



ZSI e-NEWS

The Monthly Electronic Newsletter of Zoological Survey of India

Volume - 05 :: Number - 01

January 2013

ZSI in the 98th years of Service to the Nation (1916 to 2013)

From the Director's desk

After my resuming office as the Director in December 2010, more emphasis was given to digitize the vast identified specimens kept in the National Zoological Collections (NZC), to make the group-wise databases so as to upload the entire content in the website of ZSI for public viewing. In this context, a national seminar was organised in collaboration with the Wildlife Institute of India (WII) in mid-June 2011 at Kolkata, wherein training was given to the scientists of ZSI on the basics of database creation and digitization of faunal collections. This month, again, we have organised a two-day training workshop on the basics of Geographic Information System (GIS) for the scientists of ZSI in HQ, wherein, apart from theory sessions, hands-on training was also given to scientists on how to create database using the spatial information available with each specimen collected over a long period of time. I sincerely hope that, in the coming months one can get to read more information about our precious NZC with more inputs on spatial information. Also, as a routine process, we have conducted the Programme Advisory Committee (PAC) meeting at Southern Regional Centre (SRC), Chennai involving ZSI scientists working in the southern region to assess and scrutinise the progress of various on-going research and survey programmes.

Dr. K. Venkataraman
Director
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Kolkata

Back issues of ZSI e-NEWS

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Headquarters, Kolkata

During the month, extensive field surveys were undertaken in the States of Himachal Pradesh, Maharashtra, Assam and West Bengal. In addition to that, a team of ZSI scientists has visited National Mineral Development Corporation's (NMDC) iron ore mining complexes situated at Kirandul and Bacheli reserve forests in Dantewada district of Chhattishgarh and documented the fauna of the area as a part of the EIA study for proposed expansion of the iron ore mines in the area by NMDC. This survey has been conducted by the ZSI along with the researchers of the Indian Institute of Bio-social Research & Development (IBRAD) of Kolkata.

Scientists of HQ office have identified, one species of Protozoa, 3 species of Collembola, 18 species of Hemiptera, 13 species of Hymenoptera, 12 species of Coleoptera, 7 species of Isoptera, 17 species of Crustacea, 19 species of Fishes and one species of Mammal out of various collections made from the States of Andhra Pradesh, Assam (Dibrua saikhowa WLS, Dighilpukuri and Guwahati), Arunachal Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Odisha, Tamil Nadu, Uttarakhand, Uttar Pradesh, West Bengal (Sajnakhal W.L.S., and Narendrapur Bird Sanctuary).

A team of researchers headed by Dr. S. S. Mishra, Scientist-B of ZSI has described a new species (*igcarensis*) of fish under the Genus *Scolopsis* belonging to the family Nemipteridae from the southern coasts of India and Sri Lanka. The ZSI also documented *Macroglenes herbaceous* (Graham, 1969) (Hymenoptera: Pteromalidae), as a new record from India and new record to the Oriental region. Similarly, ZSI also recorded *Dirhinus auratus* Ashmead, 1905 (Hymenoptera: Chalcididae), *Euplectrus euplexiae* Rohwer, 1921 (Hymenoptera: Eulophidae), *Euplectrus manjericus* Narendran, 2011 (Hymenoptera: Eulophidae), *Euplectrus zandanus* Narendran, 2011 (Hymenoptera: Eulophidae), *Aprostocetus gala* (Walker, 1847)

(Hymenoptera: Eulophidae) and *Macroglenes herbaceous* (Graham, 1969) (Hymenoptera: Pteromalidae) as new records from the State of Maharashtra.

Genomic DNA (gDNA) was isolated from single specimen of 2 different populations of *Culicoides* sp. (Diptera: Ceratopogonidae), 2 species of Sarcophagidae (Diptera), more than 10 species of Thrips (Thysanoptera), and one species of freshwater Sponge using DNA extraction kit and Phenol-Chloroform-Isoamyl Alcohol method. Genomic DNA was also extracted from two whales stranded one each on Digha coast of West Bengal [sample collected by MARC-scientists and sent to ZSI H.Q., Kolkata] and another on Andaman coast (sample collected & sent from ANRC-Port Blair) using Phenol-Chloroform-Isoamyl Alcohol method. gDNA was quantified using fluorometer-BR bioassay kit (Invitrogen) and 10ng DNA was used as starting material for Polymerase Chain Reaction (PCR). PCR amplification reaction was carried out for *Culicoides*, Thrips (Figure 1) and Sarcophagid Flies using mtCoI specific primers to amplify 680 base pairs. gDNA of whale samples from Andaman & Digha and gDNA extracted from fecal sample was amplified using Cytochrome b (Cyt b) primers (preferentially designed for Mammals) to amplify around 500 bp fragment (Figure 2). The amplicons for insects, sponge and mammals was purified, eluted and labelled and ready for sequencing. Two students from Presidency University, Kolkata have joined as 'Research Intern' at Centre for DNA Taxonomy (CDT) of HQ office.

Library Section has added 4 Nos. of Books, 29 issues of Journals by purchase, 28 issues of Journals by exchange.

Identification and advisory services were rendered on twenty three lots of specimens, received from different institutions and organizations. In addition to that, Identification and advisory services were also rendered for the lot received from Dr. Sheela Roy, Associate Professor, Department of Zoology, Vidyasagar

College, Kolkata; Moumita Choudhuri, Research Scholar, Department of Environmental Studies, North-eastern Hill University, Shillong, Meghalaya; Prof. A. K. Bhatnagar, Environmental Biology Laboratory, Department of Botany, University of Delhi; 4 Vials received from Dr. K.P. Jayanth, Vice President, Pest Control (India) Pvt. Ltd., Bio-Control Research Lab., Bangalore were identified as two species namely *Odontotermes obesus* (Rambur) and *Odontotermes horni* (Wasmann). During the month, HQ office also received two lots of seized animal scales one each from Shri. Rajiv Kr. Verma, Inspector, Customs Preventive Circle, Purelia and another from Shri. C. Behera, Regional Deputy Director, Wildlife Crime Control Bureau, Eastern Region, Kolkata. Both the lots were identified as the scales of Indian Pangolin *Manis crassicaudata* Gray, and reports submitted, accordingly.

Training & Extension Division, ZSI, Kolkata has organized a two-day training programme on GIS in 'Faunal Studies, data basing and digitization of faunal collections' on 21 & 22 January, 2013 at ZSI Headquarters to impart hands on training to fifteen Officers/officials from HQ and Regional Centers. Dr. Gautam Talukdar of Wildlife Institute of India and Dr. K.A. Subramanian of HQ office, ZSI gave lectures on the subject matters for the participants. Dr. Talukdar's lectures were on the "Basics of GPS, GIS and Satellite imaging" and "Applications of Remote Sensing, GIS and GPS in faunal studies" and Subramanian's lectures were on "Creation, management and applications of Primary Biodiversity Information" and "Introduction to digitization, DIVA-GIS & Specify 6". Dr. K.A Subramanian, Scientist-C of HQ office has been selected as one of the Members of IUCN-SSC's Invertebrate Specialist Group for the years 2013-2016.

