

**JAMAL MOHAMED COLLEGE**  
**TIRUCHIRAPPALLI - 620 020, TAMIL NADU, INDIA**

**Dr. S. MOHAMED HUSSAIN**

**Designation :** Assistant Professor in Zoology

**Date of Birth:** 09.11 .1982

**Qualification:** M.Sc., M.Phil., Ph.D.



**Google scholar overall citations** – 114

**h index** – 7

**i10 index** – 7

**Cumulative impact factor** – 8.446

**Research Gate (Germany) RG Score** – 8.95

---

**Address for Communication:**

**Office:**

PG & Research Department of Zoology,

Jamal Mohamed College (Autonomous)

Tiruchirappalli – 620 020

Tamil Nadu, INDIA

Email: [mdhussainjmc@gmail.com](mailto:mdhussainjmc@gmail.com)

**Residence:**

39, Muslim Street, II Lane

Kajamalai,

Tiruchirappalli – 620 023

Tamil Nadu, INDIA

Mobile: +91 99442 83849

---

**Educational Qualifications:**

<b>Degree</b>	<b>University/College</b>	<b>Year of Passing</b>
Ph.D.	Annamalai University	2013
M.Phil.	Annamalai University	2008
M.Sc.	Annamalai University	2006
B.Sc.	Jamal Mohamed College	2004

**Departmental Placement Officer:**

Serving as Departmental Placement officer since 2015 till date

**Teaching Experience:**

Working as Assistant Professor, in the Department of Zoology, Jamal Mohamed College from 14.06.2012 to till date, and handling classes for UG, PG and M.Phil., Programmes (Together with DEENIYATH EDUCATION Classes)

**Subjects Taught:**

*Undergraduation:* Biology of Invertebrates, Biology of Chordates, Immunology, Bioinformatics, Microbiology and Biotechnology

*Postgraduation:* Biology of Invertebrates & Chordates, Cell Biology, Molecular Biology, Developmental Biology, Microbiology, Biotechnology and Immunology

*M.Phil. level:* Molecular Biology

### Title of Thesis:

#### Title of the Ph.D. Thesis

ISOLATION AND CHARACTERIZATION OF A SULFAMINE FROM THE BLACK TUNICATE *PHALLUSIA NIGRA* (SAVIGNY, 1816) AND ITS ROLE IN APOPTOSIS OF MCF- 7 BREAST CANCER CELL LINE

#### Title of the M.Phil., Thesis

SALMONELLA A SEA FOOD BORNE PATHOGEN

### Area of Research

Molecular Phylogeny, Genetic Diversity, Cancer Biology, Cell signaling, Drug Discovery- Isolation, Purification and Biochemical Characterization of Secondary metabolites from Animal Source

### Research Advisership:

Name of the Course	Ref. No. & Year	Name of the University
Ph.D.	012893/Ph.D./K12/Zoology/R.A./30.11.20	Bharathidasan University
M.Phil.	34880/M.Phil./R.A./Zoology/2014/Dated 09. 10. 2014	Bharathidasan University

### Research Experience

- Awarded Junior Research Fellowship by MoES, (Govt. of India, New Delhi), at Annamalai University (February 2009 – January 2011).
- Awarded Senior Research Fellowship by MoES, (Govt. of India, New Delhi), at Annamalai University (February 2011 – January 2012).

### Research Supervision/Guidance

Name of the Course	Completed	On going
Ph.D.	--	--
M.Phil.	16	02
M.Sc.	11	03
UG/others	01	01

### Research Project (Completed)

S.No	Title of the Project	Amount Sanctioned	Funding Agency	Year of Starting	Year of Completion
1.	SCREENING OF ANTIBACTERIAL POTENTIAL FROM SEA STARS OF THE GULF OF MANNAR AGAINST SELECTED HUMAN URINARY TRACT INFECTIOUS PATHOGENS	4,45, 000/-	UGC	2017	2019

### Academic Bodies (Board of Studies etc.)

1. **Member** – Doctoral Committee for Ph.D. Programme, Bharathidasan University.
2. **Member**-Board of Studies in Zoology, Jamal Mohamed College.
3. **Subject Expert** - Board of Studies in Zoology, Hajee Karutha Rowther Howdia College, Uthamapalayam from 2016 – 2018.

