



RESEARCH ARTICLE

PHYTO DIVERSITY OF PULLUR BANDA, SIDDIPET (D), TELANGANA, INDIA: A FIELD STUDY

*Rupa, P. and Lakshmi Bhavani, N.

Plant Tissue Culture and Molecular Genetics Lab, Department of Botany, University College of Science, Saifabad, Osmania University, Hyderabad, 500004, India

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ABSTRACT

Pullur banda is a huge, natural, monolithic (Single rock) form and spread over above 100 acres at high altitude of Pullur village, Siddipet district, Telangana, India. It is one of the historical and archeological places of Telangana state. The present study carried out during monsoon season. Pullur Banda is wealthy of diversified plants from lower plants to higher plants and shows true plant diversity. The species of Algae, Bryophytes, Pteridophytes, Angiosperms and Lichens are lavishly distributed on top of the rock as well as around of it. Cryptogams like *Marchantia*, *Funaria* and *Selaginella* were found abundantly. Very limited distribution of *Adiantum* and *Actinopteris* species also found beneath the rocks of this area. Rare species, snake tongue fern *Ophioglossum* species has been reporting at first in Siddipet district and it is constrained to very limited area within finger count. Angiosperms: *Butea*, *Borassus*, *Ficus* spp, *Neem*, *Andrographis*, *Tribulus*, *Pongamia*, *Cyper* and *Cleome* spp...etc. were found commonly. The field observations have shown evolutionarily important species all at a place. In the present study explored the diversified vegetative forms concern to 54 families with 142 species and has been reporting of true plant diversity of this area in the form of photos and data.

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INTRODUCTION

Siddipet previously included in Medak district but after bifurcation of Telangana state from United Andhra Pradesh, it renewed as a new district. The flora of Medak district comprises 708 wild species belonging to 414 genera and 119 families. The dominant family Fabaceae which consist about 104 species followed by Poaceae, Cyperaceae, Asteraceae and Euphorbiaceae. The dominant species include *Cyperus*, *Eragotis* and the rare species *Plantago asiatica*, *Asparagus laevisimm*, *Elytrophorus spicatusi* also recorded previously (Pullaiah et al., 1998).

STUDY AREA

Pullur banda is a huge, natural, monolithic form and spread over above 100 acres at high altitude of Pullur village, Siddipet district, Telangana, India. It is one of the historically and archeologically important places of Telangana state.

On the pinnacle of the hill Lord Lakshmi Narsimaha Swamy temple and Lord Siva temple are positioned. Mid of the rock there is temple pond to take holy dip before entering to the temple. The natural beauty and panoramic view of this area especially in monsoon season fascinated by tourists, devotees, botanists and nature lovers. The Global Position System (GPS) of vicinity of Pullur Banda includes:

Longitude 18°10'33.95"N and Latitude 78°48'44.77"E.

METHODOLOGY

For the present study, field trips were conducted during monsoon season of the year, collected a variety of plant specimens, photographed, acknowledged on the basis of morphological as well as micro morphological characters with the help of floras, keys and the valid information has been collected from research journals and articles too. Taken assistance of eminent taxonomists to anonymous plant identification.

*Corresponding author: Rupa, P.

Plant Tissue Culture and Molecular Genetics Lab, Department of Botany, University College of Science, Saifabad, Osmania University, Hyderabad, 500004, India

