

Ethnomedicinal Investigation of Medicinal plants of Sovva panchayat, Dumbriguda Mandalam, Visakhapatnam District, Andhra Pradesh.

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-----ABSTRACT-----

An ethnomedicinal survey was conducted among the tribal community residing in Sovva panchayat, Dumbriguda Mandalam, Visakhapatnam district, Andhra Pradesh. Although the tribe is fast losing their traditional customs, their traditional medicinal practitioners still exist although the traditional medicinal wisdom of the Sovva tribes has not been previously documented. In the present ethnomedicinal survey, it was observed that sovva tribal traditional medicinal practitioners use medicinal plant parts for treatment of ailments. A total of 124 plants were used by the tribal healers in their medicinal formulations. These plant species were distributed into 43 families. Of the 124 plants the ailments treated with medicinal plants by the tribal healers were quite limited. A review of the available scientific literature suggests that many of the medicinal plants used by the tribals can be validated scientifically in their traditional uses based on reported pharmacological activities present in those plants. It would be of interest to examine the plants parts used by the tribal healers in a scientific manner towards discovery of useful drugs.

KEY WORDS: Ethnomedicinal investigation, medicinal plants, tribal people of sovva panchayat, dumbriguda Mandalam, Visakhapatnam district.

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I. INTRODUCTION

Traditional medicine is the sum total of all knowledge and practices whether explicable or not used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation transferred by individuals from generation to generation. India is one of the world's 12 mega diversity centers with 47000 plant species. About 600 to 700 species are in much use mostly by the tribal's and rural populations and nearly 200 species are used medicinally and commercially on fairly large scale. The plants have degraded rigorously due to changing life perception and socioeconomic transformation on a global scale. Plants are diminishing at an alarming rate due to lack of organized and sustainable cultivation based on scientific data and lack of awareness of society influencing plant use. About 60% of the population of world and 80% of population in developing countries rely on traditional medicine and mostly plant drugs for their need of primary health care. An account of 70% of the population of India is dependent traditional plants based medicines. Biodiversity is the basis of human survival and their economic well being and constitutes the resources upon which families, communities, nations and future generation depends. The ethnic people of the districts are quite aware of the uses of the plant species having ethno-botanical values. Very few works have been reported on ethno-botanical uses of plant species found in coastal area. The current deforestation scenario which threatens the existence of medicinal plants encourages for conservation of plants in coastal area. Therefore, an attempt has been taken to document the ethnomedicinal plants and their indigenous knowledge prior to its extinction. Krishnamurthy (1958) published a paper on the tribal people of Rampa and Gudem agency of Godavari lowers Division, East Godavari district. Banerjee (1977) & Gupta *et al.* (1997) has reported the ethnobotany of Araku valley in Visakhapatnam district. T.A. Reddy (1980) note down some medicinal plants of Polavaram Agency, West Godavari district. Nisteswar & Kumar (1980, 1983) reported the phytomedicine from Rampa and Addateegala Agency, East Godavari district. Rao & Harasreeramulu (1985) described the selected medicinal plants of Srikakulam district. Sudhakar & Rao (1985) enlisted the medicinal plants of East Godavari while Arunee Kumar *et al.* (1990) enumerated the medicinal plants of Kakinada. The medicinal plant wealth of Krishna district was described by Venkanna (1990). Hemadri (1991) made a note of the medicinal flora of Srikakulam district.

II. STUDY AREA

Dumbriguda is a village and a Mandal in the Sankaram Forest block of Visakhapatnam district in the state of Andhra Pradesh in India. There is a beautiful Dumbriguda waterfall. It has a serene picture with row upon row of Silver wood trees stacked up the coffee-brown slopes of a valley. Dumbriguda Mandalam located on the northeastern part of Visakha Patnam distict, it lies between 18.288058° North latitude to 82.79195° East. Sovva is the one of the major panchayat of the Dumbriguda Mandalam. Sovva Panchayat is an interior panchayat bordering Orissa state and is 21 km away from the nearest road. The 21 villages in the panchayat are all tribal with a total population of 4,193. Some of the tribal groups are Bagata, Valmiki, Nookadoras, Malis, and Kotias. Elevation in this region varies from 750 to 900 m. There is neither electricity nor drinking water facilities and the valley has no paved roads. The reserved forest here is completely degraded. Tribals depend on agriculture and vegetable cultivation. Shifting cultivation (podu) is extensively practiced on hill slopes.

