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ZSI e-NEWS

The Monthly Electronic Newsletter of Zoological Survey of India

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ANIMAL OF THE MONTH

The Asian Giant Hornet Wasp

Check-list of fauna of India:

1. Sphaeroceridae (Diptera: Insecta)
2. Thysanura (Insecta) (Diptera: Insecta)

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ZSI IN NEWS

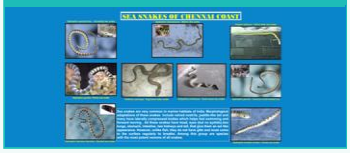
OUT OF THE BOX

VIDEO

1.Red-necked Keelback
2.Reddish Burrowing Frog

PICTURE GALLERY

POSTER SERIES



PAINTINGS FROM ZSI HERITAGE ALBUM

From the Director's Desk

Zoological Survey of India in its Headquarters and Regional Centres celebrated the International Day for Biological Diversity, on 22nd May 2010. Several new discoveries and new records of fauna from the country were brought to light during the month thorough the intense field surveys conducted by the scientists of the department. The bleaching of Coral reefs of Andaman and Nicobar Islands revealed during the undersea surveys conducted by the scientists is a matter of great concern. A large number of visitors, both general publics and students continued to visit the Marine Aquarium at Chennai and Digha and the museums at different Regional Centres. I hope the various sections of the *ZSI e-NEWS* continue to be interesting and informative to the readers and the checklists on Indian fauna useful.

Dr. Ramakrishna

Headquarters, Kolkata

Local surveys were undertaken in and around the Wetland areas of North 24 Parganas, West Bengal. During the month, three species of colydiid beetles (Coleoptera: Polyphaga: Heteromera:Colydiidae), *Endeitoma rugicollis*, *Neotrichus longicollis* and *Synchita brunneus* were described as new to science from Andaman and Nicobar Islands. Discoveries of yet another six species of colydiid beetles turned out to be new records for the Andaman and Nicobar Islands. During the month, scientists of Headquarters identified 7 species of free living Protozoa, 8 species of Collembola, 7 species of Coleoptera, 5 species of Hemiptera, 3 species of Hymenoptera, 9 species of Isoptera, 12 species of Lepidoptera, 9 species of Odonata, 40 species of Orthoptera, 5 species of spiders, 14 species of Mollusca, 28 species of fishes and 5 species of Amphibia from the States of Himachal Pradesh, Jharkhand, Karnataka, Uttar Pradesh, West Bengal and also from the Eastern Ghats of

Orissa, Namdapha Biosphere Reserve, Arunachal Pradesh and Kanniyakumari Wildlife Sanctuary, Tamil Nadu. Identification services were rendered on 11 lots of specimens, received from different organisations.

Three research papers were published, 8 accepted for publication and 6 communicated.

Consultants of Fanli Marine of Malayasia and also a group of students along with Prof. U.C. Goswami, from Dept. of Zoology, University of Gauhati, Assam, visited the Fish Division. A research scholar from Ranchi University, Jharkhand visited the Apterygota Section. Sri. Varad Giri, Curator, Bombay Natural History Society, Mumbai visited the Amphibia Section to examine specimens of caecilians in the National Zoological Collection.

Scientists of the Headquartes attended the following programmes:

Inception Meeting on Biodiversity Conservation and Management Plan for Sunderbans held on 18th May at the Sunderban Affairs Department, Kolkata; "Training Programme on Establishment Rules" at Institute of Secretariat Training and Management, Dept. of Personnel and Training, New Delhi, from 10th to 14th May; seminar on "International Biodiversity Day 2010" at West Bengal State Biodiversity Board, Kolkata on 22nd May; workshop on risk assessment and on the mutual acceptance of data in the Chemical Sector under the EU- India Joint Action Plan Support Facility (APSF) - environment Chemical Sector Activity Project" held on 25th May at Kolkata and the training programme on "Capacity Building of Scientists and Technologists on Technology Diplomacy" at CUTS Centre for International Trade, Jaipur on 31st May. Besides, a scientist of the Headquarters delivered a lecture on "Antarctic Biodiversity" at COGNIZANT Technology Solutions India Pvt. Ltd., Salt Lake, Kolkata on 18th May.

A one day Seminar on "*Recent Trends in Taxonomy and Biodiversity Conservation in India*" was organized by the Headquarters on 1st May. Dr. M. Sanjappa, Director, Botanical Survey of India (BSI) inaugurated the Seminar and Dr. Ramakrishna, Director ZSI presided over the function. Prof. D. Roychowdhury, University of Calcutta, Prof. Y. Ranga Reddy, Acharya Nagarjuna University, Andhra Pradesh, Dr. J.R.B. Alfred, Former Director ZSI, and Prof. S.C. Dey, Former Professor, Gauhati University, Assam delivered lectures on related topics.

The "International Day for Biological Diversity" was celebrated on 24th May and the occasion was graced by Prof. S.C. Dey, Former Professor, University of Gauhati, Assam and he delivered a lecture on Ornamental Fishes. Dr. Ramakrishna, Director ZSI presided over the function and delivered a talk. Director, ZSI attended the "International Biodiversity Day 2010" held at the State Biodiversity Board, Lucknow, U.P. on 22nd May as chief guest and delivered the keynote address on Biodiversity Conservation and Poverty Alleviation.

