



REGULAR ARTICLE

# SOME ABORTIFACIENT PLANTS USED BY THE TRIBAL PEOPLE OF ANDHRA PRADESH, INDIA

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## SUMMARY

Plants have been used by women since the beginning of time in an attempt to control their fertility. The information was passed from mother to daughter and generation to generation. The use of abortifacient plants is a common practice among the interior tribal people of Andhra Pradesh. In the present study a list of 33 plant species belonging to 29 genera and 26 families are used as abortifacient. The study was conducted among the 33 tribal groups of Andhra Pradesh. The mode of preparation, administration and the dosage of the drugs use are collected from the tribal doctors and lady tribal doctors to terminate the early stage of pregnancy.

**Key words:** Abortifacient plants, Mode of preparation, Tribal people, Andhra Pradesh

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## 1. Introduction

The Primitive man lived in close association with nature and depended on it for his survival ever since the beginning of human life. This relationship with nature influenced human life and culture. The early man acquired the knowledge of medicinal properties of many plants by trial and error. Eventually, he passed on this treasure of knowledge from one generation to other through word of mouth, as the primitive people were devoid of any written system. Among the medicinal practices abortion is the very common practice of different tribal communities of Andhra Pradesh. The physical or chemical substances, which cause abortion is known as abortifacient. During present study an attempt has been taken to collect information on abortifacient plants used by the interior tribal people of Andhra Pradesh, document them and also to evaluate their biological activity.

### 1.1 Study Area

Andhra Pradesh, the fourth largest state in India, is one of the 28 states of Indian union. The state lies between 12° 37' and 19° 54' North latitudes and 76° 46' and 84° 46' East longitudes, and occupies the middle portion of the Eastern half the Indian Peninsula with

an area of 2, 75,068sq Km. The state has land boundaries with Orissa, Madyapadesh on the North, Maharastra and Karnataka on the West, Tamilanadu on the South and Sea boundary with the Bay of Bengal on the East. It has a long coast line of 968 km from Ichapuram of Srikakulam district to Sriharikota of Nellore districts.

Andhra Pradesh includes 23, districts they are grouped in to three geographically distinct regions, they are:

1. Circar or Costal districts: Srikakulam, Vizianagaram, Visakhkaptnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore districts

2. Rayalaseema districts: Kurnool, Cuddapah, Ananthapur and Chittore districts.

3. Telangana districts: Adilabad, Nizamabad, Medak, Rangareddi, Hydearad, Mahaboobnagar, Khammum, Warangal, Karimnagar and Nalgonda districts.

The type of forest met with in Andhra Pradesh, as per the classification of Champion and Seth (1) are.

1. Tropical Semi-Evergreen Forests
2. Tropical Moist Deciduous Forests: It is divided in to three types.
  - a. Northern Tropical Moist deciduous forests

b. South Indian Tropical Moist deciduous forests

c. Southern Tropical Moist deciduous rivarian forests

3. Dry Deciduous Forests

4. Northern Mixed Dry Deciduous Forests

5. Dry Savannah Forests

6. Tropical Dry Evergreen Forests

7. Coastal Vegetation

8. Aquatic Vegetation

The tribal population of Andhra Pradesh is 50.24 lakh constitutes 33 tribal groups there are

1. Andh, 2. Bagata, 3. Bhil, 4. Chenchu, Chenchuwar, 5. Gadabas, 6. Gond, Naikpod, Rajgond, 7. Gound (in the agency tracts), 8. Hill Reddis, 9. Jatapus, 10. Kammara, 11. Kattunayan, 12. Kolam, Mannervalu, 13. Konda Doras, 14. Konda Kapus, 15. Konda Reddis, 16. Kondhs, Kodi, Kodhu, Desaya Kondhs, Kuttiya Kondhs, Tikiria Kondhs, Yenity Kondhs, 17. Kotia, Benth Oriya, Bartika, Dhulia, Dulia, Holva, Paiko, Putiya, Sanrona, Sidhopaiko, 18. Koya, Goud, Rajah, Rasha Koya, Lingadhari Koya (Ordinary), Kottu Koya, Bhine Koya, Raj Koya., 19. Kulia, 20. Malis (Excluding Adilabad, Hyderabad, Karimnagar, Khammam, Mahabub Nagar, Medak, Nalgonda, Nizamabad and Warangal Districts), 21. Manna Dora, 22. Mukha Dora, Nooka Dora, 23. Nayaks (In the agency tracts), 24. Pardhan, 25. Porja, Parangiporja, 26. Reddi Doras, 27. Rona, Rena, 28. Savaras, Kapu Savaras, Muliya Savaras, Khutto Savaras, 29. Sugalis, Lambadis, 30. Thoti (In Adilabad, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Nizamabad and Warangal District), 31. Valmiki (in the agency tracts), 32. Yenadis, 33. Yerukulas are residing in the hill tracks of the state.

