

# **ETHNOBOTANY OF TOTOPARA**



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● R.N. KAYAL ● S. SAHA

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1999

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**CAUTION: This work is meant only to provide information and leads or clues for laboratory, clinical or other research. It is not a work for prescribing curatives for any diseases or disorders. No plant should be tried by a layman for any treatment of a disease.**

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*Front cover* : A Toto medicine man (Courtsey : Sri P.P. Ghoshal)

*Back cover* : A Toto lady collecting the medicinal plants

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## FOREWORD

The Totos, a small tribal community inhabiting the hilltops of Jalpaiguri district of West Bengal, comprise a small population of about 1,000 persons. It is believed that at one time they belonged to the Mongoloid group, but their assimilation into the Bhutias, Hindus and Nepalese fold of Jalpaiguri district, occurred centuries ago. Therefore, they are not much distinguishable from their neighbours from the language point of view. Yet, they have retained their culture without much adulteration, as may be evident from their social customs. The Totos were dependent on the nearby forests for their daily needs, but, at present the forest and forest-products can't provide for the whole livelihood of the community. So they shifted their habits from food gatherers to small scale agriculturists and developed certain economic relationships with other neighbouring communities, located about sixty km away from their locality. They have practically no cottage industry except for the extraction of copper and gold from sand and rock. But all these have no practical value in the present system of economy. Probably, these are the causes of their poverty, which lead to malnutrition and various illnesses.

Due to lack of thorough ethnobotanical studies on the Totos, there was a long standing idea among the earlier workers that the Totos do not have much knowledge of plants of medicinal importance. The present account reveals that the Totos have empirical knowledge about the medicinal plants to prevent and cure their illnesses and the ailments of their pets. The authors have worked hard over a period of three years to penetrate and observe the causes of illness, attitude towards diseases, their prevention and cures. Although this work has been emphasised mainly on ethnomedicine; anthropologists, public health engineers and tribal welfare departments may use these different inter-related aspects of general health care systems of the Totos.

Therefore, the present account on the Ethnobotany of Totopara is of great value to the ethnobotanists, anthropologists, medicine-men, pharmaceutical industries, tribal welfare departments and to the general public.

Calcutta  
18.10.1998



(G. PANIGRAHI)

## ACKNOWLEDGEMENTS

Our sincere thanks are due to Dr. M. K. Mukherjee, Director, Cultural Research Institute (CRI), Tribal Welfare Department, Govt. of West Bengal; Sri D. K. Sinha, Project Officer cum District Welfare Officer, Tribal Welfare Department, Jalpaiguri district for rendering their helping hands for organising the field survey work and collection of data from the field.

We are indebted to Sri Dhaniram Toto, Social Worker, Totopara Welfare Centre; Sri Bhabesh Toto, local Toto youth; Sri Budhbare Toto, medicine man of Toto community for their immense help in the collection of ethnobotanical data of the Toto tribe and the authentic plant material.

We are also grateful to Dr. G. Panigrahi for blessing this publication with a stimulating foreword; Dr. A. K. Bhattacharya, Director, Anthropological Survey of India (ASI) for providing a copy of their publication on the Totos; Dr. Biplab Chakraborty, Prof., Department of Library Science, Calcutta University, for providing the outline map of Totopara; Sri Biplab Basu, Convenor & Director, School of Fundamental Research (SFR), Regional Resource Agency, Ministry of Environment & Forests, for providing some data on medicinal plants used by the Totos. We are also thankful to Dr. S.C. Srivastava of Northern Circle, Botanical Survey of India for his valuable suggestions.

Above all, we are very much indebted to the Toto Community who over generations has continued to preserve the ethnobotanical heritage.

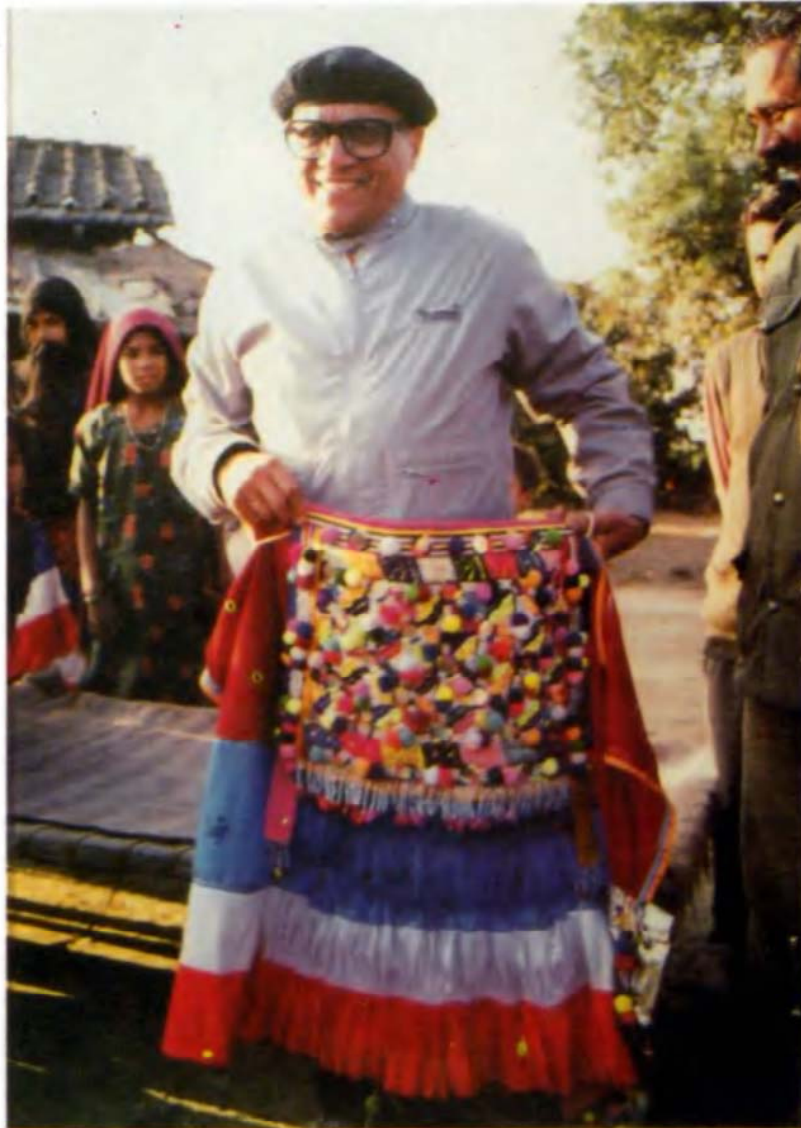
Botanical Survey of India  
Howrah  
1999

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## DEDICATION

**This work is dedicated to Dr. S. K. Jain from whom the authors have got special inspiration for the feelings of love and affection towards those human societies which despite severe economic, social and political pressure of the recent times, successfully struggled for preserving some of their natural environs and traditions.**



**Dr. S. K. Jain**





**Sri Budhbare Toto with his family in their hut**



**Authors (Dr. D. C. Pal & Sri R. N. Kayal) with Sri Dhaniram Toto during collection of medicinal plants**





**Cultivation of Maize (*Zea mays* L.) at Totopara**



**A lady watering the field of ginger (*Zingiber officinale* Rosc.); commercial plantation of betelnut (*Areca catechu* L.) seen in background**





Cultivation of 'marua' (*Ochthochloa coracana* Edgew)



◀ The fermentation cake for sale in Toto market

A Toto family in front of their hut; a container of rice-beer ('Eu') is seen



## INTRODUCTION

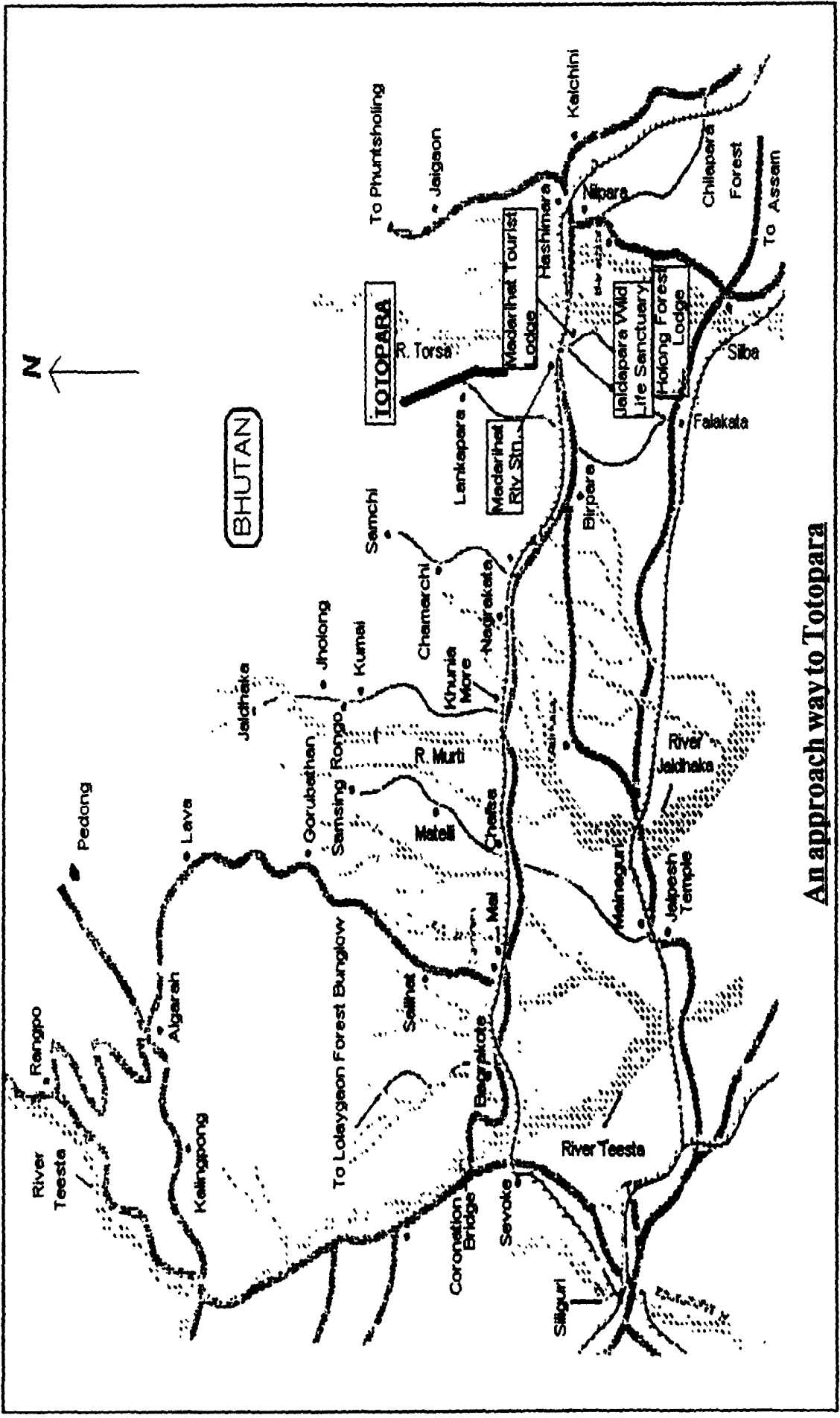
"Ethnobotany of Totopara" is a descriptive ethnomedicinal account of a very small Mongoloid tribe known as "Toto". The Totos are living in Totopara which is situated in the extreme north-east part of Jalpaiguri district in West Bengal. The authors took extensive field studies during 1995 to 1997 at Totopara and the present account is the outcome of those field studies. Until a few years ago, the Totos were unknown to the outside world. They used to hold their indigenous culture. Now-a-days some of these tribal people have undergone minor changes in their livelihood and culture. In this present account, some plants used in medicine and other purposes by this tribal community, have been discussed which may help the readers to get an idea about the plant species used by this tribal community to prevent and cure their illness. Moreover, the studies unfolded the similarities of usages of plant species between the Totos and other tribal communities for medicinal and other purposes. During the course of studies, the authors have tried to develop a new inter-communal relationship between the Totos and other tribal communities. Betterment of this down-trodden ethnic group is another aspect of this study which the authors have kept in mind while preparing this account.

### Previous Works

During the year 1889 to 1899, Mr. D. Suder, the Settlement Officer of Duars, published short notes about the habit and language of the Totos. Later on, during 1906 to 1916, Mr. J. Miligan, another Settlement Officer, carried out a second survey and published a brief report on the social and economic aspects of the Totos. Subsequently, from 1931 to 1935, another Survey Officer of the Western Duars published very short reports on the Toto tribe.

The Statesman (20.4.1947), Ananda Bazar Patrika (20.4.1952), and the District Hand Book of Jalpaiguri (1953) published various reports on the Totos.

Sanyal (1955) published a comprehensive account on the social and cultural aspects of the Totos. Roy Burman *et al.* (1962) studied the Totos from ethnographical, sociological, demographical and haematological point of view. Seven years later Das (1969) published a book named "The Totos" covering almost all the ethnological and social aspects of this tribe.



An approach way to Totopara

There is, however, no information in any of the earlier works about the medicinal plants used by this tribal community.

### **Historical Background**

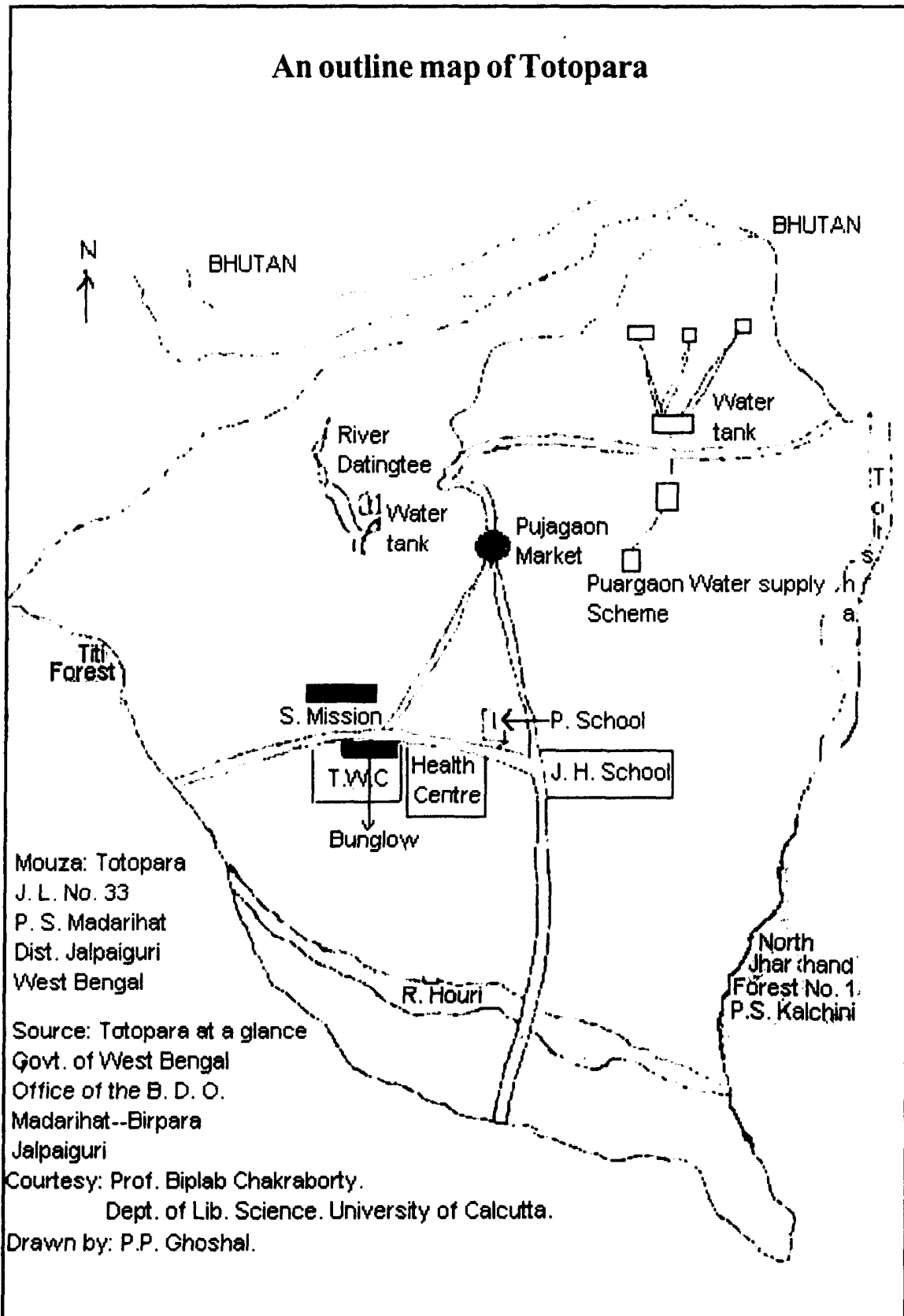
According to Sanyal (1955), before the Indo-Aryans reached North Bengal and Assam, a branch of Tibeto-Mongoloids, speaking on Sino-Tibetan dialect, came as far as to Bhutan and settled in the adjoining areas. During this period, another branch of Indo-Mongoloids of Burmese group speaking on Tibeto-Burman dialect and containing within its fold the great Bodo group, came to Assam and North Bengal. They have been described as "Kiratas". These two groups came into conflict for the political supremacy of the hills. The Bodo group, however, in its various ramifications like Koch, Rajbanshi, Mech, Garo, Tephu, Pani Koch, took possession of Coochbehar and conquered Bhutan. The Totos are probably one of them or a mixture of Bhutia and Koch, or a different distinct tribe. Anthropologists could not arrive at any conclusion about the origin of the tribe Toto. However, it is said that the Totos were sent from Bhutan to the present Totopara by the Bhutias about eighth generations back.

### **Habitat**

Totopara, the present day home of the Totos, is situated about 23 km north of Madarihat Police Station of Jalpaiguri district of West Bengal. It lies between  $89^{\circ}20'$  E longitude and  $26^{\circ}50'$  N latitude. The village Totopara has an area of 1,996.96 acres and is encircled by the Titi reserve forest in South and West, the foot-hill of Bhutan in the North (locally known as the holly "Isphan" hill or the "Mahakali" hill) and its eastern side is bounded by a river named Torsha. There are six distinct hamlets (localities) in Totopara, viz. Panchayet gaon, Mondal gaon, Subba gaon, Mitrang gaon, Puja gaon and Dunchi gaon. These localities have been divided and named on the basis of personal names and possession of land. Thus, Totopara, presenting a trapezoid shape, does not have any scope to expand its settlement area. The Totos are no longer living in isolation and have become more and more entwined with their neighbour. Now-a-days, Totopara has been intruded into, often at the cost of tribals losing their land, by a large number (about 24) of non-tribal communities. The majority of these are Nepalis.



## An outline map of Totopara



## **Physical Feature**

The Totos represent Mongoloid characteristics having a medium stature with sturdy body built. They possess almost beardless face with flat nose, broad cheeks, thick lips, small eyes and black iris. They have some affinities with the present Bhutias as well.

## **Language**

The Totos have so-far retained their dialect of Tibeto-Burman origin (Das, 1969). This language belongs to the Indo-Tibeto-Burman group and is exclusive to the Totos. Their language is stated to be as non-pronounced. They can speak Nepali, Hindi and Bengali also.

There has been no indepth study of the language of the Totos and, therefore, it is fast falling into disuse. The components of contemporary culture are finding quite a few takers among the Toto youth, who are losing their language and linguistic skills.

## **Demographic Profile**

There was a general belief that the population of the Totos is gradually decreasing and the tribe is facing a possible extinction. The earliest population figure of the Totos is available from the census report of 1901. At that time their population was 171, comprising 36 households only. This negligible size of population was due to the probable occurrence of malarial fever at that time. In 1951, their population comprised 314 individuals. Since then the Toto population was enumerated along with the communities like the Bhutias, the Sherpas, the Yolomos, the Kagetes, the Drukpas and the Tibetans. At present the Totos may constitute the fourth smallest tribe of the main-land of India. The following Table shows the population size of Totos during the period from 1901 to 1991.

**Population size of the Totos during the Period from 1901-1992.**

<b>Year</b>	<b>Families</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>Source</b>
1901	36	72	99	171	Census, 1901
1911	—	125	110	235	Census, 1911
1921	—	140	131	271	Census, 1921
1931	—	130	204	334	Census, 1931
1941	—	159	162	321	Census, 1941
1951	—	157	157	314	Census, 1951
1955	—	162	160	322	Sanyal, 1955
1962	—	206	189	395	ISI, 1962
1971	—	332	318	650	CRI, 1980
1979	—	343	332	675	CRI, 1980
1985	—	407	378	785	ASI, 1985
1990	171	480	448	928	ASI, 1990
1991	205	545	489	1034	Census, 1991

It is apparent from the above table that the Toto population has maintained a slow but steady rate of increase during the period 1901 to 1991. The above features rule out the belief that the Toto population is gradually decreasing and the tribe is facing a possible extinction.

### **Culture**

The culture of the Totos is very simple and there is no incident of adultery, rape or elopement in the society. They are honest, truthful, straight-forward and trust worthy. They love their neighbours so much that they are hesitant in evicting the non-Totos and the non-tribal intruders from Totopara, who have become their permanent neighbours, as it offends their sense of dignity.

### **Social Life**

Monogamy is the common form of marriage but polygamy is not ruled out in the Toto society. According to a survey conducted by ASI, it is found that there are at least four marriages of the Totos with non-Toto population. However, Totos do not encourage marriages of their females

with non-Totos. On the other hand, consanguineous marriages are prevalent among them. The Totos practice close inbreeding even after maintaining clan or sub-clan exogamy. Cross-cousin marriage is practiced as a preferential mating. There is a unique custom in the Toto society. Young Toto man and woman live together before their social marriage, and if the Toto woman gives birth to a baby then their ceremonial social marriage takes place in which the entire Toto community usually participate for days together. Boiled beef, red chilli and rice beer(*Eu*) is served in such marriage ceremonies.

### **Education**

The Totos are educationally very backward. There is a very poor family coverage in respect of primary education. In 1965 there were only four literate persons among the Totos. Now there are nearly 100 literate persons among the Totos. Very recently, a Toto boy passed the Higher Secondary Examination.

However, young matriculate Toto youths raise high hopes from their community and subsequently develop high expectations about their own achievements and seek reasonably good positions in government services which do not corroborate with the actual qualifications. They are dissatisfied with the kind of jobs, the government find them competent for, in spite of the considerations of their constitutional status. There is also a time elapse between achieving a particular level of education and securing government jobs.

### **Agriculture**

The present day Totos are partially cultivators. The major constraint regarding development of agriculture in Totopara is the absence of proper irrigation facilities. Cultivation in the area solely depends on rain water. They cultivate ginger, maize, millet and cardamom by means of terrace cultivation. They have some artificial orange groves and some betelnut gardens also.