RESULTS

Table 1. List of identified plants and their information

Sc.No	Scientific name	Vernacular name	Family	Habitat
1.	<i>Abutilon indicum</i>	Dhuvenna pulu	Malvaceae	Shrub
2.	<i>Acacia nilotica</i>	Thumma	Mimosaceae	Tree
3.	<i>Acalypha indica</i>	Muripinda	Euphorbiaceae	Herb
4.	<i>Acalypha lanceolata</i>	Adavi kuppinta	Euphorbiaceae	Herb
5.	<i>Achanthospermum hispidum</i>	Kukkamulla chettu	Asteraceae	Herb
6.	<i>Achyranthes aspara</i>	Uttareni	Amaranthaceae	Herb
7.	<i>Achyranthes bidentata</i>	Putkanda	Amaranthaceae	Herb
8.	<i>Actinopteris radiata</i>	Nemali adugu	Actinopteridaceae	Herb (Fern)
9.	<i>Adiantum lunulatum</i>	--	Adiantaceae	Herb (Fern)
10.	<i>Aerva lanata</i>	Pindi kooru	Amaranthaceae	Herb
11.	<i>Alangium salvifolium</i>	Ooduga chettu	Alaginaceae	Tree
12.	<i>Albizia amara</i>	Narlinga chettu	Mimosaceae	Tree
13.	<i>Albizia lebbek</i>	Dirisanam	Mimosaceae	Tree
14.	<i>Allmania nodiflora</i>	Gungu kooru	Amaranthaceae	Herb
15.	<i>Alloteropsis cimcina</i>	--	Poaceae	Herb
16.	<i>Aloe vera barbadens</i>	Kalabanda	Liliaceae	Xerophytic herb
17.	<i>Alternanthera sessilis</i>	Ponnagantiakku	Amaranthaceae	Herb
18.	<i>Alysicarpus monilifer</i>	Amara	Fabaceae	Herb
19.	<i>Amaranthus spinosus</i>	Mulla thota kooru	Amaranthaceae	Herb
20.	<i>Anisochilus carnosus</i>	Omammaku	Laminaceae	Herb
21.	<i>Annona squamosa</i>	Seetha palam	Annonaceae	Tree
22.	<i>Aristolochia indica</i>	Nalla eshwari	Aristolochiaceae	Twining shrub
23.	<i>Azadiracta indica</i>	Yepa chettu	Meliaceae	Tree
24.	<i>Blainvillaea acmella</i>	--	Asteraceae	Herb
25.	<i>Blumea lacera</i>	Kukka pogaku	Astaraceae	Herb
26.	<i>Boerhavia diffusa</i>	Atika mamidi	Nyctaginaceae	Herb
27.	<i>Borassus flabellifer</i>	Tati chettu	Araceae	Tree
28.	<i>Brachiaria ramosa</i>	Eduguri gaddi	Poaceae	Herb
29.	<i>Bulbostylis barbata</i>	--	Cyperaceae	Herb
30.	<i>Butea monosperma</i>	Moduga	Fabaceae	Tree
31.	<i>Button moss</i>	--	Mosses	Bryophyta
32.	<i>Caesalpinia crista</i>	Gacha kaya	Fabaceae	Prickly shrub
33.	<i>Caltropis gigantea</i>	Erra gilladu	Asclepiadaceae	Shrub
34.	<i>Cardiospermum halicacabum</i>	Budda kakara	Sapindaceae	Climber
