



NBFGR News

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NBFGR CELEBRATES 27TH FOUNDATION DAY

The NBFGR celebrated its 27th Foundation Day on December 12, 2009. The programme was inaugurated by Dr. N.K. Tyagi, Member, Agricultural Scientists Recruitment Board, New Delhi. Dr. M. Vijay Gupta, World Food Prize Laureate and Former Assistant Director General, WorldFish Center, Penang, Malaysia was the Guest of Honour on this occasion, whereas, Ms. Nita Chowdhary, Member, Revenue Board, Government of Uttar Pradesh and Former Joint Secretary (Fisheries), Government of India presided over the function.



Chief Guest Dr. N.K. Tyagi, Member, ASRB, New Delhi inaugurating the programme by lighting the lamp

We, the NBFGR family salute Dr. Mangala Rai, Secretary, DARE and DG, ICAR who superannuated on December 31, 2009 for his visionary leadership to NARS and unparalleled contributions in the growth of Indian Agriculture. We have been fortunate to witness a period of innovations, modernization, development of human resources in frontier areas, new inventions, commercializations and collaborations in several emerging fields of national importance under his patronage and dynamic leadership. All support and guidance to this Institute from ICAR is gratefully acknowledged.

Dr. Ayyappan takes over as DG, ICAR and Secretary, DARE

It is a matter of great pride for the whole agriculture sector and fraternity that Dr. S. Ayyappan, Dy. Director General (Fisheries), Indian Council of Agricultural Research, New Delhi has been selected as the next Secretary, Department of Agricultural Research and Education, Government of India and Director General of ICAR. Dr. S. Ayyappan, a noted Fishery Scientist of international repute, a leader par excellence and a great soul, has been a guiding force for bringing the fisheries in the mainstream of research in the country. His selection to the highest post in the National Agricultural Research System of the country is an apt recognition of his outstanding contributions to Agricultural Sciences. Dr. Ayyappan has a glorious past as a dynamic and innovative leader in the capacity of Founder Chief Executive of National Fisheries Development Board, Hyderabad; Director/VC of CIFE, Mumbai and Director, CIFA, Bhubaneswar. We are very confident that under his visionary leadership, National Agricultural Research System of the Country will get a further impetus and dimension in both work culture and output and outcome. As DDG (Fy.) Dr. S. Ayyappan was a great source of strength to NBFGR and we take this opportunity and pride to place on record our highest gratitudes to Dr. S. Ayyappan and congratulate him for the coveted position.



NATIONAL BUREAU OF FISH GENETIC RESOURCES, LUCKNOW
(Indian Council of Agricultural Research)

Dr. W.S. Lakra, Director, NBFGR welcomed the guests and presented an overview of the Institute's activities and achievements in recent years.

In his inaugural address, Dr. N.K. Tyagi highlighted the role, relevance and challenges for higher agricultural education in the country. He specifically threw light on the steps taken by the ICAR to strengthen and improve higher education system in agricultural and allied sciences. Dr. Tyagi opined that the fish has an important role to play in increasing the productivity from water and to meet the requirement of cheap animal protein. Dr. Tyagi emphasized that the ICAR Institutes and the State Agricultural Universities, through the chain of Krishi Vigyan Kendras, can play an important role in dissemination of relevant aquaculture technologies to fish farmers for increasing fish production in the country which will ultimately contribute to the food and protein security.

Dr. M. Vijay Gupta in his Foundation Day Lecture informed that by the year 2020, the demand of fish will increase to 11.86 million tons whereas the current fish production of this country is around 6.5 million tons. Therefore, aquaculture has to play a very significant role in bridging the gap between the demand and supply. He highlighted some of the issues that need priority attention by research institutions and policy makers including development of modern mariculture and brackishwater aquaculture practices, use of biological tools for genetic enhancement, development of low-cost feeds, fish seed certification, species diversification and use of non-conventional aquaculture resources, safeguarding interest of small farmers and formation of policies to support the fisheries.

Ms. Nita Chowdhary in her presidential address appreciated NBFGR/ICAR for their achievements in cataloguing, characterization and conservation of fishery resources. She suggested to intensify the efforts on quality seed production, ornamental fish culture, training of fish farmers and increased interaction of scientists and the stakeholders.

