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Educations

- B. Sc. Botany, Madras Christian College, University of Madras, 1993
- M. Sc. Botany, Madras Christian College, University of Madras, 1995
- M. Phil – Botany (Algology), Madras Christian College, University of Madras, 1997
- Ph. D – Botany (Algology), University of Madras, 2002

Publications

Books Published

- 1 Jiunn-Tzong Wu, **Babu, B.**, Chuan-Ling Chou and Sundararaju Jothisarawathi 2011. **Freshwater Diatom Flora of Taiwan. Vol. I.** 2011. Biodiversity Research Center, Academia Sinica, Taiwan, pp 1-392. ISBN: 978-986027105-8.
- 2 Jiunn-Tzong Wu, **Babu, B.**, Chuan-Ling Chou and Sundararaju Jothi Saraswathi 2011. **Freshwater Diatom Flora of Taiwan. Vol. II.** 2011. Biodiversity Research Center, Academia Sinica, Taiwan, pp 1-356. ISBN: 978-986027106-5

Research Papers

1. Grace, M. P., Hannah, S.J., Nandhini, K. and **B. Babu**, 2021. New records of two species of *Herposiphonia* (Rhodophyta, Rhodomelaceae) from India. *Indian Hydrobiology*, **20**: 151–156.
2. **Babu, B.** and G. Pauline, 2020. Diversity of Freshwater Diatoms from the World Heritage Mamallapuram region of Tamil Nadu, India. *Indian Hydrobiology* **19**: 77-96. 1&2 0971-6548
3. **Babu, B.** and S. Vasanthakumar, 2020. Diversity and new records of *Cosmarium Corda ex Ralfs* (Desmidiiales, Zygnematophyceae) from Kanniyakumari District, Tamil Nadu, India. *Indian Hydrobiology* **19**: 263-284.

4. **Babu, B.**, S. Jothi Saraswathi and R. Rengasamy, 2018. Seasonal studies on biochemical constituents of alginate from *Hormophysa cuneiformis* (Gmelin) Silva. *Indian Hydrobiology* 17: 77-84.
5. **Babu, B.** and G. Pauline, 2018. Systematic studies on the freshwater flora from selected places of Kancheepuram District, Tamil Nadu. *Indian Hydrobiology* 17: 103-121.
6. **Babu, B.** and J. T. Wu, 2010. Production of phthalate esters by nuisance freshwater algae and cyanobacteria. *Science of the Total Environment*, **408**: 4969-4975.
7. Dhanalakshmi, K., **Babu B.**, Nicodemus A., Nagarajan B. and M. Baluswami, 2010. *Thorea hispida* (Thore) Desvaux *Emend.* Sheath, Vis et Cole from Little Andaman, India. *Proceedings of the International Conference on Algal Biomass, Resources and Utilization*, 2009, pp. 35-42.
8. **Babu, B.** and J. T. Wu, 2008. Production of natural butylated hydroxytoluene as an antioxidant by freshwater phytoplankton. *Journal of Phycology*, **44**: 1447-1454.
9. Jothi Saraswathi, S., **Babu, B.** and R. Rengasamy, 2006. Seasonal studies on alginate and its composition II: *Turinaria conoides* (J. Ag.) Kütz. (Fucales), Phaeophyceae. *Journal of Applied Phycology*, **18**: 161-166.
10. Jothi Saraswathi S., **B. Babu** and R. Rengasamy, 2003. Seasonal studies on the alginate and its biochemical composition I: *Sargassum polycystum* (Fucales), Phaeophyceae. *Phycological Research* **51**: 240 – 243.
11. **Babu B.** and M. Baluswami, 2005. *Tuomeya americana* (Kuetzing) Papenfuss, a fresh-water red alga, new to India., *Indian Hydrobiology* **8**: 1-4.
12. Baluswami M. and **B. Babu**, 1997. The Structure and reproduction of *Sirodotia iyengarii* sp. nov. *Proc. of Nat. Symp. Recent Trends Algal Res.*, Andhra University. PP. 237-244.
13. Baluswami M. and **B. Babu**, 1997. On the structure and reproduction of *Batrachospermum umamaheswararaoi* sp. nov. *Proc. of Nat. Symp. Recent Trends Algal Res.*, Andhra University. PP. 245-254.

