



## From the Director's Desk.....

The quarter was quite eventful for the Institute. The Institute hosted the largest scientific triennial event in fisheries and aquaculture in India, the 10<sup>th</sup> Indian Fisheries and Aquaculture Forum (10ifaf) which was inaugurated by Hon'ble Governor of Uttar Pradesh as Chief Guest with Secretary, DARE and Director General, ICAR presiding over the inaugural function. The event provided an important platform to discuss different aspects of fisheries and aquaculture, including scientific and developmental issues and future strategies. We also had the privilege of organising two other important international events viz., the 5th Global Symposium on Gender in Aquaculture and Fisheries and the International Workshop on Aquatic Animal Disease Surveillance, in which delegates from 15 countries participated. The Institute celebrated its Foundation Day and also organised a farm innovators meet, besides organising a number of training and awareness programmes for various stakeholders, including scientists, state fisheries officers and fish farmers. In research front too there were a number of noteworthy achievements which include re-description of three marine finfishes viz; *Chelidoperca investigatoris*, *C. occipitalis* and *Chlorophthalmus corniger*. I compliment my colleagues for their hard work and commitments in these endeavors.



**J.K. Jena**  
Director

## RESEARCH HIGHLIGHTS

### In this issue...

Research Highlights	1
Important Events	2
Extension Activities	7
Awards & Honors	8
Participation in Workshops/ trainings / meetings	8
Staff News	9
Hindi Version	9

### Re-description of three marine fish species

Three marine finfishes viz., *Chelidoperca investigatoris*, *C. occipitalis* and *Chlorophthalmus corniger* were re-described using morphomerisitic characters and DNA barcoding. The serranid fish of genus *Chelidoperca* are usually found on continental shelf and slope muddy bottoms in the Indo-West Pacific ocean. Three species of *Chelidoperca*, namely *C. investigatoris*, *C. occipitalis* and *C. maculicauda* are known from the Arabian Sea. The institute re-described, *Chelidoperca investigatoris* (Alcock, 1890) based on the two specimen collected off the Ganjam coast, Bay of Bengal and *C. occipitalis* (Kotthaus, 1973) was described from a single specimen collected off the Socotra Islands, Arabian Sea based on morphometric measurements and molecular characterisation by using COI and 16s rRNA genes.

*C. investigatoris* can be distinguished by its unique characteristics viz., head and body pinkish in colour, belly and throat white. A broad bright yellow band passes from the tip of the snout through the eye to the caudal fin. Bright yellow markings on the cheeks, opercles, dorsal, ventral and anal fins, and narrow pale red borderline on anal fin, are other important characteristics. *C. occipitalis* can be distinguished by its unique characteristics viz., pinkish colour body with a dark band along body to caudal. Yellow spots on dorsal, caudal and anal fins. Body pinkish-orange in colour with a prominent dark stripe running along body, from opercular spine to base of caudal fin. Ventral portion of trunk pale with 8-9 white bands on side. Yellow spots on dorsal, caudal and anal fins and those on dorsal, caudal rays prominent.



*Chelidoperca investigatoris*



*Chelidoperca occipitalis*

*Chlorophthalmus corniger* is re-described on the basis of recently collected specimens. The species is redefined as a species of *Chlorophthalmus* with the lower jaw terminating in a distinctly projecting horizontal plate with strong, spine-like processes directed forward from the plate's corners; body silvery grey, with numerous minute black spots and traces of broad darker crossbars; base of anterior dorsal fin spines and distal parts of dorsal fins black 3-5 scales above lateral line; three rows of cheek scales; head very large, 34.3-40.1% standard length; eye large, 29.8-40.8% head length; pectoral fin long, extending to beyond dorsal fin base, 21.7-26.2% standard length. *Chlorophthalmus bicornis* is a junior synonym of *C. corniger* based on the examination of the type series of both species. It is confined to the northern half of the Indian Ocean, reliably recorded from Somalia and the Gulf of Aden to southern Java, Indonesia, at depths between 200 and 500 m. A lectotype and three paralectotypes were designated for *C. corniger*. DNA barcodes for Indian species of *Chlorophthalmus* were generated and phylogenetic tree constructed to know the evolutionary position of the *C. corniger*.



Lateral views of *Chlorophthalmus corniger*

### Molecular identification of *Macolor macularis* and *M. niger*

The Midnight Snapper, *Macolor macularis* is often confused with *M. niger* since they can appear very similar, both as juveniles and adults. There are a number of diagnostic differences in meristics and coloration (Kishimoto *et al.*, 1987, Allen & Erdmann, 2012). Nevertheless, misidentifications are frequent. The barcode DNA sequences for the two species are clearly different, providing a useful check on the identifications based on other features. *M. macularis* was compared with its only congener, the Black and White Snapper, *M. niger*, both collected from the south-west coast of India. The examination of fresh specimens of the two species showed diagnostic anatomical and coloration differences and the DNA barcoding showed a genetic divergence of 3.51% between the species.



