

**Dr. S. BASKARAN, Ph.D**

Assistant Professor  
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**EDUCATION**

PhD Zoology	Madurai Kamaraj University Madurai, TN, India	Highly commended	August 2009–July 2015
MPhil Zoology	Thiagarajar College Madurai Kamaraj University Madurai, TN, India	Marks: 77.0%	May 2008–April 2009
MSc Zoology	Thiagarajar College Madurai Kamaraj University Madurai, TN, India	Marks: 82.4%	May 2006–April 2008
BSc Zoology	Vivekananda College Madurai Kamaraj University Madurai, TN, India	Marks: 76.0%	May 2003 – April 2006

**TEACHING EXPERIENCES**

Assistant Professor	PG & Research Dept. of Zoology V.O. Chidambaram College Tuticorin 628 008	December 2022 - Present
Assistant Professor	Department of Biotechnology The Madura College, Madurai	August 2019-December 2022
Assistant Professor	Saiva Bhanu Kshatriya College Aruppukottai, Virudhunagar (M.Sc., Zoology)	August–December 2018
Assistant Professor	The Gandhigram Rural Institute- Deemed University, TN, India (M.Sc., Zoology)	July 2016–April 2017
Guest Lecturer	Bharathidasan University, TN, India (M.Sc., Life Science & Animal Biotechnology)	August 2015–March 2016

**RESEARCH EXPERIENCES**

Madurai Kamaraj University, TN	<b>Research Associate</b>	May 2017–April 2018
Thiagarajar College Madurai Kamaraj University, TN	<b>Junior Research Fellow</b> (For the project of DNA Characterization of <i>Odontotermes</i> )	May 2008–April 2009

***assmuthi* (Isoptera: Termitidae)**

Funded by University Grants Commission

-Rajiv Gandhi National Fellowship

Madurai Kamaraj  
University, TN  
India

**Research Fellow**

(For preliminary behavioural  
observation of Chiroptera in wild)

August 2009–March 2010

**Junior Research Fellow**

March 2010–March 2011

**Senior Research Fellow**

March 2011–March 2014

(For the project of study on  
behavioural ecology and clock genes  
in the Indian flying fox *Pteropus giganteus*)  
Funded by UGC-RGNF

**RESEARCH PROJECTS****Ph.D. Study on Behavioural Ecology and Clock Genes in the Indian Flying Fox *Pteropus giganteus***

*Pteropus giganteus* roosts at branches of trees, majority of the individuals are directly exposed to day light. Another major factor that may affect their activity is rain. When rain occurred during daytime, majority of individuals wrapped the body with their wing membranes; after rain cessation, they exhibited grooming behaviours for few minutes to remove the water droplets. Most of the individuals utilized water droplets that remains on wing membrane, tree branches, and leaves for quench thirst. A significant number of emergence flights were also found in all categories (low, moderate and heavy) of rain. Moreover, the histological studies confirmed that water proof agent “sebum” predominantly secrete over wing membrane of the study species particularly during rain. It may help to protect body during rain. Behavioural observation in wild condition revealed that *P. giganteus* does not have deep and continuous sleep due to interrupt of these abiotic factors. Even though bats activity and rest patterns are influenced by the various factors, they did not affect their 24 h cycle. The molecular studies were carried out to amplify the Clock gene from constructed bat genomic library using BAC. I also computationally analyzed major clock genes of model eukaryotes which were retrieved from ENSEMBL and constructed phylogenetic tree to find genomic variation between bats and model eukaryotes. The model eukaryotic clock genes exon numbers were highly diverged from lower organism to higher vertebrates. These exon numbers variations might cause by alternative splicing variation, thus the same clock genes functionally modified between the model eukaryotes.

**M.Phil. DNA Characterization of *Odontotermes assmuthi* (Isoptera: Termitidae)**

The study was carried out to investigate the genetic variations among *O. assmuthi* at different kinds of habitats. The fingerprinting technique RAPD (Random Amplified Polymorphic DNA) was used for finding genetic diversity and constructed phylogenetic tree using neighbor joining method. The study revealed establishment of *O. assmuthi* in diverse habitats with excellent adaptability as indicated by high gene flow and polymorphism.

**M.Sc. Detection of Pathogenic Organisms and Adulterants in Milk and Milk Products**

Bacterial pathogens are major etiological agents of diseases related to the consumption of dairy products and represent a major public health problem in developing countries. The conventional method was followed to detect the bacterial pathogenic organisms in milk and milk products, in addition, adulterants also were tested. A total of 12 different pathogenic

organisms including *Escherichia coli*, *Staphylococcus aureus*, *Salmonella typhi* were isolated and high frequency of pathogen found in raw milk collected from semi-urban areas.