Mr. Callum Thomas, of United Kingdom has visited various sections/Divisions of on 28 January 2013. Shri. Surjit Singh, Joint Secretary, Ministry of Environment and Forests (MoEF), New Delhi has visited various sections of ZSI

on 31 January 2013. Shri. Kondala Rao, Deputy Conservator of Forests along with his team of 39 trainee Forest Range Officers from Andhra Pradesh Forest Academy, Hyderabad visited different Divisions/Sections of ZSI Headquarters on 31 January 2013. Two research fellows (Mr. K.K. Bineesh and Rahul G. Kumar) of NBFGR, Kochi Unit, Kerala visited Fish Division from 15-21 January 2013 mainly to study the type specimens of fishes. Similarly, one Rameshori Yumnam and a few research scholars from the Department of Life Sciences, Manipur University visited freshwater fish section for examining 20 Types and non-type specimens during 3-7 January 2013. Mr. Dipanjan Roy, Junior Research Fellow from MARC, Digha visited the Fish Division during 22-24 January 2013 for identification of various collections he has made.

Dr. K. Venkataraman, Director, attended Biodiversity Board meeting at Pribesh Bhawan on 8 January 2013. He also attended the departmental screening meeting for consideration of grant of Assured Career Progression to eligible Scientist-B & C of ZSI at Ministry of Environment and Forests (MoEF), New Delhi on 24 January 2013. Dr. Venkataraman, also attended a DPC meeting at UPSC, New Delhi during the month.

Dr Kailash Chandra, Scientist-F & Additional Director has acted as Chairman of the committee for the High Performance Award (HPA) on 2&3rd January 2013 and the applications received for above award from different Sections of ZSI, HQ and Regional Centers were screened and evaluated.

Dr. A. Gokul, Asst. Zoologist and Shri S. Mitra, Zool. Asst. participated in 100th Indian Science Congress held at Kolkata from 3-7th January 2013. Dr. Gaurav Sharma, Scientist-C has attended the 5th meeting of CITES cell at MoEF, New Delhi on 23 January 2013.

Publications

1. Maheswaran, G. (2012) Record of White-tailed Eagle *Haliaeetus albicilla* at Namdapha Tiger Reserve, Arunachal Pradesh, India. *Birding ASIA* 18: 85.

2. Hegde, V.D. (2012) Amphibian fauna of Arcaomt plantation is kadatoka (Uttara Kanada) Western Ghats, Karnataka frog leg.10-20.
3. Dev Roy, M. K. (2012) An updated systematic list of isopod fauna of India. *J. Environ. & Sociobiol.*, 9(2):163-175.
4. Dev Roy, M. K. (2012) Freshwater crab (Crustacea: Brachyura) diversity in five states of West coast of India. *J. Environ. & Sociobiol.*, 9(2):187-190.
5. Dev Roy, M. K. and Mitra, S. (2012) On the occurrence and abundance of *Himalayapotamon emphysetum* (Alcock, 1909) in bowri water system of Himachal Pradesh. *J. Environ. & Sociobiol.*, 9(2):176.
6. Dev Roy, M. K., Mitra, S. and Pati, S. (2012) Crustacea: Isopoda. *Fauna of Maharashtra, State Fauna Series*, 20(2):367-373.
7. Dev Roy, M. K. and Rath, S. (2012) Shrimps (Crustacea: Decapoda: Dendrobranchiata-Penaeidae) of Maharashtra. *Fauna of Maharashtra, State Fauna Series*, 20(2): 387-393.
8. Paul, S., Roy, M. and Dev Roy, M. K. (2012) Occurrence and seasonal abundance of Sesarmid crab *Pseudosesarma edwardsii* De Man in Hugli-Matla estuary, West Bengal. *J. Environ. & Sociobiol.*, 9(2):193-194.
9. Mitra, S. and Roy, M. (2012) On the first record of *Phurusa bengalensis* (Polycheta:Flabelligeridae) from Orissa coast. *J. Environ. & Sociobiol.*, 9(2):177-178.
10. Mishra, S.S., Biswas, S., Russell, B.C., Satpathy, K.K. and Selvanayagam, M. (2013) A new species of the genus *Scolopsis* Cuvier, 1830 (Perciformes: Nemipteridae) from southern India and Sri Lanka. *Zootaxa*, 3609 (4):443-449.
11. Barman, R.P., Mishra, S.S., Kar, S., Mukherjee, P. and Saren, S.C. (2012) Marine and estuarine fish. *Fauna of Maharashtra. State Fauna Series*, 20(1): 369-480.
12. Chitra J and Nandi N.C. (2012) Rotifera. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:38-40.
13. Chitra, J. (2012) Cladocera. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:56-57.
14. Chitra, J. (2012) Ostracoda. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:58-59.
15. Chitra, J. (2012) Copepoda. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:60-61.
16. Chitra, J. and Mitra, S. (2012) Sponge (*Eunapius carteri*) Associates. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:137-138.
17. Chitra J and Mitra, S. (2012) Macrophytes associates. Fauna of Indian Museum Tank, *Rec. Zool. Surv. India., Occ. Paper.*, 333:141-142.
18. Malini E., Chitra J and Ramanibai R. (2012) Phytoplankton diversity of Madhuranthagam lake, Tamilnadu. *Intl. J. of Appl. Biol.*, 3 (2): 42-49.
19. Kumar, P. G. and Narendran, T. C. (2012). On a collection of chalcidoid wasps (Hymenoptera: Chalcidoidea) from Bor Wildlife Sanctuary of Maharashtra, India. *Bugs R All, Newsletter of the Invertebrate Conservation & Information Network of South Asia*, No. 19:2-5.





During visit of Shri. Surjit Singh, Joint Secretary, Ministry of Environment and Forests (MoEF) to the different Divisions/Sections of ZSI Headquarters on 31 January 2013.



During meeting to felicitate Dr. V. V. Gantiat on his voyage and expedition to Antarctica on 11 January 2013 at ZSI, Headquarters.



During Republic Day Celebrations



Distribution of High Performance Awards on the occasion of 64th Republic Day, 2013.



Felicitation to Officers/ Officials on successful completion of 33 years of services in ZSI.



