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A Note on Some Forest-based Ethnomedicinal

Plants used for the Treatment of Gastro-Intestinal Disorders in Jhargram district, West Bengal, India

The local people of remote areas of Jhargram district mainly depend on traditional knowledge of medicinal plants to cure stomach disorders. The present study provides ethnomedicinal information in different tribal areas of Jhargram district. The field study was carried out from December 2018-February 2020. A total of 52 informants were selected from different village areas of Jhargram district for collecting the valuable information about 81 ethnomedicinal plants belonging to 52 families used in the treatment of various gastro-intestinal disorders such as diarrhoea, dysentery and blood dysentery etc. This paper highlights the medicinal uses of different plant parts and various modes of administration of herbal drugs and sustainable utilization of plants.

Key words: Gastro-intestinal disease, Ethnomedicinal plants, Traditional knowledge, Jhargram district

Focus on the ethnomedicinal plants used for the treatment of stomach disorders.

Introduction

Jhargram is a district in the state of West Bengal, India. It was formed on 4 April 2017, after splitting from the Paschim Medinipur district as the 22nd district of West Bengal covering an area of 3037.64 km^2. It is situated in south west corner of the West Bengal, lying between 22.45º North and 86.98º East longitude and sharing borders with neighbouring states of Jharkhand and Odisha. The total population of the district is 11,36,548 as per 2011 census. About of 96.52% population lives in rural area and 3.48% population lives in urban areas of Jhargram district. Out of the total population 20.11% is scheduled castes and 29.37% is scheduled tribes.

Jhargram Forest Division is very rich in ethno medicinal plant and it is found that 96 plant species are used to treat veterinary disorders (Pandit, 2010) and 90 plants are used to treat 'Gynaecological disorders' by tribal people (Pandit and Bhakat, 2009). There are total 85 Non Timber Forest Produces collected by Forest dwellers which belongs to 38 families, 56 genus and 64 species from Jhargram Forest Division (Pandit, 2011).

The present study deals with the most of the local tribal peoples suffering from gastro-intestinal disorders like stomachache, constipation, dyspepsia, indigestion, vomiting, diarrhoea, dysentery and blood dysentery etc. and to treat these ailments with plants. The tribal people of this area are very poor and basically depend on these medicinal plants as a source of medicine for curing various gastro-intestinal disorders.

Material and Methods

The extensive field survey was conducted on December 2018 to February 2020 in different village areas of Jhargram district, following the standard method described by Jain (1991); Dutta *et al.*, 2020. Firstly, the local people were befriended to create confidence and credibility about the survey as they do not divulge the secrets of traditional medicine to

SOMA DUTTA DAS[1], RAM KUMAR BHAKAT[2], PIJUSH KANTI DAS[3] AND PRASANTA KUMAR PANDIT
Sadhu Ram Chand University of Jhargram, West Bengal.
E-mail: pkpandit60@gmail.com

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[1]Centre for Life Sciences, Vidyasagar University, West Bengal
[2]Ecology and Plant Taxonomy Laboratory, Department of Botany and Forestry, Vidyasagar University, Midnapore-721102, West Bengal
[3]Department of Botany, Uluberia College (University of Calcutta), Uluberia, Howrah-711315, West Bengal

outsider. A total of 52 informants were selected from different village areas for collecting the information about traditional knowledge of ethnomedicinal plants. Ethnomedicinal information was gathered through oral interview and standard questionnaires' were used during data collection (Table 1).

Tribal medicine men explained the detailed information about ethnomedicinal plants, their local name, time of collection, usable plant parts, medicinal uses, method of medicine preparation, different doses and duration, mode of administration and combination with other plants. The ethnomedicinal data thus collected, verified and cross checked by different tribal communities and also cross checked the information by different informants of the same tribal community and finally verified with the help of available published literature (Pal and Jain, 1989; Bhakat and Pandit, 2003; Pakrashi and Mukhopadhya, 2004; Paria, 2005; Bandyopadhyay and Mukherjee, 2005; Bandyopadhyay and Mukherjee, 2006; Das and Mondal, 2009; Upadhya *et al*., 2009; Siddhartha and Mukherjee, 2010; Das, 2015; Bhakat and Sen, 2018; Dutta, 2018; Mohammad *et al.*, 2018).

The ethnomedicinal plant species were identified with their local name, the photographs and all the plant species were collected for the preparation of herbarium specimen. Voucher specimen were prepared following the conventional methods and deposited in the Botany department Herbarium of the Vidyasagar University, West Bengal, India. Most of the plants were scientifically identified on the “spot identification” basis; herbarium were prepared and identified through relevant flora and literature and validity of the correct scientific name; author citation and family names were confirmed using www.theplantlist.org and https://indiabiodiversity.org.