The Annual Institute Awards for the year 2008-09 were also given to selected staff on this

occasion by the Chief Guest Dr. N.K. Tyagi. These awards, instituted for the first time at the Institute, were presented to the following staff in different award categories:

Best Division/ Section Award	: Molecular Biology & Biotechnology Division
Best Scientist Award	: Dr. A. Gopalakrishnan Dr. U.K. Sarkar
Young Scientist Award	: Dr. G. Rathore
Technology Promotion Award	: Dr. L.K. Tyagi
Best Technical Staff Award	: Mr. R.S. Patiyal Mr. R.K. Shukla
Best Administrative Staff Award	: Mr. Joginder Singh Mrs. Mamta Chakraborty
Hindi Promotion Award	: Mr. S.N. Srivastava Mr. Akhilesh Kumar Mishra Mrs. Kaneez Fatima Mr. R.S. Chaurasia
Best Supporting Staff Award	: Mr. Laxman Prasad
Best Child Award	: Ms. Toshi Singh D/o Mr. Joginder Singh



A progressive fish farmer receiving award from Dr. M. Vijay Gupta

A fish farmers' meet was also organized on this occasion in which a large number of fish farmers from different parts of the state were invited. Technical lectures were delivered by NBFGR scientists for the benefit of the farmers and extension literature on different aspects of aquaculture were also given to farmers. Three fish farmers were selected and awarded for their outstanding achievements in different aspects of aquaculture. On this occasion, the dignitaries also released seven booklets published by the Institute on different aspects of aquaculture. An exhibition was also organized for the benefit of fish farmers.

RESEARCH HIGHLIGHTS

Occurrence of exotic carnivorous and predatory fish Piranha, *Pygocentrus nattereri* in natural waters of Kerala

Occurrence of an exotic fish, red-bellied Piranha (*Pygocentrus nattereri*) (Order: Characiformes) was reported from Periyar and Chalakkudy rivers in Kerala, recently. Fishermen were able to collect its specimens daily from Manjali, a place where Chalakkudy River in its lower reaches joins Periyar River. Few specimens were also obtained from Annamanada along the Chalakkudy River. Even though there were reports of large specimens (10 kg size), most of the specimens obtained were in the range of 50-300 grams.



Specimens of exotic fish - Piranha from Chalakkudy River

Sharp teeth of the fish

The NBFGR team surveyed the area and collected specimens (50-300g size) from Kanakkankadavu, along the lower reach of Chalakkudy River. Occurrence of this non-native species in these rivers was first noticed at the end of July 2009. This indicates that the species might have escaped from fish hobbyists or aquaculture farm(s), which needs further investigation. However, there were no reports of occurrence of this species from the upper reaches of these rivers. The gut of a suspected fish specimen was examined in the laboratory. This exotic species is suspected to be dangerous to other fauna of the river and may be a potential threat to biodiversity.

First record of the Southern Sailfin Catfish, *Pterygoplichthys disjunctivus* from India

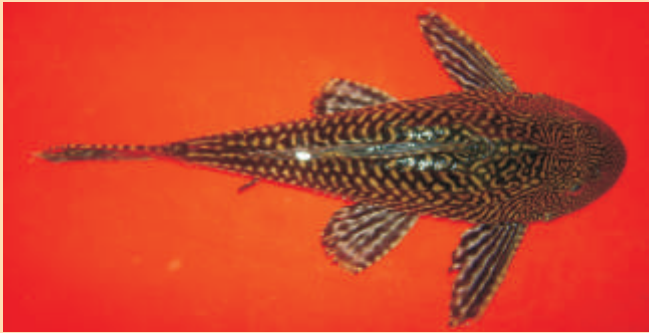
One live individual of a sucker mouth armored Southern Sailfin catfish (Loricariidae) *P. disjunctivus* (36 cm Total Length, 135 gm.) was captured on November 7, 2009 in a multifilament

gill net in the River Gomti at Lucknow, Uttar Pradesh state. The loricariid catfishes in rivers of India were not previously reported. To the best of our knowledge, there is no previously published record of occurrence of *P. disjunctivus* in India. Thus, the present report is the first record of this fish in the country.

The sucker mouth armored Southern Sailfin catfish (Loricariidae) is the largest family of catfishes with 646 species. They are large bottom-dwelling species and are popular ornamental fishes characterized by, bony plates covering the body, a pair of sub-terminal barbels, sucking lips, usually a spine in front of the adipose fin, and a flat bottom body shape. They occur naturally in a variety of freshwater habitats from sea level to 3000 m elevation, often surviving in conditions that exclude other fishes. Range expansion of loricariid catfishes all over the world began during middle of 20th Century, through aquarium trade. The invasion of these fishes into natural waters outside their native range occurred first in North and Central America and later in the Pacific Islands. Introduction and naturalization of these fishes in water bodies of Southeast Asia, especially in Indonesia, Malaysia, Singapore, Philippines, Taiwan, Vietnam and Bangladesh began during 1980-1990.

