

CURRICULUM VITAE

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Present Position : Senior Principal Scientist and Group Leader
Laboratory for the Conservation of Endangered Species (LaCONES)
Centre for Cellular and Molecular Biology (CCMB), (CSIR Institute, Govt of India) and
Professor: Faculty of Biological Sciences, Academy of Scientific and Innovative Research (AcSIR), New Delhi

Educational qualifications

Ph.D. (Wildlife Conservation), 1998. Salim Ali Centre for Ornithology and Natural History, Coimbatore, India

Field of Interest

Habitat fragmentation and species extinction, Wildlife Endocrinology, Conservation Genetics; e-DNA in Biodiversity monitoring.

Publications

1. Kumar V, Sood,S, Vasudevan, K, Umapathy G 2021. A practical method for storage, preservation and transportation of anuran urine samples using filter paper for hormone analysis. *MethodX*. <https://doi.org/10.1016/j.mex.2021.101578>.
2. Purohit D, Manu S, Ram MS, Sharma S, Patnaik HC, Deka PJ, Narayan G, Umapathy G. 2021. Genetic effects of long-term captive breeding on the endangered pygmy hog. *PeerJ* 9:e12212 <http://doi.org/10.7717/peerj.12212>
3. Srivastava T, Kumar A, Kumar V and Umapathy G 2021. Diet Drives Differences in Reproductive Synchrony in Two Sympatric Mountain Ungulates in the Himalaya. *Frontiers in Ecology and Evolution*. 9:647465. doi: 10.3389/fevo.2021.647465.
4. Jepsen, E.M Scheun,J, Dehnhard, M Kumar K , Umapathy, G, Ganswindt, A. 2021 Non-invasive monitoring of glucocorticoid metabolite concentrations in native Indian, as well as captive and re-wilded tigers in South Africa, *General and Comparative Endocrinology*, 2021,Vol 308,113783, <https://doi.org/10.1016/j.ygcen.2021.113783>.
5. Kumar, V.; Buragohain, S.; Deka, P.J.; Narayan, G.; Umapathy, G. 2021.Non-Invasive Reproductive Hormone Monitoring in the Endangered Pygmy Hog (*Porcula salvania*). *Animals* 2021, 11, 1324. <https://doi.org/10.3390/ani11051324>.
6. Trivedi M, Manu S, Balakrishnan S, Biswas J, Asharaf NVK, Umapathy G 2021. Understanding the phylogenetics of Indian Hoolock gibbons – Hoolock hoolock and *H. leuconedys*. *International Journal of Primatology*, 42, 463–477, <https://doi.org/10.1007/s10764-021-00212-8>
7. Melin, A. D., Orkin, J. D., Janiak, M. C., Valenzuela, A., Kuderna, L., Marrone, F., Ramangason, H., Horvath, J. E., Roos, C., Kitchener, A. C., Khor, C. C., Lim, W. K., Lee, J. G. H., Tan, P., Umapathy, G., Raveendran, M., Alan Harris, R., Gut, I., Gut, M., Sivakumara Manu... Higham, J. P. (2021). Variation in predicted COVID-19 risk among lemurs and lorises. *American Journal of Primatology*, e23255. <https://doi.org/10.1002/ajp.23255>.