Results and Discussion

The present study highlights a total of 81 medicinal plants species belonging to 78 genera under 52 families of angiosperms were used by the tribal men to treat various types of gastro-intestinal disorders like stomachache, indigestion, constipation, dyspepsia, dysentery, diarrhoea and vomiting. During survey it was revealed that tree represents highest (27) species, followed by herbs (24) species, shrubs (20) species, climbers (8) species, and grasses (2) species (Fig. 1). Plant parts such as leaves, root, tuber, seeds, fruits, flower, bark and stem used for the preparation of traditional drugs is depicted in Fig. 2. The tribal medicine men used various methods of preparation of drugs such as decoction, crushing, powder, fresh juice, paste, plant extract, pills and mixture with other ingredients (Fig. 3). Generally these people used black pepper, long pepper, salt and sugar for the combination of medicine. These traditional healers used various units of measurement

Table 1: Questionnaires used during field survey

Parameter	Information	Questions
Informants details	Name- Gender- Age- Occupation- Education- Village name-	Which plants is used for treatment of different types of gastro-intestinal disorders? Which part of the plant is used to treat in different types of gastro-intestinal disorders? How plant material is used as fresh or preserved conditions? Name of the different ingredients for preparation of medicine. How to prepare in different forms of medicine? How is the mode of administration of medicine for various types of gastro-intestinal disorder? What are actual doses and durations of medicine for treatment of various types of gastro-intestinal disorders?