### **Food Habit**

The Totos take boiled food. The staple foods are cereals, grains, pulses, vegetables etc. In lean months they consume wild tubers of Ratalu

(*Dioscorea* sp.), Satamuli (*Asparagus* sp.), roots of Simul (*Bombax ceiba* L.), Cassava (*Manihot esculenta* Crantz.) etc. The elder members of the Toto families use to drink rice beer (locally known as "Eu") and chew green betel nuts. They are habituated to drink the decoction of Khair (*Aeacia catechu* L. f.) bark. They eat green as well as ripe jack fruits (*Artocarpus heterophyllus* Lamk.). They use young bamboo shoots as vegetables. They take both beef and pork.

### **Economy and Trade Practices**

The traditional Toto economy was dependent mostly in trading oranges grown in the area. Now-a-days there is a great transformation in the traditional economy. At present the Toto economy depends on terrace cultivation and wet cultivation. The big presence of Nepali population in the Toto habitat has adversely affected the Toto economy. The Totos are facing a situation of competitions with the migrant Nepalis in resource utilization and in this competition the Totos are at a disadvantageous position as the Nepalis are relatively more enterprising in the endeavour to better their economy. Although the Totos are not declining in number, yet they are in an impoverished economic condition and are finding it difficult to preserve their traditions. There is a total change in the present land tenure system from community ownership to individual ownership. Besides, non-Totos have also accumulated land in this area. This seems to be one of the reasons for the weak economic conditions of the Totos, as their major economic resource was land. Impoverished economy of the Toto may further deteriorate to a frustrating condition unless the government takes immediate action to return them the land that they once knew as their property. The Totos are within the full ambit of market economy. There are some permanent shops in Totopara and most of them belong to the non-Totos. Tuesday is the market day in Totopara and the business in this weekly market is fully controlled by the non-Totos. However, some Totos collect peepla (*Piper mullesua* D. Don-a substitute of long peper), kalihaldi (*Curcuma caesia* Roxb.) and haldi (*Curcuma longa* L.) from the nearby forests and seeds of marua (*Octhochloa coracana* Edgew.), rhizomes of adrak (*Zingiber officinale* Rosc.), & fruits of betel nut (*Areca catechu* L.) from their own cultivars and use to sell them in the local market. The traditional technologies like basketry, etc. are also sold in the local markets.



## Religious and Magico-Religious Belief

The Totos believe that "Isphan" (Mahakali) is their supreme diety. They perform the worship of 'Isphan' with the sacrifice of cock, hen, pig, etc. They also believe that there is an existence of another diety known as "Pidua" who save the Totos from the ghosts, demons, goblins, etc. "Pidua" is worshiped with the sacrifice of white cocks and pigeons. They perform "Goron puja" to ward off epidemic diseases from the village.

The distinction between religious faith and belief on magical power of certain plants are not always marked by the Totos. Therefore, plants associated with customs, religious performances, festivals, taboos, totems are considered as magico-religious belief on plants.

## Taboo and Totems/Conservation Practices

The Totos are divided into 13 unitary and exogamous clans. These are :

1. Budhabei, 2. Badubei , 3. Linkajibei , 4. Nurunchangobei, 5. Dinchagobei, 6. Nubebei, 7. Bangobei, 8. Dantrobei, 9. Mantorobei, 10. Dankobei, 11. Mankobei , 12. Manchangobei and 13. Pischangobei.

The first eight clans and Pischangobei do not touch monkey and squirrel. On the other hand the rest four clans have no such taboo. This taboo is a kind of traditional means for conservation biodiversity. They were habituated to consume raw flesh but the Bhutias taught them to refrain from it in the name of God and to take boiled or roasted meat and keep the mouth blood-red by taking khair (*Acacia catechu* L.f.) and areca nut (*Areca catechu* L.).

The Toto priest, known as "Desaima" and "Cinme-deichibe", do not take limes, lemons or any other sour fruits during rainy season. They do not eat Kusum [*Schleichera oleosa* (Lour.)Oken]. This is a kind of traditional conservation practice.

The Totos believe that death of any tree or grove, belonging to them, is only due to the black magic of the Rabhas. They also believe that the disappearance of orange groves, which were once abundant in Totopara, is because of the black magic of the Rabhas.

The Totos believe that the tree 'Parali' (*Stereospermum suaveolens* DC.) is the abode of their God. An old tree at Puja gaon in Totopara, which they used to worship, was lost in the flood of 1988-89. At present there is only one tree at Panchayet gaon and they worship that tree in the same way as before, and thus they are conserving the genetic resource.

In Totopara, Jack-fruit trees (*Artocarpus heterophyllus* Lamk.) are abundant, in wild and planted form. But they do not sell any part of these tree to the outside world and may be, in this way, they are conserving the economic plant resources.

### **Common Diseases Among The Totos**

It is seen that the Totos are very unclean. They rarely take bath. Therefore, skin diseases, such as scabies, ringworm, leucoderma and leprosy are prevalent among them. Due to unhygienic conditions in their houses, diseases such as dysentery and diarrhoea, are also very common among them. Apart from these diseases, malarial fever and black-water fever are also of common occurrences among the Totos. Other ailments are due to malnutrition, deficiency of vitamins and minerals. The Totos are very much prone to the consumption of rice beer which causes them to suffer from gastro-intestinal and hepatic disorders. Tuberculosis is also spreading fast in the Toto community. There are some specific diseases occurring among the Toto men, women and children. Toto men generally suffer from apoplexy, eczema, and orchitis. Deficiency of Iodine in food stuff causes goitre. Common female diseases are goitre, anaemia, epilepsy, leucorrhoea and menorrhagia. Tetanus is associated with mortality of the Toto pregnant women and new born babies. Diseases among the Toto children are acne, anaemia, bronchitis, carries of teeth, cough and cold, itch, grippe, whooping cough, intestinal worms, jaundice, conjunctivitis, etc. Dysentery and diarrhoea are a lethal combination among the Toto children. Toto sore is very common among the Toto women.

### **Attitude Towards Disease and Treatment**

Like other tribal communities the Totos are the followers of animism which leads to the belief that diseases and death are caused by the mischievous activities of certain evil spirits. They believe that such spirits are invisible and travel in air. They also believe that chronic diseases are due to the breach of taboos and totems. However, the Totos have some

specific ways of diagnosis to detect the causes of diseases. Sometimes they are treated by the Bhutia Medicine men also.

### **Toto Pharmacology**

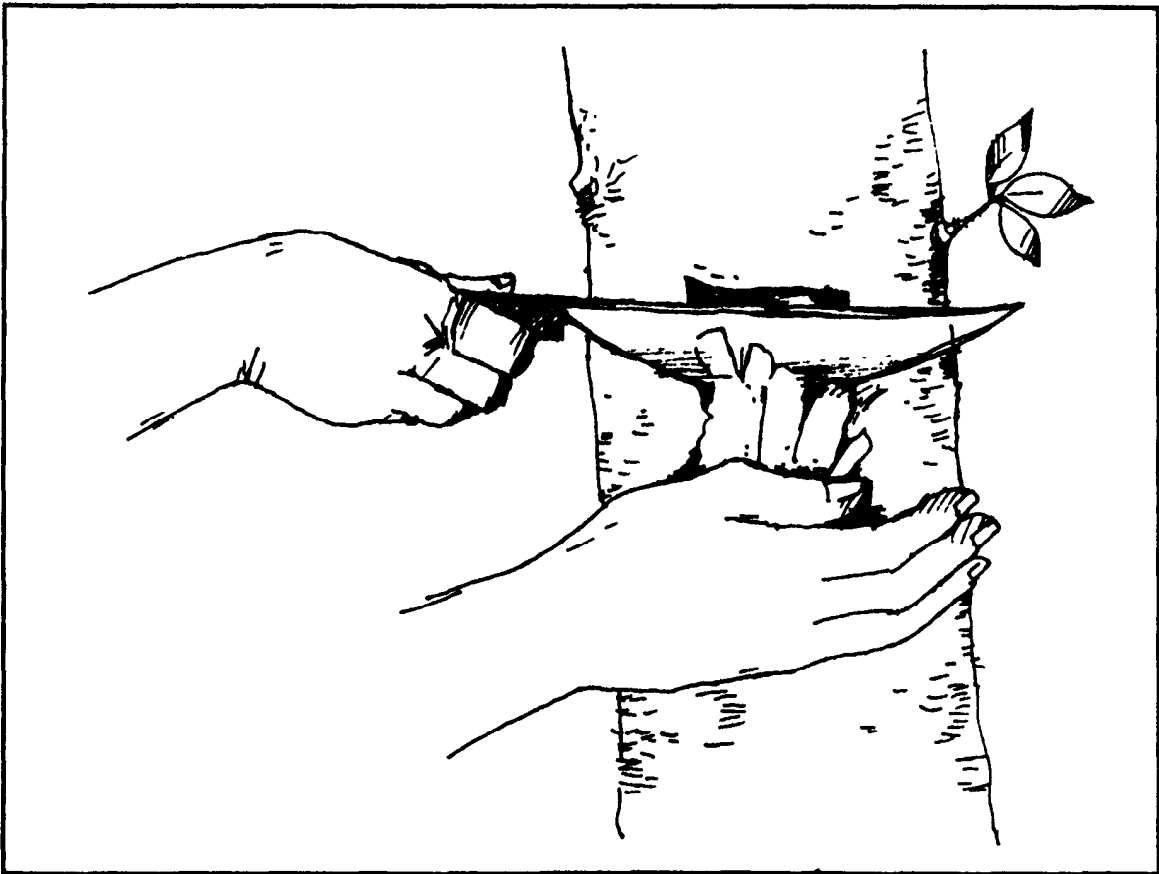
The Totos do not have much knowledge about the preparation of drugs and medicines. They learnt some techniques from the neighbouring Bhutias, Lepchas, and from the Hindus. However, they prepare paste, infusion, powder, tablet, decoction, ointment and medicated oil from single plant or plant parts or in combination with other plants. Animal organs and animal products, minerals, salts are also sometimes added for the preparation of medicine.

In general, the Totos consume medicine with rice beer and water. Honey is rarely used. They select mouth, nose, eyes, skin, etc. for administration of medicine.

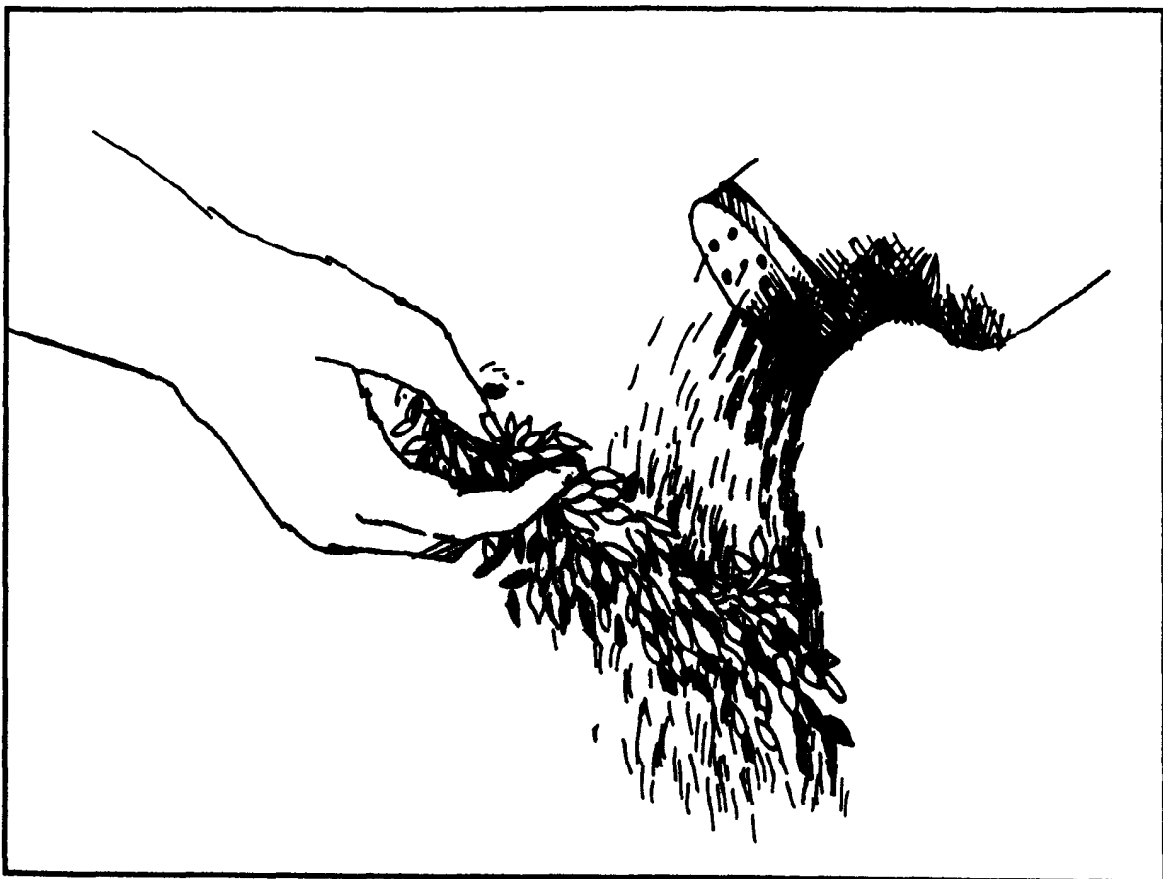
As bio-assimilation properties, they are habituated to use ginger (*Zingiber officinale* Rosc.), peeper (*Piper* sp.) and kali-haldi (*Curcuma caesia* Roxb.) in their medicine

Pounding paste and powder preparation are very common form of drugs. Fresh plant extract, paste and dried powder are used. No preservation practices of medicine are followed. This is probably due to the ready availability of fresh materials of medicine in their close vicinity. The following line drawings give some idea about their preparation of crude drugs.