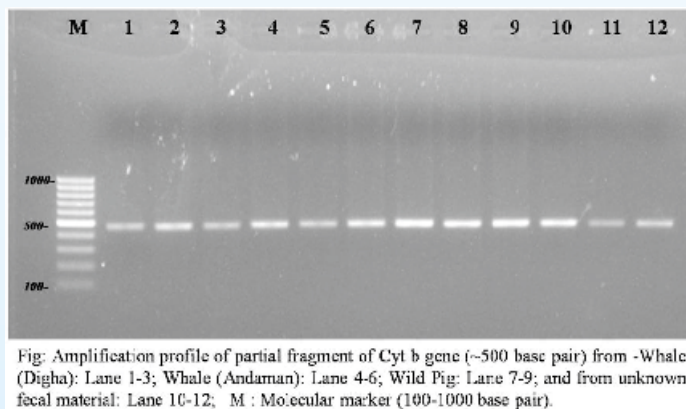
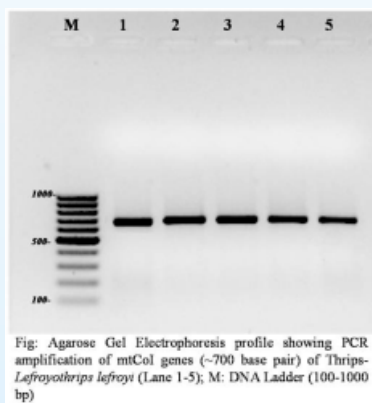
Visit of Forest Range Officers from Andhra Pradesh Forest Academy, Hyderabad.



Visit of Mr. Callom Thomas from England to Mammal section of ZSI Headquarters.



Director, ZSI inaugurated a two-day training workshop on GIS in "Faunal studies, data basing and digitization of faunal collections" on 21 January 2013 at HQ office, Kolkata.



Scolopsis igcarensis Mishra et al, 2013 belonging to the family Nemipteridae.



Book:
Scleractinia of
Andaman and
Nicobar Islands.

Andaman & Nicobar Regional Centre, Port Blair

Marine and terrestrial ecosystems of Grub Island, Rutland Island, North Bay, Burmanallah, Pongibalu, Sippighat, Shoal Bay, Chidyatapu and Stewardgunj in south Andaman were surveyed during 14-25 January 2013 to document the faunal diversity. Scuba diving was also done during night on 24th and 25th January 2013 in the offshore regions of Pongibalu and North Bay to observe the reproductive behavior of corals. As a result of such surveys, 104 species of corals, 5 species of sea anemones, 12 species of polyclads, 19 species of echinoderms, 31 species of opisthobranchs, 31 species gastropods, 10 species of crabs, 1 species of shrimp, 28 species of fishes were identified from marine habitat while 20 species of lepidopterans, 5 species of dipterans, 4 species of amphibians, 3 species of lizards, 2 species of snakes, 66 species of birds and 1 species of mammal were identified/observed from terrestrial habitats. Among them, 7 species of opisthobranchs *Crimora lutea* Baba, 1949; *Dermatobranchus oculus* Gosliner and Fahey, 2011; *Diaphorodoris mitsuii* (Baba, 1938); *Goniobranchus preciosus* (Kelaart, 1858); *Phyllidia exquisita* Brunckhosrt, 1993; *Polycera* sp.; *Roboastra luteolineasta* (Baba, 1936), 5 species of crabs *Trapezia septata* Dana, 1852; *Macromedaeus orientalis* (Takeda & Miyake, 1969); *Petrolisthes hastatus* Stimpson, 1858; *Metopograpsus quadridentatus* Stimpson, 1858; *Thalassograpsus harpax* (Hilgendorf, 1892) were new records to the Indian waters. In addition, two species of marine fishes *Haliophanes cosmetus* Randall & Smith, 1982 and *Pteroleotris microlepis* (Bleeker, 1856), and a marine crab *Petrolisthes asiaticus* (Leach, 1820) were new findings to the Andaman and Nicobar group of Islands.

We have also conducted studies on the laboratory breeding and larval development techniques of an opisthobranch *Hypselodoris infucata* (Ruppell and Leuckart, 1828) during the month. A total of 121 specimens comprised of 53 specimens of corals, 15 specimens of

echinoderms, 12 specimens of crustaceans, 12 specimens of polyclads, 4 specimens of molluscs, 15 specimens of butterflies, 6 specimens of moths and 4 specimens of dipterans were registered in the National Zoological Collections during the month. Three species of live snakes confiscated by the Department of Environment and Forests, Andaman and Nicobar Administration were identified and report submitted.

Mr. Koushik Sadhukhan, SRF participated in 100th Indian Science Congress 2012 at University of Calcutta held from 3-7 January 2013 and presented a paper entitled, 'Diversity and abundance of crinoid population in Mahatma Gandhi Marine National Park, A&N Islands'. Mr. S. Kumaralingam, SRF attended a workshop on 'taxonomy of brachyuran crabs' at University of Kerala from 9-11 January 2013. Mrs. Kamla Devi, Assistant Zoologist served as a resource person to a group of trainees at the Department of Education, A&N Administration' on 3 January 2013; she also attended a training programme on 'Effectiveness of Work' on 17 & 18 January 2013 in Rajiv Gandhi Co-operative Training College, Port Blair; also attended the 4th meeting of State Animal Disease Emergency Committee at Secretariat, A&N Administration on 30 January 2013.

Dr. C. Sivaperuman, Scientist-C has attended a workshop on Biomedical Waste Management at Directorate of Health Services, A&N Administration during 5 & 6 January 2013. On 14 January 2013, Mr. B.M.S. Rathore, IFS, Joint Secretary to the Government of India, Ministry of Environment and Forests visited our Centre, wherein Dr. C. Raghunathan, Scientist-C & Officer-in-Charge made a presentation on the activities and achievements of ZSI. Dr. Raghunathan attended an international workshop on 'Sharks and Manta Rays in CITES' held at Colombo, Sri Lanka during 22 & 23 January 2013; he also attended a PAC meeting at ZSI/SRC, Chennai on 29th January 2013. Dr.

C. Raghunathan and Mr. M. Selavaraj, LD Clerk were honoured for their achievements by offering 'High Performance Award of ZSI 2012' on 26 January 2013 at ZSI HQ office, Kolkata.

Publications

1. Raghunathan, C., Senthil Kumar, S., Dinesh Kannan, S., Tamal Mondal, Sreeraj, C.R., Raghuraman, R. and Venkataraman, K., 2013. Mass stranding of pilot whale *Globicephala macrorhynchus* Gray, 1846 in North Andaman coast, *Current Science*, 104: 37-41.
2. Koushik Sadhukhan and Raghunathan, C., 2012. Study on coral bleaching (2010) in Middle Andaman, Andaman and Nicobar

Islands. *Records of Zoological Survey of India*, 112(3):1-7.



