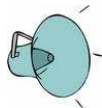


ZSI e-NEWS

The Monthly Electronic Newsletter of Zoological Survey of India

ANIMAL CALLS



Purple Sunbird

VIDEO



Nest building in Six lined Tree Frog

ZSI IN NEWS



OUT OF THE BOX



PICTURE GALLERY



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From the Director's Desk

It is indeed a matter of delight that the United Nations General Assembly declared 2010 as the International Year of Biodiversity. In view of this, the role of Zoological Survey of India (ZSI), as a taxonomic institute addressing exploration and documentation of the faunal resources of the country, its findings will enter into all levels of policies and programmes of the government to achieve sustainable development and biodiversity conservation.

During December 2009, scientists of the Survey carried out explorations in various states of India and identified nearly 700 species. The studies have brought to light 8 species new to science and several new records to the country. The Organisation has also brought out several noteworthy publications. It is also a matter of great satisfaction that the ZSI could make an exemplary role in spreading the message of biodiversity awareness and conservation in the country by organising scientific exhibitions through its various Regional Centres.

I hope the scientists of ZSI will come out with many more achievements through their result oriented scientific tasks, thus augmenting prosperity and growth to the Nation during the New Year.

I convey my sincere greetings to all in the ZSI family as well as the readers of the ZSI e-NEWS in the New Year.

Dr. Ramakrishna

ANIMAL OF THE MONTH



Purple Sunbird

Check-list of fauna of India:

1. **Fleas** (Siphonaptera: Insecta)
2. **Bats** (Chiroptera: Mammalia)

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Headquarters, Kolkata

Extensive field surveys were undertaken in Debrigarh Wildlife Sanctuary and Kuldita Wildlife Sanctuary, Orissa; Garumara National Park, West Bengal and the Mangrove Ecosystem of Orissa, for the exploration of faunal resources. Local surveys were also carried out in and around the Wetland areas (Bortibeel) of North Parganas, West Bengal.

During the month, *Dorylaimus neominimus* (Nematoda: Dorylaimida), *Pseudobothrideres abbreviatus* (Coleoptera: Cucujoidea) and 3 species of Pteromalidae (Hymenoptera), namely, *Panstenon bengalense*, *Psilocera neoclavicornis* and *Pteromalus sunderbanicus* were described new to science. Discoveries of *Erotylathris philippinensis* Heinze and *Machlotes*

porcatus Pascoe (Coleoptera: Cucujoidea), turned out to be new records for India and Nicobar Islands, respectively.

During the month, the scientists of Headquarters identified 5 species of free living Protozoa, 4 species of Nemathelminthes, 3 genera of Platyhelminthes, 5 species of Coleoptera, 4 species of Collembola, 18 species of Hymenoptera, 6 species of Isoptera, 6 species of Lepidoptera, 5 species of Odonata, 4 species of Orthoptera, 5 species of Arachnida, 12 species of Mollusca and 44 species of Pisces from the States of Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Orissa, Uttar Pradesh and West Bengal and also from the B. B Wildlife Sanctuary, West Bengal.

Seven research papers were published, 3 accepted for publication and 5 communicated.

Identification services were rendered on 20 lots of specimens, received from different organizations for identification. Information regarding status of the double humped Camel, *Camelus bactrianus*, was provided to the Ministry of Agriculture, Krishi Bhawan, New Delhi. Samples of deer meat and a sample of hide, received from the Deputy Field Director, Sundarban Tiger Reserve, were examined and confirmed as of the Spotted Deer, *Axis axis* (Erxleben) and the Barking Deer, *Muntiacus muntjak* (Zimmerman), respectively. The two skulls received from D.F.O., 24-Parganas (South) Division, Kolkata, were examined and confirmed as of the Spotted Deer, *Axis axis*.

A scientist from the Headquarters participated in the Environment Impact Assessment studies organized by the Desert Regional Centre, Jodhpur, to evaluate the Impact of the proposed Lignite Mining in Hadla Rawalton, Hadla Bhatiyani and Mokha Blocks of Bikaner District, Rajasthan. A scientist of the Headquarters delivered a lecture on the Antarctica expedition at *Paribesh Mela, Madhyamgram* on 18th December.

Dr. Thasun Amarasinghe, Chairman, *Taprobanica Nature Conservation Society*, Sri Lanka, visited the Headquarters to study specimens of *Sitana ponticeriana* (Reptilia). 37 Post-Graduate students from Tilakdhari College, Jaunpur, U. P, a group of 121 students of Ramkrishna Sarada Mission Girls High School, New Alipore, Kolkata, Mr. M. Firoz Ahmed, Division of Herpetology, *Aaranyak Nature Club*, Guwahati, Assam and Research Scholars from Calcutta University visited different sections of the Headquarters.

