

Curriculum vitae

KAMALAKANNAN M., MSc, MPhil, PhD

Senior Zoological Assistant, Mammal & Osteology Section,

ZOOLOGICAL SURVEY OF INDIA

New Alipore, Kolkata, 700053, India.

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researchgate.net/profile/Manokaran_Kamalakaran



RESEARCH INTERESTS

Taxonomic studies of mammal components housed in the National Zoological Collections of Zoological Survey of India,

Tricho-taxonomy of Indian mammalian species (identification of species through hair samples),

Identification of mammals with special reference to bats,

Identification of confiscated articles of mammals.

EDUCATIONAL QUALIFICATIONS

PhD (Zoology) - 2015

Zoological Survey of India & University of Kalyani, India

MPhil (Zoology) - 2010

Salim Ali Centre for Ornithology and Natural History & Bharathiar University, India

MSc (Zoology) - 2008

University Department, Bharathiar University, India

BSc (Zoology) - 2006

Government Arts College (Coimbatore), Bharathiar University, India

Title of thesis

PhD - Tricho-taxonomic Study of Indian Mammal Species belonging to Orders-Artiodactyla and Lagomorpha

MPhil - Diurnal Activity of the Indian Rock Python *Python molurus molurus* Linn. (1758) in Keoladeo National Park, Bharatpur, Rajasthan, India

RESEARCH EXPERIENCES

- **MPhil Scholar @ Salim Ali Centre for Ornithology and Natural History (2008-2009)**
Collection of data on the diurnal activity of Indian rock python at the Keoladeo National Park, Rajasthan.
- **Research Personnel (JRF) @ Wildlife Institute of India (2009-2010)**
Estimating and evaluating the tiger population status in Mudumalai Tiger Reserve, Tamil Nadu and Bandipur Tiger Reserve, Karnataka using camera traps, line –transect method and indirect evidence.

- **Assistant Field Officer @ Wildlife Trust of India (2010-2012)**
Collection of data on ecology, behaviour and population of Eastern Swamp Deer (*Rucervus duvaucelii ranjitsinhi*) in Kaziranga National Park, Assam.
- **Jr & Sr. Zoological Assistant @ Zoological Survey of India (2012- till date)**
Exploration of faunal resources with special reference mammals across the country, Collection, preservation, maintenance, identification and digitization of mammal specimens in the National Zoological Collections (NZC), Taxonomic studies of mammal components in NZC, data analysis and publication of results, Identification of confiscated wildlife materials received from the different wildlife enforcement agencies.

INTERNATIONAL CONFERENCE

Presented a paper in the “*Student Conference on Conservation Science*”, held at the Department of Zoology, **University of Cambridge, Cambridge, the United Kingdom** during 25 - 27th March 2014 (Deputed by the Zoological Survey of India, Ministry of Environment, Forest and Climate Change, Government of India).
DOI: 10.13140/RG.2.2.18180.58249

APPRECIATION/ AWARDS/MEDALS

- The Science and Engineering Research Board, **Department of Science and Technology**, Government of India was granted a ‘**Young Scientist International Travel Support**’ (SB/ITS-Y/04976/2013-14, Dated: 17.02.2014), and the Zoological Survey of India, Ministry of Environment, Forest & Climate Change, Govt. of India were also financially aided to meet the said international conference.
- **Contribution of national tiger monitoring:** The contribution efforts towards ‘**National Tiger population estimation**’ during 2010-2011 was **appreciated** by the National Tiger Conservation Authority (**NTCA**) and Wildlife Institute of India (**WII**).
- **II rank holder of B.Sc. in Zoology**, Govt. Arts College, Coimbatore, Tamil Nadu.
- University level- **First rank** in essay writing of the “Wildlife Week Celebrations 06-07”
- **Winner of Indira Gandhi National NSS award**
- **Wildlife Conservation Talk** (*Zoos’ Print Journal Volume XXIII, Number 2, February 2008 (RNI 9:5) 23-25 pp*).