8. Chharang, D., Choudhary, S., Kumar, V., Sharma, S., Sharma, P.C., Saini, S. and Umapathy, G 2020. Effect of Dietary Inclusion of Live Microbial Cultures on Faecal Glucocorticoid Metabolites in Safari Asian Elephants. *Indian Journal of Animal Research*. DOI: 10.18805/ijar.B-4124.
9. Kumar, V. Pradheeps, M.; Kokkiligadda, A.; Niyogi, R.; Umapathy, G. Non-Invasive Assessment of Physiological Stress in Captive Asian Elephants 2019. *Animals*, 9, 553, <https://doi.org/10.3390/ani9080553>.
10. Tyagi A, Kumar V, Kittur S, Reddy M, Naidenko S, Ganswindt A, Umapathy G 2019. Physiological stress responses of tigers due to anthropogenic disturbance especially tourism in two central Indian tiger reserves. *Conservation Physiology* 7(1): coz045; doi:10.1093/conphys/coz045.
11. Chakraborty D, Reddy M, Tiwari S, Umapathy G, 2019. Land Use Change Increases Wildlife Parasite Diversity in Anamalai Hills, Western Ghats, India *Scientific Reports* (2019) 9:11975 | <https://doi.org/10.1038/s41598-019-48325-8>
12. Sharma, A.; Umapathy, G.; Kumar, V.; Phillips, C.J. 2019. Hair Cortisol in Sheltered Cows and Its Association with Other Welfare Indicators 2019. *Animals*, 9, 248.
13. Kumar V, and Umapathy, G. 2019. Non-invasive monitoring of steroid hormones in wildlife for conservation and management of endangered species — A review. *Indian Journal of Experimental Biology* 57:307-314.
14. Naidenko, SV, Berezhnoi MA, Kumar V, Umapathy G 2019. Comparison of tigers' fecal glucocorticoids level in two extreme habitats. *Plos One* <https://doi.org/10.1371/journal.pone.0214447>
15. Purohit D, Ram MS, Pandey V, Pravalika S, Deka PJ, Narayan G, Umapathy G 2019. Cross-specific markers reveal retention of genetic diversity in captive-bred pygmy hog, a critically endangered suid. *Conservation Genetics Resources* <https://doi.org/10.1007/s12686-019-01091-1>.
16. Malviya, M, Kumar V, Mandal, D, Sarkar MS, Nigam P, Gopal R, Sankar K, Umapathy G Ramesh K 2018 Correlates of physiological stress and habitat factors in reintroduction-based recovery of tiger (*Panthera tigris*) populations" *Hystrix, the Italian Journal of Mammalogy*, <https://doi.org/10.4404/hystrix-00063-2018>
17. Vijayakrishnan, S., Kumar, M.A., Umapathy, G., Kumar, V., Sinha, A., 2018. Physiological stress responses in wild Asian elephants *Elephas maximus* in a human-dominated landscape in the Western Ghats, southern India, *General and Comparative Endocrinology*, doi: <https://doi.org/10.1016/j.ygcen.2018.05.009>.
18. Divya Mudappa, Nisarg Prakash, Pooja Pawar, K. Srinivasan, M. S. Ram, Sagar Kittur, and G. Umapathy 2017. First record of Eurasian otter *Lutra lutra* in the Anamalai Hills, southern Western Ghats, India. *IUCN Otter Spec. Group Bull.* 35(1) 46-56
19. Tiwari S, Reddy DM, Pradheeps M, Sreenivasamurthy, GS, Umapathy G 2017. Prevalence and Co-occurrence of Gastrointestinal Parasites in Nilgiri Langur (*Trachypithecus johnii*) of Fragmented Landscape in Anamalai Hills, Western Ghats, India. *Current Science* 113: 2194-2200.
20. Mithileshwari Chandrasekhar, Vinod Kumar and Umapathy G. 2017. Non-invasive hormone monitoring as an emerging tool in wildlife conservation. In book "Updates on Integrative Physiology and Comparative Endocrinology Modern Biology" edited by Chandna Haider, Sameer Gupta and Soumik Goswami published by Banaras Hindu University, Banaras.pp 88-108.
21. Ram MS, Kittur SM, Biswas J, Nag S, Shil J, Umapathy G (2016) Genetic Diversity and Structure among Isolated Populations of the Endangered Gees Golden Langur in Assam, India. *PLoS ONE* 11(8): e0161866. doi:10.1371/journal.pone.0161866.
22. Budithia NMR, Kumar V, Yalla SKa, Rai U, Umapathy, G 2016. Non-invasive monitoring of reproductive and stress hormones in the endangered red panda (*Ailurus fulgens fulgens*). *Animal Reproduction Science*, 172: 173–181.

