

Full Length Research Paper

Medicinal plants used by the tribes of Vythiri taluk, Wayanad district (Kerala state) for the treatment of human and domestic animal ailments

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The present paper aimed to document traditional herbal drugs in the treatment of human and veterinary ailments by the tribal communities residing in Vythiri taluk of Wayanad district, Kerala in India. An ethno-medico-botanical survey was carried out in 6 randomly selected panchayaths of Vythiri taluk of Wayanad district, Kerala investigating the tribal healing systems and herbal treatments used for various ailments. Semi structured questionnaires were used for data collection. A total of 67 medicinal preparations involving 67 species belonging to 44 families, used by the Kurichia, Kuruma, Adiyar, Kattunaika and Paniya tribes to treat 33 human and 7 veterinary ailments were documented. Among these, the use of dried powdered corm of *Amorphophallus paeoniifolius* and the leaf powder of *Memecylon umbellatum* as an antidiabetic drug and the whole plant of *Hydrocotyle javanica* for the treatment of fits and asthma are noteworthy. The plants used for the same disease is distinct from one tribe to another of the same locality. The documentation of this information will be vital in future for sustainable utilization and conservation.

Key words: Ethno botany, Kerala, traditional healers, tribes, Wayanad.

INTRODUCTION

The tribes possess unique knowledge about the use of many wild flora and fauna in traditional medicine which has developed over generations of forest dwelling; most of which are either lesser known or hitherto unknown to the outside world. Many tribal groups have been using several plant or animal products for medicinal preparations, and these medicines are known as ethno medicine (Silja et al., 2008). As it is estimated that today nearly 64% of the total global population depends on medicinal plants to fulfill most of their health care needs,

current dependence on traditional medical system remains high (Farnsworth, 1994; Sindiga, 1994). The global market for traditional therapies is estimated to be around \$ 60 billion a year and is steadily growing (World Health Organization (WHO), 2002). According to Food and Agriculture Organization (FAO) (1995), about 20% of the drugs in modern allopathy medicine are derived from plant sources.

India has rich diversity of over 500 tribal and aboriginal communities living in remote places in close association

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of forests since time immemorial. They have acquired plenty of knowledge about the plants and their uses to meet their day to day needs and health care (Ambasta, 1986; Maheshwari et al., 1981, 1986; Jain, 1991; Singh et al., 1994; Singh and Prakash, 1994). The importance of ethno botany stems from the varied economic uses of plants among the primitive human societies which may be equally beneficial to modern man. It has also brought to light numerous little known or unknown uses of plants (Jain, 1981).

METHODOLOGY

Study area

The Wayanad district is situated on the eastern portion of Kerala. It lies between 11° 27' and 11° 58' 35" N latitude and 75° 47' 50" and 76° 26' 35" E longitude. The total area of the district is 2,131 km², which accounts for 5.48% of the total geographical area of the state. Wayanad district is one of the potential areas having many important medicinal plants and also highest percentage of tribals in Kerala. The tribes of Wayanad form 17.1% of the total population of the district. In Vythiri Taluk of Wayanad, there are five major ethnic groups these are, Kurichia, Kuruma, Kattunaika, Adiyana and Paniya groups scattered along the Western Ghats forests (Udayan et al., 2005; Silja et al., 2008). Among the five major tribes, Kurichias are the most prominent tribes. They are agricultural tribal community and live in joint families. Although most of them are illiterate, they manifest complex culture in their rituals, family organization, marriage, kinship patterns, leadership and family management. Paniya tribes are bonded laborers. The name 'Paniyan' means worker, as they were supposed to be the workers of non-tribes. The Adiyas are mainly landless.

Their traditional occupation is agricultural labour. Kattunaikan of Wayanad is considered as a primitive tribe. They are the kings of jungle regions engaged in the collection and gathering of forest products. Kuruma has 3 sub divisions which include Jen Kuruma, Mullukuruma and Uralukuruma. These are the rarest artisan tribes in Kerala state. These tribes use different medicinal plants for their primary health care and other purposes based on their inherited knowledge.

But while looking through the lens of modernization, such precious knowledge systems have been eroding at faster rate and at times have totally disappeared in the recent past. Hence, the need of documentation and conservation of these valuable indigenous technical knowledge (ITK) pertaining to plants possessed by the various ethnic communities from time immemorial is essential.