Research Interests (Specializations)

- ❖ **Freshwater Diatom Flora of Tamil Nadu** - Studies on the freshwater diatom flora of Tamil Nadu has been initiated and is under progress.
- ❖ **Taxonomy of Marine and Fresh Water Algae** - Studies on the Diversity of Freshwater and Marine algal flora of Tamil Nadu has been initiated.

- ❖ **Water Quality Assessment** - Studies on Water Pollution and Water Quality Assessment using freshwater Diatoms as a Pollutions Indicator has been carried out in several districts of Tamil Nadu.
- ❖ **Biodegradation of Environmental Pollutants** - Biodegradation pathway of phthalate esters (DBP, DPP, DEP and DMP) was carried out using different strains of freshwater algae.
- ❖ **Isolation & Purification of Bioactive Compounds from Algae** - The bioactive compounds from microalgae have been investigated for antioxidant, antimicrobial and anticancer activities
- ❖ **Phycosynthesis of Nanoparticle** - Studies on the synthesis of Silver and Gold nanoparticles using various marine and freshwater algae have been carried out to evaluate the potential role of microalgae in Pharmaceuticals.

Courses Taught

Under Graduate

- ✓ Algology
- ✓ Algal Biotechnology
- ✓ Plant Anatomy

Post Graduate

- ✓ Bryology
- ✓ Biology and Biotechnology of Algae
- ✓ Plant Anatomy
- ✓ Applications of Algae

Awards Other Distinctions

- **DR. APJ ABDUL KALAM AWARD FOR SCIENTIFIC EXCELLANCE - 2019**, Marina Labs, Research and Development, Chennai.

Best Paper Award

- **2019: *Centroceras baluswamii* sp. nov. (Ceramiaceae, Rhodophyceae) from the Havelock Island, India** at National Conference on “Emerging Trends in Algae (NCETA-2019)” Organized by Research Department of Botany, St. Xaviers College, Palayamkottai, 28-29 November, 2019.
- **Diversity and Taxonomy of Phytoplankton from Pallikaranai Wetland, Kancheepuram district, Tamil Nadu** At National Conference – NCBC-2019, Guru Nanak College, Chennai –March 2019.
- **2018: Seasonal analysis of diatom diversity and indices as indicators of water quality in water bodies of Thirukazhukundram**

taluk, Kancheepuram district, Tamil Nadu at National conference - VBBBNA 2018

- **2017: Best Poster Award: Biodiversity of freshwater diatom assemblages from Thiruvallur Taluk, Tamil Nadu, India.** National Conference at VOC College, Tuticorin

Conference / Workshop Organized

1. National conference on “Vistas in Biodiversity, Biology, Biotechnology and Nanotechnology of Algae (VBBBNA2018), Department of Botany, Madras Christian College, Chennai, September 20-22, 2018.
2. DBT Star College Sponsored Workshop on “Freshwater algal Taxonomy” Department of Botany, Madras Christian College, Chennai, March 2-7, 2015.

Presentations

International

1. International Conference on “Partnership and Ownership Building for Sustainable Development” organized by OISCA International, WHO, Japan and Guru Nanak College, Chennai, 5-6, December, 2019.
 - i. Title: *Biodiversity and Taxonomy of Freshwater Diatoms of Kancheepuram, Chengalpattu and Uthiramerur Taluks, Kancheepuram District, Tamil Nadu, India.*
Kokila, T. and **B. Babu**
2. International Symposium on “Biodiversity, Biology and Biotechnology of Algae (ISBBBA-2020)” organized by Centre for Advanced Studies in Botany, University of Madras, Chennai, 8-10 January, 2020.
 - i. Title: Marine Algal Diversity of Havelock and Neil Islands of the Andaman and Nicobar Islands, India
Asmin Bibi, K. And **B. Babu**
 - ii. Title: Diatoms Taxonomy, Diversity and Water Quality Assessment of Three Taluks of Kancheepuram District, Tamil Nadu
Kokila, T. and **B. Babu**
 - iii. Title: Freshwater Diatom Flora of Sriperumbudur Taluk of Kancheepuram District, Tamil Nadu, India
Sasikumar, U. and **B. Babu**
3. Presented a paper on “Biodegradation of Phthalate Esters by Freshwater Cyanobacteria” in the Ninth International Phycological Congress, Tokyo, Japan, 2-8, August, 2009.
4. Presented a paper on “*Thorea hispida* (Thore) Desvaux *emend.* Sheath, *Vis et Cole* from Little Andaman, India” in the International conference

on 'Algal Biomass Resources and Utilization', Department of Plant Biology and Plant Biotechnology, Stella Maris College, Chennai, 27-30, July 2009.

