

## CURRICULUM VITAE



**Name** : **SMRITHY RAJ**  
**Date of Birth** : May, 09, 1983  
**Nationality** : Indian  
**Sex** : Male

**Address (Official)** : Research Associate  
: Department of Aquatic Biology and Fisheries  
University of Kerala  
Kariavattom  
Thiruvananthapuram  
Kerala, India.  
PIN 695035  
Kerala, India- 695581  
Mob:+91 9895354347; 8547396420,  
Email: smrithyaqb@gmail.com

**Educational Qualifications** : **PhD “Survey and mapping of exotic freshwater flora and fauna in Kerala”** (Awarded on August 2022 )  
(Aquatic Biology and Fisheries, University of Kerala)  
**MSc.** Fishery Biology and Aquaculture, (Mahatma Gandhi University) (2004 - 2008)  
**BSc.** Aquaculture, Mahatma Gandhi University (2000 - 2003)

**Earlier positions held** : **Research Assistant**  
(Department of Aquatic Biology and Fisheries University of Kerala, Trivandrum) (2021 - still continuing)  
**Research Assistant**  
(National Centre for Biological Sciences, Bangalore, Karnataka, India) (2020 - 2021)  
**Project Fellow**  
(Department of Aquatic Biology and Fisheries University of Kerala, Trivandrum, Kerala, India) (2009 – 2011)

**Teaching experience** : Assisted 14 years M.Sc. and M.Phil. Dissertation in the Department of Aquatic Biology and Fisheries, Trivandrum, India. (2009 - 2023)

**Research experience/ contributions** : 14 years in the field of taxonomy (freshwater fish and crabs, invasion biology, biodiversity documentation)  
Discovered and described four new genera and 14 new species, of which 12 freshwater crabs from the Western Ghats and two parasitic crustaceans  
(2009 - 2023)

- Professional and Training Experience** : Undergone training on Molecular Biology at National Centre for Biological Sciences, Bangalore. January 2020.
- Undergone training on the Taxonomy of Freshwater Carbs at National University of Singapore from November 13-22, 2017.
- Attended National Workshop on Taxonomic Identification of Fauna of Western Ghats organized by ZSI Regional Centre Kozhikode from 5th to 9th February 2016.
- Attended National Workshop on Integrative Taxonomy of Freshwater Fishes organized by Kerala University of Fisheries and Ocean Studies (KUFOS), Kochi from 2nd to 4th December 2015.
- Participated in Training workshop on taxonomy of brachyuran crabs conducted by Department of Aquatic biology & Fisheries University of Kerala Trivandrum from January 9-11 2013.
- Overseas collaborations (Published works)** : Faculty of Science, National University of Singapore.  
US Geological Survey, Wetland and Aquatic Research Centre USA. University of Plymouth, UK.
- Research publications** : Peer reviewed journals: 25  
Chapters in Books: 1  
Presentation to conference and seminars: 10

## Publications

Aneesh PT, Helna AK, **Raj S**, Kumar AB (2023) Finding Nemo! Description of a New Species of Branchial Fish Parasitic Cymothoid, *Elthusa Schioedte* and Meinert, 1884 (Crustacea: Isopoda), infesting *Callionymus flamentosus* Valenciennes, 1837 from the Northern Indian Ocean. *Acta Parasitologica* <https://doi.org/10.1007/s11686-023-00745-3>

Aneesh PT, Helna AK, **Raj S**, Kumar AB (2023) Description of *Elthusa aquabio* sp. nov. (Crustacea: Isopoda: Cymothoidae), a branchial fish parasitic isopod from Indian waters. *Journal of Natural History* 57(2124):1193–1205. <https://doi.org/10.1080/00222933.2023.2242099>

**Raj, S.**, Kumar, A. B. & Ng, P. K. L. (2022). New genus and two new species of semiterrestrial crab (Decapoda: Brachyura: Gecarcinucidae) from the south Western Ghats,

