in and over the sori.
- 6 EDIBILITY: Not known
- 7 MEDICINAL PROPERTY: Leaves are used in cuts and wounds, fish poisoning (Jain 1991 Umberto, 2016).
- 8 COLLECTED FROM: Padumoni reserved forest, Lakhimpur, Assam
- 9 MONTH AND YEAR OF COLLECTION: February, 2017
- 10 SAMPLING: Preserved in herbarium (AVSP17015)

Specimen Name: *Salvinia cucullata* Roxb.

- 1 FAMILY: Salviniaceae
- 2 HABITAT: Giant aquatic fern
- 3 EDIBILITY: Use as ingredient of certain recipe and also used as chicken and cattle feed
- 4 MEDICINAL USES: Use to increase the fertility of rice field. They are antibacterial and insecticides (Mithraja, 2011).
- 5 COLLECTED FROM: Local ponds, Lakhimpur, Assam
- 6 MONTH AND YEAR OF COLLECTION: April, 2017
- 7 SAMPLING: Preserved in herbarium. (AVSP17016).

CONCLUSION

Pteridophytes make an important contribution to the earth's plant diversity. The present study had been designed to assess the food and medicinal uses of Pteridophytes used by the tribes of Lakhimpur, Assam. About 16 Pteridophyte species belongs to 12 families which are used as food and medicine that can cure different diseases are presented in this paper. The indigenous people use many of the Pteridophytic medicinal plants traditionally for treating their common ailments like body pain, cold, cough, hair loss, skin problems, etc. The data collected show that majority of the remedies are taken orally. People use these plants in different form such as juice, extract, decoction, paste, etc. Generally, the people of the study area still have a strong belief in the efficacy and success of herbal medicine. At present a number of taxa in ferns and fern allies species have

been eradicated or lost due to deforestation and by setting fire in and around the forest. This information obtained could be used as a base for discovery of active principles for phytochemical, pharmacognostical, and clinical research. It is concluded that Lakhimpur, Assam is rich in wild Pteridophytes and the tribal communities in remote areas are still dependent on indigenous knowledge for health care. The existing deforestation and habit fragmentation would pose a serious threat to the growth of wild plants. Efforts should be made to conserve them in nature so that they can be used for the benefit of human welfare.

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