**C.V. of Dr. Jacob Thomas Pandalayil** M.Sc., Ph.D., F.I.A.T.

**Personal Details**

1. Name : Dr. Jacob Thomas Pandalayil

2. Present job : Assistant Professor/Curator, Herbarium (KSU)

2. Nationality : Indian

3. Date of Birth : 27th March 1959

4. Marital status : Married

5. Field of specialization : Phytogeography, Plant Taxonomy, Floristic and

 ecosystem studies, Conservation.

6. Contact address:

Herbarium

Dept. of Botany & Microbiology

College of Science

King Saud University

P.O. Box 2455, Riyadh 11451

Saudi Arabia

jathomas@ksu.edu.sa; jacobthomas1959@yahoo.com;

jacobthomas10@hotmail.com

**Previous Experience:**

30 years’ experience in wild plants’ Identification, Herbarium Management; and researches on Plant Taxonomy, Phytogeography, Ecology and Flora of Arabian Peninsula and Western India.

**Nature of previous works: N**omenclature studies at generic and species levels; collection, preservation and identification of all higher plants from Saudi Arabia and abroad for future references, vegetation map, studies on the morphology of higher plants, habitat and population ecology, autecology and phenology of plant species, Quarantine works for various government departments in Saudi Arabia. Plant identification works for researchers, students, NGOs and farmers.

**Curatorial work at KSU**: Since 1989, nearly 20,000 plant specimens have been collected from various parts of Saudi Arabia particularly from some of the rich plant diversity centres of the Southwestern mountainous regions. These specimens were processed, identified and deposited in KSU.

**Present Position**: Assistant Professor, Dept. of Botany & Microbiology, College of Science

**Expertise in auxiliary fields**

Web designing; page formatting/setting for final offset printing; *exsitu* conservation of wild plants.

**Web manager:** [**www.plantdiversityofsaudiarabia.info**](http://www.plantdiversityofsaudiarabia.info)

 **Academic Qualifications**

 Degree Subject Year of Passing University/Board

B. Sc. Botany (Major) 1981 University of Kerala, India

 Zoology &Chemistry (Minors)

M. Sc. Botany 1983 University of Kerala, India

Ph.D. Botany (Phytogeography) 2007 University of North

 Maharashtra, India.

 Title of the thesis: *“Phytogeographical studies of the vascular flora of Satpuda*

 *Mountains in the Nandurbar and Dhule Districts of Maharashtra”.*

## **Employment History**

Research Scholar : Sardar Patil University, Gujarat from April 83 to July 83 Positions held in Saudi Arabia:

Researcher from 1985 December to 1989 February: National Herbarium (RIY), National Agricultural & Water Research Center, Ministry of Agriculture and Water, Riyadh.

Curator from 1989 April to 2001 January: Herbarium (KSU), Dept. of Botany & Microbiology, College of Science, King Saud University, Riydh.

Research Associate, from 2001 to 2003: Flora of Jazan Project (funded by King Abdulaziz City for Science & Technology, Riyadh), Herbarium, King Saud University.

Researcher/Curator, from September 2003 to February 2006 : Herbarium, Dept. of Botany & Microbiology, King Saud University, Riyadh, Saudi Arabia

Registrar, from September 2006 to September 2007: SUT Academy of Medical Sciences, Thiruvananthapuram, India

Asst. Professor/Curator, from October, 2007 onwards.: Herbarum Dept. of Botany & Microbiology, College of Science, King Saud University, Riyadh