Field work

In the present study, ethno-botanical survey was conducted in the Vythiri taluk of Wayanad district, Kerala (Figure 1) from 2006 to 2010 to know about the knowledge of medicine preparations and practices among various tribal groups. The study was carried out in the selected panchayaths of this Taluk, which include Pozhuthana, Kaniambetta, Muttil, Padijarathara, Kottathara and Kalpetta, where the tribal medical practitioners are largely distributed. During this period, 35 knowledgeable informants with different age groups in different panchayaths of Vythiri taluk were interviewed. The patients

treated by traditional healers were also interviewed regarding treatment and effect of medicines. The information recorded in the field was compared with important works pertaining to Indian medicinal plants and ethnobotany, such as Dictionary of Indian folk medicine and ethno botany (Jain, 1991), Dictionary of Indian medicinal plants (Husain et al., 1992) and Biodiversity documentation for Kerala, Part C: Flowering plants (Sasidharan, 2004).

RESULTS AND DISCUSSION

In the present study, 67 medicinal plant species belonging to 44 families used by the Kurichia, Kuruma, Kattunaika, Adiyana and Paniya tribes residing at Vythiri have been recorded. Here, trees are the primary source of medicinal plants in terms of number of species (21 species) followed by herbs (20 species), shrubs (17 species), and climbers (6 species). The common health ailments treated in the study area were skin problems, wound, toothache, abdominal problems, kidney stones, diabetes, bone fracture, arthritis, piles, fits, asthma, head ache, urinary troubles etc. The information gathered about medicinal utility of plants was compared with the previous work in ethno botanical surveys conducted in this region by Silja et al. (2008), Ratheesh and Anilkumar (2007), Udayan et al. (2008), Hema et al. (2006) and Pramod et al. (2003), and found some similar works. In Table 1, botanical name, local name, family, parts used, therapeutic use and tribes associated with these medicinal practices is shown, and Table 2 gives a comparative analysis of plants used by the various tribes of the study area. The informants used local names for all the species catalogued. These names were checked against the book Biodiversity documentation of Kerala which claims to contain all previously published common plant names. We found 8 undocumented local names, they are Karimbatta, Manimunda, Nendravalli, Neendaperppil, Rakthavathakkody, Eranga, Cheranvally and Alakam. These plants were identified by the taxonomist of M. S. Swaminathan Research Foundation, Kalpetta.

The herbal preparations using *Adenostemma lavenia* (for wound healing), *Amorphophallus paeoniifolius* (for Jaundice), *Ardisia solanacea* (for toothache), *Artocarpus hirsutus* (for piles), *Derris scandens* (for respiratory disorders), *Memecylon umbellatum* (for diabetes) form new reports exclusively documented in this paper.

In the present study, the plants *Callicarpa tomentosa* (used for skin problems), *Ageratum conyzoides* (used for wounds), *Cassia tora* (for skin problems), *Cardiospermum halicacabum* (skin problems), *Cyperus kyllingia* (dysentery), *Ensete superbum* (urinary troubles and leucorhea), *Vanda roxburghii* (ear pain) and *Wrightia tinctoria* (tooth ache) is documented. It is in agreement with the earlier reports of Yasodharan and Sujana (2007).



Figure 1. The location of the studied region.

Table 1. The plants and their therapeutic uses in Vythiri Taluk.

