

CURRICULUM-VITAE

Name	Dr. Rajani Kurup SR
Citizenship	Indian
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Contact number	9745275669
Institute	KSCSTE- Jawaharlal Nehru Tropical Botanic Gardenand Research Institute,Pacha, Palode, Thiruvananthapuram, Kerala, India.
Official address	Technical Officer Phytochemistry & Phytopharmacology division, KSCSTE-JNTBGRI,Palode - 695562 Thiruvananthapuram, Kerala, India.
Residential address	Sree Bhavan, Pulippara lane, Chandhavila, Nedumangad – 695542, Thiruvananthapuram,Kerala, India
Age, Date of Birth	49, 17/05/1974
Sex	Female
Marital Status	Married

9. Research area/expertise:

- New essential oil sources identification, isolation and there chemical characterisation.
- Screening of elite accessions of medicinal (industrially important) plants.
- Extraction and isolation of plant secondary metabolites.
- Prey capture mechanisms in carnivorous plants.

- *In vitro* anti-oxidant activity of extracts and isolates.
- Estimation of bioactive molecules and marker compounds using HPTLC & GC.
- Expertise in using the analytical instruments like Camag HPTLC, Shimadzu - GC-FID, Shimadzu - HPLC, Heto - Lyophiliser, Shimadzu- UV-Visible spectrophotometer, ABB-Bomem - FT-IR spectrometer, Rudolf Digital Polarimeter etc.

10. Academic career

Course	University/ Institute	Year/ Duration	Class
Ph. D. [Chemistry- Botany] Interdisciplinary	Manonmaniam Sundaranar University, Thirunelveli, Tamil Nadu	2020	-
M. Sc. [Botany]	Annamalai University Chidambaram, Tamil Nadu	2007	First Class
B.Sc. [Botany]	Kerala University, Thiruvananthapuram, Kerala	1994	First Class

11. Professional career

Profession/ Specialization	Institute	Year/ Duration
Technical Office, Grade - IV	Phytochemistry and Phytopharmacology Division, KSCSTE-JNTBGRI, Palode, Thiruvananthapuram, Kerala	01.09.2015 (ongoing)
Technical Officer Grade - III	-do-	2010 - 2015
Technical Officer Grade - II	-do-	2005 - 2010
Technical Officer Grade – I	-do-	2000 - 2005

12. Awards/Honours

- Dr. P. D. Sethi Award 2010 for HPTLC publications for *Industrial Crops and Products* 2010 32: 545-550.
- Certificate of Merit, Dr. P. D. Sethi Award 2011 for HPTLC publications for *Journal of Experimental Botany* 2011 62: 5429-5436.
- Certificate of Appreciation, Dr. P. D. Sethi Memorial Annual National Awards 2017, Best Research Paper on Application of TLC/HPTLC in Pharma, Herbal & Other Chemical Analysis, *Industrial Crops and Products* 2017 98: 76-81.

Significant Achievements and Contributions

- The chemical profiling of essential oil of five species and three cultivars of *Polyscias*, four species of Citrus, three species of *Piper*, three species of *Zingiber*, one species of *Syzygium*, one species of *Gymnacrahera* and many other aromatic plants from the Western Ghats. The studies have resulted in the discovery of several new sources of essential oil-

bearing plants with potential for yielding aromatic compounds that may find use in perfumery, flavour and cosmetic industries.

- Involved in discovering fluorescence emissions from Prey Traps of Carnivorous Plants
- Developed a new precise and rapid HPTLC method for the simultaneous estimation of Levodopa, Asiaticoside, Madecassoside and Camptothecin etc.
- I was involved in discovering high zerumbone yielding *Zingiber* from Kerala.
- I was involved in finding the elite genotypes with high contents of madecassoside and asiaticoside, from sixty accessions of *Centella asiatica* of south India.
- I was involved in the discovery of the degradation process of Levodopa in *Mucuna pruriens*.
- I was involved in the standardization of 8 therapeutically important medicinal plants under an ICMR supported project.