## 2. Methodology

The survey was conducted in selected tribal pockets of Andhra Pradesh, the first field trip of the study area was devoted to acquaintance with the local chiefs, priests, Vaidyas, herbal doctors, headman's and elderly people of both men and women. The methodology was adopted as described by Jain (2-4), Chadwick and Marsh (5) and Martin (6).

The present study was under taken during the period 2005-2009. It is the outcome of intensive field trips were made in the interior tribal pockets of the forest areas of Andhra Pradesh. The information was collected from who secured from their hereditary and ancestral line. Collecting information from them is not an easy task as they treat it will be an outmost secret, which was not even shared among their community members.

While carrying out the fieldwork, help was taken from the traditional healers in the abortifacient plants information, as they are familiar with the plants around them. The gathered information was entered in the investigator filed note book. Plants specimens were collected and identified by referring to standard Flora of the Presidency of Madras, Gamble and Fischer (7), Andhra Pradesh by Pullaiah et al (8) and local floras like Srikakulam district Rolla S. Rao & Harasriramulu (9) Vizianagarm district, Venkaiah(10), Visakhapatnam district, G.V Subba Rao (11), East Godavari District, Rolla S. Rao et al (12), West Godavari district, Rolla S. Rao et al (13) Krishna district, Venkanna, et al (14), Guntur district, Ramakrishnaiah (15) etc .

## 3. Results

In the present study a list of 33 plant species belonging to 29 genera and 26 families were used as abortifacients. In these 33 plants, 30 belong to dicots and 3 belong to monocots respectively. It is revealed that the root part of the following 8 plants i.e *Achyranthus aspera*, *Aerva lanata*, *Annona squamosa*, *Aristolochia indica*, *Barleria crista*, *Phyllanthus amarus*, *Plumbago zeylanica* and *Stephania japonica*, seeds of the following 7 plants like *Abrus precatories*, *Annona reticulata*, *Bombax ceiba*, *Caesalpinia bonduc*, *Carica papaya*, *Cascabela thevetia* and *Hibiscus cannabinus*, whole part of the following 3 plants like *Cuscuta reflexa*, *Drosera burmannii* and *Uraria logopioides*, root bark of the following plants like *Hibiscus rosa-sinesis*, *Holoptelia integrifloia* and *Semecarpus anacardium*, fruit of the following plants like *Cassia fistula* and *Meynia spinosa*, stem of the following plants like *Dendrophthoe falcata* and *Viscum articulatum*,

tubers of the following plants like *Gloriosa superba* and *Plumbago zeylanica*, latex, rhizome, leafsap, flowerbud and haustoria of the following plants like *Carica papaya*, *Costus speciosus*, *Musa rosea*, *Hibiscus cannabinus* and *Viscum articulatum* are used as abortifacients. (Table-I). List of plant species are used for

abortion are given alphabetically, name of the plant species, family, local name, part used, mode of preparation, recommended dosage and photos (Fig-1) are given for each species with a view to provide basic information for further follow up studies on abortifacient plants.

