



# Medicinal Plants Used to Treat Gastrointestinal Disorders from Toranmal Plateau, Nandurbar, Maharashtra, India

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## ABSTRACT

The local people of Toranmal Plateau depend mostly on different plants for treating different diseases or ailments. During the present work 74 plant species used against gastrointestinal disorders. Details such as, botanical names, Hindi/Sanskrit name, mode of administration, dose/s have been provided. While, number of diseases or disorders treated by medicinal plants Acidity 2, Constipation 6, Diarrhoea 12, Dysentery, Dyspepsia, Indigestion and Stomach ache 8 while Intestinal worms 7, Loose motions 9 and Vomiting 4 have been recorded during study. The claim reported here need further scientist investigations.

**Key Words:** Medicinal Plants, Gastrointestinal Disorders, Toranmal Plateau, Nandurbar, Maharashtra, India

## INTRODUCTION

Plants used for treating different diseases / ailments is perhaps the oldest form of healthcare known to human being. Medicinal plants have been used by all cultures since the ancient times and still continue to be a fundamental part of our modern society. (Sharma & Singh, 2021) Medicinal plants are promising sources for the treatment of gastro-intestinal disorders as they possess bioactive compounds with therapeutic properties. Throughout history, various plant species have been used to ease digestive problems. (Antonio et al, 2025; Czige et al, 2022) Gastro-intestinal disorders pose a substantial public health challenge globally, affecting millions of people. These disorders affect the oesophagus, stomach, small intestine, large intestine, rectum, and other organs related to digestion. (Sensoy, 2021) These gastro-intestinal problems can range from slight uneasiness to severe conditions and may associate symptoms like abdominal pain, bloating, gas, nausea, vomiting, dysentery, diarrhea, constipation, and rectal bleeding, etc. (Ebrahimi & Lante, 2021; Wali et al, 2022) Several studies suggest that plant-based drugs may be helpful in the treatment and prevention of most gastrointestinal tract diseases. (Mazzocchi et al, 2023) Various ethnic groups around the world have used plants to treat different gastro-intestinal problems from generation to generation. This practice is common among the tribals and other aboriginals residing in remote areas of India. Due to modernisation, much of this wealth of knowledge is being vanished rapidly as

traditional cultures become eroded. Therefore, there is an urgent need to document and preserve this rich heritage of medicinal uses of plants and plant resources, as otherwise it will be lost forever. (Shanmugam et al, 2011)

METHODOLOGY:

**Study Area:** Toranmal Plateau is located in Satpuda ranges of northern Maharashtra. This plateau forms a table land and summit covering about 41 Sq. Km. area and extend between 21° 54´ North to 21° 61´ latitude and 74° 26´ to 74° 34´ East longitude. Toranmal plateau is confined by the escarpment from all sides that can be grouped as northern, southern, eastern and western escarpment, forming an inseparable land of the plateau. The prominent tribes inhabiting Toranmal includes the Pawaras, Bhils, Gamits, Gavits, Kokanis, Mavachis, Pasvis, Tadavi, Valvis and vasaves are the various ethnic group have their own dialect viz Pavari, Mavchi, Bhili, Kokani etc.

**Ethnobotanical Data Collection:** The study area was surveyed randomly in different regions of Toranmal plateau from 2022 to 2024. Informants who have unique knowledge about the medicinal uses of plants were interviewed and detailed questionnaire were filled. Total of 29 respondents in the region were interviewed. The purpose of the interview was carefully explained and consent was obtained from the informants regarding the names of plants used for treating different diseases. Plant specimens were brought and identified with the help of Flora of Dhule and Nandurbar district (Patil, 2003) and Flora of Maharashtra (Singh and Karthikeyan, 2000; Singh et al, 2001).

