



# ANNUAL REPORT 2011-2012



**ZOOLOGICAL SURVEY OF INDIA**





# **ANNUAL REPORT**

## **2011–2012**

**Zoological Survey of India**  
**Kolkata**

Annual Report, 2011-2012

Published : July, 2013

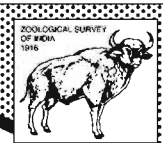
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Published at the Publication Division by the Director, Zoological Survey of India, M-Block, New Alipore, Kolkata-700 053 and printed at Calcutta Repro Graphics, Kolkata-700 006.

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## INTRODUCTION

Zoological Survey of India established in 1916 is pre-eminent research institution under Ministry of Environment and Forests. This institution is tasked with the survey and exploration of faunal resources of the country. The ultimate goal is the taxonomic identification and documentation of the country's biodiversity.

### PRIMARY OBJECTIVES OF ZSI

The current mandate of ZSI is survey, collection documentation (including the traditional knowledge associated with animals) and *ex situ* conservation of wild animal diversity of the country.

High priority areas include:

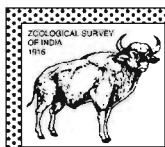
- ☆ Digitization of present collections, preparation of fine scale distribution maps based on primary occurrence data and making it available in a searchable format.
- ☆ Publication of National and State faunas.
- ☆ Taxonomic studies, revisionary/monographic studies on selected animal groups.
- ☆ Identification of Red list species and species rich areas needing conservation and focus on data deficient species to collect more information on populations.
- ☆ Development of National database of Indian animals including Museum specimens, live specimens, paintings, illustrations etc. and maintenance of

already existing collections with modern facilities and as per international standards of collection management.

- ☆ Developing and maintaining Museums and using such facilities for conservation education for people especially students.
- ☆ *Ex situ* conservation of critically threatened taxa.
- ☆ Capacity building in taxonomy, nomenclature, specimen collection, preservation and maintenance through training programmes.

### SECONDARY OBJECTIVES OF ZSI

- ☆ To establish a panel of experienced and active taxonomists and obtain their consent to participate in fauna project.
- ☆ To prepare annotated checklist of different groups of animals, museum collections, based on published documents giving local names if any with locality and habitat. Make available the electronic version of checklist to the general public; and circulate it among the panel of zoologists who would, in turn, check for omissions, ambiguities, localities and habitat through active consultation with other local zoologists.
- ☆ To begin with, state faunas should be published electronically giving correct names, localities, habitats, sketches and photographs of important species on an interactive Fauna of India Website. This will act as an outreach programme for



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all the biologists, and other interested public.

- ☆ Scientists of ZSI undertaken surveys to different States, Union Territories, Biosphere reserves, Conservation Areas and also Status Surveys. A total of 103 surveys were carried out during the period under report from the areas stated below.

States and UT	22
Biosphere reserve	3
Conservation Area	12

In addition to the above 10 surveys were also carried out to find out the status of specified animal groups.

## SOME IMPORTANT RESEARCH STUDIES UNDERTAKEN

- ☆ Status survey of Chinkara and Desert cat in Gujarat.
- ☆ Status survey of Swamp Deer *Cervus duvauceli* in Dudwa National Park (U.P.).
- ☆ Status survey of scheduled Mollusc, *Trochus niloticus* and *Turbo marmoratus* as per requirement of MoEF as well as Andaman and Nicobar Administration.
- ☆ Status survey of the Khasi Hills Rock Toad (*Bufoides meghalayana*) from Cherrapunjee, East Khasi Hills, Meghalaya.
- ☆ Animal Species in Convention and Act (an Ad-hoc assignment)
- ☆ Red-data book on the Fishes of India.
- ☆ Feasibility Study regarding re-introduction of Pygmy Hogs at Gorumara Wildlife Sanctuary, in Jalpaiguri district, West Bengal.
- ☆ All India net work programme on Blue tongue disease.
- ☆ Animal Fossil studies from Disang Group of rocks of Cenozoic era from Nagaland and from the Cretaceous rock beds of Narmada Valley, Madhya Pradesh.
- ☆ Studies on the fauna of cold desert of Ladakh.
- ☆ Studies on the fauna of Antarctica.
- ☆ Survey and monitoring the health of coral reefs of India (sponsored by MoEF).
- ☆ Diversity and distribution of coral and their associated fauna of Rani Jhansi Marine National Park (sponsored by MoEF).
- ☆ GIS based mapping and analysis of ecological variables of reefs around the little Andaman Island (sponsored by MoEF).
- ☆ Survey and Monitoring of Coral reefs of Andaman and Nicobar Islands (sponsored by Dept. of Environment and Forests, A. and N. Islands).
- ☆ Lead Institution : Great Nicobar Biosphere Reserve (sponsored by MoEF).
- ☆ Studies on the faunal diversity of Great Nicobar Reserve (sponsored by MoEF).
- ☆ Census of spotted deer and birds in Mount Harriet National Park in



collaboration with MoEF and Andaman and Nicobar Administration.

- ☆ Study of impact of Lignite mining on fauna in Hadla Rawaleton, Hadla Bhatiyar and Mokha Lignite Mining Blocks, District-Bikaner (Rajasthan).
- ☆ Environmental impact assessment studies in Katchal and Teressa Islands for the construction of Jetty as requested by Port Management Board, Andaman and Nicobar Administration.
- ☆ Monitoring of Marine mammals stranding incidences.
- ☆ Study of Ecto-parasites in ornamental fishes.
- ☆ Study of Spawning of Horse-shoe crabs in captivity.
- ☆ Over 1000 point locations of endemic amphibians of the Western Ghats were geo-referenced and preliminary mapping of 132 species were completed by Western Regional Centre, Pune and Western Ghat Regional Centre, Kozhikode (Calicut) and *Study of DNA material for evolutionary studies*.
- ☆ Collaboration with CCMB.
- ☆ Bone powder from the Holotype of *Balaenoptera edeni* (a Whale species) and extinct Indian Cheetah *Acionyx jubatus* were provided to CCMB scientists. In addition to this MOU made for molecular studies on birds.
- ☆ A MOU between ZSI/ANRC, Port Blair and ICAR CARI, Port Blair has been signed for the collaborative study on 'Marine Sponges Barcoding'.

### FIELD TOURS WITH OUTSIDE EXPERTS

- ☆ One of the scientists of ZSI participated in the butterfly survey of Aralam and Malabar Wildlife Sanctuaries, Kottiyur Reserve Forest as well as the Thusaragiri and Kakkavayal areas of Southern Western Ghats along with a team of butterfly experts including Dr. Krushnamegh Kunte of Harvard University, U.S.A.
- ☆ A survey for amphibian studies was conducted in the Kempholay forests, Gundia and Charmadi Ghats of Karnataka along with a team of outside amphibian experts, in search of "Lost Amphibians".

### SPECIES NEW TO SCIENCE

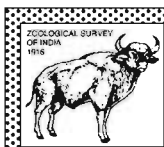
7 species of **Cnidaria**, 5 species of **Cestoda**, 2 species of **Trematoda**, 6 species of **Nematode**, 1 species of **Nematopmorma**, 1 species of **Hirudinea**, 135 species of **Insects**, 4 species of **Arachinids**, 7 species of **Fishes**, 23 species of **Amphibians** and 2 species of **Reptilia** are described as new to science.

### NEW RECORDS TO INDIA

34 species of **Corals**, 5 species of **Platyhelminthes**, 17 species of **Nematoda**, 2 species of **Insecta**, 6 species of **Mollusca** and 2 species of **Echinodermata** are recorded for the first time in India.

### SPECIES INCORPORATED IN THE IUCN RED LIST

44 species of Odonata, and 48 species



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of freshwater fishes were assessed by ZSI scientists and were incorporated in the IUCN Red List ([www.iucnredlist.org](http://www.iucnredlist.org)).

## DOCUMENTATION OF ANIMAL DIVERSITY

- ☆ 300 research papers/books have been published by ZSI scientists.
- ☆ Publication Division of ZSI published 19 books/Journals. Sale of departmental publication gone up to Rs. 3,50,000/-
- ☆ Dispatch of publications to exchange partners in India and Abroad/Regional Stations/H.Q./Book sellers up to 20,000 books.

## ELECTRONIC DOCUMENTATION

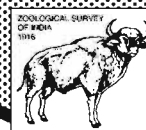
The following have been electronically documented and hyperlinked with the departmental website [www.zsi.gov.in](http://www.zsi.gov.in).

- ☆ Checklist of Diptera: Sphaeroceridae dealing with 63 species under 28 genera prepared. Advertisement call of the frog, *Raorchestes glandulosus*.
- ☆ Checklist of Orthoptera.
- ☆ Checklist of the Microlepidoptera of India
- ☆ Checklist on Sarcophagidae, Calliphoridae and Rhiniidae (Diptera: Insecta) of India.

- ☆ Videograph of the reddish burrowing frog.
- ☆ Videograph of the Red-necked Keelback snake.
- ☆ Videograph on Common Bronzeback tree snake.
- ☆ Videograph on Himalayan Marmot.
- ☆ Videograph on the freshwater eel, *Monopterus digressus*.
- ☆ Videograph on the Tibetan Wild Ass (Kiang)
- ☆ Advertisement call of the frog, *Pseudophilautus amboli*.
- ☆ Advertisement call of the frog, *Raorchestes bombayensis*.

In addition to the above a report on “Biodiversity and Status of Riverine Ecosystem of the Western Ghats” for the Western Ghats Ecology Expert Panel, MoEF prepared and uploaded to <http://westernghatsindia.org/com>.

The brief role and functions of individual sections and centers carried out during the period including significant work have been highlighted under each section and centres are as follows:



## HEADQUARTERS

Zoological Survey of India Headquarters office, Kolkata, apart from scientific divisions and sections has Library, Publication, Identification and Advisory, ENVIS centre, Field Survey, Training and Extension, Museum and Taxidermy Divisions, Photography section, Artist section, Scanning Electron Microscopy Unit and Data centre. These units support research work of the scientists.

The Scientific Divisions and Sections at ZSI Headquarters undertaking scientific studies on various animal groups from Protozoa to Mammals. The largest division is Entomology followed by Protozoology, Nematelminthes, Platyhelminthes, Arachnology, Malacology, General Non-Chordata, Crustacea, Marine and Fresh water Fish, Amphibia, Reptilia, Bird, Mammals and Osteology, Animal Behaviour, Wildlife Conservation, Animal population and Antarctica Unit.

**Training and Extension Division** celebrated Biodiversity Day on 24<sup>th</sup> May,



2011 in collaboration with Sarada Ashrama, New Alipore. The celebration presided by Director, Zoological Survey of India. It also celebrated World Environment Day on 7<sup>th</sup> June, 2011 along with lecture delivered by Senior Scientist on Global warming on the occasion.

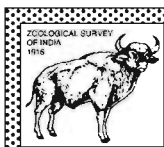
**Field Survey Division** approved 103 surveys and undertaken during the year, out of this 51 surveys from headquarter and 52 from different regional centers of ZSI.



The total is tabulated as States and Union Territories, Biosphere Reserves, Conservation Areas and Status Surveys as follows:

States and UT's	29
Ecosystems	31
Protected Areas	18
Status Surveys	04
Others	21

**State Survey and Union Territories:** Uttar Pradesh, Odisha, Himachal Pradesh,



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West Bengal, Maharashtra, Assam, Madhya Prdaesh, Arunachal Pradesh, Andhra Prdaesh, Andaman and Nicobar Islands, Goa, Kerala, Chhatisgarh.

**Biosphere Reserves and Conservation Areas:** Sundarban BR, Kachchh BR, Sajnakhali WLS, Sitamata WLS, Pakke Tiger Reserve, Veerangana Durgavati WLS, Phansad WLS, Singhori WLS, Kalatop–Khajjar WLS, Gulf of Mannar.

**Status Surveys:** Coral reefs, Indian Golden Gecko.



**Library Division** added 302 books, 337 issues of Indian, 130 Issues of Foreign and 627 volumes of bound Journals. 160 books and journals issued and 65 were returned, about 627 bound volumes were received. Section catalogued 107 and classified 107 books and journals. Totally 841 departmental, 294 universities/colleges and 169 from other institutions were utilized library facilities to enrich knowledge. Library section provided 5816 pages of reprography and scanning service and received Rupees 2760 from reprographic service. In addition, section

uploaded 23 titles of foreign journals during the period.

**Publication Division** of ZSI has published 19 Books viz., Records of Zoological Survey of India = 2 (Vol. 110–Part 4 and Vol. 111 – Part 1, 2 and 3); Occasional Papers = 6 (No. 328, 329, 330, 331, 332 and 334); Ecosystem Series = 1; State Fauna Series = 2; Fauna of India=2; Handbooks/Pictorial Guide = 2; Special Publications = 4.

**Identification and Advisory Division** engaged in one scientific programme namely **Status survey of Indian Golden Gecko, *Calodactyloides aureus* in Eastern Ghats, India:** Under this one survey was undertaken to Ananthagiri Hills from Vishakhapatnam District, Maredumilli Hills from Rajamundry District and Kinnerasani Wildlife Sanctuary, Palavanha Hills and Alapally Hills from Khammam Discript of Andhra Pradesh in September, 2011 and sighted 14 examples of Indian Golden Gecko at two different localities *i.e.* Ananthagiri Hills and Maredumilli Hills. In addition to the study group we also collected 64 examples of different groups and brought to the departmental laboratory. Section published Annual report of ZSI for the year 2009-10 and submitted 2010-11 for publication. Compiled and sent 12 monthly reports to the Ministry and also information for monthly D.O. letter from Secretary to Cabinet Secretary. Totally 16 parcels have been received from different scientific organizations across the country, registered and sent to concerned experts for identification and reports also sent.



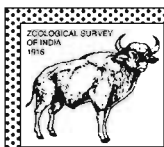
**Animal Behavior Section** engaged in **Status survey of non-human Primates of Nainital District, Uttarakhand:** Under this two surveys were undertaken to Nainital District and observed 1062 nos. of Rhesus Monkeys, out of which Adult males=186, Adult females=507, Juveniles=215 and infants=154 and langurs=727, out of which adult males=155, adult females=312, juveniles=154 and infants=106. Section published one research paper and communicated 4 during the period.

**Wildlife Section** was engaged in three programmes namely (i) **Wildlife survey of Gohirmatha Wildlife Sanctuary, Kendrapara District, Odisha:** Projects completed and manuscript has been submitted containing 150 species of birds belonging to 48 families and 23 species of mammals belonging to 5 orders and 14 families. (ii) **Status survey of Four horned Antelope (*Tetracerus quadricornis*) in Odisha:**

Manuscript has been submitted containing 17 nos. of Four horned Antelope and shown large number of pellets from different National Park and Sanctuary (iii) **Status survey of Serow in Darjeeling District, West Bengal:** Two field surveys were undertaken in different National Park and Wildlife Sanctuaries, First survey was undertaken in September, 2011 and another in February, 2012 to Darjeeling District and sighted in two surveys 4+7 =11 nos. Serows. Tour report has been submitted. Section submitted two research papers for publication during the period.

**Museum and Taxidermy Division** engaged in one programme namely **Studies on mites infesting herbs used as spices and oil seeds in India with special referenced to Western Ghats:** Project completed and manuscript submitted. Scientists of the





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section communicated two research papers for publication, attended two workshops, participated in 8 exhibitions, computerized 613 examples of exhibits of gallery. Two visitors visited the section and cleaning of gallery exhibits were undertaken during the period.

**Cytotaxonomy Research laboratory** section already completed two programmes namely (i) **A review of mutagenic effects of chemicals, drugs and physical agents on chromosome of grasshoppers** (ii) **Karyotypes genomes in the acridid and pyrgomorphid Grasshoppers**, and engaged in one programme namely **Karyotypic studies of crabs belonging to the families portunidae, ocypodidae and sesarmidae of Odisha Coast**: Under this one survey was undertaken to Odisha coast in December, 2012 and 297 examples of crabs were collected. Attended one identification service and one symposium and communicated six research papers during the year.



**Protozoology section** completed two programmes namely (i) **Protozoan fauna of Uttara Pradesh**: Manuscript contains

41 species of freeliving protozoan and 12 species of Coccidian (ii) **Protozoan fauna of Sewage systems in Kolkata**: Ms. contains 11 species of freeliving protozoa and engaged in one programmes namely (i) **Moss inhabiting Protozoan fauna of Assam**: Under this one survey was undertaken in May, 2012. Scientists of the section rendered two identification services, attended one training programme, published three research papers, accepted six and communicated 11 research papers during the period.

**Nemathelminthes section** was engaged in one programme (i) **State Fauna of Himachal Pradesh**: Under this three surveys were undertaken to Himachal Pradesh and collected 152 vials of Nematode specimens. Discovered 6 new species. Scientists of the section rendered 2 identification services, published 9 research papers, 1 book and 3 book chapters. Accepted 5 reesearch papers and attended 7 seminars during the period.

**Platyhelminthes section** engaged in three programmes namely (i) **Fauna of Himachal Pradesh, Trematodes of vertebrates**: Under this nine species under 8 genera and 5 families have been identified so far; one survey was conducted in February and March, 2012 and 10 vials of specimens have been collected; preparation of permanent slides and identification of these materials are under progress. **The study contains one new Discovery: *Pleurogenoides sahransis* Chakrabarti, Ghosh and Venkatraman, 2011 (Family: Lecithodendriidae (Luhe, 1901) Odhner, 1901 Subfamily: Pleurogeninae Travassos, 1921 Genus: *Pleurogenoides* Luhe, 1901 (ii) Checklist of Indian Trematode parasites of Amphibian hosts**: Altogether

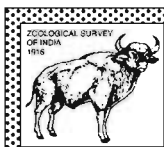


114 species under 24 genera and 13 families have been recorded, manuscript is under preparation. **(iii) Checklist of Cestodes of Indian Birds:** 40 species have been recorded, manuscript is under preparation. Scientists of the section rendered 6 identification and advisory services, published 3 research papers, accepted 2 and attended three seminars during the period. About 1495 data entry has been completed during the period.

**Acarology section** engaged in three programmes namely **(i) State Fauna of Uttar Pradesh:** Oribatid mites: Manuscript submitted. Altogether 46 species of oribatid mites belonging to 31 genera and 21 families have been recorded. The present study records 15 species, 7 genera and 2 families as the first record from Uttar Pradesh. In addition, 2 genera and 4 species are recorded from India for the first time. Of the total species known from the state 21 species and 2 genera are not known from outside the state. **(ii) State Fauna of Himachal Pradesh:** Oribatid Mites: Manuscript has

already been submitted. Altogether 43 species of oribatid mites belonging to 30 genera and 25 families have been recorded. All are digitized with photograph. The present study records 13 species under 9 genera as the first record from Himachal Pradesh. In addition, 3 species under 3 genera are recorded from India for the first time. Apart from that, one genus is recorded for the first time from India. **(iii) State Fauna of Maharashtra:** Oribatid Mites: So far one survey has been undertaken as it is a new programme for 2012-15. The samples collected have already been extracted, sorted out, and preliminary identification of the same has been done along with literature consultation. In addition metadata of 49 nos. of species have been digitized with photograph.

**Arachnida section** engaged in four programmes namely **(i) Fauna of Uttar Pradesh:** Under this one faunistic survey was conducted in March 2009 to 18 districts of the state, collected 882 faunal specimens among which 329 examples of spiders and 51 species from Order Araneae were identified under 34 genera belonging to 15 families. **(ii) Fauna of Himachal Pradesh:** One faunistic survey during November–December, 2011 is completed covering 5 Districts (Una, Bilaspur,



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Solan, Shimla and Sirmaur). Collected 500 spider specimens along with other fauna. Already Identified 23 species from 200 specimens of the collection from H.P. **(iii) Ecology and Diversity of Spider fauna in Bivuti Bhushan Sanctuary, Parmadan, Bongaon, W.B.:** Description of the identified species is under process (43 species are already prepared), The programme is completed and other part of the manuscript is under process. **(iv) Ecology and diversity of spider fauna in Bethua Dahuri WLS, W.B.:** One faunistic survey during Monsoon, 2011 is completed. Collected 206 spider specimens along with other fauna. Already identified 31 Spider species and other identification/taxonomic work is on process. Scientists of the section rendered 7 identification and advisory services, 3 training and extension services, published 6 research papers, 2 were accepted and sent 4. Attended two conference and organised two during the period.

**Central Entomology Division** is a large division consists of many units such as Central Entomology Laboartory.

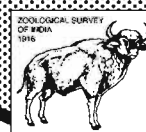
**Central Entomology Laboartory** engaged in three research programmes

namely **(i) State fauna: Chalcididae of Uttar Pradesh:** Under this manuscript submitted contains 113 species, out of which 20 species were new records to Uttar Pradesh and 3 species were new records to India. **(ii) Thysanoptera of Uttar Pradesh:** Manuscript submitted contains 23 species **(iii) Formicidae of Maharashtra:** Manuscript submitted, contains report on 110 species under 33 genera. Scientists of the section published one research paper, 4 were communicated, attended 3 training programmes and delivered two lectures, received 65 lots of specimens 42 from outside and 23 from ZSI for identification and digitized 122 species during the period.

**Hymenoptera section** engaged in one programme namely **Maharashtra State fauna: Family: Encyrtidae and Family: Scoliidae:** Under this one survey was undertaken to Maharashtra State. Scientists of the section published 10 research papers, attended seven enquiries, identified more than 524 examples under 96 species and digitized all the identified species. Described 8 new species and one new genus during the period.

**Lepidoptera section** was engaged in two programmes namely **(i) State**





**Fauna of Himachal Pradesh:** one survey was undertaken to Himachal Pradesh in September, 2011 and collected 965 examples and Ms. submitted containing 85 species under 36 Genera. **(ii) Ecological and Behavioural studies:** Ms submitted containing 31 species under 28 Genera and 14 Families of Diptera of Bhibuthibhusan WLS, West Bengal. In addition conducted survey to Sacred Groves of Bankura, West Bengal in July, 2011 and identified 15 Sacred Groves and in November, 2011 and identified 35 Sacred Groves. Scientists of the section attended two seminars, published 4 research papers and three in books and rendered 7 identification services and 5 research papers were also accepted for publication.

**Isoptera section** engaged in three programmes namely **(i) State Fauna of Jharkhand:** Ms. submitted **(ii) Assam:** Under this one survey was undertaken to Assam in October, 2011, collected 615 examples and so far identified 11 species of termite **(iii) Statue survey of non-human primates of Nainital District, Uttarkhand:** Data process is undergoing. Section published three research papers, rendered three identification services and attended three seminars during the period.

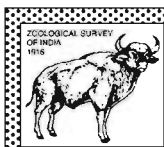
**Coleoptera section** engaged in six programmes, four from Uttar Pradesh on Tenebrionidae, Chrysomelidae, Carabidae and Coccinellidae and two from Himachal Pradesh one on Gyrinidae, Dytiscidae and Noteridae and another on Staphylinidae. Totally four surveys were conducted, first survey was undertaken in August, 2011 to Himachal Pradesh and collected 1258 examples, second survey was undertaken



in October, 2011 to Uttar Pradesh and 1660 examples were collected, third survey was undertaken in March, 2012 and 1870 examples were collected and fourth survey was undertaken in March–April, 2012 and 1860 examples were collected. Scientists of the section rendered 14 identification and advisory services, published 8 and communicated 5 research papers and attended two seminars/training programmes during the period.

**Orthoptera section** engaged in one programme namely **Acridoidea Fauna of Himachal Pradesh:** Under this one survey was undertaken to three districts of Himachal Pradesh in September, 2011 and collected 747 examples, examined 410 examples and identified 27 species. The scientists of section





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communicated 3 research papers and reported 18 species has new record to the state of Arunachal Pradesh and 5 species reported for the first time from India subcontinent during the period.

**Miscellaneous Insect order** was engaged in two programmes namely **(i) Fauna of Himachal Pradesh:** Manuscript submitted containing 124 species under 62 Genera and 13 Families, out of which 30 species were new records to the state of Himachal Pradesh **(ii) Fauna of Jharkhand:** Identified 399 examples consists of 24 species under 15 Genera and 4 Families, out of which 7 species were new records to the state of Jharkhand. Scientists of the section published 2, accepted 4 research papers and attended 5 seminars. Renderd 8 identification and advisory services to different scientific organization during the period.

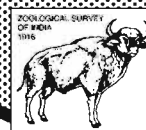
**Hemiptera section** engaged in one scientific programme namely **(i) Hemipteran fauna of Himachal Pradesh:** Under this one survey was conducted to Himachal Pradesh in the month of May, 2012 and collected 1064 examples (Hemiptera– 618 exs.; Coleoptera–

237 exs.; Hymenoptera– 27 exs.; Diptera– 68 exs.; Lepidoptera– 44 exs.; Neuroptera– 5 exs.; Isopterasa– 30exs.; Odonata–25 exs.; Mantoidea– 4 exs.; Dictyoptera– 2exs. and Dermaptera– 2 exs.) and identified 452 exs. of Hemiptera belonging to 102 species under 76 Genera and 18 Families including the materials received from SRC, Chennai pertaining to Kanyakumari WLS. Scientists of the section published four and accepted 4 research papers, attended 15 identification services and two seminars during the period.

**Apterygota section** engaged in three programmes namely **(i) Collembola from Himachal Pradesh:** Under this one survey was conducted in November, 2011, collected 1536 examples and 18 species were identified. **(ii) Studies on diversity and distribution of soil micro arthropods fauna with special reference to collembola of Sajnakhali WLS, South 24–Parganas:** Three short duration survey were undertaken and collected 185 examples. **(iii) Studies on diversity and distribution of collembola at BBWL, Parmadan, North 24–Parganas:** Identified 16 species of collembola. Scientists of the section attended 2 workshops, 1 training programme, 1 seminar and published 6 research papers during the period.

**Soil Zoology section** completed one programme **(i) Diversity of soil fauna in Balasore and Bhadrak District of Odisha:** Under this two surveys were undertaken and collected 134 exs. of earthworm, 597 exs. of Insects, 55 exs. of Mollusca and 63 packets of soil samples. Manuscript is under preparation, the materials so collected is found 46 species belonging to 38 Genera and 37





Family. Section engaged in two programmes, **(i) Studies on earthworm population in South 24 Parganas in different habitat:** Under this two surveys were undertaken to South 24 Parganas, collected 210 examples belonging to 5 species and 5 Genera under 2 Family. Scientist of section attended two identification services.

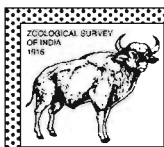
**Palaeozoology section** engaged in four programmes, out of which three were completed and Manuscript submitted. The study of animal remains from Alamgirpur, Uttar Pradesh is yet to complete and 341 specimens worked out, faunal data indicated past ecological set up with enriched fauna; human animal relationship examined. Three research papers accepted for publication, rendered three identification services and attended one training programme during the period.

**General non-chordate section** engaged in two programmes: One under **Fauna of state (a) Karnataka, (b) West Bengal, (c) Maharashtra and (d) Arunachal Pradesh:** Under this one survey was undertaken and collected 138 examples of different groups and another under **Ecosystem**

**(a) Mangrove associated fauna of Odisha:** Under this one survey was undertaken and collected 103 examples of different groups. **(b) Scleratinian diversity in the coast of Odisha and Andhra:** Under this one survey was undertaken and collected 1570 examples of different groups and one new programme namely (a) Scleratinian diversity in the West coast of India excluding Gulf of Kachchh. Scientists of the section rendered 14 identification and advisory services, published four research papers, three books as co-authors and attended four seminars during the period. Described six new records from state of Arunachal Pradesh.



**Mollusca section** engaged in one research programme namely **Diversity and distribution of Cephalopods along the West Coast of India:** Under this two surveys were undertaken, first survey was undertaken in October, 2011 to Kerala and Karnataka coast and second survey was undertaken in March, 2012 to Maharashtra and Goa coast. Scientists of the section published one, submitted one research paper,



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attended 4 workshop/seminar and rendered 12 identification and advisory services during the period.

**Crustacea section** engaged in three programmes namely two state fauna namely **Karnataka and Kerala on marine Crabs** and one **Mangrove associated fauna of Odisha**: Under this one survey was undertaken to Odisha State in December, 2011 and collected 415 exmples. Scientists of the section described two species which are new records to India, seven new records to Tamil Nadu and two new records to West Bengal, published 11 research papers,

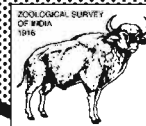


attended three symposium and rendered 11 identification services during the period.

**Marine Fish section** engaged in one scientific programme namely (i) **Studies on the cardinal fishes of East Coast of India**: Under this one survey was undertaken in March, 2011 to Tamil Nadu coast and 612 examples of fishes were collected. (ii) **Red Data book on Fishes of India**: Manuscript is under final editing stage and correction of 67 sheets have been completed. (iii) **Pictorial Handbook on sweetlips and Grunts of India**: Under this data sheets for 16 species have been prepared. Rendered 13 identification services including confiscated materials, published 4 and communicated 7 research papers and scientists of the section attended three seminars/symposium during the year. Described one new species of Genus *Scolopsis* cuvier, 1830 (Perciformes: Nemipteridae). Computerized 677 identified species.