Publications:

1. Bindu. L. 2010. On some testacids (protozoa) of Melghat Wildlife Sanctuary, Maharashtra, India. *J. of Threatened taxa*, 2 (4): 827-830.
2. Mandal, S.K., Dey, A. and Yadav, K. 2010: Insecta: Orthoptera: Acridoidea. *In*: *Fauna of Uttarakhand, State Fauna series No.*18 (Part-2), pp. 53-79. Zoological Survey of India, Kolkata.
3. Pal, T.K. 2010. Colydiidae of Andaman and Nicobar Islands, India, with three new species (Coleoptera: Heteromera). *Entomon*, 34 (3): 155-166.

During the Seminar on "Recent trends in taxonomy and biodiversity conservation in India"

In this Issue

Andaman and Nicobar Regional Centre, Port Blair

An alarming situation of mass bleaching of corals was observed in the coral reefs of Andaman and Nicobar Islands during the undersea surveys conducted from 8th to 25th May. The studies indicated that corals of Rutland Island, Jolly Buoy Island, Grub Island, Tarmugli Island, Chester Island, Belle Island, Twins Island and Redskin Island in Mahatma Gandhi Marine National Park; Aves Island, Karlo Island, Sound Island, Rail Island and Interview Island in Middle & North Andaman were bleached to the extent of 60-85%. It is revealed that the scleractinian coral families such as Acroporidae, Pocilloporidae, Poritidae, Pectinidae, Oculinidae, Merulinidae, Faviidae, Fungiidae, Siderasteridae and Agaraciidae were widely affected due to the bleaching event; however, the most affected families are Acroporidae, Poritidae and Pocilloporidae, where 95% of the colonies were found devastated in the areas surveyed. Line Intercept Transect survey showed that, a total of 75 species of corals were affected so far due to the bleaching phenomena. The main causative factor for the bleaching event is, the temperature in the Andaman Sea that stood at 31-32° C for a long period this year, making the sea warmer than the previous two years. It is believed that the warmer than usual sea temperature is a consequence of the late onset of the monsoon over the Bay of Bengal and the Andaman Sea. Further surveys have been intensified by ZSI in the other regions of Andaman & Nicobar Archipelago to assess the overall impact of coral bleaching in these islands. It is pertinent to add that coral bleaching phenomenon has also been reported in the neighboring countries bordering Andaman Sea such as Thailand, Malaysia and Myanmar during May 2010.

Confiscated skin of salt water crocodile, *Crocodylus porosus*

Apart from that the scientists of the Centre identified 205 species of fishes, 59 species of gastropods, 55 species of corals and 4 species of sponges from the representative samples collected during the aforesaid surveys. Besides, data on landings of edible fishes was collected from Great Nicobar Biosphere Reserve during the reporting period, and it indicates that 50% of fishes belonged to the family Serranidae while 20% represented by Lutjanidae.

Research manuscripts on Scleractinian corals of A & N Islands and the status of *Trochus niloticus* in Andaman and Nicobar have been submitted for publication.

Confiscated meat and teeth samples of a crocodile were identified for the wildlife range of Little Andaman and the skin sample of crocodile identified for wildlife range of Port Blair on request. *In situ* training for employing LIT method to monitor the health of the corals through SCUBA diving has been imparted to two forest dept. officials during 12th to 25th May.

A lecture on Coral Reef Diversity was delivered to the matriculate school students on the *International Day for Biological Diversity*.

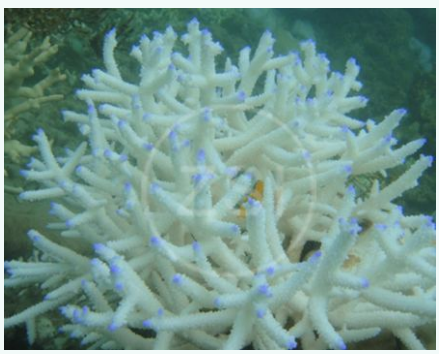
Publications:

1. Ramakrishna, C. Raghunathan and C. Sivaperuman, 2010. Recent Trends in Biodiversity of Andaman and Nicobar Islands: 1-542 (Published by the Director, Zoological Survey of India, Kolkata)
2. Raghunathan, C., C. Sivaperuman and Ramakrishna, 2010. Diversity of Corals and

their associated molluscs and echinoderms of Andaman Sea, South Andaman. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 249-273.

3. Raghunathan, C., C. Sivaperuman and Ramakrishna, 2010. An account of newly recorded five species of nudibranchs (Opisthobranchia, Gastropoda) in Andaman and Nicobar Islands. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 283-288.
4. Sreeraj, C. R., P.T. Rajan, R. Raghuram, Raghunathan, C., Rajkumar, R., Titus Immanuel and Ramakrishna, 2010. On some new records of Sea Slugs (Class: Gastropoda, Subclass: Opisthobranchia) from Andaman and Nicobar Islands. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 289-298.
5. Sivaperuman, C., C. Venkatraman and C. Raghunathan, 2010. Avifauna of Andaman and Nicobar Islands. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 399-414
6. Kailash Chandra and P.T. Rajan, 2010. Biodiversity of Barren Island, Andaman and Nicobar Islands. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 443-448.
7. Rajan, 2010. Diversity of butterflyfishes (Chaetodontidae) of Andaman and Nicobar Islands: Indicators in coral reef habitat monitoring and management. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 337-342.
8. Elrika D'souza, E.K. Raveendran, P.T. Rajan, Vardhan Patankar, 2010. Status of the *Dugong dugon* (Muller) in the Andaman and Nicobar Islands based on past records and traditional hunting by indigenous tribes. In*: Recent Trends in Biodiversity of Andaman and Nicobar Islands* (Published by ZSI, Kolkata) p. 443-448.