Publications:

1. Das, A., Saikia, U., Murthy, B. H. C. K., Dey, S. and Dutta, S.K. 2009. A herpeto faunal inventory of Barail Wildlife Sanctuary and adjacent regions, Assam, north-eastern India. *Hamadryad*, 34 (1): 117-134.
2. Das, I., Rangad, D., Lyngdoh, R. K., Deuti, K. and Hooroo, R.N. 2009. Rediscovery of the Endangered Khasi Hills Rock Toad, *Bufoides meghalayana* in Meghalaya, Northeastern India. *Froglog*, 92: 1-4.
3. Gantait, V.V., Chatterjee, A. and Bhattacharya, T. 2009. *Dorylaimus neominimus* sp. n. (Nematoda: Dorylaimida) from West Bengal, India. *International J. Nematology*, 19 (2): 237-240.
4. Mitra, T.R., Babu, R. and Supriya Nandy 2008. Numerical density of adult odonates in Nagaland, India. *Fraseria* (N.S.) 7: 19-23.
5. Mitra, T.R. and Babu, R. 2008. Numerical density of adult odonates in Arunachal Pradesh, India. *Fraseria* (N.S.) 7: 51-54.
6. Narendran, T.C. and Girish Kumar, P. 2009. Three new species of Pteromalidae (Hymenoptera: Chalcidoidea) from Sunderbans, West Bengal, India. *J. Environ. Sociobiol.*, 6 (2): 123-130.
7. Pal, T.K. and Basak, P.K. 2009. Bothrideridae of Andaman and Nicobar Islands, India with description of a new species (Coleoptera: Cucujoidea). *Entomon*, 34 (2): 83-87.

Gangetic Plains Regional Centre, Patna

Four species of Moths from Dalma Wildlife Sanctuary, Jharkhand were identified which included one species collected for the first time from East Singhbhum, Jharkhand. 7 species of coccinellid beetles (Insecta : Coleoptera), 3 species of Odonata (Insecta) and 7 species of mantids (Insecta : Mantodea) were identified from Namdapha Tiger Reserve and Tawang District of Arunachal Pradesh, which included 3

species of mantids collected for the first time from Arunachal Pradesh. One species of mantid from Namdapha Tiger Reserve turned out to be collected after 25 years. A manuscript comprising 27 species of Pteromalidae (Insecta: Hymenoptera) including descriptions of 2 new species from Bihar has been finalised. Identification service on zooplankton was rendered to the students of Patna University.



Ischyroptyx biharensis sp. nov. (Insecta: Hymenoptera: Pteromalidae)
First described species (second under the genus) from the
Oriental Region (India: Bihar)



Nemotha metallica (Westwood) (Insecta: Mantodea) -
Collected from Namdapha Tiger Reserve, after 25 years



Vespa basalis Smith (Insecta: Hymenoptera: Vespidae),
found foraging in Namdapha Tiger Reserve



Gynautocera papilionaria Guerin-Meneville
(Insecta: Lepidoptera: Heterocera) -
First record from East Singhbhum, Jharkhand.

 In this Issue

Marine Aquarium cum Regional Centre, Digba

The Aquarium was visited by a large number of visitors at the rate of 1500 individuals per day. Efforts were made to prepare thematic micro-habitats in the aquarium tanks. Recently prepared tanks displaying marine fish & invertebrate community and the fresh water ecosystem

were the major attraction to the visitors. The eye catchers among aquarium exhibits of the month were the Blue spot butterfly fish (*Chaetodon plebeius*), Bat fish (*Platax teira*), Moon wrasse (*Thelassoma lunare*), Sailfin Tang (*Zebrasoma veliferum*) etc. 203 live examples of marine fishes

and invertebrates were collected for exhibiting in the aquarium during the month. Apart from live marine fauna, 60 examples of marine invertebrates viz. bivalves, gastropods, star fishes, sea anemones, crabs, etc. were also collected under the Annual Plan of Research work, conducting local surveys. During the month, the Centre was visited by members of various institutions and universities. Four Post Graduate Departments of different universities

also visited and had interaction with the scientists on the activities of the Centre. Advisory services were rendered to 7 Management Students from EIILM, Kolkata, for their final year dissertation work on Management of Public Aquarium and Green Environmental Studies. Efforts were continued to monitor the periodical changes of atmospheric corrosion test panels, in collaboration with the National Metallurgical Laboratory, Jamshedpur.



Carpet Anemone, *Stichodactyla martensi*




Bat fish, *Platax teira*



Bluespot butterfly fish, *Chaetodon plebeius*



Koi Carp, *Cyprinus carpio*

 In this Issue

North Eastern Regional Centre, Shillong

A field survey of 3 days duration was conducted to Deepor beel (a Ramsar site), Kamrup district, Assam. Water samples and qualitative and quantitative plankton samples were collected from six sampling sites. 8 species of Rotifera and 10 species of Cladocera were identified and registered from Deepor beel. This included one new record of Cladocera, *Alona verrucosa pseudoverrucosa* (Smirnov, 1971), from N.E.

