



## Research Article

### **ETHNOMEDICINAL PLANTS USED FOR THE TREATMENT OF FEMALE REPRODUCTIVE HEALTH PROBLEMS BY BORO TRIBE OF KALIABOR SUB-DIVISION OF NAGAON DISTRICT ASSAM, INDIA**

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#### **ABSTRACT**

The present study was conducted in the Kaliabor sub-division of Nagaon district, Assam, India to document medicinal plants which are being used by the Boro tribe to cure various female reproductive disorders. Study documented 25 species belonging to 21 families of which 9 are herbs, 5 trees, 5 climbers and 4 shrubs. The various female reproductive disorders they treat include dysmenorrhea, leucorrhoea, menorrhagia, uterine infection, Anti-implantation and fertility.

**Keywords:** Medicinal plants, female reproductive disorders, Boro tribe, Kaliabor sub-division, Nagaon district, Assam.

#### **INTRODUCTION**

Medicinal plants have made significant contribution towards women healthcare. Tribals around the world exploit plant resources to manage all ailments, including gynaecological problems and knowledge of such folk medicines is transmitted through word of mouth from one generation to another. The use of plant ethno-medicine is more prevalent in tribal societies for being cheap, easy access and adaptation with local cultures. Long usage of such medicines has developed into a local healing system and folks have become natural custodians of many plant medicines. Traditional medicines are still prevalent as primary healthcare in most tribal cultures living in different geographical areas <sup>1</sup>.

Many cultures have been practicing ethnomedicines and indigenous wisdom with precision to cure and manage gynaecological disorders. Contributions of plants in women's health related conditions such as female fertility, menorrhagia, birth control, pregnancy, birth (parturition), postpartum (puerperium) and lactation, including infant care, have been documented for various ethnic groups of India <sup>1,2</sup>.

Infertility is a common problem, affecting perhaps one in six couple; the majority of whom seek medical treatment <sup>3</sup>. Herbs have been used since the beginning of time to aid in many different ailments. Of these ailments, fertility has been enhanced and even corrected by the use of certain herbs <sup>2,4</sup>. Due to change in livelihood and environmental degradation the traditional knowledge faces the risk of disappearing before documentation. Therefore, in the present paper, an attempt has been made to document the list of ethno-medicinal plants used for the treatment of Female Reproductive Health Problems by Boro tribe of Kaliabor sub-division, Nagaon, Assam. Boro tribe, amongst different tribes existing in Assam, is one such tribe which has rich cultural heritage. The Boros are an ethnic and linguistic aboriginal group of the Brahmaputra valley in the northeast part of India.

They are recognized as a plains tribe in sixth schedule of the Indian Constitution.

“Nagaon is situated in central part of Assam. The boundary of the district is that by north it is bounded by Sonitpur district & the River Brahmaputra, south is bounded by West Karbi Anglong and N.C. Hills, East is bounded by East Karbi Anglong and Golaghat district. The district lies between 25°-45' to 26°-45' North latitude and 92°-33' to 92°41' E. The average altitude is about 60.6 M. The area of the district is about 4435.3 sq.km with total population 1893171 (1991) persons. The climate of this district in general monsoon type of climate. The temperature of Nagaon is about Max. 24.8°C and Min. 11.2°C during winter and summer Max. 32.9°C and Min. 25.5°C. Forest in Nagaon district are mostly deciduous type.”<sup>5</sup> Kaliabor, a sub-division town in Nagaon district of Assam situated at a distance of 48 km east of Nagaon town.

#### **METHODOLOGY**

The study has been conducted among the Boro tribe of Kaliabor sub-division of Nagaon district during January 2018 –April 2018 in *Auguri, Bengenaati, Borsung, Bamuni, Sonagaon, Muthowghat and Bheselmarigaon* villages of Kaliabor sub-division of Nagaon district, Assam.

The primary information regarding the use and values of plants were collected during the field work using standard survey techniques which includes individual and in-depth interviews, and group discussion among the local plant users, community members and healers (*ojah/dhami*), persons having indigenous knowledge etc. Ethnomedicinal information was collected by using questionnaire <sup>6</sup>. The set questions contained the local name of the plants used to cure different gynaecological problems; the plant part used for that particular purpose and the mode of administration of the plant materials. Boro people were well versed with Assamese language. After the interview, the

informants were asked to supply the plant specimens and often they accompanied to the field to collect plant materials. Details of use including the approximate amounts and number of doses were recorded for specific diseases for authentication and validation of method <sup>7</sup>.

