

# FLORA OF INDIA

Volume 25 – 26 (Hydrocharitaceae to Orchidaceae)





## Working team

1. DR. D.K. AGRAWALA
2. DR. J.S. JALAL
3. DR. C. DEORI
4. DR. A. BHATTACHARJEE

April 2019 to December 2020

# FAMILIES INCLUDED

## Hydrocharitaceae (25 taxa)

- *Blyxa* (6)
- *Egeria* (2)
- *Elodea* (1)
- *Enhalus* (1)
- *Halophila* (7)
- *Hydrilla* (1)
- *Hydrocharis* (2)
- *Nechamandra* (1)
- *Ottelia* (1)
- *Thalassia* (1)
- *Vallisneria* (2)

## Burmanniaceae (12 taxa)

- *Burmannia* (9)
- *Haplothismia* (1)
- *Thismia* (2)

## Orchidaceae (1248 taxa)

156 genera in five sub-families

- Apostasioideae
- Vanilloideae
- Cypripedioideae
- Orchidoideae
- Epidendroideae

# CONTENT OF TWO VOLUMES

## VOLUME 25

598 TAXA

Family: Hydrocharitaceae (11 genera, 25 taxa)  
Family: Burmanniaceae (3 genera, 12 taxa)  
Family: Orchidaceae  
Sub-family Apostasioideae (1 genus, 3 taxa)  
Sub-family Vanilloideae (6 genera, 15 taxa)  
Sub-family Cypripedioideae (2 genera, 13 taxa)  
Sub-family Orchidoideae (37 genera, 253 taxa)  
Sub-family Epidendroideae (in part, 23 genera, 277 taxa)

## VOLUME 26

687 TAXA

Family: Orchidaceae  
Sub-family Epidendroideae (remaining part)  
87 genera, 687 taxa