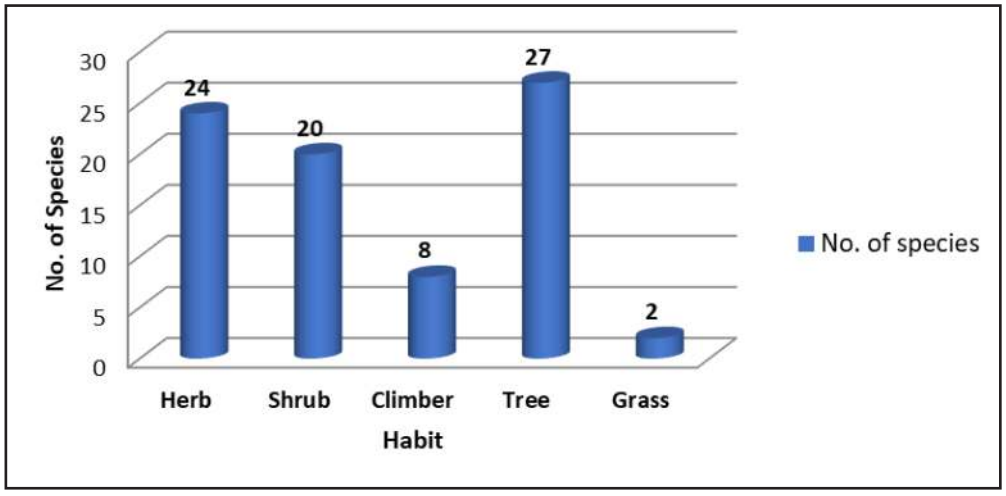

Fig. 1: Habit wise distribution of plants

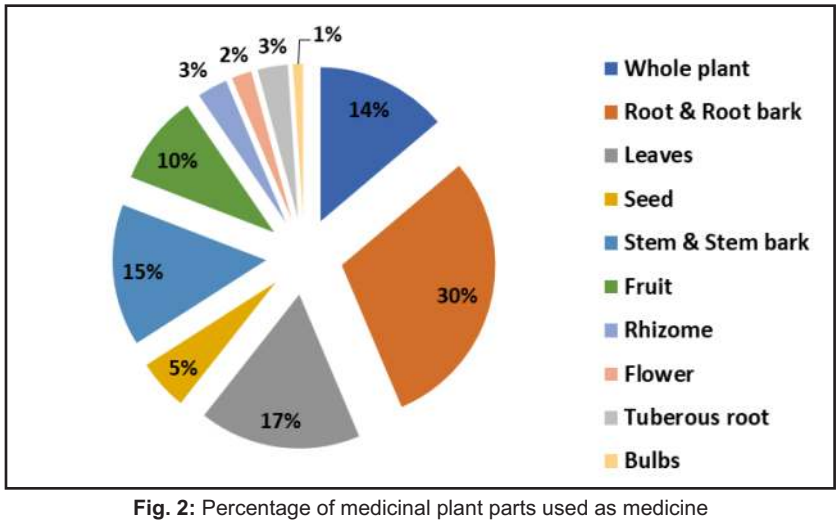

Fig. 2: Percentage of medicinal plant parts used as medicine

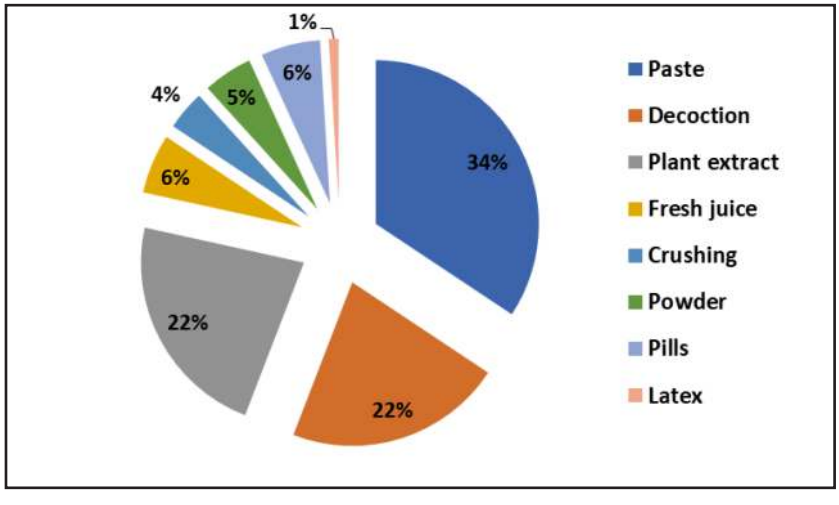

Fig. 3: Different forms of medicines used

like finger length, numbers, pinch, spoon, a glass, cup to estimate the actual doses of medicine. Among the 46 families, the most dominant family is Fabaceae representing the highest 8 species. Then Asclepiadaceae, Asteraceae, Combretaceae, Euphorbiaceae, Lamiaceae, Ramnaceae and Rutaceae represent 3 species each. Then Amaranthaceae, Lecythidaceae, Malvaceae, Meliaceae, Menispermaceae, Rubiaceae, Sterculiaceae and Zingiberaceae contribute 2 species each. Then Acanthaceae, Apiaceae, Apocynaceae, Aristolochiaceae, Asparagaceae, Bombacaceae, Boraginaceae, Burseraceae, Capparaceae, Cleomaceae, Convolvulaceae, Costaceae, Cucurbitaceae, Cyperaceae, Dipterocarpaceae, Ebenaceae, Lauraceae, Liliaceae, Lythraceae, Moraceae, Moringaceae, Musaceae, Nelumbonaceae, Nymphaeaceae, Ochnaceae, Oleaceae, Phyllanthaceae, Piperaceae, Poaceae, Polygalaceae, Scrophulariaceae, Smilacaceae, Tiliaceae, Verbenaceae, Violaceae, Xanthorrhoeaceae contribute 1 species each. The study also records parts-wise uses and mode of administration in herbal medicine (Table 2). Plant parts root and root bark paste are used to treatment dyspepsia, stomach pain, diarrhoea, dysentery, indigestion and gastritis which are documented in Table 2. The maximum no. of plants (36 species) used for the treatment of diarrhoea, then dysentery (33 species), stomach pain (29 species), dyspepsia (18 species), indigestion (12 species), blood dysentery (9 species), vomiting (7 species), constipation (6 species) and stomach problem (5 species) (Table 3).

Conclusion

The present study reveals that the traditional knowledge of medicinal plants and preparation of herbal drugs are used for the treatment of gastro-intestinal disorders in tribal areas of Jhargram district. Tribal people still depend on indigenous traditional knowledge

Table 2: List of ethno medicinal plants used for the treatment of gastro-intestinal disorders in various village areas of Jhargram district