RESULT AND DISSCUSSIONS

Table No. 1: Plant Species and their Uses

Botanical name and (Family)	Local Name (Hindi/Sanskrit)	Habit	Part used	Mode of preparation	Mode of Administration	Dose	Disease ailment /
<i>Abelmoschus moschatus</i> (L.) Medik. (Malvaceae)	Kasturibhendi	Herb	Sd	Decoction	Oral	10-15ml twice for 3 days	Indigestion, dyspepsia
<i>Abutilon indicum</i> (L.) Sweet (Malvaceae)	Mudra	Herb	Lf	Extract	Oral	20-25ml early morning for 15 days	Stomach ache
<i>Acacia chundra</i> (Roxb. ex Rottl.) Willd. (Mimosaceae)	Khair	Tree	Bk	Extract	Oral	15-20ml twice a day	Loose motions
<i>Adiantum lunulatum</i> Burm. f. (Polypodiaceae)	Hansraj	Herb	Wp	Extract	Oral	20ml empty stomach twice a day	Loose motions
<i>Aegle marmelos</i> L. (Rutaceae)	Bel	Tree	Fr	Pulp	Oral	40-50ml with curd twice a day for 2 days	Dysentery

<i>Albizia procera</i> (Roxb.) Benth. (Fabaceae)	Pandhara-shiris	Tree	Bk	Extract	Oral	20-30ml twice a day for 2 days	Diarrhoea
<i>Aloe vera</i> (L.) Burm. f. (Liliaceae)	Korphad	Herb	Lf	Extract	Oral	25ml twice a day for a week	Indigestion
<i>Alstonia scholaris</i> (L.) R. Br. (Apocynaceae)	Saptaparni	Tree	Lf	Decoction	Oral	20-30ml during bed time for 3 days	Intestinal worms
<i>Amaranthus spinosus</i> L. (Amaranthaceae)	Kateri-Math	Herb	Wp	Decoction	Oral	25ml for 10 days	Dyspepsia
<i>Amaranthus tricolor</i> L. (Amaranthaceae)	Tandulbhaji	Herb	Rt	Extract	Oral	20-30ml twice a day	Vomiting
<i>Annona reticulata</i> L. (Annonaceae)	Ramphal	Tree	Lf	Extract	Oral	10-15ml twice a day for 7 days	Acidity
<i>Annona reticulata</i> L. (Annonaceae)	Ramphal	Tree	Lf	Extract	Oral	10-15ml twice a day for 7 days	Stomach ache
<i>Annona squamosa</i> L. (Annonaceae)	Sitaphal	Tree	Lf	Extract	Oral	20-30ml twice a day for a week	Dyspepsia
<i>Anogeissus latifolia</i> (Roxb. ex DC.) Wall. (Combretaceae)	Dhavda	Tree	Bk	Extract	Oral	20-30ml twice a day	Vomiting
<i>Aristolochia bracteolata</i> Lam. (Aristolochiaceae)	Gandhati	Herb	Wp	Extract	Oral	20-30ml at bed time	Intestinal worms
<i>Asclepias curassavica</i> L. (Asclepiadaceae)	Haldikunku	Undersh rub	Lf	Juice	Oral	10ml at bed time	Intestinal worms
<i>Bauhinia racemosa</i> Lam. (Fabaceae)	Apta	Tree	Bk	Extract	Oral	20-30ml at bed time for 10 days	Constipation
<i>Bixa orellana</i> L. (Bixaceae)	Shendri	Tree	Lf	Extract	Oral	30-40ml twice a day for 2 days	Dysentery
<i>Bridelia retusa</i> (L.) Spreng. (Euphorbiaceae)	Asan	Undersh rub	Lf	Extract	Oral	20-30ml twice a day for 2 days	Loose motions
<i>Butea monosperma</i> (Lam.) Taub. (Fabaceae)	Palas	Tree	Bk	Extract	Oral	20-30ml at bed time	Intestinal worms
<i>Calotropis gigantea</i> (L.) Dryland R.Br. (Asclepiadaceae)	Rui	Shrub	Rtbk	Powder	Oral	1-2gm with water twice a day for 2 days	Dysentery