Visit of Joint Secretary Mr. B.M.S. Rathore, MoEF



Coral *Acropora formosa* Dana 1846



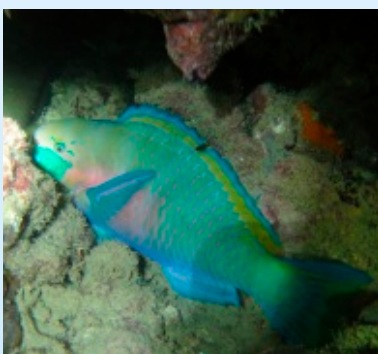
Coral *Physogyra lichtensteini*



Coral *Tubastrea micrantha*
Ehrenberg 1834



Fish *Arothron nigropunctatum*



Fish *Chlorusu bleekeri*



Gorgonian *Xenocarcinus depressus*
Miers 1874



Mollusc *Coriocella nigra*

Northern Regional Centre, Dehradun

During the month 8 species of short-horned grasshoppers and 7 species of soil nematodes were collected from Dehradun. We also collected soil samples from Sultanpur NP & Bird Sanctuary, Haryana and processed them for morphological studies. DNA has been extracted from the skin of Fishing cat *Prionailurus viverrinus* (Bennett, 1883) and hair sample of Leopard cat *Prionailurus bengalensis* (Kerr, 1792). Sixteen species of fishes were digitized and their metadata entered in the

database during the month; while 28 entries of Scolopendromorpha and 10 entries of soil nematodes have been entered in invertebrate database. Four boxes of old dry collection of Acridoidea were cleaned and shifted to our new insect storage system. Forty trainee Forest Range Officers and one faculty member from Uttarakhand Forestry Training Academy, Haldwani, visited our library and museum; 30 local students also visited our museum during the month.

Arunachal Pradesh Regional Centre, Itanagar

During the month, Dr. Bikramjit Sinha Scientist-C & Officer-in-Charge of the centre has undertaken a field tour to East Siang district from 10-17 January 2013 mainly to document the zooplankton diversity. During the survey, 20 water samples for zooplankton studies have been collected from different lotic and lentic water bodies and collected 635 examples representing different faunal groups. Five species of fishes were identified and added to

the National Zoological Collections and their metadata were also digitized during the month. Dr. Sinha attended two-day training on GIS in faunal studies, data-basing and digitization of faunal collections organized by the Training & Extension Division of ZSI, HQ office on 21 & 22 January 2013. Two civil society members from East Kameng district and around 25 students from different schools of Itanagar visited the centre during the month.

Gangetic Plains Regional Centre, Patna

Dr. Gopal Sharma, Scientist-C & Officer-in-Charge of the Centre has conducted a survey in river Damodar from 6-15 January 2013 and collected 715 examples of Mollusks & Zooplanktons. Localities like Chandwa, Bhurkunda, Rajarappa, Panchet dam and Rondia in Jharkhand were covered during the survey. During the month, we have identified 14 species of Noctuidae such as *Carea subtilis* (Walker), *Artena dotata* (Fabricius), *Chalciope mygdon* (Cramer), *Eproctis scintillans* Walker, *Thysanoplusia orichalcea* (Fabricius), *Ophiusa disjuncta* Walker, *Episparis liturata* (Walker), *Eressa confinis* (Walker), *Hyela quadripartita* Walker, *Cyana puella* (Drury), *Lyclene metamelas* (Hampson), *Westermania superba* Hubner, *Lymantria Mathura* Moore and *Syntomoides imaoon* Cramer. Also identified 10 species of Mollusks such as *Indoplanorbis exustus*,

Diagonistoma pulchella, *Gyraulus convexiusculus*, *Gyraulus euphraticus*, *Melanoides tuberculata*, *Lymnaea accuminata*, *Parreysia favidens*, *Lamellidens corrianus*, *Bellamya bengalensis* and *Corbicula striatella*.

Dr. Gopal Sharma, Scientist-C & Officer-in-Charge has delivered a lecture on 'Ensuring Survival of Gangetic Dolphins' on 19 January 2013 at Chhapra during the INSPIRE Programme organized by Jagdam College, Chhapra. He also demonstrated the techniques of collection and preservation of Zooplanktons to the M.Sc. students of Zoology Department, Patna University, on 20 January 2013. Again, on 25 January 2013, Dr. Navneet Singh, Scientist-C of the Centre helped M.Sc. students of Zoology Department, Patna University in identifying the insect collections brought by them.

Western Regional Centre, Pune

Extensive field survey was undertaken to Phansad Wildlife Sanctuary and surrounding areas of Raigad district from 17-26 January, 2013. During the month, 9 species of Odonata, 4 species of Hymenoptera, 9 species of Amphibia and 6 species of Reptilia were identified. Thirty-six research papers were published during the month. Identification and advisory services were rendered on the beetles received from Dr. U.S. Salve, Head, Dept. of Botany, Sw. Sawarkar Mahavidyalaya of Beed district and one lot of seized bird feathers received from the Asst. Conservator of Forests of Bhimashankar WLS, Pune. Dr. R.M. Sharma, Scientist-D & Officer-in-Charge has attended the 7th State Wildlife Board meeting on 24 January 2013 at Council Hall, Pune. He also attended Ph.D. (Zoology) admission meetings as subject expert at Dept. of Zoology, Pune University on 12 January 2013 and at Modern College, Shivajinagar, Pune on 14th January and at Garware College, Pune on 18th January, 2013. Dr. S.S. Jadhav, Sr. Zool. Assistant has participated in the "Training on GIS in faunal studies, Data basing and Digitization of faunal collections" at HQ, ZSI, Kolkata on 21 & 22 January, 2013. Dr. S. K. Pati, Zool. Assistant received a 'High Performance Award-2012' at Headquarters, ZSI, Kolkata on 26th January, 2013.

Publications:

1. Bano, R., Gupta, Kavita, Singh, Charan and Sharma, R.M. (2012). Insecta: Coleoptera: Bruchidae, Bruchids. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 495-497.
2. Bano, R. and Sharma, R. M. (2012). Arachnida: Acarina: Trombiculidae (Chigger mites). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 669-670.
3. DuttaSaha, P, Jadhav, M. J. and Sharma, R. M. (2012). Insecta: Coleoptera: Chrysomelidae). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 517-522.
4. DuttaSaha, P, Sharma, R. M. and Mitra, Bulganin (2012). Insecta : Diptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 531-538.
5. Ghate, H. V., Jadhav, S.S. and Sharma, R.M. (2012). Insecta: Mantodea. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 441-445.
6. Jadhav, M. J. and Sharma, R. M. (2012). Insecta: Dermaptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 437-438.
7. Jadhav, M. J. and Sharma, R. M. (2012). Insecta: Homoptera. Scale Insects & Mealy Bugs. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 479-483.
8. Jadhav, M. J. and Sharma, R. M. (2012). Insecta: Coleoptera: Scarabaeidae, Scarabaeid Beetles. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 489-494.
9. Jadhav, M. J. and Sharma, R. M. (2013). Range extension of Malabar Tree Nymph, *Idea malabarica* (Moore) (Lepidoptera: Nymphalidae) to northern Western Ghats of Maharashtra and a review of distribution records. *Journal of Threatened Taxa*, 5 (1): 3556-3558.
10. Jadhav S. S. and Sharma, R. M. (2012). Insecta: Blattodea. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 447-448.
11. Jadhav S. S. and Sharma, R. M. (2012). Insecta: Coleoptera: Coccinellidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 507-509.
12. Jadhav S. S. and Sharma, R. M. (2012). Insecta: Coleoptera: Cicindilidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 511-512.
13. Jadhav S. S. and Sharma, R. M. (2012). Insecta: Coleoptera: Rhynchophora: Curculionidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 527-528.