The water quality parameters of River Gomti, from where the fish was collected included: Water temperature 32°C, pH 8.2, Dissolved Oxygen (D.O.) 6.3 mg/l, Total Dissolved Solids 238 mg/l, conductivity 405 micro mhos/cm and turbidity 3 NTU.

As a result of rapid growth and high fecundity, the introduced sailfin catfish can become abundant within a short period of time. A large population of the fish can significantly alter and reduce food and ecology of aquatic insects and other arthropods, subsequently negatively affecting many native fishes that depend on these food sources. Other impacts on river ecosystems are excavating burrows along banks by males of

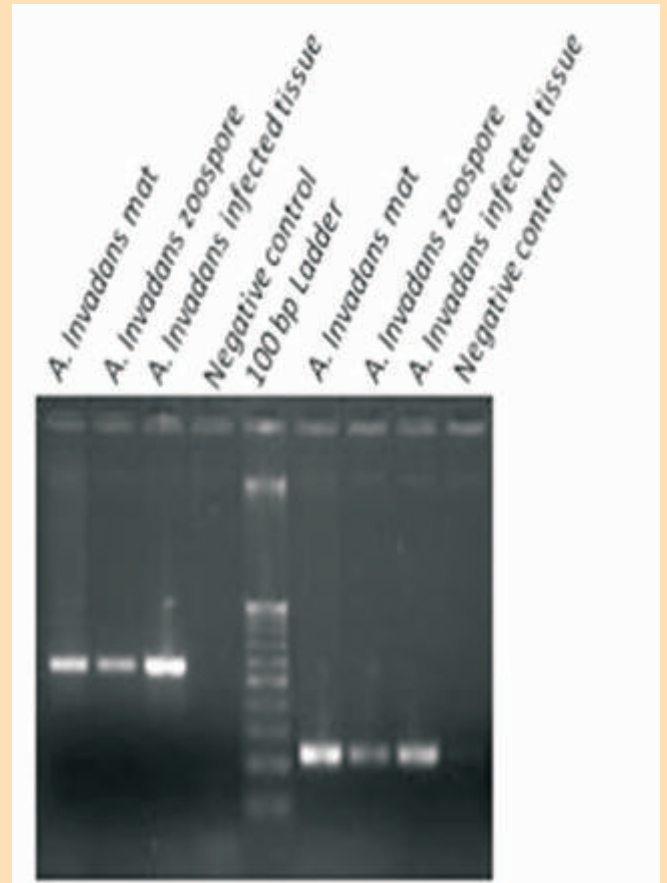


Pterygoplichthys disjunctivus

other species of *Pterygoplichthys*, which lead to siltation problems and shoreline instability. Environmental degradation or ecological disruption by the introduction of *Pterygoplichthys* species in Southeastern Asia and North America has been reported. It is not known if the population of *P. disjunctivus* is well established in the River Gomti. It does not appear to be abundant now, but *Pterygoplichthys disjunctivus* may strongly increase their presence in the river in future by establishing itself in the ecosystem or because of an intensive development of the ornamental fish trade. We assume that the possibility of further occurrence of this new arrival should be critically monitored to assess whether the species establishes large self-sustaining populations, or if the fishes have negative ecological effects on the river system and fish fauna of the river.

Detection of *Aphanomyces invadans* for surveillance through PCR technique

Conventional identification of *Aphanomyces invadans*, the primary etiological agent of Epizootic Ulcerative Syndrome (EUS) directly from ulcerative lesion is difficult because the species present in the lesion do not form specialized reproductive structures. In addition, the culture recovery rate of *A. invadans* is typically very low. Even if successfully cultured, it often fails to produce the sexual structures needed for identification of species. Hence, a PCR based technique has been standardized for detection of *A. invadans*. This specific, rapid and sensitive DNA based diagnosis can be used in surveillance programmes for large scale screening of fish and detection of *A. invadans* in asymptomatic carriers (if any!) in EUS off seasons.