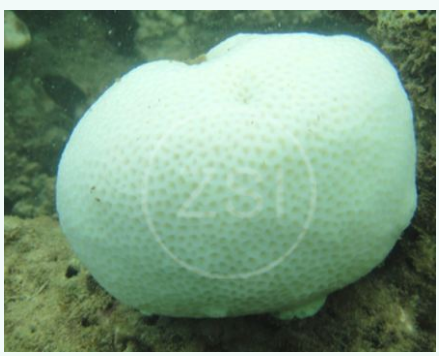
Corals of Andaman & Nicobar Islands



Acropora nobilis (Dana, 1846)

Acropora formosa (Linaeus, 1758)

Acropora microphthalma (Verrill, 1859)



Goniastrea edwardsi Chevalier, 1971

Porites lutea
Milne Edwards and Haime, 1860

Porites solida (Forskal, 1775)

Stylophora pistillata (Esper, 1797)

In this Issue

Northern Regional Center, Dehra Dun

Nematodes belonging to 11 species and butterflies belonging to 28 spp., from the recent surveys in the Kalesar National Park and 19 spp. of nematodes as well as 12 spp. of butterflies from the Haryana State survey have been identified. Two surveys pertaining to the programmes 'Fauna of Dehra Dun' and one survey in the Jhilmil Jheel Conservation Reserve (both new annual programmes) have been undertaken. Ten species of butterflies have been identified from Dehra Dun.

Registers of the identified collection of Mammals (59 exs.) and Birds (1131exs.) available in the Centre and displayed in the museum, have been updated and digitised.

Three scientists of the Regional Centre attended the "International Biodiversity Day" and participated in the Brainstorming Session on Biodiversity, conducted by the Forest Research Institute and Uttarakhand Council of Science and Technology, Dehra Dun, at FRI on 22nd May.

A scientist of the Centre attended the training programme on "Technology Diplomacy", organized by the Consumer Unity and Trust Society (CUTS) Centre for International Trade, Economics & Environment at Jaipur scheduled from 31st May to 4th June.

Two research manuscripts received for reviews from an International Foreign journal were reviewed and offered suitable comments by a scientist of the Centre. One research paper has been published and one communicated.

Publication:

Khanna, V.2009. Climate Change and Changing Land use Patterns: Threats to the sustenance of the Soil fauna- Causes of serious concern. *ENVIS Forestry Bulletin*, 9(2) 98-103. (An invited article for the Special Issue on Climate Change and Forests published by ENVIS Centre, Forest Research Institute, Dehra Dun).

Fauna of Haryana State

Five Striped Squirrel, *Funambulus pennanti*

White Eared Bulbul, *Pycnonotus leucotis*

Indian Peafowl, *Pavo cristatus*

In this Issue

Estuarine Biology Regional Centre, Gopalpur-on-Sea

Five species of prawns from the collections of Brahmani-Baitarani Estuary, Orissa, 6 species of freshwater fishes from Namdapha National Park, Arunachal Pradesh and 8 species of fishes from Cauvery estuary, Tamil Nadu were identified during the month. Two scientists of the Centre attended the seminar on "Recent Trends in Taxonomy and Biodiversity Conservation in India", held at ZSI, Kolkata on 1st May 2010. Fifteen visitors paid their visits to the museum.

Etroplus suratensis (Bloch) from Cauvery estuary

Siganus javus from Nuanai estuary

In this Issue

Southern Regional Centre, Chennai

Part of the faunal material from the Kanniyakumari Wildlife Sanctuary was identified in to 9 species of Pisces and 4 species of Reptilia. 3 species of aquatic and semi aquatic Hemiptera received for identification out of the material collected during the Twang survey (Arunachal Pradesh) 2009 were identified. Two Scientists of the Centre delivered lectures on "Biology of True flies (Diptera)" and "Applications of genetics for the Conservation of Biodiversity", to second year M.Sc students, at the Department of Zoology, University of Madras. One research paper is in press.

South Indian rock lizard, *Psammophilus dorsalis*

Wild boar, *Sus scrofa*

In this Issue

Marine Biology Regional Centre, Chennai

Five species of marine Sponges, 10 species of mollusks, 5 species of echinoderms, and 19 species of marine fishes were identified and registered out of the material collected from the Gulf of Mannar Biosphere Reserve. A senior scientist of the Centre presented two papers, one on the "Faunal Diversity Information System-Zoological Survey of India" in the Training Workshop on Biodiversity Data Discovery and Publishing, at Wildlife Institute of India, Dehradun and another on the "Biodiversity and its conservation" in the National Conference on Biodiversity, Development and Poverty Alleviation, organised by the Uttar Pradesh State Biodiversity Board, Lucknow and as well attended the National Consultation meeting on Agro-biodiversity at National Agricultural Science Centre (NASC), New Delhi, as a Panelist in Technical Session II on "Management of genetic resources: emerging issues" for the discussion on access and benefit sharing of genetic resources. Another senior scientist of the Centre served as a resource person and delivered a lecture on "Freshwater Fish Diversity and Identification" in the Summer Training Programme organized by the Department of Biological Sciences, University of Madras, Chennai. 821 tourists visited the marine aquarium during the month. Five research papers were refereed for five journals including two international journals. One popular article was published and six advisory services were rendered.