### Seminar/Conferences/Workshop/ Endowment Organized:

1. Organized UGC sponsored National Seminar on “Advances in Animal Science for Sustainable Development” during 15<sup>th</sup> February 2018 at Department of Zoology, Jamal Mohamed College, Tiruchirappalli, India.
2. Organized Dr. P. Shahul Hameed Endowment Lecture on “**EFFICACY OF MARINE RESOURCES**” during 10<sup>th</sup> January 2019 at Department of Zoology, Jamal Mohamed College, Tiruchirappalli, India.

### Acted as Resource Person:

S.No.	Name* of the Seminar / Conference/Workshop/ Science Congress	Role	Date(s) DD-MM-YYYY
1	Workshop on DNA separation Technique organized by the Department of Zoology, Jamal Mohamed College, Tiruchirappalli.	Resource Person	13. 03.2021.
2	II International Conference (online) on challenges to Environment and Health organized by the Department of Zoology, Jamal Mohamed College, Tiruchirappalli.	Chair Person	18 &19 .11.2020
3	“Online Training on Electrophoresis organized by the Department of Zoology, Jamal Mohamed College, Tiruchirappalli.”	Resource Person	09. 08.2020.
4	International Conference CUM Webinar on “Recent Innovation in Biosciences” organized by the Department of Zoology, Holycross College, Trichy	Chair Person	07. 02. 2018
5	State level National children’s science congress held at K.P.R. College, Coimbatore	Evaluator	10-11-2018
6	24 <sup>th</sup> National Children’s Science Congress by NCSTC at MAM College of engineering, Trichy	Evaluator	30.11.2016
7	National Seminar on Frontiers in Microbiology and Biotechnology, Jamal Mohamed College	Resource Person	05. 03. 2016

### Orientation / Refresher Courses attended:

S.No.	Orientation / Refresher Course	Institution where attended and place	Date(s) DD-MM-YYYY
1	Orientation	Bharathidasan University Tiruchirappalli - 620 023	20-05-2014 to 16-06-2014
2	Refresher	Bharathidasan University Tiruchirappalli - 620 023	26-10-2017 to 15-11-2017
3	Refresher	Madurai Kamaraj University Madurai – 625 021	20-10-2021 to 02-11-2021

Paper Publications (in International Journals)	: 16
Book chapter	: 01
Monograph	: 01
Gene sequences submitted to NCBI database	: 09
Research paper presented in Seminars	: 05
Seminars / Training Programmes / Workshop/ Symposium / Webinar Attended	: 39

### Publication of Research Articles:

1. **Mohamed Hussain Syed**, Ananthan Gnanakkan and Sivaperumal Pitchiah, 2021. Exploration of acute toxicity, analgesic, anti-inflammatory and anti-pyretic activities of the black tunicate, *Phallusia nigra* (Savigny, 1816) using mice model. Environmental Science and Pollution Research, 28:5809–5821. **Impact Factor (4.223)**. **Springer publications**. (ISSN 0944 -1344).
2. Pandion Kumar, Pitchiah Sivaperumal, Vajravelu Manigandan, Rajendran Rajaram and **Mohamed Hussain**, 2021. Assessment of potential human health risk due to heavy metal contamination in edible finfish and shellfish collected around Ennore coast, India. Environmental Science and Pollution Research, 28:8151–8167. **Impact Factor (4.223)**. **Springer publications**. (ISSN 0944-1344).
3. **Mohamed Hussain, S.**, M. Mohammed Muneesh, M. Sri Sathya and M. Durai, 2019. Screening of Bioactive Metabolites from the Starfish *Pentaceraster mammillatus* against Human Urinary Tract Infectious Pathogens. **International Journal of Pharmaceutical Sciences and Drug Research 2019; 11(5): 194-198**. (ISSN 0975 – 248X).
4. **Mohamed Hussain, S.**, O. Basith, K. Chamundeeswari, and M Chitra, 2019. Antibacterial Potential of Sea star *Protoreaster linckii* from Mandapam, Southeast Coast of India. Research Journal of Life Sciences, Bioinformatics, Pharmaceutical and Chemical Sciences, 5 (4): 62- 72. (ISSN 2454 - 6348).
5. **Mohamed Hussain, S.**, K, Chamundeeswari, N. Ashif, and G. Meenakshi, 2019. *In-vitro* Antibacterial Efficacy of *Astropecten indicus* against selected Human Urinary Tract Pathogens. Journal of Emerging Technologies and Innovative Research, 6 (6): 345- 349. (ISSN – 2349-5162).

