

**Name:** C. Murugan, Scientist- D, BSI, SRC, Coimbatore

**Date of Joining in BSI as DBT-PDF:** 01-02-2002;  
**Botanical Asst.:** 02-01-2006; **Scientist-C:** 11-02-2008;  
**Scientist-D(25-06-2014- ANRC & 16-03-2015 SRC)**

**Ph.D:** Taxonomic Studies on the Flora of Tirunelveli Hills (Polypetalae), TAMIL NADU, INDIA

**Institution:** Centre for Biodiversity and Biotechnology, St. Xavier's College, Manonmaniam Sundaranar University, Tirunelveli, India. **Submitted:** December 2000; **Awarded :** August 2001

**Supervisor:** Rev. Dr. (late). V.S. Manickam, S.J.  
St. Xavier's College, Palayamkottai, Tirunelveli, India

Office/Dept./ Institution	Post held	Period of service		Nature of work
		From	To	
Botanical Survey of India, Coimbatore 641 003	Scientist- D	16-03-2015	Till date	Survey, identify and revise the flora of Tamil Nadu & Kerala
Botanical Survey of India, Port Blair 744 102	Scientist- D	01-01-2012	15-03-2015	Survey, identification, and conservation of flora Andaman & Nicobar Archipelago
Botanical Survey of India, Port Blair 744 102	Scientist- C	11-02-2008	31-12-2011	Survey, identification, and conservation of flora Andaman & Nicobar Archipelago
Botanical Survey of India, TNAU campus, Coimbatore 641 003	Botanical Asst.-Gr.- I	02-01-2006	10-02-2008	Survey, identify and revise the flora of Tamil Nadu & Kerala
Central Coffee Research Institute, Chickmagalur 577 117, Karnataka	Research Asst. Gr.- II	20-01-2005	30-12-2005	Morphological, and molecular characterization and Breeding of Coffee
Botanical Survey of India, TNAU campus, Coimbatore – 641 003	Young Scientist	17-11-2004	19-01-2005	Revision of Indian Memecylon L.
“	Admin./ Tech. Asst	01-06-2004	16-11-2004	Office assistance and Survey of Grass flora, TN
“	DBT-PDF	01-02-2002	31-01-2004	Survey and documentation of Coffea L. and allied species in southern Western Ghats”
Centre for Biodiversity and Biotechnology, St. Xavier’s College, Palayamkottai – 627002	SRF	01.04.2000	31.01.2002	Preparation of Flora of Tirunelveli Hills (Polypetalae)
“	JPF	15.07.1996	31.3.2000	Survey and documentation of Flora of Tirunelveli Hills

### EXTERNALLY FUNDED- 4 Nos.

- ❖ Studies on the Flora of Tirunelveli Hills (June 1996 to Jan. 2002- Jointly)
- ❖ Studies on the Wild Genetic Resources of the *Coffea* L. and its relatives , Southern Western Ghats, India (Feb. 2002 to Jan. 2004) funded by the Department of Biotechnology, New Delhi- BSI, SRC, Coimabtoire
- ❖ Diversity, Exploitation and Conservation issues of Indian *Memeyclon* L. (Melastomataceae) 17-11-2004 to 19-01- 2005). BSI, SRC, Coimbatore.
- ❖ Quantitative Assessment and Mapping of Plant Resources of Nicobar Islands (July-2010 to MARCH-2015), BSI, ANRC, Port Blair (collaborative)

### Completed- 4 Nos.

- ❖ Flora of Kerala (Ulmaceae to Moraceae) April, 2006 to March. 2007)
- ❖ Flora of Little Nicobar Tribal Reserve (April, 2008 to Sep. 2011)
- ❖ Flora of Rani Jhansi Marine National Park ( October, 2011 to March, 2015.)
- ❖ Revision of the Family Arecaceae (Flora of Kerala) April, 2015 to March, 2016

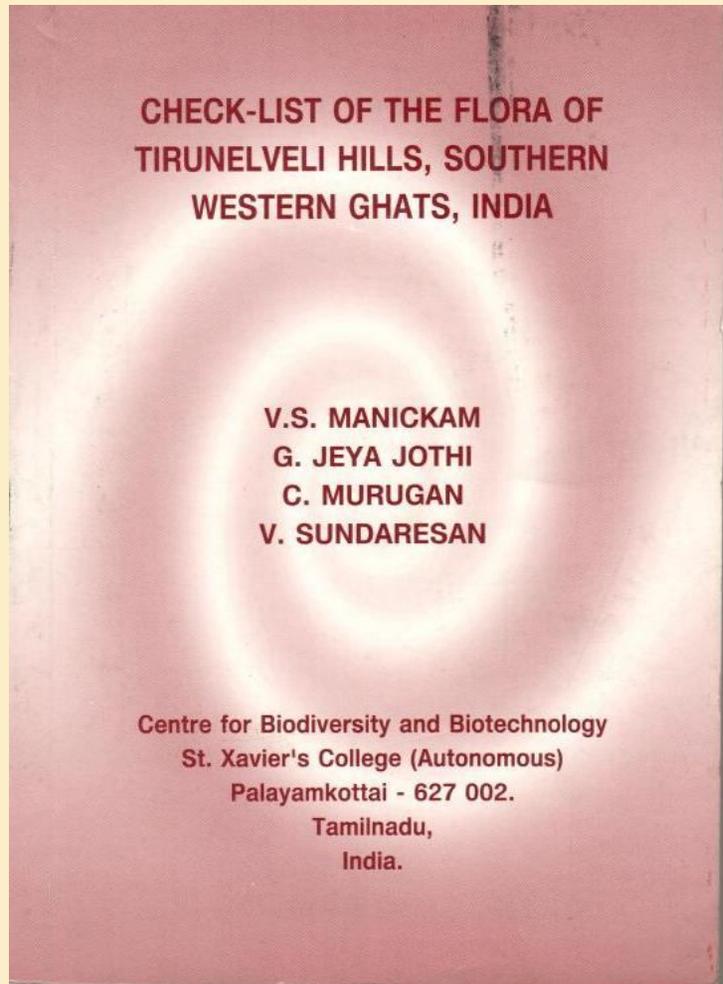
### Ongoing- 2 Nos.