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
1.	*Abrus precatorius* L.	Kunch, Lal kunch (Bengali), Ked, Ara-Keed, Kawet (Santali)	Fabaceae	Climber	Fresh leaves juice is given to cure stomach ache; leaves paste applied on abdomen to cure dyspepsia.	S. D. Das VUBOT131
2.	*Abutilon indicum* (L.) Sweet	Petari, Atibala, Mirubaha (Santali)	Malvaceae	Under Shrub	Seed paste with honey used to cure dysentery.	S. D. Das VUBOT004
2.	*Achyranthes aspera* L.	Apang (Bengali) Apamarga, Chitchite (Lodha), Buridantram (Santali)	Amaranthaceae	Herb	Entire plant paste mixed with few drops of honey used to cure dyspepsia and dysentery. Root paste mixed with paste of Golmorich (*Piper nigrum*) seeds and pinch of common salt is to cure stomach pain.	S. D. Das VUBOT132
4.	*Aegle marmelos* (L.) Corrêa	Bel (Bengali)	Rutaceae	Tree	Pulp of unripe fruits used to cure dysentery and diarrhoea; pulp of ripe fruits is given to cure constipation and gastro-intestinal disorders.	S. D. Das VUBOT006
5.	*Aerva lanata* (L.) Juss.	Chaldhowa (Bengali) Chaya, Lopong-ara (Santali)	Amaranthaceae	Herb	Whole plant mixed with twig of Apang (*Achyranthes aspera*) and root of *Ficus benghalensis* paste together and added sugar is given to treatment indigestion; whole plant extract used for diarrhoea, indigestion and abdominal pain. Fresh root mixed with a root of Kodalia (*Desmodium triflorum*) paste together and made into pills used to cure diarrhoea.	S. D. Das VUBOT133
6.	*Ageratum conyzoides* (L.) L.	Dochunti, Uchunti (Bengali)	Asteraceae	Herb	Decoction of whole plant is given to cure dysentery and diarrhoea	S. D. Das VUBOT005
7.	*Aloe vera* (L.) Burm.f.	Ghritakumari (Bengali)	Xanthorrhoeaceae	Herb	Juice extract of leaves and whole plant used to cure constipation, diarrhoea, indigestion, dysentery and stomach disorder.	S. D. Das VUBOT007
8.	*Andrographis paniculata* (Burm.f.) Nees	Kalmegh (Beng.); Bhui-nimb (Lodha), Kanri-buru (Santali)	Acanthaceae	Herb	Dried whole plant overnight soaked with water, the water is given at early morning in empty stomach to cure stomach pain, stomach disorder and improve digestive system; whole plant paste mixed with paste of 6 to 7 pieces of Black pepper (*Piper nigrum*) seeds and pinch of common salt made into pills is to cure stomach pain. Dried leaves with 50 gm Ajwan (*Trachyspermum ammi*), 50 gm of Dhane (*Coriendum sativum*) seeds and seeds of Somraj (*Vernonia anthelminticum* (L.) Willd.) and pinch of common salt mixed together and made in to powder form used for indigestion, one table spoon ones a day after mill.	S. D. Das VUBOT134
9.	*Aristolochia indica* L.	Iswarmul, Ishermul (Bengali), Jhunkagad (Munda) Bhedi janetet (Santali)	Aristolochiaceae	Twining herbs	Fresh root paste mixed with black pepper (*Piper nigrum*) seeds and common salt is given to cure stomach pain.	S. D. Das VUBOT136
10.	*Asparagus racemosus* Willd.	Satamul, Satmuli (Bengali), Gai-sira (Santali)	Asparagaceae	Under Shrub	Tuber root crushed with water used for cure blood dysentery and stomach pain.	S. D. Das VUBOT137
11.	*Azadirachta indica* A.Juss.	Neem, Nim (Bengali), Bakom-dare (Santali)	Meliaceae	Tree	Aqueous extract of fresh leaves is used to cure stomach problem.	S. D. Das VUBOT009

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
12.	*Barringtonia acutangula* (L.) Gaertn	Hijal (Bengali and Santali)	Lecythidaceae	Tree	Fresh leaves extract is given to treatment of diarrhoea.	S. D. Das VUBOT010
13.	*Bombax ceiba* L.	Semul, Shimul, Salmali (Bengali), Simul-dare (Santal)	Bombacaceae	Tree	Leaves paste with black pepper (*Piper nigrum*) seeds and common salt mixed together and made into pills used to cure diarrhoea; leaves decoction used to cure stomach problem.	S. D. Das VUBOT008
14.	*Byttneria herbacea* Roxb.	Kamraj (Bengali), Kaura (Lodha), Dikjhu sindur (Santali)	Sterculiaceae	Herb	Root paste used to cure diarrhoea.	S. D. Das VUBOT139
15.	*Calotropis gigantea* (L.) Dryand.	Akanda (Bengali), Akayana, Ahauna (Santali)	Asclepiadaceae	Shrub	Root paste mixed with paste of garlic (*Allium sativum)* and black pepper (*Piper nigrum*) seeds are given to cure stomach pain.	S. D. Das VUBOT140
16.	*Capparis zeylanica* L.	Rohini, Hingshra, Asria (Santali), Bagnai, Kalikera, Kakadoni (Lodha)	Capparaceae	Climbing Shrub	Root bark decoction used for cure dyspepsia	S. D. Das VUBOT141
17.	*Careya arborea* Roxb.	Kumbhi, Kambi. Asta, kumb (Santali)	Lecythidaceae	Tree	Stem bark extract used for treatment of dysentery.	S. D. Das VUBOT142
18.	*Catunaregam spinosa* (Thunb.) Tirveng. (syn. *Randia spinosa* (Thunb.) Poir.)	Maniphal (Bengali), Kshudikarhar (Munda), Loto (Santali).	Rubiaceae	Small tree	Root paste of with paste of Long pepper *(Piper longum*) and Turmeric (*Curcuma longa*) used to treatment of stomach pain and stomach ulcers.	S. D. Das VUBOT120
19.	*Centella asiatica* (L.) Urb.	Thankuni, Thalkuri (Bengali), Sadang-khura (Santali)	Apiaceae	Herb	Whole plant extract used to cure dysentery and diarrhoea. Leaves decoction used for cure constipation, indigestion and dysentery.	S. D. Das VUBOT111
20.	*Ceriscoides turgida* (Roxb.) Tirveng. (syn. *Gardenia turgida* Roxb.)	Gurman, Dandou kit (Santali)	Rubiaceae	Small Tree	Whole plant extract used to cure dysentery and diarrhoea.	S. D. Das VUBOT122
21.	*Citrus limon* (L.) Osbeck	Jamir, Gonra lebu (Bengali and Santali)	Rutaceae	Small tree	Ripe fruit juice used to cure dysentery, indigestion, constipation, and vomiting and stomach pain.	S. D. Das VUBOT121
22.	*Cleome viscosa* L. (syn. Cleome icosandra L.)	Hurhuria, Hade Hurhuia (Bengali)	Cleomaceae	Herb	Leaves extract used to cure diarrhoea and blood dysentery.	S. D. Das VUBOT112
23.	*Coccinia grandis* (L.) Voigt (syn *C. indica* Wight & Arn.)	Ban Kundri (Bengali)	Cucurbitaceae	Climber	Tuberous root used to treat stomach pain.	S. D. Das VUBOT123
24.	*Cocculus hirsutus* (L.) W.Theob.	Chilihint, Huyur, Jaljamini	Menispermaceae	Climber	Root extract with water is taken to cure stomach pain and diarrhoea.	S. D. Das VUBOT114
25.	*Coleus barbatus* (And.) Benth.	Pashanbhedi (Bengali)	Lamiaceae	Herb	Tuberous root paste is given to children for cure constipation.	S. D. Das VUBOT113
26.	*Costus speciosus* (Koin.) Sm.	Kenw, Kemuk, Orop (Santali)	Costaceae	Rhizomatous herb	Rhizome used for cure dyspepsia.	S. D. Das VUBOT147
27.	*Crotalaria pallida* Aiton	Jhunjhunia (Bengali)	Fabaceae	Shrub	Root extract used to cure stomach pain and diarrhoea.	S. D. Das VUBOT124
28.	*Croton persimilis* Müll. Arg. (syn. Croton roxburghii N.P. Balakr.)	Putla, Putla-daru (Santali)	Euphorbiaceae	Tree	Root paste with paste of black pepper, zinger, cumin seed, ajowan mixed together and made into pills used to cure stomach pain and gastritis.	S. D. Das VUBOT116
29.	*Curcuma longa* L.	Halud, Haldi (Bengali)	Zingiberaceae	Rhizomatous herb	Fresh rhizome extract mixed with honey and black pepper seed powder used to cure diarrhoea.	S. D. Das VUBOT125
30.	*Cynodon dactylon* (L.) Pers.	Durba, Dhugi ghas (Santali)	Poaceae	Grass	Whole plant (grass) extract used to treatment of diarrhoea and dysentery.	S. D. Das VUBOT115

