

## Reviving a local species

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the country.

The research behind the invention was conducted by the BFRI freshwater substation, Jashore's Principal Scientific Officer Dr Md. Rabiul Awal Hossain, Senior Scientific Officer Md Shariful Islam, and Scientific Officer Shishir Kumar Dey.

Speaking to The Daily Star on Wednesday, Shariful said success has come after three years of intensive research.

"We can expect the Kakila to rise again in the water instead of fearing its extinction... This is the first artificial propagation of Kakila in Bangladesh, and no information was found about this fish being artificially bred anywhere else in the world."

BFRI scientists say Kakila is a kind of fish found mostly in open inland freshwater bodies, especially rivers, canals and haors etc. The fish is rich in beneficial micronutrients for the human body.

Once upon a time, Kakila was found in abundance in inland water bodies, but due to climate impacts, natural disasters and various man-made habitats, breeding grounds were damaged and the number of the fish began decreasing drastically. In this context, BFRI began its research to bring back the abundance of this fish.

According to the scientists, Kakila or "Kakhle" is an endangered fish. The type found in Bangladesh is of the freshwater variety. The fish is better known as Kaikala or Kaikka in most parts of Bangladesh.

It is also found in Sri Lanka, India, Pakistan, Myanmar, Malaysia and Thailand. However, there are some differences in colour and size.

Md Rabiul Awal Hossain, the head of the research team and the principal scientific officer, said Kakila mainly eats small fish and breeds in naturally flowing water bodies, especially in rivers and flooded areas during monsoons.

Once mature, the fish live in places with no floating aquatic plants, but their females lay eggs under leaves or floating roots of aquatic plants.

The research team said they collected

Kakila brood (mother-father fish) fish from the Padma in Kushtia, adjacent to Rajbari district and released it in a pond in Jashore freshwater sub-station after ensuring oxygen supply in a special method.

Live carp fry produced in hatcheries and other small fish collected from various reservoirs were fed to the fish in the confined environment of the pond.

Following the scientific protocol from May this year, a certain number of mother and father fish were given hormone injections in different doses in the hatchery of the sub-station for the purpose of artificial propagation.

Even though different doses were given several times, there was no success in fish breeding. Finally, on August 25, the eggs hatched and the artificial propagation of Kakila came to fruition.

Rabiul further said that PG (Pituitary Gland) hormone was used for the propagation.

On August 18, four pairs of parent fish were selected from the pond. The pairs were kept together in the pond with a water hyacinth placed. After about 48 hours, the mother fish laid eggs.

The various stages and development of the foetuses inside the eggs were monitored regularly with a microscope. About 90 to 100 hours after the eggs were laid, they hatched.

According to the scientists, 100 grams of edible Kakila fish contains 18.1 percent protein, 2.23 percent lipid, 2.14 percent phosphorus and 0.94 percent calcium, which is much higher than other small fish.

In a press release sent to The Daily Star, Director General of BFRI Dr Yahia Mahmud was quoted as saying that the BFRI has already achieved success in artificial insemination of 30 of 64 endangered fish species of the country. Kakila was added as the 31st.

The BFRI says a live gene bank has been set up at the institute's headquarters in Mymensingh to conserve native fish.

The BFRI had won the Ekushey Padak in 2020 for its special contribution in domestic fish conservation research.

## Produce Covid jobs

FROM PAGE 1

ministry, director of IEDCR, director (planning and research) of DGHS, line director (MNC&H) of DGHS, dean of the Department of Pharmacy, University of Dhaka and managing director of Essential Drugs.

The committee will take steps to produce effective and safe vaccines in the country, review the recommendations and make recommendations to the government, take steps to increase the country's capacity in vaccine production and make arrangements for quality control of the production, storage and usage levels of vaccines.

In addition to these two government committees, the parliamentary committee yesterday has also formed a separate committee led by AFM Ruhul Haque, a member of the parliamentary watchdog, to oversee the measures to produce the coronavirus vaccine in Essential Drugs.

"We have strongly recommended to the health ministry to take immediate measures to produce Covid-19 vaccine at Essential Drugs, like

India's Serum Institute," AFM Ruhul Haque, who was present at the meeting, told The Daily Star.

"The committee is very serious about producing Covid vaccine in the country immediately through the fill-finish manufacturing process," Ruhul, also a former health minister, said.

The committee also asked the ministry to take long-term measures to manufacture Covid-19 vaccine in the country following proper research, Ruhul, also an Awami League MP, said.