- ❖ Floristic Assessment of Megalamalai Wildlife Sanctuary, Tamil Nadu India (April, 2016 to March, 220) C. Murugan Sceintist-D & Dr. S. Arumugam, Botanical Asst.)
- ❖ Cyperaceae of Tamil Nadu (March, 2015-April, 2020) (Dr. G.V.S. Murthy, S. Yerraya, Dr. C. Murugan, Dr. J.V.Sudhakar & Shri Arumugam)

Realloted to last three official w.e.f. April 2016



# TAXONOMIC STUDIES ON THE FLORA (POLYPETALAE) OF TIRUNELVELI HILLS



- × The comprehensive account of the flora (Polypetalae) of Tirunelveli Hills is represented by **612 spp, 248 genera and 72 families**.
- × Life Forms: 197 Trees, 80 Stragglers, 68 Climbers, 103 Shrubs, 42 Under-shrubs, and 118 Herbs.
- × **Six new taxa** (*Memecylon manickamii*, *M. tirunelvelicum*, *Osbeckia tirunelvelica*, *Osbeckia aspera* var. *courtallensis*, *Sonerila inaequalis* - Melastomataceae and *Schefflera agasthiyamalayana* - Araliaceae) are described and
- × **Five distributional records for India** (*Butea acuminata* - Papilionaceae; *Eugenia mabaeoides* subsp. *pedunculata*, *Eugenia terpnophylla*, *Syzygium neesianum*, *Syzygium scoparium*, *Syzygium venosum*, *Syzygium venustum* - Myrtaceae; *Sonerila pedunculosa* - Melastomataceae).
- × **Eight distributional records for Tamil Nadu** (*Phaeanthus malabaricus* (Anonaceae), *Syzygium bourdillonii* (Myrtaceae), *Clidemia hirta* (Melastomataceae), *Ventilago bombaiensis* (Rhamnaceae), *Acacia canescens*, *Acacia columnaris*, *Acacia concinna* (Mimosaceae) and *Caesalpinia major* (Caesalpinaceae) are recorded for the first time from Tamil Nadu).
- × Of the total taxa, **183 medicinally valuable and 170 endemic species** (16 (including six new taxa) are local endemics or stenoendemics or strict endemics and thirty three belong to vulnerable and endangered status)

# STUDIES ON THE WILD GENETIC RESOURCES OF COFFEE (*COFFEA* L. AND ITS ALLIED GENERA) IN SOUTHERN WESTERN GHATS (01-02-2002 TO 31-01-2004)



- × DBT PDF Program
- × Supervisor Dr. R. Gopalan
- × Eighteen (18) field trips (117 days) were conducted in Coimbatore, Dindigul, Kanniyakumari, Nilgiri, Theni, and Tirunelveli districts of Tamil Nadu & Kollam(Quilon) and Idukki districts of Kerala.
- × 351 Field Nos. were vouched.
- × 22 genera and 83 species were identified and The maximum species diversity is observed in *Psychotria* L. (17), *Ixora* L. (10), *Pavetta* L. (10), *Lasianthus* Jack (9), *Coffea* L.(8), *Canthium* Lam. (5), *Mussaenda* L. (4), *Tarenna* Gaertn.(4), *Morinda* L. (2), and *Saprosma* Bl. (2), and less diversity found in the 12 genera with 1 species each
- × Novelty: - 2 Nos.
- × *Psychotria henryana* Murugan & Gopalan *Eugenia shettyana* Murugan & Gopalan

## DIVERSITY, EXPLOITABILITY AND CONSERVATION ISSUES ON INDIAN MEMECYLON L. (MELASTOMATACEAE) 17-11-2004 TO 19-01-2005



### ✕ DST Young Scientist Program

- ✕ **A). Literature survey:** For the past two months (17-11-2004 to 19-01-2005), 59 reference cards pertaining to the genus *Memecylon* L. were prepared from the various National and International Floras as well as Journals at the Botanical Survey of India and Tamil Nadu Agricultural University Libraries, Coimbatore.
- ✕ **B) Indexing of Herbarium:** The available specimens of *Memecylon* L. from Tamil Nadu, Kerala and Tamil Nadu states were indexed from the Botanical Survey of India (MH) & Forest Research Centre (FRC), Coimbatore and St. Xavier's College Herbarium (XCH), Palayamkottai. Altogether 533 herbarium sheets were consulted and noted the distribution ranges for different species.