6. Rajasekar, P., A. Jebanesan, Mohamed Shamsudin, I. Antony Joseph Jerald, M. Meeramaideen, **S. Mohamed Hussain** and Jeyakumar, 2015. Bioefficacy of Hexaflumuron on emergence inhibition of fourth larval stages of *Aedes aegypti*, *Culex quenequefaciatus* and *Anopheles stephensi*. *International Journal of Modern Research and Reviews*.3(6)709-710. (ISSN 2347-8314).
7. **Mohamed Hussain, S.**, R. Kanmani and S. Jayalakshmi, 2011. Antibiotic resistance of *Salmonella* sp. from seafood at Parangipettai, Southeast Coast of India. *J. Ecotoxicol. Environ. Monit* **21 (6)**: 563- 566. (ISSN: 0971-0965).
8. **Mohamed Hussain, S.**, G. Ananthan and P. Sivaperumal, 2011. Exploration of cytotoxic potential from marine ascidians *Trididemnum clinides* and *Trididemnum savignii*. *Journal of Pharmacy Research*, **4 (7)**: 2032 – 2033. (ISSN: 0974-6943).
9. Ananthan, G., **S Mohamed Hussain** and P. Sivaperumal, 2011. Antibacterial activity of the crude extract of marine ascidian *Trididemnum clinids* against clinical isolates. *J. Ecotoxicol. Environ. Monit*, **21 (6)**: 523- 526. (ISSN: 0971-0965).
10. Selva Prabhu, A., G. Ananthan, **S. Mohamed Hussain** and T. Balasubramanian, 2011. Antibacterial activity of ascidian *Phallusia Arabica* against human clinical isolates. *Journal of Applied Pharmaceutical Science*, 01 (10): 143-145. (ISSN: 2231-3354).
11. Ananthan, G., P. Sivaperumal and **S. Mohamed Hussain**, 2011. Cytotoxicity of the crude extracts of Marine ascidians (Tunicata: Ascidiacea) from Tuticorin, Southeast coast of India. *Archives of Applied Science Research*, **3 (2)** : 139 -142. (ISSN 0975-508X).
12. Ananthan, G., P. Sivaperumal and **S. Mohamed Hussain**, 2011. Antibacterial Potential of Marine Ascidian *Phallusia Arabica* Against Isolated Urinary Tract Infections Bacterial Pathogens. *Asian Journal of Animal Sciences* **5(3)**: 208-212. (ISSN 1819-1878).
13. Ananthan, G., **S. Mohamed Hussain**, P. Sivaperumal and H. Abdul Jaffar Ali, **2011**. Screening For Novel Drug Properties From Marine Tunicate Against Human Urinary Tract Pathogens. *Journal of Pharmacy Research* **4 (2)**: **356 – 357**. (ISSN: 0974-6943).
14. Sivaperumal. P., G. Ananthan and **S. Mohamed Hussain**, **2010**. Exploration of antibacterial effects on the crude extract of marine ascidian *Aplidium multiplicatum* against clinical isolates. *Int. J. Med. Med. Sci.* **2 (12)**: **382-386**. (ISSN 2006-9723).
15. Sheelaa. B., **S. Mohamed Hussain**, P. Sampath Kumar, V. K. Kalaichelvam and V. K. Venkatachalam, **2010**. Vasodilatation Effect of Latex from *Calotropis giganteantea* in Green Frog *Rana hexadactyla*. *Asian Journal of Medical sciences*, **2 (1)**: 22 -23. (ISSN: 2040-8773).
16. **Mohamed Hussain. S.**, and G. Ananthan, **2009**. Antimicrobial activity of the crude extracts of compound Ascidians *Didemnum candidum* and *Didemnum psammothodes* (Tunicata : Didemnidae) from Mandapam ( Southeast coast of India ). *Curr. Res. J. Biol. Sci.*, **1 (3)**: 168 – 171. (ISSN: 2041-0778).

### Book Chapter:

1. Ananthan G., **S. Mohamed Hussain**, A. Selva Prabhu and T. Balasubramanian, 2015. Diversity and Ecology of Sedentary Ascidians of the Gulf of Mannar, Southeast Coast of India, **Marine Faunal Diversity in India**. Taxonomy, Ecology and Conservation, Academic Press **Elsevier Publications** (I S B N: 9 7 8 – 0 -1 2 -8 0 1 9 4 8 -1), pp. 161 – 169.

