Research and Reviews in BioSciences

Research | Vol 12 Iss 2

Species Diversity and Enumeration of Various Plant Species in Medak Telangana State

Naresh K*, Avinash kumar J, and Venkateshwar C

Department of Botany, University College of Science, Osmania University, Hyderabad, India

***Corresponding author:** Naresh K, Department of Botany, University College of Science, Osmania University, Hyderabad, India, Tel: 04027682444; E-mail: ksnaresh822@gmail.com

Received: April 10, 2017; **Accepted:** May 30, 2017; **Published:** June 5, 2017

Abstract

Medak is one of the district of Telangana state which is known for its low nutrient soils, supporting growth of some of the inferior plant species in 2016(Feb)-2017 (Feb). In this research work vegetation found in the Medak district is being divided into two broad categories, that is forest vegetation and non- forest vegetation. The vegetation found in the field area was further divided into various groups depending on morphological characteristics shown by them. A vast exploration was conducted wherein the researchers have visited various areas to observe the versatility seen in the respective regions. It is been found that the field area is inhabited by various types of plants belonging to families like Leguminosae (104), Poaceae (83), Cyperaceae (49), Asteraceae (37), Euphorbiaceae (31), Acanthaceae (22), Rubiaceae (20), Lamiaceae (18), Convolvulaceae (17) and Amaranthaceae (15). During the studies, the predominant of the plant species observed belonged to Leguminosae family. This study can be further proceeded by doing a detailed analysis of the soil for its physicochemical characters which specifically supported the growth of Leguminosae members.

Keywords: Morphology; Vegetation; Plant collection; Medak; Enumeration; Medicinal plants

Introduction

Medak district forms part of the tableland of the Deccan plateau and is crossed by different ranges of hills. The ground is mostly of plains, gentle slopes and undulating hills. Isolated peaks and rocky clusters lie scattered all over the district. The elevation of the ground in the district is between 500 m to 600 m with occasional hills up to 638 m above Mean Sea Level. The hills that are of considerable size in the forest division are in a state of erosion because of reckless felling and indiscriminate grazing [1-5]. The rock formation in the district is of the oldest type (archaeon gneisses) and consists principally of peninsular granite complex i.e. pink and grey granites and their metamorphic variations. Minor inliers of Dharwar rocks occur as narrow bands in the granite and consist of horn blend schists, chlorite schists and banded or massive

Citation: Naresh K, Avinash kumar J, Venkateshwar C. Species Diversity and Enumeration of Various Plant Species in Medak Telangana State. Res Rev Biosci. 2017;12(2):119.

ferruginous quartzite. A few such exposures are seen due North and North-east of Siddipet. A part of the Sangareddy taluk in the south-west of the district is covered by the Deccan traps (Basalt Flows) formation. Building material, the granites found in the district yield large quantity of building stone and road-metal. There are numerous quartz veins cutting across the granite all over the district. Quartz useful for glass industry may be obtained from selected deposits. In the granite feldspars are colonized in some places giving rise to small deposits of white clay in the form of veins and pockets. The soils of the district are mainly red earths comprising loamy sands, sandy loams and sandy clay loams. Red laterite soil is predominant in Zaheerabad taluk. Black cotton soils comprising of clay loams, clays and silty clays are found in Sangareddy, Andole, Narayankhed and Narsapur taluks. The red soils are generally non-saline, non-alkaline while the black soils are moderately alkaline with high soluble salt content. The district is not watered by any big river. The Manjira, a tributary of the Godavari, is an important river. Manjira rises in Bidar district of Karnataka state and enters Medak district in the South-East. It flows for about 96 km in the western and North-Western taluks of Narayankhed, Zaheerabad, Sanga Reddy, Narsapur and Medak. The other important streams are the Haldi or Paspuyeru and the kudlair. Haldi is a tributary of the Manjira and enters the district from the North and flows through Medak town. The kudlair, which drains siddipet taluk, is another river in the district and forms a tributary of Mahai. The chief sources of irrigation in the district are the Bhanpur Ayacut the Rayanpalle project, the Gangakathwa project, the Beglempalli (Bogulapalle) project and the Peddavagu project. The undulating characters of the terrain of the district lend itself favourable to irrigation from canals, tanks, wells and streams. The climate of the district is characterized by a hot summer and generally dry weather with some pleasing showers, except during the south-west monsoon season. The year may be divided into three seasons, viz, winter season (November-February), summer season (March-May) and South-west monsoon season (June-October). The rainfall during the South-west monsoon months amounts to about 84% of the annual rainfall. July is the rainiest month. The average annual rainfall in the district is 896.7 mm. The heaviest rainfall in 24 hours recorded at any station in the district was 307.3 mm at Sangareddy in September, 1908 [6-12]. The rainfall in the district increases from the south towards North. After February, temperature rapidly increases. May is the hottest month with the mean daily maximum temperature of about 40°C and the mean daily minimum temperature of about 26°C. With the onset of the south-west monsoon in the middle of June, temperature decreases appreciably and the weather becomes more pleasant. December is the coldest month with mean daily maximum temperature at about 29°C and the mean daily minimum temperature of about 14°C. During the cold season, the temperature may go down to about 6°C.