Botanical name	Habit	Local name	Family	Parts	Therapeutic uses	Tribes
<i>Abrus precatorius</i> L.	Scandent shrub	Kunni.	Fabaceae	Leaf	The leaves are cut into pieces and boiled in coconut oil. Head massaging using this oil reduces hair loss	Kurichia, Kuruma
<i>Adenia hondala</i> (Gaertn.) de Wilde	Climber with tuberous root stock	Karimuthak	Passifloraceae	Tuber	The boiled tuber eating cures hernia	Kurichia
<i>Adenostemma lavenia</i> (L.) O.Ktze.var. <i>lavenia</i>	Herb	Karimbatta.	Asteraceae	Leaf	The leaf juice is applied externally over wounds	Kurichia
<i>Justicia adhatoda</i> L.	Shrub	Adalodakam	Acanthaceae	Leaf	The powder of dried leaves of <i>Justicia adhatoda</i> , <i>Hydrocotyle javanica</i> Thunb. <i>Zingiber officinale</i> Rosc.is mixed with water and taken internally to cure asthma	Kurichia, Kuruma
<i>Ageratum conyzoides</i> L.	Herb	Appa	Asteraceae	Leaf	The leaf paste is applied externally on wounds	Kurichia, Kuruma, Kattunaika, Paniya
<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicols. var. <i>paeoniifolius</i>	Herb	Kattuchena	Araceae	Corm	Dry powder of the corm mixed in curd and hot water is taken internally to cure jaundice	Kurichia
<i>Ardisia solanacea</i> Roxb.	Shrub	Manimunda.	Myrsinaceae	Bark	The bark of this plant is ground with the fruits of <i>Piper nigrum</i> L. var. <i>nigrum</i> , the tuber of <i>Plumbago zeylanica</i> L, and the bark of <i>Zyzyphus trinervia</i> Roxb. the ground mixture is chewed to cure tooth ache	Kurichia, Kuruma
<i>Artemisia nilagarica</i> (Clarke) Pamp.	Shrub	Kattukarpooram	Asteraceae	Leaf	The leaf juice is taken internally to cure abdominal pain	Kurichia, Kuruma, Kattunaika, Paniya
<i>Artocarpus hirsutus</i> Lam.	Tree	Ainy	Moraceae	Bark	Grinded bark is smeared on the affected part to cure piles	Kurichia
<i>Azadirachta indica</i> A. Juss.	Tree	Veppu	Meliaceae	Leaf	The leaf paste mixed with turmeric is applied to udder of cattles to cure mastitis	Kurichia, Kattunaika, Paniya

Table 1. Contd.

<i>Bischofia javanica</i> Blume.	Tree	Neeli	Euphorbiaceae	Leaf	The leaves of this plant is ground with the leaves of <i>Adhatoda vasica</i> Nees and applied on the affected part of the Skin to cure skin diseases	Kurichia, Adiyar
<i>Briedelia scandens</i> (Roxb.) Willd.	Scandent shrub	Nendravalli	Euphorbiaceae	Bark, Leaf	The bark juice is taken internally to cure Abdominal pain. The tender leaf juice is used to prepare a medicine for scabies, eczema and wound	Kurichia, Kattunaia
<i>Caesalpinia crista</i> L.	Climbing shrub	Kazhinji	Caesalpiniaceae	Seed	The seed powder paste is applied on the scalp before bath to cure scurf	Kurichia, Kuruma
<i>Callicarpa tomentosa</i> (L.) Murr.	Tree	Neendaperppil	Verbenaceae	Leaf	The leaf juice is applied on the affected skin to cure scabies	Kurichia, Kuruma
<i>Cardiospermum halicacabum</i> L.	Twiner	Uzhinja.	Sapindaceae	Leaf	The leaf juice is applied on boils and abscess.	Kurichia, Kuruma
<i>Careya arborea</i> Roxb.	Tree	Aalakam	Lecithidaceae	Bark	The bark is ground with salt and applied topically to cure Foot and mouth disease of cattle. The bark of this plant ground with the bark of <i>Lagerstroemia microcarpa</i> Wight and the bark of <i>Syzygium cumini</i> (L.) Skeels var. <i>cumini</i> and pour on the floor of the cattle field. The mixture must cover the hoof of the cattle. It cures the Foot and mouth disease of cattles	Kurichia, Kuruma, Paniya
<i>Cassia fistula</i> L.	Tree	Kanikkonna.	Caesalpiniaceae	Leaf	The leaf juice is taken internally curing mouth sores and tonsillitis	Kurichia, Kuruma
<i>Cassia tora</i> L.	Herb	Thakara	Caesalpiniaceae	Leaf	The ground leaf paste is applied on the affected skin to cure scabies	Kurichia, Kuruma
<i>Centratherum anthelminticum</i> (L.) O. Ktze.	Herb	Kattujeerakam.	Asteraceae	Root	Grinded root juice of kattujeerakam is taken internally against fatty body after delivery	Kurichia, Adiyar
<i>Cissus discolor</i> Blume	Climber	Rakthavathakkody	Vitaceae	Whole plant	The whole plant is crushed and ground in to a paste, mixed with egg white and applied over the wound in cattle	Kurichia Kuruma

Table 1. Contd.