# MORPHOLOGICAL CHARACTERIZATION AND BREEDING OF COFFEE 20-01-2005 TO 30-12-2005



- × Three months training on Coffee (Arabian, Robusta and Liberian): Botany, Cultivation, Breeding, etc.
- × Three months extensive and intensive training on Administration and establishment.
- × Regular monitoring of Coffee Experimental Farm at Central Coffee Research Institute, Chikmagaluru, Karnataka.

# FLORA OF KERALA (ULMACEAE TO MORACEAE) APRIL, 2006 TO MARCH, 2007

---

- ✘ 20 species (including generic and specific description) completed
- ✘ 1. Assistance provided to Library Stock verification
- ✘ 2. Study tour (2 days) conducted for herbarium methodology trainee.
- ✘ 3. Assistance provided to compile the Monthly, Quarterly and Annual reports.

# FLORA OF VELLINGIRI, SIRUVANI & ANAIKATTY HILLS (APRIL 2007-MAR. 2009)

- × Literature survey & Herbarium consultation
- × Relevant literature was gathered from the Library of BSI, IFGTB and TNAU.
- × Examined earlier collections at MH
- × Exploration: Preliminary visit was made to Vellingiri Hills on 26 Apr.2007 and 12 Aug. 2007 respectively and vouched 34. F.Nos. (119182-119200:19; 120601-120615:15)
- × One exploration tour was made in the month of Sep.2007 (17-25 Sep.2007) and vouched 418 F.No.(120619-120700: 82 Nos; 120801-120900:100 Nos.; 121001-121100:100 Nos; 121101-121200-100 Nos.; 121201-121236-36 Nos.)
- × Posted as Scientist-C at the BSI, ANRC, Port Blair, this project was allotted to Dr. V. Sampathkumar, Scientist-D and completed the Project.

# FLORA OF LITTLE NICOBAR IS. AND ITS ENVIRON, ANDAMAN & NICOBAR ISLANDS, INDIA (APRIL 2008 TO OCTOBER, 2011)

## A SURVEY REPORT ON THE FLORA OF LITTLE NICOBAR IS.

& ITS ENVIRONS (Apr. 2008 to Sep. 2011)



By  
C. Murugan, M.Sc., Ph.D.  
Scientist-C  
Botanical Survey of India (ANRC)  
Port Blair -744 102  
2011