### Monograph:

1. Ananthan, G., **S. Mohamed Hussain**, A. Selva Prabhu and T. Balasubramanian, 2012. Monograph on the Diversity of Sedentary Ascidians (Chordata: Urochordata) from Gulf of Mannar, Southeast Coast of India. (I S B N - 9 7 8 - 9 3 – 5 0 6 7 - 3 9 2 – 8). Annamalai University publication, Porto-Novo. 128pp.

### GENBANK SUBMISSIONS (NCBI) U. S. A.

1. *Phallusia nigra* cytochrome c oxidase subunit I gene, partial cds; mitochondrial, (GenBank Accession: JN115330).
2. *Phallusia nigra* strain **SMH1** cytochrome b (CytB) gene, partial cds; mitochondrial, (GenBank Accession: JN791272).
3. *Phallusia nigra* strain **SMH1** 18S ribosomal RNA gene, partial sequence, (GenBank Accession: JN673715).
4. *Pycnoclavella diminuta* strain **MH-JMC1** cytochrome c oxidase subunit I (COI) gene, partial cds; mitochondrial (GenBank Accession: KJ632945.1).
5. *Aplidium conicum* strain **MH-JMC2** cytochrome c oxidase subunit I (COI) gene, partial cds; mitochondrial (GenBank Accession: KJ632946.1).
6. *Trididemnum cyanophorum* strain **MH-JMC3** cytochrome c oxidase subunit I (COI) gene, partial cds; mitochondrial (GenBank Accession: KJ632947.1).
7. *Pycnoclavella diminuta* strain **MH-JMC4** 18S ribosomal RNA gene, partial sequence (GenBank Accession: KJ632948.1).
8. *Aplidium conicum* strain **MH-JMC5** 18S ribosomal RNA gene, partial sequence (GenBank Accession: KJ632949.1).
9. *Trididemnum cyanophorum* strain **MH-JMC6** 18S ribosomal RNA gene, partial sequence (GenBank Accession: KJ632950.1).

## PAPER PRESENTED IN NATIONAL AND INTERNATIONAL CONFERENCES/ SYMPOSIA AND SEMINARS

1. **Mohamed Hussain. S.**, G. Ananthan, P. Sivaperumal and A. Selva Prabhu. 2011. Screening for novel drug properties from marine tunicate against human urinary tract pathogens. International Conference on Natural Products and Biomedical Technology. Organized by Department of Biochemistry and Biotechnology Annamalai University, during 10<sup>th</sup> – 12<sup>th</sup> January.
2. **Mohamed Hussain. S.**, P.Sivaperumal and G.Ananthan. 2011. Exploration of antioxidant properties of tunic extracts from two marine ascidians, *Phallushia nigra* and *Phallushia arabica*. 98<sup>th</sup> Indian Science Congress, held at SRM University, Chennai, during 3<sup>rd</sup> – 7<sup>th</sup> January.
3. **Mohamed Hussain. S.**, and G. Ananthan, 2010. Antimicrobial activity of the crude extracts of colonial Ascidians from Mandapam (Southeast coast of India ). International Conference on Biotechnology, Food and Bioengineering - Emerging Trends and Future Prospects (ICBFBE). Organized by PRIST University and Indian Institute of Crop Processing Technology, Govt. Of India Thanjavur, Tamil Nadu, during 25 and 26 Feb.
4. Ananthan. G., M.M. Karthikeyan and **S. Mohamed Hussain**, 2010. Heavy metal accumulation in marine sponges from Palk Bay, Southeast coast of India. National seminar on advances in Biological sciences sponsored by UGC, held at Department of Zoology, Annamalai University, during 22<sup>nd</sup> – 23<sup>rd</sup> January.
5. **Mohamed Hussain, S.**, S. Jayalakshmi and G. Ananthan, 2009. Antibiotic Resistance of Salmonella spp. Isolates from sea Foods. Advances in Applied Zoology. Organized by Ayya Nadar Janaki Ammal College, Sivakasi, during 30<sup>th</sup> -31<sup>st</sup> March.