<i>Clerodendrum serratum</i> (L.) Moon	Shrub	Peruku	Verbenaceae	Bark	The ground bark is applied over the dog bite wound	Kuruma
<i>Coccinia grandis</i> (L.) voight	Climber	Kovakka	Cucurbitaceae.	Leaf	Leaves are ground with turmeric and applied on the cheek to get relief from tooth ache	Kurichia, Kattunaika
<i>Cocos nucifera</i> L.	Tree	Elaneer	Araceae.	Tender coconut water	The tender coconut water is taken internally for Leucorhea	Kurichia, Adiyen
<i>Coleus ambonicus</i> Lour.	Herb	Panikoorka	Lamiaceae	Leaf	The leaf juice mixed with honey is taken internally during respiratory disorders	Kurichia, Kuruma
<i>Cucumis prophetarum</i> L	Climber	Aattanga.	Cucurbitaceae	Fruit	Made an opening on the fruit, put the finger in it, keep it there for one or two days. It cures whitlow	Kurichia, Kuruma
<i>Cucurbita maxima</i> Duch.	Twiner	Mathan	Cucurbitaceae	Leaf	The ground leaf paste is applied on burns	Kurichia, Adiyen
<i>Cyperus kyllingia</i> Endl.	Herb	Muthanga.	Cyperaceae	Rhizome	The rhizome paste mixed with milk is taken internally to cure dysentery	Kuruma, Kattunaika, Paniya, Kuruma
<i>Datura metal</i> L.	Shrub	Ummum	Solanaceae	Leaf	Bathing in water boiled with leaves of Ummam, <i>Vitex negundo</i> L. var. <i>negundo</i> , and <i>Ricinus communis</i> L. relieves body pain	Kurichia, Paniya
<i>Derris scandens</i> (Roxb.) Benth.	Woody climber	Thodanvally	Fabaceae	Bark	The bark paste is applied on the chest to cure breathing difficulty	Kurichia, Kattunaika
<i>Elephantopus scaber</i> L.	Herb	Anachuvady	Asteraceae	Root	Root paste is applied externally on wounds	Kattunaika
<i>Emilia sonchifolia</i> (L.) DC.	Herb	Muyalcheviyan.	Asteraceae	Leaf	The leaf paste is applied over the wound cures spider poison and wound	Kurichia
<i>Ensete superbum</i> (Roxb.) Cheesman.	Large monocarpic herb	Kalluvazha.	Musaceae.	Seed	The seed paste mixed with milk is taken internally for urinary troubles and leucorhea	Kurichia, Kuruma.

Table 1. Contd.

<i>Glycosmis pentaphylla</i> (Retz.) DC.	Shrub	Panal.	Rutaceae	Leaf Root Stem	The shampoo made from the leaves has anti dandruff property The paste of root and stem applied on forehead relieves head ache. The grinded root and stem paste of panal is applied on the forehead against head ache	Kurichia, Kuruma
<i>Holigarna amottiana</i> Hook.f.	Tree	Cheru	Anacardiaceae	Bark	The bark of this plant is ground with <i>Ocimum sanctum</i> L. and applied on chronic wound or Maggot wound	Kurichia, Kattunaika
<i>Hydrocotyle javanica</i> Thunb.	Herb	Eranga.	Apiaceae	Whole	The whole plant is grinded and the juice applied on the chest to cure asthma and fits	Kurichia
<i>Hygrophila schulli</i> (Buch.-Ham.) M.R. & S.M. Almeida	Herb	Vayal chully	Acanthaceae	Leaf Root	The leaf paste is applied externally against ectoparasites in cattle The root paste mixed with goat milk is taken internally for kidney stone	Kurichia, Paniya
<i>Hygrophila schulli</i> (Buch.-Ham.) M.R. & S.M. Almeida	Herb	Vayal chully	Acanthaceae	-	-	Kurichia, Kuruma
<i>Ixora coccinea</i> L.	Shrub	Thetty	Rubiaceae	Leaf	Bathing in water boiled with leaves cures itching	Kuruma, Adiyar
<i>Justicia gendarussa</i> Burm. f.	Shrub	Vathamkolly	Acanthaceae	Leaf	The leaves of <i>Hydrocotyle javanica</i> Thunb., <i>Justicia gendarussa</i> Burm. f., and <i>Pterospermum rubiginosum</i> Heyne ex Wight & Arn. grinded and the juice is used to prepare decoction to cure rheumatism	Kurichia, Adiyar
<i>Kalanchoe pinnata</i> (Lam.) Pers.	Herb	Elamulachi	Crassulaceae	Leaf	The leaf paste is applied externally on wounds	Kurichia, Kuruma
<i>Lobelia nicotianifolia</i> Roth exRoem. & Schult. Var. <i>trichandra</i> (Wight) Clarke	Shrub	Kattupukayila.	Lobaliaceae.	Root	The root paste is applied externally to cure old wound (Kills Maggot)	Kurichia, Kattunaika
<i>Mangifera indica</i> L.	Tree	Mavu	Anacardiaceae	Bark	The leaf paste is mixed with coconut oil relieves itching	Kurichia