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
31.	*Cyperus rotundus* L.	Mutha (Bengali and Santali)	Cyperaceae	Grass	Decoction of fresh root used for cure stomach disorder, diarrhoea, indigestion and dysentery.	S. D. Das VUBOT190
32.	*Desmodium triflorum* (L.) DC.	Kodalia (Bengali)	Fabaceae	Herb	Whole plant paste made into pills used for cure blood dysentery and diarrhoea.	S. D. Das VUBOT117
33.	*Diospyros melanoxylon* Roxb.	Kend, Terel (Santali)	Ebenaceae	Tree	Stem bark decoction is used to treatment of diarrhoea, dysentery and dyspepsia.	S. D. Das VUBOT191
34.	*Ehretia laevis* Roxb.	Tamboli, Pushipan, Dangua-pan (Santali)	Boraginaceae	Tree	Fresh leaves juice is given to cure dysentery.	S. D. Das VUBOT225
35.	*Elephantopus scaber* L.	Deshigajban, Samdulum, Mejurjhuti (Santali)	Asteraceae	Herb	Root paste mixed with salt, sugar and paste of black pepper seeds made into pills used for cure dysentery and blood dysentery.	S. D. Das VUBOT149
36.	*Erythrina variegata* L.	Palte madar, Kanta Madar (Lodha), Tepalte madar, Marar baha (Santali)	Fabaceae	Small Tree	Stem bark extract mixed with lime juice and a pinch of table salt used for cure dysentery, diarrhoea, stomach pain and dyspepsia.	S. D. Das VUBOT222
37.	*Ficus racemosa* L. (syn. *Ficus glomerata* Roxb.)	Jaggyadumur (Bengali), Pipal, Loa (Santali)	Moraceae	Tree	Fresh root decoction used for cure dysentery.	S. D. Das VUBOT221
38.	*Flemingia macrophylla* (Willd.) Merr.	Ghora chabuk, Kussunt bara salpan, Simbusak (Santali).	Fabaceae	Shrub	Root paste used to cure diarrhoea.	S. D. Das VUBOT230
39.	*Glycosmis pentaphylla* (Retz.) DC.	Ban jamir, Ashseora (Bengali and Santali)	Rutaceae	Shrub	Root decoction used for cure dyspepsia.	S. D. Das VUBOT153
40.	*Grewia helicterifolia* Wall. ex G.Don	Kukuraru, Matha-dare, Kukurbicha, Seta andir (Santali)	Tiliaceae	Shrub	Fruit paste mixed with a pinch of table salt used for cure diarrhoea. Root decoction or paste used for cure dysentery.	S. D. Das VUBOT154
41.	*Helicteres isora* L.	Atmora, Gamochra, Pet chamra (Santali)	Sterculiaceae	Large shrub	Stem bark decoction used to cure dysentery and diarrhoea. Fruit decoction mixed with common salt used to cure stomach pain. Ripe fruits boiled with mustard oil, oil gently rubbed on abdomen to cure stomach pain for children	S. D. Das VUBOT227
42.	*Hemidesmus indicus* (L.) R. Br. ex Schult.	Anantamul, Anal-sing, Dudhinari (Santali)	Asclepiadaceae	Climbing Shrub	Leaves paste is taken to cure stomach pain. Root decoction used to cure dyspepsia, nausea, vomiting and diarrhoea.	S. D. Das VUBOT156
43.	*Hibiscus rosa-sinensis* L.	Jaba (Bengali and Santali)	Malvaceae	Shrub	Leaves decoction mixed with sugar and a pinch of common salt used to cure stomach pain.	S. D. Das VUBOT224
44.	*Holarrhena pubescens* Wall. ex G.Don	Indrajab, Kurchi (Lodha), Hat (Santali)	Apocynaceae	Tree	Stem bark decoction used for cure leaves decoction is taken to cure diarrhoea. Root paste with water is taken to cure stomach pain.	S. D. Das VUBOT157
45.	*Hybanthus enneaspermus* (L.) F.Muell.	Nunbora (Santali)	Violaceae	Herb	Whole plant extract used to cure vomiting and dysentery.	S. D. Das VUBOT228
46.	*Jatropha gossypiifolia* L.	Lal verenda (Bengali)	Euphorbiaceae	Shrub	Latex mixed with sugar used for cure dysentery.	S. D. Das VUBOT229
47.	*Litsea glutinosa* (Lour.) C.B.Rob.	Piplus, Kukurchita (Bengali), Garur, poj, Leda (Santali)	Lauraceae	Tree	Leaves decoction mixed with sugar and common salt used to cure dysentery. Stem bark extract used to cure diarrhoea and dysentery.	S. D. Das VUBOT165
48.	*Mallotus nudiflorus (*L.*)* Kulju & Welzen (syn. *Trewia nudiflora* L.)	Pituli, Gambhar, Jal Gambhar (Bengali and Santali)	Euphorbiaceae	Tree	Stem bark paste with paste of *Elephantopus scaber* root and root of *Asparagus racemosus* and black pepper mixed together made into pills used for cure blood dysentery.	S. D. Das VUBOT060

