

## Curriculum Vitae

**N. MARIMUTHU, M.Sc., Ph.D.**

Scientist D & Officer-in-Charge, General Non-Chordata Section

Zoological Survey of India

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### EDUCATIONAL QUALIFICATION

2009 - Ph.D. (Environmental Sciences - Marine Biology), Madurai Kamaraj University, India

**Thesis:** Status of Biofouling organisms and antifouling resources in the Gulf of Mannar, southeast coast of India

### PROFESSIONAL EXPERIENCES:

April 2016- March 2017

**Project Scientist** – Wildlife Institute of India (MoEFCC, Govt. of India), Dehradun, India

May 2014 – March 2016

**Project Scientist III** – National Centre for Sustainable Coastal Management (MoEFCC, Govt. of India), Chennai, India

July 2013 – May 2014

**Marine Scientist** – Gujarat Ecology Commission, Gandhinagar, Gujarat, India

April 2013 – May 2013

**Marine Scientist** (HMR Environmental Engineering Consultants, Muscat, Sultanate of Oman)

December 2011 – March 2013

**Lecturer** (Faculty of Marine Sciences, King Abdulaziz University, Jeddah, Saudi Arabia)

April 2010 – November 2011

**Project Scientist** (National Institute of Ocean Technology, Port Blair, India)

February 2009 – March 2010

**Project Technical Assistant** (National Institute of Ocean Technology, Chennai, India)

### RESEARCH EXPERIENCES:

January 2006 – January 2009

**Senior Research Fellow** - Madurai Kamaraj University, Madurai, Tamil Nadu, India

- Monitored and assessed coral reef ground truthing (Includes coral taxonomy, diversity and benthic community assessment) at Mandapam group of Islands using satellite imagery.

- Coral reef bio-physical and biodiversity analysis in the Gulf of Mannar, India.

June 2002 – January 2006

**Junior Research Fellow** - Madurai Kamaraj University, Madurai, Tamil Nadu, India

- Biofouling status (Taxonomy of fouling communities) and its biodiversity assessment in the Gulf of Mannar, Southeast coast of India.
- Invertebrate resource monitoring for isolation of bioactive compounds for antifouling analysis purpose.
- Antibiosis and bioactivity assay against dominant foulers of Gulf of Mannar.
- Role of intra-molecular interactions on the stability of adhesive protein from barnacles.

### **CERTIFICATIONS & AWARDS RECEIVED:**

March 2013 - PADI certified Assistant Instructor

April 2003 - India-Australia Training and Capacity Building project on Coral Reef Taxonomy, Survey and Monitoring – Ministry of Forests and Environment, Port Blair, India

December 2017 - Best Young Scientist Award (Fisheries & Marine Sciences) from PEARL Foundations, Madurai, India

### **SKILLS:**

- Systematics of General Non-Chordata groups (Marine) – Scleractinia and Echinodermata
- SCUBA Diving (PADI-Assistant Instructor)
- Fouling community assessment
- Multivariate Analysis (PRIMER version 7.0.10 & PAST 2.15)
- *In-situ* Coral incubation chamber with Submersible DO meter and pump (Growth rate analysis)
- *In-situ* Diving PAM-Fluorometer (Photosynthetic rate analysis)
- Bioactivity assay (EPA-Probit analysis)

### **PUBLICATIONS:**

(\*-Corresponding author) (Thomson Reuters Cumulative **IF= 18.093**)

**Marimuthu, N\*.,** Purvaja Ramachandran, Sathish, M., Dinesh, N. and Ramesh, R. 2019. Recruitment pattern of Scleractinian coral spats on neighbouring artificial substrates at Kurusadai Reef Complex, Gulf of Mannar, India. *Aquatic Ecosystem; Health and Management*, (Taylor and Francis). 22(1): 77-85 (Thomson Reuters JCR – 1.033)