*Macolor macularis*



*M. niger*

## IMPORTANT EVENTS

### NBFGR hosts 10<sup>th</sup> Indian Fisheries and Aquaculture Forum

The 10<sup>th</sup> Indian Fisheries and Aquaculture Forum (10ifaf), the largest scientific triennial event in fisheries and aquaculture in India was organized under the aegis of Asian Fisheries Forum Indian Branch (AFSIB) in collaboration with the ICAR-National Bureau of Fish Genetic Resources, Lucknow during 12-15 November 2014 at the premises of NBFGR, Lucknow. The 10ifaf with the theme "Towards Responsible Aquaculture and Sustainable Fisheries" was inaugurated on 12<sup>th</sup> November, 2014, by the Hon'ble Governor of U.P., Shri Ram Naik. Dr. S. Ayyappan, Secretary DARE and Director General, ICAR, New Delhi presided over by

the programme. Other dignitaries present on the dais were Dr. B. Meenakumari, Deputy Director General



Chief Guest, Shri Ram Naik, Hon'ble Governor of U.P. lighting the lamp

(Fisheries Science), ICAR and Dr. Cherdasak Virapat, Director General, Network of Aquaculture Centers in Asia-Pacific (NACA), Bangkok as Guests of Honour; Dr. J.K. Jena, Convener, 10ifaf, Chairman, AFSIB & Director, ICAR-NBFGR; and Dr. B.A. Shamsundar, Secretary, AFSIB, Mangalore. Over 700 distinguished scientists, technocrats, policy makers, members from financial institutions, NGOs, students, farmers and entrepreneurs from all over the country and overseas participated in the Forum.



Inaugural Address by the Chief Guest

Shri Ram Naik, The Chief Guest in his inaugural address emphasized the importance of fisheries sector for ensuring nutritional security for the ever-growing populations of the country. In order to provide fisheries due attention, he emphasised for economic issues like

provision of interest rates on loans and subsidies at par with agriculture and policy issues like trans-boundary conflicts, safety at sea, etc. and expressed hope that the Forum would bring out recommendations for the welfare of fishers and fish farmers. Dr. Ayyappan in his Presidential address, stressed upon the need to address on aspects towards sustenance of production and productivity of the sector and to meet the targeted demand of fish by 2020.



Presidential Address by Dr. S. Ayyappan, Secretary, DARE & DG, ICAR

The Abstract Book and Souvenir of the 10 ifaf were released by the Chief Guest along with a Special Issue of Asian Fisheries Science "Gender in aquaculture and fisheries: Navigating change". Two progressive fish farmers of the area, Shri Parvez Khan of Jahagirabad, Barabanki, U.P. and Shri Nawaj Khan of Siddartha Nagar, U.P. were felicitated on this occasion. As a



Dignitaries releasing the Book of Abstracts and the Souvenir

tribute to the fisheries veterans those passed away during last three years, namely Dr. Hiralal Chaudhury, Dr. P.V. Dehadrai, Dr. S.N. Dwivedi, Dr. M.C. Nandeesh, Dr. S.A.H. Abidi, Dr. K.C. Jayaram and Dr. C. S. Singh, the seven Seminar Halls used for parallel technical sessions were named after them.

The inaugural session was followed with two Key-note addresses by Dr. M.V. Gupta, World Food Prize Laureate and Former ADG, WorldFish, Malaysia on "Responsible Aquaculture: The context and Action Needed" and Dr. M.J. Modayil, Former



Keynote Address by Dr. M.V. Gupta, World Food Prize Laureate



Dr. M.J. Modayil delivering the Keynote Address

Member, ASRB, New Delhi and Former Director, ICAR-CMFRI, Kochi on "Sustainable Fisheries". There were two Lead Plenary Lectures delivered by international experts Dr. Cherdasak Virapat, DG, NACA, Bangkok and Dr. Chris O'Brien,

Regional Coordinator, BOBLME, Thailand. An Evening Plenary Lecture was also delivered by Dr. Meryl J. Williams, Former DG, WorldFish who spoke on "Fish, food security and nutrition: A new analysis".



Address by the Guest of Honour Dr. Cherdasak Virapat, DG, NACA

The technical programmes of the Forum were conducted in six parallel sessions in

which 208 papers were presented under different thematic areas. Besides, seven lead lectures were also presented by leading experts of the country. A total of 149 Abstracts were also presented as Posters during the 10ifaf in three sessions during 13-14 November, 2014, in a Poster



Lead Lecture Presentation by Dr. Chris O'Brien, Regional Coordinator, BOBLME

Gallery developed for the purpose. Ten Best Posters presented during the Forum were Awarded with the Best Poster Award.

As a parallel event of 10ifaf, an Exhibition with 32 stalls was also arranged for showcasing technologies developed by different Research Institutions, and products/publications of different industries/business firms and book



Evening Plenary Lecture by Dr. Meryl J. Williams

publishers, which was inaugurated by the Chief Guest, Hon'ble Governor of U.P., Shri Ram Naik in presence of Dr. S. Ayyappan Secretary DARE and Director General, ICAR and other dignitaries. Various award presentations were also organised during the forum wherein the awardees presented their research work. Dr. R.S. Vundru, IAS, Joint Secretary, DAHFD, Govt. of India was the Chief Guest of the Plenary and Valedictory Session and Dr. B. Meenakumari, DDG (Fy.), ICAR presided over the function. Dr. Vundru in his address congratulated the AFSIB for organizing such a mega-event on a very important theme.



Inauguration of the exhibition by Shri Ram Naik  
**5<sup>th</sup> Global Symposium on Gender in Aquaculture and Fisheries (GAF5)**

The Institute hosted the '5th Global Symposium on Gender in Aquaculture and Fisheries (GAF5)' which was organized by the Asian Fisheries Society (AFS), Kuala Lumpur in collaboration with Asian Fisheries Society Indian Branch and ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow during 13-15 November, 2014. Dr. Leena Nair, Chairman, Marine Product Export Development Authority



Chief Guest Dr. Leena Nair inaugurating the GAF5 by lighting the lamp

(MPEDA), Kochi inaugurated the event as Chief Guest. Dr. B. Meenakumari, Deputy Director General (Fy.), ICAR, New Delhi presided over the function. Dr. Meryl J. Williams, Former Director General, WorldFish, Malaysia and Director, Asia Pacific-Fish Watch, and Dr. Chersak Virapat, Director General NACA and Dr J.K. Jena, Convener, 10ifaf and Director, NBFGR were the Guests of Honour on the occasion. This is the first time that an Asian Fisheries Society GAF event was held in conjunction with the Indian Fisheries Forum, the 10ifaf. Dr. Meryl J. Williams and Dr. B. Meenakumari were the Co-Chairs of GAF5.