# CONTRIBUTORS

## HYDROCHARITACEAE

DR. RATNA GUHA  
DR. M. S. MONDAL  
DR. AVISHEK BHATTACHARJE  
DR. D.K. AGRAWALA  
DR. J.S. JALAL  
DR. CHAYA DEORI

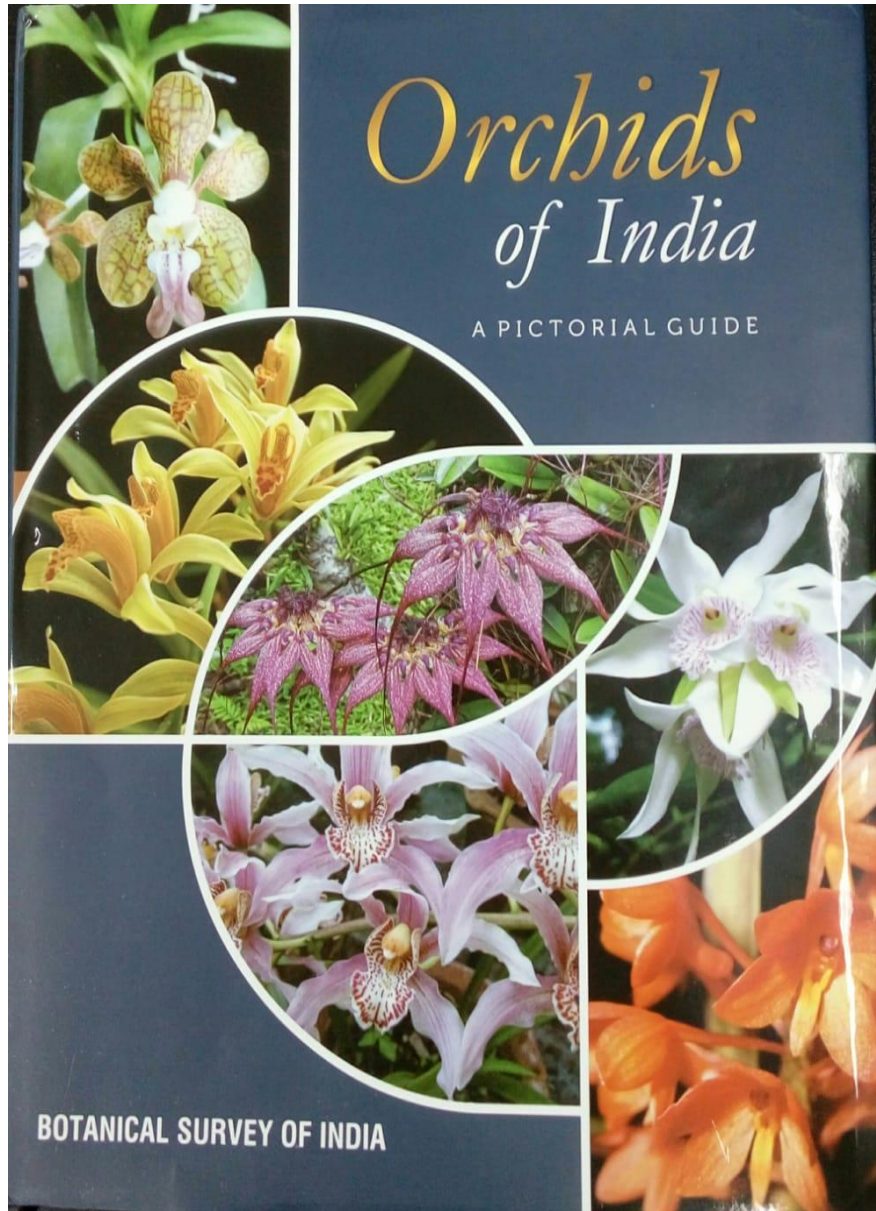
## BURMANNIACEAE

DR. P.K. HAJRA  
DR. J.S. JALAL  
DR. D.K. AGRAWALA  
DR. CHAYA DEORI  
DR. AVISHEK BHATTACHARJE

## ORCHIDACEAE

DR. D.K. AGRAWALA  
DR. J.S. JALAL  
DR. CHAYA DEORI  
DR. AVISHEK BHATTACHARJE  
DR. H.J. CHOWDHURY  
DR. S.J. PHUKAN  
DR. LAWKUSH  
DR. VIKAS KUMAR  
DR. S. CHAUDHURY  
DR. K. PRASAD  
DR. SUBARNA HAJONG  
DR. RAVI KUMAR  
DR. RIJUPALIKA ROY  
SHRI AAZHIVAENDHAN  
SHRI SHUVADIP SARKAR  
SHRI SAYAK CHAKRABORTY  
MS SHREYASI NAYAK  
MS SANCHAYITA SENGUPTA  
MS OINDRILA CHAKRABORTY

# SOURCE MATERIAL



- Revisionary studies available for nearly 50 percent of taxa
- Ph.D. Thesis on some group
- Earlier technical reports
- Monographs on few genera
- Floristic and regional floras
- Flora of neighbouring countries
- Checklists for base line information
- Own collected and studied materials
- Scattered publications dealing with taxonomy, new species, distribution novelties etc.

# The Format

**A  
STYLE MANUAL  
FOR  
FLORA OF INDIA**

Guidelines to authors preparing  
accounts of Families/Genera of  
flowering plants for the Flora  
of India