India. One research paper was published, and 2 communicated.

The Centre hosted the half-yearly Monitoring meeting of Regional Centers of ZSI, from 7th-8th December.

Publication:

Mathew, R. and Sen, N. 2009. Studies on Caecilians (Amphibia:Gymnophiona: Ichthyophiidae) of North East India with

description of three new species of *Ichthyophis* from Garo Hills, Meghalaya and additional information on *Ichthyophis garoensis* Pillai &

Ravichandran, 1999. *Rec. zool. Surv. India, Occ. Paper No.309: 1-56.*

New caecilians (Amphibia) described by the scientists of NERC




Ichthyophis alfredii



Ichthyophis daribokensis



Ichthyophis nokrekensis

 In this Issue

Arunachal Pradesh Regional Centre, Itanagar

Preparation of a research document on the 'Birds of Tawang' has been initiated based on 119 species recorded during the Arunachal Pradesh expedition. Out of the 119 species, 6 each were of laughing thrushes and minlas and 3 were of fulvettas. A scientist of the Centre visited the Kaziranga National Park and sight recorded the various birds and mammals of the Park. A scientist of the Centre evaluated a project report titled "Population status, habitat

utilization, distribution and conservation threats of Hispid hare (*Caprolagus hispidus*) in Bardia National Park of western Nepal", received from the WWF-Nepal. A scientific assistant of the Centre delivered a lecture on general zoology to the students of a local degree college. Revision of 2 scientific papers is underway. Song/call of the Purple Sunbird recorded by a scientist of the Centre is hyperlinked with the website www.zsi.gov.in.



Snow Partridge




White throated laughing Thrush



Asiatic Wild Buffalo



Hog deer

 In this Issue

Andaman and Nicobar Regional Centre, Port Blair

Undersea surveys to study the coral reefs and its inhabitants were conducted in Interview Island, North Reef Island Sanctuary, Avis Island, Rail Island, Sound Island, Karmatang and Mayabunder regions of North Andaman from 17th to 23rd and 26th to 31st December. Special attention was paid to assess the present status of wild stock of the scheduled gastropod, *Trochus niloticus*. A total of 62 species of corals, 37 species of gastropods, 9 species of nudibranchs, 4 species of bivalves, 8 species of crabs, 12 species of echinoderms, 27 species of zooplankton and 24 species of phytoplankton were identified out of these surveys. Among them, 5 species of nudibranchs and 1 species of coral, (*Anacropora reticulata* Veron and Wallace, 1984), turned out to be new records to Indian waters. The live coral cover of these islands has been estimated as 38 to 65%. In order to

undertake permanent monitoring of corals, a 100 x 100m monitoring plot at North Reef Island has been demarcated. Manuscripts on results of intensive studies carried out on scleractinian coral diversity in Pongibalu & diversity and distribution of corals in North Andaman have been submitted for publication. A book on the Corals of Andaman and Nicobar Islands is under preparation. Database on corals, soft corals, crustaceans, echinoderms, insects, avifauna, reptiles and mammals has been updated. 12 species of corals were registered in the National Zoological Collection of ZSI. A scientist of the Centre attended a meeting with the Chief Secretary of Andaman and Nicobar Administration on 9th December, to discuss the issues pertaining to the lifting of ban for the fishing of top shell, *Trochus niloticus*, in Andaman and Nicobar Islands. The Academic

*Acropora monticulosa* (Bruggemann)*Ctenactis echinata* (Pallas)




Montipora aequituberculata (Bernard)



Favites abdita (Ellis and Solander)

committee of Pondicherry University visited on 10th December for considering the Regional Centre as a recognized centre of the University, to conduct Ph.D. degree courses. Galley proofs of 21 chapters of the book 'Recent Trends in

Biodiversity of Andaman and Nicobar Islands', received from the Publication Division of ZSI, were checked. A 15 minutes video footage on coral reefs of Andaman has been prepared.

 In this Issue

Central Zone Regional Centre, Jabalpur

Taxonomic studies conducted during the month on the fauna of Veerangana Durgavati Wildlife Sanctuary, yielded information on 17 species of fishes, 4 species of Protozoa, 14 species of Rotifera and 9 species of Cladocera. A research paper on Neuroptera (Insecta) dealing with 32 species was contributed to the document '*Fauna of Karnataka*', under finalisation. A Checklist of Fishes of Madhya Pradesh & Chhattisgarh, enumerating 215 species was revised and submitted to an outside journal. 2 research papers were published, during the month.

A research paper received for reviewing was scrutinised and comments offered. Two queries received, one from the Allahabad Central University on AICOPTAX and the other, from the news medium '*Dainik Bhaskar*' on Migratory Birds visiting Jabalpur area, were attended to.

A scientist of the Centre attended the 51st six monthly meeting of Town Official Language Implementation Committee, Jabalpur on 22nd

December and the Research Advisory Committee meeting of State Forest Research Institute, Jabalpur on 24th December.