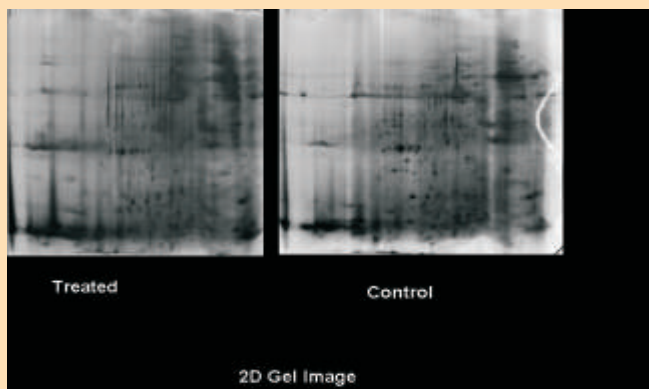
A PCR product of *Aphanomyces invadans*

Lane 1-4: Primers of Oidtmann et al. (2008)

Lane 6-9: Primers of Vandersea et al. (2006)

New Initiatives on Proteomics Research at NBFGR, Lucknow

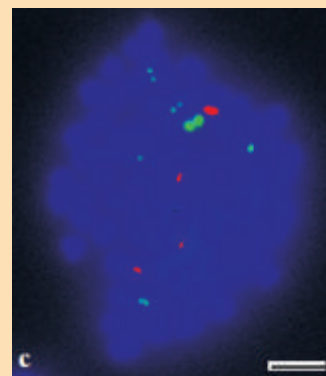
Proteomics research has enormous applications in human and animal research. However, proteomic studies in fisheries science are lacking, especially in India. Mass spectral-based proteomic technologies are ideally suited for the development of protein biomarkers in the absence of any prior knowledge of quantitative changes in protein levels. Keeping in view its emerging importance in fisheries, new initiatives have been taken to commence proteomics research at NBFGR, Lucknow in collaboration with Biophysics Department, AIIMS, New Delhi. The gill tissues of normal *Labeo rohita* and *L. rohita* exposed to Cadmium Chloride, a heavy metal, were analysed for protein profiling using 2D electrophoresis and stained with silver stain. It clearly revealed distinct protein spots in the treated specimens.



Physical mapping of 45S and 5S ribosomal genes in *Tor mosal mahanadicus*

The physical localization of major and minor ribosomal genes on chromosomes of *T. mosal mahanadicus* was studied using dual color FISH. The probes were prepared by amplification of 18S and 5S DNA fragments and labeling them with green and red flurochrome, respectively, and hybridized on the metaphase chromosomes. The

45S rDNA sites were found on three pairs of submetacentric and subtelocentric chromosomes. The position and number of NOR sites detected by silver and CMA₃ staining techniques were identical with those of 45S rDNA sites. The 5S rDNA sites were observed on the p arms of the two pairs of submetacentric and subtelocentric chromosomes near their centromeres. The presence of 5S rDNA clusters on more than one pair of chromosomes in *T. mosal mahanadicus* is an uncommon feature for the genus *Tor* and, can be used as a marker for species identification and germplasm conservation.



Dual colour FISH on metaphase spread of *T. mosal mahanadicus*. 18S (green) and the 5S (red) rDNA probe. [Bar: 5m]

TRAININGS/ MEETINGS ORGANIZED

Short Course on DNA Barcoding Fish and Marine Life

The Institute organized a short course on “DNA Barcoding Fish and Marine Life” at Lucknow during December 3-12, 2009. The course was sponsored by the Education Division of ICAR and is first of its kind in the country. Prof. T.J. Pandian, Former ICAR National Professor inaugurated the course. Prof. Pandian, in his inaugural address, appreciated the leadership being provided by NBFGR in developing trained manpower for DNA barcoding, not only in India, but in the Southeast Asia. Dr. V.P. Sharma, Former Director, National Institute of Malaria Research, New Delhi and Former Assistant Director General, Indian Council of Medical Research, New Delhi also presented his views as the Guest of Honour. A total of 15 researchers/ faculty members from different parts of the country participated in the course which included Basic concept of DNA



Participants with Guests and NBFGR Faculty

barcoding; Molecular vs Traditional fish taxonomy; Mitochondrial and nuclear DNA markers; Sample processing, DNA extraction and PCR amplification of COI; COI mtDNA sequence processing and analysis; DNA barcode generation and submission and Applications of DNA barcoding.

PARTICIPATION IN WORKSHOPS/MEETINGS/ TRAININGS

Abroad

- Dr. W.S. Lakra, Director participated in the Third International Barcode of Life Conference in Mexico City during Nov. 7-13, 2009.

In India

- Dr. W.S. Lakra, Director participated in the Mid-term Review of the Department of Agricultural Research & Education (DARE/ ICAR) for the 11th

Five Year Plan Interface with the Mid-term Review Committee on Oct. 10, 2009 at Kolkata organized by the Planning Commission, Govt. of India.