In contrast to other tribal areas, the people of Sovva have very few forest-based activities due to the absence of forest cover. They face extreme shortages of fodder, fuel wood and timber. Women walk a distance of 10-12 km twice a week for firewood. A frequent source of fuel in this region is the dung cakes prepared by the women. The practice of using dung cakes for fuel is unusual in the tribal regions of the Eastern Ghats. Livestock is taken to neighboring regions in search of fodder. Women and children are primarily responsible for grazing the cattle. To obtain construction timber, the tribals travel anywhere from 30 to 120 km. To procure grass for thatching, they travel to the neighboring state of Orissa which is a day's walk. For medicinal plants and herbs that are widely used in the villages, medicine men travel for at least two months in the forests more than 100 km away. Approximately 70 percent of all the work is done by women and female children. This includes work related to agriculture, forest produce collection and domestic chores. Men are primarily responsible for plowing the fields and carrying vegetables to the shandy (weekly market).

III. METHODOLOGY

Medicinal plants were collected during 2012 - 2013 through field survey in different remote villages of Sovva. During the period of study, door to door visits were made to identify local people with specialized knowledge on use of medicinal plants. Plants were collected with noting their local names, parts used and ethno medicinal uses. The samples of recorded herbs, shrubs, and trees were identified with the help of previous literature and regional floras. The plants specimens were processed using the standard herbarium techniques and are preserved at Andhra University, herbarium, Visakhapatnam.

TABLE. 1. Ethnomedicinal plants used by the tribals of sovva panchayat.

D	G/s.	Botanical name of the plant	Local name	Family	Habit	Parts
1		ACIDITY				
	1	<i>Acacia rugata</i> (Lam.) Ham	Sikaya	Mimosaceae	Stragglers	Leaf
	2.	<i>Acorus calamus</i> Linn	Vasa	Araceae	Herb	Rhizome
	3	<i>Asparagus racemosus</i> Willd.	Pillitheega	Liliaceae	Herb	Tuber
	4	<i>Eclipta prostrata</i> (Linn.) Mant.	Guntakalagaraku	Asteraceae	Herb	Leaf
2		ALLERGY				
	1.	<i>Albizia lebbek</i> (Linn.) Willd.	Derisena	Mimosaceae	Tree	Bark
	2.	<i>Curcuma longa</i> Linn.	Pasupu	Zingiberaceae	Herb	Rhizome
	3.	<i>Ficus benghalensis</i> Linn.	Raavi	Moraceae	Tree	Leaf
	4.	<i>Ficus hispida</i> Linn. f.	Boddachettu	Moraceae	Tree	Leaf
	5.	<i>Glycyrrhiza glabra</i> (Retz.) DC.	Athimadhuram	Fabaceae	Shrub	Root
	6.	<i>Zingiber officinale</i> Rosc.	Allam	Zingiberaceae	Herb	Rhizome
3.		ANAEMIA				
	1.	<i>Asparagus racemosus</i> Willd.	Pillitheega	Liliaceae	Herb	Tuber
	2.	<i>Clitoria ternatea</i> Linn.	Sankupuspi	Fabaceae	Climber	Root
	3.	<i>Eclipta prostrata</i> (Linn.) Mant.	Guntakalagaraku	Asteraceae	Herb	Leaf
	4.	<i>Jatropha gossypifolia</i> Linn	Dhola	Euphorbiaceae	Tree	Root
	5.	<i>Mimosa pudica</i> Linn.	Antipathy	Mimosaceae	Herb	Root
	6.	<i>Moringa oleifera</i> Lam.	Munagacettu	Moringaceae	Tree	Leaf
	7.	<i>Withania somnifera</i> (Linn.) Dunal	Aswagandha	Solanaceae	Shrub	Root
4.		ASTHMA				
	1.	<i>Acorus calamus</i> Linn.	Vasa	Araceae	Herb	Rhizome