Publication:

Venkataraman, K. 2010. "Climate change" Popular article in "*Kumgumam*" 10.5.2010, 19-21 (in Tamil).

Soft leather coral (*Lobophytum* sp.)

Stony Coral, *Montepora digitata*

Sea snake, *Pelamis platurus*

In this Issue

Gangetic Plains Regional Centre, Patna

Nine species of moths and 12 species of butterflies were identified from Dalma Wildlife Sanctuary, Jharkhand. Three species of Mantodea (Insecta), from Namdapha National Park (Arunachal Pradesh) and Bihar were identified. 5 species of Mantodea from Kanniyakumari W.L.S., Tamil Nadu were identified and a manuscript on the findings submitted. Three species of Hymenoptera (Pteromalidae) were identified from the collections received from ZSI, Kolkata. Identification service on aquatic fauna from river Ganges was rendered to Dr. Hasko Neseman, Kathmandu University, Nepal. Two research manuscripts on Hymenoptera were reviewed. One research paper was published, one accepted and one communicated.

Publication:

Sambath, S. 2010. Coccinellid beetles occurring in Bihar with four new records. *Bionotes* 12(2): 63-64.

Psilocera sp.nov. (Insecta: Hymenoptera: Pteromalidae) from Namdapha National Park

Aethalochroa ashmoliana (Westwood) (Insecta: Mantodea) from Kanniyakumari W.L.S., Tamil Nadu

Nesting of Painted storks (*Mycteria leucocephala*) in Danapur, Patna

Euchera substigmaria Hubner (Insecta: Lepidoptera) from Dalma W.L.S. Jharkhand

In this Issue

Freshwater Biology Regional Center, Hyderabad

Field ecological and taxonomic identification studies on the 4 ongoing research programmes - Aquatic insects in lakes in around Hyderabad, Ecological/ Faunal profile of Kolleru Lake, Hydro-biological studies on raw water reservoir, Palair, Khammam district and ecological evaluation of few semi urban / Urban lakes in around Hyderabad Metropolitan Area were continued to analyse the limnological profile of the concerned lakes/ wetland ecosystems. In addition, different dominant wetland faunal groups were also observed/studied and documented for evaluating the overall wetland faunal diversity. Further, physicochemical data on the seasonal water quality profile of raw water from Palair

Lake, was analyzed for various physico-chemical evaluation and chemical nutrients for evaluating the trophic or nutrient status of the reservoir during the summer season. Analysis of faunal diversity and ecology of the above wetland ecosystems revealed a disturbing trend of the ever increasing anthropogenic factors and consequent ecological degradation of the habitat resulting in monotony in overall wetland faunal diversity.

A scientist of the Centre participated in the Programme on 'Creativity & Innovation in Research', sponsored by DST at the Administrative Staff College of India, Hyderabad on 26th and 27th of the month and also attended the 'National Conference on Women and Science' organized by the Indian Women Scientist Association at the Indian Institute of Chemical Technology (IICT), Hyderabad from 8th - 9th.

Pelicans (*Pelicanus phillipensis*) roosting in Kolleru W.L.S

Four research papers were published.

Publications:

1. Deepa, J. & C.A.N. Rao. Aquatic Insects (Hemiptera & Coleoptera) pp 37-49, *In*: *Limnoloical and faunal studies of Pocharam Lake, Nizamabad-Medak district, A.P., Wetland Ecosystem Series* 13: 1-181, *Ed.* Director, Zoological Survey of India, Kolkata.
2. C.A.N Rao, Mohd. Hakeel & Deepa, J. 2010. Ichthyofauna, pp 75-97, *In*: *Limnological and faunal studies of Pocharam Lake, Nizamabad-Medak district A.P., Wetland Ecosystem Series* 13: 1-181 , *Ed.* Director, Zoological Survey of India, Kolkata.
3. S.V.A Chandrasekhar, 2010. Zooplankton pp 29-36, *In*: *Limnoloical and faunal studies of Pocharam Lake, Nizamabad-Medak district, A.P., Wetland Ecosystem Series* 13: 1-181, *Ed.* Director, Zoological Survey of India, Kolkata.
4. S.V.A Chandrasekhar& C.A.N. Rao, 2010. Introduction & Limnology, pp-1-28, *In*: *Limnological and faunal studies of Pocharam Lake, Nizamabad-Medak district,, A.P., Wetland Ecosystem Series* 13: 1-181, *Ed.* Director, Zoological survey of India, Kolkata.

In this Issue

Sunderban Regional Centre, Canning

A monthly local survey was conducted for studying the faunal diversity in the fish landing centers of Sunderbans, as per the assigned annual programme of work. Landing center at Canning

Clupeid Fishes

Gobiid Fishes

Harpadon nehereus

Snapper Fish

and the coast of Matla were surveyed on 27th May and collected the representative faunal elements for further taxonomic studies. 13 species of fishes were identified and registered.