Fig. 1. Plants used for abortion

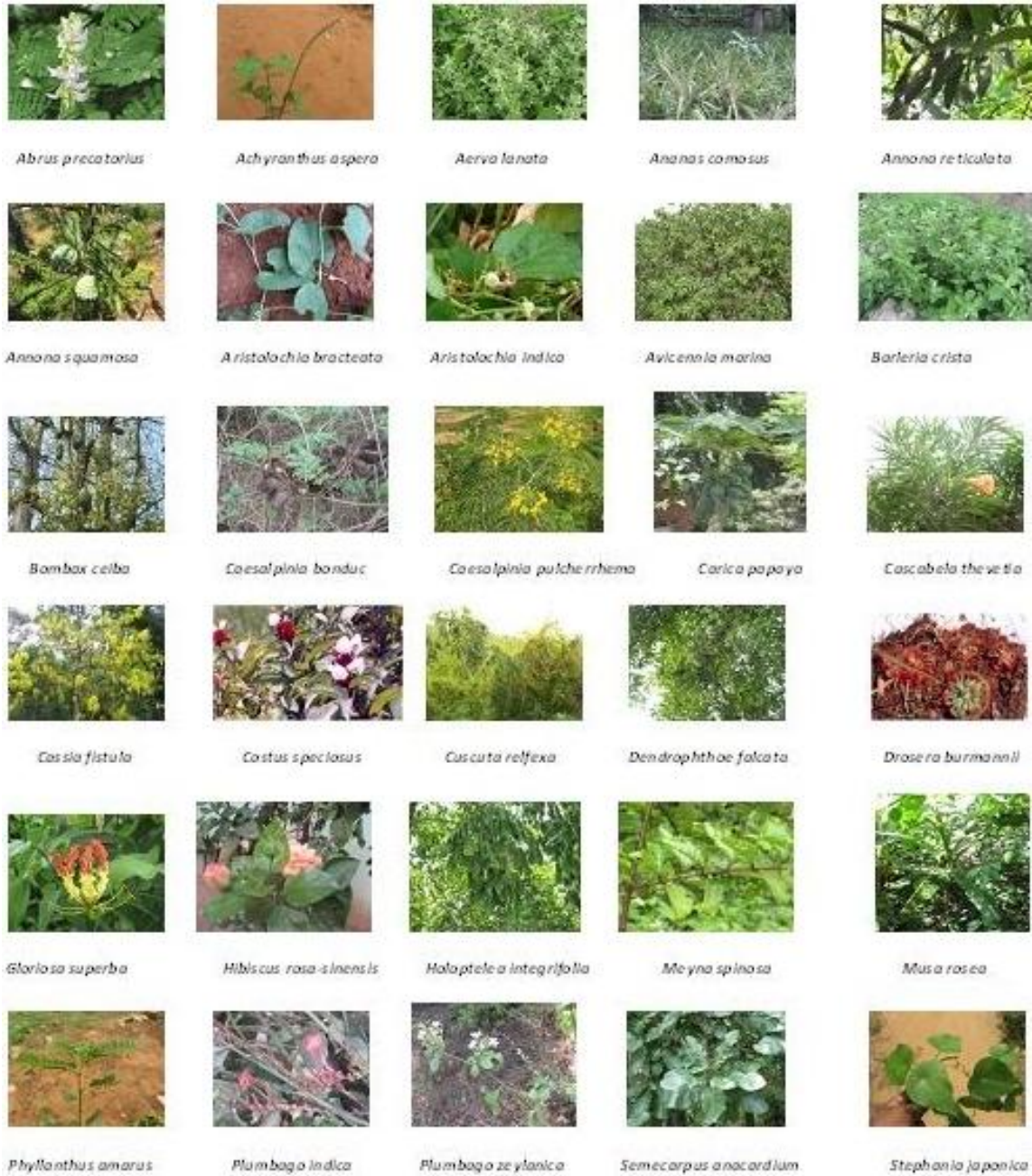


Fig-1:-Plants used for abortion

Table-1: List of plants, used part, mode of preparation and dosage

S. No	Name of the plant	Local name	Family	Part used	Mode of preparation	Recommended Administration & dosage
1	<i>Abrus precatorius</i> L.	Gurivinda	Fabaceae	Seeds	20gr of fresh seed powder mixed with a glass of lukewarm water	20gr of fresh seed powder mixed with a glass of lukewarm water
2	<i>Achyranthus aspera</i> L.	Uttareni	Amaranthaceae	Fresh Root	15gr of fresh root, mixed with lukewarm water and made into paste	15gr of fresh root, mixed with lukewarm water and made into paste
3	<i>Aerva lanata</i> Juss	Kondapindikura	Amaranthaceae	Fresh Root	Fresh root, about 9 cm is made as stick	Fresh root, about 9 cm is made as stick
4	<i>Ananas comosus</i> L. Merr.	Anasa	Bromeliaceae	Young Leaves	10gr of Fresh young leaves mixed with 7 black pepper and made into paste	10gr of Fresh young leaves mixed with 7 black pepper and made into paste
5	<i>Annona reticulata</i> L.	Ramaphalam	Annonaceae	Seeds	3gr of seed powder mixed with 3gr of black pepper seeds along with lukewarm water and make into paste	3gr of seed powder mixed with 3gr of black pepper seeds along with lukewarm water and make into paste
6	<i>Annona squamosa</i> L.	Sithaphalam	Annonaceae	Root	Fresh roots make into paste	Fresh roots make into paste
7	<i>Aristolochia indica</i> L.	Eswari	Aristolochiaceae	Fresh root	10gr of fresh root made into paste by crushing	10gr of fresh root made into paste by crushing
8	<i>Avicennia marina</i> Forssk.	Nallamada	Verbenaceae	Leaves	Mix the leaf extract with a glass of lukewarm goat milk and adequate amount of sugar.	Mix the leaf extract with a glass of lukewarm goat milk and adequate amount of sugar.
9	<i>Barleria crista</i> L.	Peddagorinta	Acanthaceae	Fresh root	3 gr of fresh roots crushed with 100ml of (alcohol from the flowers of <i>Madhuca latifolia</i> )	3 gr of fresh roots crushed with 100ml of (alcohol from the flowers of <i>Madhuca latifolia</i> )
10	<i>Bombax ceiba</i> L.	Buruga	Bombacaceae	Seeds	Seed powder about 30gr is made into paste with about 50gr of sugar molasses	Seed powder about 30gr is made into paste with about 50gr of sugar molasses
11	<i>Caesalpinia bonduc</i> Roxb.	Gachakaya	Caesalpinaceae	Seeds	Seeds ground with sesamum oil made in to extract.	Seeds ground with sesamum oil made in to extract.
12	<i>Caesalpinia pulcherrima</i> (L.) Swartz	Pamidi tangedu	Caesalpinaceae	Leaves	Dried leaf infusion	Dried leaf infusion
13	<i>Carica papaya</i> L.	Boppay	Caricaceae	Latex, seeds	Milky latex grinds with 10 seeds of the same.	Milky latex grinds with 10 seeds of the same.
14	<i>Cascabela thevetia</i> (L.) Lippold	Pacha ganeru	Apocynaceae	Seeds	Seeds are made into paste with adequate amount of sugar molasses	Seeds are made into paste with adequate amount of sugar molasses
15	<i>Cassia fistula</i> L.	Rela	Caesalpinaceae	Fruit	Fruit pulp of Cassia fistula and root extract of <i>Plumbago indica</i> and one garlic is ground	Fruit pulp of Cassia fistula and root extract of <i>Plumbago indica</i> and one garlic is ground
16	<i>Costus speciosus</i> Koeing	Chengalva kostu	Zingiberaceae	Rhizome	Rhizome made into paste	Rhizome made into paste
17	<i>Cuscuta reflexa</i> Roxb.	Sitamma savaralu	Cuscutaceae	Whole plant	Fresh plant extract of about 50gr is mixed with the extract of <i>Polygonum hydropiper</i> seed of the same amount, 5 black pepper seeds and about 5gr table salt. The whole mixed boiled after adding 200ml water. The whole mixer after boiling is filtered	Fresh plant extract of about 50gr is mixed with the extract of <i>Polygonum hydropiper</i> seed of the same amount, 5 black pepper seeds and about 5gr table salt. The whole mixed boiled after adding 200ml water. The whole mixer after boiling is filtered