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
49.	*Merremia tridentata* (L.) Hallier f.	Prasarani (Bengali), Daru jamjuri (Santali)	Convolvulaceae	Herb	Whole plant extract mixed with paste of black pepper and cumin seeds used for cure gastric problem and stomach pain.	S. D. Das VUBOT169
50.	*Moringa oleifera* Lam.	Sajina (Bengali)	Moringaceae	Tree	Dried seed powder mixed with warm water used for cure indigestion.	S. D. Das VUBOT183
51.	*Musa paradisiaca* L.	Kala	Musaceae	Herb	Root extract given two days for cure diarrhoea.	S. D. Das VUBOT185
52.	*Nelumbo nucifera* Gaertn.	Padma (Bengali), Upal (Santali)	Nelumbonaceae	Aquatic herb	Rhizome extract of red flower plant used for blood dysentery and vomiting.	S. D. Das VUBOT187
53.	*Nyctanthes arbor-tristis* L.	Seuli, Sephali (Beng); Chirata, Saparom (Santal and Lodha)	Oleaceae	Tree	Stem bark extract with lemon juice with common salt and sugar used to treat dysentery and blood dysentery.	S. D. Das VUBOT066
54.	*Nymphaea alba* L.	Swetshaluk (Beng), Paraini (Santali)	Nymphaeaceae	Aquatic herb	Root and stalk paste with paste of long pepper used to treatment of vomiting, diarrhoea and dysentery.	S. D. Das VUBOT069
55.	*Ochna obtusata* DC.	Champa baha, Simalkata, Kedar (Santali)	Ochnaceae	Shrub	Stem bark decoction used for cure indigestion.	S. D. Das VUBOT065
56.	*Ocimum tenuiflorum* L.	Krishna tulsi, Kalo tulasi (Bengali)	Lamiaceae	Shrub	Fresh leaves decoction is taken in empty stomach for treatment of constipation.	S. D. Das VUBOT048
57.	*Pergularia daemia* (Forssk.) Chiov.	Ajashringi, Chagalbati (Lodha and Santali)	Asclepiadaceae	Climber	Seed powder used to cure stomachache and dyspepsia.	S. D. Das VUBOT171
58.	*Phyllanthus emblica* L. (syn. *Emblica officinalis* Gaertn.)	Amlaki (Bengali), Meral (Santali)	Phyllanthaceae	Tree	Fruit with table salt is taken to cure dyspepsia and diarrhoea. Dried fruit powder mixed with Haritaki, Bahera and Kurchi mixed together made into powder forms used to cure stomach pain.	S. D. Das VUBOT172
59.	*Piper nigrum* L.	Golmorich (Bengali), Bulkhi (Santali)	Piperaceae	Climber	Seed powder used to cure stomachache and dyspepsia.	S. D. Das VUBOT067
60.	*Polygala crotalarioides* Buch.-Ham. ex DC.	Neel kantha, Lil kathi (Santali)	Polygalaceae	Herb	Root paste with paste of tuberous root of Satamul (*Asparagus racemosus*) and root paste of *Desigajban* (*Elephantopus scaber*) mixed together made into pills used to cure blood dysentery.	S. D. Das VUBOT059
61.	*Premna herbacea* Roxb.	Bhui kambal, Bhui jam (Bengali), Dikupatra, Kadamet (Santali)	Verbenaceae	Shrub	Root paste used as stomachache.	S. D. Das VUBOT031
62.	*Protium serratum* (Wall. ex Colebr.) Engl.	Armu, Gutgotya (Santali)	Burseraceae	Tree	Root bark paste with paste of long pepper used to cure stomach pain.	S. D. Das VUBOT042
63.	*Scoparia dulcis* L.	Ban dhane, Mithapata (Bengali)	Scrophulariaceae	Herb	Leaves decoction used for cure stomach trouble. Fresh twig paste with salt and sugar is given for cure diarrhoea. Whole plant extract is given to children for cure diarrhoea. Root paste used in diarrhoea and dysentery.	S. D. Das VUBOT002
64.	*Shorea robusta* Gaertn.	Sal, Sakhu, Sarjom (Munda and Santali)	Dipterocarpaceae	Tree	Seed paste used for cure diarrhoea.	S. D. Das VUBOT021
65.	*Smilax ovalifolia* Roxb. ex D.Don	Kumarika, Ramdatan, Atkir (Santali)	Smilacaceae	Climber	Root paste used to cure dysentery.	S. D. Das VUBOT174
66.	*Soymida febrifuga* (Roxb.) A. Juss.	Rahara (Bengali) Ruhinguning-daru (Santali)	Meliaceae	Tree	Stem bark paste mixed with paste of Long pepper *(Piper longum*) used to cure blood dysentery. Stem bark extract used for cure diarrhoea and indigestion problem.	S. D. Das VUBOT176