- Mrs. Poonam Jayant Singh, Scientist (SS) delivered an invited presentation on "Copyright Issues in Open Access" in the Workshop on E-Publishing and Knowledge System in Agricultural Research at NASC Complex, New Delhi, organized by Directorate of Information and Publications of Agriculture, New Delhi on Nov. 14, 2009.
- Dr. V.S. Basheer, Sr. Scientist, NBFGR Cochin Unit, Kochi participated in the National Seminar on "Conservation and sustainability of coastal

Living resources of India" conducted jointly by Central Institute of Fisheries Technology and Association of Fishery Technologists, India at CIFT, Kochi during Dec. 1-3 2009.

- Dr. V.S. Basheer, Sr. Scientist, NBFGR Cochin Unit, Kochi attended a training on "Current Regulations and Policies for Access to Genetic Resources" during Dec.10-19, 2009 at NBPGR, New Delhi.
- Mr. A.S. Bisht, T-4 participated in the National Symposium on "Coldwater Fisheries Management: New Strategies and Approaches" organized by DCFR, Bhimtal during Oct. 2-4, 2009 at Tezpur, Assam.

EXTENSION ACTIVITIES

Short-term Training Programmes for Fish farmers on Aquaculture Technologies and Productivity Enhancement

The Institute, at its Aquaculture Research and Training Unit (ARTU), Chinhat organized four short-term training programmes on "Aquaculture Technologies and Productivity Enhancement" for the benefit of the fish farmers of Uttar Pradesh during the quarter under report. These programmes were organized during October 26-30, 2009, November 09 - 13, 2009; December 08 - 12, 2009 and December 15 - 19, 2009, sponsored by Uttar Pradesh Diversified Support Project (UP DASP). A total of 78 fish farmers were trained in these programmes. The major emphasis of these programmes was on practical demonstrations and field oriented activities. Besides, field visits to hatchery and fish farms in private sector at Barabanki, UP were also undertaken to provide exposure to the trainees and to allow them to interact and learn from the private entrepreneurs. A training manual containing the lecture notes and demonstration material was released on the occasion and provided to the fish farmers.

The Institute participated in the exhibitions at Tezpur, Assam; Kochi, Kerala and Mumbai.

The following batches of students visited different laboratories, hatchery and fish farm of the Institute during the period:

- A group of 60 students from St. Josheph Inter College, Lucknow.
- A batch of 80 Graduate students along with faculty from Bachhranwa Degree College, Raebareli, UP.

DISTINGUISHED VISITORS

- Dr. S.N. Dwivedi, Former Additional Secretary, Department of Ocean Development, Govt. of India and President, ASET, Bhopal.
- Dr. N.K. Tyagi, Member, Agricultural Scientists Recruitment Board, New Delhi..
- Dr. M. Vijay Gupta, World Food Prize Laureate and Former Assistant Director General, WorldFish Center, Penang, Malaysia.
- Ms. Nita Chowdhary, Member, Revenue Board, Government of Uttar Pradesh.
- Dr. S.A.H. Abidi, Former Member, ASRB and Former Director/ VC, CIFE, Mumbai.
- Dr. M.Y. Kamal, Former Vice Chancellor, Sher-E-Kashmir University of Agriculture and Technology, Srinagar.
- Dr. B.N. Singh, Former DDG (Fy.), ICAR.
- Prof. T.J. Pandian, Former ICAR National Professor. Madurai Kamraj University, Madurai.
- Dr. P. Das, Former Director, NBFGR.
- Dr. B.N. Desai, Former Director, NIO, Goa.
- Dr. V.P. Sharma, Former Director, National Institute of Malaria Research, New Delhi and Former ADG, ICMR, New Delhi.
- Dr. George John, Advisor, DBT, New Delhi.
- Dr. Madan Mohan, ADG (Marine Fisheries), ICAR*.
- Dr. B. Meenakumari, Director, CIFT, Kochi.