In this Issue

Desert Regional Centre, Jodhpur

Two Scientists of the Centre conducted an Environmental Impact Assessment field survey in Hadla Rawaleton, Hadla Bhatiyan and Mokha Lignite Block, Bikaner from 15th-19th May. From the various environs of Rajasthan, 7 species of Nematoda, 11 species of Lepidoptera and 3 species of Odonata and 7 species of Coleoptera were identified. Two scientists of the Centre participated in the Seminar on *"Recent Trends in Taxonomy and Biodiversity Conservation in India"* held at ZSI, Kolkata on 1st May. 130 students of Sanskriti Vidya Bhawan, Jodhpur visited the Centre and wildlife movie shows and museum visits were arranged to educate the visitors. Scientists of the Centre delivered lectures on Biodiversity conservation and Environmental awareness on 5th May. One research paper was communicated. A scientist of the Centre delivered a lecture in Hindi to 100 women participants, under the awareness campaign programme, organized by the Giants International Group of Jodhana, Saheli, Jodhpur at Geeta Bhawan on 10th May. Identification and advisory services were rendered to Ph.D. students of the Govt. Dunger College, Bikaner on Lepidoptera, Odonata and Coleoptera. 78 entries of identified fauna were made in the Faunal Database and 34 entries pertaining to the books in the library (employing the software, *e-granthalaya*) were made.

Sand Dunes at Bikaner

Cape Hare

Indian Gazelle

White-rumped Vulture

Egyptian Vulture

Indian Peafowl

During the Environmental Awareness programmes conducted for the student visitors, at DRC / ZSI

In this Issue

North Eastern Regional Centre, Shillong

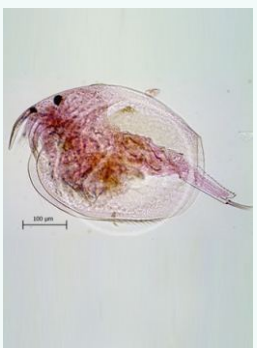
From the recent field surveys, 6 species of freshwater fishes and 6 species of reptiles were identified. Limnological data on water quality and richness, abundance and diversity of planktons etc., were analyzed. A research paper was communicated for publication. Identification service was rendered to St. Peters' College, Shillong on 6 species of amphibians. 2 staff members of the Centre attended the Regional Seminar on *"Intellectual Property and Innovation Management in Knowledge Era"* at the Indian Institute of Technology, Guwahati on 5th and 6th of the month. A videograph of the Red-necked Keelback snake, documented by the scientists of the Centre is uploaded in the departmental website www.zsi.gov.in.

Brachionus dichotomus reductus

Plationus patulus macracanthus

Lepadella biloba

Grimaldina brazzai



Kurzia longirostris

In this Issue

Arunachal Pradesh Regional Centre, Itanagar

Two field surveys were conducted during the month in Tawang and surrounding places to study the grasshopper (Orthoptera: Insecta) fauna and avifauna of Tawang-Chu Valley of Arunachal Pradesh. Both the high altitude (> 3000 m) and low altitude areas were covered during the survey. 18 species of mammals and 106 species of birds were recorded. Interesting bird sightings were White-winged Grosbeak, *Mycerobas carnipes;* Scarlet Finch, *Haematospiza sipahi*; Beautiful Nuthatch, *Sitta Formosa*; Rufous-vented Tit, *Parus rubidiventris*; Grandala, *Grandala coelicolor* and White-tailed Rubythroat, *Luscinia pectoralis*. Songs and calls of over 30 species of birds were recorded. One species of frog was recorded in the high altitude area of Tawang. A research paper on a new sub-species of fish *Barilius bendelisis* (Cyprinidae: Rasborinae) from river Siang, D'Ering Memorial Wildlife Sanctuary has been accepted for publication.

Arunachal Macaque

A Black necked Stork with Open-billed Storks

A Black necked Stork with Swamp deers

Grey backed shrike

Spotted Nutcracker

Yellow-throated Marten

In this Issue

Western Regional Centre, Pune

Leopard (*Panthera pardus*) at Phansad W.L.S, Maharashtra

Scientists of the Centre identified 68 samples of aquatic beetles, received from the Dept. of Zoology, Govt. Vidharbha Institute of Science and Humanities. Identification of representative samples of aquatic insects, butterflies, fishes and zooplanktons collected from Radhanagari W.L.S and Chandoli N.P was carried out. Draft atlases of endemic Amphibia (132 species) and Odonata (68 species) were prepared in collaboration with WGRC/ZSI, Kozhikode (Calicut).