Methods and Materials

The present work on Plant Diversity in Medak is based on intensive explorations by the authors during the year 2016-2017 and also on the critical analysis of collected specimens. In the present investigation, a total of 694 species belonging to 373 genera under 110 families have been included.

A few exploration trips were conducted during different months of a year covering all ranges of the forests and non-forest areas in the Medak district. During field trips, every plant was collected in quadruplicates either with flowering or fruiting stage. Each collection of the individual specimen was labelled with field numbers and every attempt was made to study the habit, habitat, colour of the flower, flowering and fruiting season, frequency of distribution and relative abundance. All the above information was recorded in the field itself. Special care was taken for collecting aquatic species, bulbs, corms, tubers etc. [13-16].

Results and Discussion

Forests and vegetation

The vegetation of the district can be categorized into forest, non-forest and aquatic types.

Forest vegetation

The district forests are of Southern Tropical Dry deciduous type and account for 9.9% of the total geographical area. The forests as grouped into only one division i.e. Medak which includes 6 ranges (TABLE 1).

TABLE 1. **Forest ranges of Medak district.**

S.No.	Name of the Division	Name of the Range	Area (in sq. kms)
1.	Medak	Siddipet	178.99
2.	Medak	Ramayampet	165.27
3.	Medak	Medak	250.47
4.	Medak	Narsapur	202.70
5.	Medak	Zaheerabad	91.12
6.	Medak	Narayankhed	71.54

The forests are further classified into dry mixed deciduous type, Dry deciduous type and Dry savannah type. Locally the forests are sub classified by the forest officials as teak type (teak over 40%), mixed teak type (Teak 10% to 30%) and mixed type (Teak less than 10%) depending on the abundance of teak in the forests.

Dry mixed deciduous forests

These types of forest are widespread throughout the district and are distributed in the forest blocks of Medak and Narsapur taluks (TABLES 2-9). The compositions of these forests are as follows;

TABLE 2. **List of large tree members (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Albizia amara*	Mimosaceae	Narlenga
2.	*Anogeissus latifolia*	Combretaceae	Sirimanu
3.	*Bombax ceila*	Malvaceae	Buruga
4.	*Boswellia serrata*	Bursaraceae	Guggilam
5.	*Chloroxylon swietenia*	Rutaceae	Billudu
6.	*Dalbergia paniculata*	Fabaceae	Kondapachari
7.	*Disospyros melanoxylon*	Ebenaceae	Tuniki
8.	*Givotia moluccana*	Euphorbiaceae	Konda puniki
9.	*Hardwickia binata*	Ceasolpinaceae	Yepi chettu