The three day symposium was filled with 50



The GAF5 participants

stimulating contributions of several kinds which included 27 oral presentations, including 2 Plenary Lectures; 3 special workshops; 6 films and videos; 1 panel discussion; 9 posters and a special GAF Network Meeting. The forum witnessed the presence of many new researchers and development experts who work on gender within fisheries and aquaculture institutions and development agencies, especially non-government organisations. Delegates from different parts of the world including India, Malaysia, Bangladesh, Indonesia, Lao PDR, Thailand, Vietnam, Cambodia, Japan, Philippines, Mozambique, Australia, Spain, France and USA participated in GAF5.

### International Workshop on Aquatic Animal Disease Surveillance

An International Workshop on Aquatic Animal Disease Surveillance was organised by the Institute in collaboration with the Asian Fisheries Society Indian Branch (AFSIB) at ICAR-NBFGR, Lucknow on 14th November, 2014, which was inaugurated by Dr. R.S. Vundru, Joint Secretary (Fisheries), Department of



Chief Guest Dr. R.S. Vundru inaugurating the International Workshop by lighting the lamp

Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Govt. of India. Dr. B. Meenakumari, DDG (Fy.), ICAR, New Delhi

presided over the function. Other guests present on the dais were Prof. Kenton L. Morgan, University of Liverpool, United Kingdom and Dr. Eduardo Leano, Programme Coordinator, NACA, Bangkok as Guests of Honour; Dr. J.K. Jena, Convener and Director, ICAR-NBFGR, Lucknow and Dr. P.



Dr. Kenton Morgan presenting the lead lecture

Punia, Co-coordinator, National Surveillance Programme on Aquatic Animal Disease (NSPAD), ICAR-NBFGR, Lucknow.



Dr. Eduardo Leano presenting the lead lecture

The workshop included lead presentations on 'Aquatic Animal Disease Surveillance in

Global Perspective' by Prof. Kenton, 'Aquatic Animal Disease Surveillance in the Asia-Pacific: Status and Gaps' by Dr. Eduardo and 'Does neoplastic transformation mimic speciation?' by Dr. Sen Pathak, distinguished Research Professor, Department of Genetics, University of Texas, Houston, USA.

A Panel Discussions on 'Aquatic Animal Disease Surveillance in India' by several national experts on fish disease management in the country was conducted under the Chairmanship of Dr. J.K. Jena. Over 200 delegates from India and overseas participated in this international workshop. The panelists stressed on developing standardized protocols for reporting new



**Panel discussion on Aquatic Animal Disease Surveillance**

or exotic diseases, risk based surveillance, mandatory registration of farms with the government agencies, involvement of the state fisheries department in the implementation of surveillance programme, establishing disease diagnostic laboratories in each state and uniform sampling strategy. It was also reiterated that though active monitoring of selected farms should continue, but the focus of the programme should be to strengthen the passive disease surveillance in the country, so that each outbreak is reported and investigated. It was also suggested that monitoring of water quality parameters must be part of disease diagnosis in aquatic animals.

### **NBFGR celebrated its '31<sup>st</sup> Foundation Day' and 'Farm Innovators Day'**

The Bureau celebrated its '31<sup>st</sup> Foundation Day' and 'Farm Innovators Day' on 12 December, 2014. The

programme was inaugurated by Dr. S.L. Goswami, Former Director, ICAR-NAARM, Hyderabad as the Chief Guest. Dr. S. Solomon, Director, ICAR-IISR, Lucknow and Dr. P.C. Mohanta, Former Director, ICAR-DCFR, Bhimtal were the Guests of Honour. In his welcome address, Dr. J.K. Jena, Director, ICAR-NBFGR, Lucknow apprised about the salient achievements of the Institute. The progressive aquafarmers and entrepreneurs participated in the programme and shared their innovative and profitable farming practices. The Chief Guest and the Guests of Honour addressed the staff and the farmers on this occasion and congratulated them for their achievements. NBFGR scientists also gave technical guidance to the participants.

On this occasion, Annual Institute Awards for the year 2013-14 were presented to the NBFGR staff members for their performance in various categories. Selected fish farmers from various districts of Uttar



**Inaugural Address by Dr. S.L. Goswami during Foundation Day Function**

Pradesh were also awarded on the occasion for obtaining better fish production from their ponds after taking training from ARTU Unit, Chinhat of ICAR-NBFGR. 'Fish Genomics Section of the Conservation Division' was awarded the Best Unit/Division Award. Other awardees in various categories were: Dr. P.K. Pradhan, Sr. Scientist, Best Scientist; Mr. Ravi Kumar, Technical Officer and Dr. Vikash Sahu, Technical



**Foundation Day Awards: A. Best Unit/Division, B. Best Scientist and C. Progressive Fish Farmer**

Assistant, Best Technical Staff; Mr. Swapan Debnath, Sr. Clerk and Mr. Sandeep, Jr. Stenographer, Best Administrative Staff; Mr. Anwar, SSS, Best Support Staff; Mr. K.K. Singh, appreciation award.

### **Awareness Programme on National Surveillance on Aquatic Animal Diseases in Kerala**

An one-day awareness programme for ornamental fish farmers and state fishery officials was conducted by PMFGR Centre of ICAR-NBFGR, Kochi on 8<sup>th</sup> October, 2014. Dr. A. Gopalakrishnan, Director, ICAR-CMFRI, Kochi was the Chief Guest of the inaugural function. He emphasized the importance of disease surveillance in the event of trans-boundary movement of ornamental fishes. He also underlined the importance of farmers, government officials and researchers joining together for successful completion of disease surveillance programme. Dr. Devika Pillai, Associate Professor, KUFOS, Kochi, and Dr. M.S. Saju, General Manager, Kerala Aqua Venture International Ltd. (KAVIL), Kochi shared their experiences in fish disease surveillance and ornamental fish trading, respectively. A total of 61 participants from 5 selected districts of Kerala attended the awareness programme.