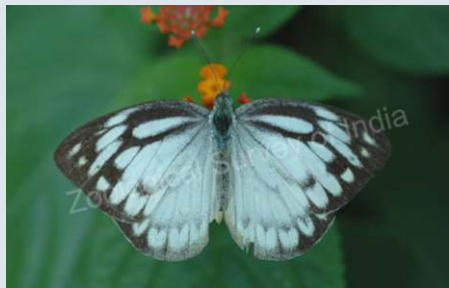
Member Secretary, Madhya Pradesh Biodiversity Board, Bhopal, visited the Centre, on 14th December. He was enlightened with the activities of the Survey, and was provided with two recent research publications of the Centre (*Fauna of Pachamarhi Biosphere Reserve* and *Fauna Bandhavgarh Tiger Reserve*).

A checklist of the Fleas (Siphonaptera: Insecta) of India, prepared by a scientist of the Centre is hyperlinked with the website www.zsi.gov.in.

Publications:

1. Thilak, J. 2009. On a fish collection from Veerangana Durgavati Wildlife Sanctuary, Dist. Damoh, Madhya Pradesh. *Bionotes*, 11 (4): 128.
2. Thilak, J. and Ojha, P. 2009. Fishes recorded from Bandhavgarh Tiger Reserve, Madhya Pradesh. *Bionotes*, 11 (4): 139.

Some Butterflies of Singhori Wildlife Sanctuary, M. P



Cepora nerissa (Fab.)



Junonia orithya Linn.



Junonia hierta Fab.



Eurema hecabe (Linn.)



Phalanta phalantha Drury



Junonia lemonias Linn.

In this Issue

Northern Regional Center, Dehra Dun

An extensive survey of two weeks was undertaken in the Hissar, Sirsa, Fatehabad and Jind districts of Haryana State and an intensive survey was undertaken in the Kalesar Wildlife Sanctuary and representative faunal collection belonging to 24 animal groups were made, besides observing 40 species of birds and 12 species of Mammals. 19 species of Amphibia were documented from Uttarakhand. Molecular studies (cyt b, 16srRNA markers) of the freshwater turtles, *Pangshura tecta*,

Pangshura tentoria circumdata (with control of amplicon of *G. elegans*), were conducted at the Genomic laboratory, School of studies in Zoology, Jivaji University, Gwalior, M.P,

7 research papers, referred by an international foreign journal for review, were offered comments.

A scientist of the Centre attended a National Seminar on Bioresources and its Management for food, Livelihood and Environmental Security and National Helminthological Congress under the aegis of 20th All India Congress of Zoology, held at the Central Institute of Fisheries Education, Versova, Mumbai and presented a paper which was awarded a best presentation certificate in the Helminthological Technical Section.


Publications:

1. M. Vijay and P.T. Bhutia, 2009. Winter Fluctuation in Ruddy Shelduck (*Tadorna ferruginea*) Population of Asan Conservation Reserve, Dehradun, Uttarakhand. In : *Climate Change, Biodiversity & Food Security in South Asian Region* (Eds: Jerath, N., Boojh, R., Singh,



16s rRNA amplicons of *P. tecta* and *P. tentoria circumdata*, with control of amplicon of *G. elegans*

- G.). Punjab State Council for Science & Technology, Chandigarh and United Nations Educational, Scientific & Cultural Organization, New Delhi. pp.141-148.
2. Rizvi, A.N., Bhutia, P.T. and Mehta H.S. 2009. Nematodes as Bioindicators of Climate Change. In : *Climate Change, Biodiversity & Food Security in South Asian Region* (Eds: Jerath, N., Boojh, R., Singh, G.). Punjab State Council for Science & Technology, Chandigarh and United Nations Educational, Scientific & Cultural Organization, New Delhi. pp.149-158.
3. Bahuguna, R. 2009. Habitat Deterioration of Freshwater Turtles in Banganga (Haridwar and around Uttarakhand, India) A Case Study. In : *Climate Change, Biodiversity & Food Security in South Asian Region* (Eds: Jerath, N., Boojh, R., Singh, G.). Punjab State Council for Science & Technology, Chandigarh and United Nations Educational, Scientific & Cultural Organization, New Delhi. pp.159-173.

 In this Issue

Sunderban Regional Centre, Canning

A field survey was conducted from 5th to 14th December in the estuarine and mangrove ecosystems at Gosoba, Jharkhali, Pakhirala, Dobanki, Satjalia, Jhilla, Vidya and the Bali Island of Sunderbans, to study the Taxonomy and Ecology of brachyuran crabs. Represent-

tative faunal samples comprising of fishes, crabs, shrimps, sepia, octopus, *Squilla* and Gastropods were collected for further studies. The frequent occurrence of sepia and octopus has been inferred as due to the hyper intrusion of marine system over the Gosoba river bed.