## **PUBLICATIONS**

### **(\* Correspondence)**

1. Baheerathan Murugavel, Anbalagan Rathinakumar, Subbian Baskaran, Ganapathy Marimuthu, Almut Kelber, Hema Somanathan. Effect of artificial light on activity in frugivorous bats (Pteropodidae). *J Ethol* **41**, 91–101 (2023). (<https://doi.org/10.1007/s10164-022-00771-0>)
2. Steffi Christiane Ramesh, Subbian Baskaran, Uthandakalaipandian Ramesh, Thangavel Karuppudurai (2022). Neuropsin (OPN5): A Non-visual UV Sensitive Photoreceptor Gene Expression Pattern Among Mega and Micro Bats. *International Journal of Genetics and Genomics*, 10(1): 21-31. (<https://doi.org/10.11648/j.ijgg.20221001.14>).
3. Anbalagan Rathinakumar, Murugavel Baheerathan, Barbara A. Caspers, Joseph J. Erinjery, Perumalswamy Kaliraj, **Subbian Baskaran**, and Ganapathy Marimuthu (2021). Male chemical signalling to recruit females in the Indian short-nosed fruit bats *Cynopterus sphinx*. *Acta Chiropterologica*, 23(1): 81–92, 2021. (<https://doi.org/10.3161/15081109ACC2021.23.1.007>)
4. **\*S. Baskaran**, A. Rathinakumar, J. Maruthupandian, P. Kaliraj and G. Marimuthu (2016). The effect of daytime rain on the Indian flying fox (Mammalia: Chiroptera: Pteropodidae *Pteropus giganteus*). *Journal of Threatened Taxa* 8(2) 8499-8502 (<https://doi.org/10.11609/jott.1959.8.2.8499-8502>).
5. A. Rathinakumar, **S. Baskaran**, G. Marimuthu (2016). Foraging of the Indian Short-nosed Fruit Bat *Cynopterus sphinx* on banana in shops and on the pieces dropped by monkeys at a temple. *Journal of Threatened Taxa* 8(13) 9579–958. (<http://dx.doi.org/10.11609/jot.2622.8.13.9579-9583>)
6. J. Maruthupandian, P. Vimal, **S. Baskaran**, and G. Marimuthu (2016). Rainfall is an initiating factor and food availability is a conserving factor of reproductive season in the Indian flying fox *Pteropus giganteus*. *Indian Journal of Natural Sciences* 6(34): 10526-10533 ([http://tnsroindia.org.in/JOURNAL/issue34/ISSUE%2034%20PART%201%20\(1\).pdf](http://tnsroindia.org.in/JOURNAL/issue34/ISSUE%2034%20PART%201%20(1).pdf))
7. **S. Baskaran**, P. Kaliraj, J. Maruthupandian, G. Marimuthu and V. Elangovan (2015). Influence of rain on activity of the Indian Flying Fox *Pteropus giganteus*. *Indian Journal of Science* 15(44): 6–12. (The result image appeared in cover page of this journal) ([http://www.discoveryjournals.org/science/current\\_issue/2015/A38.pdf](http://www.discoveryjournals.org/science/current_issue/2015/A38.pdf))
8. **S. Baskaran**, G. Marimuthu, P. Gunasekaran and J. Sridhar (2013). Prevalence and divergence of clock genes in model eukaryotes. *International Journal of Current Trends in Research* 2(1): 141–146.

9. **\*S. Baskaran**, T. Karupudurai, A. Rathinakumar, M. Baheerathan and Steffi Christiane. A range extension of lesser woolly bat *Rhinolophusbeddomei* (Chiroptera: Rhinolophidae) in Sirumalai Foothills (**Under review**)

### **SEQUENCES SUBMISSION IN NCBI**

No.	GenBank ID	Gene	Organism	Authors
1	KU900864.1	Clock-like gene (partial)	<i>Pteropus giganteus</i>	S. Baskaran, P. Vimal, and G. Marimuthu
2	MG962350	Cytochrome c oxidase subunit 1 (partial)	Hipposideros spp.	T. Karupudurai, S. Baskaran and R. Steffi Christiane
3	MH036746.1	Cytochrome c oxidase subunit 1	<i>Rhinolophusbeddomei</i>	S. Baskaran, T. Karupudurai and R. Steffi Christiane
4	MH036747.1	Cytochrome b	<i>Rhinolophusbeddomei</i>	S. Baskaran, T. Karupudurai and R. Steffi Christiane