14. Karmakar, A. K., Yadav, B. E., Bairagi, N., Das, A., Banerjee, P.K. and Jadhav, S. S. (2012). Freshwater fishes. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-1): 247-367.
15. Mahabal, Anil and Sharma, R. M. (2012). An Overview. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-1): 1-19.
16. Pathak, G., Ghate, H. V. and Sharma, R. M. (2012). Insecta: Hemiptera: Pentatomidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 473-475.
17. Pati, S. K. and Sharma, R. M. (2012). Marine Gastropods (Mollusca: Gastropoda). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 291-302.
18. Pati, S. K. and Sharma, R. M. (2012). Marine Bivalves (Mollusca: Bivalvia). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 303-308.
19. Pati, S. K. and Sharma, R. M. (2012). Freshwater Prawns (Atyidae: Palaemonidae: Decapoda) *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 361-363.
20. Pati, S. K. and Sharma, R. M. (2012). Freshwater crabs (Gecarcinucidae: Ecarcinucisae: Brachyura: Decapoda). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 365-366.
21. Pati, S. K. and Sharma, R. M. (2012). Barnacles (Crustacea: Maxillipoda: Cirripedia). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 375-377
22. Pati, S. K., Sahu, K. C., Swain, D., Baliarsingh, S. K. and Sharma, R. M. (2012). Marine crabs (Decapoda: Anomura and Brachyura). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 381-385.
23. Sharma, R. M. and Chandra, K. (2012). Insecta: Ephemeroptera (Mayflies). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 395-396.
24. Sharma, R.M. and Chandra, K. (2012). Insecta: Embioptera (Web Spinners). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 439-440.
25. Sharma, R. M. and Bano, R. (2012). Insecta: Hemiptera: Reduviidae Assassin Bugs. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 477-478.
26. Sharma, R. M. and Chandra, K. (2012). Insecta: Neuroptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 485-488.
27. Sharma, R. M. and Bano, R. (2012). Insecta: Coleoptera (Aquatic). *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 499-501.
28. Sharma, R. M. and Chandra, K. (2012). Insecta: Mecoptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 529.
29. Sharma, R. M. (2012). Insecta: Diptera: Cecidomyiidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 539-548.
30. Sharma, R. M. (2012). Insecta: Diptera: Tabanidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 549-550.
31. Sharma, R. M. (2012). Insecta: Lepidoptera: Rhopalocera & Grypocera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 551-562.
32. Sharma, R. M. and Chandra, K. (2012). Insecta: Trichoptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 563-565.
33. Swain, D., Rao, M. V., Pati, S. K. and Sharma, R. M. (2012). Marine Wood Borers. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 379-380
34. Thirumalai, G., Prabakaran, S. and Sharma, R. M. (2012). Insecta: Homoptera: Membracidae. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 465-466.
35. Thirumalai, G. and Sharma, R. M. (2012). Insecta: Aquatic & Semiaquatic Hemiptera. *Fauna of Maharashtra, State Fauna Series, Zool. Surv. India*, 20 (Pt-2): 467-472.

*Aeoloesthes holosericea* (Fabricius)*Idea malabarica* (Moore) Extended Distribution in Northern Western Ghats

Central Zone Regional Centre, Jabalpur

During the month, 14 species of Lepidoptera (moths), 1 species each of Soricidae and Muridae (Mammalia), and 6 species of Scarabaeidae (Coleoptera) were identified from the lot of specimens collected from Madhya Pradesh. Identification and advisory service has been rendered to Dr. B.M. Parasharya, Officer-in-Charge, AIN on Agricultural Ornithology, Anand Agricultural University, Anand (Gujarat) for identification of 300 samples of Barn Owl (*Tyto alba*) pellets were identified as bone remnants of rodents belonging to 07 species of Muridae, 2 species of Soricidae and one species of Emballonuridae (Mammalia). The identification report has been sent to the concerned university. Dr. S. Sambath, Scientist-C & Officer-in-Charge has attended a meeting as a subject on "Narmada Sagar and Sardar Sarovar Pariyojana" held at office of the PCCF, Bhopal on 18 January 2013.

Papers published

1. Chandra, K. and Gupta, D. (2013). Taxonomic studies on Dung Beetles (Coleoptera: Scarabaeidae, Geotrupidae, Hybosoridae) of Chhattisgarh, India. *Munis Entomology and Zoology*, 8 (1): 331-360 (<http://www.munisentzool.org/yayin/vol8/issue1/331-360.pdf>).
2. Chandra, K. and Gupta, D. (2012). *Bolbohamatum achanakmarini* sp. nov. (Coleoptera: Geotrupidae: Bolboceratinae) from Chhattisgarh, India. *Journal of Entomological Research*, 36 (4): 383-385.
3. Chandra, K., Kushwaha, S. and Biswas, B. (2012). Additional Records Of Hemiptera (Insecta) from Jabalpur District, Madhya Pradesh, India. *National Journal of Life Science*, Vol. 9 (2) 2012:159-161.
4. Chandra, Kailash and Sambath, S. (2013), Moth diversity of Tawang District, Arunachal Pradesh, India. *Journal of Threatened Taxa*, 1(5): 35653570.
5. Sanjay, P., and Talmale S.S. (2012). Observations on nesting behaviour of five-striped squirrel, *Funambulus pennanti* Wroughton in Indian Thar Desert of Rajasthan. *Small Mammal Mail - Bi-Annual Newsletter of CCINSA & RISCINSA*. 4 (2) : 42-43.
6. Pradhan, M. S. and Talmale, S. S. (2012). Mammalia. Fauna of Maharashtra. *State Fauna Series*, 20 (1): 21-145(Published by Zoological Survey of India, Kolkata).
7. Patil, S. G. and Talmale, S. S. (2012). Land and Freshwater Mollusca. Fauna of Maharashtra. *State Fauna Series*, 20 (2): 249-289 (Published by Zoological Survey of India, Kolkata).
8. Patil, S. G. and Talmale, S. S. (2012). Freshwater Ostracods. Fauna of

Maharashtra. *State Fauna Series*, 20 (2): 309-319 (Published by Zoological Survey of India, Kolkata).

9. Kulkarni, P.P., Babu, R., Talmale, S. S., Sinha, C. & Mondal, S. B. (2012). Insecta: Odonata. Fauna of Maharashtra. *State Fauna Series*, 20 (2): 397-428 (Published by

Zoological Survey of India, Kolkata).

10. Talmale, S.S. and Tiple, A. D. (2013). New records of damselfly *Lestes thoracicus* Laidlaw, 1920 (Odonata: Zygoptera: Lestidae) from Maharashtra and Madhya Pradesh states, central India. *Journal of Threatened Taxa* 5(1): 3552-3555.

