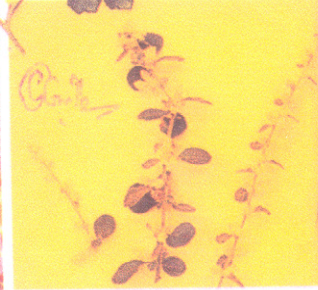


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P.C. Trivedi



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ETHNOMEDICINAL PLANTS FROM GIBBON WILDLIFE SANCTUARY OF ASSAM

CHIRANJANA BORAH AND SUBHAN C. NATH

INTRODUCTION

Gibbon wildlife sanctuary is situated in the southern bank of Brahmaputra river in Jorhat district of upper Assam. Located between latitude 26°40'-26°45'N and longitude 94°20'-94°25' E, the sanctuary covers an area of 20.94 km² at an altitude between 100-120 m above the mean sea level. Formerly known as the Hulongapa reserve forest, Gibbon wildlife sanctuary was given the status of wildlife sanctuary by Assam Government in 1997. It is the only wildlife sanctuary in India to be named after a highly endangered primate species in India, the Gibbons (Gupta, 2002). The area of the wildlife sanctuary represents typically tropical to sub-tropical climate with average annual rainfall, temperature and humidity being 2490mm, 24°C and 89.3% respectively. The inhabitants in and around the wildlife sanctuary belong to a number ethnic communities like Chutia, Deori, Tai-Ahom, Sonowal-Kachari, Moran, Motok etc. of mongoloid origin. Traditional agriculture is the primary mean of livelihood of these people which depend mostly on their surrounding plant communities for their day to day needs. Hence, forest resources play an important role in the economy of these people in acquiring food, fodder, fuel and medicaments. Ethnobotanic studies conducted both area and plant wise have reported many plant species from upper Brahmautra valley region of Assam including Jorhat district (Dutta and Nath, 1998, 1999; Nath and Bordoloi, 1991; Nath *et al*, 2006; Purkayastha *et al*, 2005, 2007). However, adequate attention has not so far been paid to the Gibbon wildlife sanctuary of the region in this regard.

METHODOLOGY

The study was performed during 2006-2007 covering most of the villages in and

around the wildlife sanctuary. The information were collected on the basis of interviews with the village heads, medicine-men and elderly persons whose empirical knowledge were respected by most people. They were necessarily taken to the forest as guides and informants. Local name, parts used and method of administrations of plant species were recorded in the field notebook. The plant species were then identified and information on medicinal uses of plants were compared with some important literatures of Indian medicinal plants (Chopra *et al*, 1956; Chopra and Verma, 1968; Jain, 1956; Kirtikar and Basu, 1951) and ethno-medico-botanical information reported previously from upper Bramaputra valley region of Assam including Jorhat district (Dutta and Nath, 1998, 1999; Nath and Bordoloi, 1991; Nath *et al*, 2006; Purkayastha *et al*, 2005, 2007). All the specimens collected and identified were deposited in the Herbarium of North East Institute of Science and Technology, Jorhat, Assam.

RESULTS

The plant species were enumerated in alphabetical order. For each plant species described, botanical name with family (parenthesis), vernacular name with ethnic group (parenthesis), part(s) used, medicinal use, method of preparation and applications of the herbal remedies are provided.

1. *Adhatoda zeylanica* Madic. (Acanthaceae)

Vernacular name: Baga-bahak (Tai-Ahom).

Part (s) used: Leaf

Method of use : Juice of leaves (two-three teaspoonfuls) is prescribed orally twice a day on asthma. Leaf juice is warmed gently and mixed with honey is prescribed orally twice a day in gastric. Leaves (50 -100 gm) are pounded and mixed with small amount of water are given orally once a day on tuberculosis. About one gm leaves taken together with one gm fruit of *Piper longum* L. (Piperaceae, Jaluk), one gm stem bark of *Terminalia arjuna* (Roxb.) W. & A. (Combretaceae, Arjun-gach), is properly ground adding little amount of water and mixed with honey is also given thrice a day on tuberculosis. Leaf juice mixed with honey is prescribed orally twice a day for seven days on bronchitis.

2. *Aegle marmelos* Correa ex Roxb. (Rutaceae)

Vernacular name: Bel (Tai-Ahom)

Parts(s) used: Root, stem bark, leaf, fruit.