**Visited NBFGR Cochin Unit*

संस्थान ने 27वां स्थापना दिवस मनाया

राष्ट्रीय मत्स्य आनुवंशिक संसाधन ब्यूरो, लखनऊ ने दिसम्बर 12, 2009 को अपना 27वां स्थापना दिवस मनाया। इस अवसर पर आयोजित कार्यक्रम का उद्घाटन मुख्य अतिथि डा. एन.के. त्यागी, सदस्य, कृषि वैज्ञानिक चयन मंडल, नई दिल्ली ने किया। विश्व खाद्य सम्मान से विभूषित डा. एम. विजय गुप्ता, पूर्व सहायक महानिदेशक, विश्व मत्स्य केन्द्र, पेनांग, मलेशिया इस अवसर पर विशिष्ट अतिथि थे जबकि सुश्री नीता चौधरी, सदस्य राजस्व परिषद्, उ.प्र. तथा पूर्व संयुक्त सचिव (मात्स्यिकी) भारत सरकार ने समारोह की अध्यक्षता की। संस्थान के निदेशक डा. वजीर एस. लाकड़ा ने सभी का स्वागत किया और संस्थान की गतिविधियों व उपलब्धियों की समीक्षा प्रस्तुत की। अपने उद्घाटन भाषण में डा. एन.के. त्यागी ने कृषि में उच्च शिक्षा की भूमिका, उपयुक्तता व चुनौतियों पर प्रकाश डाला। उन्होंने कृषि में उच्च शिक्षा के विकास हेतु भारतीय कृषि अनुसंधान परिषद् द्वारा किए गए प्रयासों पर विस्तार से चर्चा की। डा. त्यागी ने कहा कि परिषद् के संस्थान व राज्य कृषि विश्वविद्यालय, कृषि विज्ञान केन्द्रों के माध्यम से जलकृषि तकनीकी को मत्स्य पालकों तक पहुँचाने में महत्वपूर्ण भूमिका निभा सकते हैं; जिससे मत्स्य उत्पादन बढ़ाने और खाद्य सुरक्षा में मदद मिलेगी।

डा. एम. विजय गुप्ता ने अपने स्थापना दिवस व्याख्यान में सूचित किया कि वर्ष 2020 तक देश में 11.86 मि. टन मछली की मांग होगी जबकि अभी मत्स्य उत्पादन 6.5 मि. टन है। अतः मत्स्य उत्पादन की माँग व पूर्ति के इस अन्तर को पूरा करने में जलकृषि की महत्वपूर्ण भूमिका होगी। डा. गुप्ता ने मात्स्यिकी व जलकृषि के विकास हेतु उन महत्वपूर्ण मुद्दों पर विस्तार से चर्चा की जिन पर शोध संस्थानों तथा नीति निर्माताओं द्वारा, प्राथमिकता के आधार पर ध्यान देने की आवश्यकता है। सुश्री नीता चौधरी ने अपने अध्यक्षीय भाषण में ब्यूरो/परिषद् के प्रयासों व उपलब्धियों की सराहना की। सुश्री चौधरी ने उच्च गुणवत्ता वाला मत्स्य बीज उत्पादित करने, मत्स्य पालकों को प्रशिक्षण देने तथा वैज्ञानिकों व सभी उपयोगकर्ताओं के बीच बातचीत बढ़ाने के सुझाव दिये।

इस अवसर पर संस्थान के चयनित स्टाफ सदस्यों को वार्षिक पुरस्कार प्रदान किए गए। ये पुरस्कार, जो कि पहली बार 2008-09 में आरम्भ किए गए हैं, विभिन्न श्रेणियों में निम्नलिखित स्टाफ को प्रदान किए गए :

सर्वश्रेष्ठ संभाग/अनुभाग पुरस्कार	: आण्विक जीवविज्ञान एवं जैवप्रौद्योगिकी संभाग
सर्वश्रेष्ठ वैज्ञानिक पुरस्कार	: डा. ए. गोपालकृष्णन डा. यू.के. सरकार
युवा वैज्ञानिक पुरस्कार	: डा. गौरव राठौर
प्रौद्योगिकी प्रोत्साहन पुरस्कार	: डा. ललित कुमार त्यागी
सर्वश्रेष्ठ तकनीकी स्टाफ पुरस्कार	: श्री आर.एस. पतियाल श्री आर.के. शुक्ला
सर्वश्रेष्ठ प्रशासनिक स्टाफ पुरस्कार	: श्री जोगेन्द्र सिंह श्रीमती ममता चक्रवर्ती

हिन्दी प्रोत्साहन पुरस्कार

: श्री सुरेन्द्रनाथ श्रीवास्तव
श्री अखिलेश कुमार मिश्रा
श्रीमती कनीज फातिमा
श्री राम सकल चौरसिया

सर्वश्रेष्ठ सहायक कर्मचारी पुरस्कार

: श्री लक्ष्मण प्रसाद

सर्वश्रेष्ठ बाल पुरस्कार

: कु. तोशी सिंह
(पुत्री श्री जोगेन्द्र सिंह)

इस अवसर पर एक मत्स्य पालक गोष्ठी का आयोजन किया गया जिसमें उत्तर प्रदेश के विभिन्न स्थानों से आए हुए मत्स्य कृषकों को, संस्थान के वैज्ञानिकों द्वारा तकनीकी व्याख्यान दिए गए तथा जलकृषि से सम्बन्धित प्रसार साहित्य उपलब्ध कराया गया। तीन चयनित प्रगतिशील मत्स्यपालकों को, जलकृषि के क्षेत्र में उनकी उल्लेखनीय उपलब्धियों हेतु पुरस्कृत किया गया। अतिथियों ने इस अवसर पर संस्थान द्वारा प्रकाशित सात पुस्तिकाओं का विमोचन किया। मत्स्यपालकों हेतु इस अवसर पर एक प्रदर्शनी का आयोजन भी किया गया।