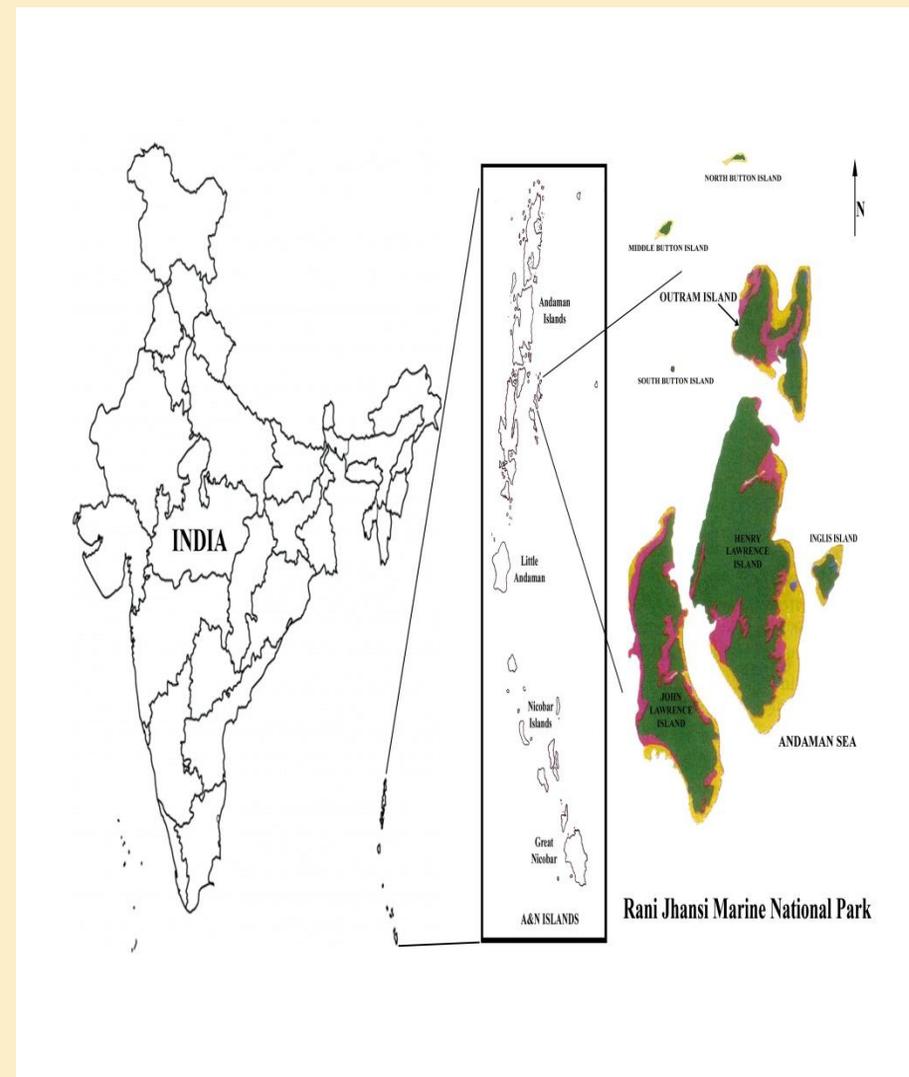
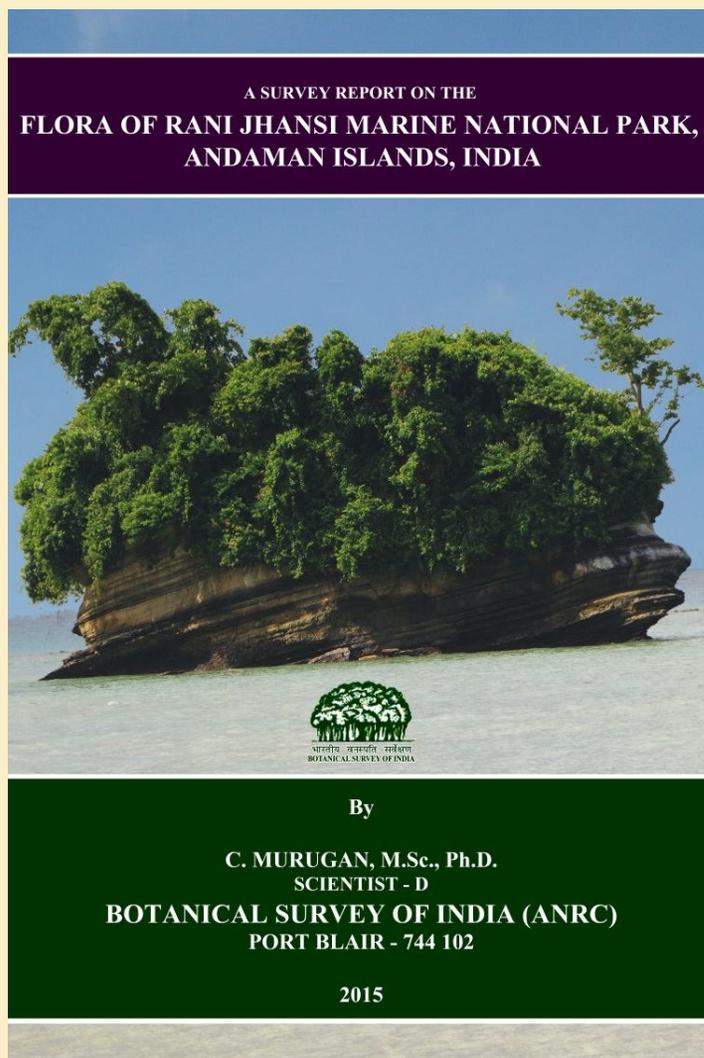


Study Area: Map of Little Nicobar

# ACHIEVEMENTS

- × As per the Annual Action Plan (April 2008 to Sep. 2011), six exploration tours (96 DAYS) are undertaken and vouched 1200 F. Nos.
- × Angiosperms (94 F, 291 genera and 441 spp.) Pteridophytes (21 F, 32 G, & 49 spp.) and Gymnosperms (2 F, 2G, & 3 spp.) comprising 463 species, 326 genera and 118 families.
- × **A. NEW TO SCIENCE:**
  - × 1. *Tylophora nicobarica* C. Murugan sp. nov. (in edi.)- ASCLEPIADACEAE; 2. *Psychotria vasudevae* C. Murugan sp. nov. (in edi.)- RUBIACEAE
- × **B. DISTRIBUTIONAL RECORDS**
  - × I. **INDIA** : 1. *Stemona curtisii* Hook.f.- STEMONACEAE; 2. *Thottea celebica* Ding Hou- ARISTOLOCHIACEAE; 3. *Bridelia moonii* Thwaites- EUPHORBIACEAE; 4. *Myristica maxima* Warb.- MYRISTICACEAE; 5. *Gastrodia javanica* (Bl.) Lindl. ORCHIDACEAE; 6. *Dioscorea birmanica* Prain & Burkill- DIOSCOREACEAE; 7. *Pleocnemia hemiteliiformis* (Racib.) Holttum- THELYPTERIDACEAE;
  - × II. **Andaman & Nicobar Islands**
    - GENERIC RECORDS
    - 1. *Stemona* Lour.- STEMONACEAE; 2. *Gastrodia* R. Br. – ORCHIDACEAE; 3. *Odontosoria* J. Sm.- LINDSAEACEAE; 4. *Pleocnemia* C. Presl.- THELYPTERIDACEAE.
    - SPECIFIC RECORDS
    - 1. *Sterculia lanceolata* Cav. *coccinea* (Jack.) Phengklai – STERCULIACEAE; 2. *Begonia dipetala* Graham- BEGONIACEAE; 3. *Lindernia ruellioides* (Colsm.) Pennell- SCROPHULARIACEAE;
    - 4. *Amomum pterocarpum* Thwaites- ZINGIBERACEAE; 5. *Cyperus dubius* Rottb.- CYPERACEAE; 6. *Odontosoria chinensis* (L.) J. Sm.- LINDSAEACEAE; 7. *Bolbitis virens* (Wall. ex Hook. & Grev.) Schott.- LOMARIOPSIDACEAE
  - × III **Nicobar Islands**
    - 1. *Loeseneriella pauciflora* (DC.) A.C. Smith- HIPPOCRATEACEAE; 2. *Ampellocissus barbata* (Wall.) Planch- VITACEAE; 3. *Hedyotis hermanniana* R. M. Dutta- RUBIACEAE; 4. *Alstonia parkinsonii* (Gang. & Chak.) G.S.Lakra & T. Chakrab.- APOCYNACEAE; 5. *Suregada bifaria* (Roxb. ex Willd.) Baill- EUPHORBIACEAE; 6. *Pellionia helferiana* Wedd.- URTICACEAE;
    - 7. *Brachiaria miliformis* (J.S. Presl.) Chase- POACEAE