BOTANICAL SURVEY OF INDIA  
P. O. BOTANIC GARDEN  
HOWRAH-711 103

**FLORA OF INDIA**

**VOLUME 23**

**LORANTHACEAE - DAPHNIPHYLLACEAE**

BOTANICAL SURVEY OF INDIA

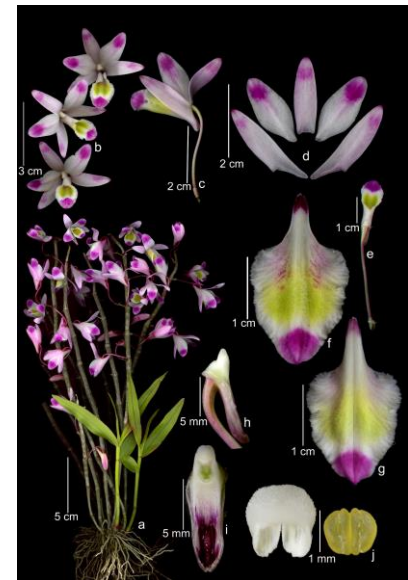
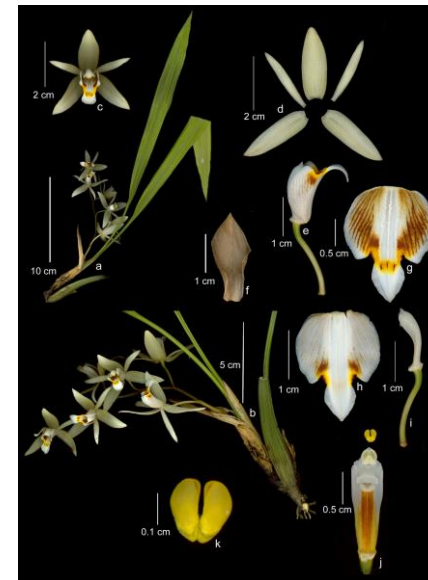
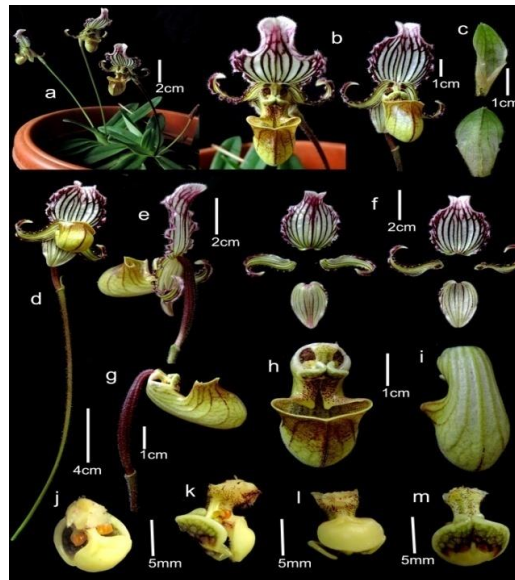
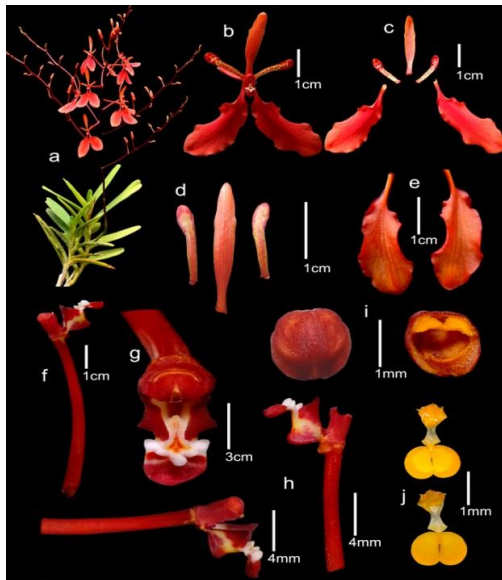
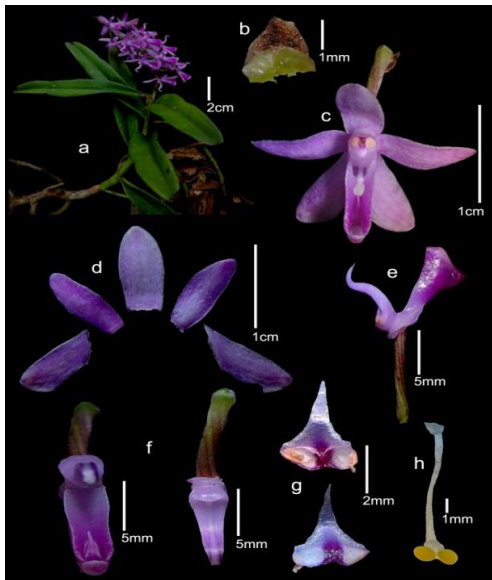
## Output Template