In this Issue

Central Zone Regional Centre, Jabalpur

During the month, 3 species of Protozoa, 4 species of Rotifera and 7 species of Cladocera were identified from Singhori Wildlife Sanctuary. A checklist of Diptera: Sphaeroceridae dealing with 63 species under 28 genera was prepared and uploaded in the ZSI website. Two research papers, one on the Avifauna of Veerangana Durgavati Wildlife Sanctuary and the other on the Diversity of Orthoptera fauna from Achanakmar Amarkantak Biosphere Reserve, were submitted for publication. Two scientific papers were reviewed. Identification service was rendered on a reptile species. Information on Faunal Diversity of Chhattisgarh was provided to a Former Director, Zoological Survey of India. Literature on the Amphibian Fauna of Conservation Areas in Chhattisgarh was provided to the Director, Rajiv Gandhi Institute of Media Technology, Jabalpur. A map of Bandhavgarh Tiger Reserve was sent to the Secretary, LANCO, Udyog Vihar, Haryana. An Associate Professor of the Department of Zoology, H.S Gour University, Sagar, visited to the Centre for exploring the possibilities of a collaborative work on 'Bar-coding of Butterflies of Madhya Pradesh'. A Senior Scientist attended a seminar on 'Recent Trends in Taxonomy and Biodiversity Conservation in India' at the Zoological Survey of India, Kolkata. A senior scientist of the Centre attended the meeting of 'Madhya Pradesh State Biodiversity Board' at Bhopal, to assess the project proposals submitted to the State Biodiversity Board, for financial assistance.

Fauna of Veerangana Durgavati Wildlife Sanctuary

Boselaphus tragocamelus (Pallas, 1766)

Grus antigone (Linnaeus, 1758)

Terpsiphone paradisi (Linnaeus, 1758)

Mastacembelus pancalus (Hamilton)

Oreochromis mossambica (Peters)

Cirrhinus mrigala (Hamilton)

In this Issue

Marine Aquarium cum Regional Centre, Digha

Local surveys were conducted along the Digha coast and representative samples of marine invertebrates from different group viz. Mollusca, Crustacea, Cnidaria, etc. were collected. Identification of the collection is in progress. During the local survey conducted, one example of Brindle grouper (*Epinephelus lanceolatus*) was also collected which formed a new site record from the area. Maintenance work of aquarium tanks were undertaken to provide suitable microhabitats for different exhibits. Approximately, 66 numbers of different varieties of ornamental species were procured for exhibiting during the month. The main exhibits were different varieties of Cichlids, Black Angel fish (*Pterophyllum* sp.) and Black molly (*Poecilia* sp.).

Two PG students of M.Sc. (Zoology) of Vidya Sagar University, Midnapore were supervised for their final year dissertation work.

An average of 375 visitors per day visited the aquarium during the month.

Angelfish

Blackmolly

Cichlids

Grouper

In this Issue

High Altitude Regional Centre, Solan

A faunistic survey was conducted in Kalatop Khajjiar Wildlife Sanctuary from 19th-26th. Representative samples of 12 animal groups were collected from the area for taxonomic studies. Besides, field observations on Mammals and Aves were made. A snake species *Typhlops diardii* was recorded for the first time from Himachal Pradesh and the information published in a referred journal. Compilation of faunal information for the document on Churdhar Wildlife Sanctuary has been in progress. The galley proofs of two research papers were corrected and submitted for publication in an international journal. An Associate Professor of Government College, Baijnath, Kangra, visited the Centre and was provided with literature on aquatic Hemiptera for his doctoral research.

Typhlops diardii from Himachal Pradesh

Lycaena phaleas at Kalatop Khijjar W.L.S

Publication:

Saikia, Uttam, D. K. Sharma and H. S. Mehta (2010) First record of large worm snake (*Typhlops diardii*) in Himachal Pradesh. *The Indian Forester*, 136(4): 553-556.

In this Issue

Western Ghat Regional Centre, Kozhikode (Calicut)

A field survey was conducted at Kakkayam, Calicut district, the area proposed to be declared as the Malabar Wildlife Sanctuary, from 26th to 28th of the month.

Draft atlases of 132 species of endemic Amphibia and 68 species of Odonata were prepared in collaboration with WRC/ ZSI, Pune. Besides, 23 species of freshwater fishes from Kerala were identified and catalogued and the identification of Proctotrupoidea and Platygastroidea (Hymenoptera: Insecta) from Arunachal Pradesh, received for identification, initiated.

Two research papers, one on a new species of freshwater catfish and the other on the distribution record of a rhacophorid frog, both endemic to Western Ghats, were accepted in International Journals. Further, a research paper dealing with the world species of the genus *Platyscelio* Kieffer (Hymenoptera: Platygastridae) has been submitted to an international journal.

Two research papers, one on fish taxonomy and the other on Odonata were reviewed and comments offered, on request from two reputed journals.

A scientist of the Centre supervised the one month internship of a student from Loyola College, Chennai, on Biosystematics of Parasitic Hymenoptera.

The following identification services were provided on Amphibia, Odonata and Butterflies:

21 species of Amphibia to a Ph. D student of Mangalore University, Karnataka; 13 species of Amphibia from Wayanad and another 9 species of Amphibia from Calicut district to two postgraduate students of St. Joseph's College, Calicut; 18 species of Odonata and 50 examples of butterflies to two M.Sc. (Zoology) students of S. N. College, Kannur and on butterfly specimens and photographs to a Veterinary Surgeon at Mukkam, Calicut.

Advisory service was rendered on Amphibia to a Research Scholar from the Rajeev Gandhi Centre for Biotechnology, Trivandrum, for his studies on the genus *Indirana*.