समस्त एन.बी.एफ.जी.आर. परिवार डा. मंगला राय, सचिव, कृषि अनुसंधान एवं शिक्षा विभाग एवं महानिदेशक, भा.कृ.अ. परिषद् जो कि दिसम्बर 31, 2009 को सेवानिवृत्त हो रहे हैं, के प्रति भारतीय कृषि अनुसंधान तंत्र की प्रगति में उनके योगदान व दूरदर्शी नेतृत्व हेतु, हार्दिक अभिवादन एवं आभार व्यक्त करता है। हम भाग्यशाली रहे कि हमें उनके संरक्षण एवं नेतृत्व में राष्ट्रीय महत्व के बहुत से उभरते क्षेत्रों में नूतन पहल, आविष्कार, व्यवसायीकरण, सहयोग एवं प्रयास देखने को मिले।

डा. एस. अय्यप्पन भा.कृ.अ.प. के नए महानिदेशक

समस्त मात्स्यिकी क्षेत्र के लिए यह अत्यन्त गौरव की बात है कि डा. एस. अय्यप्पन, उपमहानिदेशक (मात्स्यिकी), भारतीय कृषि अनुसंधान परिषद्, नई दिल्ली को, सचिव, कृषि अनुसंधान एवं शिक्षा विभाग, भारत सरकार तथा महानिदेशक, भा.कृ.अनु. परिषद् हेतु चयनित किया गया है। अन्तर्राष्ट्रीय स्तर के मात्स्यिकी वैज्ञानिक एवं अपार नेतृत्व क्षमता के धनी डा. एस. अय्यप्पन का, मात्स्यिकी को अनुसंधान की मुख्य धारा में लाने में महत्वपूर्ण योगदान रहा है। राष्ट्रीय कृषि अनुसंधान तंत्र के सर्वोच्च पद हेतु डा. अय्यप्पन का चुना जाना, उनके उत्तम योगदानों का उपयुक्त सम्मान है। डा. अय्यप्पन का विभिन्न महत्वपूर्ण पदों, मुख्य कार्यकारी अधिकारी, राष्ट्रीय मात्स्यिकी विकास बोर्ड, निदेशक/कुलपति, केन्द्रीय शिक्षा संस्थान, मुम्बई तथा निदेशक, केन्द्रीय मीठाजल जीवपालन संस्थान, भुवनेश्वर, पर गौरवपूर्ण इतिहास रहा है। हमें पूर्ण विश्वास है कि उनके दूरदर्शी नेतृत्व में देश का राष्ट्रीय कृषि अनुसंधान तंत्र नई दिशाएं और नई ऊँचाईयां प्राप्त करेगा। उपमहानिदेशक (मात्स्यिकी) के रूप में डा. एस. अय्यप्पन एन.बी.एफ.जी.आर. के प्रेरणास्रोत रहे हैं और इस अवसर पर हम डा. अय्यप्पन के प्रति अपना हार्दिक आभार व्यक्त करते हैं और उनकी उपलब्धि पर उन्हें बधाई देते हैं।

अनुसंधान समाचार

केरल के प्राकृतिक जल में मांसाहारी विदेशागत मछली पिरान्हा की उपस्थिति

केरल की पेरियार एवं चालक्कुडी नदियों में हाल ही में मांसाहारी व परभक्षी विदेशागत मत्स्य प्रजाति पिरान्हा (*पायोगोसेन्ट्रस नटैरेरी*) की उपस्थिति देखी गई है। मछुआरों को यह मछली उपरोक्त दोनों नदियों के संगम स्थल मन्जली से प्रतिदिन प्राप्त हुई। इसके कुछ नमूने चालक्कुडी नदी में अन्नमन्दा से भी प्राप्त हुए। ब्यूरो की टीम ने इन क्षेत्रों का सर्वे किया तथा टीम को चालक्कुडी नदी के निचले भाग में कनक्कानकाडवु से इस प्रजाति के नमूने प्राप्त हुए। यह गैर-देशज प्रजाति, जो कि कुछ एक्वारियम या जलकृषि मार्गों से प्राकृतिक जलों में प्रवेश हो गई प्रतीत होती है, इन नदियों की जैवविविधता को खतरा बन सकती है।