Table 1. Contd.

<i>Maranta arundinaceae</i> L.	Herb	Kattukoova	Marantaceae	Tuber	The underground part of this plant ground with jaggary is taken internally to improve body vigour	Kurichia
<i>Memecylon umbellatum</i> Burm.f.	Shrub	Kasavu	Melastomataceae	Leaf	The leaf powder is hypoglycemic	Kurichia
<i>Mimosa pudica</i> L.	Herb	Thottavady	Mimosaceae	Leaf	The leaf paste is applied externally over wounds.	Kurichia
<i>Momordica dioica</i> Roxb.ex.Willd	Herb	Kattukaipa	Cucurbitaceae	Leaf	1. The leaf juice mixed with goat milk is taken internally to remove kidney stone.2. The fruit of this plant is ground with the fruit of <i>Citrus maxima</i> (Burm.f.) Merr., <i>Citrus limon</i> (L.) Burm.f., the bark of <i>Pterospermum rubiginosum</i> Heyne ex Wight & Arn.and the seeds of <i>Eleusine coracana</i> (L.) Gaertn. and applied externally on fractured part of the body	Kurichia, Kattunaika
<i>Mucuna pruriens</i> (L.) DC.var. <i>pruriens</i>	Climber	Naikkurana.	Fabaceae	Whole plant	The plant is crushed in to a paste and applied on the body ectoparasites in cattle	Kurichia, Paniya
<i>Persea macrantha</i> (Nees) Kosterm.	Tree	Kulirmavu	Lauraceae	Bark	The bark of this plant is grinded with the leaves of <i>Clematis gouriana</i> Roxb. Ex DC. , <i>Cassia tora</i> L., <i>Eclipta prostrata</i> (L.) L., <i>Mimosa pudica</i> L. and <i>Cassia tora</i> L.and applied on the fore head to relieve head ache	Kurichia
<i>Plectranthus wightii</i> Benth.	Herb	Murikootty, Iruvely	.Lamiaceae	Leaf	The leaf paste mixed with turmeric powder and salt is applied externally on wounds	Kurichia
<i>Plumeria rubra</i> L.	Tree	Kattuchembakam.	Apocynaceae	Bark	The bark paste is applied on the affected part of the Skin externally to cure skin diseases	Kurichia
<i>Polygonum chinense</i> L.	Scandent shrub	Cheranvally	Polygonaceae	Leaf	The leaf paste is applied externally on the skin to cure skin diseases	Kurichia

Table 1. Contd.