National

1. Emerging Trends in Algae (NCETA-2019), Research Department of Botany, St. Xaviers College, Palayamkottai, 28-29 November, 2019.
 - i. Title: *Centroceras baluswamii sp. nov. (Ceramiaceae, Rhodophyceae) from the Havelock Island, India*
Asmin Bibi, K. And **B. Babu**
 - ii. Title: Freshwater Diatom Flora Of Maduranthakam Taluk Of Kancheepuram District, Tamil Nadu, India
Sasikumar, U. and **B. Babu**
 - iii. Title: Diversity and Taxonomic Studies of Freshwater Diatoms from Three Taluks of Kancheepuram District, Tamil Nadu, India
Kokila, T. and **B. Babu**
2. Biodiversity and Conservation: A Multidisciplinary Approach (NCBC-2019), Department of Plant Biology and Plant Biotechnology, Guru Nanak College, Chennai, March 11-12, 2019.
 - i. Title: a. *Diversity and Taxonomy of Phytoplankton from Pallikaranai Wetland, Kancheepuram district, Tamil Nadu.*
Kokila, T. and **B. Babu**
3. Vistas in Biodiversity, Biology, Biotechnology and Nanotechnology of Algae (VBBNA2018), Department of Botany, Madras Christian College, Chennai, September 20-22, 2018.
 - i. Title: *Taxonomy of freshwater diatoms from Thirukazhukundram taluk, Kancheepuram district, Tamil Nadu.*
 - ii. Title: *Diatom assemblages and its Correlation with various physicochemical parameters of different water bodies in Thirukazhukundram taluk, Kancheepuram district, Tamil Nadu.*
 - iii. Title: Seasonal analysis of diatom diversity and indices as indicators of water quality in water bodies of Thirukazhukundram taluk, Kancheepuram district, Tamil Nadu.
 - iv. Title: Bioprospecting two freshwater microalgae *Aphanocapsa pulchra* (Kutzing) Rabernhorst and *Microspora irregularis* (West & West) Wichmann for antibacterial, antioxidant and anticancer properties.

4. Algal Diversity and Resource Status: Current Trends in Utilization and Prospects for Innovation, V. O. Chidambaram College, Tuticorin, 21-23 September, 2017
 - i. Title: *Biodiversity of freshwater diatom assemblages from Thiruvallur Taluk, Tamil Nadu, India.*
 - ii. Title: *Assessment of freshwater diatom as indicator of water quality of selected water bodies in Thiruvallur Taluk, Tamil Nadu, India.*
5. Biodiversity, Biology and Biotechnology of Algae, Centre for Advanced Studies in Botany, University of Madras, Chennai, 9-10 January, 2017.
 - i. Title: *Diversity of diatoms from selected places of high Altitude in Tamil Nadu*
6. Algal Taxonomy and Applications, Krishnamurthy Institute of Algology and Department of Plant Biology and Plant Biotechnology, SDNB Vaishnav College, Chennai, 27 & 28 November, 2015.
 - i. Title: *Diversity of freshwater Bacillariophyceae in selected places of Kanchipuram district, Tamil Nadu, India*
7. Recent advances in Algology, Mycology and Plant Pathology, Centre for Advanced Studies in Botany, University of Madras, Chennai, 19 & 20 February, 2014.
 - i. Title: *Biological production of Silver and Zinc Nanoparticles and their antioxidant and antibacterial activity from three Freshwater algae*
8. Recent advances in Algology, Mycology and Plant Pathology, Centre for Advanced Studies in Botany, University of Madras, Chennai, 19 & 20 February, 2014.
 - i. Title: *Biodegradation of phthalate esters by Freshwater Green Algae*
9. Frontiers in Algology and Algal Biotechnology, Visva-Bharati (A Central University), Santiniketan, West Bengal, 15-17, November, 2013.
 - i. Title: *On the structure and reproduction of two freshwater red algae new to India*
10. Marine Algal Research in India – Prospect and Retrospect, National Facility for Marine Cyanobacteria, Bharathidasan University, Tiruchirappalli, 16-18, August 2001.
 - i. Title: *Histochemical and Ultrastructural studies on the alginophyte Cystoseira trinodis*
11. Phycology in the New Millennium, Centre for Advanced Studies in Botany, University of Madras, Chennai, 1-3 March 2000.