NEW RECORDS OF MAMMALS

Species	New record to	Published in (journal)
Schneider’s Leaf-nosed Bat <i>Hipposideros speoris</i> (Schneider, 1800)	Myanmar	<i>Mammalia</i>
Durga Das’s Leaf-nosed Bat <i>Hipposideros durgadasi</i> Khajuria, 1970	Uttar Pradesh, Northern India	<i>Journal of Threatened Taxa</i>
Greater Long-tongued Fruit Bat <i>Macroglossus sobrinus</i> K. Anderson, 1911	Southern West Bengal	<i>Journal of Threatened Taxa</i>
Least Leaf-nosed Bat <i>Hipposideros cineraceus</i> Blyth, 1853	Chhattisgarh, Central India	<i>Journal of Threatened Taxa</i>

PUBLICATIONS

POPULAR ARTICLES

Manokaran Kamalakannan (2018). Hidden treasure: Old museum specimen turns into first report of Schneider's leaf-nosed bat in Myanmar. *Science Discoveries*.
sciencediscoveries.degruyter.com/museum-specimen-schneiders-leaf-nosed-bat-myanmar/

SCI/ NAAS journals

- Kundu, S., K. Tyagi, **M. Kamalakannan**, V. Kumar, C. Venkatraman, C. Sivaperuman & K. Chandra (2020). Molecular investigation of non-volant endemic mammals through mitochondrial cytochrome b gene from Andaman and Nicobar archipelago, *Mitochondrial DNA Part B* 5:2: 1447-1452.
doi.org/10.1080/23802359.2020.1738282
- **Kamalakannan, M.** & P.O. Nameer (2020). JoTT Checklist of the mammals of Tamil Nadu (v1.0), *Journal of Threatened Taxa*: 10 February 2020.
threatenedtaxa.org/index.php/JoTT/checklists/mammals/TamilNadu
- Ramesh, C. & **M. Kamalakannan** (2020). The activity pattern of overwintering Indian Rock Pythons, *Python molurus* (Linnaeus 1758) in a semi-arid region of India. *IRCF Reptiles & Amphibians*, 26(3):197–204.
ircf.org/journal/wp-content/uploads/2020/01/RA-26.3_197-204_Ramesh-Kamalakannan.pdf
- **Kamalakannan, M.** & P.O. Nameer (2019). A checklist of mammals of Tamil Nadu, India. *Journal of Threatened Taxa* 11(8): 13992–14009.
doi.org/10.11609/jott.4705.11.8.13992-14009
- Dar, T.H., **M. Kamalakannan**, C. Venkatraman, & K. Chandra (2019). New record of *Hipposideros speoris* (Chiroptera: Hipposideridae) from Myanmar hidden in the National Zoological Collections of the Zoological Survey of India. *Mammalia* 83(5): 515–517.
doi.org/10.1515/mammalia-2018-0110
- **Kamalakannan, M.**, K. Chandra & C. Venkatraman (2019). A leucistic Northern Palm Squirrel from Dehradun, India. Small Mammal Mail #424, In: *Zoo's Print* 34(11): 29-31.
zoosprint.zooreach.org/index.php/zp/article/view/5612
- **Kamalakannan, M.**, K. Chandra, J.K. De & C. Venkatraman (2019). The identification of pika and hare through tricho-taxonomy (Mammalia: Lagomorpha). *Journal of Threatened Taxa* 11(10): 14301–14308.
doi.org/10.11609/jott.4014.11.10.14301-14308
- Kumar, J.S.Y., **Kamalakannan, M.** & Venkatraman, C (2019). Morphometry of the *Dugong dugong* (Muller, 1776) skeleton based on Indian Museum specimens, Kolkata, India. *Indian Journal of Geo-Marine Sciences* 48 (6): 817-821.
nopr.niscair.res.in/handle/123456789/48454