Research Projects carried out / being pursued

1. "Phytochemical Investigation of Tropical Medicinal Plants with a View to Develop Drugs, Pharmaceutical Products, Chemicals, Industrial Raw Materials etc." Plan Funded Project (2003-2007)- Co-PI
2. "Studies on Tropical Aromatic Plants with a View to Discover New Sources of Essential oils for Perfumery, Cosmetics, Flavor and Drug Industry". Plan Funded Project (2003-2007)- Co-PI
3. Chemical Prospecting of Plants in the Kerala Region of Western Ghats for Bioactive Molecules. Plan Funded Project (2008-2012)- Co-PI

4. Development of Fragrances, Aroma Chemicals and Flavouring Agents from Tropical Aromatic Plants. Plan Funded Project (2008-2012)- Co-PI
5. Chemical Prospecting of the Plants in Kerala Region of the Western Ghats for Bioactive Molecules (2013-2018) Co-PI
6. Chemical Prospecting of the Aromatic Plants of the Kerala Region of the Western Ghats for Bioactive Molecules (2013-2018) Co-PI
7. Sustainable Utilization of Medicinal, Aromatic and Other Potential Economic Plants of the Kerala Region of Western Ghats Through Phytochemical and Pharmacological Means (2018-) Co-I

Selected Peer-reviewed publications

No.	Publications	Impact Factor (2022)
1.	Renju Kunjumon, Anil John Johnson, Rajani Kurup Sukumaryamma Remadevi , Sabulal Baby. Influence of ecological factors on asiaticoside and madecassoside contents and biomass production in <i>Centella asiatica</i> from its natural habitats in south India. <i>Industrial Crops and Products</i> 2022 189: 115809.	6.449
2.	Renju Kunjumon, Anil John Johnson, Rajani Kurup Sukumaryamma Remadevi , Sabulal Baby. Assessment of major centelloside ratios in <i>Centella asiatica</i> accessions grown under identical ecological conditions, bioconversion clues and identification of elite lines. <i>Scientific Reports</i> 2022 12: 8177	4.996

3. Anil John Johnson, Vinayak Venukumar, Thania Sara Varghese, Gayathri Viswanathan, Parvathy Sasidharan Leeladevi, **Rajani Kurup Sukumaryamma Remadevi**, Sabulal Baby. Insecticidal properties of *Clausena austroindica* leaf essential oil and its major constituent, trans-anethole, against *Sitophilus oryzae* and *Tribolium castaneum*. *Industrial Crops and Products* 2022 182: 114854. 6.449

4. Rani, SP Smitha, **SR Rajani Kurup**, S. Ajikumaran Nair, P. Nusaifa Beevi, Sreeja Thankappan, and Sabulal Baby. "Antiproliferative activity of leaf, fruit pericarp essential oils of *Syzygium palodense*." *Phytomedicine Plus*, no. 4 (2021): 100128. 2.46

5. **Kurup, Rajani**, Ajikumaran N. Sadasivan, Uthayakumari Kalavathy, and Sabulal Baby. "Chemical profile and anticancer activity of *Polyscias guilfoylei* leaf essential oil." *The Natural Products Journal* 10, no. 4 (2020): 372-383 0.864

6. Ajikumaran Nair S, **Rajani Kurup SR**, Akhila S Nair, Sabulal Baby. *Citrus* peels prevent cancer. *Phytomedicine* 2018 50: 231-237. 6.656

7. Rajan, Renjith, Sibi Chirakkadamoolayil Varghese, **Rajani Kurup**, Roja Gopalakrishnan, Ramaswamy Venkataraman, Krishnan Satheeshkumar, and Sabulal Baby. "HPTLC-based quantification of camptothecin in *Ophiorrhiza* species of the southern Western Ghats in India." *Cogent Chemistry* 2, no. 1 (2016): 1275408. 2.500

8. Haridas Pulikkalpura, **Rajani Kurup**, Paravanparampil Jacob Mathew, Sabulal Baby. Levodopa in *Mucuna pruriens* and its degradation. *Scientific Reports* 2015 5: 11078. 4.996

9. Renjith Rajan, Sibi C. Varghese, **Rajani Kurup**, Roja Gopalakrishnan, Ramaswamy Venkataraman, Krishnan Satheeshkumar, Sabulal Baby. Search for Camptothecin- 6.449