The collected plant specimens were processed into mounted herbarium sheets <sup>3</sup> and were identified with the help of various

literature including <sup>8-11</sup>, and <sup>12,13</sup> and by consulting experts. Other information was collected by reviewing different published works related to the present study and are referred appropriately.

Almost all possible information regarding the medicinal uses of collected plants by the Boro tribe has been included in the text/result.

**Table 1. Medicinal plants used for curing different types of female reproductive disorders by the Boro tribe of Kaliabor sub-division, Nagaon district, Assam**

Sl. No.	Plant species	Local Name	Parts used	Treatment	Use
1	<i>Acacia farnesiana</i> (L.)Willd (Fabaceae)	Tarua kadam	Bark	Dysmenorrhea	Paste made from bark along with <i>Piper nigrum</i> L. and taken orally during Menstrual Cycle upto 3 days, once daily.
2	<i>Acorus calamus</i> L. (Araceae)	Bosh gos	Rhizome	Menstrual Cycle irregularity disappear, Menorrhagia	Juice of crushed rhizome is taken for curing irregular Menstrual Cycle and Menorrhagia
3	<i>Amaranthus spinosus</i> L.(Amaranthaceae)	Khutura Haak	Leaf,stem	Enhance fertility, Increase lactation in nursing mother	Leaf and stem taken as vegetables. Paste of stem is made along with clove and is taken orally during Menstrual Cycle upto 3 days, once daily.
4	<i>Bambusa balcooa</i> Roxb.(Poaceae)	Wabongphang	Tender shoot	Dysmenorrhea	Tender shoot is cut in to small pieces and taken with jaggery during Menstrual Cycle for 3 days.
5	<i>Carica papaya</i> L.(Caricaceae)	Muthura	Fresh Fruit	Anti implantation/Abortifacient	Taken orally during pregnancy.
6	<i>Citrullus colocynthis</i> Schard.(Cucurbitaceae)	Kuwa bhaturi	Stem	Leucorrhea	Paste is prepared and made into tablet and taken orally
7	<i>Cynodon dactylon</i> (L.)Pers.(Poaceae)	Dubari bon	Fresh Leaf	Leucorrhea, Menorrhagia	Crushed leaf juice is taken along with honey to cure Menorrhagia.Mixture of raw leaf along with rice and sugar taken orally to cure Leucorrhea.
8	<i>Hibiscus rosa-sinensis</i> L.(Malvaceae)	Jaba phul	Flower	Menorrhagia	Floral juice is taken orally.
9	<i>Kalanchoe pinnata</i> (Roxb.)Pers (Crassulaceae)	Dupar tenga	Leaf	Leucorrhea	Leaf is taken orally for 1 month
10	<i>Lygodium flexuosum</i> (L.) Sw. (Lygodiaceae)	Dhekia lata	Leaf	Menorrhagia	Paste is made from leaf along with <i>Piper nigrum</i> L. and is taken orally during Menstrual Cycle
11	<i>Mikania scandens</i> (L.)Willd. (Asteraceae)	Bonorita lata	Stem	Anti-implantation and Abortifacient	Cleaned Stem is directly used in the uterus
12	<i>Mimosa pudica</i> (Fabaceae)	Lajuki bon	Flower	Enhance fertility	Flower is taken orally during Menstrual Cycle for 3 days
13	<i>Musa velutina</i> Wendel.& Drude(Musaceae)	Thalid bongphang	Ripe Fruit	Leucorrhea	Taken with milk orally for 1 month.
14	<i>Musa balbisiana</i> Colla. (Musaceae)	Aathia thalid bongphang	Dried fruit peel, Root	Leucorrhea and Anti - implantation/ Abortifacient	Dried fruit peel is burnt and mixed with water and taken orally to cure Leucorrhea. Cleaned root is directly used in the uterus for Anti-implantation or abortion
15	<i>Nicotiana tabacum</i> L.(Solanaceae)	Pat sadha	Leaf juice	Anti-implantaion/ Abortifacient	leaf juice is taken during pregnancy
16	<i>Paederia foetida</i> L.(Rubiaceae)	Bhedai lata	Leaf	Menorrhagia and to relieve pain or prevent uterine infection after child birth	Leaf juice is taken to cure Menorrhagia & a Special curry prepared with fish is given to mother after child birth for early recovery after delivery
17	<i>Phlogocanthus thyrsoiflorus</i> Nees.(Acanthaceae)	Bhato tita	Leaf	Dysmenorrhea	Paste made from leaf is taken orally upto 3 days during Menstrual Cycle.
18	<i>Phoenix dactylifera</i> L.(Aracaceae)	Khejur	Dried Fruit	Enhance fertility	Fruit is taken orally after Menstrual Cycle for 7 days.
19	<i>Phyllanthus niruri</i> L.)(Phyllanthaceae)	Bon amlokhi	Root	Leucorrhea,	Root paste made along with <i>Piper nigrum</i> L. is taken orally for 1 month.
20	<i>Piper nigrum</i> L.(Piperaceae)	Jaluk	Dried Fruit	Dysmenorrhea, Leucorrhea Prevent uterine infection & Good for nursing mother	Paste made from <i>Piper nigrum</i> L. and leaf of <i>Acacia farnesiana</i> is taken orally during Menstrual Cycle upto 3 days, once daily to cure Dysmenorrhea .Paste made from root of <i>Phyllanthus niruri</i> L.)