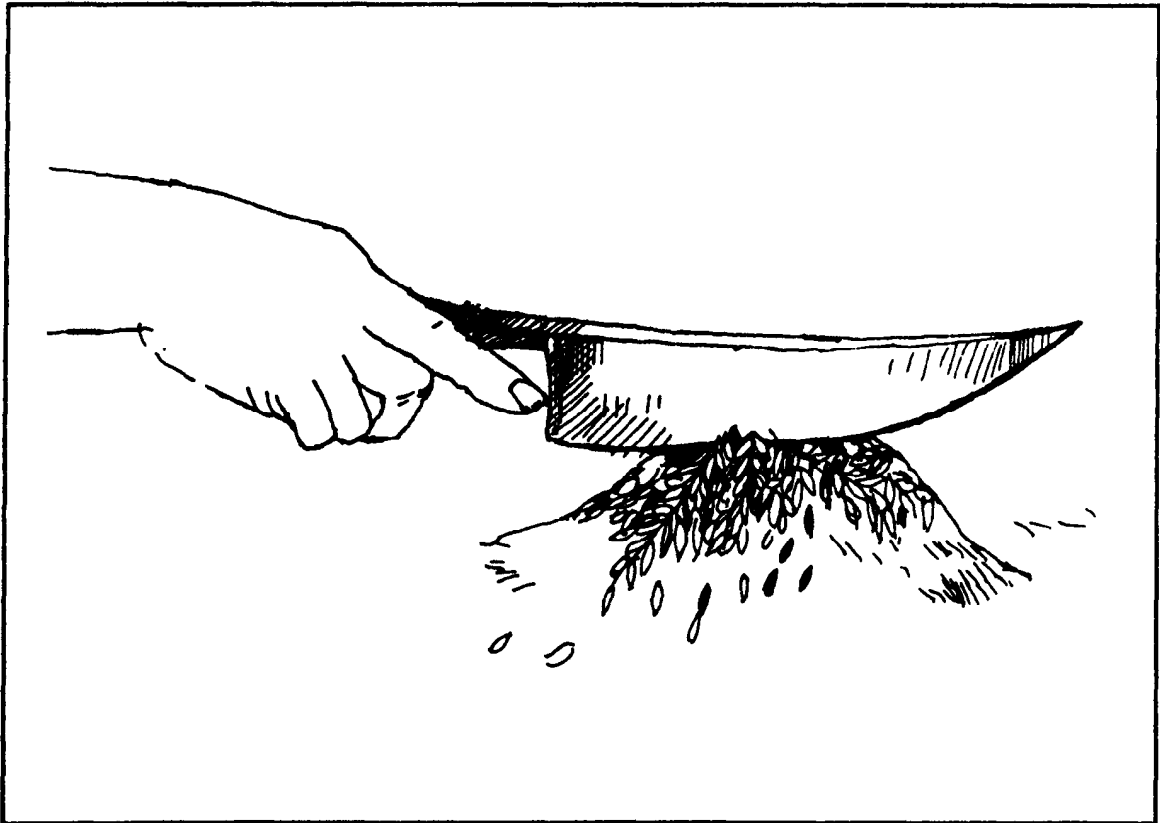


Peeling of stem bark

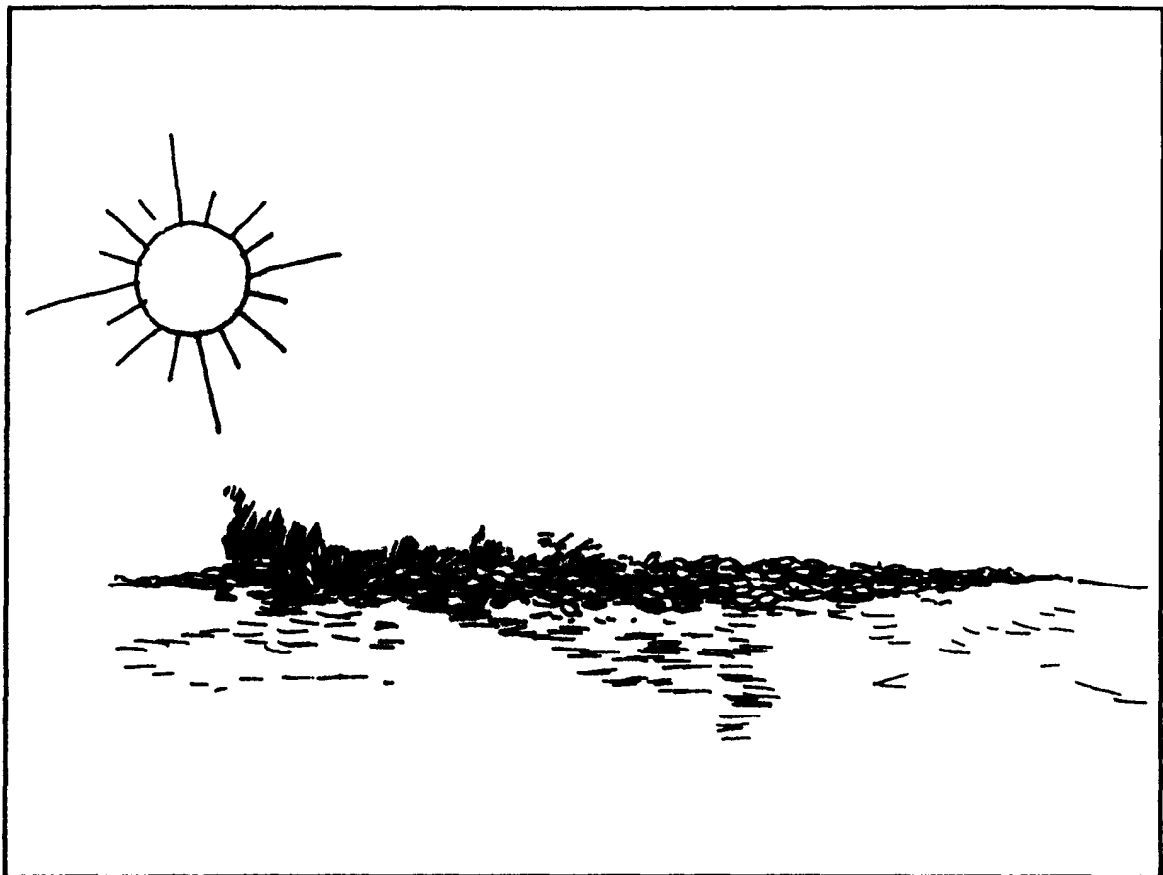


Washing of fresh leaves

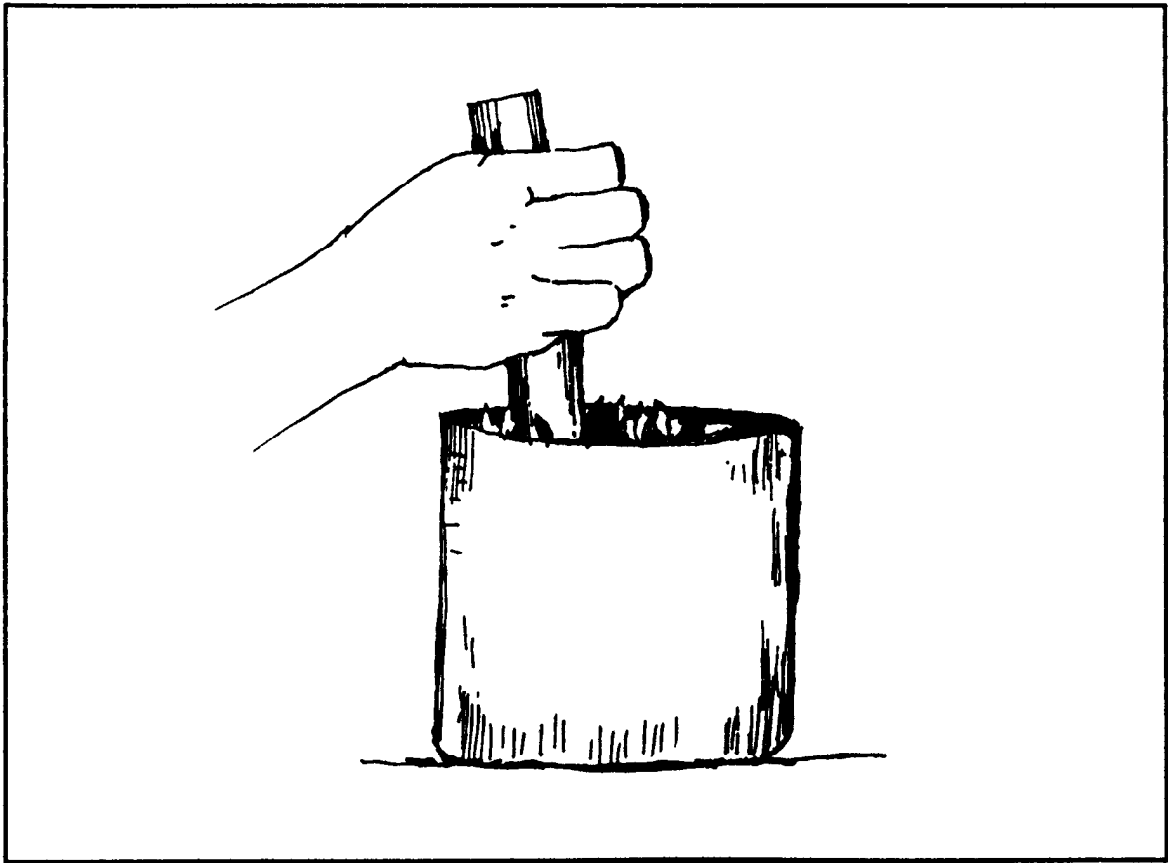




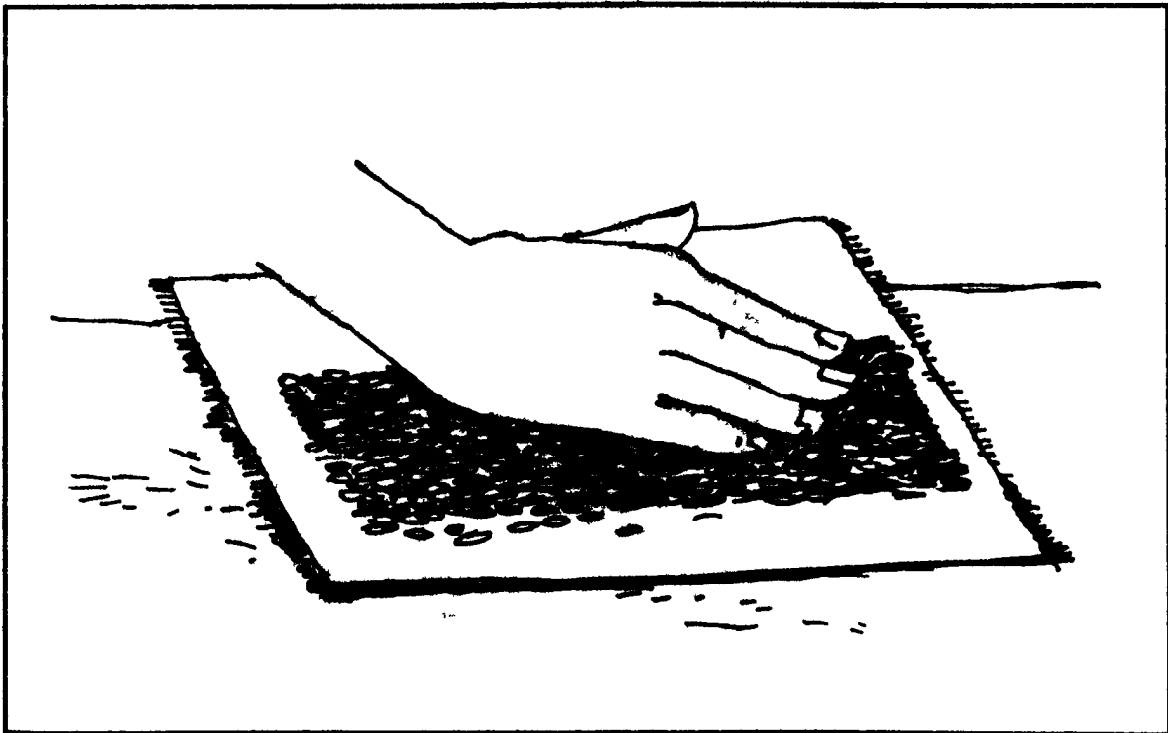
Mincing of fresh leaves



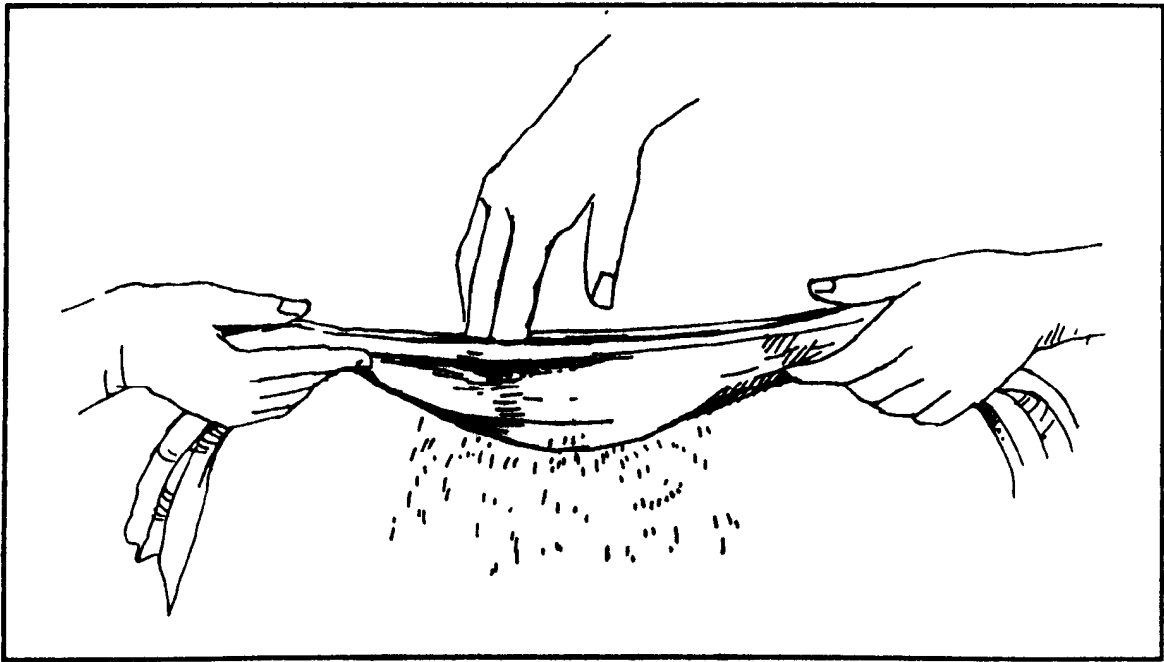
Sun-drying of crude drug



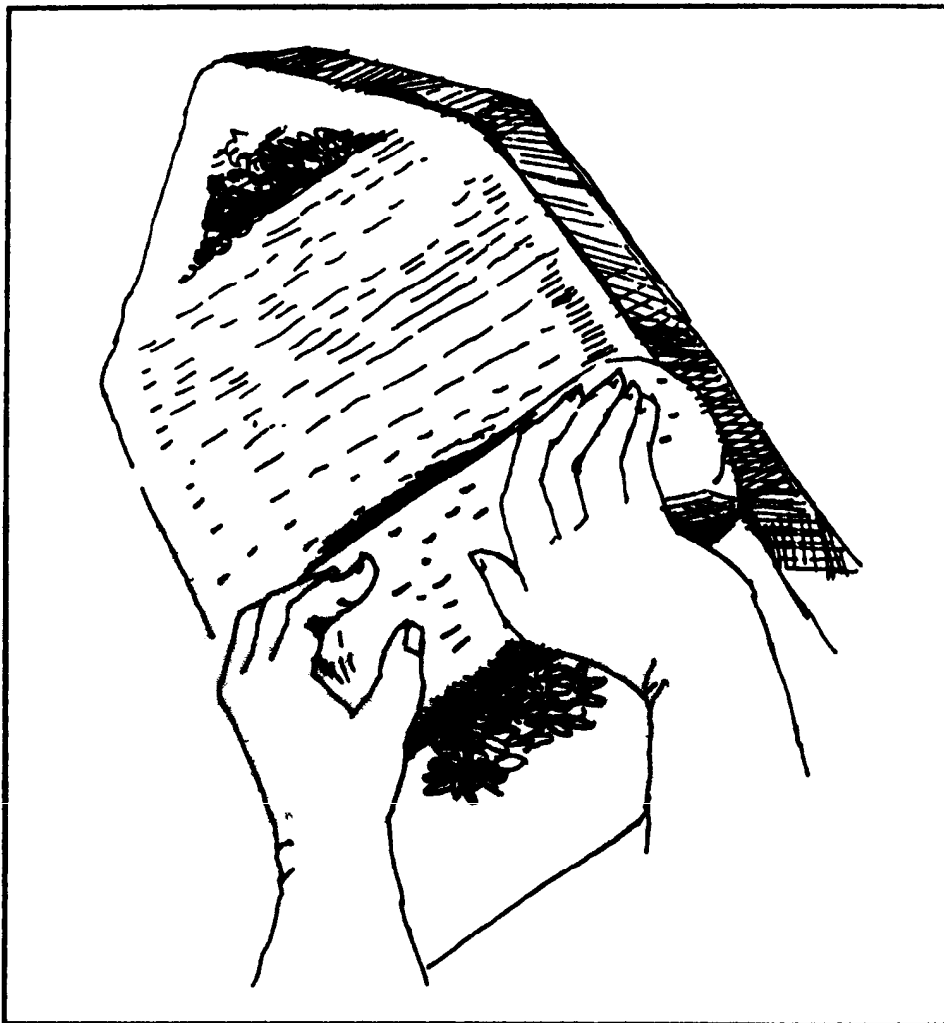
**Pounding of crude drug**



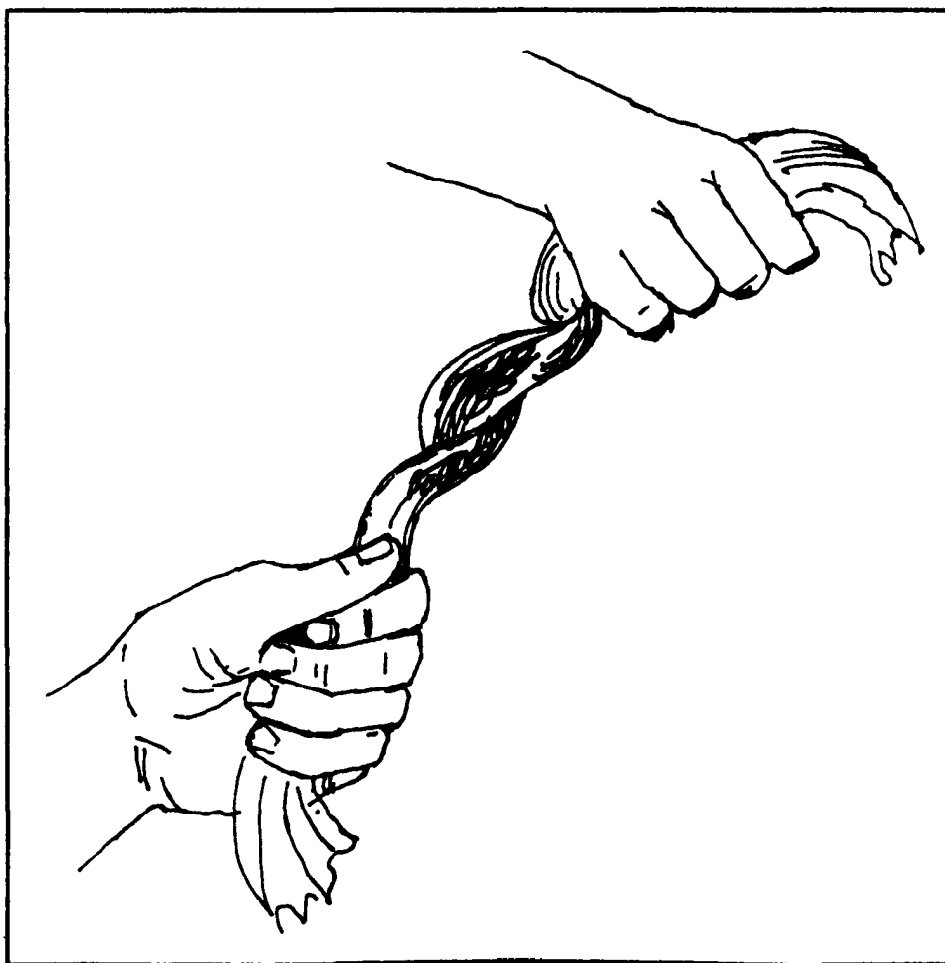
**Mixing of powdered crude drug**



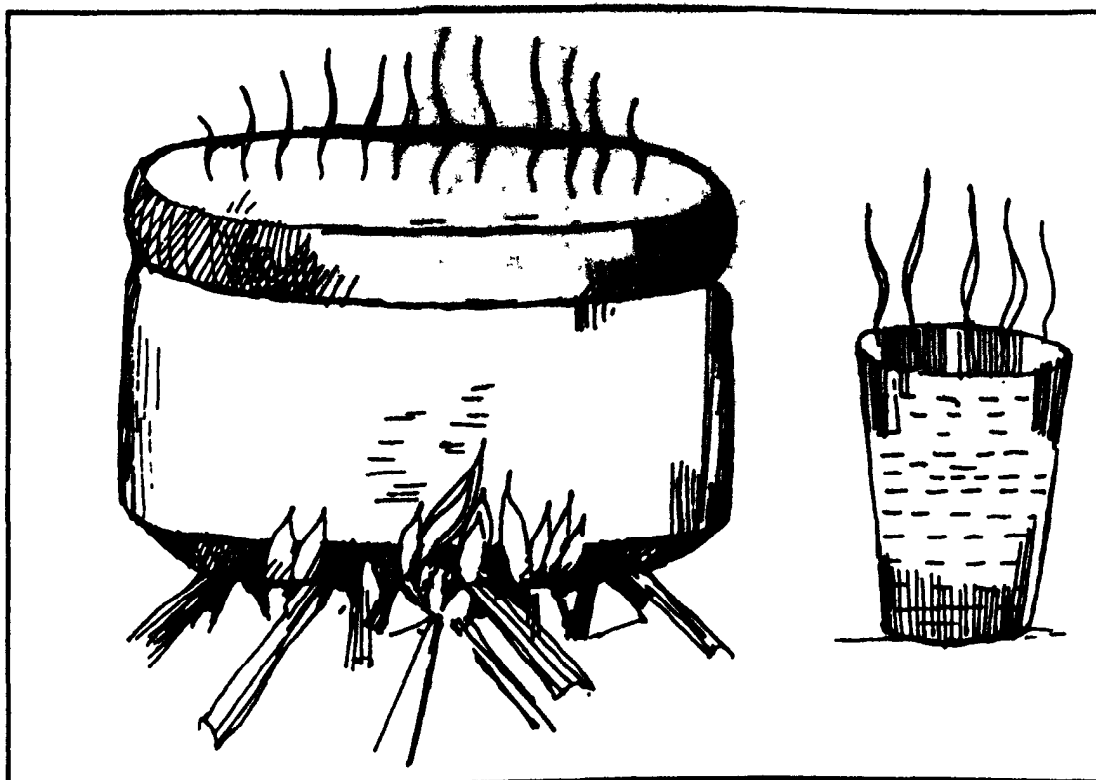
Sieving of powdered crude drug



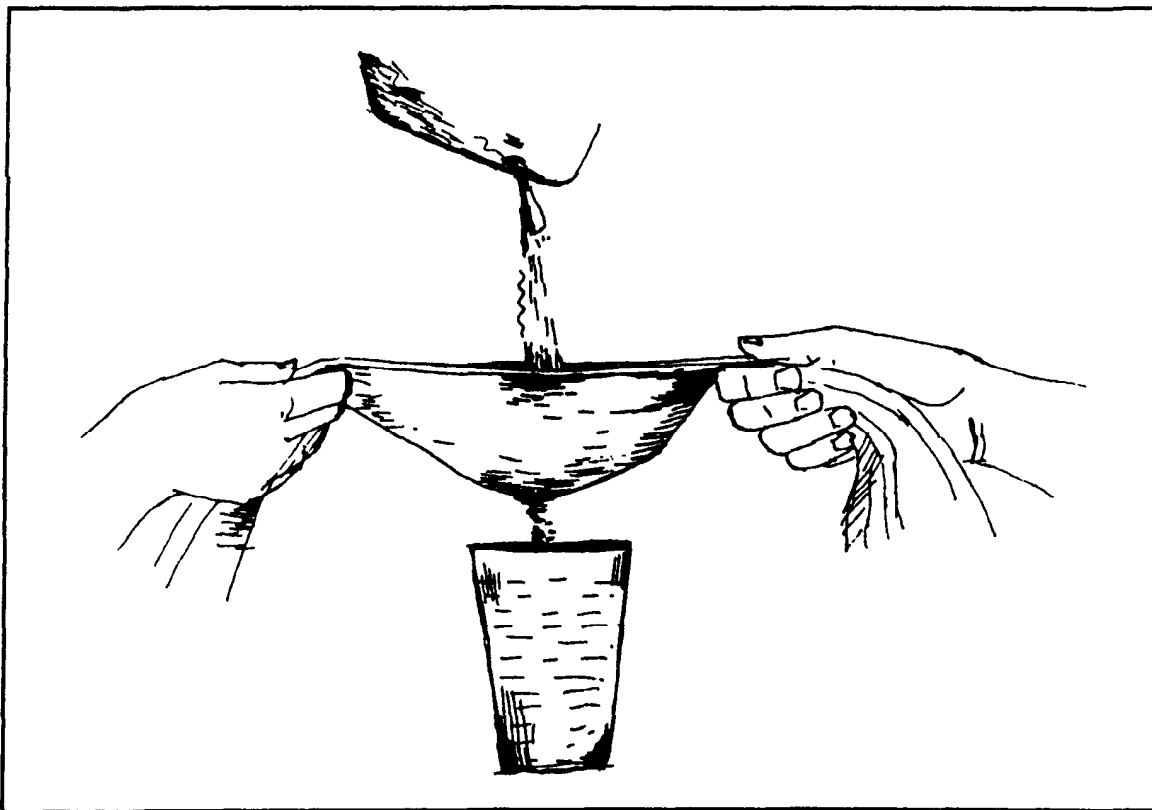
Pasting of fresh leaves



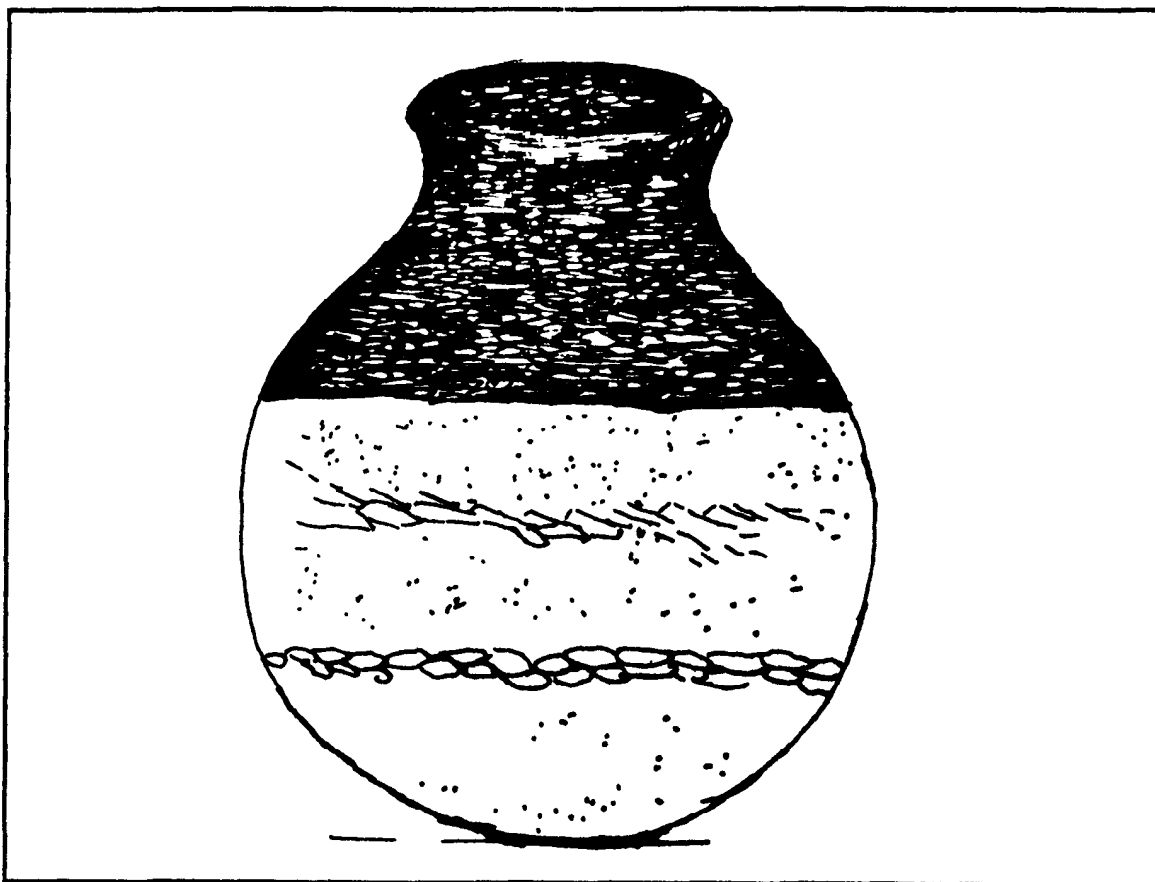
Squeezing of the juice from pasted crude drug



Extraction from crude drug



Filtration of extraction



Fermentation of crude drug

**ACCOUNT OF THE ETHNOBOTANICAL USES**

- Botanical name** : **Abelmoschus manihot** (L.) Medik. ssp. **tetraphyllus** (Roxb. ex Hornem.) Borss.
- Family** : **Malvaceae**
- Local name** : **Popongti**
- Specimen examined** : **Puja gaon, Totopara, Pal, 934 (CAL)**
- Brief description** : **Undershrubs, up to 3 m high; stems more or less densely covered with prickly hairs. Leaves 3-9 lobed, acuminate at apex, cordate at base, margin serrate. Stipules linear-lanceolate. Flowers pedicellate; margins of the epicalyx segments hispid by stiff simple hairs; calyx softly villous; corolla yellow with purple centre. Capsules up to 6 cm long acuminate, 5- angled; seeds 3-4 mm long, with stellate hairs.**
- Flowering & Fruiting** : **July to December.**
- Parts used** : **Latex, stem fibre.**
- Medicinal use** : **The fresh latex is applied externally on cuts and wounds twice daily.**
- Other use** : **Stem-fibre is used to make cords and ropes.**
- Similar uses by other tribal communities** : **Stem-fibre is used to make cords, ropes etc. by the tribals of Santhal Parganas and peninsular India.**
- Reference** : **60, 68.**

- Botanical name : **Acacia pennata** (L.) Willd. (2)
- Family : Mimosaceae
- Local name : Bichi
- Specimen examined : Dunchi gaon, Totopara, *S.N. Das & S.C. Roy*, 3512 (CAL)
- Brief description : Woody climbers, 2-8 m tall; internodal spines scattered everywhere. Rachis 6-25 cm long, bearing 5-25 pairs of 1-12 cm long pinnae; leaflets 20-80 pairs, opposite, sessile, linear-oblong, nervuled, entirely glabrous. Heads globose, 8-12 mm in diam, paniced. Flowers white or creamy; calyx campanulate; corolla lobes obovate to lanceolate. Pods strap shaped, 15 x 2 cm, flat, rounded to apiculate or beaked at apex, thinly pubescent to glabrous, chocolate brown in colour; seeds 8-14, ovate-oblong.
- Flowering & Fruiting : February to October.
- Parts used : Stem bark, seeds.
- Medicinal use : The decoction of the stem bark is applied externally to remove dandruff. 10 ml of decoction is taken internally at every half an hour as an antidote to snake bite.
- Other use : Seeds are pounded and used as fish poison.
- Similar Uses by other tribal communities : The tribals of Madhya Pradesh use the bark juice as detergent.
- Reference : 17