- Family description
- Distribution
- Notes
- Literature
- Key to sub-families
- Subfamily description
- Key to genera
- Genus description
- Distribution (No. of sp. in world and India)
- Key to species
- Species citation with synonymy
- Vernacular name(s)
- Description
- Phenology
- Distribution: India (states), other countries
- Chromosome no. and other related information
- Notes

# Contribution from the team members

Dr. Chaya Deori [36 genera, 234 taxa] 29 illustrations, 182 photographs

- **Sub-family Apostasioideae:** [*Apostasia* (3)] 1 genus 3 taxa
- **Sub-family Cypripedioideae:** [*Cypripedium* (4), *Paphiopedilum* (9)] 2 genera, 13 taxa
- **Sub-family Vanilloideae:** [*Cyrtosia* (2)]. 1 genus, 2 taxa
- **Sub-family: Orchidoideae:** [*Spiranthes* (1), *Stigmatodactylus* (2), *Cryptostylis* (1), *Satyrium* (2)]. 4 genera 6 taxa
- **Sub-family Epidendroideae:** [*Dendrobium* (116), *Coelogyne* (40), *Polystachya* (1), *Anthogonium* (1), *Arundina* (2), *Bulleyia* (1), *Dickasonia* (1), *Neogyna* (1), *Cephalanthera* (2), *Cephalantheropsis* (2), *Eriodes* (1), *Ceratostylis* (3), *Porpax* (7), *Esmeralda* (2), *Renanthera* (1), *Vandopsis* (2), *Cleisocentron* (1), *Pennilabium* (3), *Cleisomeria* (1), *Diploprora* (2), *Micropera* (4), *Pelatantheria* (1), *Rhynchostylis* (2), *Saccolabiopsis* (1), *Sarcoglyphis* (3), *Smitinandia* (2), *Stereochilus* (4), *Uncifera* (3)]. 28 genera, 210 taxa





# Contribution from the team members

Dr. Avishek Bhattacharjee [32 genera, 241 taxa] 101 illustrations, 106 photographs

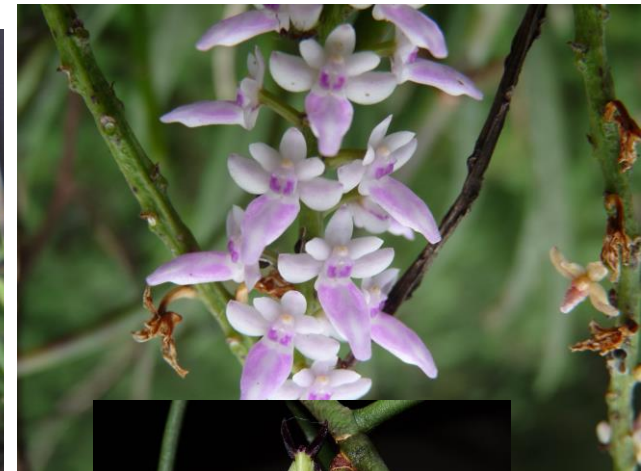
- **Family Hydrocharitaceae** : *Blyxa* (6), *Egeria* (2), *Elodea* (1), *Enhalus* (1), *Halophila* (7), *Hydrilla* (1), *Hydrocharis* (2), *Nechamandra* (1), *Ottelia* (1), *Thalassia* (1), *Vallisneria* (2). 11 genera 25 taxa
- **Sub-family: Orchidoideae**: *Aenhenrya* (1), *Anoectochilus* (5), *Chamaegastrodia* (3), *Cheirostylis* (10), *Erythrodes* (2), *Goodyera* (15), *Herpysma* (1), *Hetaeria* (4), *Myrmechis* (2), *Odontochilus* (7), *Rhomboda* (5), *Vrydagzynea* (2), *Zeuxine* (19). 13 genera 76 species
- **Sub-family Epidendroideae**: *Gastrochilus* (18), *Luisiopsis* (1), *Calanthe* (22), *Cymbidium* (31), *Eulophia* (24), *Geodorum* (5), *Thunia* (3). 7 genera 104 taxa
- Also worked on *Neottia* (19) and *Phalaenopsis* (17)