Method of use: Fleshy endocarp (about 200 gm) of ripe fruit mixed with water is given twice a day on diarrhoea, dysentery and cholera. Two teaspoonfuls of juice of the leaves are warmed gently and given twice a day on empty stomach on severe diarrhea. Leaves with a few fruits of *Piper nigrum* L. are pounded adding little amount of water and two teaspoonfuls of the juice are prescribed twice a day on empty stomach on jaundice. Two-three drops of the leaf juice are prescribed to apply on eye on eye disease associated with redness and itching. Endocarp (200 gm) of unripe fruits taken together with little amount of *Zingiber officinale* Rosc. (Zingiberaceae, Ada) rhizome is ground adding little amount of water and given orally twice a day on piles. Stem bark and leaves taken together in 2:1 ratio are boiled in water and about a cup of

decoction is given orally twice a day on heart trouble. Three-four teaspoonfuls of juice of the root bark are prescribed orally on snake bite.

3. *Aloe barbadensis* Mill. (Liliaceae)

Vernacular name: Sal-kunari (Tai-Ahom)

Part(s) used: Leaf

Method of use: Two-three teaspoonfuls of juice obtained by grinding the leaves removing epidermis are prescribed orally once-twice a day on chest pain, liver disease, stomach problem like flatulence, hypertension, respiratory problems, fever and pneumonia. Leaves removing the epidermis are ground with the rhizome of *Colocasia esculenta* (L.) Schott (Araceae, Dohi-kachu) in equal amounts and about 100gm of the mixture mixed with the ripe fruit endocarp of *Musa paradysica* L. (Musaceae, Bhim-kal), milk and sugar candy are given orally on urinary tract infection. Leaves in the form of paste are applied on forehead on headache.

4. *Alternanthera philoxeroides* Griseb (Amaranthaceae)

Vernacular name: Pani-hutara (Chutia)

Part(s) used: Aerial parts

Method of use: Infusion (50-100 ml) of leaves is given orally once a day on jaundice. Aerial parts are boiled and decoction (100ml) is prescribed orally once a day on urinary blockade associated with burning sensation. Juice of leaves (50 gm) mixed with milk and sugar candy is prescribed orally on syphilis

5. *Alstonia scholaris* R. Br. (Apocyanaceae)

Vernacular name: Chatiana. (Tai-Ahom, Chuta)

Part(s) used: Root, stem bark, latex

Method of use: Roots (100 gm) are pounded and soaked in water for 4-6 hrs. and infusion is given twice a day on fever. Stem bark (200gm) with a few pieces of *Piper nigrum* L. fruit and *Zingiber officinale* Rosc. rhizome are boiled in water and the decoction is prescribed orally once a day on leprosy. Stem bark is ground to fine paste and mixed with honey is processed in the form of pill (two gm each) and two pills twice a day are prescribed on malaria. One-two teaspoonfuls of latex are given daily on asthma.

6. *Amaranthus spinosus* L. (Amaranthaceae)

Vernacular name: Hati-khutura (Chutia)

Part(s) used: Leaf, root

Method of use: Roots (200 gm) are boiled in water and the decoction is prescribed orally once a day on piles. Decoction of root (200 gm) prepared in cow-milk is prescribed orally once a day on blood urination. Roots in the form of paste are applied locally on eczema. Leaves are crushed and applied in the form of paste on sores.

7. *Artabotrys hexapetalus* (L. f.) Bhandari (Annonaceae)

Vernacular name: Champa-phool (Moran)

Part(s) used: Leaf, stem bark, flower.

Method of use: Leaf paste (one teaspoonful) mixed with equal amount of honey is prescribed on stomach pain. Paste of the stem bark is applied as poultice on rheumatism. Juice of flower (two-three teaspoonfuls) is given on general fever, indigestion and vomiting

8. *Azadirachta indica* A. Juss. (Meliaceae)

Vernacular name: Maha-neem (Chutia)

Parts(s) used: Stem bark, leaf, flower, fruit.

Method of use: Stem bark is ground and applied in the form of paste on rheumatic and joint pains. Stem bark powder (1gm) taken with equal amounts of the powders of *Curcuma longa* L. (Zingiberaceae, Halahdi) rhizome and *Phyllanthus emblica* L. (Euphorbiaceae, Amlakhi) fruit are prescribed orally once or twice a day with water to strengthen liver condition. Juice (one teaspoonful) of the stem bark mixed with a tea-cup milk is prescribed daily on night fall. Leaves are crushed and applied in the form of paste on small pox. Leaves (0.5-1gm) are chewed raw in diabetes. Stem bark, leaves and fruits either singly or in combinations are made in to paste and applied on snake-bite.