<i>Carica papaya</i> L. (Carricaceae)	Papai	Tree	Sd	Eaten raw	Oral	5-10 seeds twice a day for 2 days	Diarrhoea
<i>Catunaregam spinosa</i> (Thunb.) Tirveng. (Rubiaceae)	Gela	Tree	Rtbk	extract	Oral	20-30ml twice a day for 2 days	Vomiting
<i>Citrus aurantifolia</i> (Christm. & Panz.) Swingle (Rutaceae)	Limbu	Tree	Lf	Juice	Oral	5-10ml twice a day for 2 days	Indigestion
<i>Clitoria ternatea</i> L. (Fabaceae)	Gokarna	Herb	Rt	Extract	Oral	20-30ml after meal for 3 days	Dyspepsia
<i>Cucurbita pepo</i> L. (Cucurbitaceae)	Kashibhop la	Herb	Fr	Paste	Oral	50-70gm twice a day for 2 days	Loose motions
<i>Dalbergia lanceolaria</i> L. f. <i>ssp. Paniculata</i> (Roxb.) Thoth. (Fabaceae)	Phansi	Tree	Bk	Juice	Oral	20ml thrice for 3 days	Diarrhoea
<i>Dalbergia sissoo</i> Roxb. (Fabaceae)	Shisam	Tree	Bk	Extract	Oral	10-15ml twice a day for 2 days	Vomiting
<i>Dioscorea oppositifolia</i> L. (Dioscoreaceae)	Medhwan	Undersh rub	Tu	Extract	Oral	20-40ml at bed time for a week	Constipation
<i>Dodonea viscosa</i> (L.) Jacq. (Sapindaceae)	Dedoni	Shrub	Lf	Extract	Oral	40-50ml early morning for a week	Constipation
<i>Eclipta prostrata</i> L. (Asteraceae)	Maka	Herb	Lf	Juice	Oral	20-30ml with pinch of salt twice a day for 2 days	Diarrhoea
<i>Elephantopus scaber</i> L. (Asteraceae)	Pathari	Herb	Wp	Extract	Oral	100ml thrice a day	Stomach ache
<i>Enicostema axillare</i> (Lam.) Raynal (Gentianaceae)	Nai	Herb	Wp	Extract	Oral	20-30ml twice for 2 days	Diarrhoea
				Paste	Oral	5gm thrice for 6 days	Indigestion, dyspepsia
<i>Erythrina variegata</i> L. (Fabaceae)	Pangara	Tree	Bk	Extract	Oral	20-30ml twice for 3 days	Indigestion
<i>Exacum lawii</i> Cl. (Gentianaceae)	Lahan chirayat	Herb	Wp	Extract	Oral	20-30ml before meal for 2 days	Indigestion

<i>Ficus benghalensis</i> L. (Moraceae)	Wad	Tree	Bk	Extract	Oral	10-20ml twice a day for 3 days	Stomach ache
<i>Flemingia strobilifera</i> (L.) W.T.Aiton (Fabaceae)	Kanphuti	Shrub	Lf	Extract	Oral	20-30ml at bed time	Intestinal worms
<i>Grewia hirsuta</i> Vahl (Malvaceae)	Khirmid	Undersh rub	Bk	Extract	Oral	30-50ml twice a day for 2 days	Loose motions
<i>Helicteres isora</i> L. (Sterculiaceae)	Murudseng	Shrub	Fr	Powder	Oral	1gm with water twice a day	Stomach ache
<i>Ipomoea cairica</i> (L.) Sweet (Convolvulaceae)	Garvel	Herb	Sd	Extract	Oral	20-30gm with water, early morning for a week	Constipation
<i>Jasminum sambac</i> (L.) Aiton (Oleaceae)	Mogra	Shrub	Lf	Extract	Oral	2-30ml twice a day for 2 days	Dysentery
<i>Kalanchoe pinnata</i> (Lam.) Pers. (Crassulaceae)	Panphuti	Herb	Lf	Extract	Oral	20-30ml after meal for 3 days	Dyspepsia
<i>Lablab purpureus</i> (L.) Sweet (Fabaceae)	Wal	Herb	Rt	Extract	Oral	20-25ml once a day for 2 days	Intestinal worms
<i>Lawsonia inermis</i> L. (Lythraceae)	Mehandi	Shrub	Sd	Powder	Oral	1gm twice a day with water twice a day for 2 days	Dysentery
<i>Limonia acidissima</i> L. (Rutaceae)	Kavath	Tree	Fr	Extract	Oral	Extract of pulp with sugar twice for 5 days	Indigestion
<i>Linum usitatissimum</i> L. (Linaceae)	Jawas	Herb	Sd	Powder	Oral	3-4gm with water twice a day for 2 days	Diarrhoea
<i>Macrotyloma uniflorum</i> (Lam.) Verdc. (Fabaceae)	Kulith	Climber	Sd	Extract	Oral	20-25ml at bed time	Intestinal worms
<i>Mallotus philippensis</i> (Lam.) Muell. Arg. (Euphorbiaceae)	Kumkum	Tree	Sd	Extract	Oral	10-15ml twice a day for 2 days	Loose motions
<i>Meyna laxiflora</i> Robyns (Rubiaceae)	Aliv	Tree	Rt	Extract	Oral	20-30ml for 2 days	Stomach ache
<i>Bergera koenigii</i> L. (Rutaceae)	Kadipatta	Tree	Lf	Extract	Oral	30-50ml twice a day for 2 days	Diarrhoea