- Yielding *Ophiorrhiza* Species from Southern Western Ghats in India. A HPTLC-Densitometry Study. *Industrial Crops and Products* 2013 43: 472-476.
- 10 **Rajani Kurup**, Anil John Johnson, Sreethu Sankar, Abdul Azeez Hussain, Chellappan Sathish Kumar, Sabulal Baby. Fluorescent Prey Traps in Carnivorous Plants. *Plant Biology* 2013 15: 611-615. 3.877
- 11 Gopan Raj, **Rajani Kurup**, Abdul Azeez Hussain, Sabulal Baby. Distribution of naphthoquinones, plumbagin, droserone, and 5-O-methyl droserone in chitin-induced and uninduced *Nepenthes khasiana*: molecular events in prey capture. *Journal of Experimental Botany* 2011 62: 5429-5436. 7.378
- 12 Munduvelil Thomas Thomas, **Rajani Kurup**, Anil John Johnson, Sreeja Purushothaman Chandrika, Paravanparampil Jacob Mathew, Mathew Dan, Sabulal Baby. Elite geno-/chemotypes, with high contents of madecassoside and asiaticoside, from sixty accessions of *Centella asiatica* of south India and the Andaman Islands: for cultivation and utility in cosmetic and herbal drug applications. *Industrial Crops and Products* 2010 32: 545-550 6.449
- 13 Sabulal Baby, Mathew Dan, Abdul Rasheed Muhammed Thaha, Anil John Johnson, **Rajani Kurup**, Prasanth Balakrishnapillai, Chong Keat Lim. High Content of Zerumbone in Volatile Oils of *Zingiber zerumbet* from Southern India and Malaysia. *Flavour Fragrance Journal* 2009 24: 301-308. 2.500
- 14 Baby Sabulal, Mathew Dan, Anil John J, **Rajani Kurup**, Sreeja Purushothaman Chandrika and Varughese George. Phenylbutanoid-rich Rhizome Oil of *Zingiber neesatum* from Western Ghats in South India. *Flavour Fragrance Journal* 2007 22: 521-524. 2.500

- 15 Sabulal Baby, **Rajani Kurup**, Sumitha B, Varughese George. Chemical Composition of the Leaf Oils of *Myristica malabarica* Lam. and *Gymnocranthera canarica* (King) Warb. *Journal of Essential Oil Research* 2007 19: 323-325. 2.532
- 16 Baby Sabulal, Mathew Dan, Anil John J, **Rajani Kurup**, Nedyamparambu Sukumaran Pradeep, Renju Krishna Valsamma and Varughese George. Caryophyllene-rich rhizome oil of *Zingiber nimmonii* from south India: Chemical characterization and antimicrobial activity. *Phytochemistry* 2006 67: 2469-2473 etc. 4.072
17. **Kurup, R.**, Thomas, V.P., Jose, J., Dan, M., Sabu, M. and Baby, S., 2018. Chemical composition of rhizome essential oils of *Amomum agastyamalyanum* and *Amomum newmanii* from South India. *Journal of Essential Oil Bearing Plants*, 21(3), pp.803-810. 2.4
18. Sabulal, Baby, **Rajani Kurup**, Varughese George, Mathew Dan, and Nedyamparambu Sukumaran Pradeep. "Chemical composition and antibacterial activity of the rhizome and leaf oils of *Amomum hypoleucum* Thwaites." *Journal of Essential Oil Research* 19, no. 3 (2007): 279-281. 2.532
19. John, J.A., **Kurup, S.R.**, Pradeep, N.S. and Sabulal, B., 2011. Chemical composition and antibacterial activity of the leaf oil of *Clausena indica* from South India. *Journal of Essential Oil Bearing Plants*, 14(6), pp.776-781. 2.4
20. Kumar, Akhil Sree, **Rajani Kurup Sukumaryamma Remadevi**, Anil John Johnson, Vinayak Venukumar, Farzana M. Sha, Thania Sara Varghese, and Sabulal Baby. *Elettaria cardamomum* leaves, an underutilized resource: chemical profile of its essential oil and insecticidal activity, *Journal of Essential Oil Research* 35, no. 4 (2023): 393-405. 2.532

21. Baby, S., Johnson, A.J., Thaha, A.M., **Rajani, K.** and Mathew, D., 2010. Chemistry of volatiles in *Zingiber* species from Western Ghats of Kerala. *Journal of Medicinal and Aromatic Plant Sciences*, 32(4), pp.470-473.
22. Kunjumon, Renju, Anil John Johnson, **Rajani Kurup Sukumaryamma Remadevi**, and Sabulal Baby. "Dammarane-type triterpenoid saponin-rich elite genotypes of *Bacopa monnieri* from south India and their edaphic-ecological preferences." *Industrial Crops and Products* 202 (2023): 117075. 6.449
23. Nair, S. Ajikumaran, **Rajani Kurup Sukumaryamma Remadevi**, Smrithi S. Lal, Reshma Raju, Raju Antony, and Sabulal Baby. "Chemical Composition and Antiproliferative Activity of Rhizome and Frond Essential Oils of *Anemia schimperiana* subsp. *wightiana*, a Rare Fern Endemic to South India." *Journal of Biologically Active Products from Nature* 13, no. 2 (2023): 105-117. 1.19