35.	<i>Cassia auriculata</i>	Tangedu	Caesalpinaceae	Shrub
36.	<i>Cassia occidentalis</i>	Adavi chennangi	Caesalpinaceae	Shrub
37.	<i>Cassia tora</i>	Pedda kassintha	Caesalpinaceae	Herb
38.	<i>Caralluma adscendens</i>	kundelu kommulu	Apocyanaceae	Herb
39.	<i>Cassyntha filliformis</i>	Thumbi teega	Lauraceae	Parasite twiner
40.	<i>Catharanthus roseus</i>	Billa gannaru	Apocyanaceae	Shrub
41.	<i>Catharanthus pusillus</i>	Mirapa alam	Apocyanaceae	Herb
42.	<i>Catunaregam spinosum</i>	Manga chettu	Rubiaceae	Tree
43.	<i>Celosia argentea</i>	Gunugu	Amaranthaceae	Herb
44.	<i>Chloris barbata</i>	Uppagaddi	Poaceae	Herb
45.	<i>Chrysopogon asculatus</i>	Saranagaddi	Poaceae	Herb
46.	<i>Cipadessa baccifera</i>	Ranaberi chettu	Meliaceae	Tree
47.	<i>Cissus vitiginea</i>	Adivigummadi teega	Vitaceae	Climbing shrub
48.	<i>Cleome viscosa</i>	Kuppinta	Cleomaceae	Herb
49.	<i>Cleome gynandra</i>	Kukka vominta	Cleomaceae	Herb
50.	<i>Coculus hirsuta</i>	Dussarateega	Menispermaceae	Climber
51.	<i>Commelina benghalensis</i>	Gaju mokka	Commelinaceae	Herb
52.	<i>Commelina longifolia</i>	--	Commelinaceae	Herb
53.	<i>Corchorus tricularis</i>	Banknti kooru	Tiliaceae	Herb
54.	<i>Corchorus olitorius</i>	Parinta	Tiliaceae	Herb
55.	<i>Corchorus tridens</i>	Bhankitturu	Tiliaceae	Herb
56.	<i>Criticalaria verrucosa</i>	Tella eshwari	Fabaceae	Shrub
57.	<i>Cucumis sativus</i>	Dosakaya	Cucurbitaceae	Climber
58.	<i>Cyanotis tuberosa</i>	Eggogala gadda	Commelinaceae	Herb
59.	<i>Cymbopogon flexuosus</i>	Allam gaddi	Poaceae	Herb
60.	<i>Cynodon dactylon</i>	Garika gaddi	Poaceae	Herb
61.	<i>Cyperus compressus</i>	Badra tunga musti	Cyperaceae	Herb
62.	<i>Cyperus rotundus</i>	Tunga gaddi	Cyperaceae	Herb
63.	<i>Dalbergia sissoo</i>	Sissoo	Fabaceae	Tree
64.	<i>Digitaria ciliaris</i>	--	Poaceae	Herb
65.	<i>Diospyros chloroxylon</i>	Illinthachettu	Ebenaceae	Shrub
66.	<i>Dioscoreia pentaphylla</i>	Dukka pendalam	Discoreaceae	Twiner
67.	<i>Diplocyclos palmatus</i>	Linga donda	Cucurbitaceae	Climber
68.	<i>Dolichos scarabaeoides</i>	Adavi ulavulu	Fabaceae	Shrub
69.	<i>Emilia sonchifolia</i>	Sadamandhi	Asteraceae	Herb
70.	<i>Eragrostiella bifaria</i>	Nuli gaddi	Poaceae	Herb