Southern Regional Centre, Chennai

The Centre hosted the Program Advisory Committee (PAC) meeting (South Zone) of ZSI on 29 January 2013. The PAC was chaired by Dr. T. C. Narendran, Professor Emeritus, University of Calicut, along with Dr. P.T. Cherian, former Additional Director of ZSI. Dr. K. Ilango, Scientist-D & Officer-in-Charge has presented about the status of ongoing projects and a new proposal for documenting the fauna of Western Ghats. Identifications of different faunal groups made from the southern & mid-Eastern Ghats were 13 species of planktons 9

species of Odonates, 7 species of Coleoptera, 6 species of spiders and 20 species of Molluscs. Dr. R. Babu, Scientist-C, has attended a training course on "GIS and Database usage for the faunal studies" held at ZSI Headquarters, Kolkata on 21 & 22 January 2013. Dr. Ilango has delivered lecture on 'Faunal diversity of India' in the two-day workshop on 'Biodiversity and preservation of biological specimens' organized by the Government Museum of Tamil Nadu and Ethiraj College for Women, Chennai on 21 January 2013.



During the Programme Advisory Committee meeting held at SRC, Chennai on 29 January 2013 Director, ZSI, Dr. P.T. Cherian, Former Additional Director of ZSI and Prof. T.C. Narendran, Chairman of the PAC.



Scientists from various ZSI Centres from southern region presenting their progress of work during PAC



High Altitude Regional Centre, Solan

Faunistic identification from the Centre includes 2 species of Oligochaeta, 3 species of Orthoptera and 01 species of fish from Spiti Valley Cold Desert of Lahul & Spiti district and 2 species of Oligochaeta and 5 species of butterfly from Kalatop Khajjar Wildlife Sanctuary, Chamba district and 6 species of fishes from the collections of Northern Regional Centre, ZSI, Dehradun. A scientist of the Centre has attended a training programme on 'GIS in faunal studies, data basing and digitization of faunal collections' on 21 & 22 January 2013 at Zoological Survey of India, Kolkata. A scientist of the Centre has reviewed a research paper on avian acoustics received

from one international journal.

Publication:

1. Kumar, C., Rose, H. S. and Sidhu, A. K. (2012) Taxonomic studies on the genus *Loxura* Horsfield (Lepidoptera : Papilionoidea : Lycaenidae) from North and North-East India. *Ann. Entomol.*, 30(1) :25-29
2. Paliwal, R. and Mandal, C. K. (2012). Oligochaeta (earthworms). In: *Fauna of Indian Museum Tank*. Zoological Survey of India, Kolkata.



Catantops pinguis innotabilis



Rock bunting (*Emberiza cia* (Linnaeus, 1766))-juvenile

North Eastern Regional Centre, Shillong

During the month, 17 species of fishes collected from Nongkhyllam Wildlife Sanctuary were identified and 9 species of aquatic and semi-aquatic Hemipteran insects collected from Ri-Bhoi district were also identified.



Puntius chola (Hamilton, 1822).

Identification services were rendered to the Department of Zoology, Guwahati University on the identity of five species of bat specimens. Thirteen entries of mammals, 3 entries of aves and 2 entries of reptiles were entered in the database of the Centre. Similarly, two species of bats, six species of amphibia and two species of reptiles were digitized and their metadata entered. Three officials from the Ministry of Environment & Forests, Government of India, New Delhi visited our Centre on 17 January 2013.

Desert Regional Centre, Jodhpur

During the month, we have identified and registered 15 species of nematodes, 6 species of fish and 4 species of ants collected from our area of jurisdiction. Eighteen species of reptiles, 162 species of birds and 19 species of mammals have also been identified and recorded during the survey of KBR conducted from 17-30 December 2012. In January 2013, in total, we have digitized 19 specimens from NZC. Dr. Sanjeev Kumar, Scientist-C, has delivered a lecture to 25 students of M. Sc. (Environmental Science) Deptt. of Environmental Sciences, MGS University of Bikaner, Rajasthan on 24th

January, 2013 during their visit to our Centre and he also provided information on various fauna displayed in the museum.

Publications

1. Banyal, H S. (2012). Exploration of fish diversity in River Luni at Kankani village near Jodhpur, Rajasthan. *J Env.Bio.Sci.*, 26(2) 141-142.
2. Banyal, H S. (2012). Ichthyofaunal diversity in Jaswant Sagar reservoir near Bilara region of Jodhpur district, Rajasthan. *J Env.Bio.-Sci.*, 26(2) 151-152.

Estuarine Biology Regional Centre, Gopalpur-on-Sea

A field survey was conducted from 2-7 January 2013 in and around Pennara Estuary of Nellore to study the faunal groups of the estuaries. Around 160 examples of molluscs, crustacea, and fishes were collected during the survey for taxonomic studies. Seventeen species of bivalve mollusca which belong to 8 genera and 5 families were identified during this month. About 30 visitors visited our National

Zoological Collections during the month.

Dr. Shantabala Gurumayum, Scientist-C has attended a training programme on 'GIS in faunal studies, data basing and digitization of faunal collections' at Zoological Survey of India, Prani Vigyan Bhawan, Kolkata, organized by the Training & Extension Division of HQ office on 21 & 22 January 2013.



Recording the physico-chemical Parameter at Pennara Estuary, Nellore, Andhra Pradesh



Collection of specimen at Pennara Estuary, Nellore, Andhra Pradesh

Marine Biology Regional Centre, Chennai

During the month extensive field surveys were conducted in selected estuarine ecosystems along the coast of Tamil Nadu and off the

Chennai coast using a trawl boat to explore deep-sea faunal composition. Scientists of this Centre have identified 7 species of

Nematodes, 2 species of Bryozoans, 1 species of Cnidaria, 6 species of Crustacea, 9 species each of Molluscs and Pisces and 1 species of Echinoderms out of the materials collected from Palkbay, Gulf of Mannar Biosphere Reserve and Bhitarkanika, Odisha. During this month, 35 species were digitized and their metadata compiled.

Dr. C. Venkatraman Scientist-C and Officer-in-Charge has presented about the progress of completed and on-going research programmes of this Centre before the Programme Advisory Committee of South Zone held at ZSI, Chennai. He also identified confiscated sea shells brought by the Station House Officers of Police

Stations situated at Ranhola and Tilak Mag of National Capitol Region of Delhi and delivered a lecture on "Taxonomy and conservation of birds" in Zoology Association, Department of Zoology, St. Theresa College, Ernakulam, Cochin.

Drs. C. Venkatraman and Rajkumar Rajan have supervised the research projects of SRF's of the Centre. Various ornamental fishes such as Puffer fish, Sweet lip fish, Clown fish, Orange Clown, Grouper, Lizard fish, Stone fish, Ray fish and Anemone fish were introduced into the tanks of our marine aquarium. Six hundred and forty eight tourists visited the marine aquarium and museum during the month.



Bryozoan *Acnethodesia savartii* (Audouin, 1826)



Bryozoan *Hippopodina feegeensis* (Busk, 1884)



Nudibranch *Gymnodoris rubropapulosa* (Berg, 1905)



Nudibranch
Hypselodoris kanga
Rudman, 1977

Sunderbans Regional Centre, Canning

Three species of Orthoptera, and two species of Isoptera were identified and registered during the month. Forty school students and public

visited the museum of our Centre during January 2013. On 26th January 2013, the Centre celebrated the 64th Republic day.