# Contribution from the team members

Dr. J.S. Jalal [29 genera, 292 taxa] 50 illustrations, 200 photographs

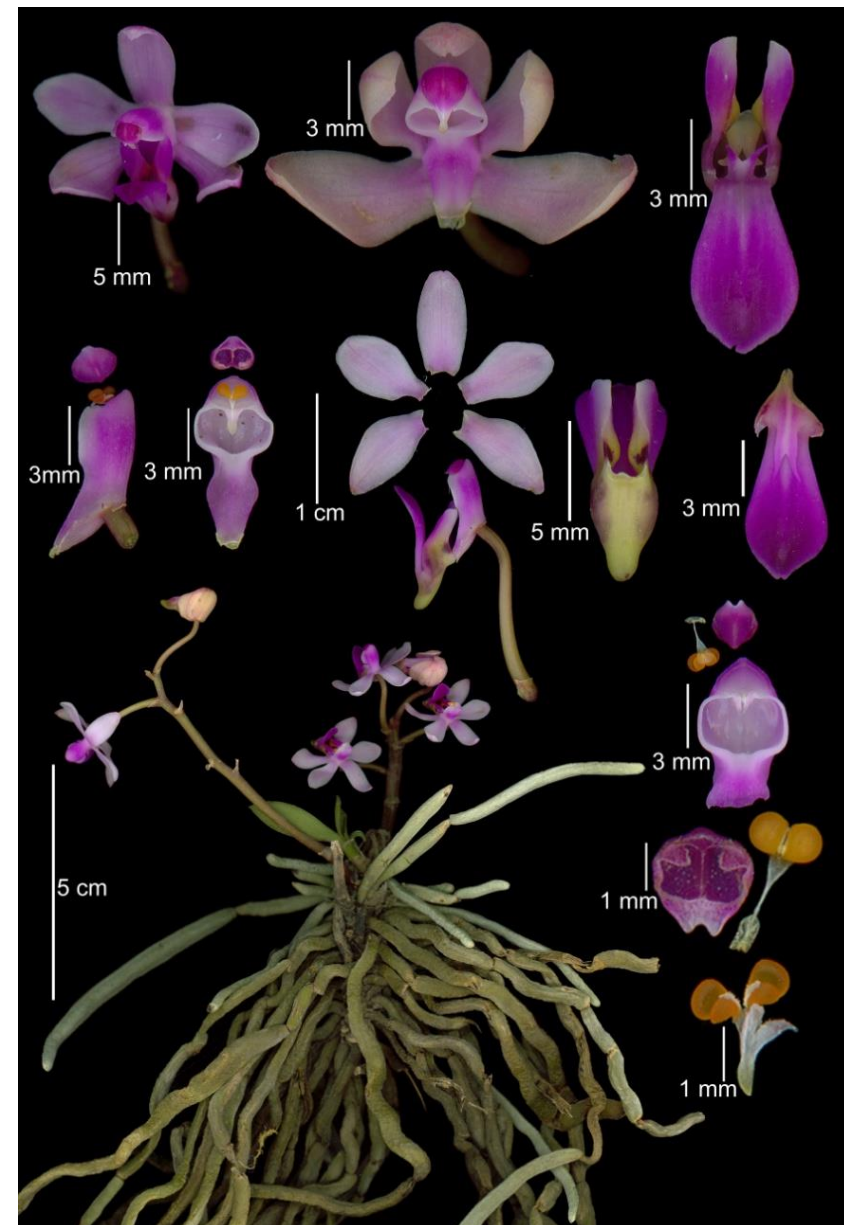
- **Family Burmanniaceae:** *Burmannia* (9), *Haplothismia* (1), *Thismia* (2). 3 genera 12 taxa
- **Sub-family: Orchidoideae:** *Androcorys* (7), *Bhutanthera*(2), *Dactylorhiza* (4), *Diplomeris*(3), *Dithrix*(1), *Herminium*(6), *Pecteilis*(5), *Peristylus*(34), *Platanthera*(16), *Habenaria*(65), *Disperis*(1), *Brachycorythis*(7), *Gymnadenia* (1), *Odisha* (2), *Plectoglossa* (1). 15 genera, 155 taxa
- **Sub-family Epidendroideae:** *Oberonia* (58), *Luisia* (18), *Sirhookera* (2), *Smithsonia* (3), *Pachystoma* (2), *Cottonia* (1), *Ipsea* (1), *Diplocentrum* (2), *Nervilia* (13), *Cleisostoma* (17), *Aerides* (8) . 11 genera, 125 taxa