Scientists of the Centre delivered talks on "Amazing world of Butterflies" at a Vacation Training Programme for School Children at the Regional Science Centre, Calicut on 4th May and on "Faunal diversity of Kerala" at M.S. Swaminathan Research Foundation, Kalpetta, Wyanad, Kerala on 5th May, for selected School children of Kerala State. Besides, a scientist of the Centre acted as a resource person in a Training course on "DBT Vacation Training Programme on Bioresources" for School Children at Port Blair, Andamans from 20th to 29th May, organized by Department of Biotechnology & SACON, Coimbatore. A scientist of the Centre attended the training programme on "Technology Diplomacy", organized by the Consumer Unity and Trust Society (CUTS) Centre for International Trade, Economics & Environment at Jaipur scheduled from 31st May to 4th June.

The Kozhikode Jillapanchayath conducted a science programme entitled "*Sastra Jaalakam*" for high school students on 21st and 22nd May at the WGRC / ZSI, Calicut. Besides providing the academic and logistic support for the programme, a scientist of the Centre also delivered a lecture on Biodiversity during the programme.

206 visitors paid their visits to the museum.

A videograph of the Reddish Burrowing Frog, documented by the scientists of the Centre is uploaded in the departmental website www.zsi.gov.in.

Two endemic fishes of Periyar River system (Kerala)

Garra periyarensis Gopi

Crossocheilus periyarensis Menon & Jacob

During the programme, "*Sastra Jaalakam*", conducted at WGRC / ZSI by the Kozhikode Jillapanchayath

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ANIMAL OF THE MONTH

THE ASIAN GIANT HORNET WASP

Vespa mandarinia Smith, 1852

(Insecta: Hymenoptera: Vespidae)

[Text: P. Girish Kumar, ZSI, Kolkata & P.M. Sureshan, GPRC, ZSI, Patna; Photo: P.M. Sureshan]

The Asian Giant Hornet Wasp is the largest hornet wasp species of the world and the most venomous known insect species inhabiting temperate and tropical Eastern Asia. It is popularly known as the Asian Giant hornet wasp owing to its large size, or Yalk- killer wasp because of its potent venom. The size of the queen may reach up to 55 mm with a wing span of about 76 mm. In India it is widely distributed in the Himalayan ranges and so far reported from Arunachal Pradesh, Assam, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Sikkim, Uttarakhand, and Darjeeling hills of West Bengal. It is also reported from Bhutan, China, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Russia, Taiwan and Thailand.

The Giant Hornet wasps can easily be segregated from other related species in having a large head with an enormously developed gena which is two times wider than the eye. The head has no black markings, being almost wholly orange yellow. The antennae are black in colour with the basal segment orange red and the wings are fuscous brown. The thorax is black with a golden hue and the gaster brown with faint yellow apical bands on first to fifth segments; the sixth segment is yellow to yellowish brown.

The Giant Hornet makes nest underground or in tree hollows. Mature nests consist of 4 - 10 combs and 3000 - 5000 cells. They show a peculiar mating behaviour that the males wait at the entrance of other nests for new queens leaving for hibernation sites and copulate with them. Workers are quite aggressive towards humans but attack only when disturbed and their sting cause sharp pain. The venom of Giant hornet contains a major component causing tissue degeneration and a neurotoxin called mandaratoxin which affects breathing in man, causing death. Most deaths occur due to allergic reactions and non allergic people also

die if the dose of the venom is sufficient. Each year in Japan, the human death toll caused by the Asian Giant hornet stings exceeds that of all other venomous and non - venomous wild animals combined, including venomous snakes and wild bears. The venom of this wasp is not as toxic as of some other bees or wasps but becomes lethal due to the larger quantity of venom secreted per sting. Like other hornets, it has a barbless stinger allowing it to sting multiple times.

Giant Hornets are active predators that hunt other larger insects such as bees, other wasps, mantids and sluggish insects like adult scarab beetles and caterpillars. With their powerful mandibles they kill them by crushing. They form one of the major enemies of honey bees and kill large number of bees in a short period of time. After killing the bees, they collect the larvae, pupae and honey from the bee's nest and the bee larvae are more preferred as food for their young ones. They also attack colonies of other social wasps. These wasps are the most serious enemies of bees both in apiculture and in the wild. They can fly up to 97 km in a single day, at speeds reaching around 40 km / h.

The Giant Hornet has apparently no enemies except man. The tribals of Northeast India use the wasp larvae as a delicious food and in Japan people also eat adult wasps after deep frying. Recently, companies in Asia and Europe have begun to manufacture dietary supplements and energy drinks which contain synthetic versions of the secretions of the wasp larvae which the adult hornet usually consumes. The manufacturers of these products claim that consuming the larval hornet secretions, marketed as “hornet juice”, will enhance human endurance.