**Publications**

1. A.H. Alfarhan & **Thomas, J,** (1994). The Identification of flowering plant-families in Saudi Arabia . Saudi biological society. 225p.
2. F. Al-Hemaid & **Thomas, J.** (1996). Review of the genus *Tribulus* in Saudi Arabia, Arab Gulf Journal of Sci. Res. 14(2): 415-443 (ISI Journal)
3. A.H. Alfarhan, **Thomas, J.** & M. I. Alallah (1997) Noteworthy records on the Flora of Saudi Arabia. Journal of the Kuwait University. 24(1):123-130. (ISI Journal)
4. A. H. Alfarhan, S. A. Chaudhary & **Thomas, J.** (1998) Notes on the Flora of Saudi Arabia. Journal of the College of Science, King Saud University. 10(1): 31-40.
5. A.H. Alfarhan & **Thomas, J.** (1999-2001)Key to flowering plant families in Saudi Arabia, Tamaricaceae, Flacourtiaceae, Buddlejaceae, Convolvulaceae, Lemnaceae, Cuscutaceae, Caprifoliaceae, Flora of the Kingdom of Saudi Arabia, Vols. I & II (1999-2001). Edited by S. Chaudhary, NAWRC, Ministry of Agri. & Water.)
6. A.H.Alfarhan, T.Al-Turki, **Thomas**, **J**. & R.A. Basahy (2002). Annotated list to the flora of Farasan Archipelago, Southern Red Sea, Saudi Arabia, Taeckholmia, 22(1): 1-33.
7. **Thomas, J.;** Yadav, S.S.; Varghese, M. & Garud, B.D. (2004).Floristic Diversity of Satpuda Mountains in the Western Khandesh Region of Maharashtra, Plant Archives, Vol. 4(2): 209-222.
8. **Thomas, J.**; Yadav, S.S. & Varghese, M. (2005)**.** Phytogeographic studies on the western Satpuda Mountains of Khandesh region in Maharashtra. Indian Forester 12: 213-230.
9. Varghese, M.; Yadav, S.S. & **Thomas, J.** (2006). Taxonomic status of some of the *Tribulus* species in the Indian Subcontinent, Saudi Journal of Biological Sciences, Saudi Journal of Biological Sciences, 13(1): 165-170.
10. Alfarhan, A.H.; Aldjain, I.M.N. ; **Thomas, J.**; Miller, A.G.; Othman L. & Akram. A. (2009). Botanic Garden in the Arabian Peninsula, Sibbaldia, The Journal of Botanic Garden Horticulture, No. 6: 189-203.
11. **Thomas, J.;** Alfarhan, A.H.; Akram. A. ; Miller, A.G.; & Othman, L. (2008) An account on the eastern limits of Afro-Arabian plants**.** Basic and applied dry land research, 2: 12-22.
12. Harfi, H.A.; Alfarhan, A.H.; Al-Rasheid, K. and Thomas, J.(2009). Allergenic pollens of Saudi Arabian flora, Center of Excellence in Biodiversity Research, King Saud University.
13. Alfarhan, A.H. Sivadasan, M. & Thomas, J. (2009). Proposal to conserve the name **Loxsoma** (Loxsomataceae) with that spelling. Taxon 58(4): 1370-1371. (ISI Journal)
14. Alfarhan, A.H.; Sivadasan, M.; **Thomas, J**. & Samraoui, B. (110–114) Proposals to delete Articles 18.5, 18.6 and 19.7, replacing them with three Notes, and to provide consequent changes to App. IIB and to Articles 10.6, 11.1, 18.1, and 19.4. TAXON 59 (2) : 656–666. (ISI Journal)
15. Al-Turki, T.A. and Thomas, J. (2010). An account on the floral dimorphism and ecology of the genus *Moltkiopsis* I.M. Johnst. (Boraginaceae) in Saudi Arabia. Turkish J. of Botany 34: 367-377. (ISI Journal)
16. **Thomas, J.;** Alfarhan, A.H.; Samraoui, B.; Sivadasan, M.; Bukhari, N.; Al-Atar, A.A. (2010) Floristic composition of the Farasan Archipelago in SE Red Sea and its affinities to phytogeographical regions. Arab Gulf Journal of Scientific Research 28(2): 79-90. (ISI Journal)