10.	*Lagerstroemia parviflora*	Lythraceae	Chinangi
11.	*Lannea coromandelica*	Anacardiaceae	Ajashrungi
12.	*Madhuca latifolia*	Sapotaceae	Ippa
13.	*Morinda pubescens*	Maddi chettu	Rubiaceae
14.	*Ougeinia oojeinesis*	Fabaceae	Tella mothuku
15.	*Phyllanthus emblica*	Euphorbiaceae	Usiri
16.	*Soymida febrifuga*	Meliaceae	Somidi
17.	*Strychnos nux-vomica*	Loganiacaeae	Vishamushti
18.	*Tectona grandis*	Verbenaceae	Teku
19.	*Terminalia bellirica*	Combretaceae	Karsha phalam
20.	*Terminalia paniculata*	Combretaceae	Puta nallamaanu
21.	*Terminalia arjuna*	Combretaceae	Tellamaddi

TABLE 3. **List of tree members (some Imp. examples).**

S. No	**Botanical Name**	**Family**	**Vernacular Name**
1.	*Butea monosperma*	Fabaceae	Moduga
2.	*Cassia fistula*	Ceasolpinaceae	Rela
3.	*Cassine glauca*	Celastraceae	Nirija
4.	*Cordia obliqua*	Boraginaceae	Iriki
5.	*Dendrocalamus strictus*	Poaceae	Pothuveduru
6.	*Gardenia gummifera*	Rubiaceae	Cittamaali
7.	*G. Latifolia*	Rubiaceae	Pedd karinga
8.	*Holarrhena pubescens*	Apocyanaceae	Kondamalle
9.	*Limonia acidissima*	Rutaceae	Velaga
10.	*Wrightia tinctoria*	Apocyanaceae	Paalakurche

TABLE 4. **List of shrubs (some Imp. examples).**

S. No	**Botanical Name**	**Family**	**Vernacular Name**
1.	*Alangium salvifolium*	Alangiaceae	Udugu
2.	*Annona squamosa*	Annonaceae	Seethaphal
3.	*Cassia auriculata*	Ceasalpinaceae	Tangedu
4.	*Catunaregam spinnosa*	Rubiaceae	Marrga
5.	*Combretum albidum*	combretaceae	Geddepeyyuru
6.	*Dichristachys cinerea*	Mimosaceae	Velthuru
7.	*Dodonae viscosa*	Sapindaceae	Bandaru
8.	*Grewia hirsuta*	Teliaceae	Cheema chipuru

9.	*Maytenus emarginata*	Celastraceae	Chinni tuppa
10.	*Rhus mysorensis*	Anacardiaceae	Sundari
11.	*Vitex negundo*	Verbenaceae	Nalla vavili
12.	*Ziziphus spp.*	Rhamnaceae	Regu, pariki

TABLE 5. **List of climbers (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Arbus precatorius*	Fabaceae	Gurivinda
2.	*Ampelocissus latifolia*	Vitaceae	Adavi theega draksha
3.	*Aspidopterys cordata*	Malphigiaceae	Bokadeval
4.	*Butea superba*	Fabaceae	Theega moduga
5.	*Capparis zeylanica*	Capparidaceae	Adonda
6.	*Cissampelo spareira*	Menispermaceae	Chiru boddi
7.	*Cocculus hirsutus*	Menispermaceae	Dusra theega
8.	*Derris scandens*	Fabaceae	Chiruthali baadu
9.	*Dioscore apentaphylla*	Dioscoreaceae	Adaviginusu theega
10.	*Gymnema sylvestre*	Asclepediaceae	Podapathri
11.	*Ipomoea spp.,*	Convovulaceae	Lottapeece
12.	*Jasminum auriculatum*	Adavi malle	Oleaceae
13.	*Olax scandens*	Olacaceae	Turuka vepa
14.	*Ziziphus oenoplia*	Rhamnaceae	Pariki