**Freshwater fish section** engaged in two programmes namely (i) **Freshwater fish fauna of North Bengal**: Under this one survey was undertaken in September, 2011 to North Bengal and collected 295 examples. (ii) **Revision of Indian Cyprinoid genus Barilius**: Under this one tour was undertaken to WGRC, Kozhikode and SRC, Chennai in





January, 2012 and studied 130 fish specimens belonging to genus *Barilius*. Scientists of the section published one research paper, one accepted, attended one workshop and rendered 3 identification services. 517 entries of identified species have been done during the period.

**Amphibian section** engaged in two projects namely (i) **Amphibian fauna of Himachal Pradesh:** Under this one survey was completed and collected 21 anurans. (ii) **Amphibian fauna of Eastern Ghats:** Project completed, manuscript submitted, report contains 77 examples of anurans under 11 genera and 17 species. The study contains two new species namely Bush frog, *Raorchestes* sp. and *Hylarana* sp. Scientists of the section published 3 research papers and communicated 2 during the period.



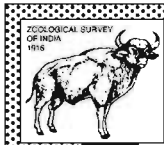
**Reptilia section** was engaged in one scientific programme namely (i) **Reptilia Funa of Himachal Pradesh:** Under this 27 exs. collected and identified as 17 species under 15 Genera and 8 Families. Scientists of section rendered 6 identification and advisory services, published three research papers and communicated one research paper during the period.



**Bird section** engaged in three taxonomical and zoological studies namely (i) **Atlas of Odonata of Western Ghats:** Under this computerised and georefered 5330 records and prepared distribution map of 180 species. (ii) **Atlas of amphibian of Western ghats:** Prepared distribution map of 159 species.



(iii) **IUCN Redlist Assessment:** Published redlist assessment of Odonata of Western Ghats. Scientists of the section undertaken three surveys related to Birds, one to Gurah, Bikaner from Rajasthan in February, 2012 and two surveys to Santragachi, Howrah in December, 2011 and January, 2012. Published five research papers, communicated



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8 research papers, attended and represented DZSI at 8 meetings, attended three expert group meeting, delivered two lectures at international conference and participated two training programme as resource person. Described one new species of Odonata during the period.

**Mammals and Osteology** section engaged in one scientific programme namely (i) **Trichotaxonomic study of Indian Mammals; Order Primates:** Project completed, two research papers published and manuscript submitted and also engaged

in two sponsored programmes (i) **Feasibility study regarding reintroduction of Pygmy hog (*Parvula salvania*) at Gorurmara National Park, Jalapaiguri, West Bengal** and (ii) **Collaborative research study between ZSI and NIAS to scientific research and advance structure of civet of Genera *Viverra* Malabar Civet (*Viverra civettina*).** Scientists of the section published 4, accepted 3 and communicated 5 research papers, totally 34 enquiries were received, 9 advisory services were rendered and delivered 10 lectures at training programmes/workshops and organised 4 programmes during the period.





## REGIONAL CENTRES

### 1. ANDAMAN AND NICOBAR REGIONAL CENTRE, PORT BLAIR

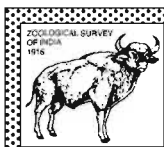
This Centre holds 25,772 identified specimens under the 'National Zoological Collection', of which most are displayed in its Museum for the viewing of researchers, students and general public. More than 3,000 visitors from mainland as well as foreigners witnessed regional museum of the Centre during this reporting period. About 18 identification and advisory services were also rendered to the officials of the other departments, researchers and students. Most of the identification services rendered towards the confiscated scheduled animals including elephant tusks and ornamental fishes.

At present there are 12 on-going projects run by scientists of this Centre in marine and terrestrial ecosystems of these Islands. Coral reefs and their associated faunal communities are given special attention. Realising the



significance, Ministry of Environment and Forests established National Coral Reef Research Institute, under the aegis of Zoological Survey of India to continuously monitor the health of coral reefs in Andaman and Nicobar Islands and entire country as well. This facility now functioning under this regional station has all the infrastructural facilities, like SCUBA gears, boats and other accessories to cope with a trained monitoring team. A total of 6 projects pertaining to coral reef ecosystem and its monitoring being carried out under National Coral Reef Research Institute.





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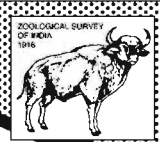


During this reporting period 118 field surveys were conducted in several places such as Great Nicobar Islands, Mahatma Gandhi Marine National Park, North Bay Reef and Rutland in South Andaman, Ritchie's Archipelago in Middle Andaman, Nancowry Islands, Car Nicobar Island and North Andaman Islands. As much as 3,068 specimens collected through these surveys and 1,404 faunal species were identified from the different groups such as Pisces, Corals, Echinoderms, Molluscs, Zooplankton, Spiders, Butterflies, Reptiles, Amphibians, Birds and Mammals collected. As a result of these surveys 52 papers were published in reputed journals during this period.

Status survey on Holothurians of Andaman and Nicobar Islands, EIA studies on the alignment of road in Great Nicobar Island and EIA studies for runway extension in Naval Air Station, Shibpur, North Andaman are conducted as consultancy projects required for Department of Environment and Forests (Andaman and Nicobar Administration), Border Roads Organization (Ministry of Defence) and Indian Navy (Ministry of Defence) respectively.

Surveys conducted during the reporting period revealed out 22 species of Scleractinian Corals, 36 species of Opisthobranchs, 2 species of echinoderms, 5 species of Polyclads and 3 species of Fishes reported from Andaman





and Nicobar Islands are new to Indian waters. Intensive surveys were conducted to assess the extent of recovery of corals out of Bleaching-2010 due to the increase in sea surface temperature.

ZSI, Port Blair has been recognized by the Pondicherry University to conduct the Ph.D. degree programme in Taxonomy, Ecology and Zoogeography from the academic year 2010-2011 onwards. Interview for the selection of students to enroll Ph.D. has been held on 20<sup>th</sup> August, 2011.

The Andaman and Nicobar Regional Centre of Zoological Survey of India is doing its best to disseminate the knowledge acquired to bring a sense of awareness of this Island's wealth, which need to be conserved for ours and our generation's well being.



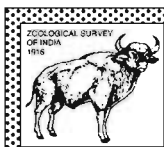
## 2. SOUTHERN REGIONAL CENTRE, CHENNAI

Two faunal survey tour to Southern Eastern Ghats and 5 local surveys were undertaken and 11,752 specimens of various



faunal groups have been collected. During last year, 3,229 specimens have been identified and 1,804 specimens have been registered. 13 papers and 3 abstracts were published and 11 manuscripts were submitted. The Fauna of Pallikaranai Marsh has been completed and submitted to Director ZSI with the inclusion of 249 species in 10 different faunal groups. Fauna volume of Kanyakumari WLS and Southern Eastern Ghats is under completion. 20 identification and advisory services were rendered. Scientists reviewed 34 research papers and delivered 26 invited lectures and presented 2 papers in seminars/symposia. An





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internship training programme was provided to M.Sc. students of Zoology, Madras University and various post-graduate colleges in Chennai. An awareness programme on Biodiversity was conducted for school children. The Centre celebrated the golden jubilee year with the participation of school children and distribution of pamphlets on various subjects related to ZSI and Indian Fauna. The instrumentation room (Equipped with modern microscope and Face-up scanner) and DNA Barcoding Laboratory were also inaugurated by Director, ZSI, Dr. K.Venkataraman during the golden Jubilee year celebration which was also attended by several celebrities.

**Faunal Survey of Southern Eastern Ghats:** Two extensive survey tours were undertaken to Middle Eastern Ghats part of Chittoor, Cuddapah and Nellore districts

of Andhra Pradesh in October, 2011 and another in January, 2012 and collected 10,055 representative samples belonging to different animal groups. The specimens of various faunal groups for which expertise is available in SRC are under study. Other groups are being sent for identification to specialists in different centres. Plankton: 230 exs., 63 sps., Fishes: 1,626 exs., 25 sps.; Reptilia: 75 exs., 21 sps. and Amphibia: 414 exs., 8 sps., Identified 230 examples of Planktons belonging to 63 species; Dictyoptera: 37 specimens of blattidsas belonging to 7 species, Membracidae: 21 Membracids belonging to 2 species, Homoptera: 1 species, Hemiptera: 3 species of hemiptera collected from Kalroyan Hills, southern Eastern Ghats. Lepidoptera: 33 exs. of Lepidopterans (Butterflies) into 15 species, Whip Scorpions: 1 Species, Reptiles: 75 specimens of reptiles into 21 species





collected from Kanniyakumari Wildlife Sanctuary, Tamil Nadu. They are as follows: Amphibians: 414 amphibian specimens into 8 species under 8 genera belonging to 4 families. They were collected from Southern Eastern Ghats part of Tamil Nadu, Fishes: 626 exs. of fishes as belonging to 25 species.

Materials identified from Local Surveys: Pallikaranai Marsh – Identified 377 specimens of fishes belonging to 3 species 3 orders, 3 families and 3 genera were identified from Pallikarani marsh and surroundings, 23 species of Insects were identified, Mollusca: 263 exs. of gastropods comprising 4 family, 4 genus and 12 species collected from Pallikaranai marsh. Puzhal Aeri – Protozoa: 3 sp., rotifera 7 spp. and cladocera 9 species were identified and Mollusca: 26 exs. of gastropods and 13 exs. of bivalves that comprise 5 family, 5 genus and 9 species.



### INAGURATION OF MICROSCOPE LAB AND THE DNA LAB

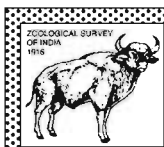
The Microscope Lab and the DNA Lab was inaugurated by the Director, ZSI. The function was attended by Addl. Directors Shri C. Radhakrishnan, O/C, WGRC and Dr. G. Thirumalai.

### TRAINING PROGRAMME

A Training Programme was conducted in connection with the Internship of graduate and Post Graduate students of various colleges in Chennai *viz.* University of Madras, Madras Christian College, Loyola College and Ethiraj College for Women from 16<sup>th</sup> May to 20<sup>th</sup> May, 2011. In connection with this programme all scientists of the centre delivered lectures on Taxonomy of the various faunal groups.

### COMPUTERIZATION

The work on computerization of registered collections in the Southern Regional Station is in progress. Registered Insecta collections updated. A total 6831 examples/ 345 entries made.



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### 3. GANGETIC PLAINS REGIONAL CENTRE, PATNA

**Study of Aquatic Faunal Diversity (Zooplankton, Molluscs, Fishes, Reptiles, Amphibians) in river Subernarekha in Jharkhand:** Altogether Fishes: (83 species), Mollusca: (31 species), Zooplankton: (37 species), Hirudinea: (4 species) were described from the river Subernarekha in Jharkhand, Final manuscript submitted in publishable form.



**Taxonomic study of Insect fauna of Dalma Wildlife Sanctuary, Jharkhand w.s.r. to Lepidoptera:** The final manuscript was submitted in June, 2012.



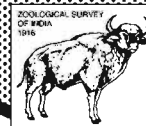
**Status, Habit and Habitat preference of Mouse deer (*Moschiola meminna* Erxleben, 777 Artiodactyla) in Dalma Wildlife Sanctuary, Jharkhand:** The final manuscript was submitted in June, 2012.

**Study of aquatic faunal diversity (Mollusca, Zooplankton and river Dolphin) in the entire stretch of River Damodar in Jharkhand and West Bengal:** All scheduled survey conducted. Altogether Mollusca (26 sps.) under 8 families and 18 genera, Zooplankton (43 species) under 12 families and 21 genera, Hirudinea (9 species) under 4 families and 6 genera were described from the river Damodar in Jharkhand.



**Taxonomic studies on family Noctuidae from Bihar and Jharkhand:** All scheduled survey tour has been conducted in time. More than 850 individuals of order Lepidoptera were collected. Out of which approximately 550 individuals are of family





Noctuidae and 300 are other than Noctuidae. Altogether 106 examples under 33 species of family Noctuidae have been identified.

**Scientific Survey Tour Conducted/ Participated during the year 2011–2012:**

1<sup>st</sup> survey to Valmikinagar Tiger Reserve, Valmikinagar, Kotraha, Ganauli, Vaishali and Rajgir of Bihar were visited in June, 2011 and second survey to Chandawa, Bhurkunda, Rajarappa, Panchet Dam, Rondia weir, Basudeopur Ghat in Jharkhand were visited in September, 2011, and third survey to Pintavada, Makulakocha (Dalma Wildlife Sanctuary), Rajdevra, Salparni (Hazaribagh National Park) and Kodarma in Jharkhand were visited in November, 2011 and collected 290 examples of different groups. The fourth survey was conducted to Chandawa, Bhurkunda, Rajarappa, Panchet Dam, Rondia weir, Basudeopur Ghat in Jharkhand were visited in March, 2012. Identified: Invertebrates: 687 exs. Computerised Identified collections 520.



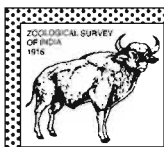
**4. NORTHERN REGIONAL CENTRE, DEHRADUN**

**STATE FAUNA:**

**Uttarakhand: Studies on the Helminth Parasites of Vertebrates in and around Doon valley:** Manuscript Submitted. The report contains 43 species of Helminth parasites from Vertebrate hosts of Dehradun district. The study include three new species, three new records from India, seven new records from State Uttarakhand and seventeen records from district Dehradun.



**Haryana State:** Under this document reports 58 Species of Mammals, 517 species of Birds, 38 species of Reptiles, 8 species of Amphibia, 146 species of soil nematodes, 27 species of Acridoidea, 109 species of Lepidoptera, 10 species of centipedes and 16 species of Helminth Parasites.



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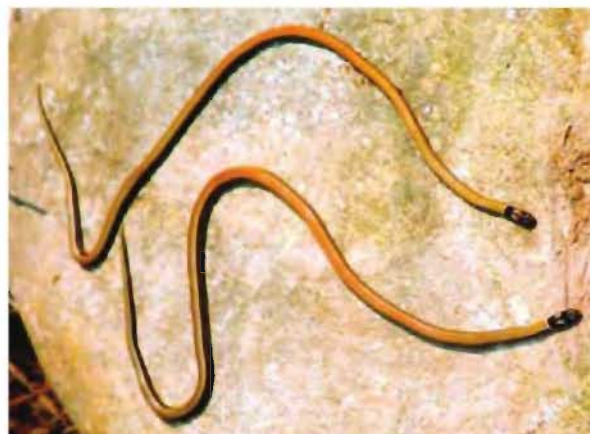


**Ecological and molecular studies of freshwater turtles at a stretch of 80 kms Ganga River (Haridwar to Hamirpur):**

Under this programme, manuscript submitted and report contains on 13 species of freshwater turtles from study area of Haridwar (Ganga, Banganga, Solani – tributary of Ganga), Uttarakhand and from Kanpur (Ganga). Other areas covered were Betwa, Chmbal and Pachnada from Uttar Pradesh. The study revealed two new distribution records from area i.e. *Morenia petersi* (published) and *Pangshura tentoria circumdata* and also one subspecies *andersoni* of *Lissemys punctata*. Other sympatric groups of fishes, frogs and mollusks

were also identified as they were reported to be the food source for many freshwater turtles. Physioco-chemical analysis of water revealed that habitat in most of the areas was in deteriorating conditions and need special attention for conservation programmes. Four species *Pangshura tecta*, *Pangshura tentoria circumdata*, *Morenia petersi* and *Melanochelys trijuga* were studied for molecular analysis. 18 partial sequences from them for Cytb, 12S rRNA, 16S rRNA, H4 genes were submitted to NCBI. Partial 10 sequences of 12S rRNA genes were analysed for phylogeny analysis by MEGA 4.1 and multiple domain analysis by DnaSP 5.10.01. Pairwise evolutionary distance indicated *Kachuga tecta* is not distant at time scale with *Kachuga tentoria circumdata*. *Kachuga tecta* and *Kachuga tentoria circumdata* has made one lineage. The farthest distance was noted to be between *Morenia petersi* and *Kachuga tecta*.

**Fauna of Kalesar Wildlife Sanctuary, Yamuna Nagar, Haryana:** Manuscript submitted (10 groups): Mammals, Aves, Reptilia, Amphibia, Pisces, Lepidoptera, Centipedes, Soil Nematodes, Helminthes,





Acridoidea and overview submitted. The present paper reports 49 Species of Mammals, 326 Species of Birds, 30 species of Reptiles, 7 species of Amphibia, 15 species of Pisces, 47 species of soil nematodes, 16 species of Helminth parasite of Amphibian, 27 species of Acridoidea, 84 species of Lepidoptera and 6 species of Centipedes.

**Fauna of Jhilmil Jheel Conservation Reserve, Haridwar:** Under this programme, Surveys completed. Faunal group collected: Pisces, Amphibia, Reptilia, Mollusca, Coleoptera, Hemiptera, Araneida, Decapoda, Scorpioneida, Isoptera, Isopoda, Dermaptera, Dictyoptera, Formicidae, Odonata, Soil Nematodes, Lepidoptera and Centipedes. Faunal groups worked out: 9. Manuscript submitted (9 groups): Mammals, Aves, Reptilia, Pisces, Lepidoptera, Soil Nematodes, Helminthes, and Acridoidea, Amphibia : Identified 7 species, All are new records for Jhilmil Jheel. One is new for science and one is new record for Uttarakhand. Summary: The present paper reports 24 Species of Mammals, 191 Species of Birds, 23 species of



Reptiles, 7 species of Amphibia, 35 species of Pisces, 47 species of soil nematodes, 9 species of Helminth parasites of Amphibia, 24 species of Acridoidea, 50 species of Lepidoptera.

**Fauna of Dehra Dun District:** Under this programme 22 intensive survey were conducted, Observed: 15 species of mammals and 90 Species of birds and Identified: 11 species of Acridoidea and 41 species of Lepidoptera 11 species of reptiles, 8 species of Amphibia and 6 species of soil nematodes.

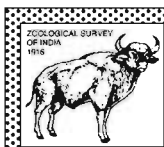


**Trichotomy of the species of Logomorpha (Mammalia : Rodentia):**

One tour was undertaken to ZSI/ HQ and light microscopic study of 9 species completed along with photomicrography and analysis. SEM analysis of 4 species completed. Manuscript under preparation

**COMPUTERISATION:**

About 16,002 entries of all identified and registered collection; E-Granthalaya 8,900 entries have been made and digitization of 117 exs. of Pisces and Amphibia completed.



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**State Fauna of Punjab:** Under this one survey of 17 days to districts Kapurthala Pathankot, Hoshiyarpur and Rupnagar conducted. Faunal belonging to 23 different groups collected and 86 species of birds and 18 species of mammals observed. Identified 282 examples of Butterflies belonging to 45 species and 7 examples of Reptilia belonging to 4 species and 15 exs. of soil nematodes belonging to 4 species from these districts. Remaining identification work is in progress.



#### NEW SPECIES DESCRIBED

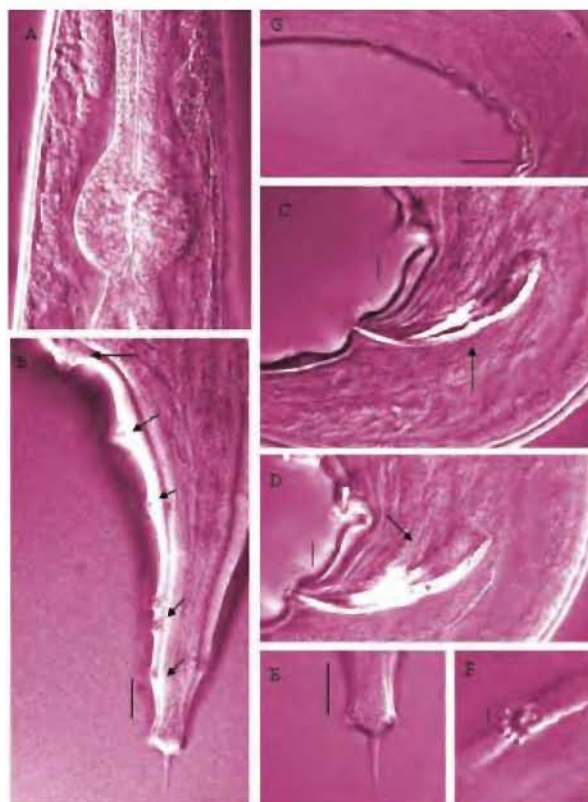
The scientists of the centre described four species new to sciences, namely :

1. *Cosmocerca kalesari* Rizvi *et al.*, 2011.

#### OUTSIDE FUNDED PROJECT: (DST)

**(a) Abundance and diversity of soil nematodes in Agro-ecosystems of Dehradun:** Under this programme sanctioned equipments procured and one JRF appointed.

**(b) Molecular study of *Ratufa indica* (Erxleben), *Ratufa macroura* (Pennant), *Ratufa bicolor* (Sparrman), *Petinomys fuscocapillus* (Jerdon), *Funambulus palmarum* Linn.), *Funambulis pennantii* Wroughton, *Petaurista petaurista* (Pallas), *Petarista philippensis* (Elliot) (Mammalia: Rodentia: Sciuride : under this programme literature survey done, Glassware procured. Appointment of JRF under Process.**





2. *Batrachotrema korbaensis* Rizvi, Bursey and Bhutia, 2012

3. *Opisthioparorchis nanoranae* Rizvi, Bursey and Bhutia, 2012

4. *Opisthioparorchis dehradunensis* Rizvi, Bursey and Bhutia, 2012

Holotypes added to the NZC/NRC Registration: Reg. No. IV. 592, 855, 857, 859 and Paratypes Reg. No. IV. 593, 594, 856, 858, 860 specimens deposited in the national zoological collection.

#### NEW PROJECTS:

Two Projects have been sanctioned by DST at NRC/ZSI for funding namely “Abundance and diversity of soil nematodes in Agro-ecosystems of Dehradun” and “Molecular study of *Ratufa indica* (Erxleben), *Ratufa macroura* (Pennant), *Ratufa bicolor* (Sparrman), *Petinomys fuscocapillus* (Jerdon), *Funambulus palmarum* (Linn.), *Funambulis pennantii* Wroughton, *Petaurista petaurista* (Pallas), *Petarista philippensis* (Elliot) (Mammalia: Rodentia: Sciuride)”.



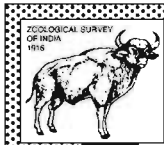
#### 5. MARINE AQUARIUM CUM REGIONAL CENTRE, DIGHA

**Study of macro-benthic fauna (invertebrates) from some coastal areas of India (Gujarat State):** Under this one survey conducted During July–August, 2011. A total number of 3,633 numbers of dead specimens were collected. Identification of earlier surveys was carrying out. Total of 1,380 species identified during the year.



**Taxonomical study of Ornamental fauna found around Digha coast:** No. of days in survey: 24 days. No. of examples collected: 2,210. Identification: 2,210. New site records to India: 2. New site records: 36.





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**Studies on behaviour, growth and survival of marine ornamental fauna under captivity. Progress made:** Cannibalism in crustaceans: 5 species; Species specific moulting in crustaceans.

Growth rate in fishes: *Epinephelus coioides* and *E. lanceolatus*



## COMPUTERISATION

628 entries made.

## MAINTENANCE OF AQUARIUM AT THE CENTRE

Progress made :

- ☆ Installation of Lights in the tank.
- ☆ Installation of filtration unit, protein skimmer.
- ☆ UG filtration sump inside tank.



- ☆ Improvement of animal diversity in tanks.
- ☆ Improvisation of tank aquascaping.
- ☆ Micro-habitat and shelters to tank exhibits.
- ☆ Improvisation of exhibit interpretation materials.



## NO. OF VISITORS

- ☆ Daily average 250 visitors visited every day.
- ☆ Monthly 6000 visitors monthly and 6-7 lakh annually.
- ☆ No. of visitors consistently increased since last few years.



## 6. MARINE BIOLOGY REGIONAL CENTRE, CHENNAI

**Survey to Gulf of Mannar:** Deep sea faunal survey was carried out by spending five hours in a trawl boat off Chennai coast during

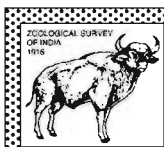


on 14<sup>th</sup> July, 19<sup>th</sup> August, 01<sup>st</sup> October and 03<sup>rd</sup> November, 2011. Status assessment of sea cucumber in Palk Bay and Gulf of Mannar was conducted from 26<sup>th</sup> April to 4<sup>th</sup> May, 25<sup>th</sup> August to 1<sup>st</sup> September, 2011 and 18<sup>th</sup> to 26<sup>th</sup> January, 2012. One survey conducted to Palk Bay from 4<sup>th</sup> October, 2011 to 10<sup>th</sup>



October, 2011 and collected 253 examples, Cnidaria- 7 Exs. Porifera- 3 Exs. Mollusca- 64 Exs. Crustacea- 36 Exs. Echinodermata- 32 Exs. Pisces- 112 Exs. Reptiles- 1 Exs. and 193 exs., Pisces- 75 Exs. Echinodermata- 49 Exs. Mollusca- 21 Exs. Crustaceae- 39 Exs. Polychaeta- 5 Exs. Porifera- 1 Exs. Polychaetae- 1 Exs. Cnidaria- 2 Exs.; 278 examples Porifera- 35 Exs. Cnidaria- 18 Exs. Echinodermata- 11 Exs. Mollusca- 37 Exs. Crustaceae- 55 Exs. Pisces- 77 Exs. Meiofauna- 10 Exs.; 200 examples Porifera- 1 exs., Cnidaria- 12 exs. Mollusca- 25 exs. Crustacea- 56 exs. Echinoderms- 50 exs.





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Polychaeta- 07 exs. Fishes- 47 exs. Egg mass- 02 exs. and 24 examples Sponge- 6 exs. Gorgonids- 3 exs. Echinoderm- 5 exs. Coral- 2 exs. Soft Coral- 2 exs. Gastropods- 2 exs. Sea anemone- 3 exs. Bryozoan- 1 exs. and 276 examples of Mollusca- 97 Exs. Porifera- 42 Exs. Echinoderm- 9 Exs. Fish- 47 Exs. Crustacea- 53 Exs. Sea Pen- 26 Exs. Coral- 1 Exs. Worm- 1 Exs. and identified Protozoa- 39 species of seagrass associated foraminifera and testate amoebae, Nematode- 9 species, Ostracoda- 4 species, Foraminifera- 32 species, Marine Sponges- 43 species, Cnidaria- 20 species, Crustacea- 24 species, Mollusca- 47 species, Echinoderms- 17 species, Fishes- 112 species.



**Protozoans and some minor phyla associated with seagrass ecosystems of Gulf of Mannar and Palk Bay:** Identified 13 spp of sea grass associated Rhizopods under 6 genera 3 families and 4 sp of foraminifera under 2 genera. Two surveys conducted to Palk Bay. A total of 278 specimens collected. Sorting out and identification under way. Tour reports submitted.

**Study of epi-benthic faunal assemblages in the sea grass ecosystems of Gulf of Mannar and Palk Bay:** Group-wise sorting of Meiofauna collected under the field trip has been completed. Eight spp. of marine Sponges, 2 spp. of Cnidaria, 8 spp. of Gorgonids, 6 spp. of Crustacea, 59 spp. of Mollusca, 3 spp. of Echinoderms and 12 spp. of fishes have been identified.

#### SPONSERED PROJECTS:

**EIA studies for the proposed new alignment of the Sethu Samudram Shipping Canal Project in Palk Bay and Gulf of Mannar :** Data analysis of the survey



tour : Data analysis of 5 Island reefs have been completed. Final report submitted.

**Status assessment of sea-cucumber species in Gulf of Mannar:** A field tour to Gulf of Mannar and Palk Bay was organised from 26<sup>th</sup> April to 4<sup>th</sup> May and August 25<sup>th</sup> to 1<sup>st</sup> September 2011. A total of 29 trawl observations, at an average time of 1 hour, were made in the potential sea cucumber harvest areas in Gulf of Mannar and Palk Bay. The data covered include, species diversity, numerical density, size-class and biomass per swept area of the trawl. Interim report was submitted.

Center published 14, Paper accepted- 3, Paper communicated- 6, identified following species : Phylum : Porifera- 2 exs. and 2 species, Phylum : Cnidaria- 2 exs. and 2 species Phylum : Arthropoda- 8 exs. and 7 species, Phylum : Mollusca- 6 exs. and 6 species, Phylum : Echinodermata- 30 exs. and 11 species, Phylum : Chordata- 21 exs. and 23 species, Phylum : Porifera- 3 exs. and 2 species.