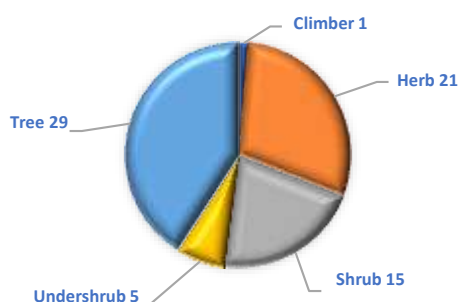
<i>Ougeinia oojeinensis</i> (Roxb.) Hochr. (Fabaceae)	Tiwas	Tree	Bk	Extract	Oral	20-30ml Twice a day for 2 days	Loose motions
<i>Parthenium hysterophorus</i> L. (Asteraceae)	Gajar gavat	Herb	Rt	Extract	Oral	40-60 ml twice a day for 2 days	Dysentery
<i>Pimpinella heyneana</i> (DC.) Bth. (Apiaceae)	Dongar-jeera	Herb	Wp	Extract	Oral	40-60 ml twice a day for 2 days	Stomach ache, indigestion
<i>Plumeria alba</i> L. (Apocynaceae)	Pandhara chafa	Tree	Lf	Extract	Oral	20-30ml twice a day for 3 days	Dyspepsia
<i>Psidium guajava</i> L. (Myrtaceae)	Peru	Shrub	Lf	Extract	Oral	20-30ml twice a day for 3-4 days	Dysentery
<i>Punica granatum</i> L. (Punicaceae)	Dalimb	Tree	Fl	Paste	Oral	10gm twice a day for 2 days	Diarrhoea
<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz (Apocynaceae)	Sarpagandha	Shrub	Rt	Decoction	Oral	50ml twice a day for 2 days	Constipation
			Lf	Extract	Oral	20ml twice a day for 3days	Acidity
<i>Ricinus communis</i> L. (Euphorbiaceae)	Erend	Shrub	Sd	Sd oil	Oral	30-40ml twice a day for 2 days	Constipation
<i>Scoparia dulcis</i> L. (Plantaginaceae)	Dulas	Herb	Lf	Paste	Oral	1gm with water for 2 days	Dysentery
<i>Solanum anguivi</i> Lam. (Solanaceae)	Mothi ringani	Undersh rub	Rt	Extract	Oral	15-20ml twice a day for 2 days	Stomach ache
<i>Tamarindus indica</i> L. (Fabaceae)	Chinch	Tree	Lf	Juice	Oral	30-40ml twice a day for 2-3 days	Diarrhoea
<i>Terminalia bellirica</i> (Gaertn.) Roxb. (Combretaceae)	Behada	Tree	Fr	Ash	Oral	2-3gm twice a day for 2 days	Diarrhoea
<i>Triumfetta rhomboidei</i> Jacq. (Tiliaceae)	Thunjira	Herb	Wp	Juice	Oral	100ml twice a day for 2 days	Loose motions
<i>Withania somnifera</i> (L.) Dunal (Solanaceae)	Ashwagandha	Shrub	Lf	Extract	Oral	20-30ml twice a day for 2-3 days	Diarrhoea
<i>Woodfordia fruticosa</i> (L.) Kurz (Lythraceae)	Dhayati	Shrub	Rtbk	Extract	Oral	20-30ml twice a day for 2 days	Diarrhoea

<i>Ziziphus rugosa</i> Lam. (Rhamnaceae)	Toran	Shrub	Fr	-	Oral	Eaten raw	Dyspepsia
			Bk	Extract	Oral	20-30ml twice a day for 2 days	Loose motions