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
67.	*Spatholobus parviflorus* (DC.) Kuntze (syn. *Butea parviflora* Roxb.)	Bandolata (Bengali), Chihutlar (Lodha), Bandu (Santali)	Fabaceae	Climber	Stem bark decoction is taken to cure indigestion problem.	S. D. Das VUBOT177
68.	*Sphaeranthus indicus* L.	Shrabani (Bengali), Ghorkmundi, Chagulnadi, Murmuria, Bhui kadam, Belaunja (Santali)	Asteraceae	Herb	Whole plant extract used to treatment of dysentery, nausea and vomiting.	S. D. Das VUBOT178
69.	*Tamarindus indica* L.	Tentul (Bengali), Emli (Santali)	Fabaceae	Tree	Leaves used to cure dysentery, decoction of leaves with common salt used for cure dyspepsia. Smoked seed paste with latex of Lal verenda (*Jatropha gossypiifolia*) and added common salt used to treatment of diarrhoea and indigestion problem.	S. D. Das VUBOT032
70.	*Tephrosia purpurea* (L.) Pers.	Ban neel (Bengali), Anurida, Pilhari (Santali)	Fabaceae	Shrub	Root paste used for cure stomach pain. Root paste mixed with Long pepper *(Piper longum*) used to cure dyspepsia, diarrhoea and vomiting.	S. D. Das VUBOT023
71.	*Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.	Arjun (Bengali), Kanha, Kauha (Santali)	Combretaceae	Tree	Stem bark decoction with Kalmegh (*Andrographis paniculata*) leaves decoction used for indigestion problem; stem bark decoction used for treatment of dysentery and blood dysentery.	S. D. Das VUBOT179
72.	*Terminalia bellirica* (Gaertn.) Roxb.	Bahera, Behra, Lopong (Santali)	Combretaceae	Tree	Fruit with common salt used for cure dysentery and diarrhoea. Fruit with Haritaki (*Terminalia chebula*), Amlaki (*Phyllanthus emblica*) crushed together and overnight soaked with a glass of water is given at early morning in empty stomach to cure dyspepsia.	S. D. Das VUBOT180
73.	*Terminalia chebula* Retz.	Haritaki (Bengali), Rol (Santali)	Combretaceae	Tree	Fruit decoction with paste of black pepper used to cure dyspepsia. Dry fruit powder is taken in empty stomach to cure dyspepsia; fruit infusion used to treatment of dysentery and diarrhoea; fruits mixed with Bahera (*Terminalia bellirica*) and Amlaki (*Phyllanthus emblica*) crused together and soaked overnight with a glass of water is given at early morning in empty stomach to cure dyspepsia.	S. D. Das VUBOT181
74.	*Tinospora cordifolia* (Willd.) Miers	Gulancha, Gurchi	Menispermaceae	Climber	Stem bark decoction used to cure chronic diarrhoea, dysentery, dyspepsia and stomach pain.	S. D. Das VUBOT025
75.	*Urginea indica* (Roxb.) Kunth	Ban Piyaj (Bengali)	Liliaceae	Herb	Bulb paste mixed with a pinch of table salt used for cure diarrhoea.	S. D. Das VUBOT210
76.	*Ventilago denticulata* Willd.	Raktapita (Bengali)	Rhamnaceae	Climbing shrub	Root bark decoction used for cure stomach pain and dyspepsia.	S. D. Das VUBOT027
77.	*Vitex negundo* L.	Nishinda, Beguna, Sinduari (Santali)	Lamiaceae	Small Tree	Whole plant extract used as stomach pain.	S. D. Das VUBOT055
78.	*Woodfordia fruticosa* (L.) Kurz	Dhatki, Dawa, Dhai (Bengali), Dhaura, Dhowa, Dhainti, Ichak (Santali)	Lythraceae	Large shrub	Flower paste mixed with sugar and salt is given to cure dysentery.	S. D. Das VUBOT053
79.	*Zingiber officinale* Roscoe .	Ada (Bengali)	Zingiberaceae	Rhizomatous herb	Fresh rhizome with a pinch of common salt is given to cure dyspepsia.	S. D. Das VUBOT051

