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DIVERSITY, DISTRIBUTION AND USES OF *FICUS* L. (MORACEAE) IN ANDHRA PRADESH, INDIA: A REVIEW

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ABSTRACT

The genus *Ficus* L. (Moraceae) includes *ca* 735 species, of which only 70 occur in India. Among these, 26 species are reported in Andhra Pradesh. It occurs both in wild and cultivated form. Plants are extensive trees, shrubs and rarely climbing shrubs. Phyllotaxy of all the species is alternate except *Ficus hispida* (opposite). The figs are usually sessile, rarely stalked. The present paper deals with diversity, distribution, economic uses, etc. of *Ficus* L. (Moraceae).

Keywords: Moraceae, *Ficus*, Phyllotaxy, India, Andhra Pradesh.

INTRODUCTION

The family Moraceae comprises *ca* 53 genera and 1400 species, distributed in the tropical and subtropical regions while some occur in the temperate regions (Santapau & Henry, 1973). Among these, *ca* 10 genera and 106 species are found in India (Ahmedullah & Nayar, 1987) and 6 genera and 32 species are recorded from Andhra Pradesh (Jeyemma, 1997).

The Pantropical, genus *Ficus* L. is extended to subtropical region and comprising *ca* 735 spp. Out of them, *ca* 120 spp. are found in America; *ca* 105 species are found in Africa and others in the Asian-Australian region. Of the total recorded species (*ca* 70) In India, *ca* 26 species are found in the Andhra Pradesh. Among these, three are strictly confined to Andhra Pradesh; 3 are grown as avenue tree; 13 are used as fodder; 11 are used as edible and 16 are used as medicines.

Study area

Andhra Pradesh is, ranks fifth in both area and population among the Indian states, one of the 30 states of the Indian Union. It lies between 12º37' - 19º54'N and 76º46' - 84º46'E. It is bounded on the South by Tamil Nadu, West by Karnataka, North, Northwest by Maharashtra, Northeast by Madhya Pradesh, Orissa and East by Bay of Bengal. The state was divided into three major zones 1. Coastal (Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam & Nellore), 2. Rayalaseema (Kurnool, Cuddapah, Anantapur, & Chittoor) & 3.Telangana (Hyderabad, Rangareddy, Nalgonda, Mahabubnagar, Khammam, Warangal, Karimnagar, Nizamabad, Medak & Adilabad).

Botanical Exploration

The Scientists of Botanical Survey of India, Coimbatore and Hyderabad are undertaking periodical expedition in the state of Andhra Pradesh since 1994 to 2008. So far, the exploration was completed for the districts viz. Chittoor, Cuddapah, Mahabubnagar, Medak, Khammam, Nellore, Visakhapatnam, Warangal. Based on the survey, *Ficus* L. spp. (Moraceae) are collected as per the conventional method and housed at the Madras herbarium (MH), Botanical Survey of India, Southern Regional Centre, Coimbatore.

Diversity & distribution

About 26 species are distributed in the Andhra Pradesh State. The distribution (district and World) of all the species is given in Table 1.