TABLE 6. **List of shrubs (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Acalypha indica*	Euphorbiaceae	Muripenda
2.	*Aerva lanata*	Amaranthaceae	Pindikura
3.	*Ageratum conyzoides*	Asteraceae	Adavi pudina
4.	*Alysicarpus spp.*	Fabaceae	Braramatal chettu
5.	*Biophytum sensitivum*	Oxalidaceae	Jalapupa
6.	*cassia tora*	Ceasolpinaceae	Pedda kasinda
7.	*crotalaria junceae*	Fabaceae	Janumu
8.	*Curculigo orchioides*	Hypoxidaceae	Bangaru gaddi
9.	*Desmodium gangtecum*	Plantaginaceae	Deyyam jeda
10.	*Glinus oppositifolius*	Molluginaceae	Chatuntharashi
11.	*Hibisus lobatus*	Malvaceae	Atakanaara
12.	*Indigofera linnaei*	Fabaceae	Yerra palleru

13.	*Polycarpaea corymbosa*	Caryophyllaceae	Bommasaari
14.	*Pulicaria wightiana*	Asteraceae	Adavi chamanthi
15.	*Triumfetta rhomboidea*	Teliaceae	Banka tuttura

TABLE 7. **List of grasses (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Aristida adscensionis*	Poaceae	Nalla putiki
2.	*Cymbopogon citratus*	Poaceae	Nimma gaddi
3.	*Dichanthium annulatum*	Poaceae	Needa gaddi
4.	*Eragrostis unioloides*	Poaceae	Udara gaddi
5.	*Heteropogon contortus*	Poaceae	Nalla ete gaddi

TABLE 8. **List of parasites (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Cassytha filiformis*	Lauraceae	Akaashavalli
2.	*Cuscuta reflexa*	Convilvulaceae	Seethamma pogunaalu
3.	*Dendrophthoe falcata*	Loranthaceae	Jeevakam
4.	*Scurrula parasitica*	Loranthaceae	Pullurivi
5.	*Striga asiatica*	Scropulariaceae	Rathi badamika

TABLE 9**. List of Pteridophytes (some imp. examples).**

S.No	Botanical Name	Family	Vernacular Name
1.	*Actinopteris radiate*	Pteridaceae	Nemali adugu
2.	*Marseliaqua drifolia*	Marseliaceae	Marsilia

Dry deciduous scrub forests

Scrub forests are mostly distributed in cornet blocks of Siddipet, Zaheerabad and Narayankhed ranges. Scrub vegetation is characterised by the predominance of the list of plants mentioned in TABLE 10.

TABLE 10. **List of dry deciduous scrub forest members (some Imp. examples).**

S.No	Botanical Name	Family	Vernacular Name
1.	*Annona squamosa*	Annonaceae	Seethaphal
2.	*Capparis zeylanica*	Capparidaceae	Adonda
3.	*Cassia auriculata*	Ceasalpinaceae	Tangedu

4.	*C. Occidentalis*	Ceasalpinaceae	Adavitangedu
5.	*Diospyros melanoxylon*	Ebenaceae	Tuniki
6.	*Gymnosporia spinnosa*	Celastraceae	Dante chettu
7.	*Lantana camara*	Verbenaceae	Sisakammari
8.	*Phoenix loureiri*	Arecaceae	Eetha chettu

Dry savannah forests

These types of forests are distributed in patches in the outer edges of the forest blocks and usually found in Siddipet, Narayankhed and Zaheerabad ranges and parts of Ramayampet and Narsapur. The trees stand far apart singly or in small groups along with more or less heavy grass growth in which certain fire-resistant plants persist, of which stemless phoenix that is *Phoenix loureiri* is one among many found. Other common species encountered in these forests include *Cassia auriculata*, *Dodonea angustifalia* and *Lantana camara* [17-20].

Non-Forest Vegetation

Waste land and road side plants

The list of waste land and road side plants are mentioned in TABLES 11-13.