	2.	<i>Adhatoda zeylanica</i> Medik.	Addasaram	Acanthaceae	Shrub	Leaf
	3	<i>Aerva lanata</i> (Linn.) Juss	Pindikura	Amaranthaceae	Herb	Leaf
	4	<i>Albizia lebbek</i> (Linn.) Willd.	Derisena	Mimosaceae	Tree	Stem bark
	5.	<i>Barleria prionitis</i> Linn.	Mullagorinta	Acanthaceae	Shrub	Plant
	6	<i>Benincasa hispida</i> (Thunb.) Cogn.	Budidagummadi	Cucurbitaceae	Creeper	Root
	7	<i>Curcuma angustifolia</i> Roxb	Batripala	Zingiberaceae	Herb	Rhizome
	8	<i>Oroxylum indicum</i> (Linn.) Vent.	Pampanga	Bignoniaceae	Tree	Stem bark
5		BACKACHE				
	1	<i>Acacia nilotica</i> (Linn.) Willd.	Nalla thumma	Mimosaceae	Tree	Fruit
	2	<i>Butea monosperma</i> (Lam.) Taub.	Moduga	Fabaceae	Tree	Flower
	3	<i>Coldenia procumbens</i> Linn	Hamsapaadu	Boraginaceae	Herb	Plant
	4	<i>Ficus benghalensis</i> Linn	Raavi	Moraceae	Tree	Latex
	5	<i>Ricinus communis</i> Linn.	Amudamu	Euphorbiaceae	Shrub	Seed oil
	6	<i>Zingiber officinale</i> Rosc.	Allamu	Zingiberaceae	Herb	Rhizome
6		BOILS				
	1.	<i>Curcuma longa</i> Linn	Pasupu	Zingiberaceae	Herb	Rhizome
	2	<i>Annona reticulata</i> Linn.	Ramapalam	Annonaceae	Tree	Leaf
	3	<i>Bombax ceiba</i> Linn.	Buruga	Bombacaceae	Tree	Root
	4	<i>Cannabis sativa</i> Linn.	Ganja	Cannabinaceae	Herb	Leaf
	5	<i>Cuscuta reflexa</i> Roxb	Bangaru theega	Cuscutaceae	Herb	Plant
7		BONE FRACTURE				
	1.	<i>Acacia nilotica</i> (Linn.) Willd.	Nalla thumma	Mimosaceae	Tree	Gum
	2	<i>Cassia auriculata</i> Linn.	Tangedu	Caesalpiniaceae	Shrub	Leaf
	3	<i>Ficus microcarpa</i> Linn.f.	Chinabodda	Moraceae	Tree	Stem bark
	4	<i>Ruellia tuberosa</i> Linn.	Jurubulagadda	Acanthaceae	Herb	Leaf
8		COLD				
	1	<i>Anisomeles indica</i> (Linn.) Kuntze	Adabeera	Lamiaceae	Shrub	Leaf
	2	<i>Desmodium gangeticum</i> (Linn.)	Bumpieppa	Fabaceae	Shrub	Root
	3	<i>Piper nigrum</i> Linn.	Merialu	Piperaceae	Climber	Fruit
	4	<i>Salvia splendens</i> Sello.	Ramathulasi	Lamiaceae	Herb	Leaf
	5	<i>Zizyphus mauritiana</i> Lam.	Parimi	Rhamnaceae	Shrub	Fruit
9		COUGH				
	1	<i>Abrus precatorius</i> Linn	Guruvinda	Fabaceae	Climber	Leaf
	2	<i>Acorus calamus</i> Linn.	Vasa	Araceae	Herb	Rhizome
	3	<i>Adhatoda zeylanica</i> Medik.	Addasaram	Acanthaceae	Shrub	Leaf
	4	<i>Basella rubra</i> Linn.	Bachelikura	Basellaceae	Herb	Leaf
	5	<i>Cassia senna</i> Linn.	Sunamukhi	Caesalpiniaceae	Shrub	Leaf
	6	<i>Curculigo orchioides</i> Gaertn	Nelathadi	Hypoxidaceae	Herb	Tuber
	7	<i>Cyperus rotundus</i> Linn.	Garika	Poaceae	Herb	Tuber
	8	<i>Madhuca indica</i> Gmel.	Ippa	Sapotaceae	Tree	Fruit
	9	<i>Scoparia dulcis</i> Linn.	Godduthulasi	Scrophulariaceae	Shrub	Leaf
	10	<i>Zingiber officinale</i> Rosc.	Allam	Zingiberaceae	Herb	Rhizome
10		EARACHE				
	1	<i>Acalypha indica</i> Linn.	Muripinda	Euphorbiaceae	Herb	Leaf
	2	<i>Allium cepa</i> Linn	Velliulli	Liliaceae	Herb	Bulb
	3	<i>Cannabis sativa</i> Linn.	Ganjai	Cannabinaceae	Herb	Leaf
	4	<i>Cleome gynandra</i> Linn.	Kukkavaminta	Capparidaceae	Herb	Leaf
	5	<i>Costus speciosus</i> (Koen.) Sm.	Boombaimokka	Zingiberaceae	Herb	Stem
	6.	<i>Vernonia cinerea</i> (Linn.) Less.	Sahadevi	Asteraceae	Herb	Root
	7	<i>Zingiber officinale</i> Rosc.	Allamu	Zingiberaceae	Herb	Rhizome
11		EASY DELIVERY				
	1	<i>Cassia tora</i> Linn.	Tantepumokka	Caesalpiniaceae	Herb	Root
	2	<i>Catunaregam spinosa</i> (Thunb.) Tirv.	Mangachettu	Rubiaceae	Shrub	Fruit
	3	<i>Ficus racemosa</i> Linn.	Medichettu	Moraceae	Tree	Root
	4	<i>Sterculia urens</i> Roxb.	Kovela chettu	Sterculiaceae	Tree	Stem bark
	5	<i>Tribulus terrestris</i> Linn	Palleru	Zygophyllaceae	Herb	Root