Table 1: Diversity & distribution (district and World) of all the species

Name of the species	Distribution	
	District in Andhra Pradesh	World
Ficus amplissima Smith (*F. tsiela* Roxb.)	Adilabad, Anantapur, Cuddapah, East Godavari, Godavari, Krishna, Kurnool, Srikakulam	India, Sri Lanka & Maldives
F. arnottiana (Miq.) Miq.	Chittor, Krishna, Visakhapatnam	India, Sri Lanka
F. auriculata Lour. (*F. ologodon* Miq.; *F. pomifera* Wall.; *F. rigida* Miq.)	Godavari, Visakhapatnam	Pakistan, to S. China, Indo-China, Thailand, Malesia.
F. beddomei King	Chittoor	India
F. benghalensis L.	Adilabd, Anantapur, Chittoor, Kurnool, Karimnagar, Krishna, Kurnool, Medak, Visakhapatnam	Indian subcontinent
F. benjamina L.	East Godavari, Visakhapatnam	India, Myanmar, S. China, Thailand, S. China, Indo-China to Australia
F. carica L.	Anantpur	Mediterranean to Afghanistan
F. concinna (Miq.) Miq.	Vizianagaram	India to S. China, Indo-china, Thailand, Andaman Islands, Malesia
F. dalhousiae Miq.	Chittoor, Cuddappah	South India
F. drupacea Thunb. (*F. mysorensis* Heyne ex Roth)	Kurnool	India, Sri Lanka, Bangladesh, Myanmar, S. China, Indo-China, Thailand to Malesia Laos
F. exasperate Vahl (*F. asperrima* Roxb.)	East Godavari, Godavari, Srikakulam, Visakhapatnam	East Africa, Arabia, India, Sri Lanka
F. heterophylla L. f.	Godavari, Visakhapatnam	Sri Lanka, India, Myanmar to China, Indochina, Thailand, Malesia
F. hispida L.f.	Adlabad, Chittoor, Cuddapah, East Godavari, Guntur, Krishna, Nelloor, Srikakulam, Warangal, Visakhapatnam	Sri Lanka to India, S. China, Andaman Islands, Australia, Malesia
F. microcarpa L. f. (*F. retusa* King)	Anantapur, Chittoor, Cuddapah, East Godavari, Godavari, Khammam, Krishna, Kurnool, Prakasam, Srikakulam, Visakhapatnam	Sri Lanka, India, China to S. Japan, Ryuku Islands, Thailand to Malesia to Solomon Islands, Australia, Bonin Islands, Christmas Island, Cocos Island, Caroline
F. mollis Vahl (*F. tomentosa* Roxb. ex Willd.)	Adilabad, Anantapur, Chittoor, Cuddapah, East Godavari, Godavari, Karinagar, Kurnool, Warangal	India, Sri Lanka
F. nervosa Heyne ex Roth	East Godavari, Visakhapatnam	Taiwan to Malesia, Indo-Malesia to Australia
F. palmata Forsk	Visakhapatnam	Asia, Africa
F. racemosa L. (*F. glomerata* Roxb.)	Adilabad, Chittoor, East Godavari, Godavari, Hyderabad, Karimnagar, Krishna, Kurnool, Medak, Srikakulam	Sri Lanka to Myanmar, S. China, Vietnam, Thailand, Malesia, Australia

F. religosa L.	Anantapur, Hyderabad, Karimnagar, Krishna, Visakhapatnam	Pakistan to S. China, N. Thailand to Vietnam
F. rumphii Blume	Visakhapatnam	India, Cocos Islands, Andaman & Nicobar Islands, Myanmar, Indo-China, Thailand
F. semicordata Buch.- Ham. ex Smith (*F. cunia* Buch.- Ham.)	Godavari, Srikakulam, Visakhapatnam	From India to Myanmar, S.China, Vietnam, Thailand, Malesia
F. talbotii King	Anantapur, Kurnool	Indo-China, Sri Lanka
F. tinctoria Forster. f. subsp. *gibbosa* (Blume) Corner (*F. gibbosa* Blume var. *parasitica* (Koen. ex Willd) King)	Chittoor, East Godavari, Srikakulam, Visakhapatnam	Sri Lanka, India, Andaman Islands, S. China, Indo-China, Thailand
F. tsjakela Rheede ex Burm. f.	Mahabubnagar, Visakhapatnam	India, Sri Lanka
F. virens Ait. var. virens (*F. infectoria* Roxb.)	Chittoor, East Godavari, Karimnagar, Kurnool, Visakhapatnam	Sri Lanka, S. China, Thailand, Vietnam, Caroline Islands, Solomon Islands, N. Australia
F. virens Ait var. *wightiana* (Miq.) Chithra	Cuddapah	Peninsular India

Endemic species: Of the total recorded species from Andhra Pradesh, three endemic species of India are distributed in the Andhra Pradesh.

1. *Ficus beddomei* King
2. *Ficus dalhousiae* Miq.
3. *Ficus virens* Ait var. *wightiana* (Miq.) Chithra

Avenue trees: There are two species, which are grown as shade and avenue trees.

1. *Ficus benghalensis* L.
2. *F. religiosa* L.