- Botanical name** : **Achyranthes bidentata Bl. (3)**
- Family** : **Amaranthaceae**
- Local name** : **Bhaisikuti.**
- Specimen examined** : **Nubai, Totopara, Pal, 945 (CAL)**
- Brief description** : **Erect ascending herbs; stem tetragonous, hairy. Leaves elliptic-oblong or ovate-lanceolate, cuneate at base, margin subentire; petioles 0.5-3 cm; peduncles with appressed hairs, 1-15 cm. Bracts ovate, long, acute; bracteoles 3-4 mm long. Utricles oblong, subtruncate, enclosed in hardened perianth.**
- Flowering & Fruiting** : **June to December**
- Parts used** : **Root**
- Medicinal use** : **About 10 gm of fresh root paste is taken internally in sore throat. The paste is mixed with mustard oil and applied as balm in pneumonia.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**



- Botanical name : **Acorus calamus L. (4)**
- Family : **Araceae**
- Local name : **Latree**
- Specimen examined : **Nubai, Totopara, Pal, 960(CAL)**
- Brief description : **Rhizome ca 3 cm thick, compressed, aromatic, pinkish. Leaves assymetric, linear, 40-80 x 0.6-12 cm, midrib conspicuous. Peduncles ca 25 cm, trigonous; spathes 30-70 cm long; spadix straight or slightly curved, 3-6 x 0.5-1 cm, greenish. Tepals oblong; apex triangular, hooked, 2.5-1 mm. Berries glaucous green, oblong.**
- Flowering & Fruiting : **July**
- Parts used : **Rhizome**
- Medicinal use : **About 8 gm of fresh rhizome paste is given internally in stomach troubles and dyspepsia.**
- Other use : **Not available**
- Similar uses : **The tribals of Kerala use the rhizome in stomachache.**
- Reference : **38**

- Botanical name : **Ageratum conyzoides L. (5)**
- Family : **Asteraceae**
- Local name : **Anename**
- Specimen examined : **Subba gaon, Totopara, Pal, 906 (CAL)**
- Brief description : **Annual or perennial herbs, up to 75 cm high; stems terete, pilose. Leaves opposite or the uppermost alternate, ovate, margin crenate, up to 9 x 6 cm, pubescent above, glandular punctate beneath. Heads in dense terminal corymbs. Involucral bracts many, 2-3-seriate, 2-nerved, glabrous on back; corolla shorter than the awned pappus scales, bluish-white in colour; tube glandular. Achenes black, ca 2 mm long, ribs bristly; pappus of 5 scales, flattened at base.**
- Flowering & Fruiting : **Round the year**
- Parts used : **Leaves**
- Medcinal use : **Crushed leaf juice is applied on wounds and cuts stop bleeding**
- Other use : **Not available**
- Similar use : **Leaf juice is used by various tribal community in India to stop bleeding and to heal wounds.**
- Reference : **30, 52, 61**

- Botanical name : **Amaranthus spinosus L. (6)**
- Family : **Amaranthaceae**
- Local name : **Parucha**
- Specimen examined : **Jhula surani forest, Totopara, *S.N. Das & S. C. Roy*, 3635 (CAL)**
- Brief description : **Erect annuals, 20-100 cm high; stems with paired axillary spines. Leaves alternate, ovate-elliptic, 2-7 x 1-3.5 cm, acute or obtuse. Flowers in clusters, densely aggregated into 3-8cm long spikes; perianth segments 5, free, membranous with green or purplish midrib. Capsules 1-many seeded, compressed.**
- Flowering & Fruiting : **March to May**
- Parts used : **Leaves, roots**
- Medicinal use : **The paste of leaves and roots is mixed in 3:2 ratio and taken internally as laxative. The leaf paste is applied as poultice over abscesses. The root decoction is used in skin eruption.**
- Other use : **Whole plants are sold in local market as vegetables.**
- Similar use : **Not available**
- Reference : **Not applicable**

- Botanical name** : **Amaranthus viridis L. (7)**
- Family** : **Amaranthaceae**
- Local name** : **Ahmicha**
- Specimen examined** : **Jhula surani forest, Totopara, S.N. Das & S. C. Roy, 3636 (CAL)**
- Brief description** : **Stem 10-50 cm long. Leaves broadly ovate, 2-7x 1-6 cm, subacute or obtuse. Spikes slender, 2-7 x 0.3-0.6 cm. Flowers mostly female with a few male flowers above; perianth segments 3, ca 1 mm long; stamens 3; stigmas 2-3, minute. Capsules warty; seeds glossy.**
- Flowering & Fruiting** : **March to May**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf juice is applied as pain reliever on scorpion stings and centipede bites.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Annona squamosa* L. (8)**
- Family** : **Annonaceae**
- Local name** : **Shariphal**
- Specimen examined** : **Mondal gaon, Totopara, Pal, 955 (CAL)**
- Brief description** : **Small, branched trees, 3-6 m tall; branches pubescent when young, glabrous with age. Leaves oblong-lanceolate, 6-12 x 2-4 cm, obtuse at apex, cuneate at base. Flowers axillary, solitary or a few together; bracts pubescent; sepals 3, broadly ovate; petals with 3 minute inner whorls, greenish yellow in colour; stamens numerous, ca 1 mm long. Capsules many, subconnate, ovoid; ripe carpels united, forming many loculed syncarpous tuberculate fruit. Fruit pulp white, edible; seeds many, shining black, arillate.**
- Flowering & Fruiting** : **September to January**
- Parts used** : **Leaves, seeds**
- Medicinal use** : **Seed paste applied externally to allay inflation.**
- Other use** : **Mature dry seeds are crushed into powder for using as fish poison. Dried leaves are crushed into powder and used as insect repellent of stored food grains.**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical Name** : **Aphanamixis polystachya** (Wall.) Parker (9)
- Family** : **Meliaceae**
- Local name** : **Akawa**
- Specimen examined** : **Gaidham, Totopara, S.N. Das & S.C. Roy, 3568 (CAL)**
- Brief description** : **Small trees, about 5-10 m high. Leaves 35-70 cm long; leaflets opposite, 12 x 5 cm, oblong-lanceolate, globular. Female inflorescence in axillary or supra-axillary spikes. Capsules 2.5-3.5 cm long, obovoid, 3-valved; seeds oblong-ellipsoid, covered with scarlet arillode.**
- Flowering & Fruiting** : **April to September.**
- Parts used** : **Stem bark, seeds.**
- Medicinal use** : **The fresh paste of stem bark is used in hepatic disorders. Seed oil is applied in rheumatism.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Arisaema tortuosum* (Wall.) Schott. (10)**
- Family** : **Araceae**
- Local name** : **Bisbanka**
- Specimen examined** : **Howri river side, Totopara, S.N. Das & S.C. Roy, 3581 (CAL)**
- Brief description** : **Plants usually *ca* 2 mm long; corm depressed-globose, 2.5-5 cm in diameter. Leaves dark green in colour, 2-3 in number; leaflets 5-18, oblong or elliptic, shortly acuminate. Peduncles 18-75 cm long. Spathe oblong-lanceolate, tube subcylindrical, gradually dilating into the limb; spadix unisexual or bisexual, 16-30 cm long; appendage sigmoidly ascending, tapering from sessile base to very acute apex. Berries ovoid, *ca* 1 cm long, red.**
- Flowering & Fruiting** : **August to September**
- Parts used** : **Seeds, root**
- Medicinal Use** : **Churned root is used as anthelmintic. Dried seed powder is given with salt in 3:1 ratio in colic pain of goats.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Artemisia indica** Willd. (11)
- Family** : **Asteraceae**
- Local name** : **Dhunchu**
- Specimen examined** : **Mitrang gaon forest, Totopara, Pal, 920 (CAL)**
- Brief description** : **Erect, aromatic herbs, 0.5-1 cm high. Leaves pinnati-partite; segments narrow, lanceolate, white tomentose beneath. Heads campanulate or subglobose; involucral bracts few, glabrous or tomentose on maturity. Achenes oblong-ellipsoid, minute.**
- Flowering & Fruiting** : **August to February**
- Parts used** : **Leaves, seeds**
- Medicinal use** : **Leaf decoction is given internally in allergic eruptions. Seed paste is made into pills and given in malarial fever.**
- Other use** : **Dried leaves are burnt for smoke which is used as insect and mosquito repellent by the tribals of Nilgiri Hills**
- Reference** : **1**



- Botanical name** : **Artocarpus chama** Buch-Ham. (12)
- Family** : **Moraceae**
- Local name** : **Shingkong**
- Specimen examined** : **Panchayet gaon, Totopara, Pal, 954 (CAL)**
- Brief description** : **Deciduous trees; stem erect, brownish, hispid. Leaves obovate, acute or acuminate, pubescent beneath; juvenile leaves deeply pinnatifid. Flowers solitary in leaf axils. Fruiting head sub-globose, 6-10 cm. Achenes oblong, enclosed within fleshy perianth.**
- Flowering & Fruiting** : **March to April**
- Parts used** : **Stem bark, fruits**
- Medicinal use** : **Stem bark decoction is applied on gum inflammation. The fresh bark is chewed as masticatory.**
- Other use** : **Ripe fruits are edible and are sold in local market.**
- Similar use** : **Ripe fruits are eaten by the tribals of Andaman and Nicobar Islands.**
- Reference** : **7**

- Botanical name** : **Asplenium nidus** L. (13)
- Family** : **Aspleniaceae**
- Local name** : **Yoman**
- Specimen examined** : **Dayamara River bed, Totopara, Pal, 972 (CAL)**
- Brief description** : **Rhizome suberect, covered with broad acuminate scales. Fronds lanceolate, entire, glabrous; midrib prominent. Sori linear; indusium superficially attached at base, slightly curved.**
- Flowering & Fruiting** : **Spore formation takes place in summer season.**
- Parts used** : **Whole plant, root**
- Medicinal use** : **Root paste is applied on sore between the toes.**
- Other use** : **Whole plant is used for ornamental purpose.**
- Similar use** : **The tribal tribals of North-Eastern India use the whole plant as a medicine for curing sore.**
- Reference** : **16**

- Botanical name** : **Baliospermum solanifolium** (Burman)  
Suresh *et al.* (14)
- Family** : Euphorbiaceae
- Local name** : Jarinata
- Specimen examined** : Titi forest, Totopara, *Kallol Dey*, 15 (CAL)
- Brief description** : A stout, sub-herbaceous, shrub, nearly glabrous, except the shoots and sometimes leaves beneath. Leaves rigid, sinuate-toothed, strongly veined, base acute, obtuse or cordate; petioles stout, of upper leaves short, of lower leaves as long as the blade. Flowers in numerous axillary racemes, entirely male or with a few female; bracts small. Capsule large, obovoid; seeds oblong, mottled.
- Flowering & Fruiting** : June to October
- Parts used** : Root
- Medicinal use** : The fresh root paste is taken internally, about 5 gm, as an antidote to food poison.
- Other use** : Not available
- Similar use** : Not available
- Reference** : Not applicable

- Botanical name** : ***Begonia annulata* Koch. (15)**
- Family** : **Begoniaceae**
- Local name** : **Jabjew**
- Specimen examined** : **Dunchi gaon, Totopara, Pal, 941 (CAL)**
- Brief description** : **Stipulated stem, 8-10 cm long. Leaves ovate, acuminate at apex, obliquely cordate at base, margin closely serrate, pubescent on both surfaces; petioles 4-10 cm long. Inflorescence a few flowerd cyme; perianth segment obovate, pinkish in colour. Capsules pubescent.**
- Flowering & Fruiting** : **August to March**
- Parts used** : **Leaf**
- Medicinal use** : **Fresh leaf juice is applied on leach bite to stop bleeding from the wound.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : ***Bidens biternata*** (Lour.) Merr. & Sherff. (16)
- Family : Asteraceae
- Local name : Agedi
- Specimen examined : Duapani river side, Totopara, *S.N. Das & S.C. Roy*, 3538 (CAL)
- Brief description : Erect, simple or sparingly branched, annual herbs, 15-100 cm high; stems pubescent. Leaves opposite, 3-5 foliolate; leaflet ovate-lanceolate or rhomboid-ovate, 6-15 x 3-7 cm, with a cuneate or rounded base, acuminate, serrate, appressed hairy, petiole 1-2 cm long. Heads yellow, 6-8 mm diam., 0.5-4 cm long peduncles; involuncral bracts ovate-oblong, hairy, 0.6-0.7 cm long; ray florets 4 mm long, white; disc florets 4 mm long. Achenes black, linear, tetragonous.
- Flowering & Fruiting : September to January
- Parts used : Leaves
- Medicinal use : Leaf juice is applied externally on septic wounds.
- Other use : Not available
- Similar use : The juice of leaves is used by the Naga tribal communities to get relief from pain due to wounds.
- Reference : 35

- Botanical name : **Boerhaavia diffusa** L. (17)
- Family : Nyctaginaceae
- Local name : Lanchkicha
- Specimen examined : Puja gaon, Totopara, *Pal*, 953 (CAL)
- Brief description : Perennial, diffuse, creeping or scrambling herbs; stem somewhat woody at base. Leaves opposite, ovate-oblong, entire to sinuate or repand, puberulous with whitish undersurface. Flowers in diffused terminal panicles; perianth of a single completely united series of parts termed as perigone; anthocarp fusiform.
- Flowering & Fruiting : Throughout the year
- Parts used : Root
- Medicinal use : Fresh root extract is taken internally in jaundice. The root extract is mixed with honey in 3:2 ratio and is taken orally in stomach disorders.
- Other use : Not available
- Similar use : Root is used in stomach and kidney trouble by the tribals of Purulia district of West Bengal. Root extract is also used in Jaundice by the tribals of Eastern Rajasthan and Siwalik Hills
- Reference : 21, 53, 59

- Botanical name** : **Breynia retusa** (Dennst.) Alston. (18)
- Family** : **Euphorbiaceae**
- Local name** : **Mimaishing**
- Specimen examined** : **Panchayet gaon, Totopara, S.N. Das & S.C. Roy, 3667 (CAL)**
- Brief description** : **Shrubs, up to 3 m tall. Leaves elliptic, 1-3 x 0.8-2 cm, obtuse to subacute, base rounded, glaucous beneath. Lateral nerves 3-6 pairs; petioles 1-3 mm long. Pedicels 2-5 mm long. Female flowers on short straight pedicel of 1-4 mm long. Capsules subglobose, 3-lobed, subtended by enlarged persistent calyx.**
- Flowering & Fruiting** : **April to September**
- Parts used** : **Whole plant**
- Medicinal use** : **Fresh plant juice is given as eye drop in eye diseases.**
- Other use** : **Not available**
- Similar use** : **Stem juice of the plant is used in eye disorders.**
- Reference** : **36**

- Botanical name** : **Callicarpa longifolia** Lamk. (19)
- Family** : **Verbenaceae**
- Local name** : **Dhusre**
- Specimen examined** : **Howri river side, Totopara, Pal, 922 (CAL)**
- Brief description** : **Shrubs, ca 3 m tall. Leaves elliptic or linear-lanceolate, 5-20 x 1-5 cm, acuminate at apex, cuneate at base, glabrous above, stellate pubescent beneath; petiole 0.5-2 cm long. Flowers pinkish purple, Drupes globose, white.**
- Flowering & Fruiting** : **June to January**
- Parts used** : **Stem bark**
- Medicinal use** : **The paste of stem bark is applied on lesions of foot and mouth disease of cattles.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**



- Botanical name** : ***Capparis olacifolia* Hook. & Thoms. (20)**
- Family** : **Capparidaceae**
- Local name** : **Simbri**
- Specimen examined** : **Gayatring, Totopara, *S.N. Das & S.C. Roy*, 3523 (CAL)**
- Brief description** : **Climbing shrubs, branches unarmed or with short, straight, stipular spines; shoots brownish, stellate-tomentose at apex and subulate cataphylls at base. Leaves ovate, 6-14 x 2-4 cm. Flowers 2-3 in axillary rows, sometimes solitary; sepals ovate, acute, concave; petals oblanceolate, white; gynophore 2-3 cm, very tomentose. Fruits globose, red.**
- Flowering & Fruiting** : **May to November**
- Parts used** : **Leaves**
- Medicinal use** : **Bruished leaves are put externally as poultice in gout.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Careya arborea** Roxb. (21)
- Family : Lecythidaceae
- Local name : Petrashing
- Specimen examined : Titi forest, Totopara, *S.N.Das & S. C. Roy*, 3609 (CAL)
- Brief description : Deciduous trees, 5-15 m tall. Leaves ovate or oblanceolate, 15-30 x 8-20 cm, short acuminate or obtuse at apex, cuneate at base, crenulate at margins, lateral nerves 10-15 pairs; petioles 1-3 cm, winged upwards. Flowers 6-8 cm across, white or pale pink, in terminal few flowered stiff spikes; bracts 3, unequal, linear; filaments purple. Berries globose.
- Flowering & Fruiting : May to July
- Parts used : Flowers, root bark and leaves
- Medicinal use : Fresh root bark juice is mixed with flower paste and honey in 2:1:1 ratio and is used as demulcent in cough and colds.
- Other use : Root bark and dried leaf powder is used as fish poison.
- Similar use : Root bark is used as fish poison by the tribals of Purulia district of West Bengal. Calyx part of the plant is used in cough and colds by the tribals of Ratan Mahal Hills, Gujrat.
- Reference 21, 5

- Botanical name** : **Cassia alata L. (22)**
- Family** : **Caesalpinaceae**
- Local name** : **Lutodabai**
- Specimen examined** : **Panchayet gaon, Totopara, Pal, 961 (CAL)**
- Brief description** : **Erect shrubs, ca 1-5 m tall; Leaflets 8-15 pairs, 13-15 x 5-8 cm, nearly glabrous, obtuse or mucronate at apex, oblique at base. Inflorescence in 40-60 cm long, terminal racemes; bracts ovate, deciduous; petals yellow, oblong or obovate. Pods linear, membranous, tetragonous, 12-20 x 1.5 cm, with a crenate wing down the middle of each valve; seeds rhombic, 50 or more.**
- Flowering & Fruiting** : **September to October**
- Parts used** : **Leaves, flowers**
- Medicinal use** : **Flower and Leaf juice is applied on scabies and ringworm.**
- Other use** : **Sometimes dried leaves are sold in local market.**
- Similar use** : **The tribals of Nagaland, Assam and Arunachal Pradesh use the leaf juice in skin diseases.**
- Reference** : **46, 64**

- Botanical name** : ***Catimbium malaccense* (Burm.f.) Holttum. (23)**
- Family** : **Zingiberaceae**
- Local name** : **Jagai**
- Specimen examined** : **Surani forest, Totopara, *S.N. Das & S.C. Roy*, 3624 (CAL)**
- Brief description** : **Shoots *ca* 3 m tall, leafy. Leaves lanceolate, acuminate apex, pubescent beneath; petioles 3-5 cm long. Bracts absent; bracteoles white enfolding in buds, soon deciduous as flowers open, 1.5-2 cm long, each subtending a pair of flowers. Flowers white and pink; lined with scarlet, emarginate. Fruits red, 2.5 cm diam.**
- Flowering & Fruiting** : **April to May**
- Parts used** : **Fruits**
- Medicinal use** : **Dried fruit powder is mixed with salt and is used as emetic.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Catunaregam spinosa** (Thunb.) Tiruv. (24)
- Family** : Rubiaceae
- Local name** : Panji
- Specimen examined** : Dua river side, Totopara, Pal, 930 (CAL)
- Brief description** : Erect, straggling, armed shrubs. Leaves oblong-obovate, cuneate at base, petiolate, lateral nerves 5-7 pairs. Flowers yellowish white, subsessile, solitary or more on small lateral branches. Fruit globose.
- Flowering & Fruiting** : March to November
- Parts used** : Fruits, seeds.
- Medicinal use** : Not available
- Other use** : Ripe fruits which emit the odour of *Psidium guajava* L. are roasted and eaten. Dried seed powder is used as fish poison.
- Similar use** : Fruit is eaten by the tribals of N.E.India, Rajasthan and Uttar Pradesh. Seeds are used as fish poison by the tribals of Kerala and Rajasthan
- Reference** : 2, 58, 57, 43, 25

- Botanical name** : **Centella asiatica** (L) Urban. (25)
- Family** : **Apiaceae**
- Local name** : **Ticha**
- Specimen examined** : **Mondal gaon, Totopara, Pal, 938 (CAL)**
- Brief description** : **A slender perennial creeping herb; stem long, prostrate, rooting at nodes. Leaves rossetted, orbicular, reniform, 1-6 cm in diam.; crenate or lobulate; petiole 1-30 cm long. Flowers in solitary umbels or 2-5 together in axils of short bracts; petals minute, pinkish red, ovate, acute. Fruits laterally compressed with distinct ridges.**
- Flowering & Fruiting** : **April to May**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf extract is used in the treatment of liver complaints and gastric disorders. Sour fruits are advised to avoid during this treatment.**
- Other use** : **Not available**
- Similar use** : **The use of this plant in gastro-intestinal disorder is very common among other tribal and non-tribal communities.**
- Reference** : **Traditionally known.**

- Botanical name** : ***Cinnamomum tamala* Nees et Eberm. (26)**
- Family** : **Lauraceae**
- Local name** : **Dalchini**
- Specimen examined** : **Nubai forest, Totopara, *Pal* 950 (CAL)**
- Brief description** : **Trees, 5-12 m tall. Leaves silky pubescent, lanceolate or ovate-lanceolate, shortly acuminate at apex, rounded at base. Flowers 5-10 long panicles; perianth grey, silky, pubescent. Fruit a berry, 10-15 mm long, black when ripe.**
- Flowering & Fruiting** : **July to October**
- Parts used** : **Stem bark**
- Medicinal use** : **The paste of stem bark is applied on spondilitic portion. This is a case study.**
- Other use** : **The dried stem bark is sold in the market @ Rs. 10-12 per kg.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Cissampelos pareira L. (27)**
- Family** : **Menispermaceae**
- Local name** : **Batulpate**
- Specimen examined** : **Surani forest, Totopara, S.N. Das & S.C. Roy, 3556 (CAL)**
- Brief description** : **A suberect or climbing shrub. Leaves ovate, obtuse or acute at apex, cordate or truncate at base, margin entire, pubescent on both surfaces; petioles 1-8 cm long, inserted at the base of the lamina. Inflorescence in subcorymbose cymes; peduncles pubescent; sepals oblanceolate; petals connate; staminal column very short. Fruits reddish.**
- Flowering & Fruiting** : **August to November**
- Parts used** : **Leaves, stem bark**
- Medicinal use** : **Fresh leaf juice is applied on the inflammation of limbs**
- Other use** : **Fibres obtained from the stem bark are very strong and used for tying purpose.**
- Similar use** : **Not available**
- References** : **Not applicable**