- i. Title: *Tuomeya americana* (Kuetzing) Papenfuss, a fresh-water red alga, new to India
- ii. Title: Histochemical and Ultrastructural studies on the Alginophyte, *Sargassum wightii* Greville
- 12. Seaweeds and their Utilization, Madurai Kamaraj University, 9-11, May 1998.
 - i. Title: Transmission electron microscopic studies on the Alginophyte *Sargassum wightii* Greville with reference to vesicles
- 13. Recent Trends in Algal Research, Department of Botany, Andhra University, Visakhapatnam, March 6-8, 1997.
 - i. Title: On the structure and reproduction of *Batrachospermum umamaheswararaoi* sp. nov.
 - ii. Title: The Structure and reproduction of *Sirodotia iyengarai* sp. nov.”

Conferences and Workshops Attended

1. Workshop on “Re-envisioning Environmental Education and the Craft of Teaching, Learning and Research” organized by Centre for Environmental Studies, Lady Doak College, Madurai, 19 – 22 August, 2015.
2. National Symposium on 'Limnology in India', organized by Krishnamurthy Institute of Algology and Department of Botany, R. M. Vivekananda College, Mylapore, Chennai, 17-19 Aug 2002.
3. National Seminar on 'Biotechnological and Immunological Strategies for Research', Department of Biotechnology, University of Madras, Chennai, 15-16 March 2001.
4. National level workshop on ‘Gracilaria species from Indian Shores’, conducted by Krishnamurthy Institute of Algology at the Department of Botany R.M. Vivekananda College, Chennai, 14-19 May 2001.
5. National Symposium on 'Eco-Friendly Approaches for Plant Disease Management' along with the 53rd Annual Meeting of Indian Phytopathological Society and the 12th Annual Meeting of Indian Society of Plant Pathologists, Centre for Advanced Studies in Botany, University of Madras, Chennai, 22-24 Jan 2001.

Resource Person in Conferences/Workshops etc.

1. International Symposium on “Biodiversity, Biology and Biotechnology of Algae (ISBBBA-2020)” organized by Centre for Advanced Studies in Botany, University of Madras, Chennai, 8-10 January, 2020.

2. National conference on “Biodiversity, Biology and Biotechnology of Algae” organized by Centre for Advanced Studies in Botany, University of Madras, Chennai, 9-10 January, 2017.
3. Workshop on “Diatom” Organized by Krishnamurthy Institute of Algology, At the Centre for Advanced Studies in Botany, University of Madras, Chennai, 5 - 8 March, 2014.
4. Workshop on “Freshwater algae Collection, Identification and Isolation” Organized by Department of Botany, Madras Christian College, Chennai, with financial support from DBT Star College, New Delhi, September, 2013.
5. Participated as Resource Person in the National level workshop on “Taxonomy of Freshwater Algae” organized by Krishnamurthy Institute of Algology at the Centre for Advanced Studies in Botany, University of Madras, Chennai, 6-11 May 2013.

Work Experience:

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| June 2013-Present: | Assistant Professor, Department of Botany
Madras Christian College, Chennai,
Tamil Nadu, India |
| Nov. 2004 – Feb 2013: | Postdoctoral Research Associate,
Research Centre for Biodiversity,
Academia Sinica, Taiwan |
| 2002 – 2004: | Consultant, Business intelligent Unit,
Reliance InfoTech, Tamil Nadu, India |

Administrative Experience in MCC

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| 2015 - 2019: | Assisted College Admission committee |
| 2014 - 2018: | Member of Department Admission committee |
| 2015 - Present: | ARC member |
| 2014-2015: | ARC Co-convener, Madras Christian College |