Penaeus monodon



Charybdis rostrata




Assessing the faunal diversity by Quadrat method Assessing faunal diversity by Random Sampling

Crab population was assessed using Quadrat method. 20m x 20m square area was selected which was followed by random crab hole counting using 1m² Quadrat. The study result indicates that the Viraj Nagar mangrove area

houses more number of crabs. Further studies are underway.

Details on the faunal holdings of the Centre was compiled and submitted to Headquarters, ZSI, Kolkata.

 In this Issue

High Altitude Regional Centre, Solan

A research document dealing with the fauna of Pong Dam Wetland was published. The document deals with 609 species under 8 faunal groups from the area. Scientists of the Centre contributed 5 chapters (Rhopalocera, Orthoptera, Pisces, Reptilia and Mammalia) to this volume. 12 species of Pisces are recorded for the first time from the Wetland. Besides, a research Paper was also published in a National Journal.

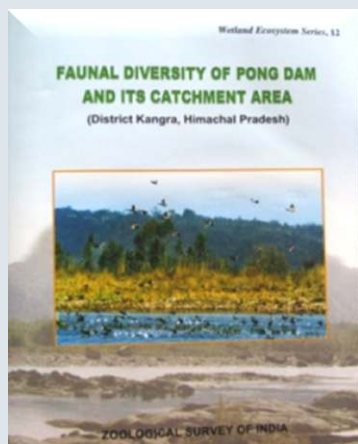
Under the ongoing programme on the fauna of Pangi Valley, and Churdhar Wildlife Sanctuary, 9 faunal species were identified. 4 species of Pisces from the Beas River, Himachal Pradesh

and 2 species from Sukhana Catchment area (Chandigarh) were also identified. One Species of Bat was identified out of the material collected from Tawang, during the Arunachal Pradesh Expedition.

Publications:

1. *Faunal Diversity of Pong Dam, Wetland Ecosystem Series, 12: 1-138+8 plates. Zool. Surv. India, Kolkata.*


2. Abhijit Das, Uttam Saikia, B.H.C.K.Murthy, Santanu Dey and S.K. Dutta (2009): A herpetofaunal inventory of Barail Wildlife Sanctuary and adjacent regions, Assam, north-eastern India *Hamadryad* 34 (1): 117-134.



Faunal document on Pong Dam Wetland



Sibynophis collaris (Gray)

 In this Issue

Desert Regional Centre, Jodhpur

Three field surveys were conducted in Sita Mata Wildlife Sanctuary and Lakes of Udaipur, Rajasthan (from 30th November to 7th December) and in the forest areas of Gujarat (from 16th to 20th December), both for faunal documentation, and the Hadla Lignite Mine Area of Bikaner District (from 18th to 30th December) for Environmental Impact Assessment study. Scientists of the Centre identified 7 species of Nematoda, 7 species of Odonata, 4 species of Coleoptera, 11

species of reptiles, 77 species of Aves and 14 species of mammals from various environs of Rajasthan, besides the 3 species of Nematoda identified out of the earlier collections from the forest areas of Gujarat. A Research report on the Fauna of Ranthambhore National Park, Rajasthan has been submitted. 2 research papers were published and 2 communicated. The quarterly Hindi Workshop was organized on 18th December. 44 entries of identified fauna



A view of Zakham Dam in Sita Mata Wildlife Sanctuary



Baronet butterfly, *Euthalia nais* (Forster)


were made in the faunal Database of the Centre. 96 entries pertaining to the books in the Centre's library was made employing the software, *e-granthalaya*. 172 school students and visitors paid their visits to the museum. A scientist of Centre examined a Ph.D. thesis on Odonata for the University of Madras, Chennai.

Publications:

1. Sharma, G. and Kumar, A. 2008 (released in 2009). Odonata diversity of Punjab Shivalik

with their habitats and flight period. *Fraseria-South Asian Bulletin of Odonatology*. 7(1/2): 29-33.

2. Sharma, G., Sundararaj, R. and Karibasavaraja, L.R. 2008 (released in 2009). Species diversity of odonates (Odonata: Insects) in sandal rich ecosystem of Karnataka and reproductive behaviour of *Orthetrum pruinatum neglectum* (Rambur). *Fraseria-South Asian Bulletin of Odonatology*. 7(1/2): 35-40.

 In this Issue

Western Regional Centre, Pune


Over 300 locality data from literature were georeferenced for the programme on the Atlas of odonates. 7 species of small mammals (shrew, rodent and bat) were identified from pellets of Great Horned and Mottled Wood Owl received from Dr. Satish Pande, Pune. A Checklist of Valid Indian Bat Species (Chiroptera: Mammalia) prepared by the scientists of the Centre is hyperlinked with www.zsi.gov.in. Two research documents were published.