- Botanical name** : **Cissus repens** Lamk. (28)
- Family** : Vitaceae
- Local name** : Gorage
- Specimen examined** : Dua river bed, Totopara, *Pal*, 932 (CAL)
- Brief description** : Scandent shrub; branches subterete, glabrous; young shoot glaucous. Leaves broadly ovate, membranous, acuminate at apex, deeply cordate at base, margins distinctly toothed; petioles *ca* 6 cm long; stipules rounded. Flowers in compound umbellate cymes; calyx truncate; petals 4, triangular, free. Fruit pyriform, 1-seeded.
- Flowering & Fruiting** : August to January
- Parts used** : Stem
- Medicinal use** : Not available
- Other use** : Stem paste is applied on bone fracture of cattle. Mature stem paste is cut in section at one stroke only to facilitate oozing out of watery fluid to quench the thirst in forests.
- Reference** : Not applicable

- Botanical name : **Clerodendrum kaempferi** (Jacq.) Sieb. *ex* Steud. (29)
- Family : Verbenaceae
- Local name : Shing
- Specimen examined : Panchayet gaon, *R. N. Kayal*, 900 (CAL)
- Brief description : Small shrubs, *ca* 3 m tall. Branches glabrate. Leaves decussate-opposite, denticulate along the margins; petioles stout. Inflorescence dense terminal panicle or a pair of cymes; bracts small; calyx campanulate, 5-8 mm long; corolla hypocrateriform, scarlet. Fruits blue to bluish-black; fruiting calyx enlarged. Seeds black.
- Flowering & Fruiting : March to August
- Parts used : Root, leaf
- Medicinal use : Leaf juice is used as alterative. Root paste is applied on boils for suppuration.
- Other use : Leaf is used as vegetable.
- Similar use : The tribals of Subansiri district of Arunachal Pradesh use leaves as vegetable.
- Reference : 41

- Botanical name** : **Clerodendrum viscosum** Vent. (30)
- Family** : **Verbenaceae**
- Local name** : **Chitushing**
- Specimen examined** : **Simanadhara, Totopara, S. N. Das & S. C. Roy, 3647 (CAL)**
- Brief description** : **Shrubs, stem 1-2 m tall; branchlets quadrangular, pubescent. Leaves 15-20 x 10-19 cm, acuminate at apex, cordate at base. Flowers white in terminal panicles; bracts leafly; calyx lobes broadly ovate, silky pubescent; corolla lobes oblong, spreading, tube densely pubescent. Drupes globose, 0.5-0.8 cm across, black when ripe.**
- Flowering & Fruiting** : **Throughout the year**
- Parts used** : **Leaves, root.**
- Medicinal use** : **Pounded leaves and roots are applied externally on tumours for suppuration.**
- Other use** : **Fresh leaf juice is prescribed as health tonic.**
- Similar use** : **Leaf juice is used as health tonic by the Miris of Assam region.**
- Reference** : **15**

- Botanical name** : ***Commelina benghalensis* L. (31)**
- Family** : **Commelinaceae**
- Local name** : **Kankuashing**
- Specimen examined** : **Shimanadhara, Totopara, Pal, 952 (CAL)**
- Brief description** : **A small herb with dichotomously branched, slender stem, creeping and rooting below. Leaves ovate or oblong-obtuse, sessile or shortly petiolate, hairy on both surfaces; base obliquely rounded, sheathed; margins ciliated. Spathes 1-3 together, funnel shaped, auricled on one side; petals 3, blue, larger petal orbicular or transversely oblong; stamens 3; anther oblong; ovary superior. Capsules membranous.**
- Flowering & Fruiting** : **Throughout the year**
- Parts used** : **Whole plant**
- Medicinal use** : **The whole plant paste is applied on burnt wounds.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Convolvulus arvensis L. (32)**
- Family : **Convolvulaceae**
- Local name : **Changdi**
- Specimen examined : **Jhula surani forest, Totopara, S.N. Das & S.C. Roy, 3627 (CAL)**
- Brief description : **Creeping or twining perennial herbs. Leaves ca 5 x 2 cm. Flowers bracteate, axillary, solitary or 2-3 on a long peduncle, pink in colour; sepals unequal; corolla campanulate. Capsules ovoid globose, glabrous with persistent calyx and style; 4-seeded; seeds subtrigonus, dark brown.**
- Flowering & Fruiting : **May to July**
- Parts used : **Root**
- Medicinal use : **Fresh root extract is taken as purgative.**
- Other use : **Not available**
- Similar use : **Root extract is taken internally as purgative by the tribals of Siwalik hills.**
- Reference : **53**

- Botanical name : **Cordia dichotoma** G. Forst. (33)
- Family : Boraginaceae
- Local name : Daishing
- Specimen examined : Surani forest, Totopara, *S.N. Das & S. C. Roy*, 3619 (CAL)
- Brief description : Trees *ca* 6 m tall. Leaves alternate, broadly ovate, elliptic or obovate; upper surface scabrous, lower surface paler. Inflorescence large, lax, terminal and axillary, pedunculate, cymose panicles. Flowers white. Drupes long, ovoid with persistent calyx.
- Flowering & Fruiting : March to June
- Parts used : Leaves, fruits
- Medicinal use : Fresh leaf juice is applied on ulcers. It is also applied in headache.
- Other use : Fruits are eaten.
- Similar use : Leaf juice is applied on ulcers by the tribals of Abujh-Marh of Madhya Pradesh. Fruits are eaten by the tribals of Uttar Pradesh, Madhya Pradesh, Maharashtra and Rajasthan.
- Reference : 47, 30, 17, 56, 67, 26

- Botanical name : **Costus speciosus** (Koen.) Sm. (34)
- Family : Costaceae
- Local name : Batelahari
- Specimen examined : Mahakali hills, Totopara, *Pal.* 917 (CAL)
- Brief description : Shrubs, 1.3 m high; root-stock tuberous; stems subwoody at base. Leaves spirally arranged; oblong-lanceolate, acute or acuminate, silky pubescent beneath; sheaths coriaceous. Flowers in dense spikes; calyx triangular to ovate, 3.2 cm long, cuspidate; corolla white, fragrant; stamens 4-4.5 cm long, with tuft of hairs at the base of the filament; style 4 cm long, slender, stigma ciliated. Capsules trigonous, red; seeds black.
- Flowering & Fruiting : June to December
- Parts used : Rhizome
- Medicinal use : Rhizome juice is taken internally by women in urinal disorders.
- Other uses : The rhizomes are sold in the market.
- Similar use : The rhizome juice is used by the tribal women of Gujarat in urinal disorders.
- Reference : 24

- Botanical name** : **Croton caudatus** Geisel. (35)
- Family** : Euphorbiaceae
- Local name** : Supare
- Specimen examined** : Panchayet gaon, Totopara, *S.N. Das & S.C. Roy*, 3502 (CAL)
- Brief description** : Large scandent shrubs. Leaves acute-acuminate at apex, shallowly dentate-serrate at margins, 5-13 x 3-9 cm, petiolate. Stipules pinnatisect into filiform segments. Racemes terminal, solitary. Flowers in dense, fascicles along rachis. Capsules subglobose, subtrigonus, warty, rusty pubescent, stellate hairy; seeds longitudinally furrowed.
- Flowering & Fruiting** : May to July
- Parts used** : Leaves
- Medicinal use** : Fresh leaf paste is applied as poultice on sprains.
- Other use** : Not available
- Similar use** : Not available
- Reference** : Not applicable



- Botanical name : **Cryptolepis buchanani** Roem. & Schultz.  
(36)
- Family : **Periplocaceae**
- Local name : **Medkoshing**
- Specimen examined : **Mahakali hills, Totopara, Pal, 937 (CAL)**
- Brief description : **A much branched twining shrub; stem with profuse milky juice. Leaves elliptic or oblong-lanceolate; margin entire; acuminate at apex, acute at base; shining above. Inflorescence in short paniculate cymes with glabrous pedicels; calyx ovate, subacute; corolla tube 2 mm long; lobes linear-lanceolate, greenish yellow in colour. Fruit a follicle, gradually tapering to a blunt end from middle; seeds oblong-ovate, black.**
- Flowering & Fruiting : **January to June**
- Parts used : **Latex**
- Medicinal use : **Latex is applied for healing septic wounds.**
- Other use : **Not available.**
- Similar use : **The tribals of Orissa use the latex in cuts and wounds.**
- Reference : **48**

Botanical name	:	<b>Curcuma caesia</b> Roxb. (37)
Family	:	Zingiberaceae
Local name	:	Kali Haldi
Specimen examined	:	Subba gaon, Totopara, <i>Pal</i> , 918 (CAL)
Brief description	:	Herbs, <i>ca</i> 1 m high. Leaves oblong to lanceolate, glabrous, presence of purplish stripe on lamina; petiole and sheath equal to the size of leaf blade. Spike pedunculate; flower light yellow in colour.
Flowering & Fruiting	:	June to November
Parts used	:	Rhizome
Medicinal use	:	Rhizome paste is applied on the place of snake bite. The decoction of the rhizome is taken internally as an antidote to snake venom. The decoction is also taken in stomachache. The paste is also applied on paralytic limbs of children.
Other use	:	The rhizomes are sold in market.
Similar use	:	Not available
Reference	:	Not applicable

- Botanical name : **Cyathula prostrata (L.) Blume (38)**
- Family : **Amaranthaceae**
- Local name : **Diashingkong**
- Specimen examined : **Howri river side, Totopara, Pal, 903 (CAL)**
- Brief description : **Annual herbs; stem creeping with erect branches. Leaves opposite, rhombic-elliptic, acute, cuneate at base, sparsely or densely hirsute. Spike slender, 10-15 cm long, rarely branched; fertile flowers in cluster, perianth segments short, becoming deflexed in fruits.**
- Flowering & Fruiting : **October to March**
- Parts used : **Whole plant, root**
- Medicinal use : **Decoction of root is used for abortion purpose up to three months of pregnancy. Plant juice is applied externally for curing dermatitis.**
- Other use : **Not available**
- Similar use : **Not available**
- Reference : **Not applicable**

- Botanical name** : **Cymbopogon martinii (Roxb.) Watz. (39)**
- Family** : **Poaceae**
- Local name** : **Khere**
- Specimen examined** : **Dayamara river bed, Totopara, Pal, 946 (CAL)**
- Brief description** : **Perennial sweet scented grass with erect culms. Leaves linear-lanceolate with semicordate base; sheaths glabrous, ligule oblong, scarious. Decompound panicle often 15-30 cm long; spiciform racemes 1.5-1.9 cm long; spikelets sessile, ovate or oblong-ovate; glume elliptic or cymbiform, many nerved or 3-nerved. Lemna 2-lobed, fimbriate.**
- Flowering & Fruiting** : **August to December**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf oil is taken internally in biliousness**
- Other use** : **Leaves are used in curries, tea and coffee for aroma. Sometimes the leaves are sold in the market.**
- Similar use** : **Leaf oil is used as folk medicine by the tribals in Siwalik hills.**
- Reference** : **53**

- Botanical name** : ***Cynodon dactylon* (L.) Pers. (40)**
- Family** : **Poaceae**
- Local name** : **Duba**
- Specimen examined** : **Simanadhara, Totopara, *S.N. Roy & S.C. Das*, 3678 (CAL)**
- Brief description** : **Creeping perennial with stolon; culms slender with rhizomes, nodes glabrous. Leaves linear to lanceolate, acuminate, glaucous, sparsely hairy or glabrous; sheaths keeled; ligules fimbriate, membranous. Racemes 3-6, digitate.**
- Flowering & Fruiting** : **Throughout the year**
- Parts used** : **Whole plant**
- Medicinal use** : **Crushed plant is put to check bleeding from new cuts.**
- Other use** : **Not available**
- Similar use** : **The use of this plant to check bleeding from new cut is very common among the other tribal and non-tribal communities.**
- Reference** : **Traditionally known.**

- Botanical name** : **Dalbergia sissoo** Roxb. ex DC. (41)
- Family** : **Fabaceae**
- Local name** : **Sissan**
- Specimen examined** : **Kuopani, Totopara, S.N. Das and S.C. Roy, 3519 (CAL)**
- Brief description** : **Trees 12-15 m tall, Leaflets 3, broadly ovate, acuminate at apex. Flowers in axillary panicles. Pods stalked, ca 3.5 x 0.5 cm.**
- Flowering & Fruiting** : **March to May**
- Parts used** : **Leaf, wood**
- Medicinal use** : **Fresh leaf decoction is useful in gonorrhoea.**
- Other use** : **The wood is sold in the market in log form in a very restricted way.**
- Similar use** : **The tribals of Dehradun and Siwalik region use the decoction of leaves in gonorrhoea.**
- Reference** : **53**

- Botanical name** : ***Dalbergia stipulaceae* Roxb. (42)**
- Family** : **Fabaceae**
- Local name** : **Neushing**
- Specimen examined** : **Kuopani, Totopara, *S.N. Das & S.C. Roy* 3508 (CAL)**
- Brief description** : **Sprawling tree or scandent shrub. Leaflets oblong, obtuse, base rounded or cuneate, sparsely appressed pubescent beneath; petiolules 1-3 mm long; stipules oblong, deciduous. Inflorescence panicle, branches bearing numerous oblong bracts in lower parts; petals pale blue, strongly recurved, obovate, blade 6 x 5 mm; stamens 10, in 2 groups of 5 each. Pods oblong-elliptic, thickened over the solitary seed.**
- Flowering & Fruiting** : **April to June**
- Parts used** : **Stem and root bark**
- Medicinal use** : **Not available**
- Other use** : **Stem and root bark is cut into pieces and thrown into ponds for fish poisoning purpose.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Dendrocnide sinuata** (Bl.) Chew. (43)
- Family** : Urticaceae
- Local name** : Pagsa
- Specimen examined** : Gaidham, Totopara, *S.N. Das & S.C. Roy*, 3566 (CAL)
- Brief description** : Shrubs, 2-5 m tall Leaves oblong-ovate, 20-50 x 8-25 cm, acute or acuminate at apex, rounded or cordate at base; lateral nerves 12-15 pairs; petioles stout, 2-10 cm with short stinging hairs; stipules ovate, 1.5-2 cm long. Stinging hairs most abundant on inflorescence. Cymes in lax, dichotomous axillary panicles, 5-18 cm long; male flowers 2-3 mm; female flowers with ovary 1.5-2 mm, beaked at apex; style 4-5 mm. Achenes obliquely ovate, laterally compressed, white.
- Flowering & Fruiting** : May to November
- Parts used** : Root, seeds
- Medicinal use** : Root juice is taken in case of prolonged fevers.
- Other use** : Seeds are used as a substitute of coriander.
- Similar use** : Not available
- Reference** : Not applicable



- Botanical name** : **Desmodium laxiflorum** DC. (44)
- Family** : **Fabaceae**
- Local name** : **Perishing**
- Specimen examined** : **Titi forest, Totopara, Pal, 910 (CAL)**
- Brief description** : **An erect undershrub, 1-2 m high; branchlets obtusely angled with dense short hairs. Leaves 3-foliolate; leaflets ovate or lanceolate, cuspidate-acute or shortly acuminate, cuneate or oblique at base. Racemes axillary and terminal, 12-40 cm long, bracts minute, lanceolate; calyx densely hairy, teeth longer than the tube; corolla purplish pink, 4-6 cm long. Pods 25-35 mm long, clothed with minutely hooked glandular hairs.**
- Flowering & Fruiting** : **July to November**
- Parts used** : **Root**
- Medicinal use** : **Root paste is given to mothers in case of scanty lactation.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Dichrocephala integrifolia* (L.f.) O. Kuntze (45)**
- Family** : **Asteraceae**
- Local name** : **Pachishing**
- Specimen examined** : **Dua riverbed, Totopara, S.N. Das & S.C. Roy, 3662 (CAL)**
- Brief description** : **Aromatic, annual, erect herbs, 15-60 cm high, divaricately branched. Leaves ovate, lyrate, 2-10 x 1-5 cm subacute at apex, crenate-serrate at margin, Heads few, globose, 4-5 mm diam, in small rigid, terminal racemose panicles; involucre bracts minute, linear, 2-seriate. Ray florets greyish-white, gland dotted; corolla of disc florets, yellow, 4-toothed. Achenes ca 1 mm long; pappus of female flowers absent.**
- Flowering & Fruiting** : **August to September**
- Parts used** : **Tender shoots**
- Medicinal use** : **Tender shoot paste is applied in form of poultice over insect stings. The paste is also taken orally in menorrhagia.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Dioscorea hamiltonii* Hook. f. (46)**
- Family** : **Dioscoreaceae**
- Local name** : **Dangneng**
- Specimen examined** : **Simanadhara, Totopara, Pal, 935 (CAL)**
- Brief description** : **Right hand twining climbers; stem slender, unarmed; tubers long stalked, deeply buried in ground. Leaves ovate or lanceolate, acuminate at apex, cordate at base. Short male spikes on slender axillary branches; fertile stamens 6. Capsules reniform; seeds winged.**
- Flowering & Fruiting** : **September to January**
- Parts used** : **Bulb, tubers**
- Medicinal use** : **Not Available**
- Other use** : **The tubers are fed to cattle and pigs for better growth. The tubers are sold in market.**
- Similar use** : **Root tubers are eaten by the tribals of Kerala, Madhya Pradesh. (Bastar region), Arunachal Pradesh (Subansiri region) and Assam.**
- Reference** : **8, 10, 18, 19, 41, 44**

- Botanical name** : ***Diplazium esculentum* (Retz.) Sw. (47)**
- Family** : **Athyriaceae**
- Local name** : **Mairungshai**
- Specimen examined** : **Simanadhara, Totopara, Pal, 950 (CAL)**
- Brief Description** : **Rhizome black, semi-erect, fibrous; scales lanceolate, dark brown. Stipe ca 2 cm long, lamina spreading; costae peltate on the ventral surface; veins forked, anastomising between the opposite pairs of veins. Indusium linear, attached back to back, distal edges free.**
- Flowering & Fruiting** : **Spore formation takes place during the winter season**
- Parts used** : **Young fronds, rhizome**
- Medicinal use** : **Young frond paste is applied on skin infection of infants. Rhizome paste is taken in fever**
- Other use** : **Young fronds and leaves are edible**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Dregea volubilis** (L.f.) Benth. *ex* Hook. f. (48)
- Family : **Asclepiadaceae**
- Local name : **Parshing**
- Specimen examined : **Torsha river side, Totopara, Pal, 921 (CAL)**
- Brief description : **A large woody twiner, sap watery. Leaves broadly ovate, 7-16 x 5 - 11 cm, acuminate at apex, rounded at base; glabrous or softly pubescent. Flowers in lateral drooping umbellate cymes; calyx segments ovate-oblong, cilliolate; corolla broadly ovate, overlapping to the right, greenish. Folicles tapering to a blunt point, 7-9 x 3 cm, ovoid; seeds ovate.**
- Flowering & Fruiting : **July to September**
- Parts used : **Root, flowers**
- Medicinal use : **Not available**
- Other use : **Root paste is mixed along with the soaked water of 'marua' seeds to increase the potency and toxicity of rice-beer ("Eu"). The flowers are consumed after frying. The dried root paste are made into fermentation cakes and sold in the market.**
- Similar use : **Not available**
- Reference : **Not applicable**

- Botanical name** : ***Drymaria cordata* (L.) Willd. ex R & S. (49)**
- Family** : **Caryophyllaceae**
- Local name** : **Makaibi**
- Specimen examined** : **Subba gaon, Totopara, Pal, 901 (CAL)**
- Brief description** : **Diffuse or sub-erect branching herb. Leaves alternate, broadly ovate or sub-orbicular; glabrous, mucronate at apex, rounded at base; petioles 1-4 mm long. Flowers in axillary and terminal cymes; pedicels slender; sepals elliptic-ovate; petals narrowly lobed; stamens 3-5. Capsule ovoid, trigonous; seeds muricate.**
- Flowering & Fruiting** : **May to October**
- Parts used** : **Whole plant, leaves**
- Medicinal use** : **Plant juice is taken as laxative. The plant paste is mixed with pepper in 2:1 ratio and is used as an antifertility agent. Roasted leaves are used in cold and cough.**
- Other use** : **Not available**
- Similar use** : **Leaf juice is used as antifebrile and is also used in cough by the tribals of Himalayas.**
- Reference** : **13**

- Botanical name** : **Duchesnea indica** (Andr.) Focke. (50)
- Family** : **Rosaceae**
- Local name** : **Phalia**
- Specimen examined** : **Simanadhara, Totopara, S.N. Das & S.C. Roy, 3642 (CAL)**
- Brief description** : **Perennial herbs, with epigeal rooting stolons; leaves rossetted, 3-foliolate; leaflets obovate, cuneate or acute at base, obtuse, crenate-dentate, white pilose. Flowers solitary or in 2-4 flowered terminal cymes; receptacle spongy. Achenes black.**
- Flowering & Fruiting** : **March to June**
- Parts used** : **Whole plant, fruit**
- Medicinal use** : **Plant is used as veterinary medicine**
- Other use** : **Bright red ripe fruits are eaten**
- Similar use** : **Ripe fruits are eaten by the tribals of N.E. India.**
- Reference** : **2,45**

- Botanical name** : ***Eclipta prostrata* (L.) L. (51)**
- Family** : **Asteraceae**
- Local name** : **Keshing**
- Specimen examined** : **Simanadhara, Totopara, *S.N. Das & S. C. Roy* 3666 (CAL)**
- Brief description** : **Erect or prostrate herbs. Leaves opposite, simple, sub-entire. heads small, 1-2 short peduncled in axil of upper leaves; involucral bracts biseriate, herbaceous; ray florets numerous, 2-seriate; disc florets fewer, tubular, limb campanulate, 4-lobed at apex; anther obtuse, sagittate at base; style branched.**
- Flowering & Fruiting** : **March to June**
- Parts used** : **Whole plant, leaf, root.**
- Medicinal use** : **Plant paste is taken in the treatment of liver and spleen enlargement. Leaf juice is put on scorpion stings. Pounded root is applied on septic wounds.**
- Other use** : **Not available**
- Similar use** : **The tribals of Eastern Rajasthan use the plant in hepatic disorder, spleen enlargement, ulcer and wounds.**
- Reference** : **59 (2)**