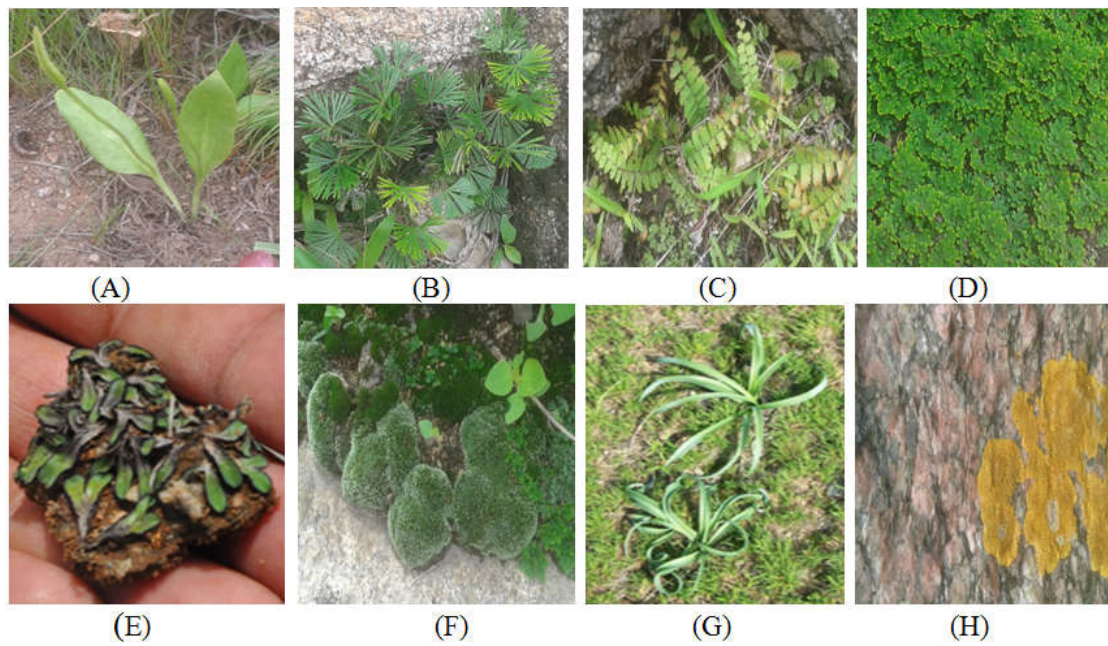
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71.	<i>Eragrostis tenella</i>	Chinnagorikigaddi	Poaceae	Herb
72.	<i>Euphorbia hirta</i>	Nelapala	Euphorbiaceae	Herb
73.	<i>Ficus bengalensis</i>	Marri chettu	Moraceae	Tree
74.	<i>Ficus hispida</i>	Kaki medi	Moraceae	Shrub
75.	<i>Ficus religiosa</i>	Ravi chettu	Moraceae	Tree
76.	<i>Funaria sps</i>	--	Funariaceae	Moss
77.	<i>Glosscardia boswellia</i>	Para palanamu	Asteraceae	Shrub
78.	<i>Gloriosa superb</i>	Vinayaka pushpam	Lilliaceae	Climber
79.	<i>Gomphrena serrata</i>	Bendu malli	Amaranthaceae	Herb
80.	<i>Hedyotis puberula</i>	Neal chama	Rubiaceae	Herb
81.	<i>Heliotropium zeylanicum</i>	--	Boraginaceae	Herb
82.	<i>Hibiscus cannabinus</i>	Gongura	Malvaceae	Herb
83.	<i>Holoptelia integrifolia</i>	Nemali nara	Ulmaceae	Tree
84.	<i>Hyptis suaveolens</i>	Seema tulasi	Lamiaceae	Herb
85.	<i>Indigofera linnaei</i>	Chara gandam	Fabaceae	Herb
86.	<i>Indoneesiella echinoides</i>	Potti nelavemu	Acanthaceae	Herb
87.	<i>Ipomoea auatica</i>	Thuti aku	Convolvulaceae	Shrub
88.	<i>Ipomoea eriocarpa</i>	Puriti teega	Convolvulaceae	Creepers
89.	<i>Ipomoea pes-tigridis</i>	Puitikadava	Convolvulaceae	Creepers
90.	<i>Jatropha gossypifolia</i>	Adavi amudam	Euphorbiaceae	Shrub
91.	<i>Justica glauca</i>	--	Acanthaceae	Herb
92.	<i>Kyllinga triceps</i>	--	Poaceae	Herb
93.	<i>Ledebouria hyderabadensis</i>	--	Hyacinthaceae	Herb
94.	<i>Lantana camera</i>	Navarathnal	Verbinaceae	Shrub
95.	<i>Leucas aspera</i>	Thummi	Lamiaceae	Herb
96.	<i>Malvestrum coromandalicum</i>	--	Malvaceae	Herb
97.	<i>Marchantia</i>	--	Marchantiales	Liverworts
98.	<i>Martynia annua</i>	Telukondi poovu	Pedaliaceae	Shrub
99.	<i>Memordica cymbalaria</i>	Adavi kakara	Cucurbitaceae	Climber
100.	<i>Merremia aegyptica</i>	Elka cheviaku	Convolvulaceae	Herb
101.	<i>Mimosa hemata</i>	Udra kampa	Mimosaceae	Shrub
102.	<i>Mnesithea granularis</i>	--	Poaceae	Herb
103.	<i>Mollugo nudicaulis</i>	Verrichaatharaashi	Molluginaceae	Herb
104.	<i>Mollugo pentaphylla</i>	Chetarasi	Molluginaceae	Herb
105.	<i>Mukia maderaspatana</i>	Potti budamu	Cucurbitaceae	Climber
106.	<i>Ophioglossum costatum</i>	--	Ophioglossaceae	Herb(Fern)