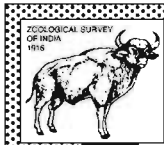
## 7. CENTRAL ZONE REGIONAL CENTRE, JABALPUR

**Faunal Diversity of Singhori Wildlife Sanctuary, Raisen District, Madhya Pradesh:** Two surveys were conducted, first survey was undertaken in September, 2011 and collected 1,469 examples of different



faunal groups (Arachnida : Araneae- 36, Myriapoda : Chilopoda- 7; Insecta- 1,414 exs. of different orders; Mollusca- 8; Amphibia- 3 and Reptilia- 1. Second survey was undertaken in February, 2012 and collected 1,037 examples of different faunal groups (Arachnida : Araneae- 85, Myriapoda: Chilopoda- 1, Scorpionidae- 4, Decapoda- 3; Insecta- 743 exs. of different orders; Mollusca- 141; Pisces- 14, Amphibia- 44 and Reptilia- 1 and Mammalia- 1).

**Faunal Diversity of Veerangana Durgavati Wildlife Sanctuary, Damoh District, Madhya Pradesh:** Two surveys were conducted one in July, 2011 and collected 456 examples of different faunal groups and 01 bottle lot of Zooplankton samples.



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**ARTHROPODA:** Arachnida: Araneae- 5 exs., Arachnida : Scorpionida- 3 exs., Arachnida: Uropygi- 1 exs., Myriapoda: Chilopoda- 3 exs., Myriapoda: Diplopoda- 1 exs.; **INSECTA:** Odonata- 37 exs., Orthoptera- 11 exs., Mantodea- 4 exs., Hemiptera- 11 exs., Neuroptera- 1 exs., Coleoptera- 130 exs., Diptera- 86 exs., Lepidoptera- 109 exs., Trichoptera- 1 exs., Hymenoptera- 23 exs., Blattaria- 6 exs., Mollusca- 12 exs.; **CHORDATA:** Amphibia-12 exs.; Total- 456 exs.; Plankton Samples- 1 exs.

Second survey was undertaken in November, 2011 and collected 447 specimens of different faunal samples and 01 lot of Plankton sample.

List of specimens collected from the survey:



**ARTHROPODA:** Arachnida: Araneae- 14 exs., Arachnida : Scorpionida- 3 exs.; **INSECTA:** Odonata- 33 exs., Orthoptera- 33 exs., Ephemeroptera- 4 exs., Dermaptera- 2 exs., Mantodea- 1 exs., Hemiptera- 51 exs., Neuroptera- 2 exs., Coleoptera- 119 exs., Diptera- 7 exs., Lepidoptera- 337 exs., Trichoptera- 22 exs., Hymenoptera- 7 exs., **CHORDATA:** Pisces- 10 exs., Amphibia- 2 exs.; Total- 447 exs., Plankton Samples- 1 exs.

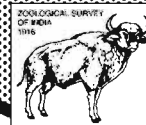
## CLASSIFIED LIST OF NEW TAXA

List of new family, genus, species etc., with Author, Locality, Journal, Photographs and Drawings. Also New records for India/ States.

## NEW RECORDS (GENERA AND SPECIES):

06 Araneae (spiders) from Madhya Pradesh as follows.

1. *Heteropoda venatoria* Linnaeus
2. *Oxyopes chittrae* Tikader
3. *Peucetia viridana* Stoliczka
4. *Telamonia dimidiata* Simon



5. *Tetragnatha mandibulata* Walckenaer
6. *Thomisus pooneus* Tikader

#### NEW RECORDS (GENERA AND SPECIES): 05

i. One Whipscorpion species from Madhya Pradesh, details as follows:

1. *Thelyphonus sepiaris* Butler



ii. Four species of the scarab beetles (Coleoptera: Scarabeidae) are recorded for the first time from Central India.

1. *Onthophagus rudis* Sharp
2. *Onthophagus armatus* Blanchard
3. *Onthophagus abacus* Boucomont
4. *Poppilia laevis* Burmeister

#### NEW RECORDS (GENERA AND SPECIES):

03 species and 01 genus (Arachnida:



Araneae: Spiders) reported as New Records from **Madhya Pradesh**, are as follows :

1. *Clubiona drassodes* O.P. – Cambridge
2. *Lycosa tista* Tikader
3. *Pardosa pusiola* Thorell
4. Genus: *Ctenus* Walckenaer, 1805

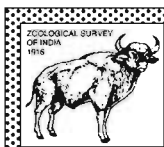
**New records (Genera and species):** 04 species and 02 genera (Coleoptera: Geotrupidae) reported as New Records from **Central India** are as follows :

1. *Bolbohamatum calamus* Westwood
2. *Bolbohamatum phallosum* Krikken
3. *Bolbohamatum marginale* Krikken
4. *Bolbogonium insidiosum* Krikken

#### COLLECTION IDENTIFIED (2011–2012):

A backlog collection of 2312 specimens belonging to different faunal groups were identified into 197 species, 116 genera and 23 families under 03 orders. The lists of identified specimens are as follows:

- i. 388 specimens of order Hemiptera



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belonging to 58 species, 41 genera and 09 families.

- ii. 1305 specimens of Aquatic Hemiptera belonging to 26 species, 17 genera and 08 families.
- iii. 558 specimens of Scarabaeid beetles (Coleoptera: Scarabaeidae) belonging to 85 species, 39 genera under 07 subfamilies.
- iv. 24 specimens of Coleoptera (Scarabaeidae and Geotrupidae) belonging to 16 species, 08 genera under 05 subfamilies.
- v. 30 specimens of Odonata belonging to 05 species, 05 genera and 04 families
- vi. 07 specimens of fishes were identified into 06 species, 06 genera under 05 families.



## 8. ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

### Small mammals (rodents, shrews and lagomorphs) of Arunachal Pradesh:

Under this surveys:



**Programatic view of short-horned grasshopper diversity, its impact on landscape change and predatory complex in Arunachal Pradesh:** Manuscript Under finalisation. PI transferred to Sundarbans Regional Centre, ZSI, Canning. Around 397 examples belonging to 33 species of Acrididae and 6 species of Tettigonidae from 14 Genera and 2 Families were collected.

### Water birds of Arunachal Pradesh w.r.t. to high altitude lakes and wetlands:





All surveys had been conducted and the final manuscript writing is on. The last survey was conducted in March/April 2011 in two districts in Arunachal Pradesh, Lower Debang Valley and Dibang Valley, covering areas such as Roing, Myodiya, Hunli, Etalin and Anini. 16 species of waterbirds and water-dependant species have been recorded, although no new additions have been made. Ms. will be submitted soon.

**Avifauna of Tawang Chy Valley, Western Arunachal Pradesh :** Under this programme two surveys were undertaken from (i) from 09-05-2009 to 26-05-2009 and (ii) from 10-05-2010 to 28-05-2010

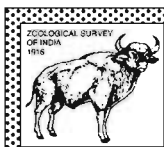


**Bird communities study at Pakke Tiger Reserve, Arunachal Pradesh:** Under this three surveys were undertaken one in September 2011, second in 23 December 2011 and third in April 2012 and more than 230 species of birds were recorded during the surveys.

**A study of Ichthyofauna of Lower Subansiri district w.s.r. to river Ranga and paddy-cum-fish cultivation:** Under this, one survey undertaken from 16-23 January, 2012 and 15 examples belonging to 5 genera were collected from the Siro River near Siro Village in Ziro area and Ranga River in the Yazali area.



**Studies on Zooplankton of Papumpare District, Arunachal Pradesh, with Special Focus on Itanagar Wildlife Sanctuary:** Project has been approved by the Project Advisory Committee in the meeting held during 30 and 31 January 2012 and has been approved by the PAC. However, Dr. Sinha is yet to initiate his study as he has submitted the revised project proposal to HQ office as directed by the DZSI.



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## EXTENSIVE SURVEYS:

**Six tours were undertaken:** Center had conducted one survey in Roing and Anini (Lower Dibang Valley) (for 14 days from 31<sup>st</sup> March, 2011 to 13<sup>th</sup> April, 2011) areas to study the waterbirds of Arunachal Pradesh and three more scientific tours in Pakke Tiger Reserve (East Kameng district). First survey for 11 days from 15<sup>th</sup> September, 2011 to 25<sup>th</sup> September, 2011 and the second survey for 12 days from 23<sup>rd</sup> December, 2011 to 03 January, 2012 and the third survey for 15 days from 30<sup>th</sup> March, 2012 to 13<sup>th</sup> April, 2012, to study the bird communities as approved by the HQ office. Dr. Gopinathan Maheswaran, Scientist-C of the Centre had



participated in the survey along with Dr. S.D. Biju of University of Delhi from 18<sup>th</sup> May to 29<sup>th</sup> May, 2011 in Namdapha Tiger Reserve and Kobo area (of Junnai district) of Assam to find out three of the '**Lost Amphibians**' of India from these areas. The team had collected various specimens and the results of the findings will be announced by Dr. Biju soon. The team stayed at Hornbill Camp of Namdapha Tiger Reserve and made several night surveys in and around the areas looking for the amphibians. After five days of stay at Namdapha the team had headed for Kobo in the foothills of Aboor mountains of Arunachal Pradesh and stayed there for two nights searching amphibians and just returned to Itanagar only on 29<sup>th</sup> May 2011.

Dr. Bikramjit Sinha, Scientist-C of the Centre had undertaken a tour to Lower Subansiri district from 16<sup>th</sup> January to 23<sup>rd</sup> January, 2012 to study the fish fauna of Ranga River.

## DOCUMENTATION/COMPUTERIZATION

So far 2872 entries have been made.



## 9. HIGH ALTITUDE REGIONAL CENTRE, SOLAN

**Faunal Resources of Churdhar Wildlife Sanctuary, Sirmour District, Himachal Pradesh:** The manuscript containing 198 species in 164 genera and 9 major faunal groups from the study area was compiled and submitted. Project completed.



**Pictorial handbook of the Amphibians of Himachal Pradesh:** The manuscript containing detailed description of 18 species from the study area was compiled and submitted. Project completed.

**Pictorial handbook of Pisces of Himachal Pradesh:** The manuscript containing diagnostic features and other

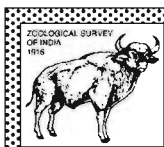


details along with photographs of 80 species of fishes occurring in Himachal Pradesh has been compiled and submitted. Project completed.

**Ecobehavioural studies of Primates in and around Solan town, Himachal Pradesh:** Technical report is submitted, project completed.

**Faunal Diversity of Kalatop-Khajjiar Wildlife Sanctuary, Chamba district, Himachal Pradesh:** Four surveys have been conducted so far and identification of the collected material is in progress as follows: Lepidoptera: 65 examples of 27 species were identified, Orthoptera: 55 examples belonging to 15 species have been identified, Pisces:





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Two subspecies of fishes namely *Cyprinus carpio communis* Linnaeus and *Cyprinus carpio specularis* Lacepedes were recorded from the Khajjiar lake which are exotic species. Reptiles: Five species of reptiles namely *Asymblepharus himalayanus*, *Agama tuberculata*, *Oriotarisis major*, *Ptyas mucosa* and *Amphiesma himalayana*



were recorded. Aves : 36 species of birds were identified from the Sanctuary. Mammalia : 11 species of mammals namely Hanuman langur, Goral, Barking deer, Indian wild boar, Black bear, Leopard, Jackal, Kashmir flying squirrel, Indian porcupine, Nepalese whiskered bat



and House mouse were recorded. Although reported earlier, the presence of Serow could not be ascertained.

**Faunal Diversity of Chail WLS, Solan district, Himachal Pradesh:** Four local surveys have been conducted so far and 393 examples of nine faunal groups were collected. Identification of the collected material is in progress as follows: Lepidoptera: 23 specimens of 15 species have been identified. Orthoptera: 15 specimens of four species were identified. Pisces: Two species of fishes namely *Barilius bendelisis* and *Schizothorax richardsonii* were recorded from the Sanctuary.



Aves: 14 species of birds were identified from the sanctuary. Mammalia: Based on direct sighting and indirect evidences, 6 species of mammals namely Hanuman langur, Rhesus macaque, Goral, Barking deer, Indian wild boar and Black bear were recorded.

**Collection details of Chail WLS:**  
Survey Tour: 19<sup>th</sup> August, 2011 to 20<sup>th</sup>





August, 2011 and collected 183 examples of different groups. Details of faunal collection during Chail WLS tour from 19<sup>th</sup> July, 2011 to 20<sup>th</sup> July, 2011 and collected 133 examples. Details of faunal collection during Kalatop–Khajjiar WLS tour from 25<sup>th</sup> August to 1<sup>st</sup> September, 2011 and collected 41 examples. Details of faunal specimen collected during local tour to Chail WLS on 29<sup>th</sup> February, 2012 and collected 41 examples. Details of faunal collection during Kalaop–Khajjiar WLS from 30<sup>th</sup> March to 3<sup>rd</sup> April, 2012 and collected 229 examples.

## COMPUTERIZATION OF REGISTERED COLLECTIONS

147 specimens in 45 species and five



orders were digitized and the process is in full swing.

## FIELD SURVEYS

One faunistic survey of Kalatop–Khajjiar WLS, Chamba district was conducted under

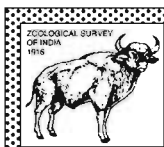


the leadership of Dr. Avtar Kaur Sidhu, Scientist–C from 26<sup>th</sup> August, 2011 to 1<sup>st</sup> September, 2011.

Four local surveys of Chail WLS, Solan district were conducted on 28<sup>th</sup> June, 2011, 19<sup>th</sup> to 20<sup>th</sup> July, 2011, 19<sup>th</sup> to 20<sup>th</sup> August, 2011 and 29<sup>th</sup> February, 2012.

One faunistic survey of Kalatop–Khajjiar WLS, Chamba district was conducted under the leadership of Dr. Anil Kumar, Scientist–C, from 30<sup>th</sup> March, 2012 to 3<sup>rd</sup> April, 2012.





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## 10. WESTERN GHAT REGIONAL CENTRE, KOZHIKODE

### **Survey and documentation of the fish fauna of the river systems of Kerala:**

The programme has been transferred to Headquarters since the assignee has been transferred to H.Q., Kolkata.



**Atlas of Odonata of the Western Ghats:** The data-basing, geo-referencing and mapping of Western Ghats Odonata is completed. Currently the database holds 5,315 records of 180 species from 1,011 localities. The database is made in Specify 6 compatible format.



**Atlas of Endemic Amphibians of the Western Ghats:** The data-basing, geo-referencing and mapping of the endemic Amphibia of Western Ghats is completed.

The database holds distributional records of 159 species.

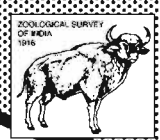
**Systematic Studies on Telenominae (Scelionidae: Hymenoptera: Insecta) of Southern Western Ghats:** Digital imaging and manuscript finalisation is under progress. A checklist of Proctotrupeoidea of India with 105 species published. A manuscript on a new species of *Telenomus* published. Prepared permanent slide mounts of genitalia of 3 new species of *Telenomus* Haliday.



**Interactive Identification and Information System for the Indian genera of Diapriidae (Insecta: Hymenoptera: Proctotrupeoidea):** Descriptive data including valid name, synonyms, taxonomic hierarchy, diagnosis and distribution for 15 genera compiled.

**Primary Type Information System (PTIS):** Pdf copies of literature of 300 primary type species completed. Digitization of types are progressing.

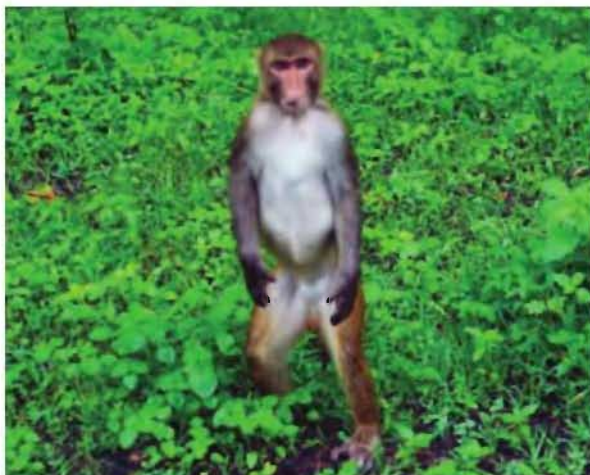
**Taxonomic studies on the Pteromalid fauna (Insecta : Hymenoptera) of**



**southern Western Ghats:** Two extensive surveys to Kannur, Wayanad and Idukki districts were conducted. A good collection of Pteromalidae collected through sweep net and Malaise trap. 44 exs. belonging to 14 species under 12 genera, including a new species were identified.

### COMPUTERISATION:

**Database on fauna of Western Ghats:** 4,406 data entries on various identified faunal elements (Invertebrata and Vertebrata) made. In addition to the routine databasing, work was initiated to develop a total web served, information system “The Primary Type

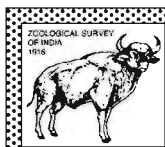


Information System” (PTIS) separately for the primary types at the WGRC, Calicut. PTIS includes:

- ☆ Cataloguing all available data regarding the primary types into a searchable database.
- ☆ Creating digital images of labels of all primary type specimens.
- ☆ Creating digital images of the types.
- ☆ Compilation of hard copies as well as soft copies of all original literature describing the types.

**Fauna of Conservation Area: Faunal Resources of Malabar Wildlife Sanctuary, Kerala:** Conducted four surveys to the Wildlife Sanctuary and representative samples of various fauna collected. Of these samples, 6 species of Pteromalidae (Hymenoptera: Chalcidoidea) were identified, including a new species reared from *Ceroplastes* sp. (Homoptera: Coccidae) pest. Besides, 12 species of Odonata, 20 species of butterflies, 2 species of Mantodea, 8 species of Centipedes (Chilopoda) and 2 species of Reptiles were also identified.





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**Taxonomic Studies: Systematic studies on Scelioninae (Hymenoptera: Platygasteridae) of Southern Western Ghats:** Two extensive faunistic survey tours to the forested areas of 4 districts, namely Trichur, Palakkad, Malappuram and Idukki was undertaken and a rich collection of parasitic hymenoptera could be collected. A manuscript on a new genus *Neoduta* and species *N. serrata*. sp. nov. was submitted for



publication. A new species of genus *Calliscelio* Ashmead described. In collaboration with NBAII, Bangalore, studies of a new species under genus *Mantibaria* Kirby and redescription of *Sceliocerdo viatrix* (Brues) are under progress. Interactive identification



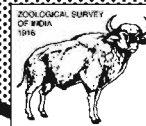
system for the common genera for the Platygasterid egg parasitoids of rice ecosystem of Kerala has been published as an electronic publication.

**Biosystematic studies on the lesser known Reptilian fauna of Southern Western Ghats:** Three extensive surveys and 4 local surveys were undertaken to the various localities of southern Western Ghats covering the seven districts of Kannur, Kozhikode, Wayanad, Malappuram, Palakkad, Thrissur and Idukki. 181 exs. of Reptilia were collected during the survey and identified 5 species of snakes and 3 species of lizards. Also registered 27 specimens of snakes received from V.P. Ajith, Herpetologist, Kodungallur, Thrissur district, which includes 24 species of snakes. Published 4 research papers on reptilian fauna of the country including an online version of 'Updated checklist of Reptiles of India', jointly with other Scientists of ZSI.



#### SURVEYS CONDUCTED

One extensive survey to Kannur and Wayanad district w.e.f. 11<sup>th</sup> October, 2011 to 21<sup>st</sup> October, 2011 and collected 746 examples (Mantodea- 30 exs., Odonata-23 exs., Phasmida-12 exs., Coleoptera- 6



exs., Neuroptera– 3 exs., Lepidoptera– 4 exs., Hymenoptera– 450 exs. (Approx), Blatoodea– 1ex. Arachnida: Amblypygi (Whip Scorpions): 2 exs., Scorpiones (Scorpions)– 39 exs., Araneae (Spiders): 1 ex., Chilopoda: Centipedes: 58 exs. Mollusca: 25 exs., Annelida: 1 ex., Vertebrate: Amphibia: 24 exs. Reptilia: 66 exs., Mammalia: 1 ex.)

Second survey tour to Malappuram, Palakkad and Thrissur districts, from 27<sup>th</sup> December, 2011 to 6<sup>th</sup> January, 2012 and collected 1027 examples of different groups.

Third survey tour to Idukki district from 31<sup>st</sup> March, 2012 to 13<sup>th</sup> April, 2012 and collected 895 examples of difernt geoups.

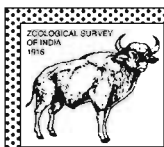
Totally Seven local survey were undertaken One local survey to Malabar WLS, Kakkayam (Kozhikode district) on 21<sup>st</sup> April, 2011. One local survey to Narayankulam, Kozhikode on 23<sup>rd</sup> June, 2011. Two surveys to Malabar WLS, Kozhikode on 16<sup>th</sup> November, 2011 and 25<sup>th</sup> November, 2011. Two survey tour to Kottooli wetlands, Kozhikode on 09<sup>th</sup> December, 2011 and 13<sup>th</sup> December, 2011. One survey to Peruvannamuzhy dam, Kozhikode district on 08<sup>th</sup> December, 2011. One survey to Malabar WLS, Kakkayam,

(Kozhikode) on 19<sup>th</sup> March, 2012. Three surveys to Kottooli wetlands, (Kozhikode). Collected from local surveys: 462 exs.; Annelida (Oligochaeta)– 1 ex., Class: Insecta, Lepidoptera– 5 exs., Odonata– 25 exs., Phasmida– 2 exs., Coleoptera– 67 exs., Hymenoptera– 153 exs., Orthoptera– 29 exs., Hemiptera– 40 exs., Diptera– 28 exs., Dermaptera– 5 exs., Dictyoptera– 3 exs., Mantodea: 3 exs., Blattodea: 10 exs., Class: Arachnida: 15 exs., Class: Chilopoda, Centipedes: 32 exs., Class: Diplopoda: 9 exs., Class: Crustacea: 14 exs., Vertebrata: Amphibia: 3 exs., Reptilia: 18 exs.

#### SPECIAL SURVEYS UNDERTAKEN

Dr. Muhamed Jafer Palot, Asstt. Zoologist coordinated the Reconnaissance survey of Reptilian fauna of Wayanad WLS, from 25<sup>th</sup> –27<sup>th</sup> May 2011, organised by Kerala Forests and Wildlife Department; participated in the survey to Narayankulam, Kozhikode, District on 23<sup>rd</sup> June, 2011.

Dr. Muhamed Jafer Palot, Asstt. Zoologist participated in the 'Malabar Ornithological Survey' from Mukurthi National Park, Nilgiris, Tamil Nadu to Silent Valley



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National Park, Palakkad district, Kerala, from 4<sup>th</sup> April – 8<sup>th</sup> April, 2011 organised by the Kerala Forests and Wildlife Department.

Dr. Muhamed Jafer Palot, Asstt. Zoologist participated in the Pelagic Sea Bird Survey conducted at the northern coast of Kerala organised by Kerala Birder and Malabar Natural history Society, Kozhikode on 24<sup>th</sup> September – 25<sup>th</sup> September, 2011.

Dr. Muhamed Jafer Palot, Asstt. Zoologist, participated in the butterfly survey at Aralam Wildlife Sanctuary, Kannur district from 13<sup>th</sup>–15<sup>th</sup> January, 2012 organised by Kerala Forests and Wildlife Department and Malabar Natural History Society, Kozhikode.

**Center Published:** Books Published: 1, Booklets Published: 2, Research Papers Published: 41, Popular Articles (Vernacular): 4, Research Papers Accepted: 2, Research Papers Submitted: 18.

## TRAINING WORKSHOP

National level Hands on Training Workshop on “Principles and Practices of Animal Taxonomy with special reference to Insects” organised at WGRC, Calicut from 27<sup>th</sup> February to 3<sup>rd</sup> March, 2012. Dr. K. Venkataraman, Director, delivered keynote

address on ‘Importance of Taxonomy in Biodiversity Conservation’ and another keynote lecture was delivered by Prof. T.C. Narendran, Emeritus Professor, Calicut University, Kerala on ‘Science of Taxonomy’. Various lectures on Philosophy of Taxonomy, Principles and Procedures in Animal Taxonomy, Insect Diversity were delivered by Scientists of ZSI. Introduction and Hands-on session on Lepidoptera, Mantodea, Odonata, Diptera, Coleoptera, Hemiptera, Hymenoptera, Orthoptera and Aquatic insects were handled by experts who are working in ZSI and other organizations.

## ZSI RESEARCH FELLOWSHIP SCHEME

**Studies on two little known superfamilies—Ceraphronoidea and Cynipoidea (Hymenoptera: Insecta) of Southern Western Ghats and adjacent areas.** JRF: Mr. C. Bijoy; Supervising Guide: Dr. Mrs. K. Rajmohana, Scientist–C, Conducted field surveys to Chittur government College campus, Pudunagaram (Palakkad); Kuttothparambu, Narayankulam, Malabar Wild Life sanctuary, (Calicut Dist.); Kannur, Malappuram, Thrissur and Wayanad districts and collected more than 150 samples of parasitic Hymenoptera collection.





**Biosystematic Studies on the Scolopendrid Centipedes (Chilopoda: Scolopendromorpha) of Southern Western Ghats and adjacent areas:** Conducted quadrat study regularly in every month at Kakkayam, Narayankulam, Kuttothparambu, (Kozhikode district). Conducted surveys to Kottayam Dt, Kannur, Wayanad and Palakkad districts along with scientists of ZSI/WGRC. Participated in the Kerala Forest Research Institute fieldtrip to Bhavani Reserve Forests, Silent valley, Palakkad, Kerala and collected 11 specimens. Visited CES, IISc, Bangalore for studying specimens, discussion with experts and literature collections. Soil samples collected from Kakkayam, Narayankulam and Kuttothparambu were given to Dept. of Soil Science, KFRI, Peechi for analysis. Collected 146 specimens from above surveys and identified 97 specimens belonging to 26 species under 9 genera.

#### NEW SPECIES DESCRIBED

33 New Species (10 Hymenoptera: Insecta and 23 Amphibia) and 1 New Record for the Oriental Region (Hymenoptera : Insecta)

#### 11. WESTERN REGIONAL CENTRE, PUNE

**Fauna of Maharashtra State:** The galley proofs returned to Publication Division after corrections.

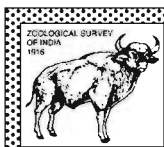
**Faunistic Survey of Radhanagari Wildlife Sanctuary, Kolhapur and Chandoli National Park, Sangli:** Surveys completed. 11 chapters for Radhanagari and 13 chapters for Chandoli NP were submitted to Publication Division.

**Faunistic Survey of Phansad Wildlife Sanctuary, Dist. Raigad (Maharashtra):** Three surveys proposed for the year 2011–2012. All surveys completed. Identification is in progress.



**Riverine Fauna of Northern Western Ghats (Maharashtra State):** Two new species of Genus *Idionyx* (Odonata: Cordullidae) are discovered from Goa and Maharashtra and being described. Manuscript writing is in progress.

**Identification of unnamed collection of Maharashtra Acrididae (Insecta: Orthoptera) present in the WRC, Pune:** Manuscript Submitted. Project completed.



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**Identification of unnamed collection of Karnataka Acrididae (Insecta: Orthoptera) present in the WRC, Pune:** Progress: 28 species under 25 genera of 15 subfamilies were identified. Project completed and manuscript submitted to Publication Division.



**Atlas of Odonata of Western Ghats:** Collaborative project of Western Regional Centre and Western Ghats Regional Centre. Dr. K.A. Subramanian, Scientist-C, Shri. C. Radhakrishnan, Scientist-F, Smt. Emiliyamma, Scientist-C and Dr. S.S. Talmale, Assistant Zoologist. Progress: Data collection from identified registers and from bibliography is in progress. 2,410 locality records were georeferenced. Distribution maps for 69 endemic species completed.



**Study of the accumulated unidentified collection of Mollusca in ZSI, WRC, Pune:** Progress: 1,200 specimens of 12 species, 05 genera of 05 families were identified.

**Identification of unidentified collection of fishes from four districts of Western Ghats (Konkan Region) present in ZSI, WRC, Pune:** Progress: 1,200 fish specimens of 45 species, 22 genera, 12 families and 6 orders were identified.



**Catalogue of Mammals available at National Zoological Collection of ZSI, WRC, Pune:** Progress: Study of material completed. Inputs of details of each specimen on collection data, morphometric and osteological measurements and taxonomic details noted during the study are given in species account. Species-wise account for each Order *viz.*, Soricomorpha (108 examples, 05 species of single family); Scandentia (01 ex., 01 sp. of single family); Chiroptera (228 examples, 36 sps. of 08 families) and Rodentia (183 examples, 12 sps. of 3 families) completed during the period under report. Manuscript writing is in progress.