### **Awareness Workshop on Fish Conservation**

A Workshop on fish conservation awareness was

organized in Chalakudy, Thrissur District Kerala, on 30<sup>th</sup> December, 2014 in collaboration with the World Wildlife Fund for Nature (WWF). The workshop featured presentations on indigenous fish resources, conservation of habitats and opportunities for livelihood enhancement through small scale aquaculture projects. The workshop was attended by 30 residents of 8 tribal hamlets within the Vazhachal forest division, Chalakudy district, Kerala. Range Officer of the division inaugurated the event and emphasised the importance of conserving freshwater biodiversity and the role tribal communities play in this. Mr. Tiju Thomas, co-ordinator, WWF-India, stressed on the need for conservation and the role of aquaculture in providing sustainable livelihoods. Dr. V.S. Basheer, ICAR-NBFGR Center Kochi provided an overview of the freshwater fish resources of the Western Ghats, summarized the threats facing freshwater biodiversity and outlined NBFGR's efforts to conserve this natural wealth. Dr. C.P. Shaji, former Principal Scientific Officer of the Kerala Biodiversity Board and a renowned expert on fish taxonomy spoke on freshwater fish diversity in the Chalakudy River. The participants expressed an interest in developing programmes for captive breeding, culture and ranching of important indigenous species for conservation and sustainable utilization.

## **EXTENSION ACTIVITIES**

### **Training of Tribal Farmers on 'Fish Farming and Conservation'**

The Institute, at its Aquaculture Research & Training Unit (ARTU), Chinhat, organized three short-term training programmes for tribal fish farmers of Madhya Pradesh and Uttar Pradesh in which 57 tribal fish farmers were trained. All the training programmes were residential and field oriented hands-on trainings with practical demonstrations.

### **Participation in Exhibitions**

The Institute participated in the following exhibitions related to fisheries and aquatic resources in different parts of the country:

- Exhibition organised on the occasion of the 10th Indian Fisheries and Aquaculture Forum at Lucknow during 12-15 November, 2014.

- Science & Technology Pavillion at Lucknow Mahotsava during 26 November-7 December, 2014.
- International Symposium, MECOS-2 held during 2-5 December, 2014 at Kochi, Kerala organized by Marine Biological Association of India, Kochi.



A tribal trainee farmer sharing his experiences

## AWARDS AND RECOGNITIONS

- Dr. N.S. Nagpure, Principal Scientist and Head, MBB Division was conferred with the Honorary Fellowship 2014 Award by the Indian Academy of Environmental Sciences, Haridwar. Dr. Nagpure

was also conferred with the Dr. D.K. Belsare Medal 2014 by the Zoological Society of India, Bodh Gaya.

## PARTICIPATION IN WORKSHOPS/SEMINARS/MEETINGS/TRAININGS

- Dr. J.K. Jena, Director participated in the following:
  - 2nd Meeting of the Steering Committee of National Level to Oversee and Monitor the Tilapia Seed and Grow-Out Production at New Delhi on 13 October, 2014.
  - NAAS Silver Jubilee National Symposium on Indian Fisheries and Aquaculture at CIFE, Mumbai on 21-22 October, 2014.
  - 16th Meeting of the Committee on Introduction of Exotic Aquatic Species into Indian Waters under the Chairmanship of the Joint Secretary (Fisheries), DAHDF, New Delhi on 27 October, 2014.
  - Indo-Norwegian Cooperation-Joint Workshop on Aquaculture at Mumbai on 30 October, 2014.
  - Workshop on Safe Water for Indian Ocean Rim Countries organized by CSIRO at New Delhi on 18 November, 2014.
  - 77th Meeting of the Executive Council of West Bengal University of Animal and Fishery Sciences, Kolkata on 4 December, 2014.
- Dr. N.S. Nagpure, Principal Scientist participated in the National Seminar on 'Threats to Biodiversity: Impact of Developmental Projects and Climate Change' and 25th All India Congress of Zoology from 17th - 19th November, 2014 at Gurukula Kangri University, Haridwar.
- Dr. Ravindra Kumar, Principal Scientist participated in the Workshop on 'Redefining the Priorities in the National Action Plan for Management of Genetic Resources' during 23-24 December, 2014 at NASC Complex, New Delhi.
- Dr. Basdeo Kushwaha, Principal Scientist participated in the ICAR sponsored Short Course on "Metagenomics: Role of Next Generation Sequencing and Bioinformatics" at Department of Animal Biotechnology, College of Veterinary Science and Animal Husbandry, Anand Agricultural University, Anand during 6-15 October, 2014.
- Dr. S. Raizada, Principal Scientist attended the National Seminar on "Challenges for sustainability of natural resources and environment with emphasis on aquatic ecosystem for livelihood security" at the College of Fisheries, G.B. Pant University of Agriculture and Technology during 10-12 October 2014 and presented a paper.
- Dr. A.K. Pandey, Principal Scientist participated in the following:
  - National Conference on Challenges for Sustainability of Natural Resources and Management with Emphasis on Aquatic Ecosystem for Livelihood Security at College of Fisheries, Pantnagar during 10-12 October, 2014.
  - International Symposium on Biodiversity: Status, Utilization and Impact of Challenging Climate Conditions at Dr. B.R. Ambedkar (Central) University, Lucknow during 30-31 October, 2014.
  - National Seminar on Current Trends in Biological Sciences: Advances and Challenges at Department of Zoology, Janta Post-Graduate College, Bakewar during 13-14 December, 2014.
  - National Conference on Challenges of Biological and Environmental Sciences in 21st Century at Gorakhpur during 19-20 December, 2014.
- Dr. L.K. Tyagi, Sr. Scientist participated and presented a paper in the 5th Global Symposium on Gender in Aquaculture and Fisheries on 14 November, 2014 at Lucknow.
- Ms. Rejani Chandran, Scientist participated in the CAFT training programme on 'Advances in Omics Data Analysis: Learning By Example' at ICAR-



IASRI, New Delhi during 3-23 December, 2014.