Emerging from the meeting, Sheikh Fazul Karim Selim, chief of the parliamentary watchdog, said they have asked the health ministry to submit a complete plan on producing Covid-19 in the country by Essential Drugs within six to nine months.

The ministry was asked to submit its plan before the committee in its next meeting scheduled to be held within a month, he also said.

He added, "We want to bottle the vaccine for now. However, if possible and if we get a patent, we will develop the vaccine here."

Mentioning that the Gopalganj unit of Essential Drugs has been

set up to produce the vaccine, he said, "We will bottle the vaccine by constructing infrastructure within the existing system. We will also produce pneumonia, tuberculosis and other vaccines needed in the country."

The issue of Covid-19 vaccine production was first discussed at the parliamentary committee meeting in June.

According to the working paper of the committee meeting, Sanjan K Das, a researcher at the University of Sheffield in the United Kingdom, sent a proposal to the health secretary in April to build infrastructure for vaccine production at the government level.

Sanjan Das's vaccine-making technology has undergone RND and preclinical trials, the paper said.

It is mentioned in the working paper that the production of vaccine is possible if Essential Drugs constructs some infrastructure facilities and buys some new equipment. The ministry is now considering the technical review of this proposal.

Sanjan Das was present at the parliamentary body's meeting yesterday.

## COVID PANDEMIC

# Infection rate drops to 13.77pc

102 die, 4,698 test positive in a day

UNB, Dhaka

Bangladesh, currently seeing a downturn in Covid-19 cases, detected 4,698 fresh cases in 34,111 samples in the last 24 hours till yesterday morning.

The positivity rate dropped to 13.77 percent.

The country last reported 13.39 percent daily positivity rate on June 11.

Besides, 102 more deaths were reported during the 24 hours period, according to the Directorate General of Health Services (DGHS).

The fresh numbers took the country's death tally to 25,729 and caseload to 1,482,628.

The recovery rate rose to 94.38 percent, but the case fatality also rose to 1.74 percent compared to the same period.

Among the new deaths, 37 died in Dhaka division, 24 in Chattogram, 13 in Sylhet, eight in Khulna, six in Barishal, five each in Rajshahi and Mymensingh and four in Rangpur divisions.

Of them, 52 were male and 50 female.

## Flood hits

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The river was flowing 6 centimetres above the danger mark at the district's Hard Point around 6:00am yesterday. Such rising trend of water will continue for over a week, they forecast.

The affected people are passing hard days due to shortage of food and drinking water.

Government officials concerned said they will begin relief distribution soon.

Lowland areas of Bogura's Sariakandi upazila have been inundated as the Jamuna was flowing 3cm above the danger mark at the upazila's Mathurapara point around 6:00pm yesterday.

"The onrush of water from upstream [Assam and Meghalaya of India] is the main reason of rapid rise of water level. The floodwater may stay for around 10 days in this region," said Mahbubur Rahman, executive engineer of WDB in Bogura.

"Water level has been rising rapidly since Wednesday. Around 10,000 people of Noapara and Hatbari Char have been waterlogged," said Shawkat Ali, chairman of Chaluabari union in Sariakandi upazila.

"My entire croplands went under water on Wednesday. All of my crops have been damaged," said Sultan Sheikh, 60, of Sangkarour Char.

In Tangail, many areas of Kalihati, Sadar, Bhuanpur, Nagarpur, Mirzapur and Basail upazilas have been inundated by floodwater as water of the Jamuna and its branch rivers are rising.

WDB officials forecast that more fresh areas might go under water within a day or two as the rivers continue to swell.

Road communications are being disrupted in different areas. Cattle are facing fodder crisis as grassland has gone under water.

Ataul Gani, deputy commissioner of the district, said necessary measures would be taken to distribute relief materials to the flood-hit people.

[Our correspondents in Pabna, Bogura and Tangail contributed to this report.]

## Muggers shoot

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leave immediately, the police official said, adding that the criminals shot Khademul from behind while fleeing the spot.

Locals rescued Khademul and admitted him to Gangni Upazila Health Complex.

He was later referred to Kushtia Medical College Hospital as his condition was critical. However, he succumbed to his injuries on his way to the hospital.

According to the OC, police were conducting operations to nab the killers.

## Bangladesh mission at London

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achieving a political solution acceptable to East Pakistan.

The Latin American Parliament urged the international community to extend aid to the refugees sheltered by India and to the suffering people of East Pakistan and to exercise all their influence over the Government of Pakistan with the objective of achieving a rapid political solution.