17. Basahi, M.A.; **Thomas, J**.; Al-Turki, T.A.; Alfarhan, A.H; Al-Atar, A.A. and Sivadasan, M. (2010) Current status and conservation efforts of C*entaurothamnus maximus* Wagenitz & Dittrich (Asteraceae)*,* an endemic, endangered species from Arabian Peninsula**,** Plant Archives 10(2): 807-814. (ISI Journal).
18. Jaleel, V. Abdul, M. Sivadasan, Ahmed H. Alfarhan, **Thomas, J.** & A. A. Alatar. (2011). Revision of *Amorphophallus* Blume ex Decne. Sect. *Rhaphiophallus* (Schott) Engler (Araceae) in India. Bangladesh Journal of Plant Taxonomy 18(1): 1-26. (ISI Journal)
19. Arif I.A.; Bakir, M.A.; Khan, H.A.; Alfarhan, A,H.; Al Homaidan, A.A.; Ahamed A, Bafeel SO; **Thomas, J**. (2011). Comparative evaluation of PCR success with universal primers of maturase K (matK) and ribulose-1,5-bisphosphate carboxylase oxygenase large subunit (rbcL) for barcoding of some arid plants. Plant Omics 4(4): 195-198. (ISI Journal)
20. Yahya, M.; Al-Turki, T.A. and **Thomas, J.**(2012). *Odyssea mucronata* (Forssk.) Stapf, *Sesbania sericea* (Willd.) Link. and *Sesamum alatum* Thonn – new discoveries for the flora of Saudi Arabia. Turkish J. of Botany, 36: 39-48 (ISI Journal)
21. Sujanapal, P., M. K. Ratheesh Narayanan, N. Anil Kumar, M. Sivadasan,Alfarhan, A.H. & **Thomas, J**. (2012). *Miliusa gokhalae*, a New Species of Annonaceae from India with Notes on Interrelationships, Population structure and Conservation status. Phytotaxa. 42: 26-34. (ISI journal)
22. Alaklabi, A.; Arif, I.; Bafeel, S.; Khan, H. Alfarhan, A.; Ahamad, A.; **Thomas**, J. and Bakir. M. (2012). Characterization of regionally endangered tree species *Mimusops laurifolia* (Forssk.) Friis by rbcL gene sequence and RAPD profile, International Journal of Molecular Sciences Vol.4 (3): 29-37.
23. Shanavaskhan, A. E.,M. Sivadasan**,** Ahmed H. Alfarhan& **Thomas, J**. (2012). Ethnomedicinal aspects of angiospermic epiphytes and parasites of Kerala, India. *Indian Journal of Traditional Knowledge.* 11(2): 250-258 (ISI journal).
24. Bafeel, S.O.; Alaklabi, A.; Arif, I.A.; Khan, H.A.; Alfarhan, A.H.; Ahamad, A.; Thomas, J.; Bakir, M.A. (2012). Ribulose-1, 5-biphosphate carboxylase (rbcL) gene sequence and random amplification of polymorphic DNA (RAPD) profile of regionally endangered tree species *Coptosperma graveolens* ssp. *arabicum* (S.Moore) Degreef. Plant Omics Journal 5(3): 285-290. (ISI Journal).
25. Alatar, A.A., Mohamed El-Sheikh, M. A. & **Thomas, J.** (2012), Vegetation analysis of Wadi Al-Jufayr, a hyper arid region in Central Saudi Arabia, Saudi Journal of Biological Sciences 19 (3): 357–368 (ISI Journal).
26. Jaleel, V. A., Sivadasan, M., Alfarhan, A.H., **Thomas, J**. & Alatar, A. A. 2012. A Taxonomic Revision of *Amorphophallus* Blume ex Decne. Sect. *Conophallus* (Schott) Engl. (Araceae) in India. Bangladesh J. of plant taxonomy19(2): 135-153. (ISI journal).
27. **Thomas, J**., El-Sheikh, M. A., Alatar, A. A., Alfarhan, A. H. and Sivadasan, M. 2013. Distribution and abundance of *Astragalus* L., in some of the peripheral populations in the central region of Saudi Arabia*.* Pakistan Journal of Botany 45(2): 525-534. (ISI journal).