**Marimuthu, N\*.,** Verma, A.K., Kumar, J.S.Y., Adhavan, D. and Satyanarayana, Ch. 2018. Integrated Coastal Zone Management Project funded Coral restoration processes in the Gulf of Kachchh – A present scenario. *Indian Journal of Geo-Marine Sciences*, 47(1): 15-19. (Thomson Reuters JCR – 0.289)

**Marimuthu, N\*.,** Kumar, J.S.Y., Raghunathan, C., Vinithkumar, N.V., Kirubakaran, R., Sivakumar, K. and Venkataraman, K. 2017. North-south gradient of incidence, distribution and variations of coral reef communities in the Andaman and Nicobar

- Islands, India. *Journal of Coastal Conservation: Planning and Management* (Springer), 21: 289-301. (Thomson Reuters JCR – 1.264)
- Wilson, J.J\*., Al-Sofyani, A.A. and **Marimuthu, N\***. 2017. Current biodiversity and ecological status of scleractinian corals of Sharm Obhur, Jeddah, Saudi Arabian coast of the Red Sea. *Marine Biodiversity* (Springer), 47(4): 1111-1121 (Thomson Reuters JCR – 1.743)
- Hawas, U.W\*., El-Kassem, L.T.A., Abdelfattah, M.S., Elmallah, M.I.Y., Eid, M.A.G., Monier, M. and **Marimuthu, N.** 2017. Cytotoxic activity of alkyl benzoate and fatty acids from the red sea sponge *Hyrtios erectus*. *Nat. Prod. Res. Part-B, Bioactive Nat. Prod.* (Taylor and Francis), 32(12): 1369-1374 (Thomson Reuters JCR - 1.928)
- Baskar, B\*., Sahu, B.K., Jayappriyan, K.R., Vasanthi, L.A., **Marimuthu, N.**, Nandakumar, P., Prabakaran, P. 2017. Assessment of heavy metal concentrations and associated resistant bacterial communities in bulk and rhizosphere soil of *Avicennia marina* of Pichavaram mangrove, India. *Environ. Earth Sci.*, (Springer) 76:58. <https://doi.org/10.1007/s12665-016-6378-7> (Thomson Reuters JCR - 1.871)
- Marimuthu, N\*.**, Purvaja, R., Robin, R.S., Tudu, D., Hariharan, G. and Ramesh. R. 2016. Spatial variations in the coral reef health of Palk Bay, southeast coast of India. *Aquatic Ecosystem; Health and Management*, (Taylor and Francis) 19(4): 360-367. (Thomson Reuters JCR – 1.033)
- Al-Sofyani, A.A., **Marimuthu, N\*.**, Wilson, J.J., Arulazhagan, P., Jeyakumar. 2016. Antifouling effect of bioactive compounds from selected marine organisms in the Obhur creek, Red Sea. *Journal of Ocean Univeristy of China*, (Springer) 15(3): 271-276 (Thomson Reuters JCR – 0.699)
- Joshi, H\*., **Marimuthu, N\***. 2015. Forbidding invasive species – A way to attain sustainability of the coastal ecosystem. *Current Science*. 108(2): 151-152. (Thomson Reuters JCR – 0.883)
- Al-Sofyani, A.A., **N. Marimuthu\***, J.J. Wilson. 2014. A rapid assessment of Scleractinian and Non- Scleractinian coral growth forms along the Saudi Arabian coast, Red Sea. *Journal of Ocean Univeristy of China*, (Springer) 13(2): 243-248. (Thomson Reuters JCR – 0.699)
- Kumar, J.S.Y\*., **N. Marimuthu\***, S. Geetha, Ch. Satyanarayana, K. Venkataraman and R.D. Kamboj. 2014. Longitudinal variations of coral reef features in the Marine National Park, Gulf of Kachchh. *Journal of Coastal Conservation: Planning and Management*, (Springer) 18(3): 167-175. (Thomson Reuters JCR – 1.264)
- Marimuthu, N\*.**, J.J. Wilson, N.V. Vinithkumar and R. Kirubakaran 2013. Coral reef recovery status of South Andaman Islands after the bleaching event 2010. *Journal of Ocean Univeristy of China*, (Springer) 12(1): 91-96 (Thomson Reuters JCR – 0.699)
- Jha, D.K., N.V. Vinithkumar, **N. Marimuthu\***, B. Baskar, A.K. Das, B.K. Sahu and R. Kirubakaran 2013. Field and GIS based assessment of Scleractinian coral cover in the Aerial Bay group of Islands, North Andaman, India. *Journal of Coastal Conservation: Planning and Management*. (Springer) 17: 671-677 (Thomson Reuters JCR – 1.264).
- Manikandan, B., J. Ravindran\*, S. Shrinivaasu, **N. Marimuthu** and K. Paramasivam. 2014. Community structure and coral status across reef fishing intensity gradients in Palk Bay