# FLORA OF RANI JHANSI MARINE NATIONAL PARK, SOUTH ANDAMANS, INDIA (OCT. 2011 TO MARCH, 2015)



## ACHIEVEMENTS:

- × Nine field trips conducted (ca 80 days) and vouched 1270 Field Numbers.
- × The vascular floristic accounts include the Angiosperms(370 spp. under 108 F and 314 G), Pteridophytes (12 spp. under 8 F and 10 G) and Gymnosperms (12 spp.under 8 F and 10 G).
- × Endemic Taxa: Total spp. of AN Is.(384), 35 are recollected and identified.

- × **A. NEW TO SCIENCE**

- × 1. *Orophea parkinsonii* Murugan sp. nov. (in edi.)- ANNONACEAE

- × **B. DISTRIBUTIONAL RECORDS**

- × **I. India**

- 1. *Memecylon celastrinum* Kurz - MEMECYLACEAE; 2. *Memecylon lilacinum* Zor. & Mor- MEMECYLACEAE

- × **II. Andaman & Nicobar Islands**

- × GENERIC RECORD: 1. *Oropetium thomaeum* (L.f.) Trin. - POACEAE

- × SPECIFIC RECORD: 1. *Cayratia tenuifolia* (Wight & Arn.) Gagnep. - VITACEAE & 2. *Oropetium thomaeum* (L.f.) Trin. - POACEAE

- × **III Andaman Islands:** 1. *Goniothalamus malayanus* Hook. f. & Thoms.; 2. *Popowia helferi* Hook. f. & Thoms.; 3. *Dichapetalum platyphyllum* Merr.; 4. *Connarus nicobaricus* King; 5. *Hypobathrum microcarpum* (Blume) Bakh.f.

- × **C. REDISCOVERY OF SPECIES AFTER TYPE COLLECTION:**

According to Pandey & Diwakar (2008), the following species are not collected after type collection. During this survey, four species are recollected after type collection.

1. *Hiptage thothathri* Balakr. & R. C. Srivastava;
2. *Guettarda andamanica* Goel & Mehrotra;
3. *Jasminum andamanicum* Balakr. & N. G. Nair;
4. *Secamone andamanica* Goel & Vasud.