दक्षिणी सैलफिन कैटफिश का, भारत में प्रथम अभिलेख

लखनऊ में गोमती नदी से दक्षिणी सैलफिन कैटफिश (*टेरिगोप्लीक्थिस डिसजंक्टवस*) प्रजाति की एक जीवित मछली प्राप्त हुई। इस प्रकार की लोरिकेटीडी कैटफिश पहले भारत से अभिलेखित नहीं हुई है। प्रकाशित साहित्य में इस प्रकार का कोई रिकार्ड नहीं मिला है। अतः इस प्रजाति की मछली का भारत से यह पहला अभिलेख है। अपनी तेज वृद्धि तथा उच्च अण्डजनन क्षमता के कारण यह प्रजाति बहुत कम समय में ही अपनी संख्या बढ़ा सकती है, जिसका देशज मत्स्य जैवविविधता पर बहुत प्रतिकूल प्रभाव पड़ सकता है। अतः इस प्रजाति की और उपस्थिति की निगरानी करने की आवश्यकता है।

एफेनोमायसिस इनवेडांस की पहचान हेतु पीसीआर तकनीक

एपिजेटिक अल्सरेटिव सिंड्रोम के प्राइमरी इटायोलोजिक एजेन्ट, *एफेनोमायसिस इनवेडांस* की पारम्परिक विधि से पहचान कठिन होती है क्योंकि इसकी घाव में उपस्थिति प्रजाति विशिष्ट जननीय संरचनाएं नहीं बनाती है। इसके अलावा इस प्रजाति के संवर्धन की दर भी बहुत कम है। अतः संस्थान ने इस प्रजाति में पहचान की एक पीसीआर आधारित तकनीकी माननीकृत की है। इस विशिष्ट, तीव्र, संवेदनशील डीएनए आधारित नैदानिक तकनीक का प्रयोग सर्वालांस कार्यक्रमों में मछलियों में *ए. इनवेडांस* की बड़े पैमाने पर स्क्रीनिंग हेतु किया जा सकता है।

ब्यूरो में प्रोटिओमिक्स शोध के नए प्रयास

प्रोटिओमिक्स शोध के मानव व जन्तु विज्ञान शोध में बहुत से उपयोग हैं किन्तु मात्स्यकी विज्ञानों में इस क्षेत्र में अध्ययन नहीं हुए हैं, विशेषकर भारत में। अतः एनबीएफजीआर, लखनऊ में इस दिशा में अध्ययन आरम्भ किए हैं।

टौर मोसल महानदीकस में 45S व 5D रायबोसोमल जीन्स की फिजीकल मैपिंग

टौर मोसल महानदीकस के क्रोमोसोम पर मेजर एवं माइनर रायबोसोमल जीन्स का फिजीकल लोकेलाइजेशन का एफआईएसएच द्वारा अध्ययन किया गया। अध्ययन में 5SrDNA क्लस्टर का इस प्रजाति के एक से अधिक गुणसूत्र जोड़ों पर उपस्थित होना, टौर वंश के लिए एक गैर-पारम्परिक लक्षण है, इसे प्रजातियों की पहचान हेतु एक चिन्हक के रूप में प्रयोग किया जा सकता है।

अन्य मुख्य गतिविधियां

- संस्थान ने “डीएनए बारकोडिंग फिश एण्ड मैराइन लाइफ” पर दिसम्बर 3-12, 2009 के दौरान एक प्रशिक्षण कार्यक्रम आयोजित किया जिसमें देश के विभिन्न भागों से आए कुल 15 प्रतिभागियों ने भाग लिया।
- संस्थान के निदेशक डा. वजीर एस. लाकड़ा ने मैक्सिको सिटी में आयोजित तीसरे अन्तर्राष्ट्रीय बारकोड आफ लाइफ सम्मेलन में नवम्बर 7-13, 2009 के दौरान भाग लिया।
- संस्थान ने उत्तर प्रदेश में मत्स्य पालकों हेतु UPDASP द्वारा प्रायोजित चार प्रशिक्षण कार्यक्रमों का आयोजन किया। “जल कृषि तकनीकियां एवं उत्पादकता वृद्धि” विषय पर आयोजित इन कार्यक्रमों में, प्रदेश के कुल 78 मत्स्य पालकों ने प्रशिक्षण प्राप्त किया।
- संस्थान ने इस दौरान तेजपुर, असम; कोच्चि, केरल तथा मुम्बई में आयोजित जलकृषि प्रदर्शनियों में भाग लिया।
- विभिन्न विशिष्ट अतिथियों ने संस्थान का भ्रमण किया जिन्हें संस्थान की गतिविधियों व उपलब्धियों से अवगत कराया गया।

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