India. *Zoological Studies* 61:49 doi:10.6620/ZS.2022.61-49

**Raj, S.,** Devi, S. S., Joy, A. & Kumar, A. B (2021). On the reproductive biology of the invasive Armored Sailfin Catfish *Pterygoplichthys pardalis* (Castelnau, 1855) (Siluriformes: Loricariidae) from the natural drainages in Thiruvananthapuram, India. *Journal of Threatened Taxa* 13(9): 19263-19273. <https://doi.org/10.11609/jott.7164.13.9.19263-19273>

**Raj, S.,** Kumar, A. B., Tharian, J. C. & Raghavan, R. (2021). Illegal and unmanaged aquaculture, unregulated fisheries and extreme climatic events combine to trigger invasions in a global biodiversity hotspot. *Biological Invasions*, 23, 2373-2380 (2021). <https://doi.org/10.1007/s10530-021-02525-4>

**Raj, S.,** Devi, S. S., Salam, S. & Kumar, A. B. (2021). Food spectrum of two co-occurring invasive fish, *Cyprinus carpio* Linnaeus, 1758 and *Clarias gariepinus* (Burchell, 1822) in Mattupetty Reservoir, Kerala, India. *Indian Journal of Fisheries* 68(2): 33-42, DOI: 10.21077/ijf.2021.68.2.101875-05

**Raj, S.,** Pakash, P., Reghunath, R., Tharian, J.C., Raghavan, R. and Kumar, A.B. (2021). Distribution of alien invasive species in aquatic ecosystems of the southern Western Ghats, India. *Aquatic Ecosystem Health & Management*, 24(2): 58–69, 2021. DOI: 10.14321/ae hm.024.02.09

**Raj, S.,** Kumar, A. B. & Ng, P. K. L. (2021). Description of a new genus with two new species of freshwater crab (Decapoda: Brachyura: Gecarcinucidae) from the south Western Ghats, India. *Zoological Studies*, 60(14), DOI: 10.6620/ZS.2021.60-14

Anupama, V, S., **Raj, S.,** Devi, S. S. & Kumar, A. B. (2021). Diet of exotic Pirapitinga *Piaractus brachypomus* (Cuvier, 1818) from Vembanad-kole wetland, India as inferred from gut content analysis and DNA barcoding. *Asian Fisheries Science* 34 (2021):47–55.

Vilizzi, L.; Copp, G.H.; Hill, J.E.; Adamovich, B.; Aislabie, L.; Akin, D.; Al-Faisal, A.J.; Almeida, D.; Azmai, M.A.; Bakiu, R.; et al. (2021) A global-scale screening of non-native aquatic organisms to identify potentially invasive species under current and future climate conditions. *Science of the Total Environment*. 2021, 788, 147868.

Regi, S.R., **Raj, S.** & Biju Kumar, A. (2020). Trophic web structure and ecological network analysis of Sasthamkotta Lake, a Ramsar site in Kerala, India. *Journal of Aquatic Biology & Fisheries*, 8 (1): 67-75.

**Raj, S.,** Kumar, A. B., Raghavan, R. & Dahanukar, N. (2019). Amazonian invaders in an Asian biodiversity hotspot : understanding demographics for the management of the