## SEMINARS/ TRAINING PROGRAMMES / WORKSHOP/ SYMPOSIUM / WEBINAR ATTENDED

1. Participated in Science academies lecture workshop on Thrust Areas in Biosciences organized by Department of Biotechnology, Cauvery College for Women, Tiruchirappalli from 22<sup>nd</sup> to 23<sup>rd</sup> February 2022.
2. Participated in the faculty Development Programme organized by PG and Research Department of Zoology and IQAC, Jamal Mohamed College from 24<sup>th</sup> to 29<sup>th</sup> January 2022.
3. Participated in the Faculty Development Programme on Quality enrichment Strategies for higher education Institutions organized by IQAC, Sri Sarada College for women, Salem from 05<sup>th</sup> to 12<sup>th</sup> January 2022.
4. Participated in the online webinar Series – I on “ Cytogenetics – An Introduction” organized by the P.G. and Research Department of Biotechnology, Jamal Mohamed College, Thiruchirappalli on 25<sup>th</sup> August 2021.

5. Participated in the Faculty Enrichment programme on “ Art of writing in Indexed Journal Publications” organized by the Internal Quality Assurance Cell, Jamal Mohamed College on 28<sup>th</sup> July 2021.
6. Participated in the online Faculty Enrichment programme organized by the Internal Quality Assurance Cell, Jamal Mohamed College, Trichy from 21<sup>st</sup> to 25<sup>th</sup> June 2021.
7. Participated in the Faculty Development Programme on “E-Content Development” organized by the Internal Quality Assurance Cell, Jamal Mohamed College from 30-06-2020 to 04-07-2020.
8. participated in the “ONLINE WORKSHOP ON VERMITECHNOLOGY” (DBT star - Student Enrichment Programme) organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on 11<sup>th</sup> July 2020.
9. participated in the “ONLINE WORKSHOP ON INSECT PEST MANAGEMENT” (DBT star - Student Enrichment Programme) organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on 10<sup>th</sup> July 2020.
10. participated in the Webinar on “National Education Policy - 2020” organized by Internal Quality Assurance Cell, Jamal Mohamed College on 08<sup>th</sup> August 2020.
11. Participated in the “online workshop on methods in protein separation and quantification” organized by the P.G and Research Department of Zoology, Jamal Mohamed college, Tiruchirappalli on 7<sup>th</sup> August 2020.
12. participated in the Online Training on Microtechnique (DBT star - Student Enrichment Programme) organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on 08<sup>th</sup> July 2020.
13. Participated in State Level Seminar on Conservation of Biological Diversity held at P.G. and Research Department of Zoology, Periyar E.V.R. College, Trichy on 5<sup>th</sup> March 2019.
14. UGC-CPE Sponsored Two-Days Workshop on Professional Development for Academic Leadership in Curriculum Design, Internal Quality Assurance Cell, Jamal Mohamed College, Trichy on 18<sup>th</sup> and 19<sup>th</sup> January 2019.
15. Participated in Two- Day Science Academies’ Lecture Workshop on Recent Trends in Applied and Molecular Endocrinology held at Holy Cross College, Tiruchirappalli on 26<sup>th</sup> and 27<sup>th</sup> September 2018.
16. Participated in One Day MHRD Draft proposal for Higher Education Commission of India, Internal Quality Assurance Cell, Jamal Mohamed College, Trichy on 14<sup>th</sup> July 2018.
17. Participated in One Day Workshop on Writing Winnable Project Proposals, Internal Quality Assurance Cell, Jamal Mohamed College, Trichy on 23<sup>rd</sup> June 2018.
18. Participated in NLP Based Faculty Empowerment Programme, Internal Quality Assurance Cell, Jamal Mohamed College, Trichy on 17<sup>th</sup> - 20<sup>th</sup> June 2018.