**Systematic studies on freshwater crabs present in the collection of WRC,**



**Pune:** Progress: 1108 specimens of 15 species under 10 genera belonging to a single family were identified.

#### COMPUTERIZATION OF DATA:

- ☆ All identified specimens are digitized and further digitization is in progress.
- ☆ Database on Fishes of Peninsular India: 1842
- ☆ Geo-referenced database on Odonata of India: 5054
- ☆ Atlas of Odonata of Western Ghats: 1643

#### SURVEY CONDUCTED:

**Faunistic Survey of Phansad Wildlife Sanctuary and surrounding areas, district Raigad (Maharashtra):** Faunistic survey of Phansad Wildlife Sanctuary, district Raigad from 23<sup>rd</sup> November to 2<sup>nd</sup> December, 2011 conducted by Dr. P. S. Bhatnagar, Scientist-C and Party.

Faunistic survey of Phansad Wildlife Sanctuary district Raigad from 4<sup>th</sup> January, 2012 to 13<sup>th</sup> January, 2012 conducted by Dr. R. Bano, Scientist-C and Party.



Faunistic survey of Phansad Wildlife Sanctuary district Raigad from 14<sup>th</sup> March to 22<sup>nd</sup> March, 2012 conducted by Shri. S.S. Kamble, Scientist-B and Party.

**Status of Survey report:** Interim Reports of all the faunistic surveys have been submitted.

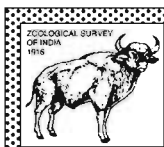
#### Material Collected:

1. Collection of Faunistic survey of Phansad Wildlife Sanctuary and surrounding areas, district Raigad (MS) from 23<sup>rd</sup> November, 2011 to 2<sup>nd</sup> December, 2011 conducted by Dr. P.S. Bhatnagar, Scientist-C and Party.

Number of examples collected (Major Group Wise): 1,621 Examples of invertebrate and 178 examples of vertebrate collected

2. Collection of Faunistic survey of Phansad Wildlife Sanctuary and surrounding areas, district Raigad (MS) from 4<sup>th</sup> January, 2012 to 13<sup>th</sup> January, 2012 conducted by Dr. R. Bano, Scientist-C and Party.

Number of examples collected: (Major Groupwise) VERTEBRATA : 111 Examples and INVERTEBRATA : 1068 Examples.



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**Status of Entry Made in Register:**  
All Identified specimens are registered and further registration is in progress.

Year	2011-12
Identified	5,955 examples
Unidentified	4,805 examples
<b>Total</b>	<b>10,760 examples</b>

**Added during the period under Report:**  
10,760; Named: 5,955 Invertebrata (4,955) and Vertebrata (1,000); Unnamed: 4,805 Invertebrata (4,280) and Vertebrata (525).  
Registration made during the year (Identified and Unidentified): Identified: 5,955 examples and Unidentified: 4,805 examples.



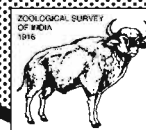
## 12. ESTUARINE BIOLOGY REGIONAL CENTRE, GOPALPUR

**Malaco Fauna and Ecology of Pennar Estuary, Andhra Pradesh:** Under this programme one survey tour was undertaken to Pennar River estuary, Andhra Pradesh from 06<sup>th</sup> October to 16<sup>th</sup> October, 2011 (11 Days) and different faunal components were collected as listed below. Crustaceans: Hermit crabs: 25 exs.; Crabs: 07 exs.; Prawns: 05 exs.; Mollusca: Cephalopods: 01 ex; Bivalves: 1349 exs.; Gastropods: 601 exs.; Fishes: 145 exs.



**Morphological and molecular characterization of Genus Anopheles (Diptera: Culicidae) of Ganjam District Odisha, India:** Under this many local survey for collection of Culicidae fauna has been conducted and collections has been made. Insecta: Culicidae: 200 exs.

**Brackish water ornamental fishes of Odisha:** Under this conducted 3 local Survey tours to Subhadra Estuary, Gopalpur and collected more than 50 specimens of ornamental fishes.



## PROGRESS OF RESEARCH

**(a) Studies on the estuarine fauna of Budabalanga River, Baleswar District, Odisha:** Progress: (i) Number of examples examined: 222 specimens of fishes; 127



specimens of Prawns and 64 specimens of Crabs. (ii) Number of species Identified : Fishes : 63 species which belongs to 50 genera and 38 families were identified during 2011–12. (Total species identified : 117 species of fish under 86 genera belongs to 49 families) Crustacea: 17 species which belongs to 6 genera and 3 families and 14 species of crabs which belongs to 9 genera and 6 families were identified.

Project completed and final report is going to be submitted shortly.

**(b) Malaco fauna and ecology of Pennar estuary, Andhra Pradesh:**



(i) Number of examples examined: 515 examples studied under 47 genera and 31 families.

(ii) Number of species Identified: 61 species identified.



**(c) Morphological and molecular characterization of Genus Anopheles (Diptera: Culicidae) of Ganjam District Odisha, India:** Progress:

i) Number of examples examined: 450

ii) Examples of *Anopheles* mosquitoes are identified under one Genus two subgenus.

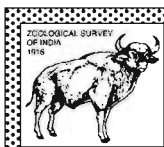
iii) Number of species Identified: 26 species are identified.

iv) Project completed and final report is going to be submitted shortly.

**(d) Brackish water ornamental fishes of Odisha:** Under this Three brackish water aquariums were setup in the Centre

i) Number of examples examined: 50 specimens

ii) Number of species Identified: A total of 24 species of ornamental fishes which belongs



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to 19 genera and 17 families were identified as ornamental fish.

**(e) Database on Estuarine Fauna of India:** About 827 data entered during the present period (EBS/ZSI/F-6574 to F-6915). So far 7400 data indented and updated.

## LIST OF SPECIES IDENTIFIED.

List of fishes identified: Total 250 examples, 24 species of ornamental fishes and 74 species of Mollusca identified, 31 species of Crustacea and 26 species of Mosquitoes were identified.



## 13. NORTH EASTERN REGIONAL CENTRE, SHILLONG

**Fishes of N.E. India:** Manuscript dealing with 408 species is submitted.

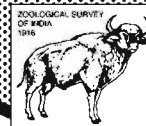
**Nemacheiline loaches of North East India present in the Collections of NERC/ZSI, Shillong:** Final report submitted. A total of 487 examples present in the backlog collection of NERC/ZSI, Shillong were studied and identified into 16 species under 5 genera. Out of the 41 species of Nemacheiline loaches reported from North-East India, 32 species are present in the holdings of NERC/ZSI, Shillong.

**Taxonomic studies of the unidentified Ephemeroptera (Nymph) collection of Meghalaya present in ERS/ZSI, holdings Shillong:** Manuscript under preparation.

**Taxonomic and Ecological studies on the Earthworms Annelida: Oligochaeta) of West Khasi Hills and South Garo Hills districts of Meghalaya:** Study in progress.



**Taxonomic studies of the family Cerambycidae under the order Coleoptera in East Khasi Hills District, Meghalaya:**



2 surveys conducted from 6<sup>th</sup> September to 10<sup>th</sup> September, 2011 and 21<sup>st</sup> March to 25<sup>th</sup> March, 2012. A total of 218 + 231 examples of various faunal groups including examples of coleopteran were collected.

**Studies on the Reptilian and Amphibian fauna of Loktak Lake and Keibul Lamjao National Park and its adjoining areas, Manipur:** One survey conducted from 17<sup>th</sup> October to 30<sup>th</sup> October, 2011. A total of 81 examples of various faunal groups were collected.



**A documentary on the Mass migration of earthworms in Mawlyngot area, Meghalaya:** Local trips were undertaken to the area to gather information on season, time and pattern of migration of earthworms. The ecological, topographical and other environmental parameters were also assessed. Few video clips of the earthworm migration were recorded.

A total of 26 examples were collected.

**Taxonomic study on Anuran Amphibians of North East India present in the collections of NERC/ZSI, Shillong:**

344 examples of amphibians were identified and registered into 17 species under 10 genera, 6 families and 1 order.

**Taxonomic study on aquatic and semi-aquatic Hemiptera of West Khasi Hill and Ri-Bhoi districts, Meghalaya:** Two surveys conducted from 1<sup>st</sup> August to 5<sup>th</sup> August, 2011 and 25<sup>th</sup> February to 2<sup>nd</sup> March, 2012. A total of 930 + 1546 examples of various faunal groups were collected.

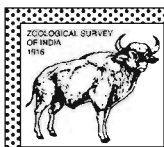


Added during the year under report:

Year	2011-12
Identified	1041 examples
Unidentified	3048 examples
Total	4089 examples

Registration made during the year under report:

Year	2011-12
Identified	1041 examples
Unidentified	3048 examples
Total	4089 examples



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#### 14. DESERT REGIONAL CENTRE, JODHPUR

**Studies on Tridactylid fauna of Rajasthan:** Manuscript submitted.

**Rutelinae (Coleoptera: Scarabaeidae) of Rajasthan:** Manuscript submitted.

**Faunal Survey of important congregative bird areas (Khijadia WLS and Marine National Park and Sanctuary) in Gujarat:** Manuscript submitted (pp: 1-345 + 8 tables + 7 Figures + 2 maps + 10 appendices + 4 faunal plates)

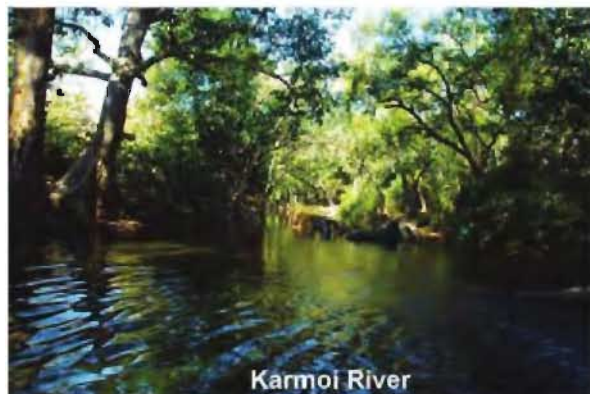


**Vertebrate Faunal Diversity *w.s.r.* to Avian and Mammalian Fauna of the Sardar Samand Reservoir, Rajasthan:** 252 species of aves, 22 species of Mammals, 18 species of reptiles, 5 species of amphibians and 5 species of freshwater fishes identified and reported. 1 species of reptile and 1 species of aves holds new distributional record from Pali district, Rajasthan. The manuscript of the final project report submitted (pp:1-306+4 figures + 7 tables + 3 maps + 10 colour plates)



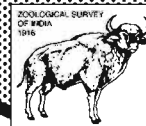
**Plant and Soil Nematodes associated with Forest Areas of Gujarat:** Final Project Report submitted and officer transferred to ZSI, NRC, Dehra Dun.

**Faunal Exploration of Sitamata Wildlife Sanctuary, Udaipur:** One field survey conducted and GPS data of localities



recorded. So far 315 species of different groups identified *i.e.* 45 species of nematodes, 38 species of Lepidoptera, 24 species of Odonata, 24 species of Coleoptera, 4 species of Pisces, 11 species of reptiles, 151 species of Aves and 17 species of Mammals have been identified.

**Taxonomical study of aquatic nematodes of lakes of Udaipur:** A Total of



78 species belonging to 6 orders of nematodes have been identified. Final report submitted in February, 2012. 12 species of nematodes as new records from India

**Studies on Odonata and Lepidoptera fauna of foothills of Aravalli Range, Rajasthan:** Total six field surveys conducted. Around 52 species of Odonata and 156 species of Lepidoptera identified. 24 photoplates of different habitats and fauna prepared. Eight papers published. 9 species of Odonata and 16 species of Lepidoptera are New Records from Rajasthan state. Final project report submitted including 137pp + 2 figures and 20 photoplates of habitats and fauna.



**Taxonomical studies of Nematodes of economically important forest tree species of Rajasthan:** Project not started due to transfer of assigned officer to ZSI, NRC, Dehra Dun and project dropped.

**Pictorial Hand Book on Damselflies and Dragonflies (Odonata: Arthropoda) of Rajasthan:** 28 species description completed and 14 photoplates of habitats and Odonata species prepared.

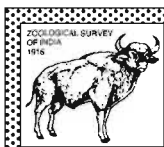


#### COMPUTERIZATION:

Database of Nematoda, Lepidoptera, Isoptera, Diptera, Formicidae, Coleoptera and Vertebrates of the Thar Desert of Rajasthan. Total database entries made: 11,707 (upto March, 2011) + 475 (April, 2011 to March, 2012) = 12,182.

**Exploration of Vertebrate Diversity of Chambal River in Rajasthan State:** Two survey were undertaken, on in 29<sup>th</sup> November to 10<sup>th</sup> December, 2011 and another in 3<sup>rd</sup> March to 11<sup>th</sup> March, 2012.





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11 lots comprising 60 examples of freshwater faunal groups belonging to pisces, amphibians and reptiles were collected.

**Studies on Vertebrate Faunal Diversity of Kachchh Biosphere Reserve (KBR), Gujarat:** Two survey were undertaken one in August, 2011 and another in January, 2012 and 4 lots comprising of 20 examples of Pisces were collected.



**Identification of Unidentified National Zoological Collection (NZC) of ZSI, DRC, Jodhpur:** 181 specimens of 19 species of fishes were identified from unidentified collection of fishes kept in National Zoological Collection. These fishes were registered from Reg. No. V/2734 to V/2752, V/2794 to V/2796;

V/2807 to V/2823. 8 species belong to family Cyprinidae (120 specimens) whereas one each species belong to family Channidae (18 specimens), Heteropneustidae (9 specimens), Cichlidae (1 specimen), Bagridae (2 specimens), Notopteridae, (1 specimen), Belonidae (2 specimens), Poeciliidae (20 specimens), Nandidae, (1 specimen), Clupeidae (1 specimen) Cyprinodontidae (5 specimens) and Siluridae (1specimen).

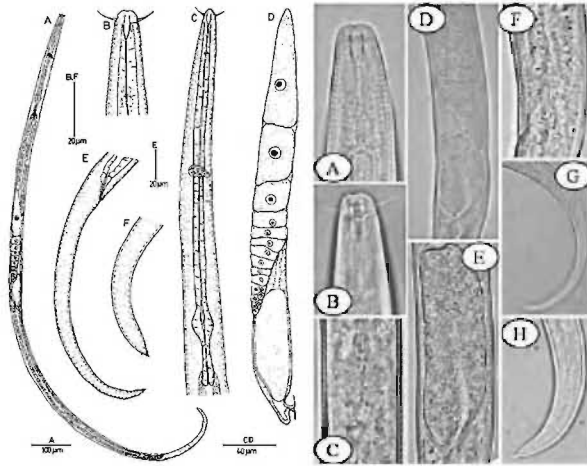
## STATUS OF PROJECTS FUNDED BY OUTSIDE AGENCIES

**All India Coordinated Project on Nematode Taxonomy (Capacity Building):** Identified 30 species belonging to 20 genera, 14 families under eight Orders Tylenchida, Aphlenchida,

Dorylaimida, Mononchida, Rhabditida, Araeolaimida, Chromadorida and Enoplida. 3 new species of Plant Nematodes reported namely:

1. *Neotylocephalus* n. sp.
2. *Chronogaster laxus* Sultana and Bohra, 2011.





3. *Chronogaster udaipuriensis* Sultana and Bohra, 2011

**Environmental Impact Assessment Studies: Fauna of Gurah (West) Lignite Mine Block, Bikaner, Rajasthan:** Survey conducted: Two (*i. e.* from 23<sup>rd</sup> to 27<sup>th</sup> August, 2011 and 5<sup>th</sup> to 10<sup>th</sup> February, 2012). 8 soil samples and 22 specimens of order Odonata, Lepidoptera, Coleoptera, Hymenoptera and Orthoptera were collected.

Study sites maps prepared. Recorded 8 species of Odonata, 19 species of Lepidoptera, 6 species of Reptiles, 104 species of Aves and 9 species of Mammals.



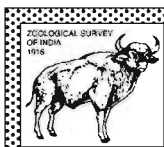
## 15. FRESH WATER BIOLOGY REGIONAL CENTRE, HYDERABAD

**Taxonomic and Ecological Studies of Aquatic Insects of lakes in and around Hyderabad:** Under this programme final report submitted for publication in October 2011, after incorporating referee's comments. The report is based upon 950 exs. of total aquatic insects collected from extensive 14 local bimonthly surveys, undertaken between April, 2007 – April, 2009 to four lakes of Hyderabad. Taxonomic identification of 45



species (14 spp. of Hemiptera and 31 spp. of Coleoptera) undertaken for evaluation of aquatic insect diversity.

**Faunistic Studies on Polychaetous Annelids of medium Estuaries viz., Mahendra, Janjihavathi, Sarada and Pennar rivers of Andhra Pradesh:** Progress: Identified 150 exs. belonging to 6 genera, 7 spp. and 6 families of Polychaetes viz. *Lumrinereis inpatiens*, *Lumrinereis heteropoda*, *Scoloplas marsupialis*, *Paraheteromastus tenuis*, *Glycera alba*, *Isolda pulchella* and *Heteromastus similis*. Final report, being written up. The assignee has been requested to expedite early submission.



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## **Limnological and Faunal diversity of Kolleru lake, Andhra Pradesh, post dismantling of illegal aquaculture ponds:**

Progress: Different subject/groups specialist finalizing manuscripts under their expertise.

Requests extension in time limit up to March, 2012.

**Limnological Faunistic studies on Palair lake, Khammam District, Andhra Pradesh:** Progress: One 05 day duration field study undertaken for seasonal studies on the Biological collections and water quality parameters in man-made lake (09<sup>th</sup> April to 13<sup>th</sup> April and following collections made : Plankton 08 spp, Crabs 05 spp; Fishes 36 exs.; Mollusca 92 exs.; Insects 15 exs.; Total 156 exs.; (ZSI/FBRC/N/6194-6212). Preparation

of manuscript is in final stage. The following faunal groups have been identified. Rotifers: 10 species belongs to 4 genera identified. Cladocera: 3 species belongs to 3 genera. Hemiptera: 14 spp. belongs to 8 genera Coleoptera: 12 species belongs to 11 genera. Fishes: 11 spp. belongs to 9 species.

## **Hydrobiological evaluation of few urban and semiurban freshwater aquatic ecosystems in and around Hyderabad:**

Progress: 33 nos. day long field trips undertaken for limno-ecological evaluation of the varied aquatic habitats, and their ecology (Osman, Himayat, and Umda Sagar – *raw water reservoirs*; Ameenpur, Jallapally, Raigir, Bhongir, Bibinagar and Pagadapalli tanks – *irrigation tanks/ shallow wetlands*, besides 03 *temporary water habitats* (Attapur, Rajendranagar and Landscape garden pond, Osmania University, Hyderabad). Physicochemical parameters like temperature ( $^{\circ}\text{C}$ ), pH, conductivity (mS/cm), turbidity, dissolved oxygen (DO mg/L), Biological Dissolved Oxygen (mg/L) at  $20^{\circ}\text{C}$ , Total dissolved solids (mg/L), total hardness (mg/L), total alkalinity  $\text{CaCO}_3$  (mg/L), Chlorides (mg/L), mono-divalent anions





kationns Calcium (mg/L), Magnesium (mg/L), Total phosphates P-tot (mg/L), Nitrate N-NO<sub>3</sub> (mg/L), Nitrite N-NO<sub>2</sub> (mg/L), and Ammonia N-NH<sub>3</sub> (mg/L) have been studied.

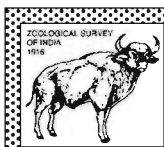
In all, 125 spp. were identified as follows: 57 spp. of Rotifers, 28 spp. of Cladocera, 07 spp. of Copepoda, 03 spp. of Ostracoda, 09 spp. of littoral malacofaunae, 10 spp. of macrophyte based insects, 11 spp. of nekton, 20 spp. of rotifer and 21 spp. of cladocera were added to National zoological Collations, besides 11 spp. of fishes and 07 spp. of Mollusca. Futher, 28 species of wetland birds were also recorded from various freshwater habitats. The study reveals 07 species of rotifers – *Keratella procurva*, *Brachionus*

*patulus*, *Mytilina ventralis*, *Trichcerca pusilla*, *Polyartha indica*, *Conochilus (Conochiloides) unicornis*, and *Pseudoembata acutipoda* as new record from Hyderabad, indeed too Andhra Pradesh.

**Studies on the Hydrobiology and faunal diversity of Krishnaraja Sagar, Mandya Dist., Karnataka w.s.r. to Plankton, aquatic insects, mollusks and Ichthyofauna:** Progress: One survey to Krishnaraja Sagar reservoir, Mandya District, Karnataka has been conducted from 15<sup>th</sup> September to 24<sup>th</sup> September as per the approved Annual Plan of Research work. Collected 946 examples of various faunal groups mostly aquatic insects, fishes, mollusks and crustaceans, and collected Plankton sample: 15 samples, Aquatic Insects: 605 exs., Shrimps : 126 exs., Crabs: 13 exs., Molluscs: 109 exs., Fishes: 92 exs., Amphibia (frog): 1 ex., Examined 58 examples of fishes and identified as 20 species belongs to 10 families during the period.

**Studies on the hydrobiology and faunal diversity of Cumbum Lake, Prakasam District, Andhra Pradesh w.s.r to Plankton, aquatic insects, mollusks and**





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**Ichthyofauna:** One seven day long duration field studies undertaken to Cumbam lake, Andhra Pradesh ( 28<sup>th</sup> June, 2011 to 4<sup>th</sup> July, 2011) by Drs. S.V.A. Chandrasekhar and Deepa Jaiswal and others for wetland faunal studies/collections. Collected 08 samples of Plankton, 05 exs. of Crabs, 36 exs. of Fishes, 92 exs. of Mollusca, 15 exs. of Insects (Total 156 exs. (ZSI/FBRC/N/6194-6212).

**Faunal Studies on the estuarine fauna of Budabhalanga River, Balsore Dist, Odisha. (Ichthyofauna, and Crustaceans):**  
Progress: A study tour to EBRC/ZSI/ Gopalpur has been undertaken from 18<sup>th</sup> to 29<sup>th</sup> July for identification of faunal samples collected from the Budabhalanga estuary during earlier surveys. During the period 227 examples of fish samples examined and identified as 67 species belongs to 50 genera under 38 families.

**Identification of unidentified fish collections of FBRC/ZSI/Hyderabad:**  
Over 139 examples of unidentified fish samples collected from various localities deposited with FBRC/ZSI has been identified as 28 species under 19 genera belongs to 15 families.

## COMPUTERISATION:

Computerisation of the identified collections in place. Invertebrates 696 nos., Insects 746 nos. and Vertebrates 1554 nos.

Total – 2,996 nos. entries made

## Hydrobiological/ Faunistic Surveys Conducted:

**Local:** 33 nos. day long field trips undertaken to different major man-made or reservoir lakes, viz. Osman, Himayat, and Umda Sagar, Sagiguda lake, Jallapally and 03 Temporary ponds.

### Extensive:

One tour to Palair Lake, Khammam district, Andhra Pradesh, from 9<sup>th</sup> April to 13<sup>th</sup> April, 2011.

One survey to Krishnaraja Sagar Reservoir, Mandya District, Karnataka has been conducted from 15<sup>th</sup> September to 24<sup>th</sup> September, 2011 as per the approved Annual Plan of Research work.

One seven day long duration field studies undertaken to Cumbam lake, Andhra Pradesh (28<sup>th</sup> June, 2011 to 4<sup>th</sup> July, 2011).



## 16. SUNDARBAN REGIONAL CENTRE, CANNING

**Present status of Reptiles (*Varanus bengalensis*, *V. flavescens* and *V. salvator*) in Sunderbans:** Project completed and manuscript submitted.

**Vertebrate fauna of Bakkhali, Sagar and Halliday islands of Sunderbans:** Project completed and manuscript Submitted.

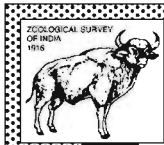


**Preliminary Studies on the faunal diversity in the fish landing centers of Sunderbans:** Under this Eleven local surveys were undertaken. A total of 322 examples were collected. Among these 17 sp. of fishes from 53 exs. were identified, 1 sp. of crab from 4 exs. and 2 sp. of gastropod from 9 exs. were identified and registered.



**Taxonomy and Ecology of brachyuran crabs of Sunderbans”:** One survey was undertaken, 165 specimens were collected which includes, 14 exs. of fish, 8 exs. of prawns, 22 exs. of gastropods, 94 exs. of





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Brachyuran crabs, 1 exe. of lobster, 11 exs. of bivalve, 1 exe. of sepia, 10 exs. of stematopod, 1 exe. of mole crab, 2 exs. of enunuran crab, 1 exe. of Holothurian.



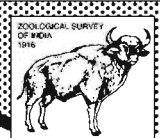
**Biodiversity of Acridoidea: Orthoptera of Sunderbans, West Bengal :** Two surveys were undertaken in and around Sunderbans. 343 exs. of Orthoptera, were collected and among these 19 exs. were identified which belonged to 5 sp.



#### COMPUTERISATION

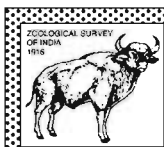
1251 data entries have been made so for during the period.





## IDENTIFICATION AND ADVISORY SERVICES

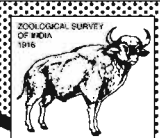
1. Sh. Daljeet Singh, Lecturer, Government College, Shahpur, Kangra was provided with identification of photographs of birds.
2. Dr. Sunit Dookia, Asstt. Prof., Dept of Zoology, G. G. S. Indraprastha University, Delhi was provided with identification services of bat specimens.
3. Dr. K. Rema Devi identified the 28 fishes received from Ms. Zeena, K.V., Asstt. Prof. in Zoology, Maharaja's from Muvattupuzha River, Kottayam District, Kerala as belonging to 14 species and registered in the reserve collections of SRC (Reg. No. F. 8463 – F. 8476). The identification report was sent. This included one new record.
4. One species of puffer fish *Chelonodon* species received from Dr. A. Gopalakrishnan, Principal Scientist and O/C, NBFGR, Cochin was identified and added to the Reserve Collection of SRC (Reg. No.: F. 8477).
5. For Desert Regional Centre, Jodhpur the 529 exs. of fishes from 31 lots as belonging to 22 species under 13 genera, 6 families and 3 orders were identified. The specimens were returned.
6. For Shri Bharatha and Suubaraj, Ph.D. students of Annamalai University the 14 catfish species were identified as belonging to 6 species, from two localities.
7. Two catfish specimens were identified for a Ph.D. student of Madras University.
8. Identified 5 freshwater species for an M.Phil. student Ms. Narmathanathiya of Quaid E. Millath College, Chennai.
9. Three catfish specimens were identified for a Ph.D. student Shri Bharath and Subbaraj of Annamalai University.
10. Identified 18 freshwater species for an M.Phil. student Ms. Narmathanathiya of Quaid E. Millath College, Chennai.
11. Identified 73 freshwater fishes as belonging to 31 species collected from Thunga and Bhadra rivers for Shri Vidyadhar Atkore of ATREE, Bangalore.
12. Identified 8 freshwater fishes as belonging to 7 species received from Jodhpur.
13. Ten fish specimens from Maharashtra were identified as belonging to 7 species for Shri Rahul Kumar Ph.D. student of University of Madras.
14. Identified two gobioid species for a research scholar from Kerala.
15. Identified 4 species of Tryplopheya species from Bihar for Dr. Arunachalam and Students from Manonmaniam Sundaranar University, Tirunelveli.



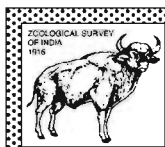
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16. Identified 3 species from Yercaud for Mr. Rric Ramanujam of Pitchandikulam Forest Reserve.
17. Dr. Jayasree Tilak rendered identification services to Mr. Karthik Baskaran, 34/1 Ramalinga nagar 4<sup>th</sup> layout, Saibaba Colony, Coimbatore-641011 on 20-2-2012 and identified 9 exs. of common spiny loach belongs to one species.
18. Dr. Jayasree Thilak, Scientist-C and Dr. V.M. Sathish Kumar, SZA rendered identification services to: The Forest Range Officer, Pallikaranai Range Office, Pallikaranai on 1-11-2011 and identified one species of Insecta.
19. Dr. Prabakaran, Scientist-C identified one Cockroach specimen from Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram, Kerala.
20. Confiscated biological material viz. 28 scales received from the Additional Chief Metropolitan Magistrate Egmore, Chennai were identified as belonging to the Indian Pangolin *Manis crassicaudata*, Gray by Dr. R. Aengals, Scientist-C and Dr. V. M. Sathish Kumar, SZA.
21. Dr. Jayasree Thilak, Scientist-C rendered identification services to CEENR, ISEC, Banglore. Identified 6 species of Rotifera and 10 species of Cladocera.
22. Dr. P. M. Sureshan, Scientist-C identified about 160 exs. of Hymenoptera (Pteromalidae) received from Dept. of Entomology, Annamalai University, Tamil Nadu belonging to 5 species under 4 genera.
23. Dr. Muhamed Jafer Palot, Asstt. Zool. rendered identification and advisory services to the B.Ed. (Natural Science) final semester students on their project work, 'Herpetofauna of Calicut city' on 21<sup>st</sup> April 2011.
24. Dr. P.M. Sureshan, Scientist-C identified 20 exs. of Coccids (Hemiptera) received from Dept. of Entomology, Annamali University, Tamil Nadu belonging to 5 species under 4 genera.
25. Mrs. K.G. Emiliyamma, Scientist-C, as Co-guide rendered advisory services to Mr. Ratheesh, M.Sc., final year student of S.N. College, Alathur on 'Biosystematics studies on damselflies of two different ecosystems of Palakkad district' for his project work.
26. Dr. Muhamed Jafer Palot, Asstt. Zool. rendered identification and advisory services to the B.Ed. (Natural Science) final semester students CICS College of Teacher Education on their project work, 'Birdlife of Mavoor Wetlands, Kozhikode district on 18<sup>th</sup> May 2011.
27. Dr. Muhamed Jafer Palot, Asstt. Zool. rendered advisory services to Deepak, C.K., M.Sc. (Zoology) student of Loyola College, Chennai has enrolled as a research student for his internship on Reptilian fauna of Northern Kerala.