9. *Bryophyllum calycinum* Salisb. (Crassulaceae)

Vernacular name: Duphar-tenga (Deori)

Parts(s) seed: Aerial parts

Method of use: Four - five teaspoonfuls of leaf juice mixed with sugar candy are prescribed orally once a day on urinary calculi. Leaves in the form of paste are applied locally on piles and syphilis.

10. *Basella rubra* L. (Basellaceae)

Vernacular name: Puroi-sak (Tai-Ahom, Chutia)

Parts(s) used: Leaf, fruit

Method of Use: Leaves in the form of paste are applied on burn and skin tumor. Half teacup of leaf juice mixed with equal amount of milk is prescribed orally twice a day on urinary problem associated with burning sensation. Paste of the fruits is applied on forehead on headache.

11. *Boerhaavia diffusa* L. (Nyctaginaceae)

Vernacular name: Punaunua (Motok)

Parts(s) used: Root, stem, Leaf

Method of use: Leaves are pounded and mixed with water are given once or twice a day on hypotension and gonorrhea. Leaves either singly or mixed with the leaves

of *Hydrocotyle rotundifolia* Roxb. (Apiaceae, Saru-mani-muni) in equal amounts are ground to fine paste and prescribed to apply locally on leprosy. Roots (200 gm) are boiled in water adding few pieces of the fruits of *Piper nigrum* L. and the decoction is given orally once a day on bronchitis. One - two teaspoonfuls of leaf juice mixed with a little amount of *Piper nigrum* L. fruit powder is given in small pox.

12. *Cajanas cajan* (L.) Millsp. (Fabaceae)

Vernacular name: Rahar-mah (Deori, Tai-Ahom)

Part(s) used: Leaf, stem bark

Method of use: Young leaves are pounded adding water and the juice (100ml) is given once daily for three days in jaundice. Leaves are crushed and prescribed to smear locally on leucoderma. Stem bark (100gm) is boiled in water (250ml) and the decoction is given orally on diabetes.

13. *Clerodendrum glandulosum* Coleb. ex Walp. (Verbenaceae)

Vernacular name: Nephaphu (Chutia)

Part(s) used: Leaf

Method of use: Two-three teaspoonfuls of juice are given orally twice a day on stomach pain. Decoction is also prescribed to woman after child birth to relieve pain and vigor. Taken together with equal amounts of the bark (100gm) of *Terminalia arjuna* (Roxb.) W. & A. are ground to fine paste and mixed with water and little amount of salt are prescribed once a day on heart problem.

14. *Clitoria ternatea* L. (Fabaceae)

Vernacular name: Aparajita (Chutia)

Part(s) used: Root, stem, leaf

Method of use :

White flowered variety: Juice (one-three teaspoonfuls) of the root is prescribed once a day on dysentery, menstruation pain and insanity. Juice of the roots (100 gm) mixed with equal amount of cow milk is prescribed once a day on bronchitis. Two teaspoonfuls of root juice made with the roots of *Calotropis procera* (Ait.) R. Br. (Asclepiadaceae, Akon) are given once a day on fever. Leaves (150 gm) are pounded with a little amount *Zingiber officinale* Rosc. rhizome and the extract is given once a day on tuberculosis. Leaves (200gm) are boiled in water and the decoction is prescribed twice a day on ascites. Leaves are crushed and paste is applied on leprosy. Root, stem and leaves taken in equal amounts are made into paste and applied on elephantiasis.

Blue flowered variety: Juice (Two-three teaspoonfuls) of the root is prescribed once a day on stomachache. Root is crushed and smell is inhaled on headache. Flowers are made into paste and applied locally on leprosy and leucoderma.

15. *Commelina benghalensis* L. (Commelinaceae)

Vernacular name: Kona-simolu. (Tai-Ahom)

Part(s) used: Leaf

Method of use: Juice (Two-three teaspoonfuls) is prescribed orally on hemorrhage. Juice is prescribed to apply as eye-drop on cataract. Half a teacup of juice mixed with equal amount of cow-milk is given orally twice a day on urinary blockade due to calculi.