TABLE 11**. List of waste land and road side plants (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Acalypha indica*	Euphorbiaceae	Muripenda
2.	*Acanthospermum hispidum*	Asteraceae	Palleru
3.	*Achyranthes aspera*	Amaranthaceae	Uttareni
4.	*Amaranthus tricolor*	Amaranthaceae	Thotakura
5.	*Boerhavia diffusa*	Nyctaginaceae	Punarnava
6.	*calotropis gigantea*	Asclepediaceae	Tella jilledu
7.	*C. procera*	Asclepediaceae	Nalla jilledu
8.	*Cassia auriculata*	Ceasolpinceae	Tangedu
9.	*C. Occidentalis*	Ceasolpinceae	Adavi tangedu
10.	*Cleome viscosa*	Cleomaceae	Kukka vaminta
11.	*Corchorus aestuans*	Teliacaeae	Parinta
12.	*Croton bonplandianum*	Euphorbiaceae	Ban tulsi
13.	*Datura innoxia*	Solanaceae	Nalla ummetha
14.	*Echinops echinatus*	Asteraceae	Brahmadandi
15.	*Euphorbia hitra*	Euphorbiaceae	Nanabaalu
16.	*Evolvulus alsinoides*	Convolvulaceae	Vishnukantha
17.	*Impatiens balsamina*	Balsaminaceae	Chiluka mukku puvvu
18.	*Indigofera cordifolia*	Fabaceae	Papara alam

19.	*Jatropha gossypifolia*	Euphorbiaceae	Adavi amudam
20.	*Parthenium hysterophorus*	Asteracaeae	Vayyari bama
21.	*Solanum surattense*	Solanaceae	Ramulka
22.	*sida cordata*	Malvaceae	Gayapaku
23.	*Tamarindus indica*	Meliaceae	Vepa chettu
24.	*Tephrosia purpurea*	Fabaceae	Vempali
25.	*Tridax procumbens*	Asteraceae	Gaddi chamanthi
26.	*Vernonia cinerea*	Asteraceae	Sahadevi

TABLE 12. **List of some of the important plants growing in towns and villages.**

S. No	Botanical Name	Family	Vernacular Name
1.	*Azadirachta indica*	Meliaceae	Vepa chettu
2.	*Cassia roxburghil*	Ceasolpinaceae	Erra tangedu
3.	*Delonix regia*	Ceasolpinaceae	Aggi chettu
4.	*Ficus benghalensis*	Moraceae	Marrhi
5.	*Mangifera indica*	Anacardiaceae	Mamidi
6.	*Pongamia pinnata*	Fabaceae	Kanuga
7.	*Tamarindus indica*	Solanaceae	Chintha chettu

TABLE 13. **List of some of the important Hedges.**

S. No	Botanical Name	Family	Vernacular Name
1.	*Abutilon indicum*	Malvaceae	Botla benda
2.	*Caesalpinia bonduc*	Ceasolpinaceae	Gachakai
3.	*Cascabela thevetia*	Apocyanaceae	Pacha ganneru
4.	*Catunaregam spinosa*	Rubiaceae	Marrga
5.	*Clerodendrum inerme*	Verbenaceae	Takkola chettu
6.	*Grewia hirsute*	Teliaceae	Cheema chipuru
7.	*Lawsonia inermis*	Lythraceae	Mydaku
8.	*Parkinsonia aculeate*	Fabaceae	Seema thumma

TABLE 14. **Chief climbers seen in hedges are.**

S. No	Botanical Name	Family	Vernacular Name
1.	*Cissampelo spareira*	Menispermaceae	Velvet theega
2.	*Cocculus hirsutus,*	Menispermaceae	Dusra theega

3.	*Derris scandens,*	Fabaceae	Chiruthali baadu
4.	*Pergularia daemia,*	Asclepediaceae	Gutu gudu
5.	*Tinospora cordifolia,*	Menispermaceae	Tippa theega
6.	*Tylophora indica*	Menispermaceae	Mekameyani theega

Common weeds of dry and cultivated fields and dry irrigated fields are listed in TABLES 14 and 15.