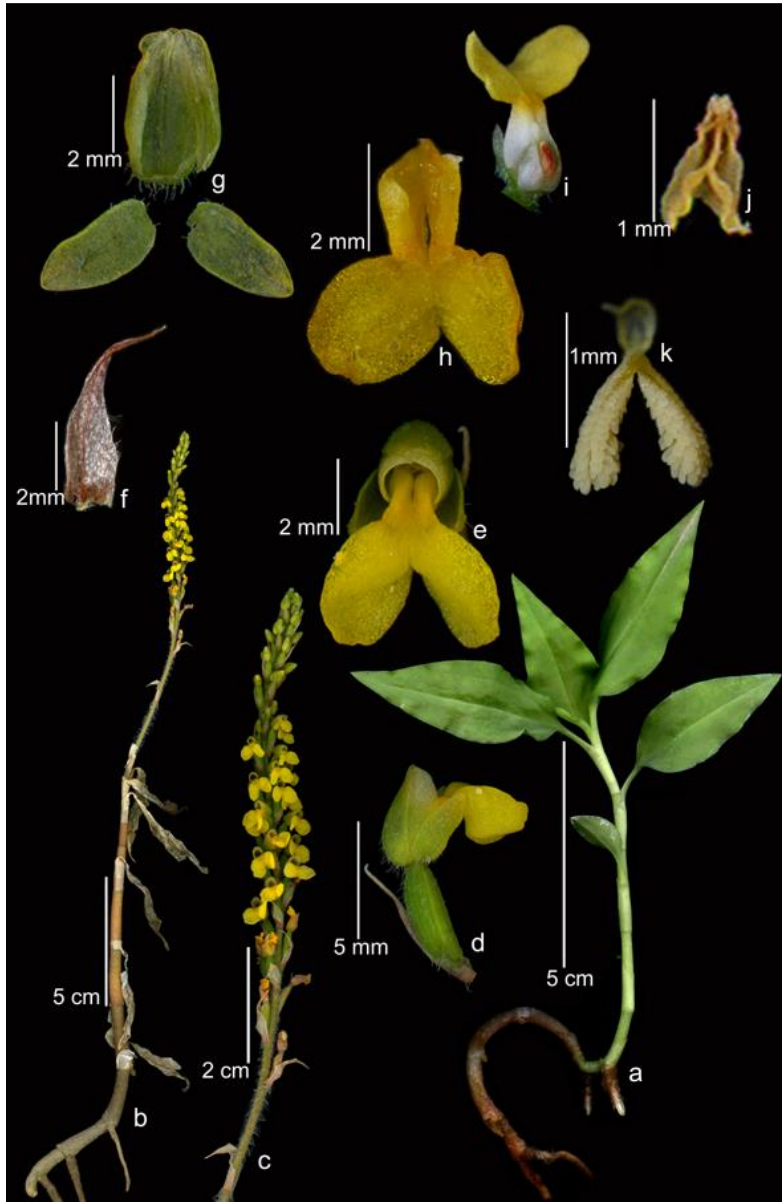
# Contribution from the team members

Dr. D.K. Agrawala [71 genera, 518 taxa] 110 illustrations, 460 photographs

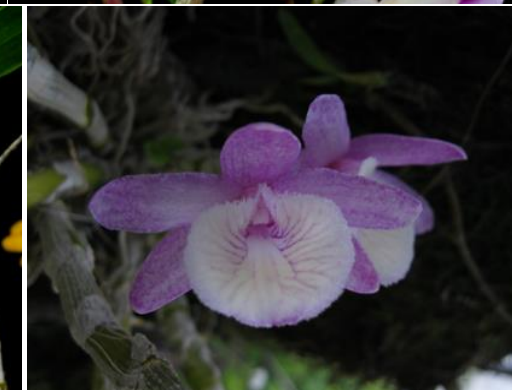
- **Sub-family Vanilloideae:** [*Pogonia* (1), *Erythrorchis* (1), *Galeola* (4), *Lecanorchis* (2), *Vanilla* (5)]. 5 genera, 13 taxa
- **Sub-family: Orchidoideae:** [*Corybas* (2), *Hsenhsua* (1), *Hemipilia* (2), *Galearis* (3), *Ponerorchis* (8)]. 4 genera 16 taxa
- **Sub-family Epidendroideae:** [*Pleione* (9), *Epigeneium* (5), *Flickingeria* (9), *Crepidium* (15), *Dienia* (3), *Liparis* (43), *Bulbophyllum* (138), *Eria* (62), *Cryptochilus* (2), *Otochilus* (4), *Panisea* (5), *Pholidota* (10), *Epipogium* (3), *Stereosandra* (1), *Didymoplexis* (3), *Gastrodia* (6), *Corymborkis* (1), *Tropidia* (7), *Aphyllorchis* (2), *Epipactis* (5), *Acriopsis* (2), *Plocoglottis* (1), *Cremastra* (1), *Corallorhiza* (1), *Oreorchis* (4), *Tipularia* (2), *Yoania* (1), *Agrostophyllum* (5), *Ania* (3), *Acanthephippium* (3), *Chrysoglossum* (2), *Collabium* (1), *Diglyphosa* (1), *Nephelaphyllum* (2), *Phaius* (6), *Risleya* (1), *Spathoglottis* (4), *Tainia* (4), *Appendicula* (3), *Phreatia* (3