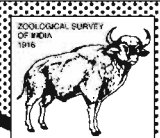
28. Dr. P.M. Sureshan, Scientist-C, revised the Oriental species of *Merismomorpha* Girault (Hymenoptera: Pteromalidae) comprising of 6 species and a new species viz. *Merismomorpha tamilnadensis* sp. nov. has been described based on the study of 6 specimens reared from *Cerococcus* sp. (Homoptera) on *Hibiscus* sp., received for identification from the Department of Entomology, Faculty of Agriculture, Annamalai University, Tamil Nadu.
29. Dr. P.M. Sureshan, Scientist-C, identified 10 exs. of Mantodea: Insecta, as 7 species from Western Ghat ecosystem, Palghat district (Chittur) received for identification from M.Sc. Zoology students of Chittur Govt. College.
30. Dr. K. Rajmohana, Scientist-C, identified the parasitoid on the cecidomyid *Resseliellasalvadorae* (Rao) causing galls on *Salvadora persica* L. (Salvadoraceae) from Sudan as a species of *Platygaster Laterielle* (Platygastridae: Hymenoptera)
31. Mrs. K.G. Emiliyamma, Scientist-C, rendered advisory service and provided literature pertaining to Odonata of Kerala to Ratheesh, M.Sc. Zoology student, Chittoor Govt. College, Palakkad for his project work.
32. Dr. K. Rajmohana, Scientist-C, identified a set of specimens received from the Biosystematics lab., Annamalai University, Chidambaram as an undescribed species of *Aradophagus* (Platygastridae: Hymenoptera).
33. Dr. Muhamed Jafer Palot, Asstt. Zoologist, rendered identification and advisory services to the M.Sc. Zoology (final year) student of Kannur University Centre, Mananthavady on 'Butterflies of Riparian forests of Wayanad district.'
34. Dr. K. Rajmohana, Scientist-C, identified 15 lots of egg parasitoids received from Kerala Forest Research Institute, Trichur were identified as an undescribed species of *Telenomus* Haliday (Platygastridae: Hymenoptera).
35. Dr. K. Rajmohana, Scientist-C, provided technical advice and support to Govt. UP School, Balussery, on 'Steps and Techniques in Ecorestoration programs', for the Sub-district Science fair.
36. Dr. K. Rajmohana, Scientist-C, extended photomicrography services on Chloropidae (Diptera) to Dr. P.T. Cherian, Additional Director (Retd.), ZSI, Chennai.
37. Dr. Muhamed Jafer Palot, Asstt. Zoologist rendered advisory service to Ms. Shewta Mukundan, M.Sc. final year, St. Joseph's College, Devagiri, Kozhikode for her project work on a study on the ecology and behaviour of the Black Kite (*Milvus migrans*) in urban environment.



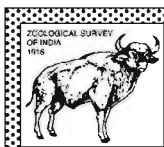
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38. Dr. Muhamed Jafer Palot, Asstt. Zoologist, rendered advisory service to Mr. Ameen P. of Calicut Islamic Residential Higher Secondary School for his project on endangered animals of Kerala to be presented at District level Science Congress for School students.
39. Dr. K. Rajmohana, Scientist-C, catered identification service to 69 specimens of insects, on request, from Dept. of Zoology, Govt. Arts and Science College, Calicut, Kerala.
40. Mrs. K. G. Emiliyamma, Scientist-C identified 7 species of Odonata from Pallikarani marsh, Chennai and species descriptions also were provided to SRC/ZSI, Chennai.
41. Dr. Muhamed Jafer Palot, Asstt. Zoologist, rendered identification service to Mr. Diksit, Regional Deputy Director, Wildlife Regional Office, Ministry of Environment and Forests, Mumbai on an identification of a bird specimen.
42. Dr. Muhamed Jafer Palot, Asstt. Zoologist, rendered identification service to the officials of Kerala Forests and Wildlife Department on the identification of 16 confiscated specimens of Indian Pond Terrapins (*Melanochelys trijuga*) to be submitted before the Honourable First Class Magistrate Court, Kozhikode.
43. Dr. K. Rajmohana, Scientist-C, and Bijoy, JRF, provide identification services of about 40 insects under different orders to the M.Sc. Students of Farook College, Calicut.
44. Identification and advisory service was rendered to a Research Scholar of Central Institute of Freshwater Aquaculture, Bhubaneswar.
45. Identification and advisory service was rendered to a Research Scholar of Berhampur University, Ganjam.
46. Dr. P. C. Tak provided necessary advice and information to two M.Sc. Students of Environmental Science of FRI (Mr. Milu Mathew and Mr. Vidnesh Prabhu) on their respective interests in birds and climate change and bird acoustics on 21<sup>st</sup> July 2011.
47. Dr. P. C. Tak provided necessary advice and information to Shri. Sagil G. Satyan, a student of Indian Institute of Science Education and Research, Thiruvananthapuram, for his summer project on wetland birds of a pond in his home town under his study course in Ornithology and Environmental science.
48. Dr. A. N. Rizvi, Scientist-C, has Supervised projects on Status of Dengue, Status of Malaria, Status of Swine flue and Status of Typhoid to four B.Sc. Students of Doon Paramedical College and Hospital, Dehra Dun.
49. Dr. A. Bahuguna, Scientist-C, has Supervised two M.Sc. Biotechnology student of Doon Paramedical College, Dehra Dun for project water analysis of Gucchupani, Dehra Dun.



50. One fish specimen received for identification from Principal, Poona College of Arts, Science and Commerce, Camp, Pune (Maharashtra). Identified as *Clarias batrachus* (Linnaeus).
51. One crab specimen received for identification from Principal, Poona College of Arts, Science and Commerce, Camp, Pune (Maharashtra). Identification as *Braytelphusa cucicularis* (Westwood, 1836).
52. Pellets and other prey remains of a Brown Fish Owl received for identification from Dr. Satish A. Pande, Ela Foundation, C-9, Bhosale Park, Sahakar Nagar-2, Pune.
53. 14 Lepidoptera specimens received for identification from ISEC, Bengaluru. Identified under 14 species.
54. 14 Odonata specimens received for identification from ISEC, Bengaluru. Identified under 10 species.
55. 49 Acrididae grasshoppers received for identification from ISEC, Bengaluru. Identified under 18 species.
56. Fish specimens of Bhima River, Gulbarga District, Karnataka received for identification from Dr. K.R. Rao, Walchand College of Arts and Science, Solapur. Identified under 124 exs. under 38 species.
57. Three Amphibian specimens from Solapur (Maharashtra) received for identification from Mr. Sangram Holay, 687, Amrut Building, Deccan Gymkhana, Pune-4. Identified as *Polypedetus maculatus*.
58. 23 freshwater molluscan specimens received for identification from Dr. S. Pande of ELA foundation, Pune. Identified under 11 species.
59. Skin samples received from Maharashtra Forest Department, Kudal. The sample was identified as skin of Indian Muntjac (*Muntiacus muntjak*), Schedule III of Wildlife Protection Act, 1972.
60. Ivory received for identification from Forest Department, Satara, Maharashtra State. Identified as Elephant ivory.
61. Claws, canine, jaw and one piece of skin with hairs received for identification from Forest Department, Kanakavali, Maharashtra. Identified as Claws, canine, jaw and one piece of skin with hairs of Leopard (*Panthera pardus*).
62. One skin of Tiger received for identification from Police Department, Sangli, Maharashtra State. Identified as Fake skin of Tiger.
63. 8 Specimens of Odonata received for identification from Bangalore and identified as *Crocothemis servilia* (Drury, 1770), *Brachythemis contaminata* (Fabricius, 1793) and *Neurothemis tullia* (Drury, 1773).



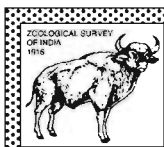
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64. Some insect and molluscan photographs received for identification from Shri Sunil Avad, Ph.D. Student of Dept. of Zoology, Dr. B.A. Marathwada University, Aurangabad (Maharashtra) and Identified under 15 species.
65. Fish images sent for identification by Dr. Pratyush Mahapatra, Centre for Ecology and Biodiversity, Bhuvaneswar, Odisha. Identified under 11 species.
66. Mollusca and Odonata samples sent for identification by Mr. K. Bhaskar, Institute for Social and Economic Change, Bengaluru. Identified as 11 species of Mollusca and 14 species of Odonata.
67. Molluscan samples received for identification from Dr. Satish Pande, Ela Foundation, Pune. Identified as 11 species of Mollusca.
68. Three seized skins and one sample of seized feathers received for identification from Forest Department, Pune and Satara respectively. Identified as skins of *Antelope cervicapra* (Blackbuck).
69. One sample of seized feathers identified as belongs to *Pavo cristatus* (Pea fowl)
70. 50 Fish samples received for identification from Dr. Sudhakar Kurhade, New Arts Commerce and Science College, Ahmadnagar – 414 001. Identified as 18 species of Fishes.
71. 08 Fish samples received for identification from Dr. S.V. Pandit, Reader, Department of Zoology, University of Pune, Pune. Identification comprises 7 species of Fishes.
72. 04 water samples containing a worm received each from Jalgaon, Washim, Hingoli and Yavatmal (Maharashtra). Identified as 1 species of *Gordius* sp.
73. 02 water samples received from the Chief Officer, Beed Municipal Council, Beed. Identification as 1<sup>st</sup> sample contains *Chironomus* larvae and 1 specimen of Copepoda. 2<sup>nd</sup> sample contained ten specimens of water mites.
74. Forty specimens of Cladocera (Crustacea), Twenty five specimens of Calanoid Copepods and fifty specimens of Cyclopoid : Copepods, *Chironomus* larvae and their remains in forty numbers and Shells of Ostracoda (Crustacea) identified.
75. Two bird samples received from Range Forest Officer, Indapur, Pune. Identification comprises 2 species of Birds.
76. 09 examples of mangrove bivalves received for identification from Shri Rajendra Sadashiv More, Dapoli Urban Bank Senior Science College, Dapoli-415709, Ratnagiri District, Maharashtra. Identified under 1 species.



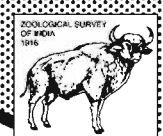
77. 05 examples of freshwater gastropods received for identification from Dr. S. Pujari, Asst. Professor, Department of Zoology, Government College of Arts, Science and Commerce, Sanquelim, Goa-403505. Identified under 1 species.
78. Two mammalian skin samples, which are listed in Schedule I of Wildlife Protection Act, 1972 received from Hadapsar Police Station, Pune. Identified as skins of Blackbuck (*Antelope cervicapra*).
79. One skin sample of mammalia, which falls in Schedule II of Wildlife Protection Act, 1972 received from Hadapsar Police Station, Pune. Identified as skin of Small Indian Civet (*Viverricula indica*)
80. One live bird specimen received for identification from PSI Mr. S.M. Pawar, Kondhwa Police Station, district Pune (Maharashtra). Identified one species of Indian Peafowl.
81. Freshwater terrapins and star tortoises samples received for identification from RFO, Paud, Pune. Identified as Starred tortoise and Dhongoka terrapin.
82. One sample of single horn listed in Schedule I of Wildlife Protection Act, 1972 received from Forest Department, Mirajgaon, Maharashtra. Identified as single horn of Blackbuck (*Antelope cervicapra*).
83. A pair of horns which falls in Schedule-I of Wildlife Protection Act, 1972 received from Range Forest Officer, Mobile Squad, Pune. Identified as a pair of horns of Gaur or Indian Bison (*Bos gaurus*).
84. One skin sample which falls in Schedule I of Wildlife Protection Act, 1972 received from Crime Branch Pune city. Identified as skin of Panther / Leopard (*Panthera pardus*).
85. 16 specimens of Collembola and 15 examples of soil mites received for identification from Dr. S. Roy, Senior Scientist (Agricultural Entomology), CAZRI, Jodhpur, Rajasthan.
86. Photographs of reptiles received for identification from Dr. Pandharbale of A.S.C. College, Manchar, Pune. Identified as *Uropeltis ellioti* (Gray, 1858)
87. Dung beetles received for identification from Dr. S. V. Pandit, Reader, Dept. of Zoology, University of Pune, Pune. Identification comprises 7 species.
88. Insect specimens received for identification from Dr. W.V. Wankhede, Reader, Department of Zoology, University of Pune, Pune. Identified under 11 species.
89. Fish specimens received for identification from Dr. Kranti Yardi, Bharati Vidyapeeth, Pune. Identification comprises 6 species of Fishes.
90. One sample of butterfly received for identification from Mr. Umesh Patil. Identified as *Colotis vestalis* (Lepidoptera: Rhopalocera: Pieridae).



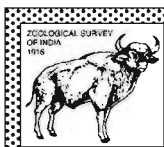
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91. Insect remains in the pellets of spotted owl received from Ms. Mugdha Joshi, M.Sc. Part-II student from M.E.S. Abasaheb Garware College, Pune were identified.
92. Five fish specimens received for identification from Dr. Kshirsagar, Ramakrishna More College, Akurdi, Pune. Identification comprises 4 species.
93. Four fish specimens received for identification from Mr. Prashant Gavit, Jalgaon. Identification comprises 4 species.
94. One Ph.D. thesis (Aquatic Toxicology from R.T.M. Nagpur University, Nagpur was evaluated and report submitted (S. Z. Siddiqi).
95. Dr. Deepa Jaiswal, Scientist-C provided identification of few aquatic insects and also digital photographic facility of some Aquatic insects to Dr. Balraj Khobragade, Asstt. Professor, Department of Zoology, Ahmednagar College, Ahmednagar (Maharashtra).
96. Dr. Razia, Sultana, Ph.D., (Director-Training), Environmental Protection Training Research Institute, Gacchibowli, Hyderabad was provided advisory services and literature inputs on the EIA Study format on Biosphere Reserve in Andhra Pradesh.
97. Prof. K.S. Rao, Ex. H.O.D., Department of Limnology, Barkatullaha University, Bhopal, visited the Centre for exchange of ideas/discussions.
98. 23 species of rotifers and 07 species of Cladocera were identified, Zooplankton samples from Pathrakali Lake, Warngal, collected by Miss. Aruna, Lecturer, Department of Zoology, Kakatiya University, Warangal, Andhra Pradesh (Siddiqi and Karuthapandi).
99. 13 species of rotifer and 04 species of cladocera were identified; Wetland Faunal Survey has been conducted in around Nalgonda District, Andhra Pradesh, by Department of Ornithology, Agricultural University, Hyderabad (Siddiqi and Karuthapandi).
100. Provided access to identified aquatic insects collections, digital photo graphs and also literature facility to Dr. Balraj Khobragade, Asstt. Professor, Department of Zoology, Ahmednagar College, Ahmednagar, Maharashtra.
101. Two detailed environmental impacts studies undertaking for Singareni Collieries Co. Ltd., Khammam for two sand quarry mining sites- Gumpanapalli, Khammam District and Kuduraballi, Warangal District of Singareni Collieries Co. Ltd., following request from EPTRI, Hyderabad. (Siddiqi, S.Z., S.V.A. Chandrasekhar, Anand Kumar, A. and Karuthapandi, M. *et al.*).



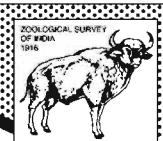
102. Biological study including the Aquatic Faunae in the Riverine System for Gumpenapalli Sand Mining Project in Burgampahad mandal of Khammam District, Andhra Pradesh conducted.
103. Biological study including the Aquatic Faunae in the Riverine System for Kudurupalli Sand Mining Project in Mahadevpur mandal of Karimnagar District, Andhra Pradesh.
104. In October 2011, Dr. Gopinathan Maheswaran, Scientist-C and Officer-in-Charge received one manuscript from the publication division of HQ office received from evaluation and reply was sent.
105. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar elaborated the activities of ZSI and methods of collection and preservation of animals to Sh. Pushkal Bagchie, 2<sup>nd</sup> year Degree student of Forestry Department, NERIST, Nirjuli, Arunachal Pradesh.
106. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar explained basic procedure of collection and identification of various faunal groups to Dr. C. Srikarni, Director (Geology) and Mr. G. K. Munian, (Geologist) of Geological Survey of India, SU: Arunachal Pradesh, Itanagar on 29/12/2011. They need to include a chapter on fauna and flora in their annual geological reports for which they are optimistic of future cooperation from ZSI and Dr. Sinha proposed to them the possibility of collaborative work in future.
107. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar, has rendered advisory services on documentation and scouting of grassroot innovations to Sh. Rajiv Milli of National Innovation Foundation – India, Arunachal Pradesh Unit, Doying Gumin College, Pasighat, East Siang, Arunachal Pradesh.
108. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar has rendered advisory services to Ms. Rangini, N, Research Scholar of G. B. Pant Institute of Himalayan Environment and Development, North East Unit, Itanagar on her task of preparing a report on existing information on faunal resources of Dehang-Debang Biosphere Reserve.
109. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar has rendered advisory services on analysis of gut contents of fish fauna to Mr. Shivaji Choudhury, Technician (B) and Mr. Lakpa Tamanag of G. B. Pant Institute of Himalayan Environment and Development, North East Unit, Itanagar.
110. Dr. Bikramjit Sinha, Scientist-C of APRC, Itanagar reviewed two manuscripts for two international journals, one for Journal of Agricultural Extension and Rural Development and another for Education Research Journal.



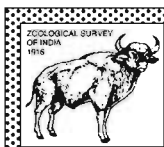
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111. In March 2011, Dr. Gopinathan Maheswaran, Scientist-C and Officer-in-Charge of the Centre has been included in the state committee set up by the Principal Chief Conservator of Forests (Wildlife) to conserve vultures in the state of Arunachal Pradesh under an initiative by the MoEF, Government of India.
112. Various marine animals and posters were provided for MANIFEST-2011 an Expo organised by Bharathiyar Matriculation Higher Secondary School, Guduvancheri.
113. One advisory service to KREEDA, a Chennai based NGO on the identification of marine shells.
114. Seven species were identified for the Station House Officer, Police Station, Mahendra Park, North West Delhi (FIR no: 182/11).
115. Four species were identified for the Station House Officer, Police Station, K.N. Katju Marg, Delhi - 110 085 (FIR no: 334/11).
116. Provided inputs and updates in the Periodic Review 2011, report of GoMBR" to Dr.S. V. Reddy, Director (S), MoEF, New Delhi.
117. Various marine animals and posters were provided for an Expo organised by Rosary Matriculation Higher Secondary School, Santhome.
118. Identified three species of confiscated shell items for the SHO, New Ashok Nagar, Delhi - 110 096.
119. Identified five species of confiscated shell items for the SHO, Preet Vihar, Delhi.
120. Dr. Rajkumar Rajan Scientist-C identified 4 scleractinian specimens, in connection with the enquiry from Delhi Police.
121. Information on the sea-urchin *Tripneustes gratilla*, given to Dr. Beni Giraspy, Private Marine Consultant, Australia.
122. Identified following eight pieces of seized articles as polished pieces of red coral (*Corallium* sp.) to Inspector General of Police, CID, Forest Cell, Bengaluru.
123. Dr. Rajkumar Rajan provided information on red coral *Corallium rubrum* to Mr. M. Vishvanth, Assistant Manager-Quality Control, SKM Siddha and Ayurvedha Company (India), Erode, Tamil Nadu, India-633104.
124. Identified following two species of jelly fishes from Tuticorin harbour to Anna University M.Sc. Students and registered.
125. Rendered advisory service to M.Sc. students from SIET College for the Zooplankton identification.
126. Two species of corals have been identified for National Institute of Ocean Technology, Port Blair on request.



127. Ten species of air-craft killed birds were identified as per the request of the Commander, Station Flight Safety Officer, INS Utkrosh, Port Blair.
128. Dr. C. Raghunathan, Scientist-C and Officer-in-Charge, reviewed the project proposal on coral reef ecosystem received from the MoEF and comments offered.
129. Dr. C. Raghunathan, Scientist-C and Officer-in-Charge, offered the comments on the Taiwan Racing Pigeon (*Columba livia*) with tag and microchip caught in Great Nicobar Island and kept under captivity in Forest Department have been offered to the PCCF on request.
130. Dr. C. Raghunathan, Scientist-C and Officer-in-Charge reviewed the project proposal on coral reef ecosystem in west coast of India received from the MoEF.
131. Dr. C. Raghunathan, Scientist-C and Officer-in-Charge refereed the manuscript for the *Indian Journal of Geo-Marine Sciences*, CSIR and comments offered.
132. The EIA study proposal on the Extension of Runway for Indian Navy, Ministry of Defense, has been submitted on request.
133. As per the request of the DoEF, Andaman and Nicobar Islands, scientific staffs of the Centre were associated for the census of spotted deer *Axis axis* in Ross Island.
134. Confiscated elephant tusk and two species of anemone fishes have been identified for the Ranger Officer, Port Blair.
135. Details on the Fauna of South Andaman to the Divisional Conservator of Forests, DoEF, Port Blair, provided on request.
136. Three species of sponges, 2 species of soft corals have been identified for National Institute of Ocean Technology, Port Blair, on request.
137. Seven species of sponges have been identified for National Institute of Ocean Technology, Port Blair, on request.
138. Seized gastropod samples have been identified for Central Crime Station, Pollice Department, Port Blair on request.
139. Images of four species of Holothurians were provided to the guidebook on commercial sea cucumber of the world being prepared by Food and Agricultural Organization (FAO) on request.
140. Taxonomic characters analysis of corals under the family poritidae was made with a visiting fellow of Annamalai University.
141. Prof. Dr. Roland Gerstmeier, Technische Universitaet Muenchen, Lehrstuhl fuer Tieroekologie, Hans-



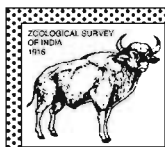
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- Carl-von-Carlowitz-Platz 2; 85350 Freising, Germany was sent the photo of type specimen of *Callimerus pulcher* Schenkling, 1908 (Fam. Cleridae, Coleoptera) on 7<sup>th</sup> August, 2011.
142. Dr. Rob C.H.M. Oudejans, van Konijnenburglaan 12, NL-3925 XB Scherpenzeel, The Netherlands, was sent the reprint of a publication on 13<sup>th</sup> February 2012.
143. Dr. Gaurav Sharma, Scientist-C, provided identification and advisory services to Dr. S.I. Ahmed, Scientist-F and Head FPD, Arid Forest Research Institute, Jodhpur for identification of 2 species of order Lepidoptera on 28 April, 2011.
144. Dr. Gaurav Sharma, Scientist-C, provided identification and advisory services to Dr. Vipin Choudhary, Senior Scientist, Directorate of medicinal and Aromatic Plants Research Institute (ICAR), Boriavi, Anand, Gujarat on identification of 3 species of Lepidoptera on 27 May, 2011.
145. Dr. Gaurav Sharma, Scientist-C, provided identification and advisory services to Sh. Prem K. Kalra, Director, IIT, Jodhpur on 10 species of Insects, 1 species of Reptiles, 9 species of Aves and 1 species of Mammals of IIT New Campus, Jodhpur on 29-07-2011.
146. Dr. Gaurav Sharma, Scientist-C, provided identification and advisory services to Sh. R. Bakde, Scientist-D, National Museum of Natural History, New Delhi on identification of 48 species of Reptiles, Aves and Mammals to prepare exhibits on 27 May, 2011.
147. Dr. Gaurav Sharma, Scientist-C, provided identification and advisory services to Mrs. Anchal Sharma, JRF, Arid Forest Research Institute, Jodhpur for identification of 18 species of order Lepidoptera on 9<sup>th</sup> December, 2011.
148. Dr. Gaurav Sharma, Scientist-C, has rendered Identification and advisory services to Dr. Nita Jain, Lecturer, Govt. College, Kota on identification of 5 species of Lepidoptera on 5<sup>th</sup> Jan., 2012.
149. Dr. Gaurav Sharma, Scientist-C, has rendered Identification and advisory services to Ms. Seema Choudhary, Research Scholar, Govt. Dungar College, Bikaner on identification of 9 species of Lepidoptera on 27<sup>th</sup> January, 2012.
150. Dr. Gaurav Sharma, Scientist-C, has provided Advisory services to Sh. Santosh Gupta, Project Coordinator, Green Teacher (CEE West), Centre for Environment Education, Thaltej Tekra, Ahmedabad and provided information on Desert Ecosystem, Desert fauna listing and photographs of habitat and fauna on 23<sup>rd</sup> February, 2012.



151. Dr. Sanjeev Kumar, Scientist-C, has rendered advisory services to 5 students of class X and XI of Aravali Foundation for Education, New Delhi, who visited the Centre's museum on 30<sup>th</sup> May, 2011 under the Vocational Programme on Natural Resources in collaboration with AFRI, Jodhpur and were given information pertaining to zoological collection displayed in the centre's museum.
152. 12 Students of M.Sc. (Wildlife) and Dr. Fatima Sultana, Asstt. Professor from University of Kota, Rajasthan visited the museum of the centre on 11<sup>th</sup> August, 2011 and were given information on fauna of Rajasthan and Gujarat displayed in the museum.
153. Identification service was provided to the forest department, Jodhpur on confiscated material. Six animal specimens including one Mollusca, three Pisces and two Reptiles were identified.
154. Dr. Sivakumar and Dr. S.P. Goyal, Sr. Scientists of WII, Dehradun visited the centre on 24<sup>th</sup> August, 2011 and were given information on vertebrate fauna so far known from Kailana Lake, Jodhpur. They were also given references of the scientific publications so far made by ZSI on fauna of Kailana Lake.
155. Mrs. Dimple Bhati, Naturalist from Kanha Jungle Lodge, Kanha National Park, Mukki, Madhya Pradesh, visited the centre on 25<sup>th</sup> August, 2011 and were given information on Lepidoptera: Rhopalocera fauna of Jodhpur district.
156. 120 Junior School students of The Education Academy, Jodhpur, Rajasthan were given information on animals displayed in the centre's museum on 13<sup>th</sup> - 14<sup>th</sup> February, 2012.
157. Dr. H.S. Banyal, Scientist-C, has provided identification service to the Forest Department, Jodhpur on confiscated material. Six animal specimens including one Mollusca, three Pisces and two Reptiles were identified.
158. Dr. Sivakumar, Sr. Scientist of WII, Dehradun was given scientific information on Ichthyofauna of Kailana Lake, Jodhpur on 24<sup>th</sup> August, 2011.
159. Mrs. Dimple Bhati, Naturalist, Mukki, Madhya Pradesh, was given information on inland fish farming on 25<sup>th</sup> August, 2011.
160. Grasshoppers for Dr. P Suresh, Reader, Thiagarajar College, Madurai, 47 exs. of grasshoppers, which belonged to 17 species.
161. Rendered identification services to Dr. K.K. Jha, on the identity of 12 species of fishes under 9 genera, 3 families and 2 orders and 2 species of amphibians under 2 genera, 2 families and 1 order from Jawaharlal Nehru College, Pasighat, Arunachal Pradesh.