- Dr. A. Kathirvelpandian, Scientist attended a training programme on 'Metagenomics-role of next generation sequencing and bioinformatics' organized by department of animal biotechnology, Anand Agricultural University, Anand, Gujarat during 06-15 October, 2014.
- Dr. V.S. Basheer, Principal Scientist attended NAAS silver jubilee national symposium on Indian

Fisheries and Aquaculture during 21-22 October, 2014. He also attended the 'Safe water for Indian Ocean RIM countries workshop at New Delhi during 18-20 November, 2014.

- Dr V.S. Basheer, Principal Scientist; Dr. T. Raja Swaminathan and Dr. Divya P.R., Sr. Scientists and Mr. L. Mog Chowdhury, Scientist attended International Symposium, MECOS-2 – Marine Ecosystems - Challenges and Opportunities at Kochi during 2-5 December, 2014.

## STAFF NEWS

### Joining:

The following new scientists joined the Institute during the period:

- Dr. Sharad Kumar Singh, Sr. Scientist on transfer from ICAR-CSSRI, Karnal w.e.f. 01.12.2014.
- Mr. Trivesh Suresh Mayekar, Scientist on transfer from ICAR-CMFRI, Kochi w.e.f. 05.11.2014.

The ICAR - NBFGR family welcomes the new members.

### Transfer/ Relieving:

- Ms. Priyanka C. Nandanpawar, Scientist was

relieved on 17.11.2014 to join on transfer at ICAR-CIFA, Bhubaneswar.

- Mr. Avinash Rambhau Rasal, Technical Assistant was relieved on 27.12.2014 to enable him to join as Scientist for FOCARS training at ICAR-NAARM, Hyderabad.

### Swachh Bharat Abhiyan

The staff of the Institute actively participated in the cleaning drive initiated by the Hon'ble Prime Minister of India. In this drive, the NBFGR staff cleaned unwanted vegetation and debris both from outside and inside of the NBFGR campus.

## समाचार सारांश

### अनुसंधान समाचार

#### तीन समुद्री मत्स्य प्रजातियों का पुनः वर्णन

तीन समुद्री पखनेयुक्त मत्स्य प्रजातियों *चेलिडोपरका इनवेस्टीगेटोरिस*, *चे. आक्सीपिटोलिस* तथा *क्लोरोपथैलमस कोरानिगर* का मारफोरिस्टीक व डी.एन.ए. बारकोडिंग के आधार पर पुनः वर्णन किया गया। ये तीनों ही प्रजातियाँ अरेबियन सागर में पायी जाती हैं। इन प्रजातियों में से *चेलिडोपरका इनवेस्टीगेटोरिस* (एल्कोक, 1890) के दो नमूने बंगाल की खाड़ी स्थित गंजम तट से तथा *चे. आक्सीपिटोलिस* (कोठौस, 1973) का एक नमूना अरेबियन सागर बेस के सोकोट्रा द्वीप से एकत्रित कर, मारफोमेरिस्टीक मापों तथा COI व 16SrNA का प्रयोग करते हुए उनके आण्विक लक्षण वर्णन के आधार पर इन्हें पुनः वर्णित किया गया। *चेलिडोपरका इनवेस्टीगेटोरिस* को हलके गुलाबी

रंग के सिर व शरीर तथा श्वेत रंग के गले से आसानी से पहचाना जा सकता है। इसके थुथुन के शीर्ष से प्रारम्भ होकर आँख से होते हुए पुच्छीय पखने तक एक चमकीले पीले रंग की चौड़ी सी पट्टी होती है। पृष्ठीय, पुच्छीय व गुदीय पखनों पर पीले रंग के बिन्दु पाये जाते हैं, इनमें से पृष्ठीय व पुच्छीय पखनों के ये बिन्दु अधिक गहरे होते हैं।

*क्लोरोपथैलमस कोरानिगर* को हाल में एकत्रित किये गये नमूनों के आधार पर *क्लोरोपथैलमस* की एक प्रजाति के रूप में पुनः वर्णित किया गया। इनका निचला जबड़ा क्षैतिज प्लेट के रूप में अपेक्षाकृत भिन्न दिशा की ओर निकला रहता है जिसमें प्लेट के कोनों से मजबूत कटकनुमा रचनायें आगे की ओर निकली होती हैं। इनका शरीर चमकीले भूरे रंग का होता है जिस पर छोटे-छोटे काले बिन्दु पाये जाते हैं।

**क्लोरोपथैलमस बाइकोरनिस** तथा **क्लोरोपथैलमस कोरनिगर** प्रजातियों की टाइप श्रृंखला के परीक्षण द्वारा **क्लोरोपथैलमस बाइकोरनिस** को **क्लोरोपथैलमस कोरनिगर** का कनिष्ठ समानार्थी पाया गया। इसकी उपस्थिति हिन्द महासागर के उत्तरार्ध में प्रमुख रूप से सोमालिया एवं एडेन की खाड़ी से लेकर दक्षिणी जावा, इण्डोनेशिया तक 200 से 500 मीटर की गहराई तक रिकार्ड की गयी है। **क्लोरोपथैलमस कोरनिगर** के एक लेक्टोटाइप तथा तीन पैरालेक्टोटाइप का निर्धारण किया गया। क्लोरोपथैलमस की भारतीय प्रजाति की जैवविकासीय स्थिति ज्ञात करने के लिए इसके डी.एन.ए. बारकोड तथा वंशावली वृक्ष की संरचना की गयी।