18	<i>Dendrocalamus strictus</i> Roxb.	Sadana	Poaceae	Tender leaves	Tender leaves crushed along with seeds of <i>Hibiscus cannabinus</i> made into paste	Tender leaves crushed along with seeds of <i>Hibiscus cannabinus</i> made into paste
19	<i>Dendrophthoe falcata</i> (L.f) Ettingshausen	Badanika	Loranthaceae	Stem	Fresh stem of about 20gr, along with 11 black pepper seeds of about 10gr and roots of <i>Plumbago indica</i> are crushed to paste.	Fresh stem of about 20gr, along with 11 black pepper seeds of about 10gr and roots of <i>Plumbago indica</i> are crushed to paste.
20	<i>Drosera burmannii</i> Vahl.	Kavara mogga	Droseraceae	Whole plant	3gr of the whole plant ground with the tubers of <i>Gloriosa superba</i> (3:1 ratio) made into paste.	3gr of the whole plant ground with the tubers of <i>Gloriosa superba</i> (3:1 ratio) made into paste.
21	<i>Gloriosa superba</i> L.	Adavi nabhi	Liliaceae	Tubers	Fresh tubers of about 2gr are made into paste along with 7 black pepper seeds and added a glass of lukewarm goat milk.	Fresh tubers of about 2gr are made into paste along with 7 black pepper seeds and added a glass of lukewarm goat milk.
22	<i>Hibiscus cannabinus</i> L.	Gongura	Malvaceae	Flower buds, Seeds	Young flower buds and seeds ground into paste	Young flower buds and seeds ground into paste
23	<i>Hibiscus rosa-sinensis</i> L.	Mandara	Malvaceae	Root bark	About 100gr of inner part of the root bark mixed with seeds of black pepper and made into paste then added a glass of water	About 100gr of inner part of the root bark mixed with seeds of black pepper and made into paste then added a glass of water
24	<i>Holoptelea integrifolia</i> (Roxb) Planch	Nemali chettu	Ulmaceae	Root bark	Root bark crushed with roots of <i>Plumbago zeylanica</i> in 1:1 ratio.	Root bark crushed with roots of <i>Plumbago zeylanica</i> in 1:1 ratio.
25	<i>Meyna spinosa</i> Roxb.	Cegagadda	Rubiaceae	Fruits	Pulp of the ripe fruits and seeds are made into paste with 2-3 bulbs of <i>Allium sativum</i> the whole paste thus obtained is made into a pill	Pulp of the ripe fruits and seeds are made into paste with 2-3 bulbs of <i>Allium sativum</i> the whole paste thus obtained is made into a pill
26	<i>Musa rosacea</i> Jacq	Adavi arati	Musaceae	Leaf sap	The sap extracted from the lively plant	The sap extracted from the lively plant
27	<i>Phyllanthus amarus</i> Schum. & Thrn.	Nela usiri	Euphorbiaceae	Root	Roots are ground and made into pills	Roots are ground and made into pills
28	<i>Plumbago indica</i> L.	Erra chitramulam	Plumbaginaceae	Tuber, Leaves	Decoction extracted from the tubers and leaves	Decoction extracted from the tubers and leaves
29	<i>Plumbago zeylanica</i> L.	Tella chitramulam	Plumbaginaceae	Root	Fresh roots paste made into pills	Fresh roots paste made into pills
30	<i>Semecarpus anacardium</i> L.	Nallajeedi	Anacardiaceae	Root bark	About 20gr fresh root bark made into paste. From this paste two small pills are prepared.	About 20gr fresh root bark made into paste. From this paste two small pills are prepared.
31	<i>Stephania japonica</i> (Thumb.) Miers.	Duvva teega	Minispermaceae	Root	30gr of fresh root made into paste	30gr of fresh root made into paste
32	<i>Uraria lagopodioides</i> Desv.	Kolaponna	Fabaceae	Whole plant	About 30gr of paste prepared from the whole plant and make it an candle	About 30gr of paste prepared from the whole plant and make it an candle
33	<i>Viscum articulatum</i> Burm.f.	Chettubadanika	Viscaceae	Haustorium, Stem	The haustorium and stem ground with long pepper and the paste made into pills.	The haustorium and stem ground with long pepper and the paste made into pills.