<i>Psidium guajava</i> L.	Tree	Pera	Myrtaceae	Leaf,	The leaves of this plant is are ground with turmeric and taken orally to cure abdominal pain	Kurichia, Paniya, Kuruma
<i>Pterocarpus marsupium</i> Roxb.	Tree	Venga.	Fabaceae	Bark	The crushed bark juice drinking cures filariasis	Kurichia, kuruma
<i>Pterospermum rubiginosum</i> Heyne ex Wight & Arn.	Tree	Idinjil	Sterculiaceae	Bark	The bark of idinjil and the eaves of <i>Aloe vera</i> L. are ground mixed with egg white and applied externally on sprained part of the body	Kurichia, Paniya, Kattunaika, Adiyana
<i>Ricinus communis</i> L.	Shrub	Avanak.	Euphorbiaceae	Young leaf	The leaf paste is mixed with milk and apply on the fore head against head ache	Kuruma
<i>Ruta graveolens</i> L. var. <i>angustifolia</i> Hook.f.	Shrub	Arootha.	Rutaceae	Flower	The ground flower paste is applied thickly over the snake bitten part to absorb poison	Kuruma
<i>Scoparia dulcis</i> L.	Herb	Kallurukki	Scrophulariaceae	Root	Hot infusion of ground root is taken orally for kidney stone	Kurichia, Kattunaika
<i>Solanum torvum</i> Sw.	Shrub	Putharichunda.	Solanaceae	Leaf	The leaf paste is applied externally over wounds	Kurichia, Paniya, Kattunaika, Adiyana
<i>Solenocarpus indicus</i> Wight & Arn.	Tree	Kattambazham	Anacardiaceae	Bark, Fruit	The bark and the fruits of Kattambazham are ground with the bark of <i>Bischofia javanica</i> Blume, the leaves of <i>Cynodon dactylon</i> (L.) Pers., and the bark of <i>Bridelia scandens</i> (Roxb.) Willd. The juice is taken orally to cure ulcer	Kurichia, Paniya
<i>Spilanthes calva</i> DC.	Herb	Palluvethanappoovu	Asteraceae	Flower	Chewing the flower cures tooth ache	Kurichia
<i>Tabernaemontana heyneana</i> Wall.	Tree	Kokkappala.	Apocynaceae	Bark	Chewing gently heated stem bark of this plant reduces tooth ache	Kuruma.
<i>Tectona grandis</i> L.f.	Tree	Thekku	Verbinaceae	Tender leaf	The tender leaves are cut in to small pieces, fried in coconut oil and applied externally on fingers with paronychia	Kurichia

Table 1. Contd.

<i>Terminalia bellerica</i> (Gaertn.) Roxb.	Tree	Thanni	Combretaceae	Bark	The ground bark is given orally to dogs having abdominal pain	Kurichia, Paniya
<i>Vanda roxburghii</i> R. Br.	Orchid	Maravazha.	Orchidaceae	leaf	The juice spelled from heated leaves is used as an ear drop during ear ache	Kuruma, Kurichia
<i>Vernonia cinerea</i> (L.) Less.	Herb	Poovamkurunnel.	Asteraceae	Whole plant	The plant paste smearing cures head ache and joint pain.	Kuruma, Adiyam
<i>Wrightia tinctoria</i> (Roxb.) R. Br.	Tree	Dentappala.	Apocynaceae	Bark, Leaf	The mixed bark and leaf paste of this plant is used as a medicine for tooth ache.	Kuruma, Paniya
<i>Zingiber zerumbet</i> (L.) J.E. Smith	Herb	Kattingi, Malainchi	Zingiberaceae	Rhizome	The ground rhizome is applied externally on the infected skin	Kurichia, Kuruma, Adiyam.

Table 2. A comparative analysis of plants used by the various tribes of the study area.

Ailment	The plants used by the tribes				
	Kurichia	Kuruma	Kattunaika	Adiyam	Paniya
Wound	<i>Adenostemma lavenia</i> , <i>Ageratum conyzoides</i> , <i>Cissus discolor</i> , <i>Solanum torvum</i> , <i>Plectranthus</i> , <i>Mimosa pudica</i> , <i>Kalanchoe pinnata</i>	<i>Cissus discolor</i> , <i>Kalanchoe pinnata</i>	<i>Ageratum conyzoides</i> , <i>Elephantopus scaber</i> , <i>Solanum torvum</i>	<i>Solanum torvum</i>	<i>Ageratum conyzoides</i> , <i>Solanum torvum</i>
Asthma	<i>Adhatoda vasica</i> , <i>Hydrocotyle javanica</i>	<i>Adhatoda vasica</i>	-	-	-
Hair fall	<i>Abrus precatorius</i>	<i>Abrus precatorius</i>	-	-	-
Jaundice	<i>Amorphophallus paeoniifolius</i>	-	-	-	-
Tooth ache	<i>Ardisia solanacea</i>	<i>Ardisia solanacea</i> , <i>Wrightia tinctoria</i>	-	-	<i>Wrightia tinctoria</i>
Abdominal pain	<i>Artemisia nilagarica</i> , <i>Briedelia scandens</i>	<i>Artemisia nilagarica</i>	<i>Artemisia nilagarica</i> , <i>Briedelia scandens</i>	-	<i>Artemisia nilagarica</i>