23. Chakraborty D, Tiwari S, Reddy DM, Umapathy G. 2016. Prevalence of gastrointestinal parasites in civets of fragmented rainforest patches in Anamalai hills, Western Ghats, India. *Journal of Parasitology*. 102, No. 4, pp. 463-467.
24. Dehnhard M, Kumar V, Chandrasekhar M, Jewgenow M, Umapathy, G. 2016 Non-invasive pregnancy diagnosis in big cats using the PGFM (13,14-dihydro-15-keto-PGF_{2α}) assay. *PLoS ONE* 10(12): e0143958.
25. Ram MS, Marne M, Gaur A, Kumara HN, Singh M, Kumar A, Umapathy G, 2015 Pre-historic and recent vicariance events shape genetic structure and diversity in endangered lion-tailed macaque in the Western Ghats: Implications for Conservation *PLoS ONE* 10(11): e0142597.
26. Mithileshwari, C, Sivastava, T, Kumar, V, Kumar A, Umapathy, G 2015. Non-invasive assessment of faecal progesteragens and pregnancy detection in Himalayan Musk Deer (*Moschus chrysogaster*). *Theriogenology*, 85(2):216-23.
27. Umapathy, G, Deepak V, Kumar V, Chandrasekhar M, Vasudevan 2015. Endocrine Profiling of Endangered Tropical Chelonians Using Non-Invasive Fecal Steroid Analyses. *Chelonian Conservation Biology* 2015, 14:108-115.
28. Bhattacharjee S, Vinod Kumar, Mithileswari C, Manjri, Ganswidth A, Ramesh K, Sankar K, Umapathy G 2015. Glucocorticoid stress responses of tigers in relation to anthropogenic disturbance in Sariska tiger reserve, India. *PLOS ONE* 10(6): e0127626.
29. Chakraborty D, Hussain S, Reddy DM, Raut S, Tiwari S, Kumar V and Umapathy G 2015 Mammalian gastrointestinal parasites in rainforest remnants of Anamalai Hills, Western Ghats, India. *Journal of Biosciences* 40 399–406.
30. Kumar, V, Reddy, V, Kokkiligadda A, Shivaji, S, Umapathy, G. 2014, Non-invasive assessment of reproductive status and stress in captive Asian elephants in three south Indian zoos. *General and Comparative Endocrinology*, 201: 37–44.
31. Parvathi S, Rao M, Kumar V, Umapathy G 2014. Observations on reproductive performance of Indian mouse deer (*Moschiola indica*) in captivity. *Current Science* 106:439-441.
32. Kumar, A., Umapathy, G. 2014. The Lion-tailed macaque: A case study in the impacts of forest fragmentation. In: A Textbook of Wildlife Ecology and Conservation, M.Balakrishnan (ed). Scientific Publishers, Jodhpur (2013).
33. Hussain,S, M.S.Ram, A.Kumar, S.Shivaji, G.Umapathy 2013. Human presence increases the parasitic load in endangered lion-tailed macaques (*Macaca silenus*) in its fragmented rainforest habitats in southern India. *PLOS ONE* 10.1371/journal.pone.0063685.
34. Umapathy, G., Kumar, V., Wasimuddin, Kabra, M., Shivaji, S., 2013. Detection of pregnancy and fertility status in big cats using an enzyme immunoassay based on 5α-pregnan-3α-ol-20-one, *General and Comparative Endocrinology*, 180:33-38.
35. Singh, M, W.Kaumanns and G.Umapathy. 2012. Conservation-oriented captive breeding of primates in India: is there a perspective? *Current Science*.103: 1399- 1400.
36. Laurance WF, Umapathy G, et al. 2012 (multi-institutional study). Averting biodiversity collapse in tropical forest protected areas. *Nature*, 489: 290 - 294.
37. Sontakke SD, Kandukuri LR, Umapathy G, Kulashekaran KM, Venkata PO, Shivaji S, Singh L. 2012 The 34,XY(1),der(13) Chromosome Constitution with Loss of Y(2) Is Associated with Unilateral Testicular Hypoplasia in the Endangered Indian Blackbuck Antelope (*Antilope cervicapra*). *Sex Development*. 2012 Jul 25:240-246.
38. Umapathy, G and Kumar, A. 2011. Impact of Habitat Fragmentation on the arboreal mammals. Lambert Academic Publishing, ISBN 978-3-8465-5114-1. p. 148.
39. Umapathy, G., Hussain S and Shivaji, S. 2011.Impact of Habitat Fragmentation on the Demography of Lion-tailed Macaque (*Macaca silenus*) Populations in the Rainforests of Anamalai Hills, Western Ghats, India. *International Journal of Primatology* 32, 889-900.
40. Hussain, S and Umapathy G. 2011. Monitoring of vultures in Andhra Pradesh. In Bhupathy et al (eds). Status of Indian birds and their conservation. Proceedings of the