28. Raj, M. S.K., Sivadasan, M.; Veldkamp, J.F.; Alfarhan, A.H. & **Thomas, J**. 2013. *Nanooravia,* a new genus of subtribe *Dimeriinae* (*Poaceae – Panicoideae – Andropogoneae*) from India. Nordic J. Botany. 31 (2): 161-165 (ISI journal).
29. Al-Qurainy, F.; Gaafar, A.Z; Khan, S., M. Nadeem, M.; Tarroum, M.; Alaklabi, A. and **Thomas, J**. 2013. Antibacterial activity of leaf extract of *Breonadia salicina* (Rubiaceae), an endangered medicinal plant of Saudi Arabia. Genetics and Molecular Research 12 (3): 3212-3219 (ISI journal).
30. El-Sheikh, M.A.; **Thomas, J.;** Alatar, A.A.; Hegazy, A.K.; Abbady, G.A. Alfarhan, A.H.; Okla, M.I. 2013. Vegetation of Thumamah Nature Park: a managed arid land site in Saudi Arabia. Rend. Fis. Acc. Lincei, 24:349–367. (ISI Journal).
31. Alaklabi1, A.; Arif, I.A.; Bafeel, S.O.; Alfarhan, A.H.; Ahamed, A.; **Thomas, J.** and Bakir, M. A. 2014. Nucleotide based validation of the endangered plant *Diospyros mespiliformis* (Ebenaceae) by evaluating short sequence region of plastid *rbcL* gene. Plant Omics Journal 7(2):102-107 (ISI Journal)..
32. Hegazy, A.K.; A. A. Alatar, **Thomas, J.,** M. Faisal, A. H. Alfarhan and K. Krzywinski. 2014. Compatibility and complementarity of indigenous and scientific knowledge of wild plants in the highlands of southwest Saudi Arabia. Journal of Forestry Research 25(2): 437-444. (ISI Journal).
33. **Thomas, J**. Sivadasan M.,Al-Ansari, A.M.; Ahmed Alfarhan, Mohamed El-Sheikh, Mohamed Basahi.2014. New generic and species records for the flora of Saudi Arabia. Saudi Journal of Biological Sciences, 21: 457-464. (ISI Journal).
34. Abduljaleel,V.; Sivadasan, M.; Alfarhan, A.H.;  **Thomas, J**. & Alatar, A.A. 2014. Revision of *Amorphophallus* Blume ex Decne. Sect. Amorphophallus (Araceae) in India. Bangladesh J. Plant Taxon. 21(2): 105-120. (ISI Journal).
35. Abdulrahman A. Alatar, Mohamed A. El-Sheikh, **Jacob Thomas**, Ahmad K. Hegazy, Hosam A. El Adawy 2015. Vegetation, Floristic Diversity,and Size-Classes of Acacia gerrardii in an Arid Wadi Ecosystem Arid Land Research and Management. 29:335–359. ISI Journal.
36. Al-Rehaily, A., **Thomas, J**.,Yusuf, M., Sivadasan, M. Alfarhan, A.H., El-Sheikh, M.A., Alatar, A. 2015. Taxonomy and distribution of two newly recorded genera in Saudi Arabia. Kuwait J. Sci*.* 42 (3) pp. 158-169. (ISI Journal).
37. Mark van Kleunen,…………, **Jacob Thomas**, Mauricio Velayo, Jan J.Wieringa & Petr Pysˇek. 2015. Global exchange and accumulation of non-native plants. Nature 525 (7567): 100-103. (ISI Journal).
38. **Thomas, J**., Basahi, R. Al-Ansari , A.E. Sivadasan, M. El-Sheikh, M.A. Alfarhan, A;H. Al-Atar, A, A. 2015. Additions to the Flora of Saudi Arabia: Two New Generic Records from the Southern Tihama of Saudi Arabia. National Academy Science Letters India 38(6): 513-516 (ISI Journal).
39. Hussain, S., Aldryhim, Y., Al-Dhafer, H., Halbert, S.E. & **Thomas, J**. 2015. New aphid records for Saudi Arabia (Hemiptera: Aphidoidea). Zoology in the Middle East. 61(4): 368-371. (dx.doi.org/10.1080/09397140.2015.1101927. ISI Journal).
40. **Thomas, J**.; El-Sheikh, M.A.; Alfarhan, A.H.;,Alata, A.A., Sivadasan,M.; Basahi, M., Al-Obaid, S.; Rajakrishnan, R 2016. Impact of alien invasive species on habitats and species richness in Saudi Arabia. Journal of Arid Environments 127: 53-65.