TABLE 15. **List of weeds (some Imp. examples).**

S. No	**Botanical Name**	**Family**	**Vernacular Name**
1.	*Acalypha indica*	Euphorbiaceae	Muripenda
2.	*Ageratum conyzoides*	Asteraceae	Adavi pudina
3.	*Alysicarpus rugosus*	Fabaceae	Baramataal
4.	*Amaranthus, spinosus*	Amaranthaceae	Thotakura
5.	*Argemone Mexicana*	Papavaraceae	Brahmadandi
6.	*Celosia argentea*	Amaranthaceae	Gunugu
7.	*Cleome gynandra*	Cleomaceae	Kukka vaminta
8.	*Chenopodium album*	Amaranthaceae	Pappu kura
9.	*Corchorus aestuans*	Teliaceae	Parinta
10.	*Crotalaria junceae*	Fabaceae	Janumu
11.	*Crotalari retusa*	Fabaceae	Pottigilligicha
12.	*Cynodon dactylon*	Poaceae	Garika gaddi
13.	*Cyperus rotundus*	Poaceae	Thunga
14.	*Desmodium triflorum*	Fabaceae	Fabaceae
15.	*Digera muricata*	Amaranthaceae	Chenchali chettu
16.	*Euphorbia geniculate*	Euphorbiaceae	Tilakada
17.	*E. Hiirta*	Euphorbiaceae	Nanabalu
18.	*Justicia spp.,*	Acanthaceae	Addasaram
19.	*Leucas aspera*	Lamiaceae	Thummi kura
20.	*Merremia emarginata*	Convolvulaceae	Elika jemudu
21.	*Parthenium hysterophorus*	Asteraceae	Vayyari bama
22.	*phylanthus amarus*	Euphorbiaceae	Nela usiri
23.	*Physalis minima*	Solanaceae	Kupanti
24.	*Portulaca oleracea*	Portulacaceae	Gangamili kura
25.	*Rorippa indica*	Brassicaceae	Aaku mullangi
26.	*Sphaeranthus indicus*	Asteraceae	Boddatarapu
27.	*Trianthema portulacastrum*	Aizoaceae	Ambati madu
28.	*Vigna spp.,*	Fabaceae	Pesara

29.	*Echinochioa colona*	Poaceae	Taidalu
30.	*Polygonum barbatum*	Polygonaceae	Konda malle

These plants are rooted in the soil saturated with water, but also survive in dried conditions in the later part of their life cycle (TABLE 16).

TABLE 16. **List of wetland hydrophytes (some Imp. examples).**

S. No	Botanical Name	Family	Vernacular Name
1.	*Ageratum conyzoides*	Asteraceae	Adavi pudina
2.	*Bacopa monnieri*	scropulariaceae	Brahmi
3.	*Caesulia axillaris*	Asteraceae	Erragobbi
4.	*Centella asiatica*	Apiaceae	Saraswathaaku
5.	*Commelina spp.,*	Commiliniaceae	Ennoddula gaddi
6.	*Cyperus spp.,*	Poaceae	Thunga
7.	*Eclipta prostrate*	Asteraceae	Gunta galagara
8.	*Hygrophila aurciculata*	Acanthaceae	Enugu palleru
9.	*Ipomoea carnea*	Convolvulaceae	Lottapeece
10.	*Lobelia nicotianfolia*	Companulaceae	Adavi pogaku
11.	*Ludwigia perennis*	Onagraceae	Lavanga kaaya
12.	*Phyla nodiflora*	Bokkena	verbenaceae

Apart from the species encountered in above vegetation types, number of plants are under cultivation in the district. They are appended at the end of concerned family in the systematic enumeration.

Floristic analysis

In the present study, a total of 862 numbers of fields have been collected and identified. These comprise 694 wild and naturalized species belonging to 373 genera and 110 families. Among the 694 species Dicots comprise 513 species, Monocots 177 species and Pteridophytes 4. The results are shown below in tabulated manner. The ratio of Monocotyledons to Dicotyledons is 1: 4.47 of families (19:87), 1:3.40 of genera (91:278); 1:2.91of species (177:513). The ratio of genera to species in the present study is 1:1.7, whereas for the entire Indian region it is 1:7 (TABLE 17).