- **Kamalakaran, M.** (2019). Characterization of dorsal guard hair of the wild goats and sheep (Bovidae: Caprinae) occurring in the Himalaya and Western Ghats of India. *Journal of Threatened Taxa* 11 (3): 13304-13309. doi.org/10.11609/jott.3344.11.3.13304-13309
- **Kamalakaran, M.** (2018). The identification of Takin *Budorcas taxicolor* (Mammalia: Bovidae) through dorsal guard hair. *Journal of Threatened Taxa* 10(15): 13014–13016. doi.org/10.11609/jott.3357.10.15.13014-13016
- **Kamalakaran, M., C. Venkatraman, Dar, T.H. and Chandra, K.** (2018). Range extension of the Least Leaf-nosed Bat *Hipposideros cineraceus* Blyth, 1853 (Mammalia: Chiroptera: Hipposideridae): to central India. *Journal of Threatened Taxa* 10(15): 13020–13023. doi.org/10.11609/jott.2964.10.15.13020-13023
- Dar, T.H., **M. Kamalakaran, C. Venkatraman, & K. Chandra** (2018). An old collection reveals an additional distribution record of the Greater Long-tongued Fruit Bat *Macroglossus sobrinus* K. Anderson, 1911 (Chiroptera: Pteropodidae) from southern West Bengal, India. *Journal of Threatened Taxa* 10(13): 12837–12839. doi.org/10.11609/jott.4065.10.12.12837-12839
- **Kamalakaran, M., T.H. Dar & C. Venkatraman** (2018). Durga Das's Leaf-nosed Bat *Hipposideros durgadasi* Khajuria, 1970 (Mammalia: Chiroptera: Hipposideridae): a new distribution record in northern India hidden in the National Zoological Collections. *Journal of Threatened Taxa* 10(6): 11806–11811. doi.org/10.11609/jott.4054.10.6.11806-11811
- **Kamalakaran, M.** (2017). Characterisations of hair of Red Panda *Ailurus fulgens* F.G. Cuvier (1825). *Journal of Experimental Zoology, India*. 20 (2): 1029-1031.
- Sharma, G. & **M. Kamalakaran** (2017). Tricho-taxonomic Studies for Identification of the Rhesus Macaque, *Macaca mulatta* (Zimmermann, 1780) and Bonnet Macaque, *Macaca radiata* (E. Geoffroy, 1812) (Primates: Cercopithecidae). *Biological Forum* 9(2): 118-121.
- **Kamalakaran, M. & J.K. De** (2017). Comparative hair morphology of the Indian Otter species *Aonyx cinerea*, *Lutra lutra* and *Lutrogale perspicillata* (Mustelidae: Carnivora: Mammalia) *Journal of Entomology and Zoology Studies* 5(3): 826-828.
- **Kamalakaran, M.** (2017). Characterisations of bristle hair of the Indian Pangolin *Manis crassicaudata* E. Geoffroy, 1803 and Chinese pangolin *Manis pentadactyla* Linnaeus, 1758 (Manidae: Pholidata). *Journal of Experimental Zoology, India*. 20 (2): 1033-1036.
- **Kamalakaran, M.** (2017). Comparative hair morphology of the giant flying squirrels *Petaurista petaurista*, *Petaurista magnificus* and *Petaurista philippensis* (Sciuridae: Rodentia: Mammalia). *Journal of Entomology and Zoology Studies* 5(3): 84-86.

- Sharma, G. & **M. Kamalakannan**, C.K. Manna & D. Dam (2016). Tricho-taxonomic studies for Identification of Indian Wild Boar *Sus scrofa* Linnaeus, 1758 (Suidae: Artiodactyla: Mammalia) by dorsal guard hairs. **Records of Zoological Survey of India** 116(3): 279-284.
- Sharma, G. & **M. Kamalakannan**, C.K. Manna & D. Dam (2016). Tricho-taxonomic studies for Identification of Indian Cervids, *Axis axis* (Erxleben, 1777), *Axis porcinus* Zimmermann, 1780, *Muntiacus muntjak* Zimmermann, 1780 and *Rusa unicolor* (Kerr, 1792) (Artiodactyla: Mammalia) by dorsal guard hairs. **Biological Forum** 8(2): 162-167.
- **Kamalakannan, M.** & G. Sharma (2015). Tricho-taxonomic studies for identification of two Indian antelope species Blackbuck, *Antelope cervicapra* (Linnaeus, 1758) and Indian Gazelle or Chinkara, *Gazella bennettii* (Sykes, 1831) by dorsal guard hairs. **Bio Bulletin** 1(1): 1-6.
- Sharma, G. & **M. Kamalakannan** & D. Dam (2014). Status and Conservation of Mammalian Diversity in Indian Himalaya. **Biological Forum** 6(2): 284-310.
- Seenivasan, C., P.S. Bhavan, R. Radhakrishnan & **M. Kamalakannan** (2010). Groundwater quality in Tirupur, Tamilnadu, India: A pilot-assessment, **Research in Environment and Life Sciences** 3(1) 27-32.