### **MEMBERSHIP IN SCIENTIFIC BODY**

1. Member in International Society of Chronobiology (ISC)
2. Life Member in Indian Society of Chronobiology (InSC)
3. Life Member in Ethology Society of India (ESI)
4. Member in VAAVAL-CIBRES

### **SEMINARS/CONFERENCES/WORKSHOPS ORGANIZED**

S. No	Programme	Organized at & on	Funding Agencies
1.	Onsite Workshop on Preservation and Processing of Biological Specimens	Department of Biotechnology, The Madura College held during 17 <sup>th</sup> – 19 <sup>th</sup> February, 2021	Government Museum, Madurai, Tamil Nadu and Madura College Board
2.	Virtual Seminar on Biotechnology in Human Welfare	Department of Biotechnology, The Madura College between 4 <sup>th</sup> and 5 <sup>th</sup> January, 2021	Madura College Board
3.	State Level Seminar on Science and Technology	Paari Trust, M. Subbulapuram, Theni held on	Paari Trust, M. Subbulapuram, Theni
4	45 <sup>th</sup> Aqua Terr Annual Conference on Biological Sciences	School of Biological Sciences, Madurai Kamaraj University between 27 <sup>th</sup> and 28 <sup>th</sup> February, 2014	INSA
5.	44 <sup>th</sup> Aqua Terr Annual Conference on Biological Sciences	School of Biological Sciences, Madurai Kamaraj University held on 28 February, 2013	INSA
6.	43 <sup>th</sup> Aqua Terr Annual	School of Biological Sciences,	INSA

	Conference on Biological Sciences	Madurai Kamaraj University held on 28 February, 2012	
7.	National Science Day and First BioForum Annual Conference on Biological Sciences	Department of Biotechnology, The Madura College, Madurai	Madura College Board, Madurai and Vaaval-CIBRES, Coimbatore

### INVITED TALKS

1. Invited as resource person for delivering a talk on “Virome and Bats: A true fact” for the programme of Recent Trends in Industrial Biotechnology held by the Department of Industrial Biotechnology, The American College, Madurai on 16 March, 2021.
2. Invited to deliver a talk on “Science and Technology Conference 2016” organized by Sacred Heart College, Tripattur, Tamil Nadu on 19 November, 2016
3. Invited to deliver a e-talk on “Importance of Bat Research” organized by Tamil Nadu Museum – Madurai region, Madurai on 12 November, 2020
4. Invited as resource person for the webinar on World Environment Day organized by Hindusthan College of Engineering and Technology, Coimbatore and delivered a talk on “Behavioural Ecology of Bats” on 05 June, 2021
5. Invited as resource person for the webinar on “Recent Trends in Life Sciences” by JA College for women, Theni and delivered a talk on “Behavioural Ecology of Fruit Eating Bats”.
6. Invited as resource person for delivering a lecture on “Behavioural Ecology of the Indian Flying Fox *Pteropus giganteus* in the National Conference on Anthropology: Biological Diversity and Affinities –a critical rethinking of the enduring issues in India organized by St. Joseph University, Nagaland during 17<sup>th</sup> – 18<sup>th</sup> March, 2022.
7. Invited as resource person for delivering lecture on “Bat Guano as Fertilizers” in the summer training programme (under DBT star college scheme) on Organic Gardening for Sustainable Development and Identification of Wild Vegetables during 11<sup>th</sup> – 15<sup>th</sup> July, 2022 organized by Department of Botany, Vivekananda College, Madurai.
8. Invited as resource person for delivering a lecture on “Social Activities of Higher Education” in the Students Induction Programme during 24<sup>th</sup> – 26<sup>th</sup> August, 2022 organized by Department of Tamil, Government Arts and Science College, Thirumangalam, Madurai