16. *Crotolaria mucronata* Desv. (Fabaceae)

Vernacular name: Ghanta-karna (Tai-Ahom)

Part used: Root

Method of use: Roots are ground to fine paste and applied as poultice on gout.

17. *Croton tiglium* L. (Euphorbiaceae)

Vernacular name: Kani-bih (Sonowal, Tai-Ahom)

Part(s) used: Leaf, fruit

Method use: Leaf paste is prescribed to apply on rheumatic joints. Fruit paste is applied on carbuncle.

18. *Cynodon dactylon* Pers. (Poaceae).

Vernacular name: Dubari-bon (Chutia, Sonowal).

Part used: Whole plant

Method of use: Juice (Two-three teaspoonfuls) mixed with equal amount of honey is prescribed orally on hemorrhage. Paste made with *Curcuma longa* L. (Zingibaraceae, Haladhi) rhizome is applied on rheumatic pain. Paste is prescribed to apply locally on piles. Paste is also prescribed to smear on prickly heat.

19. *Datura stramonium* L. (Solanaceae)

Vernacular name: Dhatura (Deori)

Part(s) used: Root, leaf, fruit

Method of use: Root is ground and the paste (two-three gm) mixed with a teacup of milk is given on insanity. Leaves are ground to fine paste and applied locally on mump and skin tumor. Leaves are dried and processed in the form of cigar and prescribed to smoke on asthma. About 5-10ml of ripe fruit juice is prescribed once a day on pneumonia.

20. *Drymaria cordata* Willd. (Caryophyllaceae)

Vernacular name: Lai-jabori (Sonowal)

Part(s) used: Aerial parts

Method of use: Juice (one-two teaspoonfuls) is prescribed to children daily on rickets. Juice is also given as nasal drop on nasal bleeding and sinusitis. Cooked and given as vegetable on anemia. Decoction prepared in water is prescribed orally once or twice a day on burning sensation during urination.

21. *Euphorbia ligularia* Roxb. (Euphorbiaceae)

Vernacular name: Siju (Tai-Ahom)

Part(s) used: Stem, leaf, latex

Method of use: Stem (200gm) is boiled in water (500ml) and the decoction mixed with honey is prescribed orally twice a day on asthma. Leaves (100gm) are boiled in water and the decoction mixed with a pinch of salt is prescribed orally once a day on bronchitis. Leaves are made into paste and mixed with mustard oil is applied locally on rheumatism. Latex mixed with the rhizome of *Curcuma longa* L. in equal amounts are ground to paste and applied locally on piles

22. *Hedyotis lineata* Roxb. (Rubiaceae)

Vernacular name: Kachi-doria (Tai-Ahom)

Part(s) used: Leaf

Method of use: Juice is prescribed to apply on ear as ear drop on hearing problem. Paste prepared with equal amount of *Piper nigrum* L. fruits is prescribed to apply externally on throat on tonsillitis

23. *Hibiscus rosa-sinensis* L. (Malvaceae)

Vernacular name: Tilinga-joba (Sonowal)

Part(s) used: Leaf, flower

Method of use: Juice (two - three teaspoonfuls) of the flower is prescribed once a day on night fall. Leaves are smashed and two - three teaspoonfuls of juice mixed with water is given orally twice a day on syphilis and also to woman on irregular menstruation associated with severe pain

24. *Homalomena aromatica* Schott (Araceae)

Vernacular name: Gandh-kachu (Chutia)

Part(s) used: Rhizome, root

Method of use: Root in the form of paste is applied on boils. Rhizomes mixed with little amount of the rhizome of *Zingiber officinale* Rosc. are pounded and two - three teaspoonfuls of juice are prescribed orally twice or thrice a day on cough, cold and fever.

25. *Hydrocotyle rotundifolia* Roxb. (Apiaceae)

Vernacular name: Saru-mani-muni (Tai-Ahom)

Part(s) used: Whole plant

Method of use: Decoction (100ml) made in water is prescribed orally once a day on dysentery, jaundice, hypertension and insomnia. Decoction obtained with equal amounts of the leaves of *Centella asiatica* (L.) Urban (Apiaceae, Bor-mani-muni) in water, is prescribed orally once a day on epilepsy. Paste is prescribed to massage body organ on rheumatism and also to apply in the form of poultice on elephantiasis. Paste

prepared with equal amounts of the leaves of *Gossypium arboreum* L. (Malvaceae, Kopah) *Boerhaavia diffusa* L. is prescribed for external applications on leprosy

26. *Impatiens balsamina* L. (Balsaminaceae)

Vernacular name: Bijalkaria (Deori)

Part(s) used: Leaf

Method of use: Extract mixed with sugar candy is prescribed once a day in burning sensation during urination. Paste is applied on forehead on fever.