Newsletters/others

- Kamalakannan, M.** & C. Venkatraman (2019). Bat Pollination. **ENVIS Newsletter** 25: 55-58 (Published by the Director, Zoological Survey of India).
- Kamalakannan, M.** C. Venkatraman & D. Dam (2018). Mammals of Eastern Ghats. **ENVIS Newsletter** 24(2): 16-20 (Published by the Director, Zoological Survey of India).
- Kamalakannan, M.** & J.K. De (2013). Tricho-taxonomy a case study. **ENVIS Newsletter** 19(1): 13-16 (Published by the Director, Zoological Survey of India).
- Kamalakannan, M.,** J.K. De & C.K. Manna (2015). Tricho-taxonomic studies of dorsal guard hairs of Indian Cervids (Artiodactyla: Mammalia) for species identification. **Biolife** 3(2): 547-552.
- Kamalakannan, M.,** J.K. De & C.K. Manna (2013). Identification of dorsal guard hairs surface structure of Indian chevrotain *Moschiola Indica* Gray, 1852 (Tragulidae: Artiodactyla: Mammalia). **Biolife** 1(3): 155-158.

E-publications

- Kamalakannan, M.** & C. Venkatraman (2017). A Checklist of Mammals of India. Updated till October 2017, **ZSI e-publication**
zsi.gov.in/WriteReadData/userfiles/file/Checklist/Mammals_2017.pdf
- Sharma, G., **M. Kamalakannan** & K. Venkataraman (2015). *A checklist of mammals of India with their distribution and conservation status*. Published by the Director, Zoological Survey of India, Kolkata, India. **ZSI e-publication**, 104 pp.
- Sharma, G., **M. Kamalakannan** & K. Venkataraman (2014). *A checklist of mammals of India with their distribution and conservation status*. Published by the Director, Zoological Survey of India, Kolkata, India. **ZSI e-publication**, 123 pp.
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BOOKS

- Deuti, K, **M. Kamalakannan**, P.G.S. Shetty, C. Venkatraman & K. Chandra (2020). *Pictorial guide- Amphibians, Reptiles and Mammals of East Kolkata Wetlands*. Published by the Director, Zoological Survey of India, Kolkata, India. (ISBN 978-81-8171-539-5)
 - **Kamalakannan, M.**, C. Venkatraman & K. Chandra (2019). *Tricho-taxonomy of Indian Mammals (Carnivores, Artiodactyls, Primates, Lagomorphs, Giant squirrels and Pangolins)*: 1-227. Published by the Director, Zoological Survey of India, Kolkata, India. (ISBN 978-81-8171-526-5)
 - **Kamalakannan, M.**, C. Venkatraman & K. Chandra (2019). *Dentition in Indian Terrestrial Mammals*: 1-210. Published by the Director, Zoological Survey of India, Kolkata, India. (ISBN 978-81-8171-522-7)
 - Sharma, G., **M. Kamalakannan** & K. Venkataraman (2015). *An identification manual for Schedule Mammals of India [Indian Wildlife (Protection) Act, 1972]*: 112 pp. Published by the Director, Zoological Survey of India, Kolkata, India. (ISBN 978-81-8171-407-7)
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BOOK CHAPTERS