# QUANTITATIVE ASSESSMENT AND MAPPING OF PLANT RESOURCES OF NICOBAR ISLANDS (JULY-2010 TO MARCH-2015)

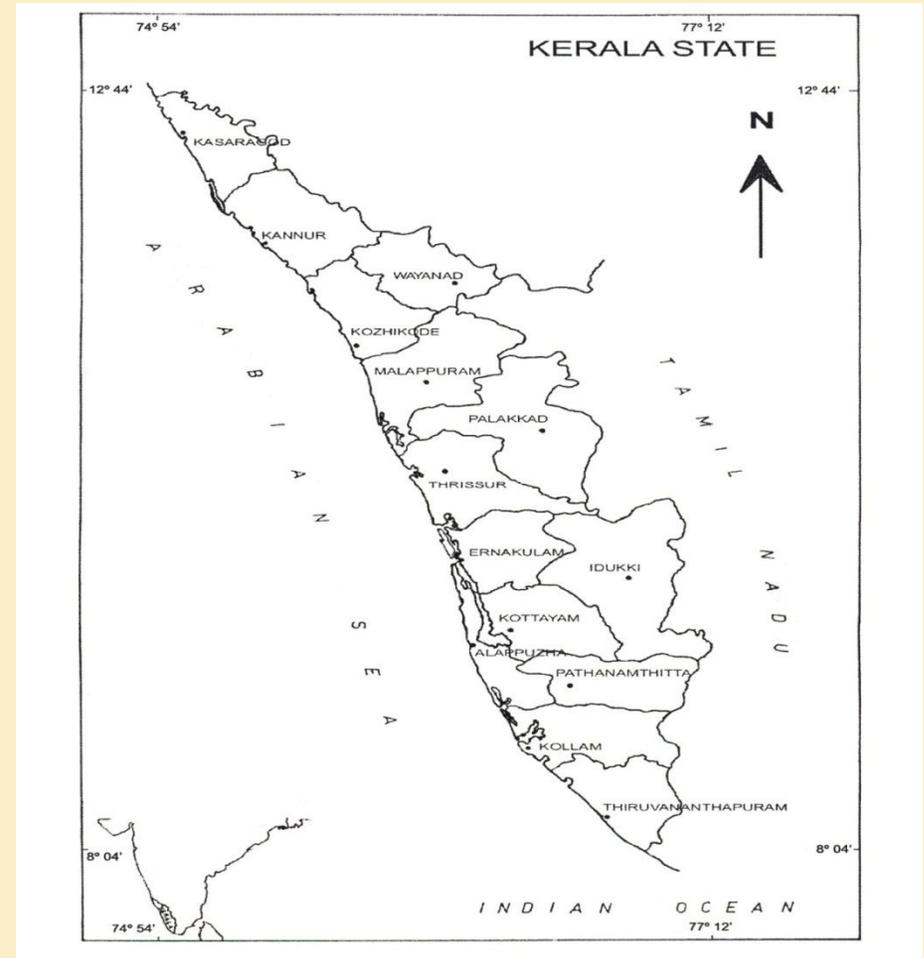


- × 12 Field trips are conducted and vouched 1942 Field Numbers.
- × **Grids and transects covered:** Nicobar Islands are allotted with total number of grids 264, out of total number of grids 262 grids have been completed and 2 grids are unapproachable area. For 262 completed grids, 262 data sheets have been prepared and submitted to the coordinator of the project (**Table - 1**).
- × **Herbaria, species recorded:** As part of the assessment and mapping, 685 species have been collected and photographed. Totally 1942 field numbers have been vouchered, 7584 specimens collected and 3884 number of specimens were mounted and 1942 herbarium sheets are accessioned and barcoded.

# FLORA OF KERALA (ARECACEAE- C. 25 SPP.)

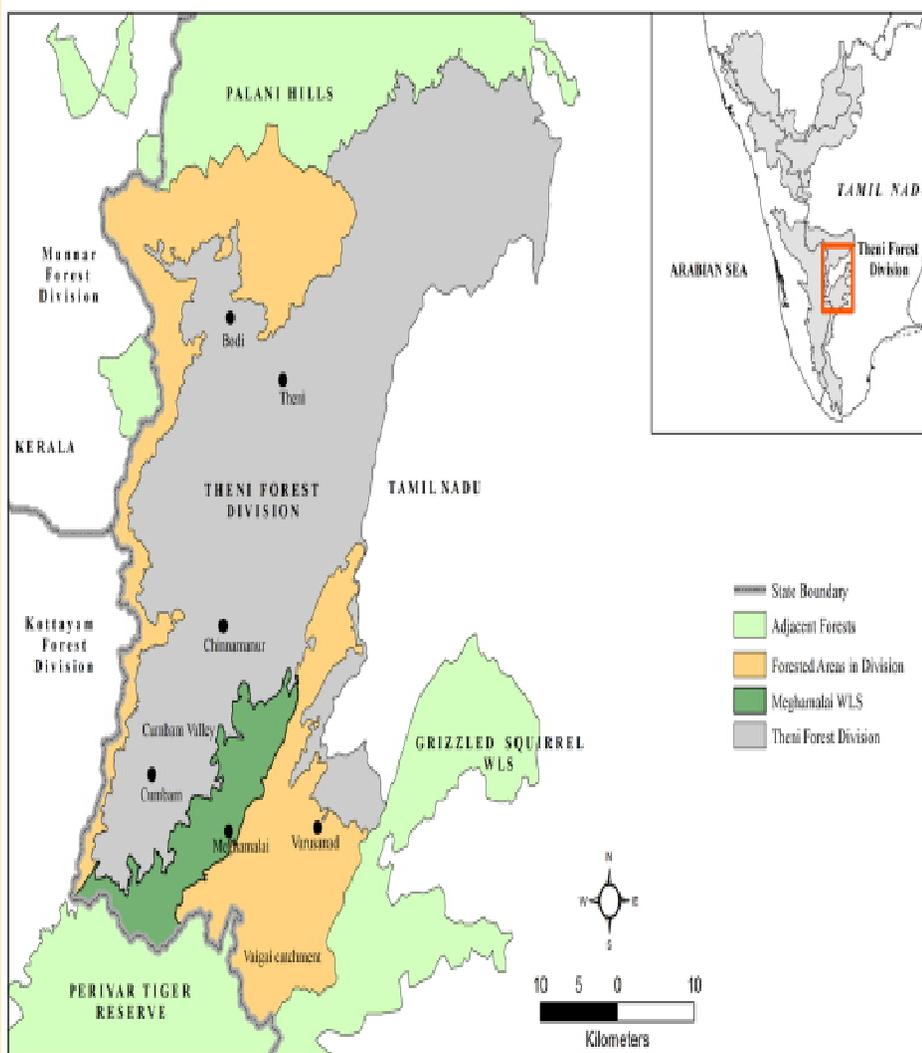
## APRIL, 2015 TO MARCH, 2016

- ✘ In India 21 genera and 100 species are recorded from three major geographical zones namely Peninsular India, North Eastern India and Andaman and Nicobar Islands. The Peninsular India is represented by 11 genera and ca 30 species.
- ✘ One of the prime objectives of the Botanical Survey of India is the revision of the flora. In view of the same, the family Arecaceae for the Flora of Kerala is allotted by the competent authority.
- ✘ Based on the herbarium specimens available at the Madras Herbarium and Kerala Forest Research Institute, ca 30 spp. under 11 genera are consulted and documented during 2015-16.