- reef, southeast coast of India. *Environ. Monitor. Assessment*, (Springer) 186(10): 5989-6002. (Thomson Reuters JCR - 1.959)
- Sawall, Y\*., A. Al-Sofyani, B. Kürten, A.M. Al-Aidaros, B.X. Hoang, **N. Marimuthu**, H.S. Khomayis, U. Sommer, W.Y. Gharbawi, M. Wahl. 2014. Coral communities, in contrast to fish communities, maintain a high assembly similarity along the steep latitudinal gradient of the Saudi Red Sea coast. *J Ecol. Ecogr.*, S4: 003. doi: 10.4172/2157-7625.S4-003 (Thomson Reuters JCR – 0.020)
- Ravindran, J\*., B. Manikandan, M. Venkatesh, R.M. Murali, **N. Marimuthu** and M.V.M. Wafar. 2014. Repercussions of embarkation wharves in Lakshadweep Islands on coral communities and their ecology. *Indian Journal of Marine Sciences*, 43(7): 1391-1400. (Thomson Reuters JCR – 0.289)
- Adhavan, D\*., Kamboj, R.D., **Marimuthu, N.**, Bhalodi, M.M. 2014. Seasonal variation and climate change influence coral bleaching in Pirotan Island, Gulf of Kachchh Marine National Park, Gujarat. *Current Science*. 107(11): 1780-1781. (Thomson Reuters JCR - 0.883)
- Al-Sofyani, A., **N. Marimuthu\*** and J.J. Wilson. 2013. Tunicate bloom in the Obhur creek of Jeddah coast, Red Sea. *Current Science*. 104(10): 1274-1275 (Thomson Reuters JCR - 0.883)
- Wilson, J.J\* and **N. Marimuthu** 2012. Post-bleaching recovery of transplanted coral nubbins in Abu Al Abyad Island of Abu Dhabi, United Arab Emirates (2012). *Galaxea, Journal of Coral reef Studies*. 14: 1-2.
- Marimuthu, N\*.**, G. Dharani, N.V. Vinithkumar, M. Vijayakumaran and R. Kirubakaran (2011). Recovery status of Sea anemones from bleaching event of 2010 in the Andaman waters. (2011) *Current Science*. 101(6): 734-736. (Thomson Reuters JCR - 0.883)
- Marimuthu, N\*.**, J.J. Wilson and A.K. Kumaraguru 2010. Reef status of Mandapam group of Gulf of Mannar. *Galaxea, Journal of Coral Reef Studies*. 12 (2): 65-75.
- Tamelander, J\*., A. Rajasuriya, Hussein Zahir, Rohan Arthur, VineetaHoon, J.K. Patterson Edward, Sarang Kulkarni, Alasdair Harris, C.N. Pandey, J. Jerald Wilson, **N. Marimuthu**, A.K. Kumaraguru K. Venkataraman, Mohamed Sazedul Islam, Mohamed Zahirul Islam, Terney Pradeep Kumara, Mohamed Farook Mohamed Fairouz, VardhanPatankar and ElrikaD'souza (2008) Status of Coral Reefs in South Asia: Bangladesh, Chagos, India, Maldives and Sri Lanka. pp. 119-130. In. Status of Coral Reefs of the world: 2008. (ed.) C. Wilkinson. Global Coral Reef Monitoring Network and Reef and Rainforest Research Centre, Townsville, Australia, 296 p.
- Kumaraguru, A.K\*., V. Edwin Joseph, **N. Marimuthu** and J.J. Wilson (2006). Scientific information on Gulf of Mannar- A Bibliography Centre for Marine and Coastal Studies, Madurai Kamaraj University, India. 656 p.
- Edward, J.K.P\*., S. Kulkarni, R. Jayabaskaran, S. Lazarus, A. Mary, K. Venkataraman, S.P. Das, J. Tamelander, A. Rajasuriya, K. Jayakumar, A.K. Kumaraguru, **N. Marimuthu**, R. Sluka and J.J. Wilson (2006). The effects of the 2004 Tsunami on mainland India and the Andaman and Nicobar Islands *In. Status of Coral Reefs in Tsunami affected countries: 2005. In. Status of Coral Reefs in Tsunami affected countries:2005.* (eds.) C. Wilkinson,

