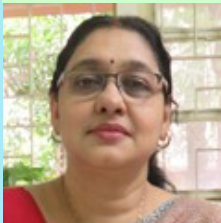


# SPLASH AND SHOAL

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## FROM PRINCIPAL'S DESK



Department of Industrial Fish and Fisheries, Brahmananda Keshab Chandra College is publishing its first ever newsletter. It's indeed a great effort from their end to engage the students in nurturing the different spheres of fisheries and aquaculture. This newsletter is also going to be a platform for showcasing their departmental activities and students' achievements. I would like to convey my best wishes to the concerned faculties and students engaged in this project.

## STUDENT COLUMN



### When fish becomes the God

**Prantik Maity**

Student, IV semester

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The fish is popular throughout the world as an easily digested protein food, and the interesting fact is that in many religions and cultures, fish has been considered as the "God". In earlier days, when human stepped out to the aquatic world using boat/vessel, some time they fell in accident. As fishes were the known habitants of the aquatic world, so they were stared to be considered as "king of water: and earlier human population started to worship fish as God. On the other hand, since the inception of the civilization, many people started to lead their life by catching fish; so these fishermen also started to worship fish as God with the belief to get more catch. The significant presence of fish in different mythologies are as follow:

**Matsya:** As per Hindu mythology, Lord Vishnu took the form of a fish in order to save 'Manu' (the first man). Matsya has been listed as the first incarnation of the Dashavatara, the ten principal Avatars of Lord Vishnu. Matsya is like half-human and half-fish depiction of Lord Vishnu.



**Dakuwaqa:** In Fijian mythology, Dakuwaqa is a shark God. He is greatly respected by fishermen as they believe that he protects them from

any danger of sea and even in cases from evil denizens of sea.

**Kāmohoali'i:** In Hawaiian mythology, it has been considered as a shark God. Hawaiian people believe that when a ship lost at sea Kāmohoali'i guided the ships to return to home island. They also believe that Kāmohoali'i had the power to take on the form of any fish.

**Shachihoko:** It is a creature of Japanese myth, with a head of a tiger and the body resembles a carp (fish). They believe that it could cause the rain fall. It was believed that this animal could cause the rain to fall, and in many temples and castles, they adorned the roof crafted with shachihoko, in order to protect them from fire.



**Dagon:** Dagon is a fish God of Philistines and Gaza according to the Hebrew Bible. Dagon is still mentioned as a figure of cultic worship in the "First Book of Ethiopian Maccabees".

**Ichthys:** It is a symbol consisting of two intersecting arcs, resembles the profile of a fish. The symbol was adopted by early christens as a secret symbol. It is now known as the "sign of the fish" or the "Jesus fish". In the 1970's the "Jesus fish" started to be used as an icon of modern Christianity.

## GUEST COLUMN



### Carotenoids Additive: Boon for Aquaculture

**Dr. Arunava Mukherjee**

Assistant Professor

Department of Zoology

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Pigmentation is one of the important attributes for the wide spectrum of colors in ornamental fishes which is an essential prerequisite for the quality as they fetch higher price in the commercial market. The aquarium fish rearing shows rapidly growing importance not only because of their aesthetic value but also of their immense commercial value in the export trade world over. Color is one of the major factors, which determines the price of aquarium fish in the world market. The two main constraints with regard to commercial feeds are their price and lack of availability of species-specific feeds. Optimal feeding is an essential criterion for successful aquaculture. Sometimes fish feed containing rich nutritional ingredients are also failed to earn proper benefit as the species reject it. If the feed is not readily consumed it would lead to wastage, poor Feed Conversion Ratio (FCR), lower Specific Growth Rate (SGR) and fade coloration of fish as well as pollution of the water body. If enhancement of coloration can be done by administering pigment enriched feed, it will definitely improve the quality and cost of the fish. Varieties of Coloring agents are used in aqua industry to impart color for the muscle and skin of fishes. One among them carotenoids gives yellow, red and pink to the skin, flesh and eggs of fish. Carotenoids are responsible for bright coloration of skin, muscles and fins and in addition, it is known that in animals, carotenoids play important roles in a variety of physiological processes such as the nervous, immune, and endocrine systems. Carotenoids are selectively deposited and stored in the different tissues and often work as color attractant of males at breeding, attractant for sperm, fertilization improving agent, protectors against various environmental stresses and thus reducing mortality during embryonic development. Carotenoids can act as modulators of intracellular redox

status. The conjugated double bond structure is primarily responsible for quenching the singlet oxygen physically without degradation and for chemical reactivity of free radicals such as peroxy, hydroxyl and superoxides. Carotenoids may also act as pro-oxidants and the key factors that determine the switch of carotenoids from antioxidant to pro-oxidant are the partial pressure of oxygen and carotenoid concentration. At higher partial pressure of oxygen a carotenoid radical can react with molecular oxygen to generate carotenoid peroxy radical that in turns act as pro-oxidant by promoting oxidation of unsaturated lipids. Beside those carotenoids also have multiple effects on cell signaling and communication as the carotenoids help in modulation of cell cycle, apoptosis, growth factors, hormone action, cell differentiation, peroxisome- proliferator activated receptors, xenobiotics, adhesion molecules, gap junctions and cytokines. The localization of carotenoids within the mitochondria may serve to protect the sub cellular organelles of immune cells against oxidative stress. Optimal function of sub cellular organelles ensures the cellular functions, including apoptosis, cell signaling and gene regulation. The conspicuousness of carotenoid-based coloration may indicate the viability of the individual. However, carotenoids cannot be synthesized by most animals, including fishes, and must be obtained from dietary sources, hence; a direct relationship between dietary carotenoids and pigmentation exists in them. The two main constraints with regard to commercial feeds are their price and lack of availability of species-specific feeds. If feeds are available, considerable variation exists in their price and efficacy. Thus the detail and in depth research works on all these aspects are an absolute requisite for near future.