- armoured sailfin catfish, *Pterygoplichthys pardalis* in Kerala, India. *Journal of Fish Biology*. 96 (2): 1-5. doi:10.1111/jfb.14243
- Kumar, A. B., **Raj, S.**, Arjun, C. P., Katwate, U. & Raghavan, R. (2019). Jurassic Invaders: Flood associated occurrence of arapaima and alligator gar in the rivers of Kerala. *Current Science*, 116(10): 1628–1630.
- Kumar, A. B., Schofield, P. J., **Raj, S.** & Satheesh, S. (2018). Salinity tolerance of non-native suckermouth armoured catfish (Loricariidae: *Pterygoplichthys* sp.) from Kerala, India. *Management of Biological Invasions*, 9 (1): 49–57.
- Raj, S.**, Kumar, A. B. & Ng, P. K. L. (2017). A new species of freshwater crab of the genus *Oziotelphusa* Müller, 1887(Crustacea: Decapoda: Brachyura: Gecarcinucidae) from Tamil Nadu, southern India. *Zootaxa*, 4363 (2): 225–236
- Rajesh, L., **Raj, S.**, Pati, S. K. & Kumar, A. B. (2017). The freshwater crabs (Decapoda: Brachyura) of Kerala, India. *Journal of Aquatic Biology & Fisheries*, 5: 132–153.
- Kumar, A.B., **Raj, S.** & Ng, P. K. L. (2017). Description of a new genus and new species of a completely arboreal crab (Decapoda: Brachyura: Gecarcinucidae) from the Western Ghats in India, with notes on the ecology of arboreal crabs. *Journal of Crustacean Biology*, 37 (2): 157–167. <https://doi.org/10.1093/jcbiol/rux012>
- Pati, S. K., Rajesh, L., **Raj, S.**, Sheeja, V. U., Kumar, A. B. & Sureshan, P. M. (2017). Karkata, a new genus of gecarcinucid freshwater crab with two new species, and four new species of *Pilarta* Bahir and Yeo, 2007 and *Cylindrotelphusa* Alcock, 1909 (Decapoda: Brachyura) from Kerala, India. *Journal of Natural History*, 51 (23–24): 1295–1330. <https://doi.org/10.1080/00222933.2017.1324054>
- Raj, S.**, Kumar, A. B. & Abraham, K. M. (2016). Length-weight and length-length relationship of invasive alien species, *Oreochromis niloticus* from lentic habitats of Palakkad district, Kerala. *Journal of Aquatic Biology and Fisheries*, 4: 141-146.
- Pillai, P. M., Prasannan, K., **Raj, S.** & Kumar, A. B. (2016). Length- weight relationship and condition factors of the African catfish *Clarias gariepinus* (Burchell, 1822) in Mattupetty reservoir, southern Western Ghats, Kerala, India. *Journal of Aquatic Biology and Fisheries*, 4: 81-88.
- Kumar, A. B., Regi, S. R. & **Raj, S.** (2015). Trophic structure, interactions and ecosystem attributes of Vellayani Lake, Kerala, India, with special reference to fisheries. *Journal of Aquatic Biology and Fisheries*, 3: 63-73.

Kumar, A. B., **Raj, S.**, Sureshkumar, U. & George, S. (2015). Invasion of South American suckermouth armoured catfishes *Pterygoplichthys* sp. (Loricariidae) in Kerala, India - a case study. *Journal of Threatened Taxa*, 7(3): 6987–6995. <http://dx.doi.org/10.11609/JoTT.o4133.6987-95>

Kumar, A. B. & **Raj, S.** (2012). Behaviour of Indo-Pacific humpback dolphin, *Sousa chinensis* (Osbeck) in the Ashtamudi estuary, southwest coast of India. *Journal of Marine Biological Association of India*, 54 (2): 33-38. doi:10.6024/jmbai.2012.54.2.011699-06.

Kumar, A. B., **Raj, S.** & Sathasivam, K. (2012). Dolphin-assisted cast net fishery in the Ashtamudi Estuary, southwest coast of India. *Indian Journal of Fisheries*, 59 (3): 143-148.

Girijakumari, S., P. A. Nelson, **Raj, S.** & Kumar, A. B. (2011). Ichthyofaunal Diversity of Sasthamkotta Ramsar Lake, Kerala, India. *Journal of Inland Fisheries Society of India*, 43 (1): 96-102.

### **Book chapter**

Rajesh, L., **Raj, S.** & Kumar, A. B. (2017). Opening the Pandora's Box: A study on the diversity of freshwaters crabs of Kerala, India. (Eds Cheruvat, D., Nilayangode, P. & Oommen, O. V.) *Mainstreaming Biodiversity for Sustainable Development*, Kerala State Biodiversity Board, Thiruvananthapuram (ISBN: 978-81-934231-1-0).