40 Students who participated in the Ornithology course organized by Garware College and ELA Foundation visited and studied the bird specimens in the faunal depository of the Centre. Lectures were delivered by the scientists of the Centre to the students on the activity and functions of ZSI and identification of small mammals based on pellet samples and morphometrics of birds. 50 students of M. J. College, Jalgaon visited the WRC museum.

A scientist of the Centre delivered a lecture on "Freshwater Biodiversity of India" in the National Symposium on 'Current Trends in Lifesciences' held at the Anna Saheb Magar College, Hadapsar, Pune.

Publications:

1. J. Benjamin Franklin, K. A. Subramanian, S. Antony Fernando and K. S. Krishnan. (2009). Diversity and Distribution of Conidae from the Tamil Nadu coast of India. (Mollusca: Coenogastropoda: Conidae). *Zootaxa*. Monograph No: 2250 Pages 1-63. Magnolia Press, New Zealand.
2. Pradhan, M. S and Talmale, S. S. (2009). List of valid Rodent Taxa (Class: Mammalia; Order: Rodentia) from Indian Subcontinent including Myanmar. *Rec.Zool.Surv.India. Occ.Paper* No: 297: 1-239.

 In this Issue

Estuarine Biology Regional Centre, Gopalpur-on-Sea

One field survey to Nuanai Estuary, Puri Dist., Orissa was undertaken by the Centre for seven days and collected representative estuarine faunal components. During the survey it was found that mullets of various sizes are dominant in the estuary apart from the common species like *Platycephalus indicus*, *Terapon jarbua*, etc. A Jellyfishes bloom was observed in the estuary.

Four species of mosquitoes, 6 species of prawns, 2 species of crabs and 9 species of fishes were identified from the collections of Brahmani-Baitarani Estuary, Bhadrak District, and Nuanai Estuary. Six species of freshwater fishes collected from Namdapha Tiger Reserve, Arunachal Pradesh, were identified and registered.

A senior scientist of the Centre reviewed a research paper for a scientific journal. One Scientist

attended the Orientation Course in Records Management for Departmental Records Officers, from 14th to 18th December, conducted by the National Archives of India, Record Centre, (Eastern Zone), Bhubaneswar, Orissa.



A Jellyfish observed in the Nuanai Estuary, Orissa

In this Issue

Southern Regional Centre, Chennai

Field surveys were undertaken in Idaikazhinadu Ecosystems Complex, Tamilnadu and 3 species of Molluscs, 4 species of Pisces, 5 species of Amphibians, 20 species of Reptiles were identified and 66 species of birds were sight recorded.

Dr. Thasun Amarasinghe, Herpetologist, IUCN/SSC/CSG, Homagama, Sri Lanka, visited the Centre and studied the collection of *Sitana* specimens in the holdings.

A consolidated report on the present status of faunal holdings at the Centre has been prepared and submitted. 965 entries of fresh water fishes

were computerised. Digitalization of primary types present in the holdings of the Centre has been initiated.

A batch of 172 students, 10 teachers and 5 scientific officials from the Madhya Pradesh Council of Science and Technology, Bhopal visited the Centre on 23rd December and they were introduced to the activities of the Centre. An interaction session with the scientists was also arranged. A group of students led by a local Organisation-*Science Sense*, visited the Centre on 30th December.



Students from the Madhya Pradesh Council of Science & technology during their visit to the Southern Regional Centre/ZSI



The Velvet-fronted Nuthatch, *Sitta frontalis* Swainson.

In this Issue

Marine Biology Regional Centre, Chennai

Local surveys were conducted in Kasimedu fishing harbor and Adyar Estuary. Three species of marine sponges, 18 species of molluscs and 6 species of echinoderms and 41 species of fishes were identified out of the material collected from the Gulf of Mannar Biosphere Reserve.


A senior scientist of the Centre delivered an interactive lecture on "Conservation of Coral reefs of India" to the students from Madhya Pradesh Council of Science and Technology, Bhopal and on "Biodiversity in India and its Conservation strategies" at MIT Campus, Anna University, Chennai. A senior scientist of the Centre attended the Governing Body meeting of The Madura College, Madurai, and another scientist attended the Institutional animal ethics committee meeting at SRM College of pharmacy, Kattankulathur.

30 live animals belonging to 6 groups were introduced for display in the aquarium tanks which were collected locally. 1072 students and tourists visited the marine aquarium during this month.

2 research papers were published and one communicated.

Publications:

1. Venkataraman, K. 2009. Importance of biodiversity to Indian agriculture. *Financing Agriculture*, 41 (6): 37-42.
2. Marcus Knight, J.D. and Rema Devi, K. 2009. Record of *Oreochromis aureus* (Steindachner, 1864) (Teleostei: Perciformes: Cichlidae) in the natural waters of Tamil Nadu, India. *Taprobanica*, 1 (2): 126-129.