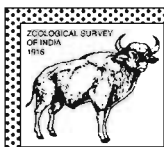
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162. Rendered advisory service to 2 research scholars of Zoology Department, North Eastern Hill University Shillong on Lepidoptera of Nokrek Biosphere Reserve, Meghalaya.
163. Rendered Laboratory facilities to Dr. S.D. Biju and Ms. R.G. Kamei, research scholar, from 5<sup>th</sup> – 8<sup>th</sup> July, 2011 and 10<sup>th</sup> – 13<sup>th</sup> January, 2012 to study the amphibian type specimens preserved at the centre.
164. Rendered Laboratory facilities to Ms. M. Das and Mr. J. Purkayastha, research scholars, Zoology Department, Gauhati University, Assam, from 13<sup>th</sup> – 15<sup>th</sup> and 22<sup>nd</sup> July, 2011 to study the amphibians and reptiles specimens preserved at the Centre.
165. Rendered identification services to Prof. Dr. J. Rout, Department of Ecology and Environmental Science, Assam University, Silchar, Assam, on the identity of 25 species of fishes under 22 genera, 17 families and 9 orders.
166. Rendered Laboratory facilities to Prof. Dr. Annemarie Ohler, Department of Systematic and Evolution, Paris, France, on 9<sup>th</sup> March, 2012 to study the amphibian type specimens preserved at the Centre.
167. Rendered Laboratory facilities to Dr. H.T. Lalremsanga, Department of Zoology, Mizoram University, Aizawl, Mizoram, on 1<sup>st</sup> March, 2012 to study the fishes and amphibian specimens preserved at the Centre.
168. Rendered Laboratory facilities to Research students of Prof. Dr. W. Vishwanath, Department of life sciences, Manipur University, Imphal, Manipur from 12<sup>th</sup> – 13<sup>th</sup> December, 2011 and from 27<sup>th</sup> February – 2<sup>nd</sup> March, 2012 to study the fish specimens preserved at the Centre.
169. Rendered Laboratory facilities to study and sketch of the Museum specimens to Kriste A. Ericsson, Biologist and Illustrator, Minnesota, U.S.A, on 23<sup>rd</sup> and 25<sup>th</sup> January, 2012.
170. Mollusca section / ZSI / HQ received 12 lots of molluscan samples (Marine, Estuarine, fresh water and land forms) received from different colleges, research organizations including confiscated materials of Govt. offices / Regional Offices of Wildlife Crime Control Bureau / Home Dept. (Police) have been identified and Identification Reports have been sent along with their materials / specimens.
171. Rendered advisory services to Mr. Leo D'Souza, Asha Warehouse, Mumbai; Dr. A. Bajpai, Central Pollution Control Board (ER), Southern Enclave, Raj Danga Main Road, Kolkata-17; Mr. Shafiqul Islam, Asstt. Professor and Ph.D. Scholar, Institute of Marine Science and Fisheries, University



- of Chittagong, Bangladesh; Dr. Sheela Roy, Asstt. Professor, Dept. of Zoology, Vidyasagar College, Kolkata-700006, Dr. M. Mukherjee, Aquatic Resources Health Management Centre, Directorate of Fisheries, Govt. of West Bengal, At/ Po. Pailan, Dist.- South 24 parganas, Diamond Harbour Road, Kolkata, S.H.O Janak Puri Police Station, New Delhi, S.H.O. Shahdra Police Station, North Delhi, District-New Delhi. Mr. B. Prabhakar, D.F.O., Gautam Budha Nagar Forest Division, Gautam Budha Nagar, Noida (Uttar Pradesh), Wildlife Crime Control Bureau (Northern Region), Ministry of Environment and Forests, Bikanir House, Shahjahan Road, New Delhi-110011.
172. One Lot of Collembola containing 12 vials received from Jogamayadevi College, Kolkata, identified.
  173. One Lot of Collembola containing 12 vials and 10 slides received from PG department of Zoology, Vidyasagar College, Kolkata, identified.
  174. Identified 789 Spider specimen of 18 lots received from the Researchers, Post Graduate and Under Graduate students of Different colleges and Universities, Research organizations and Government Dignitaries.
  175. Identified spider species received from Governor of Tamil Nadu through DZSI along with 15 other fauna and prepared a manuscript for a booklet on awareness of biodiversity.
  176. Identified specimens received from Tridip Kr. Dutta, Radheshyam Mishra, P. Vijaya, Researcher from Vidyasagar College, Kolkata, S.D.J.P.G. College, Jaunpur, U.P., Madurai Kamraj University, M.S. University, Madurai respectively alongwith the specimens of trainee students of Vivekanada College, Kolkata.
  177. Two examples of Odonata received from Ms. Joyita Bagchi, M.Sc. student, Department of Environmental Science, Asutosh College, Kolkata were studied and identified.
  178. Ten examples of Odonata received from Dr. Chitta Ranjan Satpathi, Bidhan Chandra Krishi Viswa Vidyalaya, Regional Research Station, Chakdaha, West Bengal were studied and identified.
  179. Thirty three examples of Odonata received from Ms. Laltanpuui, Research Scholar, Madras Christian College, Chennai, were studied and identified.
  180. Eight examples of Odonata received from the Secretary, Academy of Biodiversity Conservation, Bangur Avenue, Kokata, were studied and identified.
  181. Twelve examples of Odonata received from Mr. Rajdeep Das, Student, R.K.M.V.C. College, Khardaha, 24 Parganas, West Bengal, were studied and identified.



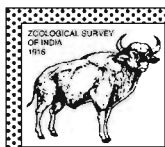
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182. Two examples of Odonata received from Ms. Ankita Pal, M.Sc. Student, Dept. of Zoology, Vidyasagar College, Kolkata, were studied and identified.
183. Three examples of Odonata received from the Principal, Bankura Sammilini College, Kenduadihi, Bankura District, West Bengal, were studied and identified.
184. Identified digital photographs of Odonates received from Laltanpuui Tetei, Research Scholar, Madras Christian College, Chennai and Ms. Leena, Research Scholar, Dept. of Zoology, Bharathiar University, Coimbatore.
185. Mr. M. Jayashankar, Research Scholar, Department of Zoology, Bangalore University, Karnataka sent one Turbellarian material for identification; specimen could not be identified as there is no expert in Turbellaria here.
186. Dr. R. Madhvi, Retd. Prof., Dept. of Zoology, Andhra University asked for some reprints; five reprints were provided to her.
187. Prof. R. Madhvi, Retd. Prof., Dept. of Zoology, Andhra University, asked for the correction of scientific name of the specimens which were wrongly identified and sent to ZSI for registration in NZC register; correction was made.
188. Prof. K.C. Pandey, Lucknow University asked for the "Handbook of Acanthocephala" written by Dr. S. B. Bhattacharyya; the book was provided to him.
189. Mahua Das, Research Scholar, Vidyasagar University, sent two tubes of Turbellarian materials for identification; specimens could not be identified as there is no expert in Turbellaria here.
190. Pritish P. Majhi, Tinku Karjee and Chittaranjan Rahda, Chilapata Ecoguides, Chilapata Forest Range, Jalpaiguri, sent two photographs specimens for identification; specimens identified.
191. One specimen of fish from Md. Shafiqul Islam, Assistant Professor and Ph.D. Researcher, Institute of Marine Science and Fisheries, University of Chittagong, Bangladesh have been identified and report sent.
192. Two lots (3 specimens) from Prof. Jharna Ray, Executive Director, S. N. Pradhan Centre for Neurosciences, University of Calcutta, Kolkata have been identified.
193. One lot (15 specimens) from Mrs. Mithila Das, Lecturer in Zoology, S.N. College, Rajkanika, District-Kendrapara, Odisha have been identified.
194. One specimen of fish (Sting Ray) received from the Additional Director of Fisheries, Aquatic Health Management Centre, Pailan, Kolkata have been identified.



195. Received 15 examples of fishes from Dr. Sheela Roy, Asstt. Professor, Dept. of Zoology, Vidyasagar College, Kolkata, which were identified.
196. One lot of gobioid fishes containing 23 specimens received from Mrs. Mithila Das, Lecturer in Zoology, S.N. College, Rajkanika, District-Kendrapara, Odisha have been identified under 12 species and 12 genera.
197. One specimen of flat fish received from Prof. Dr. Jharna Ray, Executive Director, S.N. Pradhan Centre for Neurosciences, University of Calcutta, Kolkata have been identified.
198. A lot of fishes containing 6 specimens received from the Deputy Director of Fisheries (M & P), Aquatic Resource Health Management Center, Poilan, Diamond Harbour Road, Kolkata. The specimens identified under 6 genera and 6 species belonging to 6 different families.
199. One lot of fishes containing 15 specimens have been received from Prof. Sumit Homechaudhuri, Aquatic Bio-resource Laboratory, Dept. of Zoology, University of Calcutta, Kolkata and identified under 11 species belonging to 11 genera and 8 families.
200. One lot of fish samples (4 examples) received from Dr. Jharna Ray, Executive Director, S.N. Pradhan Centre for Neuro Sciences, University of Calcutta has been identified.
201. One specimen of fish (confiscated) from Mr. B. Prabhakar, D.F.O., Gautam Buddha Nagar Forest Division, Noida, U.P. identified.
202. Two samples of fish skin seized by Wildlife Crime Control Bureau (Eastern Region), Ministry of Environment and Forests, Nizam Palace, Kolkata have been identified.
203. Two fish skins seized by Diamond Harbour P.S. have been identified.
204. One specimen received from Dept of Zoology, Vidyasagar College on 15.09.2011 and was identified as genus *Scylla*.
205. Identification services were rendered to Shri. Hemant Kumar Parida, Lecturer, Dept. of Zoology, VHJ Mahavidyalaya, Nikirai, Odisha and 11 species of crabs under 9 genera and five families from 32 examples were identified.
206. One specimen sent by Dr. Sheela Roy, Associate professor, Dept. of Zoology, Vidyasagar College, Kolkata, was identified as Grapsid Crab.
207. Advisory services rendered to V. Unnikrishnan, Teacher Trainer, Sarva Siksha Abhiyan, Urban Resource Centre, Thiruvananthapuram North on Bopyrid Isopod.
208. Identification services were rendered to Dr. Naren K. Deka, Lecturer (SG), Department of Zoology, Cotton College, Guwahati. 4 species of freshwater crabs belonging to



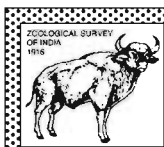
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- four genera under 3 families were identified from 7 examples.
209. Identification services were rendered to Students of Vivekananda College, 24 Paraganas (S). 09 species of freshwater shrimps belonging to 04 genera and 02 family were identified from 21 examples.
210. Prof. A. Choudhury, S.D. Marine Biological Research Institute, Sagar Island, Sunderban was provided with identification services and the following four species belong to 2 genera and 2 families were identified.
211. Ten crab specimens sent by Mohua Das, Ph.D. scholar, Vidhyasagar University, was identified as *Varuna litterata* (Fabricius, 1798).
212. Md. Shafiqul Islam, Asst. Prof. and Ph.D. Scholar, Institute of Marine Sciences and Fisheries, University of Chittagang, Bangladesh was extended with identification services and 27 examples belonging to 4 species under 4 genera and 4 families were identified.
213. Advisory services was rendered to Ms. Mohua Chakraborty, Research Scholar, Assam University, Silchar, Assam pertaining to freshwater crabs and prawns of Assam.
214. Advisory services were rendered to Shri. S. De, Vishwaroop Housing Society, Kolkata-700 027 with regard to identification of Brachyuran crabs of Bakkhali from the photographic images.
215. One specimen received from Mr. Rajbhan Sahu, Research Scholar, Hanuman Nagar Nai Basti, P.O. Badkhar, Dist. Satna (M.P.) identified.
216. Extended knowledge base and scientific consultancies regarding faunal information on Arachnid studies to the students and govt. authorities.
217. Mr. Prodip Kumar Sahoo, Ph.D. Student from Guwahati University, Assam visited CZRC from 26<sup>th</sup>-29<sup>th</sup> April for identification of rodent specimens collected from Assam and Literature consultation. Training given regarding preservation, Skull preparation and identification of rodent species.
218. The photographs of Insects sent by Lena Mahalingam, Bharathiar University, Coimbatore, Tamil Nadu were identified by Dr. Kailash Chandra, Scientist-F, and the identification report submitted on 1<sup>st</sup> April, 2011.
219. Shri Mahabir Singh Markam, Assistant Professor, Zoology, Govt. College, Balaghat visited the CZRC on 5<sup>th</sup> April, 2011 and submitted 15 samples of insects for identification.
220. Shri Bharat Pathak, Director, GEER Foundation (Lead Institution for Kachchh Biosphere Reserve) was provided the detailed information on Achanakmar Amarkantak Biosphere Reserve, Chhattisgarh, Madhya Pradesh on 8<sup>th</sup> April, 2011.



221. Mr. Sant Kumar Walkhade, Student of M.Sc. Zoology ( II<sup>nd</sup> Sem.) from Govt. Science College, Jabalpur was guided for the project work on '*Biodiversity of Birds*' during April, 2011.
222. Mr. Kapil Kumar Verma, Student of M.Sc. Zoology (II<sup>nd</sup> Sem.) from Govt. Science College, Jabalpur was guided for the project work on '*Tiger Reserves of Madhya Pradesh*' during April, 2011.
223. Mithlesh Kumar Hanumant, Student of M.Sc. Zoology (IInd Sem.) from Govt. Science College, Jabalpur was guided for the project work on '*Wildlife in Madhya Pradesh*' during April, 2011.
224. Ms Priya Humne, Student of M.Sc. Environmental Sciences (II<sup>nd</sup> Semester), was guided the project on '*Wildlife Conservation and Management*' during April. 2011.
225. Ku. Karishma Agrawal, Ku. Neha Khatri, Ku. Payal Jain, Ku. Shradha Thakur, Ku. Preity Singh, Ku. Rashi Tiwari, students of B.Sc. Biotechnology, Mata Gujari College, visited the Museum of the CZRC on 21<sup>st</sup> April, 2011, and they were briefed about the information on the activities undertaken by the department.
226. Mr. Raja Raj Tilak, Student of M.Sc. Zoology (IV<sup>th</sup> Sem.) from Govt. Model Science College (Autonomous), Jabalpur was guided for the project work on '*Biodiversity of Fish in Jabalpur*' during April, 2011.
227. Mr. Pradeep Rajak, Student of M.Sc. Zoology (IV<sup>th</sup> Sem.) from Govt. Model Science College (Autonomous), Jabalpur was guided for the project work on '*Biodiversity of Birds in Jabalpur*' during April, 2011.
228. 17 specimens of insects received from Dr. Mahavir Singh Markam, Asst. Professor (Zoology), Govt. J.S.T.P.G College, Balaghat, were identified as belongs to 05 species, 05 genera under order Hemiptera.
229. 05 photographs of insects (Odonata) received from Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur for identification and were identified as belongs to 05 species, 05 genera under 03 families. The report has been sent to them.
230. Eight B.Sc. students (5<sup>th</sup> semester) from St. Aloysius College, Jabalpur and 09 M.Sc. students (III<sup>rd</sup> Semester) from Home Science College and St. Aloysius College, Jabalpur have enrolled for their Internship for two months. Scientific guidance have been imparted to these students on the role of taxonomy in biodiversity conservation and studies related to the various biological parameters of some insect groups (Lepidoptera, Coleoptera, Orthoptera, Hemiptera,



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- Odonata and Mantodea) and smaller mammals.
231. Dr. S. Sambath, Scientist-C, guided two students, Ms. Bharthi and Ms. Krishna from R.D.V.V., Jabalpur for the completion of M.Phil. dissertation work entitled, studies on the biology and life-cycle of *Tarucus extricatus* (Butler) (Lepidoptera: Lycaenidae) and Insect Diversity of Ber plant, *Zizyphus jujuba* (Mill.) of District Jabalpur (Madhya Pradesh).
232. Dr. S.S. Talmale, Asstt. Zoologist assisted in the identification of two cases (*Indian Vulture and Indian Soft shelled turtle*) received from Tiger Strike Force, Jabalpur.
233. Dr. S. S. Talmale, Asstt. Zoologist, guided one M.Sc. student Miss. Shweta Singh from Home Science College, Jabalpur for Internship for two month on the group, Insecta: Odonata. And Four B.Sc. (V<sup>th</sup> Semester) from St. Aloysius College (Autonomous), Jabalpur, 45 days internship on Small mammals.
234. Dr. S.S. Talmale, Asstt. Zoologist, has prepared Indian Endemic Mammal species list (Total 46 species) in Excel format and submitted to the O/c ZSI, CZRC, for forwarding the same to the Director, ZSI, Kolkata for necessary action.
235. Dr. S. S. Talmale, Asstt. Zoologist, has identified small mammals through pellet (33 samples) of spotted owl received from Dr. Varsha Zade, Asstt. Professor, Department of Zoology, Govt. Vidarbha Institute of Science and Humanities, Amravati, Maharashtra.
236. Dr. S. S. Talmale, Asstt. Zoologist, has provided information to 27 B.Sc. students of Govt. Girls College, Katni, who visited office museum. Information given and lecture delivered on ZSI activities on 12<sup>th</sup> October, 2011.
237. Dr. S.S. Talmale, Asstt. Zoologist, has prepared a paper on nematode (Six pages) published in *Rec. zool. Surv. India* scanned with the help of book scanner and send it to Mohammad Reza Atighi, Ph.D. student, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran by e-mail.
238. Mr. Sachin R. Patil, SZA has attended the B.Ed. Students of the Premwati College of Education, Jabalpur and a brief lecture is delivered on 25<sup>th</sup> November, 2011 in the CZRC, ZSI-Museum.
239. Dr. S. S. Talmale, Asstt. Zoologist, has rendered identification of six small mammal specimens (Rodent and Shrew) submitted by Mr. Prodip Sahoo, Ph. D. student of Guwahati University, Assam.
240. Dr. S. S. Talmale, Asstt. Zoologist, has rendered identification of odonata (9 species) photographs for

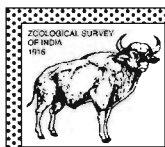


Dr. Rajendra Tijare Asstt. Professor,  
Institute of Science, Nagpur.

241. Dr. S. Sambath, Scientist-C, has received 31 specimens of moths (Lepidoptera) received from Dr. Yashashri Gadhikar, Assistant Professor, Dept. of Zoology, Govt. Vidarbha Institute of Science and Humanities, Amravati - 444 604 Maharashtra for identification and

were identified into 26 species belonging to 26 genera under 08 families.

242. Dr. S. S. Talmale, Asstt. Zoologist, has rendered identification of small mammals through pellet (Two samples) of Barn Owl received from Miss. Mugdha Joshi, M.Sc. Biodiversity Student of M.E.S. Abasaheb Garware College, Pune.



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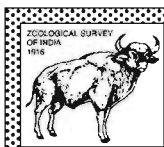
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## SYMPOSIA/SEMINARS/CONFERENCES/WORKSHOPS and TRAINING COURSES

1. Shri C. Radhakrishnan, Scientist-F participated in a three day's training on 'Digitization of Natural History collections, held at Kolkata from 15<sup>th</sup> to 17<sup>th</sup> June, 2011.
2. Shri P.T. Bhutia, Scientist-F attended workshop as resource person on 'The interaction between the Tribal of Uttarakhand and the Scientist of Anthropological Survey of India, held at ASI, Dehradun from 18<sup>th</sup>-20<sup>th</sup> March, 2012.
3. Shri P.T. Bhutia, Scientist-F attended a meeting as a expert member for the Evaluation of Projects for UCOST.
4. Shri P.T. Bhutia, Scientist-F participated as one of the member in the selection of three Scientists of Wildlife Institute of India, Dehra Dun, for promotion from scientist-D to Scientist-E under the flexible complementing scheme of the MoEF, New Delhi.
5. Shri P.T. Bhutia, Scientist-F attended National Science Day organised by ONGC and UCOST, Dehradun on 28<sup>th</sup> February, 2012 on invitation of Director General, UCOST, Dehradun.
6. Shri P.T. Bhutia, Dr. P.C. Tak, Dr. A.N. Rizvi, Dr. A. Bahuguna, Dr. Vinita Sharma and Dr. Vinod Khanna, attended a National seminar on "New Innovation in Parasitology" sponsored by CSIR, DRDO, UCOST organised by DAV P.G. College, Dehra Dun on 29<sup>th</sup> and 30<sup>th</sup> March, 2011
7. Shri P.T. Bhutia, Scientist-F attended the third meeting of the Punjab State Board for Wildlife on 19<sup>th</sup> July, 2011, at the residence of Hon'able Chief Minister, Punjab.
8. Shri P.T. Bhutia, Dr. P.C. Tak, Shri J.P. Sati, Dr. A.N. Rizvi, Dr. A. Bahuguna and Dr. Narendra Sharma, attended an 'International Conference on Mountain Biodiversity: Conservation and Sustainable Utilization', conducted by the School of Environment and Natural Resources of the nascent Doon University, Dehra Dun, Uttarakhand from 13<sup>th</sup>-15<sup>th</sup> March, 2011.
9. Shri P.T. Bhutia, Scientist-F and Dr. A. Bahuguna, Scientist-C attended meeting at Uttarakhand Biodiversity Board, Dehradun.
10. Dr. Kailash Chandra, Scientist-F attended the 'International Seminar on Global Environment and Disaster Management : Law and Society' at Vigyan Bhawan, New Delhi on 22<sup>nd</sup> - 24<sup>th</sup> July, 2011, which was jointly organised by the Supreme Court of India, Indian Law Institute,



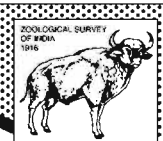
- High Court of Delhi, Ministry of Environment and Forests and Ministry of Law and Justice, Govt. of India.
11. Dr. Kailash Chandra, Scientist-F, attended the National Seminar on Traditional Knowledge and Social Practices Promoting Biodiversity Conservation on 24<sup>th</sup> September, 2011 at HQs, ZSI, Kolkata.
  12. Dr. Kailash Chandra, Scientist-F, attended the National Seminar on Biodiversity and Intangible Natural History on 28<sup>th</sup> September 2011 at Zoological Survey of India, Jodhpur and presented an invited talk on 'Natural History of Insects' during the seminar.
  13. Dr. Kailash Chandra, Scientist-F, delivered the Keynote address at the U.G.C Sponsored National Level Seminar on "Recent Trends in Zoology" organised by the Department of Zoology, Netaji Nagar College For Women, Kolkata in collaboration with Surendranath College, held at Triguna Sen Auditorium of Jadavpur University, Kolkata on 2<sup>nd</sup> of December, 2011.
  14. Dr. Kailash Chandra, Scientist-F, attended the "National Seminar on Transfer of Technology for Sustainable Development and Environment Protection" as Resource Person of the first Technical Session, Guest of the Honor, at Govt. College, Aron, Madhya Pradesh on 21<sup>st</sup> January, 2012 and presented the paper on 'Biodiversity of India, *w. s. r.* to Madhya Pradesh and Chhattisgarh.
  15. Dr. Rema Devi, Scientist-E served as a Resource Person for the Faculty Improvement Programme of the Madras University and delivered two lectures on "Effect of Pollution on Fish and Fisheries" and "Climate Change and its Impact on the Fauna".
  16. Dr. Rema Devi, Scientist-E, attended the meeting of the Board of Trustees of the Chennai Snake Park on 24.9.2011.
  17. Dr. Rema Devi, Scientist-E, delivered a talk on "Ichthyology" to M.Sc. Zoology students of Presidency College and participated in the "Discussion Meeting on Traditional Knowledge (TK), Invasive Alien Species (IAS) and Taxonomy" held by the National Biodiversity Authority of India on 18.10.2011 at Chennai.
  18. Dr. Rema Devi, Scientist-E, Attended the 7<sup>th</sup> National Meeting of State Biodiversity Boards organised by the National Biodiversity Authority on 27<sup>th</sup> January, 2012 held at Residency Towers, Chennai.
  19. Shri K.C. Gopi, Scientist-E, and Head of Fish Division and Shri S.S. Mishra, Scientist-B of Marine Fish Section attended a seminar on 'Marine Biodiversity: Its basic and applied aspects' at Charuchandra College, Kolkata and delivered two lectures.



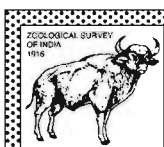
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20. Shri K.C. Gopi, Scientist-E and Sri S.S. Mishra, Asstt. Zoologist have attended the “Transboundary Diagnostic Analysis (TDA) Consultation Workshop for West Bengal” under the Bay of Bengal Large Marine Ecosystem (BoBLME) Project (Indian component) organised by Fishery Survey of India at IndiSmart Hotel, Kolkata on 09-06-2011.
21. Dr. K. Ilango, Scientist-D, as Nominated departmental representative interviewed candidates at Staff Selection Commission, SR, Chennai for the selection of Zoological Assistant on 28.06.2011 and Taxidermist on 8.11.2011 respectively.
22. Dr. K. Ilango, Scientist-D, has delivered lectures on “the mandates of the Zoological Survey of India” and “Principles of taxonomy and collection, preservation and identification of insects” for the internship training programme organised by SRC.
23. Dr. K. Ilango, Scientist D, has delivered a lecture on the principles of taxonomy and on collection, preservation and identification of animals was given to P.G. students of Presidency College.
24. Dr. K. Ilango, Scientist-D, has presented an invited paper on the ‘Climate Change on the Phlebotomine sand flies and Biting midges in relation to leishmaniases and blue tongue virus in India’ as plenary lecture.
25. Dr. K. Ilango, Scientist-D, has chaired a session at 2nd International Congress on Global Warming on Biodiversity of Insects: Management and Conservation’ organised by the Department of Zoology, Bharathiar University, Coimbatore during 24<sup>th</sup>-26<sup>th</sup> August, 2011.
26. Dr. K. Ilango, Scientist-D, attended the meeting of the Entomological Academy of India (EAI) on 27.8.2011 as an Executive Member of the EAI.
27. Dr. K. Ilango, Scientist-D, attended the second meeting, as a member of Core Advisory Committee, on ‘Vector Science Forum’ convened by the ICMR was attended to discuss gap areas in knowledge on vectors and vector control on 4th and 5th October, 2011 at New Delhi.
28. Dr. K. Ilango, Scientist-D, as a member, the executive committee of Entomological Academy of India convened on 23.11.2011 was attended.
29. Dr. K. Ilango, Scientist-D, has delivered a lecture on the principles of taxonomy and on collection, preservation and identification of animals was given to +2 students of Rosery Matriculation School, Chennai.