27. *Lawsonia inermis* L. (Lythraceae)

Vernacular name: Jetuka (Sonowal, Tai-Ahom)

Part(s) used: Leaf

Method of use: Infusion (100ml) mixed with equal amount of milk is given orally once-twice a day on epilepsy and hypertension. Decoction (100-150ml) is given orally twice a day on kidney stone

28. *Leucas plukenetii* (Roth.) Spreng. (Lamiaceae)

Vernacular name: Doron-bon (Sonowal)

Part(s) used: Leaf

Method of use: Leaves are crushed and two-three teaspoonfuls of the juice are given orally once or twice a day on ascites, dyspepsia, whooping cough and urinary problem. Leaf juice is also prescribed to apply as nasal drops on headache due to sinusitis. Leaves (100gm) with equal amounts of the leaves of *Solanum indicum* and *Oldenlandia diffusa* L. (Rubiaceae, Bon-jaluk) are ground and the juice is prescribed orally once a day on tuberculosis.

29. *Meyna laxiflora* Robins (Rubiaceae)

Vernacular name: Kutkura (Chutia, Tai-Ahom)

Part(s) used: Leaf, seed

Method of use: Leaves mixed with the leaves of *Cynodon dactylon* Pers. are ground and the paste is applied on sores. Seeds mixed with equal amount of the *Piper nigrum* L. fruits are ground to paste and about two gm of the paste mixed with water are prescribed orally twice a day on pneumonia.

30. *Mimosa pudica* L. (Mimosaceae)

Vernacular name: Nelaji-ban (Deori, Chutia)

Part(s) used: Leaf

Method of use: Juice (two teaspoonfuls) with water is given orally on epilepsy. Decoction (150ml) prepared in water is prescribed twice a day on piles. Paste is applied on toothache.

31. *Momordica charantia* L. (Cucurbitaceae)

Vernacular name: Tita-kerela (Sonowal)

Part(s) used: Leaf

Method of use: Juice obtained by grinding with *Curcuma longa* L. rhizome (Haladhi) is prescribed for local applications on measles. Juice is prescribed to apply as nasal drop on nasal bleeding. Paste is applied as poultice on scabies.

32. *Muhlenbackia platycladod* DC. (Polygonaceae)

Vernacular name: Bishailya-karan (Chutia)

Part(s) used: Aerial portion

Method of use: Juice is prescribed as nasal drop on nasal bleeding. Paste is given to apply on cuts and wounds. Decoction made in water is prescribed orally as stimulant on tiredness

33. *Murraya koenigii* (L.) Spreng. (Rutaceae)

Vernacular name: Narasingha (Chutia)

Part(s) used: Leaf

Method of use: Juice (5ml) is given orally once a day on stomach pain and gastric. Juice mixed with equal amount of goat milk is also prescribed orally on gonorrhea

34. *Nyctanthes arbor-tristis* L. (Oleaceae)

Vernacular name: Sewali-phool (Sonowal)

Part(s) used: Leaf, flower

Method of use: One - two teaspoonfuls of leaf powder mixed with water are given daily on measles. Leaf powder (one teaspoonful) mixed with equal amount of the *Piper nigrum* L. fruit powder is given orally once a day with water on gastric ulcer. Flowers either raw (5gm) or in the form of juice (5ml) mixed with honey are prescribed orally once - twice a day on pneumonia.

35. *Paederia scandens* (Lour.) Merrill (Rubiaceae)

Vernacular name: Vedai-lota (Chutia)

Part(s) used: Root, leaf, fruit

Method of use: Decoction of roots made in water is given orally once or twice a day on piles. Leaves are ground to paste and prescribed to massage body organ on chest pain, rheumatic pain and paralysis.