TABLE 17. **Dominant ten family's in Medak district, Telangana state.**

S.No.	Name of the Family	No. of Species
1	Leguminaceae	104
2	Poaceae	83

3	Cyperaceae	49
4	Asteraceae	37
5	Euphorbiaceae	31
6	Acanthaceae	22
7	Rubiaceae	20
8	Lamiaceae	18
9	Convolvulaceae	17
10	Amaranthaceae	15

The genera having 5 or more than 5 species are Cyoerus and Eragrostis with 12 species followed by Crotalaria and Fimbristylis (11); Indigofera (10); Cassia and Ipomoea (09); Desmodium, Euphorbia, Phyllanthus and schoenoplectus (07); Acacia, Alysicarpus, Ficus, Hedyotis, Heliotropium, Justicia and Leucas (06); Commelina and Grewia.

Conclusion

As it is been already mentioned about the nutritive value of the soil supported growth of inferior varieties of plants and it is also been seen that the varieties found were limited when compared with other areas.

Acknowledgement

I would like to thank the funding agency that is UGC – CAS-I (SAP-II) for its timely support. It is a privilege to work under the guidance of my co-ordinator Prof. C. Venkateshwar, Department of botany, Osmania University who have been a guiding and motivating spirit for doing my work effectively. I would render my special thanks to the Department of Botany, Osmania University for providing space to assimilate the work in written form.

REFERENCES

1. Pullaiah T. Flora of Telangana-the 29th state of India. J Indian bot Soc. 2015;94:1-8.
2. Swamy J. Floristic studies on Pocharam wildlife sanctuary. Asian J Plant Sci. 2015;6:87-91.
3. Biksham G, Hash CT, Sharma MM, et al. Biodiversity @ ICRISAT, Patancheru, India (version 2.0). WWF-ICRISAT, Hyderabad. 2010.
4. Ramana M. Flora of Hyderabad district Andhra Pradesh. Thesis, Osmania University. Hyderabad. 2010
5. Biksham G, Hash CT, Sharma MM, et al. Biodiversity @ ICRISAT, Patancheru, India (version 2.0). WWF-ICRISAT. Hyderabad. 2010.
6. State of environment report of Hyderabad-2009. Environment protection training and research institute, Hyderabad. Anonymous 2010.
7. Padmarao P, Ramachandra reddy P, Ethnomedicinal survey on plant drugs for cattle from Rangareddy Distritct Andhra pradhesh. J Swamy Bot Club. 2000;17:39.
8. Pullaiah T, Karuppusamy S, Sandhya Rani S. The district floras of Andhra Pradesh. Proc Andhra Pradesh Akad Sci. 2008;12:34-7.
9. Pullaiah T, Muralidhara Rao D. Flora of Eastern Ghats. Regency Pub. 2002.

10. Chandra Mohan Reddy N, Padmavathe R, Shailaja R, et al. Our trees. Municipal Corporation of Hyderabad and Centre for Environment Education, Hyderabad. India. 2002.
11. Pullaiah T, Sandhya Rani S. Trees of Andhra Pradesh. Regency Pub. India. 1999.
12. Pullaiah T, Silar Mohammed M. Flora of Ranga Reddy District, Regency Pub. India. 1999.
13. Padmarao P, Ramachandra reddy P. A note on folklore treatment of bone fractures. Ethanobotany. 1999;11:107.
14. Pullaiah T, Prabhakar C, Ravi Prasad Rao B. Flora of Medak District. Daya Pub. India. 1998.
15. Pullaiah T, Ravi Prasad Rao B. Flora of Nizamabad. Bishen Sin. India. 1994.
16. Pullaiah T, Prasanna PV, Obulesu G. Flora of Adilabad district. CBS Pub. India. 1992.
17. Chakraverty RK, Jain SK. Beautiful trees and shrubs of Calcutta. Botanical Survey of India.1984.
18. Gambel JS, Fischer CEC. flora of the presidency of Madras. Reprinted edition. BSI Cal. India. 1957:1.
19. Khan MS. Forest flora of Hyderabad state. Govt Press. India. 1953.
20. Campbell AC. Glimpses of the Nizam's Dominions. London. 1898.