**Papers under publication**

Jacob THOMAS, Mohamed A. EL-SHEIKH, Abdulrehman A. ALATAR. 2016. Species richness and status assessment of endemic and threatened plants of Jabal Shada, a unique plant diversity hotspot in the southwestern Saudi Arabia. J. Arid Land

K.N. Sunil Kumar, K.R. Maruthi, A.H. Alfarhan, R. Rajakrishnan, Jacob Thomas. 2016. Molecular fingerprinting of *Helicanthus elastica* (Desr.) Danser growing on five different hosts by RAPD. Saudi J. Bio. Sci.

Sunil Kumar, KN, Ravishankar, B, Yashovarma, B, Rajakrishnan, R, Thomas, J. 2016. Development of Quality Standards of Medicinal Mistletoe – *Helicanthes elastica* (Desr.) Danser employing Pharmacopoeial procedures. Saudi J. Bio. Sci.

Sunil Kumar, KN.,Rajakrishnan, R., Thomas, J., El-Sheikh, M.A., Alfarhan, A.H. Morphological and histological observations 1 on parasitic root of mango 2 mistletoe - *Helicanthus elastica* (Desr.) Danser. Flora.

Sunil Kumar KN, Rajakrishnan R, Thomas J, andAadinaath GR. 2016. Evaluation of safety and hepatoprotective activity of ethanolic and aqueous extracts of *Helicanthus elastica* (Desr.) Danser on experimental animals. Bangladesh J. Pharmacology

**Past and present Research Projects**

1. Conservation and valuation of plant diversity of potential economic value in mountain ecosystems, Kingdom of Saudi Arabia. Project no. 10-ENV1276-02, Funded by King Abdulaziz City for Science and Technology. 2011-2013.
2. Impact assessment and management of invasive species in plant diversity centres and agriculture fields of Saudi Arabia, Project No. 10-ENV1295-02, Funded by King Abdulaziz City for Science and Technology. 2011-2013.
3. Establishment of DNA bank for Flora of Saudi Arabia. Project No. 10-BIO-1289-02. Funded by King Abdulaziz City for Science and Technology. 2011-2013
4. Checklist of the Plants of the Arabian Peninsula, Royal Botanic Gardens, KEW, UK. (A project to create and maintain a searchable online database of plants of the Arabian Peninsula).
5. Monitoring and assessing the environmental impacts of off-road driving on natural recreational areas in central Saudi Arabia by using remote sensing. Project No. 12-ENV2776-08, Funded by King Abdulaziz City for Science and Technology. 2014-2016.
6. Wetland monitoring in the Kingdom of Saudi Arabia: an assessment tool of global changes. Project no. 12-ENV2569-02. Funded by King Abdulaziz City for Science and Technology. 2014-2016.

**Conferences**

1. Jacob Thomas Pandalayil and Ahmed H. Alfarhan Impact of invasive species on natural plant communities and agriculture lands in Saudi Arabia. 2013. Plant life of southwest Asia, Royal Botanic Gardens, Edinburgh, UK. July 1-5, 2013.
2. Sivadasan M., Sulaiman Ali A. Alharbi, Ahmed H. Alfarhan, Najat Abdulwahab Bukhari, Mohamed Abd El-Raouf El-Sheikh & Jacob Thomas 2014. Analysis Of Flora Of Saudi Arabia, And Floristic Impediments In Development Of Software For Computer-Based Identification Of Plants. International Journal of Arts and Sciences, (IJAS) International Conference for Academic Disciplines at Anglo-American University, Lázeňská 4, 118 00 Praha 1, Czech Republic, from 10 to 13 June 2014.
3. El-Sheikh, M.A.; Thomas, J.; Alfarhan, A.H. Sivadasan, M., Hennekens, S.M.; Schaminee, J.H.J. and Muchna, L. Vegetation database of Najd- the central region of Saudi Arabia: An overview. Poster in International Association for Vegetation Science (IVAS). 1-5 Sept., 2014 in Perth, Australia.

**Survey and Research Projects/Reports**

1. The possibility of benefiting from wild plants growing in the Kingdom for horticultural and ornamental use in cities. Funded by King Abdulaziz City for Science and Technology, Riyadh. 1997-1999.