### ACADEMIC AWARDS AND HONOURS

1. Received **Young Scientist Award** 2022 honored by St. Joseph University, Nagaland associate with DRDO, DST-SERB, INSA
2. Outstanding success in **State Eligibility Test (SET)** 2012 for lectureship in the subject of **LIFE SCIENCE** conducted by Bharathiyar University, Coimbatore, Tamil Nadu as a agency for Government of Tamil Nadu on 07.10.2012
3. Award of **University Grants Commission-Rajiv Gandhi National Fellowship (RGNF)** to support both M.Phil (2008–2009) and Ph.D (2010–2014) programmes  
**Junior Research Fellow:** 2008–2009 & 2010–2011  
**Senior Research Fellow:** 2011–2014.
4. Prestige award of UGC for **M.Phil.** Student rank holder.
5. Distinguished project award of Tamil Nadu State Council for Science and Technology (**TNSCST**) for a project of “Isolation, identification and antibacterial activity of probiotics in milk”.
6. Best paper presentation award in **42<sup>nd</sup> ESI Annual conference and National symposium on Animal Behaviour, Biodiversity and Human Future** which is held at University of Calicut, Calicut, Kerala during 4-6 December, 2018

**TECHNIQUES KNOWN****Biological Sciences:**

- Bat behavioural observations in both wild and captivity
- Mist netting, tagging, radio telemetry and Bio-acoustic
- Bat species identification (Morphometry, Skull, and Baculum preparation)
- Chronobiology Techniques (Active watch, ABPM, Chronobiology Recorder, Tilt motion sensor)
- Biostatistics (SIGMA STAT, SPSS, PAST)
- Microbial techniques (Plating, staining)
- Isolation of DNA, RNA, Plasmid, Protein
- Gene Cloning (TA, BAC cloning), PCR (RAPD, Colony), PFGE (Pulse Field Gel Electrophoresis) Microscopic (Light, Fluorescent and Scanning Electron Microscope)
- Colorimeter, Electrophoresis (Agarose, PFGE)
- Chromatography (Paper and Thin layer)
- Flame photometer, Spectrophotometer, Microtome Technique

**Computer:**

- Microsoft office
- Corel Draw, Photoshop, Video editing – Adobe premiere CS6, Master effect

**LANGUAGES**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
<b>English</b>	Excellent	Excellent	Excellent	Excellent	Excellent
<b>Tamil</b>	Excellent	Excellent	Excellent	Excellent	Excellent

**SEMINARS, CONFERENCES & WORKSHOPS (2009–Present)**

1. Presented a paper titled “New distribution record and comparative description of lesser woolly bat *Rhinolophus beddomei* in the Sirumalai Hills” in **State Level Seminar on Recent Trends in Advanced Bioscience** which is held at Poombuhar college, Melaiyur, Nagai district, Tamil Nadu on 09 January, 2019.
2. Presented a paper titled “Roost diversity and species richness of bats in the Sirumalai Hills” in **42<sup>nd</sup> ESI Annual conference and National symposium on Animal Behaviour, Biodiversity and Human Future** which is held at University of Calicut, Calicut, Kerala during 4-6 December, 2018. (awarded as best poster presentation).
3. Presented a paper titled “Prevalence and divergence of clock genes in model eukaryotes” in **International Congress on Chronobiology**, Department of Zoology, University of Delhi, Delhi.
4. Presented a paper titled “Influence of rain on Emergence Flight of Indian Flying Fox *Pteropus giganteus*” in the **International workshop and Conference** on “Renewable Energy and Climate Change- Exploring opportunities for sustainable Development” organized by School of energy, Environment and Natural resources, Madurai Kamaraj university, Madurai.
5. Participated in the **International conference on Genomics Sciences**, VII Convention of Biotech Research Society, Indo-Italian workshop on Industrial and Pharmaceutical Biotechnology, at School of Biological Sciences, Madurai Kamaraj University, Madurai.