30. Dr. K. Ilango, Scientist-D, attended the 'National Consultation cum Workshop on 'People's Biodiversity registers' organised by the National Biodiversity Authority' on 22<sup>nd</sup>-23<sup>rd</sup> December, 2011 at Bengaluru.
31. Dr. K. Ilango, Scientist-D, delivered two guest lectures on (i) Diptera (true flies) of Public Health Importance, (ii) Phlebotomine sand flies (Diptera) in Biology and Medicine were given to M.Sc. students of Public Health Entomology organised by the Vector Control Research Centre (ICMR), Pondicherry on 24.01.2012.
32. Dr. K. Ilango, Scientist-D, attended the 2<sup>nd</sup> Brain Storming Meeting on JE and visceral and cutaneous leishmaniasis organised by the Vector Science Forum' under the ICMR on 23<sup>rd</sup> February, 2012 at New Delhi and gave presentation at the meeting on the 'Distribution of *Phlebotomus argentipes* sibling species in kala azar endemic states - Research needs'.
33. Dr. K. Ilango, Scientist-D, attended National Seminar on Forest Health Management organised by the Institute of Forest Genetics and Tree Breeding, Coimbatore on 20<sup>th</sup> and 21<sup>st</sup> March, 2012 and presented an invited paper on 'Insect Pests of Human Diseases in Forest Ecosystem' and chaired a session on Insect pests, diseases and invasive and forests health.
34. Dr. K. Ilango, as a member Board of Trustees, attended the meeting of the Chennai Snake Park on 24.03.2012.
35. Dr. K. Ilango, has been appointed by the Entomological Society of India as the Editor, HEXAPODA.
36. Dr. P.C. Tak, scientist-D was deputed for "Annual Research Seminar (ARS)" on 11<sup>th</sup> - 12<sup>th</sup> October, 2011 and "Training, Research and Academic Council (TRAC)" on 12<sup>th</sup> October, 2011.
37. Dr. P.C. Tak, Scientist-D attended XXVII Meeting of the Training, Research and Academic Council (TRAC) of Wildlife Institute of India held on 21<sup>st</sup> February, 2012 at WII, Dehradun.
38. Dr. R.M. Sharma, Scientist-D, attended one day workshop on "Disposal of Appeal under RTI" held on 11<sup>th</sup> April 2011 at ISTM, New Delhi.
39. Dr. R.M. Sharma, Scientist-D was invited by Garware College, Pune as an external examiner for evaluation of M.Sc. (Biodiversity) dissertations on 12<sup>th</sup> May, 2011 and by Dept. of Environmental Science, University of Pune as an expert to evaluate the pre-synopsis presentation of Dr. S. Pande on 19<sup>th</sup> May, 2011.
40. Dr. R.M. Sharma, Scientist-D, has attended 'Stakeholders consultation and launch of the United Nations Decade on Biodiversity for Asia and Pacific' meeting at New Delhi on 23<sup>rd</sup> May, 2011.
41. Dr. R.M. Sharma, Scientist-D, has delivered one invited lecture



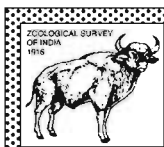
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- at Indian Institute of Forest Management (IIFM), Bhopal on “Insect Identification and their Natural History” on 24<sup>th</sup> August, 2011 and imparted field guidance on 25<sup>th</sup> August, 2011 to the participants (Forest Park Guides of Madhya Pradesh).
42. Dr. R.M. Sharma, Scientist-D delivered lecture on “Insect Identification, Natural History and Conservation issues” on 29<sup>th</sup> September, 2011 at Pench National Park during the training Programme for Naturalists organised by Madhya Pradesh Tourism Development Corporation and Indian Institute of Forest Management, Bhopal.
43. Dr. R.M. Sharma, Scientist-D, gave presentation on “Faunal Diversity profile of Bhimashankar Wildlife Sanctuary and its relevance in protection mechanism of surrounding areas” during workshop on Declaration of Eco-sensitive zones around National Park and Wildlife Sanctuary at Pune on 13<sup>th</sup> October, 2011 organised by State Forest Department.
44. Dr. R.M. Sharma, Scientist-D, delivered an invited lecture on “Insect Diversity in India” at Fergusson College, Pune on 8<sup>th</sup> December 2011 under UGC sponsored special lecture. He also delivered an invited lecture on “Insects and Environment” for ‘Jividha’ an NGO at Pune on 8<sup>th</sup> December 2011
45. Dr K. Venkataraman, Director, ZSI, Kolkata, Dr. C. Radhakrishnan, Additional Director, WGRC, Calicut, Joint Secretary (MoEF) and Director (Rajbhasha), MoEF, New Delhi, and Dr. R.M. Sharma, Scientist-D attended the inspection meeting of 3<sup>rd</sup> Subcommittee of Parliament on Official Language along with on 23<sup>rd</sup> January, 2012 at Le Meridien Hotel, Pune.
46. Dr. R.M. Sharma, Scientist-D delivered an invited lecture on “*Insect Diversity in India and Conservation*” on 4<sup>th</sup> February 2012 at A.A. Arts, Commerce and Science College, Manchar, Pune District. He also delivered lecture on “*Insect Diversity*” and on “Family Cecidomyiidae (Diptera)” during National Level Hands-on Training Workshop on Principles and Practices of Animal Taxonomy with special reference to Insects at WGRC, ZSI, Calicut on 28<sup>th</sup> February 2012.
47. Dr. R.M. Sharma presented a paper on Assessment of faunal diversity of Maharashtra state. In: *National Seminar on Biodiversity Assessment, Conservation and Utilization*, 9<sup>th</sup> to 11<sup>th</sup> February, 2012, Abasaheb Garware College, Pune. pp. 15-16.
48. Dr. R.M. Sharma delivered an invited lecture on “*Insect Diversity and Conservation Issues*” at two days



- National Seminar on “Biodiversity and Conservation” at Yeshwant Rao Mohite College of Science, Pune on 14<sup>th</sup> March, 2012.
49. Dr. S.Z. Siddiqi, Scientist–D, attended one day workshop on “Disposal of appeal under RTI”, on 11<sup>th</sup> April, 2011 at ISTM, New Delhi.
50. Dr. S.Z. Siddiqi, Scientist–D, attended half day seminar on *Water chemistry Automation and TOC/TN Analysis* by SKALAR Analytical India Pvt. Ltd., Chennai at Hyderabad on 08<sup>th</sup> November, 2011.
51. Dr. S.Z. Siddiqi, Scientist–D, attended *XI<sup>th</sup> Conference of Parties Conservation on Biological Diversity Hyderabad India* on Strengthening Implementation of Biodiversity Act, Access and Benefit sharing on 11<sup>th</sup> November, 2011, organised by MoEF, NBA Biodiversity Project by AP state board for Biodiversity, Hyderabad.
52. Dr. Anil Kumar, Scientist–C, presented a paper in the National conference on Biodiversity *vis-à-vis* Environmental degradation in Hilly Terrains at Dept. of Zoology, DBS (PG) College, Dehradun, 15<sup>th</sup> and 16<sup>th</sup> May, 2011.
53. Dr. A.K. Sidhu, Scientist–C, attended “Stakeholder’s consultation and launch of United Nations Decade on Biodiversity for Asia Pacific” presided over by the Minister of Environment and Forests, New Delhi on 23<sup>rd</sup> May, 2011.
54. Dr. Anil Kumar, Scientist–C, attended the DST–SERC Interaction meeting in Bird Biology from 5<sup>th</sup> to 7<sup>th</sup> August, 2011 at Salim Ali Centre for Ornithology and Natural History, Coimbatore.
55. Dr. A.K. Sidhu, Scientist–C, participated in one week national training programme for scientists and technologists in Biodiversity Conservation with focus on ecological monitoring sponsored by DST from 5<sup>th</sup>–9<sup>th</sup> September, 2011 at WII, Dehradun.
56. Dr. Indu Sharma, Scientist–C, attended the Working Group Meeting of the State Climate Change Centre, Government of Himachal Pradesh on 14<sup>th</sup> November, 2011 at Shimla.
57. Dr. Anil Kumar, Scientist–C, participated in the first International Conference on Indian Ornithology (ICIO–2011), from 19<sup>th</sup>–23<sup>rd</sup> November 2011, at SACON, Coimbatore.
58. Dr. Avtar Kaur Sidhu Scientist–C, attended Annual General meeting of the WII–Society on 31.01.2012 held at Paryavaran Bhawan, New Delhi.
59. Dr. A.K. Sidhu, Scientist–C, acted as member of Jammu and Kashmir Wildlife Board and attended the State Wild Life board meeting under the Chairmanship of Shri Omar Abdullah, Hon’able Chief Minister, Jammu and Kashmir State on 2<sup>nd</sup> February, 2012.



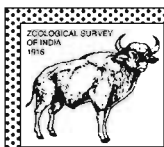
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60. Dr. A.K. Sidhu, Scientist–C, gave oral presentation on “Faunal Diversity of Butterflies (Lepidoptera) of Pangi Valley – a remote inaccessible area of Western Himalayan Ecosystem” in National Conference on Biodiversity Assessment, Conservation and Utilization held at Abasaheb Garware College, Pune from 9<sup>th</sup> – 11<sup>th</sup> February, 2011.
61. Dr. Indu Sharma, Scientist–C, gave oral presentation on “Fish diversity of cold deserts of Ladakh and Himachal Pradesh” in National Conference on Biodiversity Assessment, Conservation and Utilization held at Abasaheb Garware College, Pune from 9–11<sup>th</sup> February, 2011.
62. Dr. A.K. Sidhu and Dr. Indu Sharma, Scientist–C acted as resource persons and gave an invited lecture on, “Climate change and biodiversity in cold deserts of Ladakh” in BBMB College, Garhshankar (Hoshiarpur, Punjab)” on 15<sup>th</sup> February, 2012.
63. Dr. A.K. Sidhu, attended International Conference of Entomology at Punjabi University, Patiala on 17<sup>th</sup> February, 2012.
64. Dr. R. Venkitesan, Scientist–C, participated in the International workshop on fish taxonomy held at PG and Research department of Zoology, Govt. Arts college, Kumbakonam during 21<sup>st</sup> to 23<sup>rd</sup> March, 2012.
65. Dr. Jayasree Thilak, Scientist–C, attended Workshop on “Live Gene Banking of Freshwater Fishes of the Western Ghats” conducted by NBFGR, Lucknow in collaboration with RARS, KAU, Kumarakom, Kerala at Kumarakom on 21<sup>st</sup> May, 2011 and delivered a lecture on Zooplankton Taxonomy and identification on 18<sup>th</sup> May, 2011 for the internship training programme organised by SRC.
66. Dr. Jayasree Thilak, Scientist–C, attended the “All India Rajbhasha Sammelan and Workshop on Scientific and Technical terminology” conducted by CENTAD, Bangalore at Kodaikanal from 17<sup>th</sup> and 18<sup>th</sup> November 2011.
67. Dr. Jayasree Thilak, Scientist–C, Conducted one tour to Jabalpur, M.P from 25<sup>th</sup> February, 2012 to 9<sup>th</sup> March, 2012 for the identification of the unidentified collections of fishes, Neuroptera and Zooplankton of Veerangana Durgavati Wildlife Sanctuary, Damoh, M.P and Singhori Wildlife Sancturay, Raisen, M.P.
68. Dr. S. Prabakaran, Scientist–C, attended Vellore District Head Masters meeting conducted by the C.E.O. Vellore, held at Vellore Institute of Technology, Vellore during 5<sup>th</sup> August, 2011 and distributed the prizes.
69. Dr. R. Aengals, Scientist–C delivered lectures on “Snakes of Chennai” to



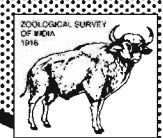
- students from the Govt Boys Hr. Sec. School Thiruvanniyur, for their Summer training camp held at Adyar Poonga Trust, Chennai, on 17<sup>th</sup> May, 2011. Delivered lecture on “Herpetofauna, collection, identification and Taxonomy” for the internship training programme on 19<sup>th</sup> May, 2011 at SRC.
70. Dr. R. Aengals, Scientist–C attended on behalf of the Director, ZSI the 21<sup>st</sup> Annual General Meeting and Extraordinary General Meeting of the SACON (Society) at Coimbatore on 23<sup>rd</sup> February, 2012.
  71. Dr. R. Aengals, Scientist–C, acted as an External Examiner and conducted Ph.D. Degree Public Viva voce Examination for a research Scholar, at the Madras Christian College, University of Madras.
  72. Dr. Gopal Sharma, Scientist–C, participated in the meeting on Biological Diversity “Stake holder Consultation and launch of UN Decade on Biodiversity (UNDB) for Asia and Pacific” on 23<sup>rd</sup> May, 2011 in New Delhi.
  73. Dr. Gopal Sharma, Scientist–C, attended one day seminar on CPWD day in Vigyan Bhawan, New Delhi on 12<sup>th</sup> July, 2011.
  74. Dr. Gopal Sharma, Scientist–C, delivered a lecture on “Selection of Science subject for future career” in the Inspire internship science camp sponsored by MoST, New Delhi for students of Bihar on 6<sup>th</sup> August, 2011 at Jagdam College, Chhapra, J.P. University, Bihar.
  75. Dr. Navneet Singh, Scientist–C, attended the subscriber awareness Programs (SAPs) on 23<sup>rd</sup> September, 2011. The program was organised by Pension Fund Regulatory and Development Authority to provide guidance about New Pension scheme (NPS) at Industry house, Sinha Library Road, Patna.
  76. Dr. Navneet Singh, Scientist–C and CAPIO appeared before Information Commissioner, CIC, New Delhi on 8<sup>th</sup> May, November, 2011 through video conferencing.
  77. Dr. Gopal Sharma, Scientist–C, delivered a lecture on Current Status and Conservation strategies of Gangetic River Dolphin (*Platanista gangetica gangetica*) in a INSPIRE Internship programme for 10+2 students of Bihar at Darbhanga on 6<sup>th</sup> November, 2011.
  78. Dr. Gopal Sharma, Scientist–C, delivered a lecture on “Wetlands in India” in National Seminar on Natural Resources: Accounting and accountability, at Ranchi (Jharkhand) on 17<sup>th</sup> December, 2011 organised by School Environmental Management Sidarul, Ranchi.
  79. Dr. Gopal Sharma, Scientist–C, attended UGC sponsored National seminar on Biological measures towards total sanitation in rural



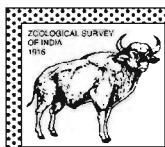
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- and semi urban areas from 20<sup>th</sup> to 21<sup>st</sup> January, 2012 organised by the Department of Botany Sri Arvind Mahila College, Kazipur, Patna
80. Dr. Gopal Sharma Scientist-C, and Hindi Officer participated in one day seminar on use and installation of UNICODE Hindi version for the official computer at Income Tax Office, Patna on 14<sup>th</sup> February, 2012.
  81. Dr Navneet Singh, Scientist-C, Co-chaired a scientific session and presented oral paper in an International conference on Entomology, organised by the Department of Zoology and Environmental Sciences, Punjab University, Patiala from 17<sup>th</sup> – 19<sup>th</sup> February, 2012
  82. Dr. Gopal Sharma Scientist-C, attended State Wildlife Board meeting Chaired by Sri Nitish Kumar, Chief Minister of Bihar at Sambad Kaksh, Bailey Road, Patna on 25<sup>th</sup> February, 2012.
  83. Dr. Navneet Singh, Scientist-C, and Dr. Gopal Sharma, Scientist-C, attended a Developmental Meet, 2012 organised by CUB, Patna and Dr. Gopal Sharma presented a poster on “Impact of rising Urban Pressure on Ecology of the River Ganga at Patna, India” with joint authorship.
  84. Dr. P.M. Sureshan, Scientist-C, Dr. K. Rajmohana, Scientist-C, Mrs. K.G. Emiliyamma, Scientist-C, and Dr. Muhamed Jafer Palot, Asstt. Zoologist attended National workshop on ‘Conservation of Biodiversity–unsolved problems, their policy and individual responsibility’ organised by P.G. and Research, Dept. of Zoology, Malabar Christian College, Kozhikode, jointly with Zoological Survey of India, Kozhikode and Prof. TCN Trust for Animal Taxonomy on 22<sup>nd</sup> and 23<sup>rd</sup> September, 2011.
  85. Dr. K. Rajmohana, Scientist-C, attended a national level Training Course on Biodiversity Conservation with focus on Ecological Monitoring at the Wildlife Institute of India, Dehradun from 5<sup>th</sup>–9<sup>th</sup> September, 2011, sponsored by DST, Govt. of India.
  86. Mrs. K.G. Emiliyamma, Scientist-C, attended two days training on CPSMS software and accounting to manage the fund from MoEF to AICOPTAX project at ZSI, Calicut, organised by PAO, New Delhi
  87. Dr. K. Rajmohana, Scientist-C rendered one week training on species taxonomy of Platygastriidae was rendered on request to a visiting Scientist at National Bureau of Agriculturally Important Insects (NBAII) Bangalore, from 19<sup>th</sup> to 24<sup>th</sup> April, 2011.
  88. Dr. L. Kosygin Singh, Scientist-C, attended Stakeholders’ Consultation and Launch of the United Nations Decade on Biodiversity (UNDB) for Asia and Pacific, which was organised



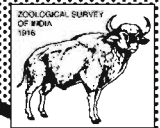
- by Ministry of Environment and Forests, Govt. of India and Convention on Biological Diversity held on 23<sup>rd</sup> May, 2011 in New Delhi.
89. Dr. L. Kosygin Singh attended Transboundary Diagnostic Analysis (TDA) Consultation Workshop for the Bay of Bengal Large Marine Ecosystem Project (BOBLME) on 18<sup>th</sup> May, 2011 held at Puri, Odisha.
  90. Dr. L. Kosygin Singh attended training programme on Trainers' Development Programme on Right to Information from 20<sup>th</sup> to 24<sup>th</sup> June, 2011 at Institute of Secretariat Training and Management, New Delhi.
  91. Dr. L. Kosygin Singh attended the Sea Turtle Satellite Telemetry Stakeholders' Workshop which was organised by the Wildlife Institute of India, Dehradun in Bhubaneswar on 20<sup>th</sup> July, 2011.
  92. Dr. Shantabala Gurumahyuni attended a Workshop on Geometric Morphometrics organised by CEMDE, University of Delhi, sponsored by MoEF, GoI from 20<sup>th</sup>–30<sup>th</sup> March, 2012 at Delhi University.
  93. Dr. A.N. Rizvi, Scientist–C, was invited to deliver a lecture on “Molecular Taxonomy” to BBT 1st year and M.Sc. I Sem. students on 26<sup>th</sup> November, 2011 at Dolphin (PG) Institute of Biomedical and Natural Sciences, Mandu wala, Dehradun.
  94. Dr. A.N. Rizvi, Scientist–C, presented paper at DSB college on 16<sup>th</sup> May, 2011 on “The role of nematodes in soil ecosystems”
  95. Dr. A.N. Rizvi, Scientist–C, attended “Stakeholder’s Consultation and Launch of the United Nations Decade on Biodiversity (UNDB) for Asia and Pacific “in New Delhi on 23<sup>rd</sup> May, 2011.
  96. Dr. A. Bahuguna, Scientist–C, Presented paper at DSB College on 16<sup>th</sup> May, 2011 on “Trichotaxonomy: Identification of species of Mammals of western Himalaya: The Tools for forensic and its limitations”.
  97. Dr. Narendra Sharma, Scientist–C, Presented paper at DSB College on 16<sup>th</sup> May, 2011 on “New Species of the genus *Ypthima* Hubner (Lepidoptera: Papilionoidea: Satyridae) from India”.
  98. Dr. Vinita Sharma, Scientist–C, Presented paper at DSBCollege on 16<sup>th</sup> May, 2011 on “Eight New Records of Sub-family Qudsianematinae (Nematoda: Derylamida) from India Nematodes relation”.
  99. Dr. Vinita Sharma, Scientist–C, delivered a lecture on “Nematodes relation in forestry in training Centre of Scientist and Research Officer of ICFRE, Dehra Dun on 18<sup>th</sup> May, 2011.
  100. Dr. Vinita Sharma, Scientist–C, presented poster on Nematode diversity in the Forest Ecosystem of



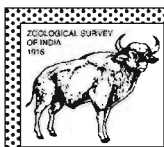
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- Gujarat, India in National Symposium on Nematodes at Trianthapuram.
101. Dr. Bahuguna, Scientist–C, attended meeting on 22<sup>nd</sup> September, 2011 and 29<sup>th</sup> October, 2011 for PBR of Uttarakhand organised by Uttarakhand Biodiversity Board, Dehradun.
  102. Dr. P.S. Bhatnagar, Scientist–C, attended one day workshop on “Disposal of Appeal under RTI” at ISTM, New Delhi on 31<sup>st</sup> October, 2011.
  103. Dr. Deepa Jaiswal participated in ‘National conference on Biodiversity and Intangible Natural Heritage’ at jointly organised by NMNH and ZSI on 28<sup>th</sup> September, 2011 at ZSI, Jodhpur and presented a paper on “Role of Insects as Bioindicators”.
  104. Dr. Deepa Jaiswal, Scientist–C attended “*Hands on Training on Molecular Taxonomy of Insects*” at Entomology Division, Indian Agricultural Research Institute, Pusa, New Delhi from 17<sup>th</sup>–22<sup>nd</sup> October, 2011
  105. Dr. Deepa Jaiswal, participated in Training programme on “Protocols involved in DNA Barcoding” under guidance of Dr. V. V. Ramamurthy, Principal Scientist IARI, New Delhi. (17<sup>th</sup>–22<sup>nd</sup> October, 2011).
  106. Dr. D.V. Rao, Dr. Deepa Jaiswal, and Dr. Chandrasekhar delivered a invited talk on “Andaman ecosystem”, “Wetlands and entomofaunal diversity” and “Freshwater Ecosystem” respectively at Lotus National School, Attapur, Hyderabad.
  107. Dr. Deepa Jaiswal, Scientist–C participated in Workshop on ‘Initiatives of DNA Barcoding’ from 14–18<sup>th</sup> Dec. 2011 given by Dr. Suresh Naik, CCDB, Canada at Paul Hebert Center for DNA Barcoding studies, Aurangabad.
  108. Dr. Gopinathan Maheswaran, Scientist–C, participated in the regional workshop on “Strategies for digitization and mobilization of Natural History Collections Data” from 15<sup>th</sup>–17<sup>th</sup> June, 2011 at Kolkata being conducted by the Ministry of Environment and Forests and Global Biodiversity Information Facility (GBIF).
  109. Dr. G. Maheswaran also participated in the ‘Review meeting of Secretary, MoEF with Secretaries of North–Eastern states’ at Guwahati on 30<sup>th</sup> June, 2011, where in the Secretary MoEF insisted the forest department personnel of north–eastern states to consult ZSI and BSI apart from other scientific institutions before submitting any project proposals to the Centre seeking funds for various developmental activities in their respective states.
  110. Dr. Gopinathan Maheswaran, Scientist–C attended an interaction meeting at Salim Ali Centre for Ornithology and Natural History



- (SACON), Coimbatore from 5<sup>th</sup>–7<sup>th</sup> August, 2011 jointly organised by the Department of Science and Technology (DST) and SACON and presented a project proposal titled ‘Foraging ecology of White-bellied Heron *Ardea insignis* in Namdapha Tiger Reserve, Arunachal Pradesh, India.
111. Dr. Maheswaran attended a quarterly review meeting of the state forest department on 12<sup>th</sup> August, 2011.
  112. Dr. Gopinathan Maheswaran, Scientist–C participated in the International Conference on Indian Ornithology (ICIO) held at Salim Ali Centre for Ornithology and Natural History (SACON), Coimbatore from 20<sup>th</sup>–23<sup>rd</sup> November, 2011 and presented a paper entitled threatened birds of Arunachal Pradesh.
  113. Dr. Bikramjit Sinha, Scientist–C attended an inaugural meeting of the IV NEBInet Coordinator’s on 10<sup>th</sup> November, 2011 at North Eastern Regional Institute of Science and Technology, Nirjuli.
  114. Dr. Gopinathan Maheswaran, Scientist–C, also attended a one-day training workshop on the Indian Wildlife Conservation Issues for school teachers and students being by DFO, Pakke Tiger Reserve, Seijosa on 26<sup>th</sup> December, 2011 and delivered a talk on the conservation of birds and mammals of Arunachal Pradesh.
  115. Dr. Gopinathan Maheswaran, Scientist–C, attended meeting of the Technical Committee for Protected Areas of Arunachal Pradesh at PCCF office on 13<sup>th</sup> February, 2012 and evaluated research proposals received from various NGOs, Universities and research Institutions within and outside of Arunachal Pradesh.
  116. Dr. C. Venkatraman, attended the Institutional Animal Ethics Committee (IAEC) meeting at Stanley Medical College, Chennai on 04<sup>th</sup> July, 2011 as a CPCSEA member and GLR laboratories Pvt. Ltd., Madhavaram on 15<sup>th</sup> July, 2011 as a scientific member.
  117. Dr. C. Venkatraman Served as programme co-ordinator (Exhibition competition) for the Golden jubilee celebration organised by SRC/ZSI, Chennai.
  118. Dr. C. Venkatraman attended DST sponsored National level training programme for Scientists and Technologists in ‘Biodiversity Conservation with focus on Ecological Monitoring’ from 5<sup>th</sup> – 9<sup>th</sup> September, 2011, organised by Wildlife Institute of India, Dehradun.
  119. Dr. C. Venkatraman attended 17<sup>th</sup> Expert Committee meeting on “Access and Benefit Sharing” conducted by National Biodiversity Authority, Chennai.
  120. Dr. C. Venkatraman served as judge for a competition “Amaze” organised



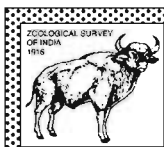
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- by Indian Institute of Planning and Management, Chennai.
121. Dr. C. Venkatraman attended and presented above three papers in International conference on Indian Ornithology (ICIO-2011) organised by Salim Ali Centre for Ornithology and Natural History, Coimbatore during 19<sup>th</sup>-23<sup>rd</sup> November, 2011.
  122. Dr. C. Venkatraman Attended Institutional Animal Ethics Committee (IAEC) meeting at GLR laboratories Pvt. Ltd., Madhavaram as a scientific member.
  123. Dr. C. Venkatraman Attended and presented a paper in 9<sup>th</sup> Indian Fisheries Forum organised by Central Marine Fisheries Research Institute, Kochin at Chennai during 19<sup>th</sup>-23<sup>rd</sup> December, 2011
  124. Dr. C. Venkatraman attended the Institutional Animal Ethics Committee (IAEC) meeting at SRM College of pharmacy, Kattangulathur as a CPCSEA nominee on 10<sup>th</sup> December, 2011.
  125. Dr. C. Venkatraman served as a member "Scientific committee" organised by "Science city" Chennai-22 regarding forthcoming Chennai Science Festival - 2012 on 14<sup>th</sup> December, 2011, 28<sup>th</sup> December, 2011 and 29<sup>th</sup> December, 2011.
  126. Dr. C. Venkatraman attended the Institutional Animal Ethics Committee (IAEC) meeting at Sri Ramachandra University as an External Scientist on 4<sup>th</sup> February, 2012 and 24<sup>th</sup> March, 2012.
  127. Dr. Rajkumar Rajan attended the meeting 'Stakeholders' Consultation and Launch of United Nations Decade on Biodiversity (UNDP) for Asia and Pacific' at New Delhi on 23<sup>rd</sup> May, 2011.
  128. Dr. Rajkumar Rajan attended the Regional training workshop on 'Strategies for Digitization and Mobilization of Natural History Collections Data' jointly organised by GBIF, WII, ZSI and BSI from 15<sup>th</sup>-17<sup>th</sup> June, 2011 at Kolkata.
  129. Dr. Rajkumar Rajan participated and exhibited marine aquarium stall in Chennai Coastal Carnival for school Children organised by CEE Tamil nadu State office during 5<sup>th</sup> to 6<sup>th</sup> August, 2011.
  130. Dr. Rajkumar Rajan attended 'First Bi-National Stakeholder Consultation on sustaining the Gulf of Mannar Ecosystem and its Resources' from 05<sup>th</sup>-06<sup>th</sup> September, 2011, organised by Bay of Bengal Programme at Rameswaram.
  131. Dr. Rajkumar Rajan analyses of recent ecosystem degradation in Indian reefs to planning biodiversity restoration frameworks and monitoring', 2011. Venkataraman Krishnamoorthy and Rajkumar Rajan. Extended Abstract for a poster presentation at the fifteenth meeting of SBSTTA, at



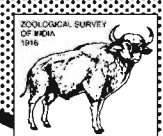
- Montreal from 7<sup>th</sup>–11<sup>th</sup> November, 2011 organised by the Secretariat of CBD.
132. Dr. Rajkumar Rajan attended the meeting on “Stakeholder consultation for long term funding mechanism of the project Conservation and sustainable use of Gulf of Mannar Biosphere Reserve’s coastal resources” organised by Gulf of Mannar Trust at Chennai.
133. Dr. Rajkumar Rajan attended one day workshop on “Disposal of appeal under RTI” organised by ISTM, New Delhi.
134. Dr. Rajkumar Rajan attended the 9<sup>th</sup> Indian Fisheries Forum held in Chennai from 19<sup>th</sup> to 23<sup>rd</sup> Dec. 2011
135. Dr. Rajkumar Rajan submitted interim report to the Director, GoMBRT on the “Status assessment of Sea Cucumbers in Palkbay and Gulf of Mannar”
136. Dr. Rajkumar Rajan attended the ‘Workshop on research and conservation initiatives with focus on corals and associated species’ and made a presentation on ‘Status of Coral reefs and fishery resources in Gulf of Mannar and the restoration plans’ at CMFRI, Mandapam. On 5<sup>th</sup> January, 2012. Workshop organised by Department of Environment and Forest, Ramanathapuram
137. Dr. Rajkumar Rajan attended the Wildlife Advisory Board meeting of Lakshadweep Administration, held on 3<sup>rd</sup> March, 2012 at Kavaratti, Lakshadweep.
138. Dr. L. Bindu attended the 9<sup>th</sup> Indian Fisheries Forum held in Chennai from 19<sup>th</sup> to 23<sup>rd</sup> December, 2011
139. Dr. C. Raghunathan, Scientist–C, and Officer–in–Charge attended the ‘Stakeholders Consultation and Launch of the United Nations Decade on Biodiversity for Asia and Pacific’ organised by Ministry of Environment and Forests at New Delhi on 23<sup>rd</sup> May, 2011.
140. Dr. C. Raghunathan, Scientist–C, and Officer–in–Charge served as a selection committee member for the recruitment of scientific post in Department of Marine Biology and Coastal Sciences, Pondicherry University on 30<sup>th</sup> May, 2011.
141. Dr. C. Raghunathan, Scientist–C, and Officer–in–Charge attended the Working Group Meeting for 12<sup>th</sup> Five Year Plan for A and N Administration held at Dept. of Environment and Forest, Port Blair on 10<sup>th</sup> June, 2011.
142. Dr. C. Raghunathan, served as a Member in the Interview Committee constituted for the selection of Field Officers in National Sample Survey Organization, Port Blair on 21<sup>st</sup> June, 2011.
143. Dr. C. Raghunathan, attended the Man and the Biosphere Committee