107.	<i>Oropetium thomaceum</i>	--	Poaceae	Herb
108.	<i>Parthenium hysterophorus</i>	Vayyari bhama	Asteraceae	Herb
109.	<i>Paspalidium flavidum</i>	Uda gaddi	Poaceae	Herb
110.	<i>Pavonia zylanica</i>	Karubenda	Malvaceae	Shrub
111.	<i>Pergularia daemia</i>	Dusara teega	Asclepiadaceae	Climber
112.	<i>Perotis indica</i>	Nakka peechu gaddi	Poaceae	Herb
113.	<i>Phoenix sylvestris</i>	Etha chettu	Arecaceae	Tree
114.	<i>Phyllanthus neruri</i>	Nela usiri	Euphorbiaceae	Herb
115.	<i>Phyllanthus reticulatus</i>	Puliseru	Euphorbiaceae	Straggling shrub
116.	<i>Plumbago zylanica</i>	Tella chithramulau	Plumbaginaceae	Shrub
117.	<i>Pongamia pinnata</i>	Ganuga	Fabaceae	Tree
118.	<i>Portulaca grandifolra</i>	Gaddi roja	Portulacaceae	Herb
119.	<i>Portulaca oleracea</i>	Payalakoora	Portulacaceae	Herb
120.	<i>Portulaca oleracea var linearifolia</i>	Chittipayalakooora	Portulacaceae	Herb
121.	<i>Prosopis juliflora</i>	Sarkar kampa	Mimosaceae	Shrub
122.	<i>Physalis minima</i>	Budda godisa	Solanaceae	Herb
123.	<i>Scoparia dulcis</i>	Gurrapu tulasi	Scrophulariaceae	Herb
124.	<i>Selaginella bryopteris</i>	Pitakalu	Selaginellaceae	Herb
125.	<i>Setaria pumila</i>	Nakkagaddi	Poaceae	Herb
126.	<i>Setaria verticillata</i>	Chiklintha gaddi	Poaceae	Herb
127.	<i>Sesbania sesbon</i>	Jeeluga	Fabaceae	Shrub
128.	<i>Sida acuta</i>	Poraka	Malvaceae	Shrub
129.	<i>Tamarindus indica</i>	Chintha	Caesalpinaceae	Tree
130.	<i>Tectona grandis</i>	Teku chettu	Verbinaceae	Tree
131.	<i>Tephrosia purpurea</i>	Vempali	Fabaceae	Herb
132.	<i>Tephrosia villosa</i>	Nugu vempali	Fabaceae	Herb
133.	<i>Tinospora cardifolia</i>	Tippa teega	Menispermaceae	Climber
134.	<i>Tribulus terrestris</i>	Palleru	Zygophyllaceae	Herb
135.	<i>Tridax procumbens</i>	Gaddi chamanthi	Asteraceae	Herb
136.	<i>Urgenia sps</i>	-	Lilliaceae	Herb
137.	<i>Vitex negundo</i>	Vempali	Lamiaceae	Shrub
138.	<i>Weightia arborea</i>	Adavianukudu	Apocyanaceae	Shrub
139.	<i>Wrightia tinctoria</i>	Palakodisa	Apocyanaceae	Tree
140.	<i>Xanthium strumonium</i>	Pedda palleru	Asteraceae	Shrub
141.	<i>Zaleya decandra</i>	Erra galijeru	Azioaceae	Herb
142.	<i>Zizipus mauritiana</i>	Regu	Rhamnaceae	Tree