19. Participated in International Seminar on Molecular biology on Underpinning to life Sciences, Farook College, Kozhikode, Kerala on 8<sup>th</sup> and 9<sup>th</sup> January 2018.
20. Participated in International Conference on Innovations and Challenges in Biomedical Science Research, Holy Cross College, Trichy on 12<sup>th</sup> - 14<sup>th</sup> December 2017.
21. Participated in Workshop on 'Plant tissue culture techniques' held in Dept. of Botany, St. Joesph's College, Trichy on 8<sup>th</sup> February 2017.
22. Participated in Workshop on 'Climate change impact on the Marine Environment' held in the Dept. of Marine Science, Bharathidasan University, Trichy on 2<sup>nd</sup> and 3<sup>rd</sup> February 2017.
23. Participated in UGC sponsored National Seminar on Environmental Challenges to Climate Change organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on 14<sup>th</sup> October 2016.
24. Participated in National Conference on 'Environment and Resource Management, organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on March 6, 2014.
25. Participated and presented the National Conference on 'Water Resources Management in Tamilnadu organized by the P.G. and Research Department of Zoology, Jamal Mohamed College, Thiruchirappalli on March 6, 2013.
26. Participated in Workshop on "Digital alternatives to Animal Dissections and Experiments" Organised by Mahatma Gandhi – Doerenkamp Centre (MGDC) for alternatives to Use of Animals in Life Science Education, Bharadhudasan University on 17<sup>th</sup> august 2013.
27. Participated in National Conference on "Current Challenges in Environment" Organised by P. G. and Research Department of Zoology and Association of Environmental Analytical Chemistry of India (AEACI) on 7<sup>th</sup> and 8<sup>th</sup> March 2013.
28. Participated in a Two Day Faculty Development Programmme on soft skills" Organised by the Internal Quality assurance Cell, Jamal Mohamed College (Autonomous) on 4<sup>th</sup> and 5<sup>th</sup> January 2013.
29. Participated in National Workshop on "*In – Vitro* Toxicology Adopting integrated discrete multiple Organ Co - Culture" Organised by Dorencamp- Zbinden Foundation, Switzerland, UGC- SAP Department of Endocrinology, University of Madras, CSIR, New Delhi and MGDC – Bharadhidasan University on 16<sup>th</sup> - 18<sup>th</sup> February 2011.

30. Attended hands - on Training Programme and learnt research technique like cell culture, RT – PCR, Western Blot, ELISA, Gelatin Zymography and Florescent microscopy at Department of Endocrinology, Dr. ALM. Post Graduate Institute of Basic Medical sciences from 06<sup>th</sup> February to 25<sup>th</sup> May 2012.
31. Participated in National Seminar on “Endocrine and Metabolic Disorders” Organized by Department of Endocrinology, Dr. ALM. Post Graduate Institute of Basic Medical sciences on 9<sup>th</sup> March 2012.
32. Attended hands - on Training Program and acquired skills on various aspects of bioprospecting for pharmaceutical compounds from animal source, relevant instrumentations, autopsy and biopsy techniques at Central Institute of Fisheries Education (CIFE), Mumbai during 8<sup>th</sup> April to 4<sup>th</sup> June 2011.
33. Participated in International Symposium on “ Cardiovascular Disease Prevention” Organized by Faculties of Medicine and Marine Sciences, Annamalai University on 21<sup>st</sup> & 22<sup>nd</sup> February 2011.
34. Participated National Symposium on Climate Change and Marine Biodiversity (CCMB). Organized by Dept. of CAS in Marine Biology, Annamalai University on 26<sup>th</sup> Feb 2010.
35. Participated in the 3<sup>rd</sup> National Workshop on “Recent Trends in Nano –Biotechnology and Nanotechnology Instrumentation” on 17<sup>th</sup> – 19<sup>th</sup> September, 2009. Organized by Dept of Plant Biology and Biotechnology, presidency college, Chennai and IIT Chennai on FT – IR, GC – MS, UV – VIS, FTIR, NMR, Spectrometers, XRD, HR – TEM and HR – SEM.
36. Participated in “Summer Training Programme on Bioprocess Technology (Enzyme Technology)” held on 25<sup>th</sup> – 29<sup>th</sup> May 2009. Organized by centre of advanced study in Marine Biology, Annamalai University, and Parangipettai.
37. Participated in Training programme on **Histamine Analysis**, organized by Central Institute of Fisheries Technology (CIFT), Kochi, From 14<sup>th</sup> – 15<sup>th</sup> March 2006.
38. Participated in a One – Day seminar on “Pollution Control” organised by CAS in Marine Biology Annamalai University, Parangipettai on 19<sup>th</sup> March 2005.
39. Participated in Introductory Course in **Fishery Biology**, organized by Central Institute of Fisheries Nautical and Engineering Training (CIFNET), Kochi, From 21<sup>st</sup> – 22<sup>nd</sup> August 2003.