D. Souter and J.Goldberg. GCRMN, Australian Institute of Marine Science, Australia. 154 p.

#### CONFERENCES / PRESENTATIONS:

**Marimuthu, N.** 2018. Tracking decadal changes in the Palk Bay Coral community structure: A multivariate approach. Presented in the International Conference on *Status and Protection of Coral Reefs 2008*. Bangaram Island, Lakshadweep Islands, India

**Marimuthu, N\*.,** J. J Wilson and A. K. Kumaraguru. 2008. Macro-fouling status in the Gulf of Mannar, Southeast coast of India. *14<sup>th</sup> International Congress on Marine Corrosion & Fouling*. Japan Institute of Marine Engineering and the Sessile Society of Japan at Kobe International Conference Centre, Kobe, Japan.

**Marimuthu, N\*.,** J.J. Wilson and A.K. Kumaraguru. 2008. Settlement Inducing Protein Complex (SIPC) of *Balanus amphitrite* – an analysis of non-canonical weak interactions in their structural stability. p. 52. *In*. International Conference on Biofouling and Ballast water Management, organized by National Institute of Oceanography, Dona Paula, Goa, India, 98 p.

**Marimuthu, N\*.,** J.J. Wilson and A.K. Kumaraguru. 2007. Studies on bioactivity of soft corals against the barnacle, *Balanus amphitrite*. *New Frontiers in Marine Natural Product Research*, organized by National Institute of Oceanography, Dona Paulo, Goa, India.

**Marimuthu, N\*.,** J.J. Wilson and A.K. Kumaraguru. 2006. Recent Advances in Marine Antifouling Technology, organized by NIOT (India) & IBBS (UK) at National Institute of Ocean Technology, Chennai, India.

#### INVITED LECTURES:

Marimuthu, N. 2017. **Wetland Ecosystem**. Part of course work for Master Students. dated 17 January 2017. Forest Research Institute (Deemed) University, Dehradun, Uttarakhand, India.

Marimuthu, N. 2017. **Coral reef ecosystem and its associated organisms**. Part of course work for Ph.D candidates. Wildlife Institute of India (Ministry of Environment, Forest and Climate Change, Government of India), Dehradun, Uttarakhand, India.

Marimuthu, N. 2017. **Field survey methods for Coastal and Marine species and habitats**. Training for Technical staff of Forest Survey of India (Eastern Zone), dated 24-25 August 2017. A.J.C. Bose Indian Botanical Garden, Howrah, West Bengal, India.

Marimuthu, N. 2017. **Importance of SCUBA in the monitoring of marine benthic reef and associated organisms**. Seminar cum Awareness Programme on SCUBA Diving,

dated 14 September 2017. Department of Marine and Coastal Studies, Madurai Kamaraj University, Pudhumadam, Tamil Nadu, India.

Marimuthu, N. 2017. **Monitoring of Marine Benthic reef and associated organisms**. 83<sup>rd</sup> and 84<sup>th</sup> Orientation programmes, dated 22 September 2017. UGC-Human Resource Development Centre, Madurai Kamaraj University, Madurai, Tamil Nadu, India.

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