- First International Conference on Indian Ornithology, SaCON, Coimbatore, India. Pp 195-198.
41. Umapathy G, M. Singh 2010. *Chapter 39; Long-tailed macaques (Crab-eating macaque, Macaca fascicularis umbrosa) in Nicobar Islands, India.* In: *Recent Trends in Biodiversity in Andaman and Nicobar Islands.* Ramakrishna, Raghunathan and Sivaperuman (Eds), Zoological Survey of India, Kolkatta 2010.
 42. Umapathy, G., Hussain, Sk, S.Shivaji, 2009. Status and distribution of vultures in Andhra Pradesh, India. *Forktail* 25: 163-166.
 43. Sontakke, S.D., Patil M., Umapathy, G., Rao, R., Shivaji. S. 2009. Semen characteristics, semen short term storage and successful artificial insemination following oestrous synchronisation in Blackbuck. *Reproduction, Fertility and Development* 21: 749-756.
 44. Sontakke, S.D., Umapathy, G., Shivaji. S. 2009. Yohimbine antagonizes the anaesthetic effects of ketamine–xylazine in captive Indian wild felids. *Veterinary Anaesthesia and Analgesia*, 2009, 36, 34–41.
 45. Sontakke, S.D., Umapathy, G., Patil M., Shivaji. S. 2009. Tolazoline antagonizes ketamine-xylazine anaesthesia in an endangered Black buck (*Antelope cervicapra*) *European Journal of Wildlife Research.* 55:357-361.
 46. Umapathy, G. 2007. Conservation of Mega cats conservation: Problems and Approach. In: *You Deserve, We Conserve* (Eds. Pandit, MW, Shivaji, S and Lalji Singh), I.K International Publishing House Pvt. Ltd. New Delhi p 7-18
 47. Kholkute SD, Umapathy, G. 2007. Chemical capture of wild animals. In: *You Deserve, We Conserve* (Eds. Pandit, MW, Shivaji, S and Lalji Singh), I.K International Publishing House Pvt. Ltd. New Delhi p 77-82.
 48. Umapathy, G 2007. Value of Biodiversity. In: *You Deserve, We Conserve* (Eds. Pandit, MW, Shivaji, S and Lalji Singh), I.K International Publishing House Pvt. Ltd. New Delhi p 15-16
 49. Umapathy G, Sontakke SD, Reddy A, Shivaji S. 2007 Seasonal variations in semen characteristics, semen cryopreservation, estrus synchronization, and successful artificial insemination in the spotted deer (*Axis axis*). *Theriogenology.* 67(8):1371-8.
 50. Sontakke SD, Reddy AP, Umapathy G, Shivaji S. 2007. Anesthesia induced by administration of xylazine hydrochloride alone or in combination with ketamine hydrochloride and reversal by administration of yohimbine hydrochloride in captive Axis deer (*Axis axis*). *American Journal Veterinary Research.* 68 :20-4.
 51. Umapathy G, Sontakke SD, Srinivasu K, Kiran T, Kholkute SD, Shivaji S. 2007. Estrus behavior and fecal steroid profiles in the Asiatic lion (*Panthera leo persica*) during natural and gonadotropin-induced estrus. *Animal Reproduction Science.* 101:313-25.
 52. Umapathy G, Sontakke SD, Reddy A, Ahmed S, Shivaji S 2005 Semen characteristics of the captive Indian white-backed vulture (*Gyps bengalensis*). *Biology of Reproduction,* 73: 1039-1045.
 53. Umapathy G. Singh M & Mohnot SM. 2003. Status and distribution of crab-eating macaque in Nicobar Islands in India. *International Journal of Primatology.* 24 (2): 281-293.
 54. Shivaji, S, Kholkute, SD, Verma, SK Ajay Gaur, G Umapathy, Anju Singh, Sadanand Sontakke, K Shailaja, Anuradha Reddy, S Monika, V Sivaram, B Jyotsna, Satyarebala, M Shakeel Ahmed, Arunabala, BVN Chandrashekhar, Sandeep Gupta, Surya Prakash, and Lalji Singh (2003). Conservation of Wild animals by assisted reproduction and Molecular marker technology. *Journal of Experimental Biology.* 41:710-723
 55. Ajay Gaur, Anju Singh, Aruna Bala, G Umapathy, K Shailaja and Lalji Singh: Development and characterization of ten novel microsatellite markers from Chital deer (*Cervus axis*) and their cross amplification in other related species. *Molecular Ecology Notes* 3: 607 – 609.