- **Kamalakannan, M.** & C. Venkatraman (2019). *Mammalia*, pp. 205-208. In: Chandra, K., A.N. Rizvi, S. Acharya & C. Raghunathan, C. (eds.). *Manual on Collection, Preservation and Identification of soil Fauna of India*. Published by the Director, Zoological Survey of India, Kolkata, India.
 - **Kamalakannan, M.** C. Venkatraman & K. Chandra (2018). *Mammalia (Terrestrial)*, pp. 507-513. In: Chandra, K. & C. Raghunathan (eds.). *Faunal Diversity of Biogeographic Zones*. Islands of India. Published by the Director, Zoological Survey of India, Kolkata, India.
 - Venkatraman C., **M. Kamalakannan** & D. Dam (2018). *An Update on the Mammals of Western Ghats*, pp. 205-221. In: Sivaperuman C., Venkataraman K. (eds) *Indian Hotspots*. Springer, Singapore. doi.org/10.1007/978-981-10-6983-3_11
 - **Kamalakannan, M.**, L.K. Sharma & C. Venkatraman (2018). *Mammalia*, pp. 855-863. In: Chandra *et al.* (eds.). *Faunal Diversity of Indian Himalaya*. Published by the Director, Zoological Survey of India, Kolkata, India.
 - **Kamalakannan, M.**, C. Venkatraman & G. Sharma (2017). *Mammalia*, pp. 615-624. In: Chandra *et al.* (eds). *Current Status on Freshwater Faunal Diversity of India – An Overview*. Published by the Director, Zoological Survey of India, Kolkata, India.
 - Srivastava, J.P., G. Sharma & **M. Kamalakannan** (2015). *Mammals*, pp. 111-130. In: Hegde, V.D. & K. Venkataraman (eds.). *Fauna of Uttar Pradesh. State Fauna Series*. Published by the Director, Zoological Survey of India, Kolkata, India, 22 (Part- I).
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RESOURCE PERSON

Delivered lecture/ demonstrated on below-mentioned topics

- **“Mammalian skeleton & dentition based identification of Indian Mammals”** to the participants of two days training workshop on ‘*Comparative osteology of mammals*’ held at Zoological Survey of India, Headquarters, Kolkata from 21-22 August 2019.
 - **Participated in the film-shooting conducted by the Wildlife Crime Control Bureau & Amity University, New Delhi** for explaining about the ‘*identification characters of confiscated Rhino horn, Mongoose hair and Tibetan Antelope hair*’ held at Zoological Survey of India, Headquarters, Kolkata during August 2019.
 - **“Collection, preservation and identification of soil mammals”** to the participants of two days training workshop on ‘*Collection, preservation and identification of soil fauna*’ held at Zoological Survey of India, Headquarters, Kolkata from 28-29 March 2019.
 - **“Wildlife crime and morphological identification of wildlife confiscated materials”** to the participants of two days training workshop on ‘*Wildlife forensics and crime control*’ held at Zoological Survey of India, Headquarters, Kolkata from 21-22nd January 2019.
 - **“Taxonomy, survey, collection, preservation and identification methods of Indian mammals”** to the participants of **Green Skill Development Programme (GSDP) 2018-19** held at Zoological Survey of India, Headquarters, Kolkata on 2nd January 2019.
 - **“Wildlife crime and morphological identification of wildlife confiscated materials”** to the participants of two days Hands-on-training on DNA-Barcoding: Methods and Applications” held at the Freshwater Biology Regional Centre (FBRC), Zoological Survey of India, Hyderabad from 1-9th January 2018. DOI: 10.13140/RG.2.2.35796.65924.
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MEGA SCIENCE EXHIBITIONS, MINISTRY & COP EVENTS

Nominated to participate in the

- **Mega science exhibition** event titled '**Destination Daman & Diu**' held at Government College, Diu from 12-18th December 2019.
 - **Mega science exhibition ‘6th Vibrant India 2019’** event organized by the NNS media group at the Dillihatt, Pitampura, New Delhi from 18st to 21st October 2019.
 - **The fourteenth session of the Conference of the Parties (COP 14)** conducted by the United Nations Convention to Combat Desertification (UNCCD) and Ministry of Environment, Forest and Climate Change (MoEF & CC), Govt. of India held at the India Expo Mart, Greater Noida from 31st August to 5th September 2019.
 - **India International Science Congress (IISF), Mega Science Exhibition** held at the Railway ground, Gomti Nagar, Lucknow from 5-8th October 2018.
 - **World Environment Day (WED-Expo)** conducted by the MoEF & CC, Govt. of India held at Vigyan Bhawan, New Delhi from 1-5th May 2018, and also participated in a **Plenary session on WED addressed by the Hon’ble Prime Minister of India Shri. Narendra Modi** held at Plenary Hall, Vigyan Bhawan, New Delhi on 5th June 2018.
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ISRO- SPONSORED COURSE

Nominated to participate in the **ISRO Sponsored NNRMS Certificate Course on ‘Remote Sensing & GIS applications in Forest Resources and Ecosystem Analysis’** conducted by the Indian Institute of Remote Sensing, ISRO, Dehradun from 13th May to 5th July 2019 (2 months).