### **Seminars**

Biju Kumar, A. & **Raj, S.** (2019). Management of invasive fish in the Western Ghats biodiversity hotspot: A policy framework. Book of Abstracts, the R&D Conference on Invasive Alien Species Management and Biosecurity Measures in the Asia Pacific Region organised during 8-12 July 2019 in Manila, Philippines.

**Raj, S.** Biju Kumar, A. & Kurian Mathew Abraham (2016). Length-weight and length-length relationship of invasive alien species, *Oreochromis niloticus* from lentic habitats of Palakkad district, Kerala. International Conference on Aquatic Exotics: Trends, Challenges and Policies” organised by the Department of Aquatic Biology & Fisheries, University of Kerala during 28-30 March, 2016 (Book of Abstracts, p. 56)

**Raj, S.** & Biju Kumar, A. (2016). Aquatic exotics in the freshwater ecosystems of Kerala, India. International Conference on Aquatic Exotics: Trends, Challenges and Policies” organised by the Department of Aquatic Biology & Fisheries, University of Kerala during 28-30 March, 2016 (Book of Abstracts, p. 52).

Biju Kumar, A., Pramod Kiran, R.B. & **S. Raj** (2016). Culture-based fisheries management in Kerala and illegal 'culture' of north African cat fish *Clarias gariepinus* and common carp *Cyprinus carpio*: End of the game? International Conference on Aquatic Exotics: Trends, Challenges and Policies" organised by the Department of Aquatic Biology & Fisheries, University of Kerala during 28- 30 March, 2016 (Book of Abstracts, p. 33-34).

Abhijna, U.G., **Raj, S.**, Regi, R. & Biju Kumar, A. (2016). Role of indigenous and exotic fish in the trophic structure of Vllayani lake, Kerala. International Conference on Aquatic Exotics: Trends, Challenges and Policies" organised by the Department of Aquatic Biology & Fisheries, University of Kerala during 28-30 March, 2016 (Book of Abstracts, p. 23-24).

**Raj, S** & Biju Kumar, A. (2015). Aliens in biodiversity hotspot: A study on distribution of freshwater alien species of flora and fauna in Kerala, India. National Symposium on 'Changing Perspectives in Life Sciences', organized by School of Life Sciences, University of Kerala, 16-17 December 2015.

Bijukumar, A & **Raj, S.** (2015). "DNA barcoding and invading suckermouth sailfin catfish *Pterygoplichthys* (Siluriformes: Loricariidae) in India: issues with possible hybrids" in the Sixth International Barcode of Life Conference at the University of Guelph, Ontario, Canada during 17 – 21 August, 2015

Regi, S. R., **Raj, S** & Biju Kumar, A. (2013). Trophic structure and ecosystem maturity: a comparative study of two lakes of Kerala, India. Paper presented at the International Conference on Ecosystem Conservation, Climate Change and Sustainable Development (ECOCASD 2013) organised by the Dept. of Aquatic Biology and Fisheries, University of Kerala, 3-5 October 2013. Book of Abstracts page p. 72.

Biju Kumar, A. & **Raj, S.** (2011). Behaviour of Indo-Pacific Humpback dolphin, *Sousa chinensis* (Osbeck) in the Ashtamudi Lake, southwest coast of India. Presented in the Dr. S. Jones Colloquium on "Challenges in Marine Mammal Conservation and Research in the Indian Ocean" organised by Marine Biological Association of India at Central Marine Fisheries Research Institute, Cochin during 27-27 August, 2011.

Biju Kumar, A., Regi, R. & **Raj, S.** (2011). Fish biodiversity and trophic level analysis of Vellayani lake, India using Mass Balance Ecopath Model. Paper presented at the International Conference on Ecosystem Conservation and Sustainable Development" organised held in Ambo University, Ethiopia from 10-12 February 2011.

Biju Kumar, A., Kurian Mathew Abraham & **Raj, S.** (2010). Spatio-temporal shift of nutrients due to Lakkidi check dam in Bharathapuzha River, Kerala. Proceedings of the 22nd Kerala Science Congress, 28-31 January 2010, KFRI Peechi, Kerala, pp. 538-540.