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ZSI IN NEWS

Ornithologist's stay in Arunachal fruitful

http://www.telegraphindia.com/1100505/jsp/northeast/story_12413380.jsp

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OUT OF THE BOX

'Unique' frog species discovered by scientists in India
http://news.bbc.co.uk/2/hi/science/nature/8675828.stm

Bihar villager does his bit for Gharial conservation
http://timesofindia.indiatimes.com/articleshow/5891151.cms

Frog genome holds out conservation promise
http://news.bbc.co.uk/2/hi/science_and_environment/10090225.stm
http://www.reptilechannel.com/reptile-news/2010/05/03/frog-genome-sequenced.aspx

Nature loss 'to damage economies'
http://news.bbc.co.uk/2/hi/science_and_environment/10103179.stm

Third of plants and animals 'at risk of extinction'
http://www.telegraph.co.uk/earth/earthnews/7700903/Third-of-plants-and-animals-at-risk-of-extinction.html

Early ancestor of the cockroach that lived around 300 million years ago is unveiled
http://www.sciencedaily.com/releases/2010/04/100413202658.htm

Artificial breeding of house sparrows suggested
http://beta.thehindu.com/sci-tech/science/article329781.ece

Himalayan glaciers retreated by 16% in nearly 5 decades: ISRO
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Did Dinosaurs exist in India?
http://www.deccanherald.com/content/60248/did-dinosaurs-exist-india.html

Hyenas' Laughter Signals Deciphered
http://www.sciencedaily.com/releases/2010/03/100329203533.htm

Linnaeus meets the Internet
http://www.nature.com/news/2010/100505/full/news.2010.221.html?s=news_rss

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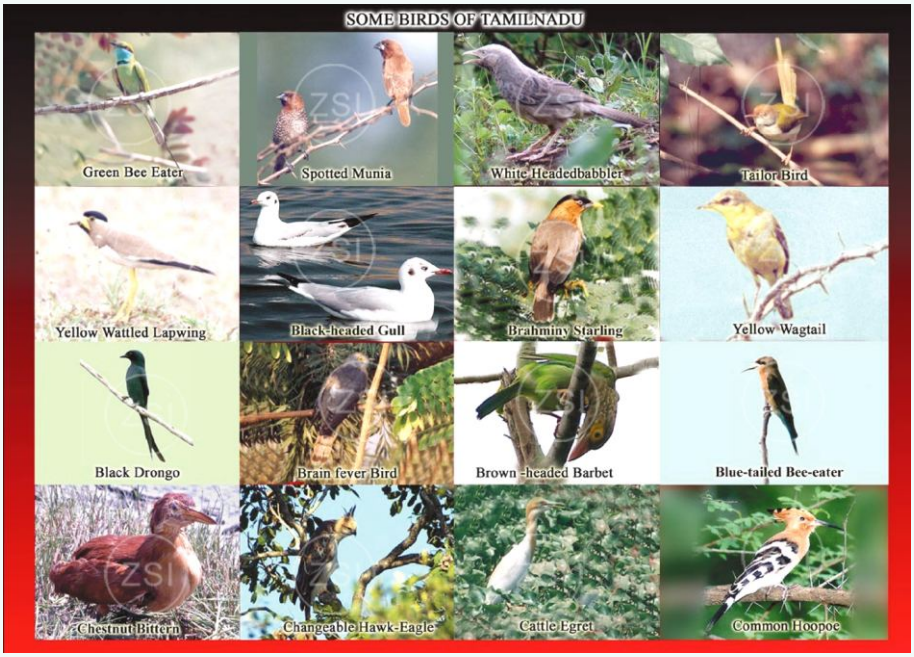
PICTURE GALLERY



SRC, Chennai

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ANRC, Port Blair

POSTER SERIES

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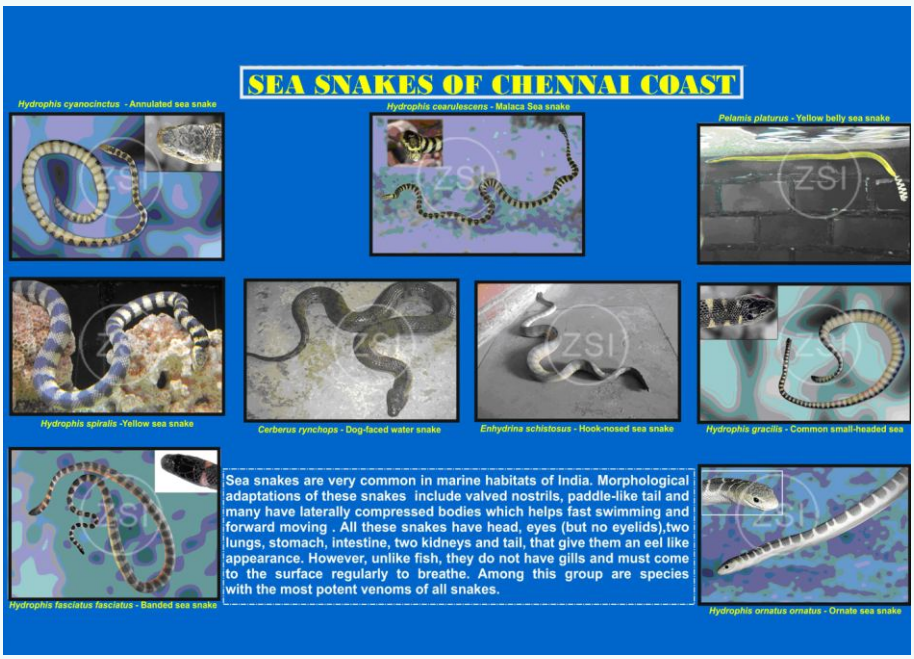

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MBRC, Chennai

PAINTINGS FROM ZSI HERITAGE ALBUM

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Desert Lynx

Scientific name: *Caracal caracal*; Synonyms: *Felis caracal*, *Lynx caracal*

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