- Botanical name** : ***Emilia sonchifolia* (L.) DC. (52)**
- Family** : **Asteraceae**
- Local name** : **Yakeshing**
- Specimen examined** : **Kuopani, Totopara, *S.N. Das & S.C. Roy*, 3657 (CAL)**
- Brief description** : **Erect, multicauline, annual-perennial, weak, 20-40 cm high, glaucascent herbs; stem pale brown in colour, branched at base, often decumbent-ascending. Radical leaves elliptic, serrate, acute at both ends, sessile; cauline leaves obovate, acute to sub-obtuse, amplexicaul. Heads 7-9 mm long, ebracteate, on 3.5-5 cm long peduncles; involucral bracts 9-12 mm lanceolate; corolla pinkish-purple. Achenes 5-ribbed; pappus 8 mm.**
- Flowering & Fruiting** : **November to March**
- Parts used** : **Leaves, root.**
- Medicinal use** : **Fresh leaf juice is used as eye drop in inflammation and night blindness. Decoction of root is given in diarrhoea.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Euphorbia hirta L. (53)**
- Family** : **Euphorbiaceae**
- Local name** : **Chapangsing**
- Specimen examined** : **Panchayet gaon, Totopara, S.N. Das & S.C. Roy, 3669 (CAL)**
- Brief description** : **Prostrate or decumbent annual herbs, 10-50 cm, simple or dichotomously branched. Leaves opposite, asymmetrically ovate-lanceolate or elliptic-lanceolate, 1-4.5 x 0.5-2 cm, acute to sub-obtuse at apex, base oblique, margin serrate; petioles 2-4 mm; stipules minute, subulate. Cyathia clustered in globose heads on leafless axillary or subsessile or pedunculate dense cymes; cyathial cup bearing 4 orbicular red glands, minutely appendaged at back. Capsules globose-trigonous, appressed hairy.**
- Flowering & Fruiting** : **Almost throughout the year**
- Parts used** : **Whole plant, latex**
- Medicinal use** : **Decoction of plant is given in bronchial affections and in asthma. Latex is applied on abscesses**
- Other use** : **Not available**
- Similar use** : **Decoction of the plant is given in asthma by the tribals of Madhya Pradesh.**
- Reference** : **19, 36**

- Botanical name** : ***Ficus auriculata* Lour. (54)**
- Family** : **Moraceae**
- Local name** : **Mura**
- Specimen examined** : **Puja gaon, R. N. Kayal, 893 (CAL)**
- Brief description** : **Trees, 3-10 m. Leaves broadly ovate, 15-30 x 10-25 cm, deeply cordate or rounded at base, short acuminate, margins shallowly or coarsely toothed, lateral nerves 3-4 pairs; petioles 7-10 cm. Stipules triangular. Peduncles 2-4 cm on short thick leafless branches. Fruits minutely tuberculate.**
- Flowering & Fruiting** : **January to June**
- Parts used** : **Leaf, fruit and latex**
- Medicinal use** : **Latex is applied on skin diseases**
- Other use** : **Ripe fruits are sweet and delicious. Sometimes leaves are used for making plates and lids to cover the water of fermentation containers. Latex is used for catching birds.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Ficus hispida** L.f. (55)
- Family : Moraceae
- Local name : Lora
- Specimen examined : Mahakali hill forest, Totopara, *Pal*, 909 (CAL)
- Brief description : Hispid shrub or small tree, 8-9 m tall. Leaves opposite, petiolate, coriaceous, ovate-oblong, shortly acuminate, serrated or entire; base subcordate. Receptacle axillary or few in fascicles or many in clusters on the trunk, sub-globose, 1-2 cm diam., yellowish when ripe; sepals 3 in male flower, concave; stamen 1; ovary smooth, globose; style short, subterminal; stigma dilated.
- Flowering & Fruiting : June to September
- Parts used : Leaves
- Medicinal use : Fresh leaves are fed to the delivering cows to enhance the expulsion of placenta.
- Other use : Not available
- Similar use : Not available
- Reference : Not applicable

- Botanical name** : ***Globba marantina* L. (56)**
- Family** : **Zingiberaceae**
- Local name** : **Not discolsed by the Totos**
- Specimen examined** : **Pujagaon, Totopara, Pal, 978 (CAL)**
- Brief description** : **Stem up to 30 cm high. Leaves very shortly petiolate, oblong, upto 18 x 5 cm, acute at apex, ligule short, membranous. Spike dense, oblong, strobiliform, upto 10 cm long; bracts imbricate, persistent, broadly ovate; bulbils ovoid; calyx 4-5 mm long, three lobed; corolla yellow, tube upto 1 cm long, lobes ovate, 4 mm long; anther with two spreading wings. Capsule oblong, smooth.**
- Flowering & Fruiting** : **July to September**
- Parts used** : **Rhizome**
- Medicinal use** : **Rhizome paste is applied on bone fracture.**
- Other use** : **The rhizomes are eaten during the scarcity period.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Glochidion assamicum** (Muell.) Hook. f. (57)
- Family** : Euphorbiaceae
- Local name** : Lungdi
- Specimen examined** : Titi forest, Totopara, *S.N. Das & S.C. Roy*, 3611 (CAL)
- Brief description** : A shrub or small tree, 3-5 m high; branchlets glabrous angled. Leaves membranous, elliptic-oblong, 5-17 x 2-7 cm, apex acuminate, base obliquely cuneate, glabrous, pale purplish beneath; lateral nerves 6-9, prominent beneath; petioles 3-5 mm. Male flowers clustered; pedicels slender, 9-16 mm long; stamens 3; female flowers densely clustered, sub-sessile; style short, erect; column minutely 4-toothed; ovary globose. Capsule clustered.
- Flowering & Fruiting** : October to March
- Parts used** : Stem bark
- Medicinal use** : Fresh bark juice is given in the stomachache of children and infants.
- Other use** : Not available
- Similar use** : Not available
- Reference** : Not applicable

- Botanical name** : **Glycosmis arborea** (Roxb.) DC. (58)
- Family** : **Rutaceae**
- Local name** : **Tanshonk**
- Specimen examined** : **Dunchi gaon, Totopara, Pal, 944 (CAL)**
- Brief description** : **Erect shrubs, 0.5-1 m high. Leaves 3-5 foliolate; leaflets, ovate-lanceolate, 7-12 x 2-5 cm, glabrous, with distinctly crenulate margin. Flowers white, axillary panicles of 9-16 cm long raceme; stamens 8-10. Fruit globose, berry, purplish.**
- Flowering & Fruiting** : **March to September**
- Parts used** : **Leaves, stems, ripe fruits**
- Medicinal use** : **Stem is used as toothbrush for fixing loose teeth.**
- Other use** : **Dried and powdered leaves are kept inside the garments to act as insecticide. Fresh leaf juice is also used as insect repellent. Stems are cut into pieces and sold in the market as tooth brush. Ripe fruits are eaten raw.**
- Similar use** : **The tribals of Andhra Pradesh, Orissa and Andaman Islands use to consume the ripe fruits.**
- Reference** : **7, 39**

- Botanical name** : **Gmelina arborea L. (59)**
- Family** : **Verbenaceae**
- Local name** : **Tenshing**
- Specimen examined** : **Subba gaon, Totopara, Pal, 914 (CAL)**
- Brief description** : **Unarmed, deciduous, medium sized tree, often 9-16 m tall. Leaves deltoid ovate, acuminate at apex, cordate or shortly cuneate at base, margin entire or undulate; petioles 6-7.5 cm long, cylindric, hoary. Calyx campanulate with 5 small triangular teeth; corolla brownish-yellow, 5 lobed, 2 lipped. Drupe pyriform.**
- Flowering & Fruiting** : **February to June**
- Parts used** : **Stem bark**
- Medicinal use** : **The paste of stem bark is given as an antidote in case of vegetable poisoning.**
- Other use** : **The wood is sold in the market in log form.**
- Similar use** : **The stem bark is used by the tribals of Santhal Parganas as an antidote to poisoning.**
- Reference** : **12, 60**



- Botanical name** : **Gomphostemma melissifolium** Wall. (60)
- Family** : Lamiaceae
- Local name** : Dekaishing
- Specimen examined** : Simanadhara, *Pal*, 961 (CAL)
- Brief description** : Scandent or prostrate herbs, 0.5-2.5 m long; stem slender, grooved, scabrous, rooting beneath. Leaves elliptic, 7-12 cm long, glabrous acute at apex, attenuate at base, margin crenate. Flowers in dense axillary whorls. Calyx *ca* 1 cm long, puberulous, toothed, lanceolate; corolla *ca* 3 cm long, lanceolate, puberulous; style glabrous.
- Flowering & Fruiting** : October to November
- Parts used** : Leaves
- Medicinal use** : The leaf paste is applied on "Haza" - a kind of dermatitic sore due to the long contact of the skin of hand and feet with water.
- Other use** : Not available
- Similar Use** : Not available
- Reference** : Not applicable

- Botanical name** : **Gongronema nepalense (Wall.) Decaisne (61)**
- Family** : **Asclepiadeace**
- Local name** : **Yagshong**
- Specimen examined** : **Simanadhara, Totopara, Pal, 954 (CAL)**
- Brief description** : **Glabrous twining shrubs or undershrubs; shoots and cymes puberulous. Leaves oblong-ovate, rounded or sub-cordate at base, acuminate, 7-15 x 2-6 cm; petiolate. Sepals ovate; corolla ca 5cm in diametre, yellow. Follicles slender, 5-8 x 0.5-0.8 cm.**
- Flowering & Fruiting** : **August to February**
- Parts used** : **Latex and leaf**
- Medicinal use** : **Latex is applied on skin diseases. Adaxial surface of the leaf is applied on bolis for expulsion of pus and as antiseptic.**
- Other use** : **Twinning stem is used as cordage.**
- Similar use** : **Not available**
- Reference** : **Not available**

- Botanical name** : **Grewia asiatica L. (62)**
- Family** : **Tiliaceae**
- Local name** : **Siyalphessa**
- Specimen examined** : **Simanadhara, Totopara, S.N. Das & S.C. Roy, 3660 (CAL)**
- Brief description** : **Shrubs upto 1 m. Leaves non-rugose, broadly ovate or suborbicular, 10-20 x 4-15 cm, apex acute, base cordate, 5 nerved at the base, minutely pubescent above, finely greyish tomentose beneath; margins unequally serrated, peduncles slender, 1-4 cm; pedicels slender, 1-1.5 cm; sepals oblong, 6-10 mm; petals yellow, 3-7 x 1.5-3 mm, oblong-obovate. Stamens numerous; filaments 4-6 mm long. Drupes 12 mm across, weakly 2-lobed.**
- Flowering & Fruiting** : **April to June**
- Parts used** : **Leaves and fruits**
- Medicinal use** : **Fruits are taken in spasmodic pain. Leaf paste is applied on allergic eruptions.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not available**

- Botinacal name** : **Guizotia abyssynica (L.f.) Cars. (63)**
- Family** : **Asteraceae**
- Local name** : **Ramteel**
- Specimen examined** : **Mondal gaon, Totopara, Pal, 939 (CAL)**
- Brief description** : **A stout erect herb upto 2 m tall with divergent branches. Leaves opposite, oblong or lanceolate, acute at apex, amplexicaul at base; margin entire. Heads numerous, axillary or terminal, 2-3 cm in diam. on 3-5 cm long peduncle. Outer involucral bracts elliptic to ovate and the inner one is oblong to spatulate, 5-lobed. Achenes ca 0.4 long.**
- Flowering & Fruiting** : **September to October**
- Parts used** : **Seeds**
- Medicinal use** : **Seed oil is applied on rheumatic swellings.**
- Other use** : **Not available**
- Similar use** : **Fruits and seeds are used by the tribals of upper-east Godavari district of Andhra Pradesh in rheumatism.**
- Reference** : **61**

- Botanical name** : **Gynocardia odorata** Br. (64)
- Family** : **Flacourtiaceae**
- Local name** : **Gotashing**
- Specimen examined** : **Gaidham, Totopara, Pal, 948 (CAL)**
- Brief description** : **Deciduous, spreading trees, 10-20 m. Leaves oblong, coriaceous, 13-20 x 5-8 cm, 5-9 pairs of lateral veins prominent beneath; short acuminate at apex, base somewhat rounded; petioles 1-4 cm. Male flowers in axillary fascicles. Calyx lobes obtuse; petals pale yellow, oblong. Stamens many, anthers basifixed. Female flowers larger than males. Fruits berry, 7-12 cm diam.**
- Flowering & Fruiting** : **April to December**
- Parts used** : **Fruits, seeds**
- Medicinal use** : **Oil obtained from the fruit pulp is used as medicated oil. Oil extracted from seeds is applied in skin diseases.**
- Other use** : **Fruits are sold in market.**
- Similar use** : **Seeds are available in local market of Meghalaya. These are used in skin diseases.**
- Reference** : **23**

- Botanical name** : **Hedychium coronarium** Koen. ex. Retz. (65)
- Family** : **Zingiberaceae**
- Local name** : **Kachhra**
- Specimen examined** : **Panchayet gaon, Totopara, Pal, 966(CAL)**
- Brief description** : **Root stalk 2.5 cm thick. Stems upto 1.0-1.5 m high. Leaves sessile, 15 x 10 cm, oblong-lanceolate, pubescent beneath; ligule bilobed. Spike dense flowered. Bracts oblong, imbricate, 3-6 flowered. Calyx green, shorter than the bract, corolla tubular. Stamminodes distinctly clawed. Capsule oblong with crimson aril seed.**
- Flowering & Fruiting** : **June to October**
- Parts used** : **Rhizome, flowres**
- Medicinal uses** : **Dried rhizome powder is given with warm water in fever. Root stock is used as carminative.**
- Other use** : **Charm against evil spirits. Flowers are used as source of perfume.**
- Similar use** : **The tribal inhabitants of sikkim use the root part of the plant as charm against evil spirits**
- Reference** : **29**

- Botanical name : **Hibiscus sabdariffa L. (66)**
- Family : **Malvaceae**
- Local name : **Yasheel**
- Specimen examined : **Puja gaon, Totopara, Pal, 911 (CAL)**
- Brief description : **Shrubs, 1-2 m tall. Leaves polymorphous, glandular on the midrib beneath. Petioles 4-5 cm long; stipules 1 cm long, acute. Flowers solitary, axillary. Bracteoles 8-12, adnate to the base; calyx lobes lanceolate, fleshy, accrescent. Corolla purple with dark centre. Capsules ovoid, hairy. Seeds reniform with stellate hairs.**
- Flowering & Fruiting : **August to January**
- Parts used : **Leaves and fruit calyx**
- Medicinal use : **Leaves and fruit calyx are given to delivering mother and other convalescing patients for chewing to get relief from labour pain.**
- Other use : **The stem fibres are made into cords, ropes, etc. & used mainly in thatchings.**
- Similar use : **Leaves and calyx are used as vegetables in West Bengal and Gujrat. Fibres obtained from stem are used to make ropes by the Oraon & Korwa tribes of Madhya Pradesh.**
- Reference : **32, 33**

- Botanical name** : **Holmskioldia sanguinea Retz. (67)**
- Family** : **Verbenaceae**
- Local name** : **Harelahara**
- Specimen examined** : **Dayamara river side forest, Totopara, Pal, 936 (CAL)**
- Brief description** : **Scandent evergreen shrub. Stem pubescent, quadrangular. Leaves elliptic-ovate, glabrous, acuminate at apex; margins entire to serrate. Inflorescence in terminal or axillary cymes. Calyx petaloid, scarlet to orange in colour; corolla bilabiate; tube curved. Drupes obovoid, 4-lobed, enclosed in calyx.**
- Flowering & Fruiting** : **September to February**
- Parts used** : **Leaves, stem bark, flowers**
- Medicinal use** : **Extracts of leaves and stem bark are taken in dysentery.**
- Other use** : **Flowers are used in domestic decoration.**
- Similar use** : **Not available**
- Reference** : **Not applicable**



- Botanical name** : **Hygrophila salicifolia** (Vahl) Nees (68)
- Family** : **Acanthaceae**
- Local name** : **Loga**
- Specimen examined** : **Nubai, Totopara, Pal, 951 (CAL)**
- Brief description** : **Erect herbs or undershrubs, 40-50 cm tall. Stems branched, tetragled, pubescent. Leaves linear-lanceolate, usually entire, acute at both ends, 3-10 x 0.5-1 cm, glabrous. Flowers in axillary clusters. Calyx tubular with hispid ciliate margins; corolla pale purple, hairy outside; stamens 4. Capsules linear, 12-17 mm; seeds 20-28, sub-quadrangular.**
- Flowering & Fruiting** : **May to September**
- Parts used** : **Leaf**
- Medicinal use** : **The leaf decoction is taken as blood purifier.**
- Other use** : **The leaves are used as vegetables in curries, stews.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Hyptis suaveolens* (L.) Poit. (69)**
- Family** : **Lamiaceae**
- Local name** : **Dompaishing**
- Specimen examined** : **Simanadhara, Totopara, *S.N. Das & S.C. Roy*, 3659 (CAL)**
- Brief description** : **Aromatic annuals, 60-150 cm high, with tetragonal hispid stem and branches. Leaves peltoid, highly variable in size, 3-4 x 2-3 cm, broadly ovate, sinuate, cordate at base, hairy. Flowers 1-5 in axillary, peduncled; cymose clusters combined into a terminal leafy panicle. Calyx glandular and hispid outside; corolla small, blue in colour. Nutlets compressed, ovate, oblong, rugose.**
- Flowering & Fruiting** : **Throughout the year**
- Parts used** : **Whole plant**
- Medicinal use** : **Plants yield an essential oil which is used as a remedy for toothache. It is applied on forehead in headache also.**
- Other use** : **The dried aromatic leaves are used in smoking in cattle sheds to repel flies and mosquitoes.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Impatiens arguta* Hook. f. & Thomson (70)**
- Family** : **Balsaminaceae**
- Local name** : **Yemchee**
- Specimen examined** : **Dayamara river side, Totopara, Pal, 968 (CAL)**
- Brief description** : **Perennial herb upto 1 m. Leaves ovate-elliptic or lanceolate, glabrous; petiole upto 15 cm, subsessile, glands present. Flowers solitary or in clusters, purple to violet. Lateral sepals 4, arranged in pairs. Lower sepals pouchy.**
- Flowering & Fruiting** : **July to October**
- Parts used** : **Flowers, seeds**
- Medicinal use** : **Flower juice is used as eye drop in eye diseases. The seed oil is used for pains in joints.**
- Other use** : **Seeds and flowers are edible.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Ipomoea quamoclit* L. (71)**
- Family** : **Convolvulaceae**
- Local name** : **Kamshing**
- Specimen examined** : **Gayatring, Totopara, *S.N. Das & S.C. Roy*, 3526 (CAL)**
- Brief description** : **A climbing herb. Stems slender, glabrous. Leaves ovate to elliptic, deeply pinnatisect with curved segments. Flower in solitary or in 2-5 flowered cymes; pedicels 1.2-1.5 cm long, angled. Bracts linear, 2-2.5 cm long. Sepals oblong, 4-6 mm long, fleshy, shining. Corolla 3-3.2 cm long, bright red, hypocrateriform. Capsules ovoid, 6-8 mm long, glabrous with persistent calyx. Seeds 6 mm long, dark brown to black.**
- Flowering & Fruiting** : **April to June**
- Parts used** : **Leaves**
- Medicinal use** : **Fresh leaf juice squeezed from crushed leaves and is applied on bleeding piles.**
- Other use** : **Not available**
- Similar use** : **No available**
- Reference** : **Not applicable**

- Botanical name** : **Jasminum caudatum** Wall. ex Lindl. (72)
- Family** : **Oleaceae**
- Local name** : **Mataishing**
- Specimen examined** : **Panchayet gaon, Totopara Pal, 943 (CAL)**
- Brief description** : **Climbing shrubs. Leaflets 4-10 x 1-2 cm, glabrous, petioled, lanceolate or oblong-lanceolate, acuminate at apex, rounded at base. Flowers white, fragrant in paniculate cymes. Berries green.**
- Flowering & Fruiting** : **August to January**
- Parts used** : **Root**
- Medicinal use** : **A balm is prepared from root-paste and mustard oil and is applied on ringworm.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**
- Notes** : **This plant is earlier reported by *Cowan* from North Bengal but there is no herbarium specimen of that report in any Indian herbaria.**

- Botanical name** : **Jatropha curcas** L. (73)
- Family** : Euphorbiaceae
- Local name** : Pagedie
- Specimen examined** : Simanadhara, Totopara, *S.N. Das & S.C. Roy*, 3697 (CAL)
- Brief description** : Large shrubs or sometimes small trees, 1-5 m high. Stem branched, glabrous. Leaves sub-orbicular, 3-5 angled or lobed, 5-15 x 6-16 cm; sublobed tips acute, base cordate; petiole 5.5-14 cm. Flowers small in terminal cymose panicles, Sepals ovate-elliptic, green ciliate, entire. Petals elliptic-obovate, villose inside. Disc glands free. Male flowers contain 8-10 stamens, female flowers in the form of cymes. Capsules sub-globose.
- Flowering & Fruiting** : May to October.
- Parts used** : Twigs, seeds
- Medcinal use** : Twig paste is applied on septic wounds. Seed oil is applied on skin diseases. This oil is also taken as laxative.
- Other use** : Not available
- Similar use** : Stem juice or twig juice is applied on sores by the Santhals.
- Reference** : 22

- Botanical name** : **Justicia adhatoda** L. (74)
- Family** : **Acanthaceae**
- Local name** : **Kashabu**
- Specimen examined** : **Puja gaon, Totopara, Pal 908 (CAL)**
- Brief description** : **Perennial, bushy shrub, 1-2.5 m tall. Stem glabrous with opposite ascending branches. Leaves elliptic-lanceolate; acuminate at apex, acute at base; puberulous when young, glabrous when mature; nerves 10-12 pairs; margin entire. Flowers in axillary dense spikes, 2-7 cm long; bracts elliptic-lanceolate; bracteoles oblong-lanceolate; calyx segments 5, imbricate, oblong-lanceolate; 3-nerved; corolla white with few purple bars in the throat. Filaments stout, curved; anther cells apiculate. Ovary and style base pubescent. Capsules sub-acute. Seeds orbicular-oblong, glabrous.**
- Flowering & Fruiting** : **November to July.**
- Parts used** : **Leaves**
- Medicinal use** : **Fresh leaf juice is lukewarmed and taken twice a day to check cough and cold.**
- Other use** : **Not available**
- Similar use** : **The use of this plant in cough and cold is very common.**
- Reference** : **Traditionally known**

- Botanical name** : **Justicia gendarussa** Burm. f. (75)
- Family** : **Acanthaceae**
- Local name** : **Yatri**
- Specimen examined** : **Tribal Welfare Bungalow, Totopara, Pal, 916 (CAL)**
- Brief description** : **Undershrub, 60-125 cm high. Leaves narrowly lanceolate, glabrous; petioles 6-7 mm long. Flowers clustered in axillary or terminal paniculate spikes; lower clusters usually distinct. Bracts linear, 3 mm long narrow; bracteoles absent. Corolla whitish, strongly scented. Capsule clavate, glabrous.**
- Flowering & Fruiting** : **July to November**
- Parts used** : **Seeds**
- Medicinal use** : **Not available**
- Other use** : **Dried seed powder is mixed with fruit decoction and used as insect repellent.**
- Similar use** : **Not available**
- Reference** : **Not applicable.**



- Botanical name** : **Kirganelia reticulata** (Poir.) Baill.(76)
- Family** : **Euphorbiaceae**
- Local name** : **Dirisat**
- Specimen examined** : **Kuopani, Totopara, S.N. Das & S.C. Roy, 3509 (CAL)**
- Brief description** : **A large scandent shrub or small bushy tree upto 4 m high. Cataphylls present. Leaves ovate-elliptic, 1-3 x 0.7-1.6 cm, obtuse, subacute or mucronate, entire, glabrous or slightly hairy. Stipules 2 mm, ovate, acute. Flowers on slender leafshoots, 1-5 per axil; pedicels 3-6 mm; sepals 6. Mature fruit baccate, globose or oblate, 8-16 seeded. Seeds trigonous.**
- Flowering & Fruiting** : **April to May**
- Parts used** : **Leaf**
- Medicinal use** : **The fresh leaf juice is applied in bleeding gum.**
- Other use** : **Not available**
- Similar use** : **Leaf juice is applied on bleeding gums by the tribals of Madhya Pradesh.**
- Reference** : **37**

- Botanical name** : **Leea asiatica (L.) Ridsdale (77)**
- Family** : **Vitaceae**
- Local name** : **Golini**
- Specimen examined** : **Kuopani, Totopara, Pal, 933 (CAL)**
- Brief description** : **Erect shrub, 2 m high, stem terete. Leaflets oblong-elliptic; acute or shortly acuminate at apex, rounded at base; glabrous above, pubescent beneath, petiolate. Main nerves upto 20 pairs. Inflorescence of much branched trichotomous cymes. Calyx lobes triangular, gland-tipped; petals greenish-white, oblong. Berries depressed globular.**
- Flowering & Fruiting** : **July to November**
- Parts used** : **Root-tuber**
- Medicinal use** : **The paste of root-tuber is mixed with the seed of black peeper in 1:1 ratio and is given in the early stage of epilepsy.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Litsea lancifolia** (Roxb. *ex* Nees) Hook. f. (78)
- Family : Lauraceae
- Local name : Yaneshee
- Specimen examined : Mitrang goan, Totopara, *Pal*, 904 (CAL)
- Brief description : Trees or shrubs. Leaves opposite or alternate, elliptic to linear oblong, acute to acuminate at apex, glaucous beneath. Flowers small; umbellate, 3-8 flowerd. Perianth segments distinct, unusually six.
- Flowering & Fruiting : May to July
- Parts used : Leaves, stem bark
- Medicinal use : Leaf paste is mixed with the leaf paste of *Thysanolaena maxima* Kuntz. in 2:1 ratio and given in dysentery.
- Other use : Not available
- Similar use : The tribals of Santhal Parganas use the stem bark as a veterinary medicine.
- Reference : 12.