# FLORISTIC ASSESSMENT OF MEGHAMALAI WILDLIFE SANCTUARY, INDIA

(APRIL, 2016 TO MARCH, 2010, C. MURUGAN & DR ARUMUGAM, S, BOT. ASST.)



- ❖ Meghamalai in local language (Tamil) denotes cloud covered mountains. Among the locals, it is known as Patchakumachi.
- ❖ Meghamalai is also known as High way mountains due to the general appearance (wavy) of these high hills from Cumbum valley town.
- ❖ Meghamalai is largely under the control of the Theni Forest Division (Theni District), Tamil Nadu. It covers 269.11 Km<sup>2</sup> (26910.82 Hectares).
- ❖ In general, this area is rugged and mountainous with elevation ranging from 220-2000 m.
- ❖ Monthly mean minimum and maximum temperatures recorded in 500m were 21.8 °C and 30.6 °C respectively, whereas it was 16.1 °C and 24.0 °C for 1700m (Bhupathy et al. 2009).
- ❖ The annual rainfall of lower and higher elevations of the area is 1500 and 2161 mm respectively.

## Vegetation types

- ❖ Wet evergreen forests, Montane forests,
- ❖ High altitude grasslands,
- ❖ Southern tropical west coast semi-evergreen forests,
- ❖ Southern tropical moist mixed deciduous forests,
- ❖ Southern tropical secondary moist mixed deciduous forest,
- ❖ Southern tropical dry mixed deciduous forests,
- ❖ Southern tropical Carnatic umbrella thorn forests,
- ❖ Southern dry deciduous scrub forests, etc,

which are very important  
for the richness of the  
flora of these sanctuary



**Target 2016 -2017 : 3 field tours (Q1,Q2,Q3)**

**Achievements:** Completed 3 field tours and vouched 758 field numbers with GPS data

**Identified and collected Interesting plants like :** *Andrographis megamalayana* Gnanasek., Karupp. & G.V.S. Murthy, *Bulbophyllum aureoflavum* Karupp. & V. Ravich., *Elaeocarpus gaussonii* Weibel., *Hedyotis shettyi* K.Ravi. & V. Lakshm., *Hopea parviflora* Bedd., *Medinilla sahyadrica* Sujanapal & Sasidh., *Sonerila pulneyensis* Gamble, *Syzygium sriganesanii* K. Ravik. & V. Lakshm. *S. myhendrae* (Bedd. Ex Brandis) Gamble.

**Target 2017 -2018: 4 field tours to be conducted to MWLS (Q1,Q2,Q3,Q4,)**

**Q1:** One field tour (10 Days) to unexplored areas. Identification of specimens collected from the area. TE Rs. 30,000/- & Contingency Rs. 50,000/-

**Q2:** One field tour (10 Days) to unexplored areas. Identification of specimens collected from the area. TE Rs. 30,000/- & Contingency Rs. 50,000/-

**Q3:** One field tour (10 Days) to unexplored areas. Identification of specimens collected from the area. TE Rs. 30,000/- & Contingency Rs. 50,000/-

**Q4.** One field tour (10 Days) to unexplored areas. Identification of specimens collected from the area. TE Rs. 30,000/- & Contingency Rs. 50,000/-





*Andrographis megamalayana* Gnanasek., Karupp. & G.V.S. Murthy,



*Bulbophyllum aureoflavum* Karupp. & V. Ravich.,



*Elaeocarpus gausсенii* Weibel



*Hoya pauciflora* Wight.



*Medinilla sahyadrica* Sujanapal & Sasidh.



*Pavetta wightii* Hook.f.



*Sonerila pulneyensis* Gamble



*Syzygium sriganesanii* K. Ravik. & V. Lakshm.

# CYPERACEAE OF TAMIL NADU (APRIL, 2015 TO MARCH, 2020)

- × **Dr. G. V. S. Murthy, Scientist G, (Rtd.), Shri S. Yarraya, Pres. Asst.,  
Dr. C. Murugan, Scientist D, Dr. J. V. Sudhakar Botanical Asstt.  
Dr. S. Arumugam, Botanical Asst.**
- × **(Reallotted to last three officials in April 2016)**

- ×

No. of Field Tour conducted	:	3 (Q2, Q3, Q4,)
Total Field nos. vouched	:	90 (with duplicate)
Total no. of specimens mounted	:	30
Total no. of Photographs taken	:	260
Total Field nos. identified	:	22
No. of references collected	:	74