), *Podochilus* (4), *Thelasis* (4), *Trichotosia* (3), *Arachnis* (3), *Holcoglossum* (3), *Papilionanthe* (4), *Vanda* (14), *Thrixspermum* (13), *Schoenorchis* (7), *Seidenfadeniella* (2), *Ascocentrum* (1), *Biermannia* (4), *Chiloschista* (4), *Grossourdyia* (2), *Macropodanthus* (2), *Pteroceras* (5), *Acampe* (5), *Pomatocalpa* (5), *Robiquetia* (8), *Taeniophyllum* (9), *Trichoglottis* (3), *Trachoma* (1)]. 62 genera, 489 taxa



# SUMMARY OF THE RESULTS



- Documentation of 1285 taxa in three families completed (c. 7% of total Indian angiosperms).
- Artificial key to genera and lower rank have been provided for easy identification.
- Each genus is represented by at least one illustration/ photographic dissection and more than 70 % species are provided with colour photographs.
- Long standing problem on Taxonomy and Nomenclature of many taxa could be solved, resulting in merger and splitting of taxa.
- 15 taxa were reduced to synonymy; 5 were splitted from earlier merger; 12 taxa excluded from India; 5 new combinations proposed.
- Published one book chapter; 10 research articles; 9 abstracts and presented the findings in National and International seminars.



**THANK YOU...**