- Botanical name** : **Maesa indica** Willd. (79)
- Family** : **Myrsinaceae**
- Local name** : **Jammata**
- Specimen examined** : **Gaidham, Totopara, S.N. Das & S.C. Roy, 3527 (CAL)**
- Brief description** : **A shrub or small tree, 5-10 m. Leaves elliptic-lanceolate, 10-18 x 3-6 cm, acute or acuminate, remotely or coarsely toothed, glabrous. Petioles 1-2 cm long, channelled. Flowers in axillary racemes, bracts acute. Calyx minute, segmented, tube somewhat adnate to ovary. Corolla white, lobes imbricate, round. Stamens 5, filaments short, anthers dorsifixed. Fruit globose, 2-3 mm diam.**
- Flowering & Fruiting** : **April to November**
- Parts used** : **Leaf**
- Medicinal use** : **Not available**
- Other use** : **Dried leaf powder is put into stagnant water for stupefying fish.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Mangifera indica** Linn. (80)
- Family : **Anacardiaceae**
- Local name : **Amba**
- Specimen examined : **Panchayetgaon, Totopara, Pal, 780 (CAL)**
- Brief description : **Large spreading evergreen tree upto 20 m high. Leaves oblong, lanceolate, apex acute; petiole ca 5 cm. long. Swollen at base. Inflorescence tomentose. Flowers yellow, subsessile. Sepals ovate-oblong, petals linear. Drupes 7-10 cm. long, fleshy, sub-ovoid, seeds 1, large.**
- Flowering & Fruiting : **April to July**
- Parts used : **Leaf-petiole, gum, fruits, stem bark, flowers, seed.**
- Medicinal use : **The paste of leaf-petiole is applied externally on eye-lid boils for early suppuration. Dried flower powder is used in dysentery.**
- Other use : **The powder of seed-kernel is eaten as flour. Dye extracted from bark is used for dying clothes.**
- Similar use : **The leaf petiole paste is used in eye-lid boils by the tribal inhabitants of Santhal Parganas.**
- Reference : **22**

- Botanical name : **Millettia extensa** (Benth.) Baker (81)
- Family : Fabaceae
- Local name : Gaidi
- Specimen examined : Gayatring, Totopara, *S.N. Das & S.C. Roy*, 3533 (CAL)
- Brief description : Large woody climbers, 2-6 m high. Leaves imparipinnate, 20-40 cm long; leaflets 7-9, obovate or oblong, subacute or shortly acuminate, 8-15 cm long, base rounded, appressed silky on both sides. Stipules subulate, 1-2 mm, deciduous. Flowers in 10-30 cm long axillary racemes near the end of the branches. Calyx *ca* 4 mm, obscurely toothed, sericeous. Corolla yellowish-green, 8-12 mm long, pubescent, bilobed at apex, base shortly clawed with 2 rounded auricles. Stamens monodelphous. Pods compressed, 10-15 x 2-4 cm, woody, velvety when young, glabrous on maturity. Seeds 6-8, broadly elliptic, dark brown in colour.
- Flowering & Fruiting : March to September
- Parts used : Leaves, Root
- Medicinal use : Not available
- Other use : Leaves are fed to milking cattle to enhance milk secretion. Crushed fresh root is thrown in water for fish poisoning.
- Similar use : Roots are used as fish poison by the tribals of Rajasthan.
- Reference : 25

- Botanical name** : **Mimosa pudica L. (82)**
- Family** : **Fabaceae**
- Local name** : **Budhi**
- Specimen examined** : **Pujagaon, Totopara, Pal, 926 (CAL)**
- Brief description** : **A decumbent, straggling, prickly, herb 40 cm. Leaves bipinnate, sensitive; pinnae 1-2 pairs, digitate; leaflets linear-oblong, acute to subobtuse at apex, obliquely rounded at base; rachis 2-3 cm. Flowers in globose heads. Corolla 4 lobed, pink; Stamens 4, much exerted. Pods linear-oblong, flat, constricted between seeds, 2-3 mm long bristly hairs on sutures.**
- Flowering & Fruiting** : **June to December**
- Parts used** : **Whole plant**
- Medicinal use** : **The dried plant powder is applied on hair before taking bath effecting the removal of dandruff.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Ochthochloa coracana** Edgew. (83)
- Family : Poaceae
- Local name : Marua
- Specimen examined : Mahakali hill side, Totopara, *Pal*, 940 (CAL)
- Brief description : Plant about 1 m tall. Stems with compressed loose sheaths and ligule of hairs. Spikes 5-7, often in curved, with pubescent rachis. Awnless congested spikelets with 3-6 flowers. Seeds globose, dark brown, smooth or rugose with a depressed black hilum.
- Flowering & Fruiting : November to March.
- Parts used : Seeds.
- Medicinal use : Not available
- Other use : The seed grains are soaked in water alongwith the fermentation cakes made up of the root paste of *Dregea volubilis*(L. f.) Benth. ex Hook.f. in an air tight container. The lids of the containers are covered by the leaves of *Ficus auriculata* Lour.for about a week to prepare the rice-beer (*Eu*). The seeds and the root paste are sold in local markets.
- Similar use : This grass is widely cultivated by the hilly tribals of India and used to make a kind of alcoholic beverage.
- Reference : 41



- Botanical name** : **Ocimum basilicum L. (84)**
- Family** : **Lamiaceae**
- Local name** : **Maishing**
- Specimen examined** : **Tribal Welfare Bunglow compound, Totopara, Pal, 915 (CAL)**
- Brief description** : **Perennial, branched aromatic herb. Stems and branches subquadrangular, grooved. Leaves elliptic to lanceolate; acute at apex and at base, entire or slightly serrated at margins; glabrous. Flowers in spiciform racemes; bracts elliptic-lanceolate, stalked. Calyx pubescent, shortly mucronate, reticulately veined; corolla bilabiate, white, 4-toothed at the subtruncate apex examined. Style gynobasic. Nutlets black, elliptic.**
- Flowering & Fruiting** : **July to December**
- Parts used** : **Seeds**
- Medicinal use** : **Fresh seeds are soaked in fresh water and put on eye to bring out the foreign particles if any present.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Oroxylum indicum** (L.) Vent. (85)
- Family** : **Bignoniaceae**
- Local name** : **Lompaishing**
- Specimen examined** : **Panchayet gaon, Totopara, Pal, 949 (CAL)**
- Brief description** : **Deciduous tree with few branches. Leaves usually bipinnate, 1- 1.2 m long; leaflets broadly ovate, 7-12 x 5-8 cm. Flowers large, fleshy, purplish, numerous in terminal stout racemes. Calyx campanulate. Capsules pendulous, straight and tapering to both ends. Seeds with a broad hyaline, winged.**
- Flowering & Fruiting** : **June to February**
- Parts used** : **Stem bark**
- Medicinal use** : **Burnt-stem bark-ash is applied directly on the septic wounds of cattle.**
- Other use** : **Not available**
- Similar use** : **Stem bark is used as veterinary medicine by the tribal inhabitants of Ratanmahal Hills, Gujrat.**
- Reference** : **5**

- Botanical name : **Oxalis corniculata** L. (86)
- Family : Oxalidaceae
- Local name : Komproshe
- Specimen examined : Puja gaon, Totopara, *S.N. Das & S.C. Roy*, 3673 (CAL)
- Brief description : Perennial herbs. Stem prostrate, root at nodes with ascending, suberect, leafy branches. Leaves digitately 3-foliate. Leaflets obcordate, 5-15 x 7-18 cm; emarginate at apex, cuneate at base, appressed hairy. Peduncles axillary, 3-8 cm, 1-5 flowered. Sepals oblong-lanceolate; petals yellow, spatulate. Capsule cylindric, puberulous or deflexed panicles.
- Flowering & Fruiting : April to October
- Parts used : Leaves, whole plant
- Medicinal use : Fresh leaves are used as stomachic and refrigerant. Leaf-paste is used in scurvy.
- Other use : Plant is also used as vegetable
- Similar use : Not available
- Reference : Not applicable

- Botanical name** : **Phlogacanthus thyriformis** (Hardus.)  
Mabb. (87)
- Family** : **Acanthaceae**
- Local name** : **Kising**
- Specimen examined** : **Gaidham, Totopara, S.N. Das & S.C. Roy,**  
**3560 (CAL)**
- Brief description** : **Shrub, upto 1-2 m high. Leaves elliptic-lanceolate, 15-25 x 4-8 cm, tapering at both ends, subentire, glabrous. Spikes terminal, 10-25 cm long, stout, pubescent. Bracts linear, 1 cm. Calyx teeth setaceous, pubescent; corolla upto 2 cm, orange in colour. Capsules oblanceolate, upto 3 cm long. Seeds 12-14 in number.**
- Flowering & Fruiting** : **January to May**
- Parts used** : **Leaf, Root**
- Medicinal use** : **Leaf juice and root paste are taken as remedy for cough and cold.**
- Other use** : **Leaves are said to be a good fodder for cattle.**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Piper betle L. (88)**
- Family** : **Piperaceae**
- Local name** : **Hapre**
- Specimen examined** : **Titi forest, Totopara, Pal, 929 (CAL)**
- Brief description** : **Climbing. Short adventitious root present. Stem stout, much thickened at nodes. Leaves broadly ovate, acuminate at apex, slightly cordate at base; margin entire to undulate; many nerved; glabrous and shining green on both sides; petioles 20-25 mm, stout. Spikes dense, cylindrical, pendulous.**
- Flowering & Fruiting** : **May to September**
- Parts used** : **Leaf**
- Medicinal use** : **The leaves are smeared with warm ghee and used as poultice upon the wounds to soothe the swelling and pains of boils.**
- Other use** : **Leaf is chewed as masticatory.**
- Similar use** : **The use of this plant leaf as masticatory is very common among the tribal and non-tribal communities.**
- Reference** : **Not applicable**

- Botanical name : **Piper mullesua** D. Don (89)
- Family : Piperaceae
- Local name : Peepla
- Specimen examined : Roadsides of Puja gaon, Totopara, *Pal*, 924 (CAL)
- Brief description : A much branched twining climbers. Leaves elliptic; 5-12 x 2-4 cm; acuminate at apex, acute at base. Male spikes 4-7 cm drooping, slender; female spikes 6-8 mm. Rachis pubescent. Berries 2-3 mm diam.
- Flowering & Fruiting : April to October
- Parts used : Fruit, Leaves
- Medicinal use : Fruits are boiled in mustard oil and then it is massaged on chest in coughs and colds. Sometimes the dried fruits are also taken in coughs and colds.
- Other use : The leaves are taken as a substitute of betel leaf. The dried fruits are sold in market.
- Similar use : Fruits are used in coughs and colds by the tribal inhabitants of Meghalaya.
- Reference : 27

- Botanical name** : ***Piper retrofractum* Vahl (90)**
- Family** : **Piperaceae**
- Local name** : **Chaiprai**
- Specimen examined** : **Dunchi gaon, Totopara, Pal, 925 (CAL)**
- Brief description** : **A glabrous, rather fleshy climbers with adhesive roots. Leaves oblong, ovate or lanceolate, acuminate, base rounded, unequal, 12.5-18 cm x 6-7 cm; petioles 6-13 mm. Fruiting spikes cylindro-conic; fruits very small, bright red in colour, globose.**
- Flowering & Fruiting** : **September**
- Parts used** : **Stem, fruit**
- Medicinal use** : **The stem is used as vegetables in the diets of the pregnant woman for physical fitness.**
- Other uses** : **Both the stems and fruits are used locally as substitute for round peeper.**
- Similar uses** : **The tribals of Hazaribagh use the stem for bringing flavour in curries.**
- Reference** : **62**

- Botanical name** : **Plumbago zeylanica L. (91)**
- Family** : **Plumbaginaceae**
- Local name** : **Chita**
- Specimen examined** : **Pujagaon, Pal, 970 (CAL)**
- Brief description** : **Perennial shrub; leaves ovate, glabrous; flowers white in elongated spikes; fruit capsule, oblong, pointed with viscid glandular persisted calyx.**
- Flowering & Fruiting** : **February to June**
- Parts used** : **Root, stem and latex**
- Medicinal use** : **Root extract is applied on leprosy. Latex is mixed with mustard oil and used in rheumatism. Stem decoction is used in dyspepsia.**
- Other uses** : **Not available**
- Similar uses** : **The tribals of Madhya Pradesh use the root extract in leprosy.**
- Reference** : **6**



- Botanical name : **Polyalthia simiarum** Benth & Hook. f. (92)
- Family : **Annonaceae**
- Local name : **Langaya**
- Specimen examined : **Gaidham, Totopara, S.N. Das & S.C. Roy, 3557 (CAL)**
- Brief description : **Trees, 15-30 m. Leaves oblanceolate, 15-28 x 6-7 cm, acuminate at apex, rounded or subcuneate at base, coriaceous. Petioles upto 1 cm. Flowers usually 2-3 on peduncles. Pedicels 3-4 cm with a rounded bract. Sepals broadly ovate; petals linear-lanceolate, yellowish green. Fruit oblong-ellipsoid.**
- Flowering & Fruiting : **April to July**
- Parts used : **Stem bark**
- Medicinal use : **The stem-bark paste is applied on scorpion stings**
- Other uses : **The bark fibre cordage, made into rolls, are sold in the local markets which are used in thatchings, etc.**
- Similar uses : **Not available**
- Reference : **Not applicable**

- Botanical name** : ***Polygonum barbatum* L. (93)**
- Family** : **Polygonaceae**
- Local name** : **Nirthe**
- Specimen examined** : **Nubai, Totopara, *Pal*, 947 (CAL)**
- Brief description** : **Creeping, ascending herb. Stems terete with swollen nodes. Leaves elliptic to linear-lanceolate, tapering at base, acute to acuminate, 4-19 x 1-4 cm, petiolate. Pseudospikes on 1.5-6 cm long pubescent peduncles. Bracts glabrous, obconical; flowers white. Achenes trigonous, ca 2 mm, dark purplish-black.**
- Flowering & Fruiting** : **July to February**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf juice is applied externally on scabies and other skin diseases.**
- Other uses** : **Not available**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Pothos scandens** L. (94)
- Family** : **Araceae**
- Local name** : **Harsoo**
- Specimen examined** : **Howri river side, Totopara, S.N. Das & S.C. Roy, 3574 (CAL)**
- Brief description** : **Stems much branched, creeping with thickened internodes. Leaves variable, 8-50 mm broad, acute or acuminate, narrowed at base. Peduncles sheathed, 3-5 mm long. Spathe cuspidate, 4-6 mm green. Spadix 4-6 mm, ellipsoid-ovoid, yellow. Berries oblong, 12-15 mm.**
- Flowering & Fruiting** : **March to April**
- Parts used** : **Leaf, stem**
- Medicinal use** : **Dried leaf powder is applied on sores of small-pox. Stem paste is used as plaster on bone fracture.**
- Other uses** : **Not available**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Premna barbata** Wall. ex Schauer. (95)
- Family** : **Verbenaceae**
- Local name** : **Dambroo**
- Specimen examined** : **Gaidham, Totopara, S.N. Das & S.C. Roy, 3551 (CAL)**
- Brief description** : **Trees or shrubs, 5-10 m. Leaves oblong-ovate, 5-16 x 4-7 cm, distantly cuspidate-serrate at apex, rounded or subcordate at base, glabrous above; petioles 10-25 mm long. Flowers in terminal corymbose panicles. Calyx pubescent, 4-toothed, teeth oblong-obtuse. Corolla 2 lipped, throat hairy, greenish-yellow in colour. Drupes globose, 4-5 mm diam., obscurely verrucose.**
- Flowering & Fruiting** : **March to April**
- Parts used** : **Stem- bark, fruit**
- Medicinal use** : **The paste of stem-bark is mixed with the ripe fruit paste in 2:1 ratio and is taken in throat pain.**
- Other uses** : **Not available**
- Smilar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Premna racemosa** Schauer. (96)
- Family** : **Verbenaceae**
- Local name** : **Ginari**
- Specimen examined** : **Mondal gaon, Totopara, Pal, 923 (CAL)**
- Brief description** : **Tree, 5-15 m tall. Leaves elliptic-oblong, 4-12 x 2- 5 cm, glabrous or sparsely pubescent on nerves acute or acuminate at apex, cuneate at base, ; petioles 5-12 mm. Inflorescence of interrupted spike of thyreses. Flowers white. Drupes obovoid.**
- Flowering & Fruiting** : **April to November**
- Parts used** : **Leaf, stem-wood**
- Medicinal use** : **Not available**
- Other uses** : **Dried leaf powder is applied to remove lice from cattle and poultry birds. Wood is made into honey chamber, almost in each house at Totopara.**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Psidium guajava L. (97)**
- Family : **Myrtaceae**
- Local name : **Tomprosee**
- Specimen examined : **Subba gaon, Totopara, Pal, 912 (CAL)**
- Brief description : **Subdeciduous shrubs. Old stem irregularly fluted, branchlets finely pubescent, bark smooth with grey blotch. Leaves oblong-elliptic, pubescent beneath; lateral nerves prominent beneath, strongly curved near the edge; acute at apex, rounded at base; petiolate; stipules minute. Flowers solitary; pedicel pubescent. Calyx tube obovoid, adnate to the ovary. Petals obovate, white. Fruit pear-shaped.**
- Flowering & Fruiting : **April to July**
- Parts used : **Stem bark, leaf, fruit**
- Medicinal use : **Both stem bark and fresh leaf decoction is taken in dysentery. Dried leaf powder is used as masticatory in toothache and gum troubles.**
- Other uses : **The fruits are edible and sold in market.**
- Similar uses : **Leaves are used in blisters in mouth by the Bhoxa tribals of Garhwal district of Uttar Pradesh. The tribes of Varanasi and Mirzapur of U. P., and the tribes of Mikir hills use the leaf and stem bark in dysentery.**
- Reference : **9, 29, 30, 31, 55**

- Botanical name** : ***Pteris blauritia* L. (98)**
- Family** : **Pteridaceae**
- Local name** : **Nara**
- Specimen examined** : **Titi forest, Totopara, *Pal*, 927 (CAL)**
- Brief description** : **Rhizome short, sub-erect, densely hairy and scaly. Scales dark brown, linear-lanceolate. Fronds unipinnate, 35-50 x 20 cm, basioscopic. Pinnae membranous, glabrous; margins entire; stipe and rachis glabrous. Veins forked, one pair of opposite sides uniting just above the sinus. Sori confluent all along the margins connecting all the veinlets.**
- Flowering & Fruiting** : **Spore formation takes place in rainy season.**
- Parts used** : **Fronds**
- Medicinal use** : **Not available**
- Other uses** : **The fronds are used for the preservation of eggs for a long period.**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : ***Rauvolfia serpentina* (L.) Benth. ex Kurz. (99)**
- Family** : **Apocynaceae**
- Local name** : **Korengdabai.**
- Specimen examined** : **Gayatring, Totopara, *S.N. Das & S.C. Roy*, 3540 (CAL)**
- Brief description** : **Undershrubs, upto 1 m high. Leaves whorled, lanceolate or oblanceolate, 16 x 5.8 cm, acuminate at apex, narrowed at base; petiole 0.4-1 cm long. Cymes many flowered, pedunculate. Pedicels 4-16 mm long, red in colour. Drupes purplish black.**
- Flowering & Fruiting** : **June to August**
- Parts used** : **Root**
- Medicinal use** : **Fresh root extract is taken to reduce blood pressure. It is said that the root extract helps in easy and safe delivery of pregnant mother. Powdered root is taken by local people to get relief from fever.**
- Other uses** : **Dried roots are cut in pieces and sold in local market.**
- Similar uses** : **The tribals of Meghalayas use the root paste in fever. The tribal inhabitants of Madhya Pradesh use the root part to reduce high blood pressure.**
- Reference** : **6, 27**



- Botanical name** : **Rhychotechum ellipticum** (Wall. ex Diels.) DC.(100)
- Family** : Gesneriaceae
- Local name** : Bhukadabai
- Specimen examined** : Nubai, Totopara, Pal, 928 (CAL)
- Brief description** : Shrubs. Leaves opposite, 20 x 8 cm, dentate at margin, hirsute on both surfaces. Cymes trichotomously paniculate at lower axils or on leafless lower nodes. Calyx 5, lobes linear, pinkish, persistent. Corolla campanulate. Berry globose, whitish.
- Flowering & Fruiting** : August to January
- Parts used** : Leaves
- Medicinal use** : The fresh leaf juice is used in intermittent fever.
- Other uses** : Leaves are consumed as vegetables
- Similar uses** : Leaf is used as edible vegetables by the tribals of North East India.
- Reference** : 2.