#### 4. Discussion

In the state of Andhra Pradesh a few workers (16-20) have been worked on the abortifacient plants *Caesalpinia bonduc*, *Dendrocalamus strictus*, *Gloriosa superba*, *Hibiscus cannabinus*, *Holoptelia integrifolia*, *Plumbago indica*, *Plumbago zeylanica* and *Viscum articulatum* are similar findings were reported by Rama Rao *et al* (16) *Annona squamosa*, *Carica papaya*, *Costus speciosus*, *Dendrophthoe falcata* and *Gloriosa superba* were reported by Inyasamma (17) *Annona squamosa*, *Caesalpinia bonduc*, *Costus speciosus*, *Dendrocalamus strictus* and *Holoptelia integrifolia* were reported by Rama Rao Naidu (18) *Annona squamosa*, *Caesalpinia bonduc*, *Carica papaya*, *Cascabela thevetia*, *Costus speciosus*, *Dendrocalamus strictus*, *Hibiscus cannabinus*, *Holoptelia integrifolia* and *Plumbago zeylanica* were reported by Chandra Babu (19), *Cassia fistula*, *Dendrocalamus strictus*, *Phyllanthus amarus* and *Plumbago zeylanica* were reported by Lakshmi (20)

Among the abortifacient plants *Achyranthus aspera*, *Aerva lanata*, *Ananas comosus*, *Annona reticulata*, *Aristolochia indica*, *Avicennia marina*, *Barleria crista*, *Bombax ceiba*, *Caesalpinia pulcherrima*, *Cuscuta relfexa*, *Hibiscus rosa-sinensis*, *Musa rosacea*, *Semicarpus anacardium*, *Stephania japonica* and *Uraria lagopoides* species are hitherto not reported from Andhra Pradesh, hence, reported as new information. Phytochemical studies of above said plants need to be taken up to find out the exact ingredients that help in the abortion.

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