Marine Aquarium & Regional Centre, Digha

During this month, around 141 examples of live marine ornamental exhibits were collected for exhibition in aquarium galleries. The aquarium received an average of 1050 tourists per day. In total we have identified 26 species of fishes, 19 species of mollusks and five species of crabs. The specimens identified include *Apogon striatus* (Smith and Radcliffe, 1912) and *Scorpaenopsis ramaraoi* Randall and Eschmeyer, 2001 which are also the first records from Indian waters. Also some species like *Apogon smithi* (Kotthaus, 1970), *Apogon ellioti* Day, 1875, *Apogonichthyoides nigripinnis* (Cuvier, 1828), *Uroconger lepturus* (Richardson, 1845) and *Butis koilomatodon* (Bleeker, 1849) were identified which are also the first records for the West Bengal coast.



Apogon ellioti



Apogon striatus



Butis koilomatodon

Publication:

1. Ray, D., Yennawar, P., Saha, B. K., and Mohapatra, A. (2012). Occurrence of two emperor fishes of Family Lethrinidae in coastal waters of West Bengal. *J. Environment and Sociobiology*, 9 (2):183-186.



Uroconger lepturus



Apogon smithi



Apogonichthyoides nigripinnis



Scorpaenopsis ramaraoi

Freshwater Biology Regional Centre, Hyderabad

One faunistic survey to Krishnaraja Sagar Reservoir, Karnataka was undertaken for 10 days from 20-29 January 2013 and 325

specimens of various groups like fishes, molluscs, crustaceans, aquatic insects and plankton were collected. Eight water samples

collected from different localities of Krishnaraja Sagar were analysed in the field for estimation of alkalinity, hardness, calcium, chlorides, phosphates, nitrates, nitrites and ammonia nitrogen, pH.

Six species of fishes collected from Cumbum Lake, Prakasam district of Andhra Pradesh have been identified as *Puntius sarana sarana* (Ham.), *Puntius sophore* (Ham.), *Labeo fimbriatus* (Bloch), *Mystus bleekeri* (Day), *Wallago attu* (Schneider), and *Channa striata* (Bloch), belonging to 4 families; apart from 8 species of cladocera viz., *Chydorus barroisi*, *Chydorus sphaericus*, *Ceriodaphnia cornuta*, *Alona rectangula rectangula*, *Alona davidi davidi*, *Moina micrura*, *Macrothrix spinosa* and *Pseudosida bidentata*; 3 genera of ostracods namely *Cypris*, *Eusypris* and *Stenosypris*; 6 species of rotifers such as *Brachionus forficula*, *Brachionus calyciflorus*, *Brachionus diversicornis*, *Keratella tropica*, *Filinia longiseta* and *Brachionus palcatilis*; 3 species of molluscs such as *Physa acuta* (Gould), *Bellamya dissimilis* (Muller) and *Scabies crispata* (Gould) and 4 species of aquatic

insects such as *Ranatra elongate*, *Lethocerus indicus*, *Laccotrephus griseus* and *Diplonychus rusticus* were also identified from the collections made from various reservoirs and lakes of Andhra Pradesh.

During the months, 6 species of fishes and 3 species of molluscs were also digitised and their metadata entered. During the month, Dr. Prasanna Yennawar, Scientist-C of the Centre has participated in training programme on 'GIS in faunal studies, data basing and digitization of faunal collections' held at Zoological Survey of India, Kolkata on 21 & 22 January 2013. Scientific staff of the Centre have attended PAC meeting held at ZSI, Chennai on 19 January 2013.

Papers published:

1. Deepa, J. (2012). A preliminary study on aquatic beetles of Ameenpur lake, Hyderabad. *Journal of Zoology* 1(2): 36-40.
2. Ray, D., Yennawar, P., Saha, B. K. and Mohapatra, A. (2012). Occurrence of two emperor fishes of family Lethrinidae in coastal waters of West Bengal. *J. Environ. & Sociobiol.*, 9(2): 183-186.



Puntius sarana sarana (Ham.)



Labeo fimbriatus (Ham.)



Limnometra fluviorum



Laccotrephus griseus



Scabies crispata (Gould)



Bellamya dissimilis (Muller)

Western Ghat Regional Centre, Kozhikode (Calicut)

One extensive faunistic survey to Kannur and Kasaragod districts of Kerala and one local survey to Malabar WLS, Kozhikode have been conducted during the month and representative faunal samples were collected. One new species of Platygastriidae (Hymenoptera), *Mantibaria kerouaci* Veenakumari and Rajmohana has been described. Other taxonomic identifications during the month include 7 species of Pteromalidae (Hymenoptera), 10 species of Odonata (Insecta), 4 species of Centipedes (Chilopoda) and 2 species of Reptilia. One book on '*Birds of Aralam Wildlife Sanctuary, Kerala: A long term study with an Ecological Approach*' and two papers have been published in January 2013.

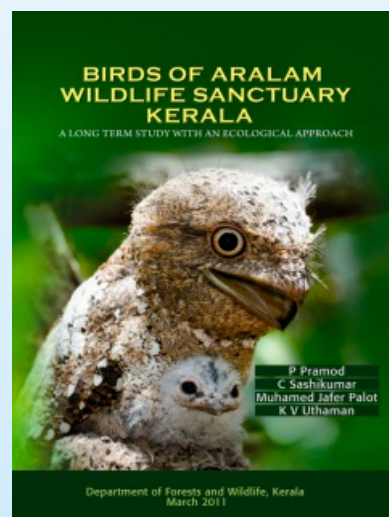
Three identification and advisory services were rendered to the various persons/organizations. Dr. K. Rajmohana, Scientist-C has attended the joint Indo-US workshop on Biodiversity Informatics on 19 & 20 January 2013 at ATREE, Bangalore. Mrs. K. G. Emiliyamma, Scientist-C has attended a training programme on 'GIS and database usage for the faunal studies' at HQ, ZSI, Kolkata on 21 & 22 January 2013. Dr. Muhamed Jafer Palot, Asst. Zoologist, has participated in a one-day workshop on the 'Declaration of eco-sensitive zones for the Aralam WLS' at Valayamchal, Aralam WLS on 17 January 2013 organized by Kerala Forests & Wildlife Department. He also attended a seminar on the conservation of sacred groves on 31 January 2013 organized by Kozhikode Paristhithi Samrakashana Samithi at Police Club Hall, Kozhikode and delivered a lecture on 'Faunal diversity of Sacred Groves of Kerala'.