12		ECZEMA				
	1	<i>Achyranthes aspera</i> Linn.	Uthareni	Amaranthaceae	Herb	Leaf
	2	<i>Adiantum philippense</i> Linn.	Chali	Adiantaceae	Herb	Leaf
	3	<i>Cassia alata</i> Linn.	Seemaavisa	Caesalpiniaceae	Shrub	Leaf
	4	<i>Cynodon dactylon</i> (Linn.) Pers.	Garikagaddi	Poaceae	Herb	Root
	5	<i>Leonotis nepetiifolia</i> (Linn.) R. Br.	Pedharanaberi	Lamiaceae	Herb	Flower
	6	<i>Madhuca indica</i> Gmel.	Ippa	Sapotaceae	Tree	Fruit
	7	<i>Pongamia pinnata</i> (Linn.) Pierre	Kanuga	Fabaceae	Tree	Seed
13		FEVER				
	1	<i>Abelmoschus moschatus</i> Medik.	Adavibenda	Malvaceae	Herb	Seed
	2	<i>Acorus calamus</i> Linn.	Vasa	Araceae	Herb	Rhizome
	3	<i>Anisomeles indica</i> (Linn.) Kuntze	Adabeera	Lamiaceae	Shrub	Leaf
	4	<i>Artemisia vulgaris</i> Linn.	Machipatri	Asteraceae	Herb	Flower
	5	<i>Cuminum cyminum</i> Linn.	Jilakarra	Apiaceae	Herb	Seed
	6	<i>Hedychium coccineum</i> Koen.	Devakasturi	Zingiberaceae	Herb	Tuber
	7	<i>Helianthus annuus</i> Linn.	Podhuthirugudu	Asteraceae	Herb	Root
	8	<i>Hibiscus rosa-sinensis</i> Linn.	Bandaru	Malvaceae	Shrub	Flower
	9	<i>Rubia cordifolia</i> Linn.	Mangalakathi	Rubiaceae	Herb	Tuber
	10	<i>Vernonia cinerea</i> (Linn.) Less.	Sahadevi	Asteraceae	Herb	Plant
14		HEADACHE				
	1	<i>Cannabis sativa</i> Linn.	Ganja	Cannabinaceae	Herb	Leaf
	2	<i>Costus speciosus</i> (Koen.) Sm.	Bombaimokka	Zingiberaceae	Herb	Tuber
	3	<i>Curculigo orchioides</i> Gaertn.	Nelathadi	Hypoxydaceae	Herb	Root
	4	<i>Curcuma aromatica</i> Sal	Kasturi	Zingiberaceae	Herb	Rhizome
	5	<i>Eclipta prostrata</i> (Linn.) Mant	Guntakalagaraku	Asteraceae	Herb	Plant
	6	<i>Lannea coromandelica</i> (Houtt.) Merr.	Gumpena	Anacardiaceae	Tree	Leaf
	7	<i>Leucas aspera</i> (Willd.) Link.	Thummichettu	Lamiaceae	Herb	Leaf