6. Presented a paper titled “Behavioural Study on Circadian Clock in the Indian Flying Fox *Pteropus giganteus*” in the **National Conference on Ethology and Evolution** at Indian Institute of Science Education and Research (IISER), Mohali, Punjab, India
7. Presented a paper titled “Daytime behaviour of the Indian Flying Fox *Pteropus giganteus*” in the **National Symposium on Behavioural Ecology** at Department of Zoology, Banaras Hindu University, Varanasi, UP.
8. Presented a paper titled “Prevalence and divergence of clock genes in model eukaryotes” in the National Science day & **44<sup>th</sup> Aqua Terr** Annual Conference on Biological Sciences at School of Biological Sciences, Madurai Kamaraj University, Madurai.
9. Presented a paper titled “Influence of Rain on emergence activity of Indian flying fox *Pteropus giganteus*” in the National Science day & **43<sup>th</sup> Aqua Terr** Annual Conference on Biological Sciences at School of Biological Sciences, Madurai Kamaraj University, Madurai.
10. Presented a paper titled “Does rain affect foraging activity of Indian flying fox *Pteropus giganteus*” in the National Science day & **42<sup>th</sup> Aqua Terr** Annual Conference on Genomics Sciences at School of Biological Sciences, Madurai Kamaraj University, Madurai.
11. Participated in the National Science day & **41<sup>th</sup> Aqua Terr** Annual Conference on Organismal & Functional Genomics at School of Biological Sciences, Madurai Kamaraj University, Madurai.
12. Presented Paper in the **National level Conference** on “Advances in Modern Biology and Environment” held at Department of Zoology, H.H.The Rajah’s Govt. College, Pudukkottai, Tamil Nadu.
13. Presented a paper titled “Rain- Structural Adaptation of Indian Flying Fox” in **12<sup>th</sup> Tamil Science Congress** conducted jointly by Periyar University, Salem and Suthesiya Arivial society, Karaikudi.
14. Participated in a **One day Workshop on wildlife**, Nature Conservation and Media Reporting held at Madurai Kamaraj University, Madurai.
15. Presented a paper titled “Does the Rain affect emergence flight of Indian Flying Fox *Pteropus giganteus*” in **Young Ecologists Talk and Interact (YETI) 2011** at the Indian Institute of Technology, Guwahati, Assam, India.
16. Participated in **Entrepreneurship Awareness** Camp Organized by Center for Entrepreneurship Development (Tamil Nadu) at School of Biological Sciences, Madurai Kamaraj University, Madurai.
17. Participated in a training program conducted by **SERB-School in Chronobiology**, Department of Zoology, North-Eastern Hill University, Shillong.
18. Participated in a training organized by **SERC-School in Chronobiology**, Evolutionary and Organismal Biology unit, Jawaharlal Nehru Center for Advanced Scientific Research at Bangalore.
19. Participated in a hands-on training in the UGC-NRCBS **Winter School on “Gene Cloning and Expression in Bacteria”** in UGC- Networking Resource Centre in Biological Sciences, School of Biological Sciences, Madurai Kamaraj University, Madurai.
20. Participated in the XXI **Winter School on “Writing Scientific Manuscript”** at UGC Networking Resource Centre in Biological Sciences, School of Biological Sciences, Madurai Kamaraj University, Madurai.
21. Participated in the **“Bat taxonomy & echolocation”** course organized by Chiroptera Conservation and Information Network of South Asia CCINSA, Zoo Outreach Organization, Wildlife Information Liaison Development, India at SBS, Madurai Kamaraj University, Madurai.
22. Participated in the **“Science Communication Workshop”** organized by The Wellcome Trust/DBT India Alliance during 11 December 2014 at Madurai Kamaraj University.

**LEADERSHIP AND EXTRA CURRICULAR ACTIVITIES****Team Leader**

1. I have been led the forum of School of Biological Sciences “Aqua-Terr” as **Organizing secretary** for two years (2012-2014).
2. I have been also led a team of village adaptation programme as tutor for teaching the village students at Vivekananda College, Madurai for one year (2005-2006)
3. Since 2012, I have been leading an educational trust as managing trustee for transferring the research knowledge to village students.

**Supervisor:**

- Project supervisor to final year master degree students of Zoology, Dept. of Biology, Gandhigram Rural Institute-Deemed University, Gandhigram.

**Projects:**

1. Study on Roost Diversity and Species Richness of Chiroptera in Selected Area of Sirumalai Hill, Dindigul
2. Visual Ecology of the Indian Short-nosed Fruit Bat *Cynopterus sphinx*
3. Influence of Bat Guano in Growth of Cow Pea *Vigna unguiculata*
4. Efficiency of Magnetite (Fe<sub>3</sub>O<sub>4</sub>) Nanoparticle in the Treatment of Chromium, Zinc, Nickel effluents

**Extra-Curricular Activities:**

1. Qualified **National Cadet Corps (NCC)** “B” certificate
2. Wild life Photography and film making

**OTHER QUALIFICATIONS**

1. Diploma in Medicinal Botany)
2. Diploma in Sericulture Technology
3. Diploma Course in Gandhian Thought)
4. Diploma Course in MS Office & DTP
5. Certificate Courses in Hygiene and First Aid
6. Certificate Course in Horticulture
7. Certificate Course in Mass Communication and Public speech
8. Type writing (Lower in English)

**REFERENCES****1. Prof. G. MARIMUTHU**

INSA-Senior Scientist

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School of Biological Sciences

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E-mail: [emailboxgm@gmail.com](mailto:emailboxgm@gmail.com)**2. Dr. P. Gopal**

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