## **मैकलर मैक्यूलैरिस तथा मैकलर नाइगर की आणविक पहचान**

मिडनाइट स्नैपर के नाम से पायी जाने वाली मत्स्य प्रजाति **मैकलर मैक्यूलैरिस** को प्रायः **मैकलर नाइगर** से पृथक कर पाना काफी कठिन होता है क्योंकि वे शिशु अथवा वयस्क दोनों अवस्थाओं में काफी एक जैसे दिखते हैं। इनमें मेरिस्टिक मापों तथा रंगों में बहुत से ऐसे अन्तर हैं जिनसे उन्हें अलग-अलग किया जा सकता है किन्तु अक्सर ऐसा नहीं हो पाता है, जबकि इनके बारकोड डी.एन.ए. सीक्वेंस में स्पष्ट अन्तर पाया गया है। दोनों प्रजातियों के ताजे नमूनों की जांच में संरचनात्मक तथा वर्णात्मक अनेक नैदानिक अन्तर पाये गये तथा डी.एन.ए. बारकोडिंग द्वारा उनमें 3.51% का आनुवंशिक विचलन पाया गया।

## **महत्वपूर्ण घटनायें**

### **10वें भारतीय मात्स्यिकी एवं जलीयकृषि फोरम की मेजबानी**

भारत मात्स्यिकी एवं जलीयकृषि क्षेत्र के त्रिवार्षिक सबसे बड़े वैज्ञानिक आयोजन, 10वें भारतीय मात्स्यिकी एवं जलीय कृषि फोरम (10ifaf) की मेजबानी संस्थान द्वारा की गयी। इस फोरम का आयोजन एशियन फिशरीज फोरम की भारतीय शाखा (ए.एफ.एस.आई.बी.) के तत्वाधान में भा.कृ.अनु.प.-राष्ट्रीय मत्स्य आनुवांशिक संसाधन ब्यूरो लखनऊ के सहयोग से संस्थान के परिसर में 12 से 15 नवम्बर, 2014 के दौरान किया गया। इस फोरम का विषय 'उत्तरदायी जलकृषि एवं टिकाऊ मात्स्यिकी' था जिसका शुभारम्भ 12 नवम्बर, 2014 को उत्तर प्रदेश के महामहिम राज्यपाल श्री राम नाईक द्वारा किया गया तथा भा.कृ.अनु.प. नई दिल्ली के महानिदेशक तथा भारत सरकार के कृषि अनुसंधान एवं शिक्षा विभाग के सचिव डा. एस. अय्यपन ने कार्यक्रम की अध्यक्षता की जबकि भा.कृ.अनु.प. की उपमहानिदेशक (मात्स्यिकी) डा.बी. मीनाकुमारी तथा नेटवर्क ऑफ एक्वाकल्चर सेन्टर्स इन एशिया पॅसिफिक (नाका), बैंकांक के महानिदेशक डा. चेरडसक वीरापत सम्माननीय अतिथि के रूप में तथा कार्यक्रम के संयोजक, ए.एफ.एस.आई.बी. अध्यक्ष व भा.कृ.अनु.प.-राष्ट्रीय मत्स्य आनुवांशिक संसाधन ब्यूरो के निदेशक डा. जे.के. जेना मंच पर उपस्थित थे। इस कार्यक्रम में प्रतिष्ठित वैज्ञानिकों, नीतिनिर्धारकों, वित्तीय संस्थानों तथा गैरसरकारी संगठन के सदस्यों, विद्यार्थियों, कृषकों व उद्यमियों सहित देश विदेश के लगभग 700 व्यक्तियों ने भाग लिया।

### **5वीं ग्लोबल सिम्पोज़ियम ऑन जेण्डर इन एक्वाकल्चर एण्ड फिशरीज (जीएएफ5) का आयोजन**

संस्थान द्वारा 13-14 नवम्बर, 2014 को एशियन फिशरीज सोसायटी कुआलालम्पुर द्वारा एशियन फिशरीज सोसायटी की भारतीय शाखा व भा.कृ.अनु.प.-राष्ट्रीय मत्स्य आनुवांशिक संसाधन ब्यूरो (एन.बी.एफ.जी.आर.), लखनऊ के पारस्परिक सहयोग से आयोजित उपरोक्त सिम्पोज़ियम की मेजबानी की गयी। इसका शुभारम्भ समुद्री उत्पाद नियति विकास प्राधिकरण (एमपीडा) की अध्यक्ष डा. लीना नायर द्वारा मुख्य अतिथि के रूप में किया गया जबकि भा.कृ.अनु.प., नई दिल्ली की उपमहानिदेशक (मात्स्यिकी) डा.बी. मीना कुमारी ने कार्यक्रम की अध्यक्षता की। 'वर्ल्ड फिश सेन्टर मलेशिया' की पूर्व महानिदेशक एवं एशिया पॅसिफिक-फिश वॉच की निदेशक डा. मेरिल जे. विलियम्स तथा नाका के महानिदेशक डा. चेरडसक वीरापत व 10ifaf के संयोजक एवं संस्थान के निदेशक डा. जे.के. जेना सम्माननीय अतिथियों के रूप में उपस्थित थे। इस फोरम में अनेक नये शोधार्थी, मात्स्यिकी एवं जलीय कृषि संस्थानों विशेषतया गैर-सरकारी संगठनों में कार्यरत विकास विशेषज्ञ उपस्थित थे। भारत सहित विश्व के अनेक देशों मलेशिया, बांग्लादेश, इण्डोनेशिया, थाईलैण्ड, वियतनाम, कम्बोडिया, जापान, फिलीपीन्स, मोजाम्बीक, आस्ट्रेलिया, स्पेन, फ्रान्स तथा यू.एस.ए. आदि के प्रतिनिधियों ने इस फोरम में भाग लिया।