56. Sontakke SD, Umapathy G, Sivaram V, Kholkute SD & Shivaji S. 2003. Semen characteristics, cryopreservation and successful artificial insemination in the Blue Rock Pigeon (*Columba livia*) as model for endangered bird species. *Theriogenology* 62: 139-153.
57. Umapathy, G & Ajith Kumar. 2002. Impacts of forest fragmentation on lion-tailed macaque and Nilgiri langur in Western Ghats, South India. In "*Primates in fragments*". Laura K. Marsh (Ed) *Kulwer Academic / Plenum Publishers, New York*
58. Umapathy G & Kumar A. 2000. The occurrence of arboreal mammals in the rain forest fragments in Anamalai Hills in the Western Ghats, South India. *Biological Conservation* 92: 311-319.
59. Umapathy G & Kumar A. 2000. Impacts of habitat fragmentation on time budget and feeding ecology of lion-tailed macaque (*Macaca silenus*) in rain forest fragments of Anamalai hills, south India. *Primate Report*, 58: 67-82.
60. Umapathy G. 2000. Food habits and activity pattern of common otter *Lutra lutra nair* at Pichavaram, Tamil Nadu, South India, *Journal Bombay Natural History Society*. 97(3): 367-369.
61. Umapathy G & Kumar A. 2000. The Demography of the Lion-Tailed Macaque (*Macaca silenus*) in rain forest fragments in the Anamalai Hills in the Western Ghats, South India, *Primates* 41 (2): 119 - 126.
62. Kumar A & Umapathy G. 1999. Home range and habitat use by Indian Grey mongoose and small Indian civets in Nilgiri Biosphere Reserve India. In *ENVIS Bulletin: Wildlife and Protected Areas, Mustelids, Viverrids and Herpestides of India*. S.H.Hussain (Ed) Vol 2 (2): 87-91.
63. Umapathy G & Prabhakar A. 1996. Meat eating by Lion-tailed macaque, *Macaca silenus* (Zimmermann). *J. Bombay Nat. His. Soc.*, 93: 123.
64. Umapathy G & Prabhakar A. 1997. Movement of Nilgiri langur in the Fragmented rain forest of Anamalai Hills. *J. Bombay Nat. His. Soc.*, 95: 142.
65. Umapathy G & Ashokan R. 1996. Comparative study on the haematology and blood chemistry of blue rock pigeon and spotted dove. *PAVO* 35 (127): 23-35.
66. Kannan P, Gokula V, Umapathy G & Venkataraman C. 1998. Occurrence of the Indian Python (*Python molurus*) near Coimbatore, Tamil Nadu. *Cobra*, 31:19.
67. Umapathy G & Durairaj G. 1995. A preliminary study on feeding ecology of common otter (*Lutra lutra nair*) *IUCN Otter Spec. Group Bull.* 11: 31-33.
68. Kumar A, Umapathy G & Prabhakar A. 1995. A study on the management and conservation of the small mammals in fragmented rain forests of Western Ghats, South India. A preliminary report. *Primate Conservation*, 16:53-58.

Patent /Technology development

Umapathy,G, Asthana A, Rao Ch, Kumar V, Suresh O. 2019. A non-invasive paper based device for pregnancy detection in cattle and buffaloes Patent filed PCT/IN2020/050202 and 201911008655 dated 6 March 2019.

Manuals

A Manual on "*Chemical Immobilization of Wild Animals*" 2018. (Authors: Sontakke SD, Umapathy, G, Kumar D, Singh, DN.) Published by Central Zoo Authority New Delhi, 1-62.

Manual for "*Biological Sample Collection and Preservation Genetic, Reproductive and Disease Analysis*" 2017 (Authors: Gaur A, Umapathy, G, Vasudevan, K, Sontakke, S, Goel, S, Kumar D, Gupta, BK, Singh DN, Kumar TA,) Published by Central Zoo Authority and LaCONES, CCMB, New Delhi, pp-1-58.

Invited talks

More than 75 invited talks delivered at various national and international meetings/conferences and including at University colleges and Forest administrators' meetings.