FAUNAL SURVEY ACROSS THE COUNTRY

Field knowledge on the animal survey in several protected areas across India: **Kaziranga TR, Sunderban TR, Kanha TR, Mudumalai TR, Bandipur TR, Wyanad TR, Rajaji TR, Nameri TR, Pakke TR, Valmiki TR, Silent Valley NP, Keoladeo NP, Dibru-saikuwa NP, Gorumara NP, Ranipur WLS Mahananda WLS and Chapramari WLS.**

Participation in megafaunal expedition: Great Nicobar Biosphere Reserve, Andaman & Nicobar Islands

Current Research Project: Validation of Chiropteran (Bat) collections housed in the National Zoological Collections of Zoological Survey of India

CONTRIBUTION IN IDENTIFICATION OF SEIZED MAMMAL ARTICLES

Over 500 confiscated case materials (species) have been identified, received from the different enforcement agencies like Forest department, Wildlife Crime Control Bureau, Customs department, Police department, Revenue department, etc.

KNOWLEDGE ON ZOOLOGICAL MUSEUM

- Over **500 exhibits of mammal species** of India and abroad have been **reconfirmed** (species identification) in the 'Mammal Gallery' of **INDIAN MUSEUM, Kolkata** during 2016-17.
 - Working and museum knowledge in the **Zoological gallery and Osteological gallery** of the Zoological Survey of India, Kolkata (**exhibited over 1000 animal collections**).
 - Information on the natural history of animal exhibits of the galleries is being rendered to the visitors of the Zoological Survey of India.
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RESEARCH REPORTS

- **Kamalakaran, M.** and Bhupathy, S. 2007. Reptiles of Western Ghats. Short-term summer training. Salim Ali Centre for Ornithology and Natural History, Coimbatore. Final Report submitted to the Director, SACON, Coimbatore.
 - Barman, R., **Kamalakaran, M.** and Gupta, S.D. 2010. Large mammals survey in and around Nameri National Park, Assam. Wildlife Trust of India. Final Report submitted to the Divisional Forest Officer, National Park, Assam.
 - **Kamalakaran M.** 2013. The Illegal Wildlife Trade- A Literature Review Study, IGNOU A project report submitted to Chair for Sustainable Development, IGNOU, New Delhi.
 - Status of Tigers, co-predators, prey and their habitat in India. Wildlife Institute of India, Dehra Dun, 2011 (**Contributed as a member of the research team**).
 - Status survey of Swamp deer *Rucervus duvaucellii* in India. Zoological Survey of India, Kolkata, 2015 (**Contributed as a member of the research team**).
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ABSTRACT PRESENTED IN INTERNATIONAL / NATIONAL CONFERENCES

- **Kamalakaran, M.** 2014. Identification of hairs of Indian Cervids through tricho-taxonomy (Artiodactyla: Mammalia). Abstracts of papers in the '*Student Conference of Conservation Science*' held at the **University of Cambridge, Cambridge, United Kingdom**. March 25–27, 2014, 29.
- Bhupathy, S., **Kamalakaran, M.** and Ramesh, C. 2010. Basking of the Indian Python in Keoladeo National Park, Bharatpur. Annexure-II, *Abstracts of papers presented in the Annual Research Seminar, Keoladeo National Park, Bharatpur, Rajasthan*.

PAPER PRESENTED IN SYMPOSIUM

- Sharma, G. and **Kamalakaran, M.** 2014. Studies on the species diversity, status and conservation of mammals of India. *The 8th Indian symposium of Odonatology and Tropical Biodiversity*. Department of Zoology, Hislop College, Nagpur. 17-18 August 2014: 36-61.