 In this Issue

Freshwater Biology Regional Center, Hyderabad

Field/follow up laboratory studies on the short term programme - Lakes in around Hyderabad, were continued. Two relatively small natural lakes, located on the outskirts of Hyderabad, were taken up for ecological evaluation of their trophic (nutrient) status *vis-à-vis* conservative physiochemical parameters like different forms of inorganic phosphorous (P) and nitrogen (N) entering the two open lacustrine systems via external (allochthonous) loadings of untreated domestic sewage from new habitations around their catchments. Identification on net



Neurothemis tullia (Drury) ♂




Ceriagrion coromandelianum (Fabricius) ♂



A view of light microscopy laboratory

zooplankton samples/ holdings from 2 other major lakes - Palair, a raw water reservoir, Kammam district, and Kolleru Lake, a vast shallow reed swamp, West Godavari and Krishna districts, for evaluating the species composition of predominant groups of the net zooplankton community, are in progress. A highlight of the ongoing infrastructural

developmental facilities at the Center is the setting up of a light microscopy laboratory with photomicrography, computer interface and relevant software for stacking serial images, editing, etc. Two outside researchers (WWF-Nature India, Hyderabad and Osmania University, Hyderabad) were extended photomicrography facilities.

 In this Issue

Western Ghat Regional Centre, Kozhikode (Calicut)

A Paratype of *Protelenomus anoplocnemidis* (Ghesquière) (Telenominae: Platygasteridae: Hymenoptera) was received on loan from the museum of South Africa and its comparative study with related Indian species has been carried out. Pertaining to the fauna of Bhadra Wildlife Sanctuary, Karnataka, 10 species of Amphibia were identified. 16 species of Odonata (Insecta) from Namdapha Tiger Reserve, Arunachal Pradesh were also identified.

One research paper has been published and one communicated.

Identification service was rendered on specimens of *Elasmus* sp. (Eulophidae: Chalcidoidea), a hymenopteran parasitoid of a gall making microlepidoptera, in response to a request from the Rubber Board, Kerala. Advisory services were rendered to a group of higher secondary students from GHSS Thamarassery, Kozhikode, on different projects on the Biodiversity of Western Ghats, scheduled for presentation in the sub-district Science Fair. Identification & advisory service was rendered to the Kerala State Forest Department, on confiscated feather samples. Identification & advisory service was rendered to the B.Sc. (Zoology) students of Govt. Arts & Science College, Kozhikode, on the various types of vacated bird nests collected from Kozhikode District. Identification service was also extended on amphibian specimens to the Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Kerala, on their request. Besides, a research paper on the Taxonomy of Fishes was reviewed for a journal and comments offered.

A scientist of the Centre delivered a talk on the Avian Diversity of Kavvayi Lake, at Payyannur, Kasaragod District, Kerala, on 5th December, in a seminar organized by the Centre for Water Resources Development and Management (CWRDM), Kozhikode and the Payyannur Municipality. The Centre participated in the Silent Valley Silver Jubilee Seminar at Malabar Christian College, Kozhikode on 10th December.

During the month, 1794 visitors paid their visits to the museum maintained at the Centre.


The scientists of the Centre were also busy in December, 2009, organizing exhibits of the fauna of Western Ghats, to participate in the *Pride of India-Expo* in the 97th Indian Science Congress, scheduled from 3rd to 7th January 2010, at Thiruvananthapuram, Kerala.

Publication:

Rajmohana, K. and Muhamed Jafer Palot, 2009. African Giant Snail, an issue of environmental concern in Kerala. *Malabar Trogon*, 7 (1&2): 15-17.



Indian kangaroo Lizard, *Otocryptis beddomii*,
the Southern Western Ghats endemic

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ANIMAL OF THE MONTH

Purple Sunbird*Nectarinia asiatica* (Latham, 1790)

(Class: Aves; Order: Passeriformes; Family: Nectariniidae)



Male in non-breeding plumage



Male in breeding plumage



Male foraging



Female during the incubation phase



Fledglings

(Text and photos by Anil Kumar, APRC/ZSI, Itanagar)

The Purple Sunbird is a widespread, resident, songbird in India. It is also distributed in Afghanistan, Bhutan, Cambodia, China, Iran, Laos, Myanmar, Nepal, Oman, Pakistan, Sri Lanka, Thailand, United Arab Emirates and Viet Nam etc.