#### Flora of Jizan Region, funded by King Abdul Aziz city for Science and Technology, AR-17-7, 1999-2003.

1. Taxonomic and Ecological Studies on the family Chenopodiaceae in the Kingdom of Saudi Arabia. Funded King Abdul Aziz city for Science and Technology, AR- 15-100. 2001-2007.
2. A comprehensive study of the current status of the bee keeping industry in Saudi Arabia, Plant protection dept. King Saud University. 2004-2006.
3. Forest/woodland survey, conservation studies, funded by Ministry of Agriculture & Water and KACST) 2000 –2004
4. *Ex-situ* conservation of medicinal and aromatic plants in Saudi Arabia- awareness and sustainable use. Funded by Ford Motor Company Conservation & Environmental Grants Programme. 2007.
5. Vegetation survey on the proposed Haysiyah Resort site, Riyadh. Report submitted to the Ar Riyadh Development Authority. 2005
6. DNA fingerprinting of native and exotic wild plants of Saudi Arabia, Stage 1. DNA fingerprinting of Wild Plants in the Central Region. Funded by Prince Sultan Research Chair for environment and wildlife. 2008-
7. Biodiversity study of selected wetland ecosystems of Saudi Arabia, King Saud University 2009-2011.
8. Floristic and Ecological survey studies in Raudhat Mulaihiya, Central Saudi Arabia**.**2010-2011 (Research Center, Deanship of Scientific Research).
9. Conservation and valuation of plant diversity of potential economic value in mountain ecosystems, Kingdom of Saudi Arabia. Project no. 10-ENV1276-02, Funded by King Abdulaziz City for Science and Technology. 2011-2013.
10. Impact assessment and management of invasive species in plant diversity centres and agriculture fields of Saudi Arabia, Project No. 10-ENV1295-02, Funded by King Abdulaziz City for Science and Technology. 2011-2013.
11. Establishment of DNA bank for Flora of Saudi Arabia. Project No. 10-BIO-1289-02. Funded by King Abdulaziz City for Science and Technology. 2011-2013

#### Scientific and Technical Reports

#### 1 “Vulnerability assessment and adaptation of climate change” Country report for the United Nations Framework Convention on Climate Change (UNFCCC). 2004

1. “Report on implementation of programme of Work for the Global Taxonomy Initiative” Species Survival Commission (SSC), IUCN, United Nations. June, 2004.
2. “Red Data Book & the National Geospatial database of Saudi Arabia” Project proposal submitted to King Saud University, 2004
3. “Initial stages of setting up a seed bank in Saudi Arabia” Final project report submitted to the Deanship of scientific research, King Saud University, 2005.
4. Flora of Jizan Region” Final project report submitted to King Abdulaziz City for Science and Technology, Riyadh, 2005.

**Technical Expertise**

Proficiency in Photoshop, BRAHMS, Microsoft Excel, Adobe Flash, Acrobat Professional, Microsoft word, Microsoft Front Page, Office publisher Power Point, and in a significant number of other scientific applications.

Photoshop : Experiences in Mapping, Graphic web-designing, Creating animations and rollovers, Drawing and Painting.

SPSS: Statistical analysis for ecological and floristic surveys, quadrate studies, etc.

BRAHMS: Herbarium Management Programme for species data feeding, sorting, digital plant storing, distribution map, etc.

Adobe Acrobat Professional: For creating Portable Document Format (PDF) of scientific articles, research papers.

Office word processing 2007/XP: Excellent working experience in document Creations (DTP), organizational charts, etc.

Office Excel 2007: Experiences in spreadsheet, statistical charts.

Power Point: Created over 400 scientific presentations for seminars, student lectures, conferences, etc.

**Memberships :**

1. Arabian Plant Specialist Group (Since 1996)
2. Saudi Biological Society
3. IUCN (Since 1996)
4. Species Survival Commission (SSC)
5. Life member of the Indian Association for Angiosperm Taxonomy (IAAT)
6. Life member of Rheedea, official journal IAAT

**Seminars/workshop attended** :

1. Symposium on the Biological aspects of Saudi Arabia, 1989-1998
2. Symposium on desert studies in the Kingdom of Saudi Arabia “Extant and Implementations” 2-4, Oct., 1994.
3. Workshop on the conservation of the Flora of Arabian Peninsula (on the occasion of the formation of the Arabian Plant Specialist group, (APSG), 9-10, June, 1996.
4. Seminar on the joint study project on the conservation of Juniper woodlands in Saudi Arabia. 2nd March, 1999
5. The 2nd International conference of Economics and Conservation of Renewable Natural Resources in Arid Zones. 2000.
6. Work shop of Center of Excellence in biodiversity research, held at King Saud University, 2008.
7. One day workshop of Prince Sultan Research Chair for environment and Wildlife, held at King Saud University 2008.
8. Workshop on Research Centers of Excellence at King Saud University. (Concepts & Application), held at King Saud University campus, 2008