36. *Phlogacanthus thyrsiflorus* Nees (Acanthaceae)

Vernacular name: Tita-bahak, Tita-phool (Tai-Ahom)

Part(s) used: Root, stem bark, leaf, flower

Method of use: Root is ground to paste and prescribed for local applications on syphilis. Root (200gm) is smashed and boiled in water and the decoction is prescribed orally on stomach pain. About 250 gm of stem bark are boiled in water and the decoction mixed with sugar candy is prescribed orally on cough, fever,

bronchitis and blood vomiting. Two teaspoonfuls of leaf juice mixed with equal amount of honey are given orally twice a day on tuberculosis. Flowers (100gm) are ground to paste and mixed with water are given orally on bleeding piles.

37. *Phyllanthus emblica* L. (Euphorbiaceae)

Vernacular name: Amlokhi (Chutia, Tai-Ahom)

Part(s) used: Fruit

Method of use: Juice (10-20ml) is prescribed to children daily on rickets and to adults on night fall. A tea cup of juice obtained by grinding with equal amount of *Tagetes patula* L. (Asteraceae, Narji-phool) flower is prescribed orally once a day on uterus tumor. Juice (20-25ml) is given orally once-twice a day on acidity, diabetes and impotency. Raw or powder is given on hiccough, insomnia and vomiting.

38. *Phyllanthus fraternus* Webstar (Euphorbiaceae)

Vernacular name: Bon-amlokhi, Bhui-amlahki (Chutia, Sonowal, Tai-Ahom)

Part(s) used: Aerial parts

Method of use: Leaves (100gm) with a few pieces of *Piper nigrum* L. fruits are boiled in water and the decoction is prescribed orally once a day on asthma. An infusion of about 100gm aerial parts is given orally once daily on chronic dysentery. One teaspoonful of leaf juice mixed with 100ml of card is prescribed twice a day on jaundice

39. *Portulaca oleracea* L. (Portulacaceae)

Vernacular name: Malvog-khutara (Chutia)

Part(s) used: Aerial parts

Method of use: A teacup of juice is given orally on blood vomiting. A teacup of juice is given orally once a day on chronic dysentery. A teacup juice mixed with sugar candy is prescribed once a day on kidney stone. Paste is applied on boil and burning.

40. *Punica granatum* L. (Punicaceae)

Vernacular name: Dalim (Moran, Sonowal)

Part(s) used: Root, bark, leaf, fruit

Uses: An infusion obtained by soaking about 100gm smashed roots in a teacup water for about three-five hrs. is prescribed orally with an equal amount of milk once a day on urinary tract infection. A piece of stem bark is pounded and a teaspoonful of the juice mixed with sugar is given orally on hiccough. Leaves in the form of paste are applied on pimples. Flowers are smashed and the juice is used as nasal drop on nasal bleeding. A seed paste prepared with equal amount of *Piper nigrum* L. fruit is prescribed to apply locally on piles. Fruit juice is prescribed orally on anemia.

41. *Rauvolfia serpentina* Roxb. (Apocynaceae)

Vernacular name: Sarpagandha (Motok)

Part(s) used: Root

Two-three teaspoonfuls of powder mixed with honey are given orally twice a day on pneumonia. About 10ml of juice mixed with 100ml of milk are prescribed orally once a day on hysteria.

42. *Rhynchosstylis retusa* Blume (Orchidaceae)

Vernacular name: Kapou-phool (Sonowal, Tai-Ahom)

Part(s) used: Root, leaf

Method of use: Roots are boiled in water and the decoction is prescribed orally on rheumatism. Decoction of whole plant made in water is prescribed orally on body and muscular pain. Leaf juice is given to apply as eardrop on earache.

43. *Solanum indicum* L. (Solanaceae)

Vernacular name: Tita-vekuri (Chutia)

Part(s) used: Root, leaf, fruit

Method of use: Root (200gm) is boiled in water adding few pieces of the fruits of *Piper nigrum* L. and the decoction mixed with a little amount of salt is given orally once a day on gastric. Decoction of root (200gm) prepared in water is prescribed orally twice a day on convulsion. Leaves (150gm) are boiled in water adding few pieces of the fruits of *Piper nigrum* L. and the decoction mixed with a little amount of salt is given orally on small pox. Fruits in the form of paste are applied on baldness. Fruits either raw or cooked are prescribed orally on vomiting.