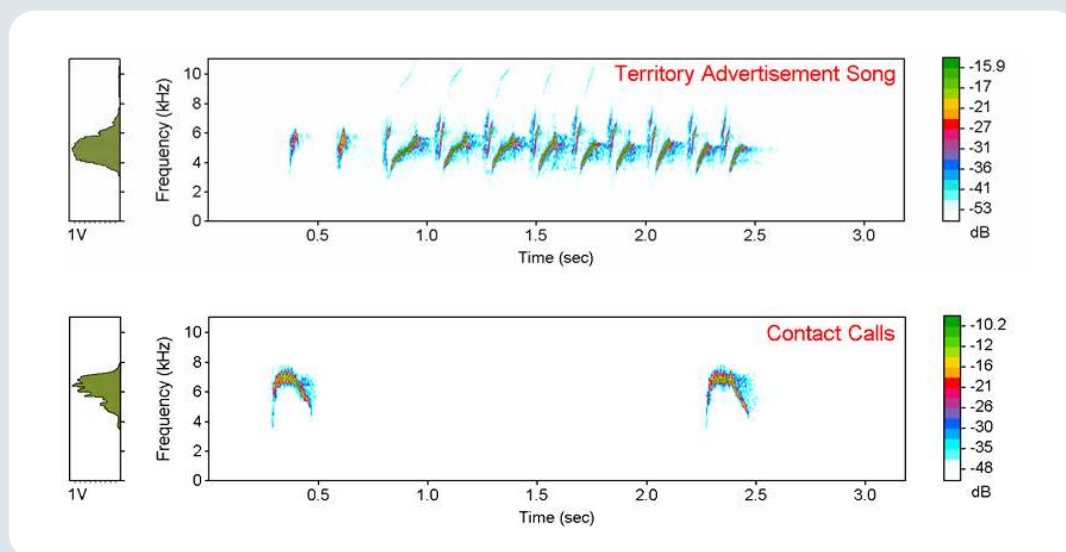
It is found in forests, scrub jungles, cultivations, gardens and suburban habitats. It is a small sized,

sexually dimorphic passerine bird. It feeds on insects, spiders and also extensively on flower nectar. Birds move from flower to flower generally in pairs, hanging upside down and probing with their beaks for the nectar. A large number of flowers are visited daily. Thus the sunbird plays a significant role in cross-pollinating them.

The onset of breeding coincides with the increasing day length of spring. The males change their coloration. The greenish brown (with a broad stripe of dark metallic-violet from the chin to the abdomen) winter plumage of the males change into black (with greenish-purple reflections) plumage. The females remain same as in winter. Mostly during April, pairing takes place. During this period, both the male and female can be seen feeding together on nectar rich flowering plants. For mate acquisition / territory advertisement, males usually start singing during the last part of the March month. They deliver songs (access the section 'ANIMAL CALLS') from prominent exposed perches in bouts, ranging from 2 to 4 sec. duration with a 2 to 15 minutes inter-bout gap. The songs are composed of several types of trills (fast repetition of same element) ranging from 3 to 7 KHz frequency. While singing, the males often expose and display their brilliant yellowish and

scarlet coloured patches of feathers located under the armpits.

The nest of this species is pear shaped (13 to 14 cm long), composed of fine grass stems, dead and soft leaves, small dry twigs etc. Only the females build the nest. Nest building is completed in 3 to 8 days, fixed at an average height of one to five meters, under the canopy/ plants such as *Bougainvillea*, *Pothos*, *Rosa*, *Citrus*, *Hibiscus* and *Vitis* species. After completion of the nest, female lays 2 to 3 eggs at daily interval. Only the female incubates the eggs for 13-14 days while the male guards the nest and territory. After hatching, both male and female look after the nestlings for about 15 days. The young ones remain with parents for a period of 20 to 25 days. Often the breeding season terminates after completion of the second brood. The families join to gather the winter flocks (4 to 14 individuals) and forage freely without any territory maintenance.



Sonographs of Purple sunbird

Further Reading:

1. BirdLife International (2009). *Nectarinia asiatica*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.2. <www.iucnredlist.org>. Downloaded on 29 December 2009.
2. Rasmussen, P. C. and Anderton, J. C. (2005). *Birds of South Asia" The Ripley Guide*. Smithsonian Institution and Lynx Edicions. p. 548.
3. Kumar A., Bhatt, D. and Joshi, V. D. (1999). Breeding ecology of Purple sunbird, *Nectarinia asiatica* with special reference to song behaviour. *Ann. For.*, 7(2): 192- 198.
4. Rahmani, A. R and Sankaran, R. (1990). An unusual nesting site of the sunbird. *J. Bombay Nat. Hist. Soc.* 87 (1): 148-149.

ZSI IN NEWS



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OUT OF THE BOX



Census in Sunderbans in winter to determine Tiger count

<http://beta.thehindu.com/news/national/article38336.ece>

Acoustics study to map Dolphins in Chilika Lake
<http://www.orissatv.com/NewsDetail.asp?newsId=NS13252>

Silent Valley Conservation Movement enters Silver Jubilee

http://www.dnaindia.com/india/report_silent-valley-conservation-movement-enters-silver-jubilee_1312271

Black carbon can't be linked to global warming: Pachauri

<http://www.business-standard.com/india/news/black-carbon-cant-be-linked-to-global-warming-pachauri/23/37/78409/on>

Antarctica Served as Climatic Refuge in Earth's Greatest Extinction Event

<http://www.sciencedaily.com/releases/2009/12/091202205621.htm>

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PICTURE GALLERY

Holothurians (Echinodermata) of Rutland Island, South Andaman



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