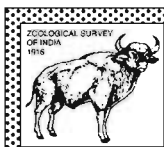
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- Meeting at Ministry of Environment and Forests, New Delhi on 23<sup>rd</sup> June, 2011.
144. Dr. C. Sivapeurman, Scientist-C, served as an Enquiry Officer for RMRC, Port Blair on 5<sup>th</sup> July and Member for BSI, Port Blair to verify the unserviceable article on the same day itself.
145. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge served as a Member in the State Level Steering Committee meeting for Great Nicobar Biosphere Reserve held on 18<sup>th</sup> August, 2011 chaired by Chief Secretary, AandN Administration
146. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge served as a Member in the meeting of 12<sup>th</sup> Five Year Plan working group for AandN Administration on 19<sup>th</sup> August, 2011 chaired by Chief Secretary, AandN Administration
147. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge served as a Member in the Research Advisory Committee meeting at Department of Environment and Forests on 23<sup>rd</sup> August, 2011.
148. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge served as a Member Interview Committee for admission of Ph.D. research students and JRFs in ZSI held on 8<sup>th</sup> and 19<sup>th</sup> August, 2011
149. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge and presented a paper in the international conference on 'Marine Mammals Research and Conservation in Indian Ocean' held at CMFRI, Kochi during 26<sup>th</sup> to 27<sup>th</sup> August, 2011.
150. Dr. C. Sivaperuman, Scientist-C, underwent the training on Right to Information at ISTM, New Delhi during 16<sup>th</sup> to 17<sup>th</sup> August, 2011.
151. Dr. C. Sivaperuman, Scientist-C attended the training programme on 'Biodiversity Conservation with focus on Ecological Monitoring' during 5<sup>th</sup> to 9<sup>th</sup> September at Wildlife Institute of India, Dehra Dun.
152. Dr. C. Sivaperuman, Scientist-C, attended the training course on Integrated Biodiversity and Ecosystem Management Training at University of Malaysia during 4<sup>th</sup> to 27<sup>th</sup> October, 2011.
153. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge, made a presentation on draft management plan for Lohabarrack Crocodile Sanctuary before the Senior Forest Officers of DoEF on 17<sup>th</sup> October, 2011
154. Dr. C. Raghunathan, Scientist-C, and Officer-in-Charge served as a member in the Committee to evaluate the draft feasibility report for setting up Oceanarium in Andaman and Nicobar Islands on 20<sup>th</sup> October, 2011.
155. Dr. C. Raghuanthan, Scientist-C, and Officer-in-Charge participated in the



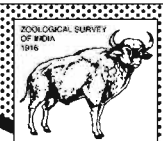
- National Workshop on 'Mangroves: An Integral Component of Coastal Ecosystem—Conservation Strategies and Management Practices organised by DoEF from 12<sup>th</sup> to 14<sup>th</sup> October, 2011 at Port Blair.
156. Dr. C. Sivaperuman attended the Institutional Ethics Committee (IAEC) meeting at Central Agricultural Research Institute, Port Blair on 16<sup>th</sup> November, 2011.
157. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge served as a member in the interview committee for the selection of Data Enumerator at Fishery Survey of India, Port Blair on 21<sup>st</sup> November, 2011.
158. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge served as a member to discuss the progress on setting up Oceanarium in AandN Islands held at Directorate of Tourism, Andaman and Nicobar Administration on 23<sup>rd</sup> November, 2011.
159. Dr. C. Sivaperuman, Scientist–C, participated, presented a paper and served as a co-chair of one technical session in the International Conference on Advances in Ecological Research held during 19<sup>th</sup> to 21<sup>st</sup> December, 2011 at Maharaja Ganga Singh University, Bikaner, Rajasthan.
160. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge, served as a member in the meeting on feasibility study of proposed Oceanarium held on 12<sup>th</sup> December, 2011 at Secretariat chaired by the Chief Secretary, AandN Administration.
161. Dr. C. Raghunathan also participated and presented the papers in Conference of 9<sup>th</sup> Indian Fisheries Forum held at Chennai during 19<sup>th</sup> to 23<sup>rd</sup> December, 2011.
162. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge attended Programme Advisory Committee Meeting of Southern Zone of ZSI held at ZSI/SRC, Chennai on 9<sup>th</sup> January, 2012 and presented a new project proposal, progress of grant-in-aid projects and progress of J/SRFs.
163. Dr. C. Raghunathan, Scientist–C, also served as a committee member for the selection of Lower Division Clerk and Hindi Typist at Fishery Survey of India, Port Blair on 6<sup>th</sup> and 7<sup>th</sup> January, 2011.
164. Dr. C. Raghunathan served as a resource person and made a presentation on 'Coral Reef Ecosystem of Andaman and Nicobar Archipelago' in the capacity building training programme on coral reef and seagrass monitoring conducted for Forest Department officials organised by National Institute of Ocean Technology, Port Blair during 18<sup>th</sup> to 22<sup>nd</sup> January, 2012.
165. Dr. C. Sivaperuman, Scientist–C, served as a judge for the state level



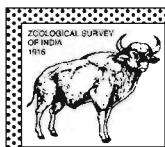
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- exhibition and project competition – 2012 for school children organised by Directorate of Education, Andaman and Nicobar Administration on 31<sup>st</sup> January, 2011.
166. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge attended the Expert Committee (Mangroves and Coral Reefs) Meeting of MoEF/GOI held at Annamalai University, Annamalainagar during 9<sup>th</sup> and 10<sup>th</sup> February, 2012.
167. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge served as a resource person and delivered a lecture on *Coast and its importance* in the workshop on Integrated Coastal Zone Management organised by ZSI/MARC, Digha on 26<sup>th</sup> February, 2012.
168. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge served as a member in doctoral committee for Ph.D. students of Marine Biology, Pondicherry University, Port Blair on 29<sup>th</sup> February, 2012.
169. Dr. C. Raghunathan, Scientist–C and Officer-in-Charge made a presentation on 2<sup>nd</sup> draft of Management Plan for Lohabarrack Crocodile Sanctuary: 2012–2021 for the officials of Forest Department on 14<sup>th</sup> March, 2012
170. Dr. C. Raghunathan, Scientist–C, and Officer-in-Charge served as a member to assess the feasibility report on the proposed Oceanarium in the Directorate of Tourism, Andaman and Nicobar Administration on 26<sup>th</sup> March, 2012.
171. Dr. Padma Bohra, Scientist–D, and Officer-in-Charge, Dr. Gaurav Sharma, Scientist–C, Dr. Sanjeev Kumar, Scientist–C, Dr. H.S. Banyal, Scientist–C and Dr. Ram Sewak, Scientist–B, attended National Seminar on “*Biodiversity and Intangible Natural Heritage*” and Exhibition on “*Biodiversity of Western India*” in collaboration with National Museum of Natural History, MoEF, New Delhi from 28<sup>th</sup> September, 2011 to 2<sup>nd</sup> October, 2011 at ZSI, DRC, Jodhpur.
172. Dr. Padma Bohra, Scientist–D and Officer-in-Charge, Dr. Gaurav Sharma, Scientist–C, Dr. Sanjeev Kumar, Scientist–C, and Dr. H.S. Banyal, Scientist–C attended XXII National Symposium on Chronobiology and Seminar on Diversity and Physiology of Desert Fauna held on 1<sup>st</sup>–3<sup>rd</sup> March, 2012 and organised by Deptt. Zoology, J.N.V. University, Jodhpur and Indian Society for Chronobiology.
173. Dr. D. Suresh Chand participated in a Two days workshop on RTI–ACT–2005 from 5<sup>th</sup> to 6<sup>th</sup> April, 2011 at the Institute of Secretariat Training and Management, New Delhi.
174. Dr. D. Suresh Chand attended the Meeting on “Stakeholders consultation and launch of the United



- Nations Decade on Biodiversity (UNDB) for Asia Pacific, on 23<sup>rd</sup> May, 2011, at New Delhi”.
175. Dr. D. Suresh Chand, Scientist–C, took part in the Stakeholder’s workshop for up-scaling of Technologies under NAIP for enhancing the productivity of degraded coastal land, at Central Soil Salinity Research Institute, (ICAR) Regional Research Station, Canning on 11<sup>th</sup> November, 2011.
176. Dr. D. Suresh Chand attended the 1<sup>st</sup> Biennial International Congress on Urban Green Spaces (CUGS2012), at New Delhi, from 5<sup>th</sup> to 7<sup>th</sup> March, 2012, organised by the Aravali Foundation for Education and Dept. of Environment Govt. of NCT Delhi.
177. Dr. Gaurav Sharma, Scientist–C, has participated and presented paper in “3<sup>rd</sup> Congress on Insect Science on Pest Management for food security and environmental Health” held at Punjab Agricultural University, Ludhiana from 18–20<sup>th</sup> April, 2011.
178. Dr. Gaurav Sharma, Scientist–C, has participated and delivered lecture on topic entitled “Studies on the reproductive behavior of twelve species of Damselflies and Dragonflies (Odonata: Insecta) in India” in “International Conference on Advances in Ecological Research” on 20<sup>th</sup> December, 2011.
179. Dr. Gaurav Sharma, Scientist–C, has participated and delivered lecture on topic entitled “Studies on the faunal diversity and government efforts for conservation of Tigers at Sariska Tiger Reserve, Rajasthan” in “National Conference on prospects and challenges in field of applied zoology” organised by Lachoo Memorial College of Science and Technology, Jodhpur on 13<sup>th</sup> January, 2012.
180. Dr. Sanjeev Kumar, Scientist–C, Attended and presented a research paper entitled “Raptor Diversity (Falconiformes and Strigiformes) of Sardar-Samand Reservoir, Rajasthan, India–An Indicator of Wetland Ecosystem Health”. In: International Conference on Indian Ornithology (ICIO-2011) held from 19<sup>th</sup>–23<sup>rd</sup> November, 2011 at Sacon, Coimbatore.
181. Dr. Sanjeev Kumar, Scientist–C, Attended and delivered invited lecture on Status of Wetland Birds in India and Importance of Coastal Wetlands of Gujarat in a *National Conference on Wetland Conservation for Sustainable Development – Saving wetlands for people and Wildlife* held on 17<sup>th</sup>–18<sup>th</sup> February, 2012 organised by Guide, Bhuj, Gujarat.
182. Dr. Gaurav Sharma, Scientist–C participated in the “DST sponsored Techno Scientific Management Training Programme for Scientists” held at Hyderabad from 1<sup>st</sup> August to 12<sup>th</sup> August, 2011.



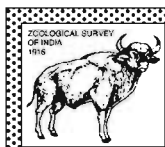
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183. Dr. Gaurav Sharma, Scientist-C and Dr. Sanjeev Kumar, Scientist-C, attended National Level Training Programme for Scientists and Technologists sponsored by DST, New Delhi on "*Biodiversity Conservation with a focus on Ecological Monitoring*" from 5<sup>th</sup>-9<sup>th</sup> September, 2011 at Wildlife Institute of India (WII), Dehradun.
184. Mrs. I.J. Kharkongor, Scientist-C, attended and presented a paper on "*Cavernicolous faunal diversity of the limestone caves of Meghalaya and their conservation*" at the national seminar on *status of biodiversity in India: Conservation and social relevance to NE India* organised by the Botany and Zoology departments, Don Bosco College, Tura on 9<sup>th</sup> August, 2011 and sponsored by UGC-North Eastern Regional Office, Guwahati and ICSSR, North Eastern Region, NEHU Campus, Shillong.
185. Ms. J. Lyngdoh, Scientist-C, attended the Trainer Development Programme on Right to Information (TDP-RTI) at ISTM, New Delhi from 20<sup>th</sup> -24<sup>th</sup> June, 2011.
186. Mrs. I.J. Kharkongor, Scientist-C, attended a DST sponsored training for women scientists on Biodiversity conservation at Wildlife Institute of India (WII), Dehradun from 6<sup>th</sup> - 10<sup>th</sup> February, 2012.
187. Ms. Jennifer Lyngdoh, Scientist-C, of the Centre attended the "*18<sup>th</sup> meeting of expert group-A on conservation and sustainable utilization of Natural Resources*" at North Eastern Hill University (NEHU), Shillong from 22<sup>nd</sup> April to 24<sup>th</sup> April, 2011 organised by the Ministry of Environment and Forests, Government of India, New Delhi.
188. Ms. Jennifer Lyngdoh, Scientist-C, also attended the *Annual Meeting of Senior Officers at Headquarter Zoological Survey of India, Kolkata* from 28<sup>th</sup> - 30<sup>th</sup> April, 2011.
189. Ms. Jennifer Lyngdoh, Scientist-C, attended the review meeting of Secretary, Environment and Forests, Government of India with Chief Secretaries of North Eastern States at North East Development and Finance Corporation Ltd. (NEDFi), Guwahati on 30<sup>th</sup> June, 2011.
190. Mrs. I.J. Kharkongor, Scientist-C and Mr. A. Rana, Senior Zoological Assistant, attended the 1<sup>st</sup> meeting of Town Official Language Implementation Committee (TOLIC) at Assam Rifles, Laitkor, Shillong on 23<sup>rd</sup> June, 2011.
191. Ms. Jennifer Lyngdoh, Scientist-C, attended the 2<sup>nd</sup> meeting of the governing body of the Meghalaya zoo project implementation society on 9<sup>th</sup> September, 2011 at the Office of the Chief Conservator of Forest (Wildlife), Shillong.
192. Mrs. I.J. Kharkongor, Scientist-C, attended the official gathering of



- Town Official Language  
Implementation Centre, at  
Directorate General, Assam Rifle,  
Laitkor, Shillong on 23<sup>rd</sup> September,  
2011.
193. Mrs. Jennifer Lyngdoh, Scientist–C,  
attended the meeting of working  
committee on forestry and biodiversity  
held by Forest and Environment  
Dept., Govt. of Meghalaya on 21<sup>st</sup>  
and 28<sup>th</sup> October, 2011 at Main  
Secretariat Building, Shillong.
194. Dr. B. Tripathy, Scientist–C, attended  
seminar on “Sundarban Pavilion”  
held on 13<sup>th</sup>–14<sup>th</sup> April, 2011 at  
kolkata conducted by IISER, Kolkata  
and WWF .
195. On June 11<sup>th</sup>, 2011, Dr. B. Tripathy,  
Scientist–C attended Regional  
Training Workshop on Strategies  
for Digitisation and Mobilisation  
of Natural History Collection data  
held at kolkata on 20<sup>th</sup> July, 2012,  
Dr. B. Tripathy, Scientist–C attended  
Stakeholder workshop on Tracking  
Olive Ridley Turtle in Bay Of Bengal  
held at Bhubaneswar and organised  
by WII .
196. Dr. G.P. Mandal, Scientist–C,  
attended the workshop ‘Stakeholder  
Consultation and Launch of UN  
Decade on Biodiversity for the Asia  
and Pacific’ held at Ashoka Hotel,  
New Delhi on 23<sup>rd</sup> May, 2011  
organised by MOEF, Govt. of India.
197. Dr. G.P. Mandal, Scientist–C,  
attended the workshop on ‘Strategies  
for Digitization and Mobilization of  
Natural History collections Data’  
organised jointly by GBIF, WII  
(Nodal partner in India), ZSI, BSI  
and FRLHT held at Hotel Pan Asia  
Continental, Kolkata during 15<sup>th</sup> to  
17<sup>th</sup> June, 2011.
198. Dr. G.P. Mandal, Scientist–C,  
attended the training programme on  
“IPR and WTO ISSUES” organised  
by TIFAC and DST, Govt. of India,  
held TERI, Gurgaon, during 22 to  
26<sup>th</sup> August, 2011.
199. Dr. G.P. Mandal, Scientist–C,  
attended the *UGC sponsored National  
seminar on “Environmental Science  
in relation to Diversity, Ecology and  
Toxicity of Faunal Resources”* at Salt  
Lake, Kolkata organised by Dept.  
of Zoology, East Calcutta Girls  
College, 6<sup>th</sup> and 7<sup>th</sup> January, 2012  
and delivered lecture and presented  
a paper.
200. Dr. Sheela, S., Scientist–C, attended  
training for Women scientists on  
Biodiversity conservation held in  
Wildlife Institute of India from 6<sup>th</sup>  
to 10<sup>th</sup> February, 2012.
201. Dr. Sheela, S., Scientist–C, attended  
the field camp as a field resource  
person in the 5–day workshop for  
Orientation and Training in Field  
Ecological Studies and Biodiversity  
Documentation organised by the  
Dept. of Zoology of the West  
Bengal State University, Barasat  
from 17<sup>th</sup>–19<sup>th</sup> November, 2011.



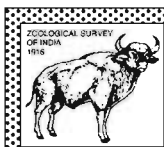
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202. Dr. Sheela, S., Scientist-C, delivered an invited lecture on "The role of Parasitic Hymenoptera in Nature" in a National Seminar on 'Environmental Science in relation to diversity, Ecology and Toxicity of Faunal Resources' at East Calcutta Girls College, Kolkata. On 6<sup>th</sup> January, 2012.
203. DR. Sheela, S., Scientist-C, attended the National seminar on Science communication addressing Women's Issues at Birla Industrial and Technological Museum on 7<sup>th</sup>-8<sup>th</sup> January 2012, organised by National centre for Science Communications, Mumbai, National Council of Science Museums, Kolkata and Vigyan Prasar, New Delhi.
204. Dr. Sheela, S. Scientist-C, has delivered an invited lecture on "Taxonomy and Biodiversity conservation" and Dr. A. Chattopadhyay, Asst. Zoologist delivered an invited lecture on Global Warming at a UGC sponsored state level seminar on "Advancement of biological science towards sustainable development" at Behrampore Girls college, Murshidabad on 30<sup>th</sup> March, 2012.
205. Dr. V.D. Hegde, Scientist-C, attended a National Level Seminar and presented a paper at Abasaheb Garware College, Pune from 8<sup>th</sup>-10<sup>th</sup> February, 2012.
206. Dr. R. Babu, Scientist-C, Participated and delivered a invited lecture on "Diversity of adult Odonates (Insecta: Odonata) in Himachal Pradesh State, India" in the "2<sup>nd</sup> International Congress of Global Warming on Biodiversity of Insects: Management and Conservation" held from 24<sup>th</sup> to 26<sup>th</sup> August, 2011 at Bharathiar University, Coimbatore
207. Dr. R. Babu, Scientist-C, Attended one day Workshop on "Disposal of Appeal under RTI" on 31<sup>st</sup> October, 2011, at Institute of Secretariat Training and Management, Dept. of Personnel and Training, New Delhi.
208. Dr. R. Babu, Scientist-C, delivered a invited lecture on "Conservation of flora and fauna with special reference to Insects" and interacted with students at Kendriya Vidyalaya, Ballygunge, Kolkata on 11<sup>th</sup> November, 2011.
209. Dr. R. Babu, Scientist-C, attended Prof. U.S. Srivastava Memorial Lecture on 23<sup>rd</sup> February, 2012 at Indian Institute of Chemical Biology, Jadavpur, Kolkata.
210. Dr. K. Valarmathi, Scientist-C, participated in a Winter School Programme on "Aquatic Inland Resources and Environment Assessment through RS and GIS Application" organised by the Central Inland Fisheries Research Institute (ICAR), Barrack pore from 10<sup>th</sup>-30<sup>th</sup> January, 2012.
211. Dr. Varadaraju, Scientist-B, participated in the Training course



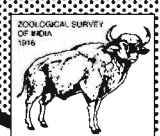
- on IPR and WTO issues organised jointly by TIFAC and DST held at TERI Retreat, Gurgaon from 22<sup>th</sup>–26<sup>th</sup> August, 2011.
212. Dr. Varadaraju, Scientist–B, Participated and represented Director Zoological Survey of India at 19<sup>th</sup> Meeting of Expert Group–A in the broad thematic are of conservation and sustainable utilization of Natural resources held at Office of Ministry of Environment and Forests, New Delhi on 25<sup>th</sup> and 26<sup>th</sup> July, 2011
213. Dr. M.K. Dev Roy, Scientist–B, Participated and submitted a research paper entitled “Decapod of ethnomedicinal value” in the national seminar on “Traditional knowledge on social practices promoting biodiversity conservation” organised by ZSI on 24<sup>th</sup> September, 2011.
214. Shri S.S. Mishra, Scientist–B, of Marine Fish Section attended a training programme on ICZM at Digha to impart practical training to the participants.
215. Shri S.S. Mishra, Scientist–B, and Shri K.C. Gopi, Scientist–E, Head of Fish Division has attended the 9<sup>th</sup> Fisheries Forum organised by Central Marine Fisheries Institution, Kochi at Chennai from 19<sup>th</sup> to 23<sup>rd</sup> December 2011. Three oral presentations and one poster presentation were made during the period detailed as under.
216. Dr. A. Gokul, Assistant Zoologist, Participated in Regional Training workshop on Strategies for digitization and Mobilization Natural History Collection data from 15<sup>th</sup> to 17<sup>th</sup> June, 2011 at Kolkata.
217. V. M. Satish Kumar Briefed about the DNA Barcoding techniques to M.Sc. students from Little Flower College, Thrissur Kerala on 27<sup>th</sup> July, 2011.
218. Dr. Muhamed Jafer Palot, Asstt. Zoologist attended the First International Conference on Indian Ornithology at Salim Ali Centre for Ornithology and Natural History, Coimbatore on 19<sup>th</sup>–21<sup>st</sup> November, 2011.
219. Dr. Vinod Khanna, Asstt. Zoologist to delivered a guest lecture on the topic “Status of Faunal Profile and Uttarakhand – a review.”.
220. Dr. P.D. Rane, Asstt. Zoologist. attended as a member interview for the selection of field Investigators at National Sample Survey Organisation (Ministry of Statistics and programme Implementation, Govt. of India) Pune Region from 16<sup>th</sup> to 27<sup>th</sup> May, 2011.
221. Dr. S.S. Jadhav, Sr. Zool. Asstt. attended one day workshop on Review and planning Exhibition of Government publications held at Yashawantrao Chavan Academy of Development Administration, Baner Road, Pune on 27<sup>th</sup> May 2011.
222. Dr. S.S. Jadhav, Sr. Zool. Asst. conducted study tour on 18<sup>th</sup> to 22<sup>nd</sup> July, 2011 for Selected Type Specimen



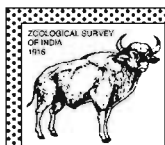
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- (Fishes) study at Fish Section, HQ, Kolkata. He also submitted a list of Endemic Fishes of India to O/C for onward transmission to DZSI, Kolkata.
223. Dr. S.S. Jadhav, Sr. Zool. Asstt. participated in Government Publications Exhibition at Yashawantrao Chavan Academy of Development Administration on 6<sup>th</sup> to 8<sup>th</sup> January, 2012 and sold the departmental publications of Rs.15,245/-.
224. Shri S.K. Pati, Zool. Asst. presented a poster on Marine Faunal Diversity of Maharashtra: How much do we know? In: *National Conference on Biodiversity Assessment, Conservation and Utilization*, 9<sup>th</sup> to 11<sup>th</sup> February, 2012, Abasaheb Garware College, Pune.
225. Dr. S.S. Jadhav, Sr. Zool. Asstt., and Mrs. Priyanka Dutta Saha participated in National Conference on "*Biodiversity Assessment, Conservation and Utilization*" at M.E.S. Abasaheb Garware College, Pune on 9<sup>th</sup> to 11<sup>th</sup> February, 2012.
226. Dr. Uttam Saikia, Senior Zoological Assistant, attended a workshop on "Small Mammal Field Techniques" at the College of Forestry, Kerala Agricultural University, Mannuthy, Thrissur from 10<sup>th</sup>-14<sup>th</sup> November, 2011.
227. Dr. Kamal Saini Sr. Zool. Asstt. attended UGC sponsored National Seminar cum workshop on study of Biodiversity in Today's Perspective, 10<sup>th</sup>-12<sup>th</sup> March, 2012 at Dayal Singh College, Karnal, Haryana.
228. Sh. A. Mohapatra, Assistant Zoologist, participated and presented a paper entitled- "Concept of Bio-diversity Conservation in Indian Religion" in National Seminar on Traditional Knowledge and Social Practices Promoting Bio-diversity Conservation held at Kolkata on 24<sup>th</sup> September, 2011 .
229. Sh. P.T. Rajan, Senior Zoological Assistant, delivered a lecture on *Faunal Communities of Andaman and Nicobar Islands* in the refresher course for forest guards on 2<sup>nd</sup> February and also in National Council for YMCAs of India on 23<sup>rd</sup> February, 2012.
230. Sh. Santanu Mitra, Zoological Assistant, participated in the Integrated Coastal Zone Management Programme as a field guide in Community Training held at Digha on 10<sup>th</sup> September, 2011 and 11<sup>th</sup> September, 2011.
231. Sh. Santanu Mitra, Zoological Assistant, Participated and submitted a research paper entitled "Traditional fisheries of Molluscan Shells at Sudarnarekha Estuary, Balasore, Odisha" in the national seminar on "Traditional knowledge on social practices promoting biodiversity conservation" organised by ZSI on 24<sup>th</sup> September, 2011.



232. Sh. S. Kumaralingam, Senior Research Fellow attended a training programme on 'Marine Ecotoxicology' at ICMAM, Ministry of Earth Sciences, Chennai during 5<sup>th</sup> to 9<sup>th</sup> March, 2012
233. Sh. Tamal Mondal, JRF participated in the training on 'Recent Trends in Applied Ecology' under the UGC-NRCBS Programme organised by Madurai Kamaraj University during 25<sup>th</sup> August to 8<sup>th</sup> September, 2011.
234. Sh. C.R. Sreeraj, JRF attended training programme on 'Satellite Oceanography' held at ICMAM Project Directorate, Ministry of Earth Sciences, Chennai during 19<sup>th</sup> to 23<sup>rd</sup> September, 2011.
235. Lectures on 'Importance of Coral Reefs' by Tamal Mondal, JRF in a seminar on the occasion of 57<sup>th</sup> Wildlife organised by DoEF on 5<sup>th</sup> October 2011; 'Indian Mammals' by Mr. K. Narasimmarajan, JRF at Forest Training School, Wimberligunj, South Andaman on 11<sup>th</sup> October 2011; 'Mangrove Faunal Diversity in AandN Islands' by Mr. P.T. Rajan, Sr. Zoological Assistant in a National Workshop on 'Mangroves: An Integral Component of Coastal Ecosystem – Conservation Strategies and Management Practices (NW-MICCE)' on 12<sup>th</sup> October 2011; and 'Mangrove Faunal Diversity in Andaman and Nicobar Islands' by Mr. P.T. Rajan at Forest Training School, Wimberligunj, South Andaman on 17<sup>th</sup> October, 2011 have been delivered.
236. Sh. Tamal Mondal, JRF attended the 4<sup>th</sup> UGC-Networking Resource Centre Workshop on Molecular Phylogenetics at Indian Institute of Science, Bangalore during 1<sup>st</sup> to 5<sup>th</sup> November, 2011.
237. SRFs of the ANRC have attended the Ph.D. viva-voce examination in Regional Medical Research Centre, ICMR, Port Blair on 23<sup>rd</sup> December, 2011.
238. Sh. Tamal Mondal, Senior Research Fellow participated in a 'National workshop for undergraduate biology teachers' organised by Department of Science and Technology, Government of India at MESAG College, Pune during 11<sup>th</sup> to 14<sup>th</sup> January, 2012.



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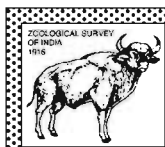
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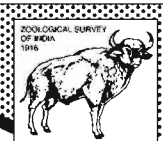
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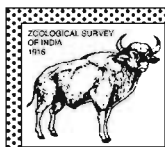
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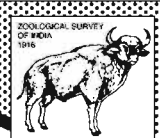
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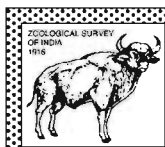
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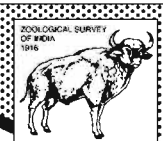
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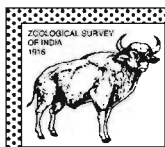
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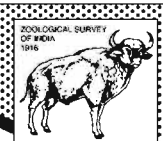
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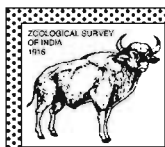
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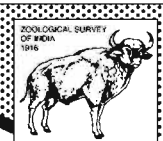
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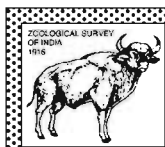
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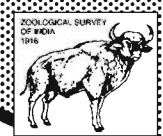
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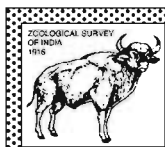
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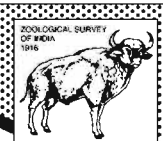
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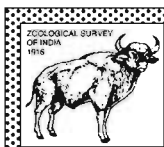
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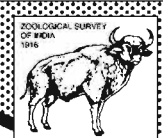
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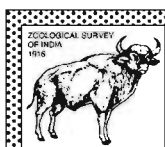
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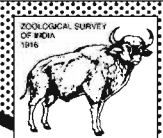
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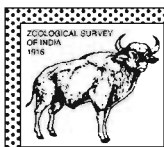
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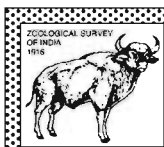
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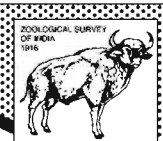
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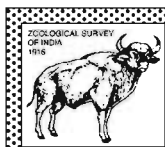
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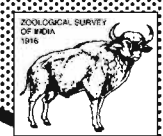
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