	8	<i>Mimusops elengi</i> Linn.	Pogada	Sapotaceae	Tree	Flower
	9	<i>Rubia cordifolia</i> Linn.	Mangalikathi	Rubiaceae	Herb	Tuber
	10	<i>Vitex negundo</i> Linn.	Vavili	Verbenaceae	Shrub	Leaf
15		ITCHES				
	1	<i>Abelmoschus moschatus</i> Medik.	Kastyribenda	Malvaceae	Herb	Seed
	2	<i>Albizia lebbek</i> (Linn.) Willd	Dirisena	Mimosaceae	Tree	Stem bark
	3	<i>Cayratia pedata</i> (Lam.) Juss. ex Gagnep	Yedakula vayamu	Vitaceae	Shrub	Tuber
	4	<i>Curcuma longa</i> Linn.	Pasupu	Zingiberaceae	Herb	Rhizome
	5	<i>Cynodon dactylon</i> (Linn.) Pers.	Garika	Poaceae	Herb	Root
	6	<i>Datura innoxia</i> Mill.	Ummetha	Solanaceae	Shrub	Leaf
	7	<i>Murraya koenigii</i> (Linn.) Spreng.	Vepa	Rutaceae	shrub	Leaf
	8	<i>Ocimum tenuiflorum</i> Linn.	Thulasi	Lamiaceae	Herb	Leaf
	9	<i>Sesbania grandiflora</i> (Linn.) Poir.	Avisa	Fabaceae	Tree	Stem bark
	10	<i>Zingiber officinale</i> Rosc.	Allamu	Zingiberaceae	Herb	Rhizome
16		JAUNDICE				
	1	<i>Achyranthes aspera</i> Linn	Uthareni	Amaranthaceae	Herb	Root
	2	<i>Argemone mexicana</i> Linn.	Balurakkasi	Papavaraceae	Herb	Leaf
	3	<i>Asparagus racemosus</i> Willd.	Palateega	Liliaceae	Herb	Tuber
	4	<i>Azadirachta indica</i> A. Juss.	Vepa	Meliaceae	Tree	Stem bark
	5	<i>Bridelia montana</i> (Roxb.) Willd.	Anemuchettu	Euphorbiaceae	Tree	Stem bark
	6	<i>Cassia fistula</i> Linn.	Rella	Caesalpiniaceae	Tree	Fruit
	7	<i>Gloriosa superba</i> Linn.	Nabhi	Liliaceae	Herb	Leaf
	8	<i>Hoya pendula</i> R. Br.	Palateega	Asclepiadaceae	Shrub	Root
	9	<i>Tamarindus indica</i> Linn.	Chinthachettu	Caesalpiniaceae	Tree	Leaf
	10	<i>Zingiber officinale</i> Rosc.	Allamu	Zingiberaceae	Herb	Rhizome
17		PARALYSIS				
	1	<i>Abrus precatorius</i> Linn.	Guruvinda	Fabaceae	Herb	Seed
	2	<i>Acacia mangia</i> Willd.	Korinta	Mimosaceae	shrub	Stem bark