44. *Solanum khasianum* Clarke (Solanaceae)

Vernacular name: Kotayen-bengna (Deori)

Part(s) used: Root, stem bark, fruit

Method of use: Root (200gm) is boiled in water adding few pieces of the fruits of *Piper nigrum* L. and the decoction mixed with a little amount of salt is given orally once a day on small pox. Root (100gm) is pounded and the extract mixed with water and little amount of salt is given orally once a day on dropsy. About 100gm of roots mixed with equal amounts of the fruits of *Solanum indicum* L. are smashed and the extract with curd is prescribed orally twice a day on kidney stone. Roots are pounded and the extract (5-10 teaspoonfuls) mixed with water is given orally once or twice a day on impotency, syphilis, tonsillitis and typhoid fever. Stem bark is chewed raw on sore throat. Fruits taken with the fruits of *Piper nigrum* L in 2:1 ratio are pounded and the extract mixed with water is taken half teacup a day on rheumatism. Fruit is applied in the form of paste on toothache.

45. *Terminalia arjuna* (Combretaceae)

Vernacular name: Arjun (Chutia)

Part(s) used: Stem bark

Method of use: Three - four teaspoonfuls of stem bark powder mixed with water

are given orally once a day on gastric, liver problem and leucorrhoea. Dried fruit is burnt and smoked on asthmatic problem.

46. *Terminalia bellirica* Roxb. (Combretaceae)

Vernacular name: Bhomora (Sonowal)

Part(s) used: Bark, fruit, seed

Method of use: One - two teaspoonfuls of juice of stem bark mixed with honey are given orally once a day on cough. Stem bark and fruit taken together in equal amounts are made into paste and applied locally on baldness. Seed powder (two teaspoonfuls) mixed with milk (one teacup) is given orally once a day on impotency and seminal debility.

47. *Sphaerostephnos unitus* (Thalypteridaceae)

Vernacular name: Bihlongoni (Tai-Ahom)

Part(s) used: Roots

Method of use: Taken together with the leaves of *Aegla marmelos* and the rhizomes of *Curcuma longa* and *Zingiber officinale* in equal amounts are pounded and the paste is prescribed to pregnant women to apply over lower abdomen as poultice to promote delivery. Taken with the roots of *Leucas plukenetii* in 2:1 ratio are pounded and the juice (5-10ml) mixed with equal amount of milk is prescribed orally once a day on piles.

48. *Vitex negundo* L. (Verbenaceae)

Vernacular name: Pachatia (Sonowal)

Part(s) used: Leaf

Method of use: Two-four teaspoonfuls of leaf juice mixed with water are prescribed orally twice a day on intermittent fever and tuberculosis. Leaves in the form of paste are applied on toothache and rheumatism. Decoction of leaves in water is prescribed for gurgling on tonsillitis and also given orally as nerve tonic on nervousness.

DISCUSSION

Folklore medicinal uses of 59 plant species under 55 genera and 38 families have been reported in this paper. Many of the information reported in this communication concerning *Adhatoda zeylanica* (tuberculosis), *Aegle marmelos* (heart disease, jaundice, piles), *Aloe barbadensis* (hypertension), *Alternanthera philoxeroides* (urinary problem), *Amaranthus spinosus* (blood urination), *Azadirachta indica* (rheumatism), *Boerhavia diffusa* (hypertension), *Clitorea ternatea* (tuberculosis), *Croton tiglium* (carbuncle), *Cynodon dactylon* (hemorrhage), *Drymeria cordata* (anemia), *Euphorbia ligularia* (asthma), *Hedyotis lineate* (throat disease), *Homalomena aromatica* (fever), *Hydrocotyle rotundifolia* (jaundice, hypertension), *Lawsonia inermis* (hypertension), *Leucas plukenetii* (urinary problem), *Meyna laxiflora* (pneumonia), *Nyctanthes arbortristis* (pneumonia), *Phlogacanthus thyrsiflorus* (tuberculosis), *Phyllanthus fraternus* (asthma), *Portulaca oleracea* (kidney stone), *Rauvolfia*

serpentina (pneumonia), *Rhyncostylis retusa* (rheumatic, muscular pain), *Solanum khasianum* (kidney stone) and *Sphaerostephnos unitus* (gynecological disorder, piles) are found to be less known to literatures of Indian medicinal plants.

Most drugs are utilized in the fresh state as decoction, infusion, juice, paste and poultice etc. Likewise, most drugs are prepared using single plant species. Preparation of drugs using plants in combination is also found for the treatments of a number of diseases where *Piper nigrum* fruit and *Zingiber officinale* rhizome are mostly used as secondary ingredients. Detailed studies on these folk drugs are deserved to identify the chemical constituents and investigate their pharmacological effects.

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