## STUDENTS' RESULTS

**Ist Semester:** Four students namely Anirban Manna, Malay Duyari, Amamaheswari Muhury and Pratyush Kumar Jana have secured first class marks.

**Illrd semester:** Two students namely Sayan Maity and Soumily Shaw have secured first class marks.

## STUDENTS' ENGAGEMENT



**VISIT TO S.A. EXPORTS:** On 11th January, 2020, IIIrd semester students visited S.A. Exports, a shrimp processing farm, located near Kamduni village, North-24-Paraganas. During this visit, students gathered knowledge on each and every step which is followed in shrimp processing, storage facilities for the processed products, etc. They also got the exposure on job opportunities in processing farms while discussing with the director of the farm.

**LAUNCHING OF CALENDAR 2020:** On 13th February, 2020, IIInd semester students launched the departmental calendar. It is the first ever attempt to prepare a departmental calendar carrying the pictures of some ornamental fishes. The calendar had been designed by Anirban Manna. This calendar was unveiled by respected principal madam, Brahmananda Keshab Chandra College.



**PARTICIPATION IN SKILL DEVELOPMENT PROGRAM:** Five students (three from IVth and two from IIInd semester) attended five days (11-15.02.2020) skill development program at ICAR– Central Institute of Freshwater Aquaculture, Kolkata. This program was organized by ICAR-CIFA, Kolkata and Fish Nutrition, Biochemistry and Physiology division, ICAR-CIFE, Mumbai. In this program, they gathered knowledge on aqua feed preparation and feeding management for inland saline aquaculture, breeding of ornamental fishes. They later shared their experience with rest of our students in a meeting.

## NATIONAL SCIENCE DAY CELEBRATION



On 28th February, 2020 Brahmananda Keshab Chandra College celebrated the national science day with great enthusiasm. More than 50 students from eight nearby schools participated in the program and visited the science departments. At our department, we displayed the preserved specimens of different table fishes and ornamental fish varieties in aquarium. Students also detailed out different fish culture techniques and the measures to test the water quality parameters.

**INAUGURATION OF ORNAMENTAL FISH CULTURE UNIT:** On 6th March, 2020, ornamental fish culture unit of our department was inaugurated by respected Principal madam of our college in presence of faculty members.



## AWARENESS MESSAGE TO FIGHT AGAINST COVID-19

**AWARENESS MESSAGE FOR COVID-19:** On 28th April, 2020 students of IInd and IVth semester prepared a video message to aware people regarding the precautions to be taken to combat COVID-19. This video has been uploaded on the official YouTube Channel of our department. Click the link to view the video: <https://www.youtube.com/watch?v=dYDeY31iSmY>

### CELEBRATION OF RABINDRA JAYANTI AND NAZRUL JAYANTI:

On 8th May, 2020 and 25th May, 2020, students of IInd and IVth semester and IIIrd year celebrated 159th and 121th birth anniversary of Rabindranath Tagore and Kazi Nazrul Islam respectively with great enthusiasm. They showed their respect to these two great personalities by drawing portraits, writing poems, singing and reciting. Click the links to view the videos: <https://www.youtube.com/watch?v=q-095oXkN2Q>  
<https://www.youtube.com/watch?v=Kyrokm6KILU&t=32s>



**CELEBRATION OF WORLD ENVIRONMENT DAY:** On 5th June, 2020, students of IInd and IVth semester and IIIrd year celebrated the world environment day by drawing sketches on relevant environmental issues, writing and reciting poems and taking the pledge to save trees to save our environment. The videos of the celebration have been uploaded on the official YouTube Channel of our department. Click the links to view the videos: <https://www.youtube.com/watch?v=rFx3ZXV33c>  
<https://www.youtube.com/watch?v=0OmuQbCwDzo&t=3s>  
<https://www.youtube.com/watch?v=WPebawV77eQ&t=6s>

## STUDENTS' ACHIEVEMENTS

- Soumyadip Pradhan, IIIrd year student won bronze medal in Inter-College Taekwondo Championship.
- Soumyadip Pradhan, IIIrd year student bagged five gold medals, Parna Mukherjee, IIIrd year student bagged one gold and one bronze medal and Sampad Mukherjee, IVth semester student bagged one gold medal in Annual Sports event of the college.
- Sampad Mukherjee, IV semester student won third prize in the quiz competition organized by Cultural Committee of the college as a part of the Annual Cultural Program.
- Satyaki Ghosh, II semester student delivered a talk on the topic "Loss of fish diversity due to Amphan: An assumptive approach" in the webinar "Biodiversity: Conserve and preserve" organized by IQAC, Brahmananda Keshab Chandra College, Kolkata.
- Kushal Kanti Bera, Sayon Pal, Oindrila Roy, Soumily Shaw, Suchismita Roy Chowdhury, Tanmay Mahato, Sayan Maity and Papiya Chakraborty from IV semester and Satyaki Ghosh from II semester received the participation and successful completion certificate in the international level e-quiz on "Safety" organized by NSS Unit and IQAC, Barrackpore Rastraguru Surendranath College.

## KEEP IN TOUCH WITH US



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<https://tinyurl.com/y9rplpe7>



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