<b>Botanical name</b>	<b>:</b>	<b>Scoparia dulcis L. (101)</b>
<b>Family</b>	<b>:</b>	<b>Scrophulariaceae</b>
<b>Local name</b>	<b>:</b>	<b>Grounsi</b>
<b>Specimen examined</b>	<b>:</b>	<b>Pujagaon, Totopara, Pal, 976 (CAL)</b>
<b>Brief description</b>	<b>:</b>	<b>A small herb, ca 90 cm high. Leaves opposite or whorled, lanceolate; margin serrate; flowers small, white; fruit capsule, globose, 3-4 mm in diameter.</b>
<b>Flowering &amp; Fruiting</b>	<b>:</b>	<b>March to June</b>
<b>Parts used</b>	<b>:</b>	<b>Root, leaf and flower</b>
<b>Medicinal use</b>	<b>:</b>	<b>Root paste is applied on toothache. Leaf paste is mixed with cold water and given against measles of children. Flower paste is mixed with water and given in dysentery and anaemia.</b>
<b>Other uses</b>	<b>:</b>	<b>Not available</b>
<b>Similar use</b>	<b>:</b>	<b>Not available</b>
<b>Reference</b>	<b>:</b>	<b>Not applicable</b>

- Botanical name** : ***Securinega virosa* (Roxb. ex Willd.) Pax & Hoffm. (102)**
- Family** : **Euphorbiaceae**
- Local name** : **Vaikeshing**
- Specimen examined** : **Kuopani, Totopara, *S.N. Das & S.C. Roy*, 3510 (CAL)**
- Brief description** : **Shrubs, 2-5 m. Stems sulcate, glabrous. Leaves ovate elliptic to rhomboid, acute to obtuse, cuneate at base; stipules scarious, lanceolate, 1.5-2 mm long. Male flowers 15-40 in dense clusters in axils. Female flowers 3-6 in axillary clusters with thin pale green annular disc. Fruit globose, 3-5 x 5-8 mm, fleshy, white.**
- Flowering & Fruiting** : **May to August**
- Parts used** : **Leaf**
- Medicinal use** : **Fresh leaf paste is put to destroy worms from cattle sore**
- Other uses** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name : **Sida rhombifolia** L. (103)
- Family : Malvaceae
- Local name : Tenke
- Specimen examined : Nubai, Totopara, *Pal.* 902 (CAL)
- Brief description : Annual or perennial undershrub. Stem erect, ascending, prostrate, branches covered with stellate hairs. Leaves alternate, rhomboid, tapering at the base, whitish pubescent beneath. Petiole *ca* 5 mm. Stipules filiform. Flowers axillary, solitary or 2-3 flowered. Calyx 4-6 mm long, hairy, lobes acuminate. Corolla yellow or pale orange. Carpels 6-9 with short dual awn. Seeds black.
- Flowering & Fruiting : January to December
- Parts used : Leaves, root
- Medicinal use : Leaf paste is applied on boils for suppuration. Fresh root juice is applied on cuts and wounds.
- Other use : Not available
- Similar use : Leaves and root is used by the tribals of Bihar, Rajasthan, Maharashtra (Kolhapur district) for suppuration of boils and for healing of wounds.
- Reference : 49, 63, 66

- Botanical name : **Solanum ferox** L. (104)
- Family : Solanaceae
- Local name : Chota Doronshe
- Specimen examined : Panchayet gaon, Totopara, *Pal*, 905 (CAL)
- Brief description : A stellately tomentose armed shrub, upto 3 m tall. Leaves ovate-oblong, 5-15 x 3-8 cm, subentire or shallowly lobed, sub scabridly stellate above and dirty white tomentose beneath, acute at apex, cuneate or truncate at base; petioles long, prickly. Flowers in extra axillary cymes; pedicels long, stellately hairy and prickly. Corolla bluish-purple, lobes deltoid-ovate. Filaments short; anther oblong-lanceolate. Style curved at apex. Berry 10-15 mm diam., globose. Seeds minutely pitted.
- Flowering & Fruiting : June to February
- Parts used : Leaves and fruits
- Medicinal use : Fruits, fried in mustard oil, is taken in coughs and cold. Fresh leaf-juice is given to pregnant women for restoring vitality.
- Other use : Not available
- Similar use : Root and other parts (including fruits) of the plant body is used as expectorant in various parts of India.
- Reference : 22, 34, 65

- Botanical name : **Solanum viarum** Dunal. (105)
- Family : **Solanaceae**
- Local name : **Drounsi**
- Specimen examined : **Panchayet gaon, Totopara, Pal, 958 (CAL)**
- Brief description : **Erect, much branched shrub, 1-1.5 m high. Stem prickly throughout, woody below. Leaves broadly ovate, acute or sub-acute, 16-26 x 9-17 cm, sparsely hirsute. Flowers 1-4, white or pale yellow, 2-3 cm. in diameter. Berries globose, 2.5-3 cm in diameter, green with faint white variation, maturing to yellow. Seeds about 3 mm. in diam., compressed, brown.**
- Flowering & Fruiting : **Almost throughout the year**
- Parts used : **Seed**
- Medicinal use : **The seed paste is applied on forehead to get relief from one sided headache.**
- Other use : **Not available**
- Similar use : **Not available**
- Reference : **Not applicable**

- Botanical name** : ***Spilanthes calva* DC. (106)**
- Family** : **Asteraceae**
- Local name** : **Abhijal**
- Specimen examined** : **Mitrang gaon, Totopara, Pal, 907 (CAL)**
- Brief description** : **Annual herbs with pubescent stem. Leaves ovate to ovate-elliptic; 2-8 x 2-4 cm, obtuse or acute at apex, cuneate at base; margins entire to crenate serrate; sparsely pubescent on both surfaces; petioles 1-2 cm long. Heads without ray florets on 5-10 cm long thin peduncles. Involucral bracts broadly ovate, acute, sparsely pubescent. Corolla of disc flowers 1-2 cm long. Achenes dark brown to black, glabrous.**
- Flowering & Fruiting** : **February to April**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf paste is applied on sprains. It is also applied as plasters on dislocation of bones.**
- Other use** : **Not available**
- Similar use** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Thunbergia grandiflora** (Rottl.) Roxb. (107)
- Family** : **Acanthaceae**
- Local name** : **Swending**
- Specimen examined** : **Dua river bed forest, Totopara, Pal, 931(CAL)**
- Brief description** : **Large climbers. Leaves ovate, 5-15 x 4-12 cm, subentire or angularly toothed, deeply cordate at base. Flowers in dense axillary short racemes or in clusters. Corolla blue/violet in colour. Capsules globose at base, narrowed into triquetrous beak at apex.**
- Flowering & Fruiting** : **April to November**
- Parts used** : **Stem**
- Medicinal use** : **Decoction of the stem is given in stomach disorders.**
- Other uses** : **Mature stem is cut into pieces at a time in one stroke to ooze out watery fluid used for drinking purpose. It is used very often in the forest to quench thirst.**
- Similar use** : **Not available**
- Reference** : **Not applicable**



- Botanical name** : **Vitex negundo L. (108)**
- Family** : **Verbenaceae**
- Local name** : **Simbuli**
- Specimen examined** : **Subba gaon, Totopara, Pal, 913 (CAL)**
- Brief description** : **Shrub, 2-3 m high. Stem bark grey, branchlets fine tomentose. Leaves 3 foliolate; leaflets lanceolate, acute at apex and base, white tomentose beneath; terminal leaflets with comparatively larger petioles than that of lateral leaflets. Inflorescence of terminal branched paniculate cymes. Calyx white tomentose with triangular teeth. Corolla bluish. Filaments hairy at base, ovary and style glabrous, stigma forked. Drupes ca 0.5 cm in diam., black when ripe.**
- Flowering & Fruiting** : **Throughout the year**
- Parts used** : **Leaves**
- Medicinal use** : **Leaf paste is applied externally in sprains. Children having dermatitis are prescribed to take bath in leaf decoctioned water. Leaf paste is used also in headache.**
- Other uses** : **Not available**
- Similar uses** : **Leaf is used in bone fracture and sprains by the Asurs of Netarhat Plateau, Bihar. Young twigs are used in eczema by the tribals of Garhwal Himalayas. Leaf paste is used in headache by the tribals of Maharashtra and Uttar Pradesh.**
- Reference** : **14, 42, 51, 53, 54**

- Botanical name** : **Wrightia arborea** (Dennst.) Mabb. (109)
- Family** : **Apocynaceae**
- Local name** : **Yamshing**
- Specimen examined** : **Nubai, Totopara, Pal, 959 (CAL)**
- Brief description** : **Trees, 3-6 m tall. Leaves ovate or obovate, acuminate at apex, acute at base, often tomentose on both surfaces. Inflorescence in terminal tomentose cymes. Sepals rounded, petals yellowish-green with an orange corona. Follicles connate into a cylinder. Seeds slender, papus present.**
- Flowering & Fruiting** : **July to October**
- Parts used** : **Papus of seed.**
- Medicinal use** : **Papus of the seeds are made into paste and applied externally to check bleeding from new cuts.**
- Other uses** : **Not available**
- Similar uses** : **Not available**
- Reference** : **Not applicable**

- Botanical name** : **Zanthoxylum armatum** DC. (110)
- Family** : Rutaceae
- Local name** : Gi
- Specimen examined** : Panchayet gaon, Totopara, *Pal*, 957 (CAL)
- Brief description** : Shrub or tree upto 8 m. Young twing glabrous woody stipular spikes on old stem. Leaflets 3-5 pairs, elliptic-lanceolate or oblanceolate, acute to bluntly acuminate at apex, rounded or cuneate at base; margins usually entire or sometimes serrulate; petioles and rachis often winged. Inflorescence in paniculate cymes. flowers pale yellow. Fruit reddish, ovoid, 5-6 mm, containing a single shining black seed.
- Flowering & Fruiting** : March to June
- Parts used** : Leaves, seeds
- Medicinal use** : Fresh leaf juice is taken as carminative. Seeds are used in dyspepsia.
- Other uses** : Not available
- Similar uses** : Not available
- Reference** : Not applicable

- Botanical name** : **Zanthoxylum rhetsa (Roxb.) DC (111)**
- Family** : **Rutaceae**
- Local name** : **Yuong**
- Specimen examined** : **Dunchi gaon, Pal, 942 (CAL)**
- Brief description** : **Erect deciduous tree. Stem covered with broad based spines. Pinnate leaves crowded at branch ends. Leaflets 4-15 pairs, ovate, acuminate at apex, obliquely rounded at base, glabrous. Panicles terminal and axillary. Flowers 4-merous. Carpels solitary. Folicles subglobose.**
- Flowering & Fruiting** : **March to May**
- Parts used** : **Stem bark with spines**
- Medicinal use** : **Oil extracted from the stem bark with spines is used in rheumatism.**
- Other uses** : **Spiny stem barks are sold in market.**
- Similar uses** : **Not available**
- Reference** : **Not applicable**



## APPENDIX : A

**TERMS DESCRIBING THERAPEUTIC PROPERTIES**

<b>Abortion</b>	:	Inducing premature expulsion of foetus.
<b>Allergy</b>	:	A specific hypersensitivity of a man to a foreign substance.
<b>Alterative</b>	:	To alter the course of a disease by stimulating nutrition and promoting the expulsion of waste matter.
<b>Anthelmintic</b>	:	Provides remedy or cure of worm, usually in the alimentary tract.
<b>Antidote</b>	:	Counteracts poison by chemical, physiological or physical means.
<b>Antifebrile</b>	:	An agent reducing temperatures of body.
<b>Aromatic</b>	:	Having an aroma.
<b>Balm</b>	:	Fragrant healing ointment.
<b>Carminative</b>	:	Promotes expulsion from or reduces formation of gas in stomach & intestines.
<b>Emollient</b>	:	Soothes, softens, relaxes & protects mucous surfaces to which applied.
<b>Ergent</b>	:	A drug purifying and cleaning wounds, or any cleansing agent.
<b>Emetic</b>	:	Causes or produces vomiting.
<b>Expectorant</b>	:	Controls coughs by increasing or decreasing bronchial secretions.
<b>Insecticide</b>	:	Kills insects or related organisms.
<b>Laxative</b>	:	A mild purgative, which acts without causing pain or violence.

- Masticatory** : **An agent, which when chewed, increases the flow of saliva.**
- Purgative** : **A medicine producing or increasing or hastening intestinal evacuations.**
- Refrigerant** : **Produces bodily cooling effect, which relieves fever, thirst, restlessness, etc.**
- Repellent** : **An agent which drives away or prevents irritation by insect pests.**
- Tonic** : **Improves or increases general bodily tone and vitality**

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<b>Small pox</b>	<b>:</b>	<b>94</b>
<b>Snake bite</b>	<b>:</b>	<b>2, 37</b>
<b>Spondilitic treatment</b>	<b>:</b>	<b>26</b>
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<b>Ulcers</b>	<b>:</b>	<b>33, 51</b>
<b>Veterinary treatment</b>	<b>:</b>	<b>10. 19, 28, 46, 50, 85, 96, 102</b>



**INDEX TO LOCAL NAMES WITH CORRESPONDING  
BOTANICAL NAMES**

<b>Local Name</b>	<b>Page No.</b>	<b>Botanical name</b>
Abhijal	124	<i>Spilanthes calva</i> DC.
Agedi	34	<i>Bidens biternata</i> (Lour.) Merr. & Sherff.
Ahmicha	25	<i>Amaranthus viridis</i> L
Akawa	27	<i>Aphanamixis polystachya</i> (Wall.) Parker
Amba	98	<i>Mangifera indica</i> L.
Anename	23	<i>Ageratum conyzoides</i> L.
Batelahari	52	<i>Costus speciosus</i> (Koen.) Sm.
Batulpate	45	<i>Cissampelos pareira</i> L.
Bhaisikuti	21	<i>Achyranthes bidentata</i> Bl.
Bhukadabai	118	<i>Rhychotechum ellipticum</i> (Wall. ex Diels.) DC.
Bichi	20	<i>Acacia pennata</i> (L.) Willd.
Bisbanka	28	<i>Arisaema tortuosum</i> (Wall.) Schott.
Budhi	100	<i>Mimosa pudica</i> L.
Chaiprai	108	<i>Piper retrofractum</i> Vahl
Changdi	50	<i>Convolvulus arvensis</i> L.
Chapangshing	71	<i>Euphorbia hirta</i> L.
Chita	109	<i>Plumbago zeylanica</i> L.
Chitushing	48	<i>Clerodendrum viscosum</i> Vent.

Local Name	Page No.	Botanical name
Chota doronshe	122	<i>Solanum ferox</i> L.
Daishing	51	<i>Cordia dichotoma</i> G. Forst.
Daishingkong	56	<i>Cyathula prostrata</i> (L.) Blume
Dalchini	44	<i>Cinnamomum tamala</i> Nees ex Eberm.
Dambroo	113	<i>Premna barbata</i> Wall. ex Schauer.
Dangneng	64	<i>Dioscorea hamiltonii</i> Hook. f.
Dekaishing	78	<i>Gomphostemma melissifolium</i> Wall.
Dhunchu	29	<i>Artemisia indica</i> Willd.
Dhusre	37	<i>Callicarpa longifolia</i> Lamk.
Dirisat	94	<i>Kirganelia reticulata</i> (Poir.) Baill.
Dompaishing	87	<i>Hyptis suaveolens</i> (L.) Poit.
Drounsi	123	<i>Solanum viarum</i> Dunal.
Duba	58	<i>Cynodon dactylon</i> (L.) Pers.
Gaidi	99	<i>Millettia extensa</i> (Benth.) Baker
Gi	128	<i>Zanthoxylum armatum</i> DC.
Ginari	114	<i>Premna racemosa</i> Schauer.
Golini	95	<i>Leea asiatica</i> (L.) Ridsdale
Gorage	46	<i>Cissus repens</i> Lamk.
Gotashing	82	<i>Gynocardia odorata</i> Br.
Grounsi	119	<i>Scoparia dulcis</i> L.
Hapre	106	<i>Piper betle</i> L.
Harelahara	85	<i>Holmskioldia sanguinea</i> Retz.

<b>Local Name</b>	<b>Page No.</b>	<b>Botanical name</b>
Harsoo	112	<i>Pothos scandens</i> L.
Jabjew	33	<i>Begonia annulata</i> Koch.
Jagai	41	<i>Catimbium malaccense</i> (Burm.f.) Holtum
Jammata	97	<i>Maesa indica</i> Willd.
Jarinata	32	<i>Baliospermum solanifolium</i> (Burman) Suresh <i>et al.</i>
Kachhra	83	<i>Hedychium coronarium</i> Koen. <i>ex.</i> Retz.
Kali Haldi	55	<i>Curcuma caesia</i> Roxb.
Kamshing	89	<i>Ipomoea quamoclit</i> L.
Kankuashing	49	<i>Commelina benghalensis</i> L.
Kashabu	91	<i>Justicia adhatoda</i> L.
Keshing	69	<i>Eclipta prostrata</i> (L.) L.
Khere	57	<i>Cymbopogon martinii</i> (Roxb.) Watz.
Kising	105	<i>Phlogacanthus thyrsiformis</i> (Hardus.) Mabb.
Komproshe	104	<i>Oxalis corniculata</i> L.
Korengdabai	117	<i>Rauwolfia serpentina</i> (L.) Benth. <i>ex</i> Kurz.
Lanchkicha	35	<i>Boerhaavia diffusa</i> L.
Langaya	110	<i>Polyalthia simiarum</i> Benth. & Hook. f.
Latree	22	<i>Acorus calamus</i> L.
Loga	86	<i>Hygrophila salicifolia</i> (Vahl) Nees
Lompaishing	103	<i>Oroxylum indicum</i> (L.) Vent.

Local Name	Page No.	Botanical name
Lora	73	<i>Ficus hispida</i> L.f.
Lungdi	75	<i>Glochidion assamicum</i> (Muell.) Hook. f.
Lutodabai	40	<i>Cassia alata</i> L.
Mairungshai	65	<i>Diplazium esculentum</i> (Retz.) Sw.
Maishing	102	<i>Ocimum basilicum</i> L.
Makaibi	67	<i>Drymaria cordata</i> (L.) Willd. ex R & S.
Mataishing	90	<i>Jasminum caudatum</i> Wall. ex Lindl.
Marua	101	<i>Ochthochloa coracana</i> Edgew.
Medkoshing	54	<i>Cryptolepis buchanani</i> Roem. & Schult.
Mimaishing	36	<i>Breynia retusa</i> (Dennst.) Alston
Mura	72	<i>Ficus auriculata</i> Lour.
Nara	116	<i>Pteris biauritia</i> L.
Neushing	60	<i>Dalbergia stipulacea</i> Roxb.
Nirthe	111	<i>Polygonum barbatum</i> L.
Pachishing	63	<i>Dichrocephala integrifolia</i> (L.f.) O. Kuntze
Pagedie	91	<i>Jatropha curcas</i> L.
Pagsa	61	<i>Dendrocnide sinuata</i> (Bl.) Chew.
Panji	42	<i>Catunaregam spinosa</i> (Thunb.) Tiruv.
Parshing	66	<i>Dregea volubilis</i> (L.f.) Benth. ex Hook. f.
Parucha	24	<i>Amaranthus spinosus</i> L.

<b>Local Name</b>	<b>Page No.</b>	<b>Botanical name</b>
Peepla	107	<i>Piper mullesua</i> D. Don
Perishing	62	<i>Desmodium laxiflorum</i> DC.
Petrashing	39	<i>Careya arborea</i> Roxb.
Phalia	68	<i>Duchesnea indica</i> (Andr.) Focke.
Popongti	19	<i>Abelmoschus manihot</i> (L.) Medik. ssp. <i>tetraphyllus</i> (Roxb. ex Hornem. ) Borss.
Ramteel	81	<i>Guizotia abyssynica</i> (L.f.) Cass.
Shariphal	26	<i>Anona squamosa</i> L.
Shing	47	<i>Clerodendrum kaempferi</i> (Jacq.) Sieb. ex Steud.
Shingkong	30	<i>Artocarpus chama</i> Buch.-Ham.
Simbri	38	<i>Capparis olacifolia</i> Hook. & Thoms.
Simbuli	126	<i>Vitex negundo</i> L.
Sissan	59	<i>Dalbergia sissoo</i> Roxb. ex DC.
Siyalphessa	80	<i>Grewia asiatica</i> L.
Supare	53	<i>Croton caudatus</i> Geisel.
Swending	125	<i>Thunbergia grandiflora</i> (Rottl.) Roxb.
Tangshonk	76	<i>Glycosmis arborea</i> (Roxb.) DC.
Tenshing	77	<i>Gmelina arborea</i> L.
Tenke	121	<i>Sida rhombifolia</i> L.
Ticha	43	<i>Centella asiatica</i> (L) Urban
Tomprosee	115	<i>Psidium guajava</i> L.



<b>Local Name</b>	<b>Page No.</b>	<b>Botanical name</b>
Vaikeshing	120	<i>Securinega virosa</i> (Roxb. ex Willd.) Pax & Hoffm.
Yagshong	79	<i>Gongronema nepalense</i> (Wall.) Decisne
Yakeshing	70	<i>Emilia sonchifolia</i> (L.) DC.
Yamshing	127	<i>Wrightia arborea</i> (Dennst.) Mabb.
Yaneshee	96	<i>Litsea lancifolia</i> (Roxb. ex Nees) Hook. f.
Yasheel	84	<i>Hibiscus sabdariffa</i> L.
Yatri	93	<i>Justicia gendarussa</i> Burm. f.
Yemchee	88	<i>Impatiens arguta</i> Hook. f. & Thomson
Yoman	31	<i>Asplenium nidus</i> L.
Yuong	129	<i>Zanthoxylum rhetsa</i> (Roxb.) DC.

**APPENDIX : D****INDEX TO FAMILIES**

**(The numbers indicate here is referred to the Plant number )**

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<b>Annonaceae</b>	<b>:</b>	<b>8, 92</b>
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<b>Apocynaceae</b>	<b>:</b>	<b>99, 109</b>
<b>Araceae</b>	<b>:</b>	<b>4, 10, 94</b>
<b>Asclepiadaceae</b>	<b>:</b>	<b>48, 61</b>
<b>Aspleniaceae</b>	<b>:</b>	<b>13</b>
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<b>Begoniaceae</b>	<b>:</b>	<b>15</b>
<b>Bignoniaceae</b>	<b>:</b>	<b>84</b>
<b>Boraginaceae</b>	<b>:</b>	<b>33</b>
<b>Capparidaceae</b>	<b>:</b>	<b>20</b>
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