Dr. P.M. Sureshan, Scientist-C & Officer-in-Charge has attended a meeting of State Board for Wildlife, Kerala held at the Secretariat, Trivandrum on 03 January 2013. He also attended the PAC meeting for Zoological Survey of India (south zone) held at ZSI, SRS, Chennai and presented the station's work progress on assigned research programmes

and new research programmes on 29 January 2013. Dr. Muhamed Jafer Palot, Asst. Zool. delivered a lecture on 'Butterfly Migration in Kerala' at the Butterfly survey camp at Aralam WLS on 12 January 2013 being organized by the Kerala Forests & Wildlife Department and Malabar Natural History Society, Kozhikode. Drs. P.M. Sureshan and K. Rajmohana have received the high performance awards for the year 2012 from the Director, ZSI on 26 January 2013 at a function organized at HQ Kolkata. During the month, 603 visitors paid their visits to the museum.

Publications

1. Pramod, P. Sashikumar, C. Muhamed Jafer Palot and K.V. Uthaman. (2012) *Birds of Aralam Wildlife Sanctuary, Kerala: A long term study with an Ecological Approach*. Department of Forests & Wildlife, Kerala. 122pages.
2. Veenakumari, K., Rajmohana. K. and Prashanth, M. (2012). Studies on Phoretic Scelioninae (Hymenoptera: Platygastriidae) from India along with description of a new species of *Mantibaria* Kirby, *Linzer biol. Beitr.* 44 (2): 1715-1725.
3. Bijoy, C and Rajmohana, K. (2012). A report on some rare Neuroptera from Kerala, mimicking wasps and Mantids. *Malabar Trogon*. 10 (1&2):10-11.



Cover page of book co-authored by scientist of the centre



Oxysychus coimbatorensis (Ferriere)
Hymenoptera: Pteromalidae



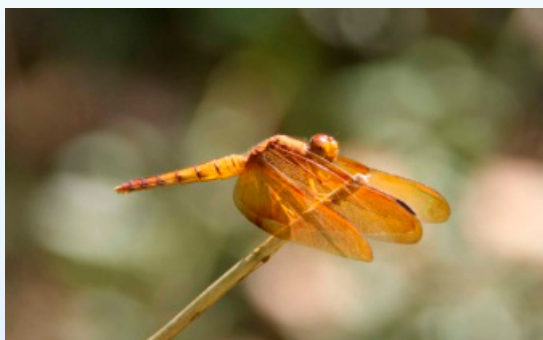
Mantibaria kerouaci Veenakumri & Rajmohana
Hymenoptera: Platygasteridae



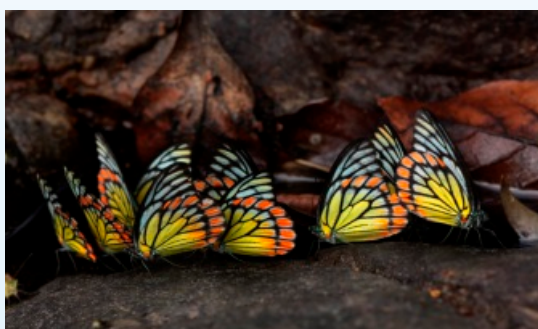
Hemidactylus frenatus Dumeril & Bibron
Reptilia: Gekkonidae



Dendrelaphis grandoculis (Boulenger) Reptilia:
Colubridae



Neurothemis fulvia (Drury) Odonata:
Libellulidae



Mud puddling assemblage of Painted Saw-tooth
Prioneris sita at Thalacauvery WLS, Karnataka

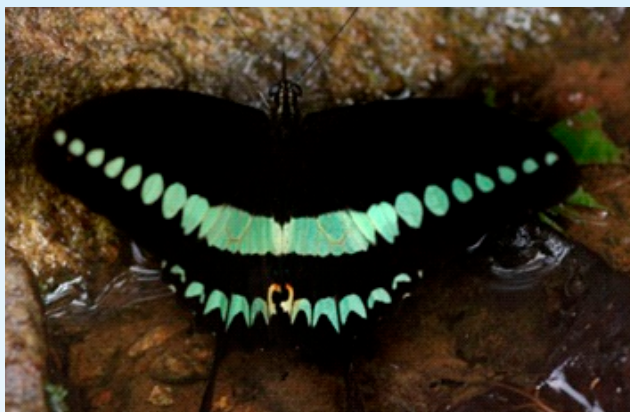


Dr. P. M. Sureshan, Scientist-C & Officer-in-Charge,
receiving the high performance award for the year 2012
from Director, ZSI at Kolkata.



Dr. K. Rajmohana, Scientist-C receiving the high
performance award for the year 2012 from the Director,
ZSI at Kolkata.

ANIMAL OF THE MONTH

Malabar Banded Swallowtail*Papilio liomedon* Moore

(Photo & text by Dr. Md. Jafer Palot, ZSI, WGRC, Calicut)

The Malabar Banded Swallowtail (*Papilio liomedon*) is a rare papilionid butterfly confined to the evergreen and semi-evergreen forests or well wooded country side. The species is known only from southern Western Ghats, south of Goa, where it flies mainly during July to December. It is a large brownish black butterfly, with a cream yellow band on its wing. The butterfly is very similar to the male specimens of Common Mormon (*Papilio polytes*), but differs by having an additional band of creamy yellow spots on the forewing. The Malabar Banded Swallowtail feeds on nectar and also visits wet patches of soil. It normally flies high in the dense forests, but is attracted to clearings and roadsides, where its adult – food plants – *Clereodendrum paniculatum*, *C. infortunatum*, *Lantana camara* and *Stachytarpheta indica* grow. The known larval food plants for the species are *Acronychia laurifolia*, *A. pedunculata* and *Evodia roxburghiana* from the plant family Rutaceae. The female lays her eggs one on top of the other in a stick of about ten to sixteen on tender leaves or shoots. The caterpillars live gregariously and are very much subject to the attack of insect parasitoids. The species is listed in the Schedule-I of Indian Wildlife (Protection) Act of 1972.

OUT OF THE BOX

Farmers of the forests: The bulky beaked hornbills, known for their perseverance and seed dispersal skill, are facing the threat of vanishing woodlands and mushrooming concrete jungles

<http://www.thehindu.com/sci-tech/energy-and-environment/farmers-of-the-forests/article4348200.ece?homepage=true>

Heat wave decimates marine species habitat: Study

<http://timesofindia.indiatimes.com/home/environment/global-warming/Heat-wave-decimates-marine-species-habitat-Study/articleshow/18150769.cms>

Birds affected by climate change, says international study

<http://economictimes.indiatimes.com/environment/flora-fauna/birds-affected-by-climate-change-says-international-study/articleshow/18350712.cms>

10 new species of freshwater earthworms discovered in Thailand

<http://www.thehindu.com/sci-tech/science/10-new-species-of-freshwater-earthworms-discovered-in-thailand/article4389743.ece?homepage=true>

Birds migrate using magnetic map

<http://phys.org/news/2013-02-birds-migrate-magnetic.html#jCp>

Quality of research and science in India very high: International Development Research Centre

<http://timesofindia.indiatimes.com/home/science/Quality-of-research-and-science-in-India-very-high-International-Development-Research-Centre/articleshow/18450562.cms>