Fodder species: The tender twigs and leaves of thirteen species are being logged for the elephant, bulls and goats as fodder. They are

1. *Ficus amplissima* Smith
2. *F. arnottiana* (Miq.) Miq.
3. *F. auriculata* Lour.
4. *F. benghalensis* L.,
5. *F. carica* L.
6. *F. hispida* L. f.
7. *F. microcarpa* L. f.
8. *F. palmata* Forsk.
9. *F. racemosa* L.
10. *F. religiosa* L.
11. *F. rumphii* Blume
12. *F. semicordata* Buch.-Ham. ex Smith
13. *F. virens* Ait. var. *virens*

Edible fruits: The fruits of the following species are used as edible by human beings and birds.

1. *Ficus auriculata* Lour.
2. *F. benghalensis* L.
3. *F. carica* L.
4. *F. heterophylla* Forsk.
5. *F. hispida* L. f.
6. *F. microcarpa* L. f.
7. *F. palmata* Forsk
8. *F. racemosa* L.
9. *F. religiosa* L.
10. *F. rumphii* Blume
11. *F. semicordata* Buch.-Ham. ex Smith

Medicinal plants

About 16 species are reported to have the following medicinal uses. Their binomial, local name and uses are given below.

Name of the species	Local name	Uses
Ficus arnottiana (Miq.) Miq.	Kallaravi	**Bark**: Skin diseases, diabetes, burning sensation, vaginopathy, inflammation and diarrhoea.
F. benghalensis L.	Peddamarri	**Aerial roots:** Vomiting, leucorrhoea. **Bark**: Burning sensation, diarrhoea, dysentery, diabetes, ulcers, skin diseases, gonorrhea, leucorrhoea. **Leaves**: Ulcers, leprosy, burning sensation, abscesses. **Buds**: Diarrhoea, dysentery. **Fruits**: Refrigerant & tonic. **Latex**: Neuralgia, rheumatism, lumbago, bruises, gonorrhea, inflammation, cracks of the sole and skin diseases.
F. benjamina L.	-	**Decoction of leaves**: ulcers
F. carica L.	Anjunu, manjimedi	**Latex**: Anthelmintic
F. dalhousiae Miq.	-	**Fruits**: Heart diseases. **Leaves & bark:** Liver complaints, skin disease.
F. hetero phylla L.f.	Juuvu juvvi, Buroni	**Juice of leaves:** Dysentery **Root bark**: Cough, asthma
F. hispida L.f.	Adaviatti	**Bark:** emetic, laxative, poultice. **Fruits**: Refrigerant, anti-dysenteric, anti-inflammatory, galactogogue. **Bark & Fruits**: Ulcers, leucoderma, psoriasis, anaemia, jaundice, intermittent fever.
F. microcarpa L.f.	Plaksa	**Aerial roots**: Dental caries, odontalgia **Bark & Leaves:** Astringent, refrigerant, stoma chic
F. palmata Forsk.	manjimedi	**Fruits:** Demulcent, laxative, cure diseases of lungs, bladder.
F. racemosa L.	Udambaramu, paidi	**Roots:** Dysentery. **Bark:** Antidiabetic, refrigerant, uropathy **Decoction of leaves:** washed for wounds and ulcer. **Tender fruits:** Diarrhoea, dyspepsia, haemorrhages. **Ripe fruits:** Stomachic, refrigerant, carminative, menorrhagia. **Latex:** Aphrodisiacal, haemorrhoids, diarrhea
F. religiosa L.	Ravi	**Bark:** Astringent, Sweet, cooling, aphrodisiac. **Leaves & tender shoots:** Purgative. **Fruits:** laxative, digestive, asthma. **Seeds:** Refrigerant, laxative. **Latex:** Neuralgia, inflammations, haemorrhages
F. rumphii Blume	Beepal	**Bark:** snakebite **Plant juice:** Kill worms, relief of asthma
F. semicordata Buch.-Ham.	Bommamari	**Fruits:** Aphthous complaints **Root juice:** Bladder ailments
F. talboti King	Kalaal	**Decoction of bark:** ulcers, diarrhoea, leprosy
F. tinctoria Forster.f. subsp. *gibbosa* (Blume) Corner	Kondajuvi, pakki.	**Root bark:** Stomachic **Decoction of root:** Aperient.
F. virens Ait. var. *virens*	Bodijuvvi, Jati,	**Leaves:** Poultice **Decoction of bark**: Gargle, wash for ulcers

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