Sl. No.	Scientific name	Local name	Family	Habit	Ethnomedicinal uses (6)	Name of collector and Herbarium no.
80.	*Ziziphus nummularia* (Burm.f.) Wight & Arn.	Bhui kul, Bhubadari	Rhamnaceae	Shrub	Fruit used to cure stomach pain.	S. D. Das VUBOT036
81.	*Ziziphus oenoplia* (L.) Mill.	Shiakul	Rhamnaceae	Climbing shrub	Stem bark decoction with Long pepper *(Piper longum*) with common salt made into pills used to cure dysentery. Fruit with salt used for cure stomach pain.	S. D. Das VUBOT232

Table 3: No. of ethnomedicinal plants against gastro-intestinal disorders

Name of the diseases	No. of used species
Diarrhoea	36
Dysentery	33
Stomach pain	29
Dyspepsia	18
Indigestion	12
Blood dysentery	09
Vomiting	07
Constipation	06
Stomach problem	05

of medicinal plants for maintaining their health condition. It is the precious time to grow the awareness to the local as well as tribal people about medicinal properties of plants and also conservation of such species. Now-a-days many local or tribal people are selling a huge no. of different parts of medicinal plants to the *mahajan* or business man for profit and for this reason many valuable medicinal plant diversity is vanishing in the country-side. Hence, conservation and management strategies should be taken to protect the ethnomedicinal plants diversity and traditional knowledge of herbal drugs of the study area. And there is an urgent need of similar studies in other districts also.

झारग्राम जिला, पश्चिम बंगाल, भारत में जठराँत्रीय विकारों के उपचार के लिए उपयोग किए जाने वाले कुछ वन-आधारित जीवीय औषधिय पौधों पर एक नोट

सोमा दत्ता दास, राम कुमार भ्क्त, पीयूष कांति दास और
प्रशांत कुमार पंडित

सारांश

झारग्राम जिले के दूरस्थ क्षेत्रों के स्थानीय लोग मुख्य रूप से पेट के विकारों को ठीक करने के लिए औषधीय पौधों के पारंपरिक ज्ञान पर निर्भर हैं। वर्तमान अध्ययन झारग्राम जिले के विभिन्न आदिवासी क्षेत्रों में नृवंशविज्ञान संबंधी जानकारी प्रदान करता है। क्षेत्र अध्ययन दिसंबर 2018 से फरवरी 2020 तक किया गया था। झारग्राम जिले के विभिन्न ग्राम क्षेत्रों से कुल 52 सूचकों का चयन किया गया था, जो विभिन्न जठराँत्रीय विकारों के उपचार में उपयोग किए जाने वाले 52 परिवारों के 81 जातीय औषधीय पौधों के बारे में बहुमूल्य जानकारी एकत्र करने के लिए थे। जैसे दस्त, पेचिश और रक्त पेचिश आदि। यह पत्र विभिन्न पौधों के भागों के औषधीय उपयोग और हर्बल दवाओं के प्रशासन के विभिन्न तरीकों और पौधों के स्थायी उपयोग पर प्रकाश डालता है।

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