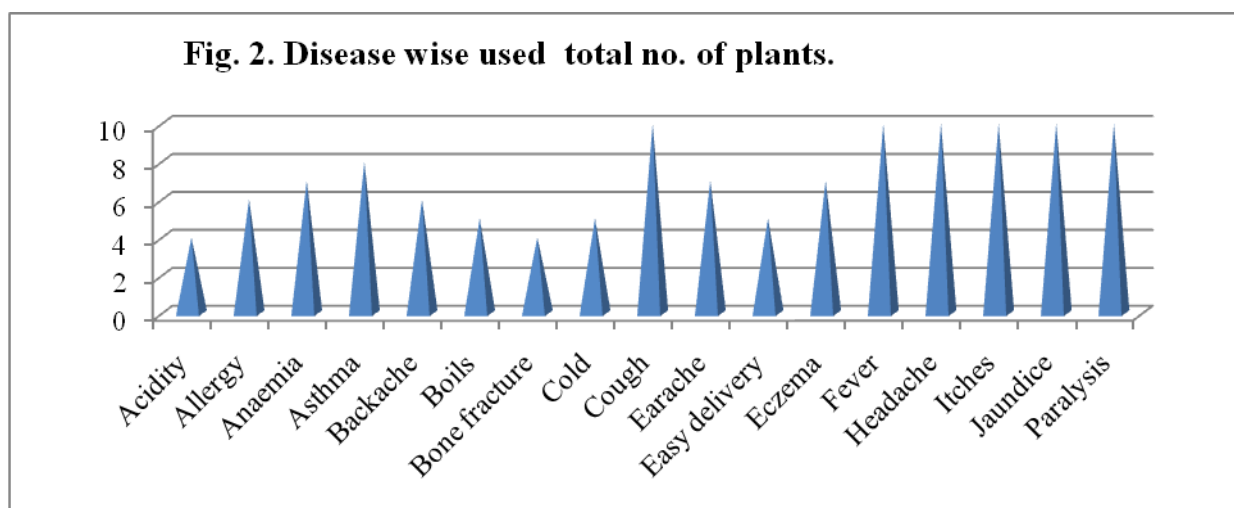
3	<i>Aloe vera</i> (Linn.) Burm. f.	Kalabanda	Liliaceae	Herb	Leaf
4	<i>Cissus quadrangularis</i> Linn.	Nalleru	Vitaceae	Climber	Stem
5	<i>Euphorbia tirucalli</i> Linn.	Pachabottu	Euphorbiaceae	Shrub	Stem
6	<i>Moringa oleifera</i> Lam.	Munaga	Moringaceae	Tree	Stem bark
7	<i>Mucuna pruriens</i> (Linn.) DC.	Duradagondi	Fabaceae	Climber	Root
8	<i>Plumbago indica</i> Linn.	Errachitramulam	Plumbaginaceae	shrub	Root
9	<i>Spilanthes acmella</i> Wall. ex DC.	Mandibutta	Asteraceae	Herb	Flower
10	<i>Strychnos nux-vomica</i> Linn.	Mushin	Loganiaceae	Tree	Seed