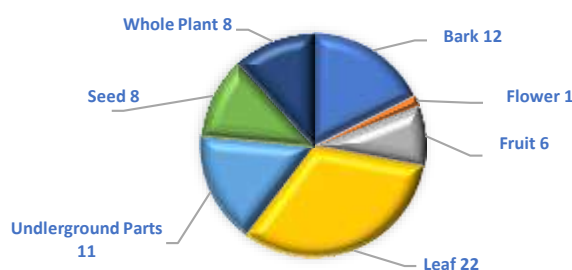
Total 71 plant species of 34 families have been recorded to be used for various gastrointestinal disorders by the tribals / aboriginals of Toranmal Plateau. Among 34 family's maximum number of species used is Fabaceae 12 species, Rutaceae 4 species and Annonaceae, Apocynaceae, Asteraceae, Euphorbiaceae, Malvaceae – 3 species each

In case of habit wise plant species maximum are Trees 29 species, then 21 herbs, 15 shrubs, 5 under-shrubs and 1 climber. **(Fig.1.)** Number of plant parts used in treating various gastrointestinal disorders are 22 leaves, 12 bark, 11 under ground parts, seed and whole plant 8 each, fruits 6 and flower 1. **(Fig.2.)**

**Fig. 1. Habit Wise Plant Specis**

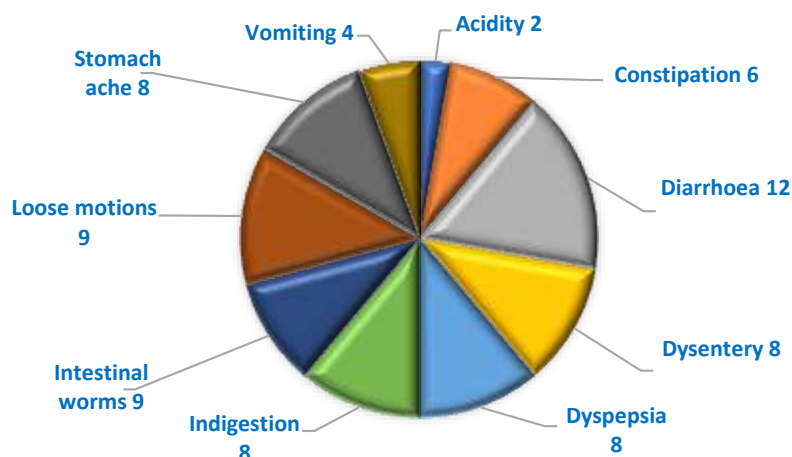


**Fig. 2. Number Of Plant Parts Used**



While mode of medicine preparation of plants is Ash 1, Decoction 4, Extract 46, Juice 6, Paste 4, Powder 4, Pulp 1, Sd oil 1 while eaten raw 1. In case of number of diseases or disorders treated by medicinal plants Acidity 2, Constipation 6, Diarrhoea 12, Dysentery, Dyspepsia, Indigestion and Stomach ache 8 while Intestinal worms 7, Loose motions 9 and Vomiting 4 have been recorded during study. **(Fig.3.)** Mode of administration of medicine is oral in all cases.

**Fig. 3. Number Gastrointestinal disorders**



Some similar studies done on use of medicinal plants for gastrointestinal disorders are such as, Bahmania et al, (2014) recorded 41 indigenous medicinal plants in the Urmia region that belong to 20 families; Bora et al (2016) reported 47 medicinal plant used for gastrointestinal disorders from Assam, India; Hani et al, (2021) In studied region 50 plants belonging to 29 families from Setifian High Plateau, Algeria; Kacholi and Amir (2024) studied, 15 anti-constipation medicinal plants belonging to 12 families from Sikonge District, Tanzania; Devi Prasad et al, (2013) reported 32 medicinal plants used for digestive system disorders from Wayanad district, Kerala, while A total of 61 medicinal plant belonging to 35 families are reported by Wali et al, (2022) from Western Himalaya, Pakistan.

## CONCLUSION

During the period of the study it is observed that the tribal and other aboriginal people have rich heritage knowledge about medicinal uses of plants. However, existing knowledge is declining rapidly because of the lack of interest of youths to learn the traditional knowledge from the medical practitioner. The other reasons for disappearing this knowledge are, modernization, deforestation, urbanization, industrialization, etc. Furthermore, the claims reported here need to go through scientific investigations through the evaluation of plants for their biological activity and isolation of active constituents.

## ACKNOWLEDGEMENTS

Authors are thankful to the Principals of Colleges for support and encouragements

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