- × Target 2017-18

Q1, Q2, Q3, Q4 – 4 tour; Budget – TE 80,000; Contingency: 1,00,000/-

- × **Note: Dr. G.V.S. Murthy, Superannuated on 31-12-2016.**
- × **Shri S. Yarraya Resigned and left BSI May, 2016.**

# FEW IMAGES TAKEN DURING THE FIELD TRIPS



*Schoenoplectiella erecta* (Poir.) Lye  
(Cyperaceae)



*Carex beccans* Nees (Cyperaceae)

## Administrative Works

- 1. Performed duties of Garden-in-charge:** 28-03-2008 to 31. March,2010
- 2. Performed duties of D.D.O. w.e.f** 28-03-2008 to 28-04-2008; 15-05-2008 to 14-09-2008; 16-02-2009 to 16-03-2009; 11-08-2009 to 04-09-2009; 17-09-2009 to 29-09-2009; 16-11-2009 to 17-02-2010 ( **BSI, ANRC, Port Blair**);
- 3. Acted as H.O.O.** 01-04-2008 to 10-04-2008; 02-06-2008 to 20-06-2008; 27-01-2009 to 01-02-2009.; 24-06-2009 to 02-06-2009; 24-08-2009 to 28-08-2009; 22-09-2009 to 25-09-2009; 5-10-2009 to 18-10-2009; 17-11-2009 to 29-11-2009; 24-12-2009 to 01-01-2010; 16-01-2010 to 31-01-2010 (**BSI, ANRC, Port Blair**); 18-09-2015 to 20-09-2015.; 16-02-2016 to 25-02-2016(**BSI, SRC, Coimbatore**)
- 4. Performed duties of Head of Office:** 01-02-2010 to 03-03-2015 (**BSI, SRC, Port Blair**); 01-01-2017 to Till date ( **BSI SRC, Coimbatore**).
- 5. Technical:** Compilation of monthly, Quarterly and Annual reports of BSI, ANRC, Port Blair w.e.f. 01-02-2010 to 28-02-2015.

**1. No. of Projects : Completed 7(3 Funded + 4 AAP) & Ongoing -2**

**2. No. of Books : 3 Nos.**

**3. No. of Articles : 102 Nos.**

**4. No. of novelty: 31 spp.**

**5. Distributional records:**

**India- 37 spp.**

**Tamil Nadu 24 spp.**

**Kerala 1 sp.**

**Andhra Pradesh 3 spp.**

**Andaman and Nicobar Islands 8 spp.**

**6.Rediscovery : 11 spp.**

# FLORA OF TIRUNELVELI HILLS (Southern Western Ghats)

Volume I  
POLYPETALAE

[Figures]



V. S. Manickam  
C. Murugan  
G. Jeya Jothi  
V. Sundaresan

# FLORA OF TIRUNELVELI HILLS (Southern Western Ghats)

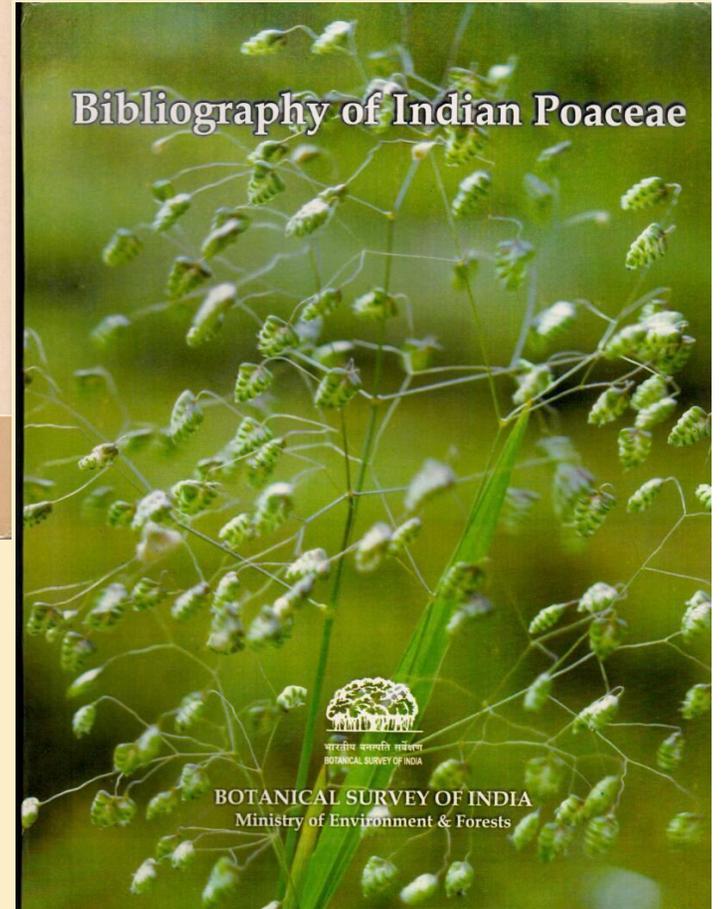
Volume I  
POLYPETALAE

[Text]



V. S. Manickam  
C. Murugan  
G. Jeya Jothi

## Bibliography of Indian Poaceae



BOTANICAL SURVEY OF INDIA  
Ministry of Environment & Forests

Thank "U"