					along with <i>Piper nigrum</i> L. and is taken orally for 1 month to cure Leucorrhoea. Can be used in the preparation of curry with <i>Pogostemon benghalensis</i> for lactating mother.
21	<i>Polygonum hydropiper</i> L.(Polygonaceae)	Ashok Kamal	Leaf	Enhance fertility	Paste is made by taking 3 No. of leaves and one clove of garlic and 50gm of dry jute seed, and made small tablets which are taken during Menstrual Cycle for 3 days, 1 tablet daily.
22	<i>Polygonum flaccidum</i> Meisn.(Polygonaceae)	Bish katali	Root	Enhance fertility	Paste is taken orally.
23	<i>Pogostemon benghalensis</i> (Burm.f.)Kuntze (Lamiaceae)	Xooklati	Leaf	Helps to fight uterus infection after delivery, Menstrual Cycle irregularity disappear ,Good for lactating mother	Can be taken as curry along with <i>Piper nigrum</i> L.
24	<i>Ricinus communis</i> L.(Euphorbiaceae)	Enda bilaibongphang	Root	Anti-implantation /Abortifacient	Cleaned root is directly used in the uterus.
25	<i>Terminalia chebula</i> Retz.(Combretaceae)	Xilikha bongphang	Fruit	Anti-implantation/ Abortifacient	Paste of fresh or dried fruit is taken orally.

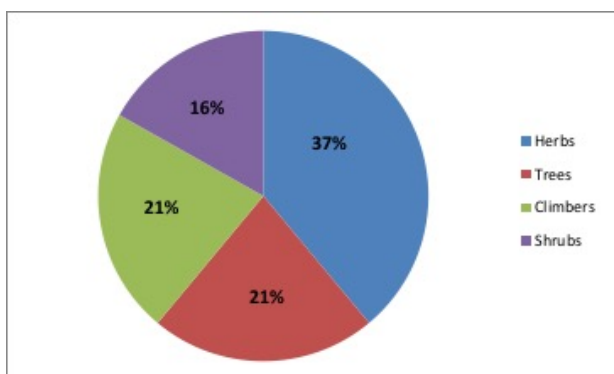


Fig. 1: Different habit- group of plants used by the Boro tribe of Kaliabor sub-division, Nagaon district, Assam.

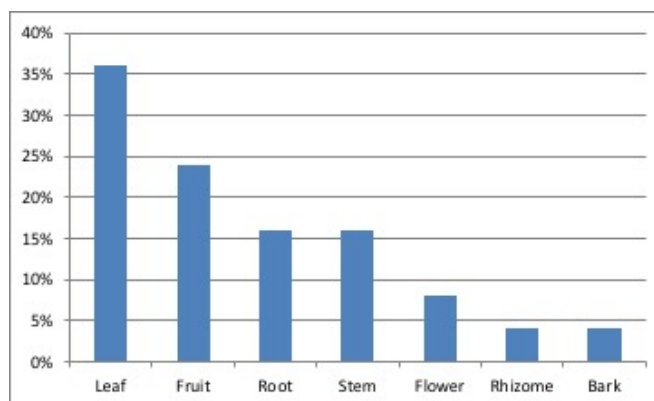


Fig. 2: Percentage of plant parts used as medicine by the Boro tribe of Kaliabor sub-division, Nagaon district, Assam