## जलीय जीवों में होने वाली बीमारियों की निगरानी विषयक अन्तर्राष्ट्रीय कार्यशाला

जलीय जीवों में होने वाली बीमारियों की निगरानी से सम्बन्धित एक अन्तर्राष्ट्रीय कार्यशाला का आयोजन, एशियन फिशरीज़ सोसायटी की भारतीय शाखा (AFSIB) द्वारा संस्थान परिसर में 14 नवम्बर, 2014 को किया गया जिसका शुभारम्भ कृषि मन्त्रालय, भारत सरकार के पशुपालन दुग्ध एवं मात्स्यिकी विभाग के संयुक्त सचिव (मात्स्यिकी) डा. आर.एस. बुन्दरु द्वारा किया गया। कार्यक्रम की अध्यक्षता भा.कृ.अनु.प.— नई दिल्ली की उपमाहानिदेशक (मात्स्यिकी) डा. बी. मीनाकुमारी ने की जबकि संस्थान के निदेशक डा. जे.के. जेना व जलीय जीव रोग निगरानी कार्यक्रम परियोजना के सह-समन्वयक ने कार्यक्रम का संयोजन तथा डा. पुनिया ने कार्यक्रम का समन्वयन किया। इस कार्यशाला में वैश्विक आधार पर जलीय जीवों में होने वाले रोग एवं उनकी निगरानी सम्बन्धी उपायों पर चर्चा की गई तथा विशेषज्ञों के व्याख्यान हुए।

## राष्ट्रीय मतस्य आनुवांशिक संसाधन ब्यूरो ने अपना 31 वां स्थापना दिवस तथा 'फार्म इन्नोवेटर्स डे' मनाया

ब्यूरो द्वारा 12 दिसम्बर, 2014 को अपना 31 वां स्थापना दिवस तथा फार्म इन्नोवेटर्स डे' मनाया गया। कार्यक्रम का शुभारम्भ भा.कृ.अनु.प.—राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी, हैदराबाद के पूर्व निदेशक डा. एस.एल. गोस्वामी द्वारा किया गया जो समारोह में मुख्य अतिथि थे। भा.कृ.अनु.प.— भारतीय गन्ना अनुसंधान संस्थान, लखनऊ के निदेशक डा.एस. सोलोमन तथा भा.कृ.अनु.प.—शीतजल मात्स्यिकी अनुसंधान निदेशालय, भीमताल के पूर्व निदेशक डा. पी.सी. महन्ता सम्माननीय अतिथि के रूप में उपस्थित थे। संस्थान के निदेशक डा. जे.के. जेना ने अपने स्वागत सम्बोधन में संस्थान की प्रमुख उपलब्धियों के विषय में अवगत कराया। इस अवसर पर उपस्थित प्रगतिशील जल कृषकों तथा उद्यमियों ने भाग लिया तथा उनके द्वारा अपनायी जाने वाली नवोन्मेषी व लाभदायक कृषि की विधियों के विषय में जानकारी दी। संस्थान

के विभिन्न वर्गों के कर्मियों को वर्ष 2013-14 के लिए संस्थान द्वारा वार्षिक पुरस्कार भी दिये गये।

## केरल में जलीय जीवों की बीमारियों की निगरानी हेतु राष्ट्रीय जागरूकता कार्यक्रम का आयोजन

संस्थान के कोच्ची केन्द्र पी.एम.एफ.जी.आर. द्वारा 8 अक्टूबर, 2014 को सजावटी मछलियों के कृषकों तथा राज्य के मात्स्यिकी कर्मियों हेतु एक दिवसीय जागरूकता कार्यक्रम का आयोजन किया गया। भा.कृ.अनु.प.—केन्द्रिय समुद्री मात्स्यिकी अनुसंधान संस्थान के निदेशक डा. ए. गोपालाकृष्णन, उद्घाटन समारोह के मुख्य अतिथि थे। उन्होंने सजावटी मछलियों के अन्तर्देशीय आवागमन परिप्रेक्ष्य में, उनमें होने वाली बीमारियों की निगरानी को महत्वपूर्ण बताया। उन्होंने इस कार्य के लिए कृषकों, सरकारी कर्मियों तथा शोधार्थियों द्वारा संयुक्त प्रयास किये जाने की आवश्यकता बतायी। इस कार्यक्रम में केरल प्रदेश के चयनित 5 जिलों से 61 प्रतिभागियों ने भाग लिया।

## मत्स्य संरक्षण पर जागरूकता कार्यशाला

वर्ल्ड वाइल्ड लाइफ फण्ड फॉर नेचर के सहयोग से केरल के थ्रिसूर जिले के चालाकुडी में 30 दिसम्बर, 2014 को एक दिवसीय मत्स्य संरक्षण जागरूकता कार्यशाला का आयोजन किया गया जिसमें देशीय मत्स्य संसाधनों, छोटी जलकृषि परियोजनाओं द्वारा आजीविका उत्थान हेतु अवसर तथा मत्स्य आवास स्थलों के संरक्षण, आदि विषयों पर व्याख्यान/प्रस्तुतियां की गयी। इस कार्यशाला में वजाचल वन प्रभाग स्थित 8 आदिवासी बस्तियों के 30 निवासियों ने भाग लिया। इस कार्यशाला में संस्थान को कोच्ची केन्द्र के प्रभारी डा. वी. एस. बशीर ने वेस्टर्न घाट के मीठे जल वाले मत्स्य संसाधनों का ब्यौरा देते हुए प्राकृतिक सम्पदा को संरक्षित करने के लिए संस्थान के प्रयासों को रेखांकित किया तथा केरल जैवविविधता बोर्ड के पूर्व प्रधान वैज्ञानिक अधिकारी तथा मत्स्य वर्गिकी के विशेषज्ञ डा. सी.पी. शाजी ने चालाकुडी नदी की मीठे जल वाली मछलियों की विविधता के विषय में बताया।