POSTER/PAMPHLETS

- **Kamalakaran, M.**, De, J.K. and Manna, C.K. 2014. Identification of hairs of Indian Cervids through tricho-taxonomy (Artiodactyla: Mammalia). A poster presented in the '*Student Conference of Conservation Science*' held at the **University of Cambridge, Cambridge, United Kingdom**. March 25–27, 2014.
 - Sharma, G., Venkataraman, K. **Kamalakaran, M.** and Dam, D. 2015. *Schedule Mammals of India-Wildlife (Protection) Act, 1972*. A brochure published by the Director, Zoological Survey of India, Kolkata.
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CONTRIBUTIONS OF MAMMALS PHOTOS

Contributed the **photographs of mammals** to the book titled '*Indian Mammals- A field guide*', edited by Mr Vivek Menon [Ref. Menon, V. 2014. *Indian mammals- a field guide*. Hachette (India) Pvt. Limited. Page Nos. 26 & 167]. [ISBN 978-93-5009-760-1]

Contributed an Asiatic Elephant photograph for displaying at the **Mammal gallery of Indian Museum, Kolkata**.

SECONDARY SKILLS

- Working knowledge on **field techniques and data analysis of the ecology and population estimation of tiger, co-predators and its prey using camera trap, mark-recapture and distance sampling**.
 - Working knowledge on **Scanning Electron Microscope (SEM) and Optical Light Microscope** for identification of hair samples of mammal species.
 - **Wildlife photography** (having a wide collection of wildlife photographs).
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ADDITIONAL COURSES

- **Appreciation Programme in Sustainable Management of Biodiversity** with a project entitled 'The Illegal Wildlife Trade- A Literature Review Study' by Chair for Sustainable Development, IGNOU, New Delhi (2012).
 - **Certificate Program in Forest and Wildlife Management** by Rajiv Gandhi Institute of Distance Education, Pune (2012).
 - Computer -cum- Internet Literacy programme by Directorate of Collegiate Education, Department of Higher Education, (2005) Govt. of Tamil Nadu, Chennai.
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TRAINING/SEMINAR/SYMPOSIUM/WORKSHOP/CONFERENCE

- National conference on '**Current Status of Faunal Diversity of Mangrove Ecosystem in India**' held at the Zoological Survey of India, Kolkata on 1st & 2nd July 2017.
 - Workshop on **DNA Barcoding** organised by the Centre for DNA Taxonomy, Molecular Systematics Division held at the Zoological Survey of India, Kolkata on 07-08th March 2016.
 - Training workshop on **Schedule Animals** held at the Zoological Survey of India, Kolkata on 12-13th March 2015.
 - Training on **GIS in Faunal Studies, Databasing and Digitization of Faunal Collections** held at the Zoological Survey of India, Kolkata on 15-16th January 2014.
 - Application of **Scanning Electron Microscopy (SEM) in Animal Taxonomy** held at the Zoological Survey of India, Kolkata on 17-18th July 2013.
 - National Symposium on "**Live organisms and their expressions in the Environment**" organized by the Department of Botany (Centre of Advanced Study), University of Calcutta & Ethological Society of India (ESI), Kolkata, held on November 26, 27 and 28th 2012.
 - Training Programme on **Instrumentation and Analytical Techniques** held at the Salim Ali Centre for Ornithology and Natural History (SACON), Coimbatore from 27- 31st July 2009.
 - Career Guidance Training Programme on **Electrophoresis (PAGE and AGE)** organised by the Department of Zoology, Bharathiar University, Coimbatore held on 28th and 30th March 2008.
 - Seminar on "**Wealth from the Waste**" organized by the Department of Environmental Sciences, School of Life Sciences, Bharathiar University, Coimbatore, held on 26th March 2008.
 - Seminar on **Sustainable Aquaculture and Rural Development (BuAqua 2008)** held at the Department of Zoology, Bharathiar University, Coimbatore on 28th February 2008.
 - Short term **summer training on 'Reptiles of Western Ghats'** at the Salim Ali Centre for Ornithology and Natural History (SACON), Coimbatore during 1st May- 30TH June 2007.
 - National seminar on **Genes, Environment and Cancer (GEC 2007)** held at the Department of Zoology, Bharathiar University, Coimbatore during 2007.
 - "MOTIF' 06" One-day National level Symposium on **Bioinformatics** conducted by the Department of Bioinformatics, Bharathiar University, Coimbatore on 11th October 2006.
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(M. Kamalakannan)