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## Herbal abortifacients used by Paderu Tribes in Visakhapatnam district of Andhra Pradesh, India

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### Abstract

Ten plant species (*Acacia catechu*, *Annona squamosa*, *Annona reticulata*, *Caesalpinia pulcherrima*, *Carica papaya*, *Curculigo orchioides*, *Dolichos trilobus*, *Gloriosasuperba*, *Momordica charantia*, *Plumbago zeylanica*, *Solanum torvum*) were documented as new abortifacients from Paderu tribes of Visakhapatnam district, Andhra Pradesh.

**Keywords:** Abortifacient, Ethnobotany, Visakhapatnam, Andhra Pradesh, Paderu tribe

### 1. Introduction

The relationship between plants and human beings is not limited to the use of plants for food, clothing, religious ceremonies, ornamentation and shelter but also includes in human healthcare. Over 7500 species of plants are estimated to be used by the ethnic communities of human and veterinary healthcare in India. It was officially recognized that 21,000 plants have medicinal value while over 6,000 plant species are estimated to be explored in traditional, folk and herbal medicines. It is necessary that we should have full knowledge regarding the occurrence, frequency distribution, phenology and other aspects for their proper utilization. Traditionally the tribal women prefer plant medicines rather than modern medicines for menstrual trouble, conception disorders, birth control practices, sterility, abortion etc. Abortifacients are drugs or agents that cause abortion i.e. expulsion of foetus permanently, particularly at any time before it is variable or capable of sustaining life. Visakhapatnam district has the largest tribal population of the Andhra Pradesh state.

The area is characterized by numerous olds and extensions engulfing small narrow valleys and deep valleys which are difficult to reach even. About 85% of the area is at an altitude above 300msl, more than 50% of the area under forest cover. There are more than eight scheduled tribal communities in this district such as Khond, Gadaba, Poorja Bhagatha, Valmiki, Kondadora, Kammara, Nookadora. Among them Bhagatha, Valmiki and Poorja are the major tribes in this district. The area is covered under special tribal development scheme. For the present study, data have been collected from twenty six hamlets of Paderu tribes of Visakhapatnam district and herbal remedies adopted by the Paderu tribal women for abortion and plants used as abortifacients.

### Material and methods

The Ethnobotanical survey was conducted in twenty six hamlets of Paderu tribe of Visakhapatnam district viz. *Dumbriguda*, *Hukumpeta*, *Chinthapalli*, *G.K. Veedhi*, *G. Madugula Munchingput Koyyuru Paderu* and *Pedabayalu* Regular field visits were made to the hamlets during 2010 December to 2012 January. The information regarding abortifacient was collected from elderly experienced women, plant collectors and medicine men (*Vaidya's*), using a detailed questionnaire prepared according to the methodology suggested by Jain. The fresh specimens were collected and identified with the Flora of Presidency of Madras. The plant species used by Paderu tribes of Visakhapatnam district as abortifacients are enumerated with botanical name, family, local name, plant parts used and the methods to induce abortion.

**Table 1:** Basic Profile of ITDA, Paderu

1	Geographic area of Visakhapatnam District	11,167Sq. Kms
2	Area of the I.T.D.A.	6,293 Sq. Kms
3	% Agency area to the total district area	56.38 %
4	District Population	42,90,589
5	Population of Paderu division	604,047
6	Population of Scheduled Tribes	547,951
7	Tribal Households	134,233
8	% of Agency Population to the Dist. Population	14.08%
9	Population Density in the District (per Sq. Km.)	384
10	Population Density in Agency Area (per Sq. Km.)	96
11	PTGs Tribes	Khond, Gadaba, Poorja
12	Non-PTGs Tribes	Bhagatha, Valmiki, Kondadora, Kotia, Kammara, Nookadora
13	No. of Schedule Mandals	10 (Full) + 2 (Partial)
14	Gram Panchayats	244
15	No. of revenue villages	2,312
16	Tribal habitations	3,574
17	No. of PTG Habitations	1,093
18	No. of Non-PTG habitations	2,481

**Hamlets**

S. No	Mandal	Village	Hamlet	Tribe	Population	ST population
<b>Araku Valley Subdivision</b>						
1	Dumbriguda	Kithalangi	Pothuguida	Kotia	935	930 (99.5%)
2	Dumbriguda	Kinchumanda	Kinchumanda	Kondadora	1592	1368 (85.9%)
3	Hukumpeta	Sembi	Bangarumetta	Kodhu	88	88 (100%)
4	Hukumpeta	Pathakota	Gonagummi	Kodhu	68	68 (100%)
5	Ananthagiri		Tattavalasa	Gadaba	135	130 (96.3%)
<b>Chintapali Subdivision</b>						
6	Chinthapalli	Baddimetta	Chikkudupalli	Bhagata	267	265 (93.3%)
7	Chinthapalli	Kikkasala Banda	Kikkasala Banda	Kodhu	106	106 (100%)
8	G.K.Veedhi	Dokuluru	Dokuluru	Gadaba	204	204 (100%)
9	G.K.Veedhi	Rinthada	Rinthada	Bhagata	1429	1302 (91.1%)
10	GudemKothaVeedh		Ginjangi	Kodhu	854	845 (98.9)
11	Koyyuru	Kommika	Revallu	Gadaba	116	111 (95.7%)
12	Koyyuru	Gamkonda	Gamkonda	Bhagata	68	68 (100%)
<b>Paderu Subdivision</b>						
13	G.Madugula	Pinalochili	Sakirevu	Kammara	48	48 (100%)
14	G. Madugula		Regadi		42	42 (100)
15	Munchingput	Padalaputtu	Padalaputtu	Poorja	172	172 (100%)
16	Munchingput	Jodiputtu	Sangauralasa	Bhagata	667	592 (88.8%)
17	Munchingput	Dimisamalli	Dimisamalli	Poorja	19	19 (100%)
18	Munchingput	GadelaBurugu	GadelaBurugu	Poorja	103	103 (100%)
19	Munchingput		Kotturu (Chilakagadda panchayat),		28	28 (100%)
20	Paderu	Modapalli	Modapalli	Kodhu	80	74 (92.5%)
21	Paderu		Cheedimetla	Kodhu	183	182 (99.5%)
22	Pedabayalu	Manga Banda	Manga Banda	Kodhu	55	55 (100%)
23	Pedabayalu	LakyuPuttu	LakyuPuttu	Kodhu	157	157 (100%)
24	Pedabayalu	Vanabangi	Vanabangi	Valmiki	556	537 (96.6%)
25	Pedabayalu	Luvvasingi	Luvvasingi	Valmiki	398	264 (66.3%)
26	Golugonda		Gadapalem		870	129 (14.8)