## विस्तार गतिविधियां

### 'मत्स्य पालन एवं संरक्षण' विषय पर आदिवासी कृषकों हेतु प्रशिक्षण कार्यक्रम

संस्थान की जलीय कृषि एवं प्रशिक्षण इकाई चिनहट द्वारा मध्य प्रदेश एवं उत्तर प्रदेश के आदिवासी मत्स्य कृषकों हेतु

तीन अल्पकालिक प्रशिक्षण कार्यक्रमों का आयोजन किया गया जिसमें 57 आदिवासी मत्स्य कृषकों को प्रशिक्षित किया गया। सभी प्रशिक्षण कार्यक्रम आवासीय एवं क्षेत्र-उन्मुखी प्रकार के थे जिसमें व्यावहारिक एवं क्रियाशील प्रशिक्षण प्रयोगिक प्रदर्शनों द्वारा दिया गया।

## प्रदर्शनियों में प्रतिभाग

संस्थान द्वारा मात्स्यिकी एवं जलीय संसाधनों से सम्बन्धित देश के विभिन्न भागों में आयोजित निम्नलिखित प्रदर्शनियों में भाग लिया गया :

- ✦ 26 नवम्बर से 7 दिसम्बर, 2014 तक लखनऊ महोत्सव में विज्ञान एवं प्रौद्योगिकी मंडप में।
- ✦ 2-5 दिसम्बर, 2014 तक कोच्ची (केरल) में भारतीय मरीन बायोलॉजिकल एसोशियेशन, कोच्ची द्वारा आयोजित

अन्तर्राष्ट्रीय सम्मेलन (मीकास-20) में।

## पुरस्कार एवं सम्मान

- ✦ प्रधान वैज्ञानिक एवं एम.बी.बी. प्रभाग के प्रभागाध्यक्ष डा. एन. एस. नागपुरे को इण्डियन एकाडेमी ऑफ इनवायरमेंटल साइन्सेज, हरिद्वार द्वारा सम्मानार्थ फेलोशिप प्रदान की गयी। डा. नागपुरे जूलोजिकल सोसायटी ऑफ इण्डिया, बोध गया द्वारा डा. डी.के. बेलसेर मेडल 2014 से भी सम्मानित किये गये।

## स्टाफ समाचार

### कार्यभार ग्रहण

प्रतिवेदित अवधि के दौरान निम्नलिखित वैज्ञानिकों ने संस्थान में कार्यभार ग्रहण किया

- ✦ डा. शरद कुमार सिंह वरिष्ठ वैज्ञानिक ने दिनांक 01.12.2014 को भा.कृ.अनु.प.-केन्द्रीय मृदा लवणता अनुसंधान संस्थान, करनाल से स्थानांतरण उपरान्त।
- ✦ श्री त्रिवेश सुरेश मायेकर, वैज्ञानिक ने दिनांक 05.11.2014 को भा.कृ.अनु.प.-भारतीय समुद्री मात्स्यिकी अनुसंधान संस्थान, कोच्ची से स्थानांतरण उपरान्त।

भा.कृ.अनु.प.- राष्ट्रीय मत्स्य आनुवंशिक संसाधन ब्यूरो परिवार नये सदस्यों का स्वागत करता है।

### स्थानांतरण / कार्यमुक्ति

- ✦ भा.कृ.अनु.प.- केन्द्रीय मीठा जल जीवपालन अनुसंधान

संस्थान में योगदान देने हेतु सुश्री प्रियंका नंदनपवार वैज्ञानिक को दिनांक 17.11.2014 को कार्यमुक्त किया गया।

- ✦ भा.कृ.अनु.प.- राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी, हैदराबाद में वैज्ञानिक के रूप में प्रशिक्षण फोकर्स प्रशिक्षण में उपस्थित देने हेतु श्री अविनाश रामभाउ रसल, तकनीकी सहायक को दिनांक 27.12.2014 को कार्यमुक्त किया गया।

### स्वच्छ भारत अभियान

संस्थान के कर्मियों द्वारा भारत के मानीय प्रधानमन्त्री द्वारा सफाई हेतु प्रारम्भ किये गये स्वच्छ भारत अभियान के अन्तर्गत सक्रिय रूप से भाग लिया गया। इस अभियान में कर्मियों द्वारा संस्थान परिसर के भीतर व बाहर आवांछित वनस्पतियों तथा कचरे की सफाई की गयी।

*Direction and Guidance:* Dr. J.K. Jena, Director

*Compilation & Editing:* Dr. L.K. Tyagi, Sr. Scientist and OIC, Extn. & Training Cell

*Hindi Editing:* Dr. Akhilesh Kr. Mishra, Sr. Technical Officer

*Assistance:* Shri A.S. Bisht, Technical Officer

*Published by:* Director, ICAR - National Bureau of Fish Genetic Resources, Lucknow

Canal Ring Road, P.O. Dilkusha, Lucknow 226 002 UP, INDIA

Tel: 0522-2441735, 2440145, 7525011218, 7525011219; Fax: 0522-2442403

E-mail: ndfgr@sancharnet.in; director@nbfgr.res.in

Website: <http://www.nbfgr.res.in>