Table 2. Contd.

Piles	<i>Artocarpus hirsutus</i>	-	-	-	-
Skin diseases	<i>Bischofia javanica, Briedelia scandens, Caesalpinia crista, Callicarpa tomentosa, Cassia tora, Zingiber zerumbet, Polygonum chinense, Plumeria rubra, Mangifera indica, Glycosmis pentaphylla</i>	<i>Briedelia scandens, Callicarpa tomentosa, Zingiber zerumbet, Cassia tora, Caesalpinia crista</i>	-	<i>Bischofia javanica, Zingiber zerumbet, Glycosmis pentaphylla</i>	-
Fever, cold, cough	<i>Artemisia vulgaris</i>	<i>Artemisia vulgaris</i>	-	-	-
Mastitis	<i>Azadirachta indica</i>	-	<i>Azadirachta indica</i>	-	<i>Azadirachta indica.</i>
Boils and abscesses	<i>Cardiospermum halicacabum</i>	<i>Cardiospermum, halicacabum</i>	-	-	-
Foot and mouth disease of cattles	<i>Careya arborea</i>	<i>Careya arborea</i>	-	-	<i>Careya arborea</i>
Tonsillitis	<i>Cassia fistula</i>	<i>Cassia fistula</i>	-	-	-
Swelling body after delivery	<i>Centratherum anthelminticum</i>	-	-	<i>Centratherum, anthelminticum</i>	-
Dog bite	-	<i>Clerodendrum serratum</i>	-	-	-
Toothache	<i>Coccinia grandis, Spilanthes calva.</i>	<i>Tabernaemontana heyneana</i>	<i>Coccinia grandis</i>	-	-
Leucorhea.	<i>Cocos nucifera, Ensete superbum</i>	<i>Ensete superbum</i>	-	<i>Cocos nucifera</i>	-
Respiratory disorders.	<i>Coleus ambonicus, Derris scandens</i>	<i>Coleus ambonicus</i>	<i>Derris scandens</i>	-	-
Burns	<i>Cucumis prophetarum, Cucurbita maxima</i>	-	-	<i>Cucumis prophetarum, Cucurbita maxima</i>	-
Whitlow	<i>Cucumis prophetarum</i>	<i>Cucumis prophetarum</i>	-	-	-
Dysentery	<i>Cyperus kyllingia</i>	<i>Cyperus kyllingia</i>	<i>Cyperus kyllingia</i>	-	<i>Cyperus kyllingia</i>

Table 2. Contd.

Spider poison	<i>Emilia sonchifolia</i>	-	-	-	-
Urinary troubles	<i>Ensete superbum, Ardisia solanacea</i>	<i>Ensete superbum, Ardisia solanacea</i>	-	-	-
Headache	<i>Glycosmis pentaphylla</i>	<i>Glycosmis pentaphylla</i>	-	-	-
Ear pain	<i>Vanda roxburghii</i>	<i>Vanda roxburghii</i>	-	-	-
Ulcer	<i>Solenocarpus indicus</i>	<i>Solenocarpus indicus</i>	-	-	-
Kidney stone	<i>Scoparia dulcis, Hygrophila schulli</i>	<i>Scoparia dulcis, Hygrophila schulli</i>	-	-	-
Snake bite	-	<i>Ruta graveolens</i>	-	-	-
Diabetics	<i>Memecylon umbellatum</i>	-	-	-	-
Rheumatism	<i>Justicia gendarussa</i>	-	-	<i>Justicia gendarussa</i>	-

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