Sl. No	Botanical name/ family	Local Name	Trade (or) Popular Name	Parts used	Method of Use
1	<i>Acacia catechu</i> (L. f.) Willd. Fabaceae	Nallasundra	Cutch tree	Bark	3-5 ml. of bark juice is taken orally for the first three months
2	<i>Annona squamosa</i> (L.) Merr. Annonaceae	Sitaphalamu, Sitapandu, Ganda Gathram	Custard Apple of India, West Indian " Sweet Sop"	Fruit	Ripened fruit is used to induce Abortion
3	<i>Annona reticulata</i> L. Annonaceae	Ramaphalamu	Bullock's Heart of India	Seeds	Seed paste is given orally on empty stomach for 3-5 days
4	<i>Caesalpinia pulcherrima</i> (L.) Sw. <i>Poinciana pulcherrima</i> Fabaceae	Peydi-tangedu, Ratna Gandhi, Kapura Maddi	Peacock flower, Flower, fence Paradise folwer, Flower fence	Bark	Bark juice (2 ml) is administrated orally on empty stomach for the first three months
5	<i>Carica papaya</i> L. Caricaceae	Boppai, Boppasa, Paringi	Papaya, Papaw.	Raw fruit	10-15 ml of latex of raw fruit is given orally once a day for 3 days
6	<i>Curculigo orchoides</i> Hypoxidaceae	Nelatadi	-----	Tuber	Past of the tuber is given orally in empty stomach
7	<i>Gloriosasuperba</i> L.  <i>Liliaceae</i>	Adavi Nabhi, Nabhi Potti Dumpa Nabhi, Potti Dumpa, Potti Nabhi, Agni Sikha Kalappa- gadda	Glory Lily,  Tiger's Claws, Flame Flower, Surpent's Tongue, November Flower Plant, Superb Lily.	Root  tuber	Root extract is given orally for twice  a day for 3days.
8	<i>Momordica charantia</i> L. Cucurbitaceae	Kakara	Bitter Gourd.	Raw fruit	Fruit juice is given orally twice a day for 5 days on the first three month.
9	<i>Plumbago zeylanica</i> L. Plumbaginaceae	Chitramulamu Tella- Chitramulamu Agnimaata	Leadwort-White-Flowered Ceylon Leadwort.	Root	3-5 ml. of root paste is taken orally to induce abortion

10	<i>Solanum torvum</i> Sw.	Konda Vusti	West Indian Turkey Berry	Leaf	3-5 ml Leaf extract is given orally for 5days
	<i>Solanaceae</i>				

## Results and discussion

In the present study 10 flowering plants (*Acacia catechu*, *Annona squamosa*, *Annona reticulata*, *Caesalpinia pulcherrima*, *Carica papaya*, *Curculigo orchioides*, *Gloriosasuperba*, *Momordica charantia*, *Plumbago zeylanica*, *Solanum torvum*) belonging to 7 families were documented as useful abortifacients. Among this *Acacia*, *Annona*, *Carica*, *Curculigo*, *Gloriosa*, *Plumbago*, and *Solanum* are used before as abortifacients in various parts of the country. *Curculigo*, *Gloriosa* and *Solanum* were reported among the *Paderu* tribe of vishakapatnam.

The above mentioned plant species, have many other medicinal uses also, but the abortifacient and antifertility properties of some of these species have also been reported from the various part of the country. Tarafeder reported that bark of *Acacia catechu*, unripe fruit and seeds of *Annona squamosa*, unripe fruit of *Carica papaya*, root of *Curculigo orchioides*, root of *Gloriosa superb*, tuber of *Momordica tuberosa*, various parts of *Plumbago* spp. Similarly *Plumbago* root is used among the rural people of Haryana, seeds of *Annona squamosa*, fruit of *Carica papaya*, tuber of *Gloriosasuperba* are used in North Maharashtra. The leaves of *Plumbago zeylanica* are used for abortion.

The tribals depend exclusively on these plants for abortion. The experimental literature gives a scientific backbone for the use of plant species as abortifacients. Some act by their toxicity and some by their pharmacodynamic properties. But it is very difficult to identify the effectiveness of herbal abortifacients. So further research on these medicinal plants is necessary to identify and improve the quality and effectiveness of these medicines. Any how this documentation would help to preserve the indigenous knowledge for posterity.

## Conclusion

Traditional healthcare practices of indigenous people pertaining to human health care termed as ethnomedicine. Ethnomedicine is the mother of all other systems of medicine. Recently the importance of these traditional medicines has been realized worldwide as some of them proved to be very effective. Paderu tribal women of Visakhapatnam district use various plants for their health care especially for gynecological problems and disorders. This work also gives scope for appropriate scientific studies on the phytochemical and pharmacological activities of the recorded plants for drug design.

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