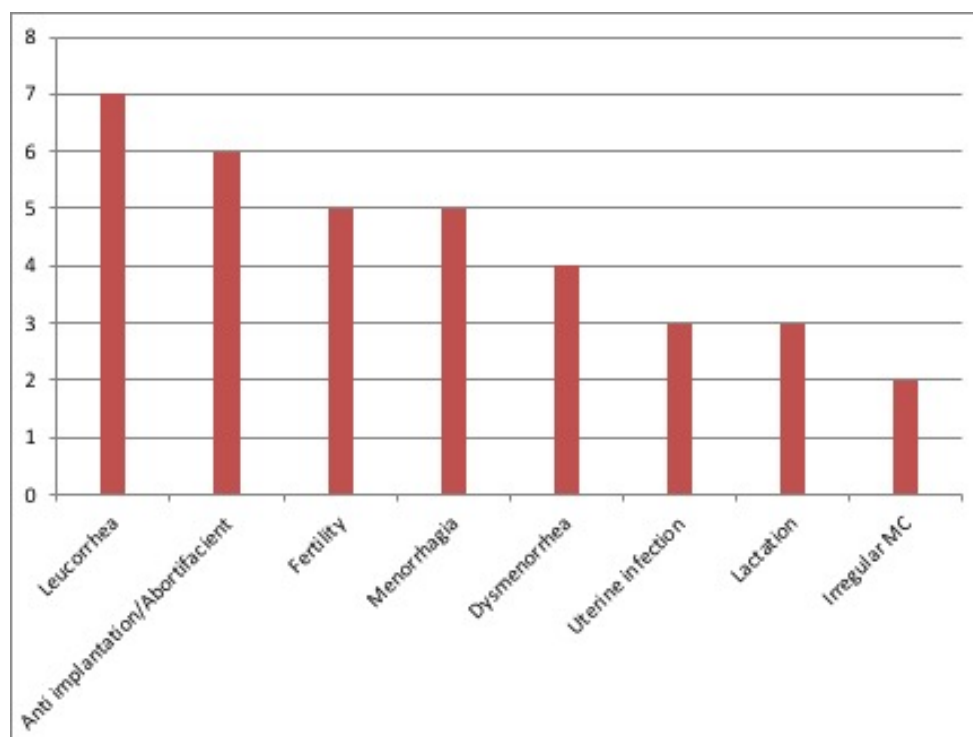


Fig 3: Numbers of plants used for curing various female reproductive disorders by Boro tribe of Kaliabor sub-division Nagaon District, Assam

## RESULTS AND DISCUSSION

Data collected through the survey in Kaliabor sub-division, Nagaon, Assam led to the record of 24 species of plants representing 22 genera from 20 families which are used to treat different types of gynaecological problems. These include plants of different habit groups including herbs (9 spp. or 37%), trees (5 spp. or 21%), shrubs (4 spp. or 16%) and climbers (5 spp. or 21%). For each species, scientific and local names, family, parts used and uses are presented in Table 1 and Figure 1. Different plant parts were used for the treatment of various gynaecological problems. In general, leaf (9 spp.) was highly used followed by fruit (6 spp.), stem and root (4 spp.), flower (2 spp.) and rhizome and bark (1 spp.) (Figure 2). These plants were used for the treatment of various gynaecological disorders such as dysmenorrhea, leucorrhoea, menorrhagia, antifertility, Anti-implantation and fertility. In majority of cases, the herbal medicines were prepared in the form of juice and paste. Maximum numbers of plants were used for leucorrhoea (7 spp.) followed by Anti-implantation (6 spp.), menorrhagia and antifertility (5 spp.), dysmenorrhea (4 spp.) uterine infection and lactation (3 spp.) and irregular menstrual cycle (2 spp.) each (Figure 3).

## CONCLUSION

The present study revealed that the Kaliabor Sub-division is rich in wild plants having important ethno-medicinal values. The Boro tribe is partially dependent on locally available medicinal plants for maintaining their day-to-day health care needs and as such the tribal people possess their own household remedies for common diseases. The Boros in general have adopted the Assamese language but at the same time they have their own nomenclature for the plants in relation to diseases and other uses of plant resources available in the environment. Therefore, it is high time that their indigenous knowledge of medicinal plant use should be recorded for the benefit of the future generation at large scale. The present work is a humble approach in this regard and should be continued to generate more information for the benefits of the society.

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