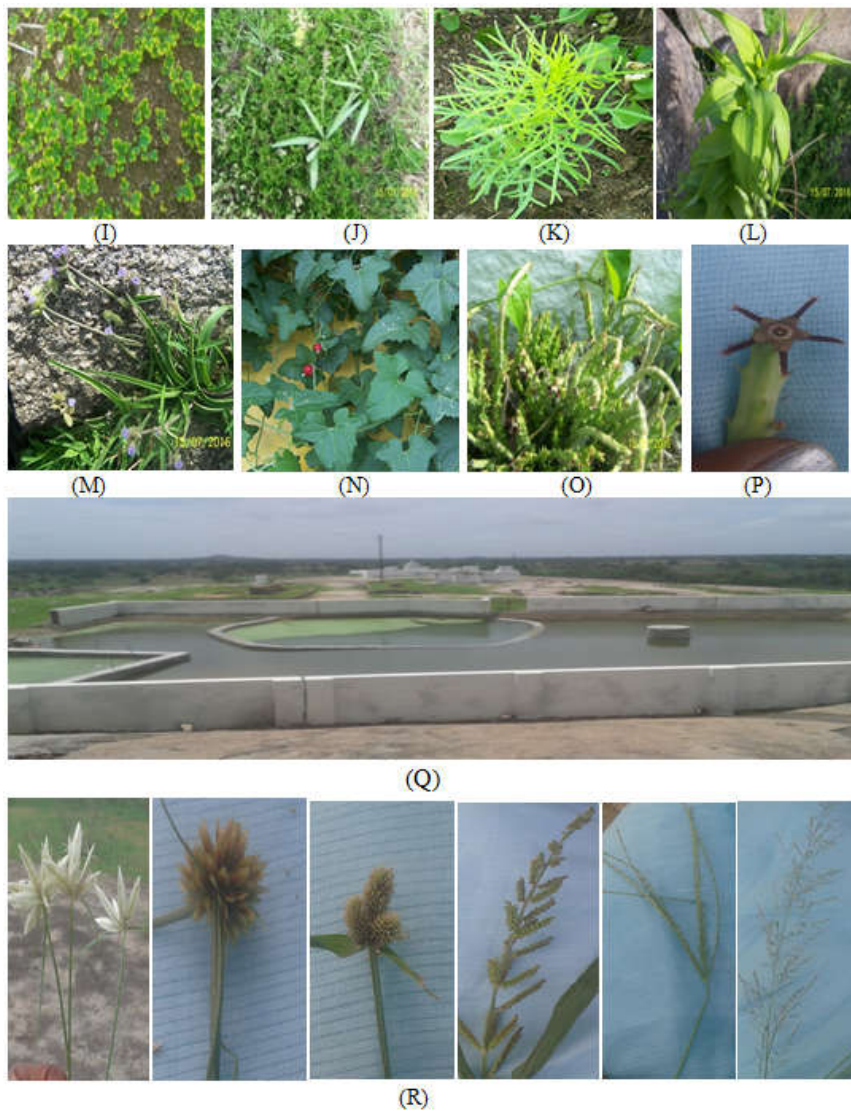
DISCUSSION

Monsoon season is a suitable season for plant diversity studies. During monsoon the present study was conducted at Pullur Banda which shows greater plant diversity. It is rich with diversified forms of flora like Algae, Fungi, Lichens, Bryophytes, Pteridophytes and Angiosperms.

The present study reveals 54 families with 143 species and listed in Table-1. The dominant family is Poaceae which leads with 16 species followed by Fabaceae with 11 species, Amaranthaceae and Asteraceae with 8 species. The other 26 families contributed only one species each. Herbs are dominant followed by trees in this season.



Figures: (A) *Ophioglossum costatum* (B) *Actinopteris radiata* (C) *Adiantum lunulatum* (D) & (I) *Selaginella bryopteris* (E) *Marchantia* (F) Botton mosses (G) *Urgenia* sps (H) Lichens



Figures: (J) *Ledebouria hyderabadensis* (K) *Glosscardia boswellia* (L) *Gloriosa superba* (M) *Cyanotistuberose* (N) *Mukia maderaspatana* (O) & (P) *Caralluma adscendens* (Q) View of Pullur banda (R) Grasses

Chlorophyceae and Cyanophyceae algal members' habitat in temple ponds of Pullur banda. The surface of the rocks covered by different lichens. The species *Funaria*, *Marchantia* and Button mosses of Bryophytes found abundantly in this premises. Common and rare species of Pteridophytes habitat here. The ray fern species *Actinopteris radiata* well grown on the surface of the rocks. It is tiny, epilithicor terrestrial fern, belonging to family Actiniopteridaceae. It is commonly called as Peacock tail and widely distributed in India, Srilanka, Burma and Australia (Ramalingeswarreddy *et al.*, 2012). The common and ever green fern species *Adiantum lunulatum* which commonly called as Tailing Maiden hair fern has been reported beneath the rocks and restricted to very limited of this area. In India it is distributed in Rajasthan, Gujarat, Punjab, Odessa and Tamil Nadu. Traditionally it is used to cure diabetes, skin and bronchial disease (Rai *et al*, 2016). *Selaginella bryopteris* which is commonly called as Indian Sanjeevani at first time has been reporting in Siddipet district, Telangana. Area distribution wise it is very dominant, extensively spreaded throughout the rock and it made the rock as lavish green velvety pads. The very rare species, snake tongue or adder's tongue fern *Ophioglossum costatum* also has been reporting at first in Siddipet district and it is constricted very limited area within finger count. Previously *Ophioglossum costatum* at Warangal and Hyderabad districts of Telangana (Raju *et al.*, 2011) and *O.gramineum*, *O.nudacule* and *O.reticulatum* at Andhra Pradesh state (Pullaiah *et al.*, 2003) recorded. Pullur Banda is one of the holy places of Telangana. The vegetation of this area threatens due to rush of devotees, unhealthy human activities, temple constructions, over growth of invasive plants and grazing, there is an urgent need of conservation.

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