D=Disease, G/s =Genus, species.

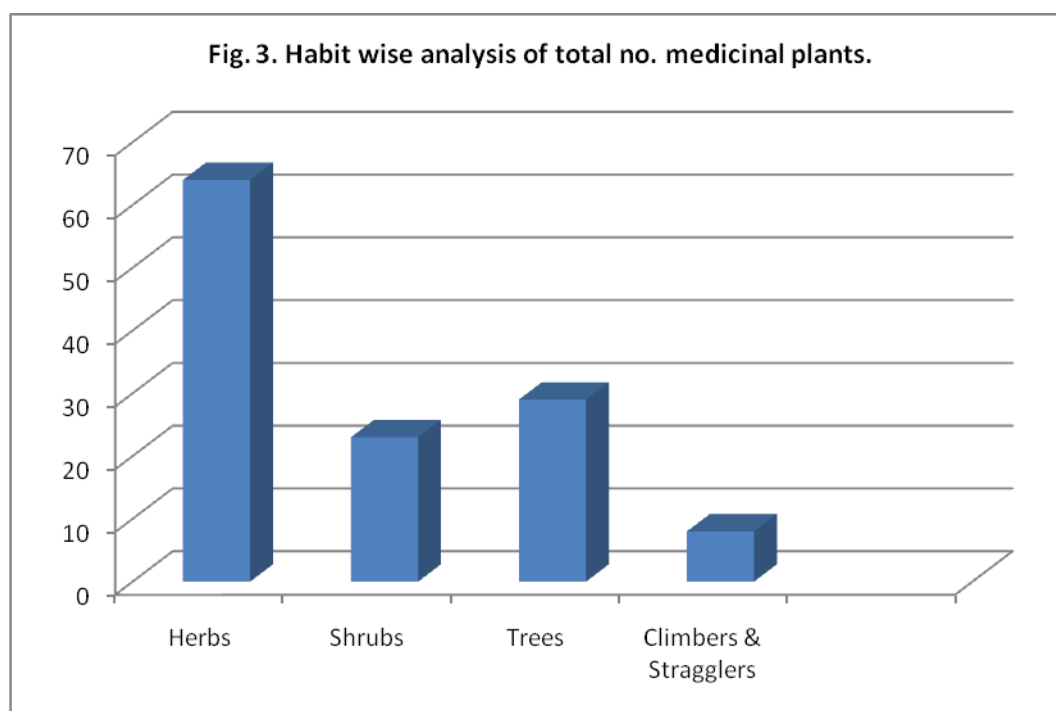
IV. RESULT AND DISCUSSION

During the present Ethnobotanical study 124 plants were used to cure 17 ailments, reported by the informants for the 43 families, out of the 43 families, 36 are dicots, 6 are monocots and one is Pteridiphytes family (Adiantaceae). Out of the 81 plant species 72 are dicots, 9 are monocots. Out of the 43 families Zingiberaceae have (14) plants, Fabaceae (9), Mimosaceae and Asteraceae each one have (8) plants, Lamiaceae (7), Liliaceae and Caesalpiniaceae each one have (6) plants, Moraceae and Euphorbiaceae each one have (5) plants, Araceae and Acanthaceae each one have (4) plants, Amaranthaceae, Cannabinaceae, Poaceae, Sapotaceae, Rubiaceae and Malvaceae each one have (3) plants, Moringaceae, Solanaceae, Hypoxydaceae, and Vitaceae each one have (2) plants and remaining families each one have single species.

These 124 plants were used to cure 17 ailments, i.e., Acidity (4), Allergy (6), Anemia (7), Asthma (8), Backache (6), Boils (5), Bone fracture (4), Cold (5), Cough (10), Earache (7), Easy delivery (5), Eczema (7), Fever (10), Headache (10), Itches (10), Jaundice (10) and Paralysis (10).



Most remedies were taken orally; accounting for 70% of medicinal use, followed by external applies. Various plant parts or products viz. stem and Bark (14), leaf (37), root (20), tuber and bulb (11), flower and fruit (12), seed, latex and gum (8), rhizome (16), Whole plant (5), were found to be employed to make different formulations are as shown in the figure (2). Among the 124 plants that are recorded Herbs include (64), followed by Trees (29), Shrubs (23) and climbers, Stragglers and Creepers are (7) as shown in the figure (3).



V. CONCLUSION

However, we feel that the indigenous knowledge and practices of the tribes on utilization of plant resources as medicine should be reported and preserved before they get lost due to increasing integration. In the information obtained, there were many details about the appropriate indication of each plant. There are plants that are traditionally employed for specific symptoms or conditions that often accompany itching, allergy and other skin disorders. This vast array of rare medicinal plants can be used for further research only if we ensure proper conservation of these endangered species. Thus researchers should observe ethno medical information before deciding which kind of screening should be used in the search of drugs for various diseases which may also be a potential source of modern drug industries.

The new generation is not very much interested in the indigenous methods of treating diseases. They are even not very concerned about the importance of these herbal plants and its medicinal value. The growing disinterest in the use of the folk medicinal plants and its significance among the younger generation of the Sovva tribals will lead to the disappearance of this practice. Educated younger generation of the Sovva tribals should be encouraged by the Government to protect and cultivate these valuable herbal plants before they get lost due to the impact of modernization and urbanization and also due to deforestation.

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