ON THE FRONT LINE

Mukti Bahini today raided Ranamati near Phulbari in Mymensingh district and killed 15 Pakistani soldiers. They also raided the Pakistan position in Kamalpur and inflicted 11 casualties the previous day.

In Sylhet district, Mukti Bahini today ambushed Pakistan troops near Manu and inflicted five casualties. Another Mukti Bahini group raided Razakar patrol party three miles north of Tamarjuni and inflicted six casualties. Mukti Bahini also ambushed the Pakistan patrol in Kanaighat today and wounded three Pakistani troops.

In Noakhali district, Mukti Bahini today ambushed 15 Pakistani civilian vehicles carrying supplies for Pakistani troops in Feni-

Belonia area and damaged almost all vehicles. They apprehended two Pakistani supporters.

In Kushtia district, Mukti Bahini today killed local peace committee chairman at Pataldanga.

Bangladeshi guerrillas today also destroyed railway tracks in Nakurgachi in North Bengal. In another attack, Mukti Bahini blew up 70 feet of railway tracks between Bhawanipur and Jharbari in Dinajpur district.

KEATING DENIES FRESH ISSUE OF ARMS LICENCE TO PAKISTAN

The US Ambassador to India Kenneth B Keating today categorically asserted that no more arms licences were being issued to Pakistan by the USA "nor are old ones renewed as they expire". Writing in his weekly column in the American Reporter, Keating also denied the allegations that the USA had been 1) giving counter-insurgency training to Pakistani military officers; 2) diverting arms from South Vietnam to Pakistan, and 3) planning to send American troops from South Vietnam to Pakistan.

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## Nazrul's 45th death anniv

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distance, the programmes will begin with Quran Khwani after Fajr prayers at the university's central mosque, said a DU press release here today.

DU teachers, students, officers and employees will assemble at "Aparajeyo Bangla" in front of Kala Bhaban at 7:00am on the day and bring out a procession from there and march towards the mazar of the poet adjacent to the university's central mosque.

DU Vice-Chancellor Prof Md Akhtaruzzaman will lead the procession to place a wreath at the grave of the poet. A dua mahfil will also be held for the eternal peace of the rebel poet.

Later, a discussion will be held at the university's Abdul Matin Chowdhury virtual classroom with Prof Akhtaruzzaman in the chair.

National Prof Md Rafiqul Islam will address the discussion as an expert on Nazrul's works.

## Addressing concerns

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of Infertility and Reproductive Medicine at Anwer Khan Modern Medical College, said that studies show pregnant women with comorbid conditions like diabetes, hypertension is more at risk.

The Delta variant of Covid-19 can be fatal during pregnancy, he added.

"The best way to protect expecting mothers is to vaccinate them. Controlled studies around the world so far did not demonstrate any significant side effects of the Covid-19 vaccine on either the mother or the fetus," Prof Maruf said.

The Bangladesh government has recently decided to vaccinate

pregnant women which is a very encouraging step, he said.

Prof Maruf suggests young couples not try to conceive at the moment or try to conceive after getting the second dose of the Covid-19 vaccine. If a woman becomes pregnant after receiving the first dose, she should take the second dose in due time.

Shamima Nargis, a consultant at Gynecology Department of Bangladesh Specialized Hospital, said there is no evidence that pregnant women, in general, become more unwell compared to other adults if they contract Covid-19.

Pregnant women over 35 and with a BMI of over 25, and those

with preexisting medical problems are at higher risk of developing severe illnesses and may require hospitalisation, Shamima said.

She further said, "There is no evidence that Covid-19 infection increases the risk of miscarriage or can be passed on to the baby. Hence, there's no reason to panic."

Covid-19 vaccines are recommended at any stage of pregnancy and also for nursing mothers, she said.

Expecting mothers should have at least six anti-natal checkups with a gynaecologist and ensure a balanced diet and moderate exercise to develop immunity. They should also follow the distancing guideline, both doctors said.

## Fastest orbiting asteroid

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observations made by Brown University astronomers Ian Dell'Antonio and Shenming Fu on August 13. Dell'Antonio, a professor of physics, and Fu, a doctoral student, took the images using the Dark Energy Camera mounted on the Víctor M Blanco 4-meter Telescope at Cerro Tololo Inter-American Observatory in Chile.

Multiple aspects of the asteroid surprised Sheppard. The asteroid is 0.6 miles (1 kilometer) in size and "very few asteroids this size in the inner solar system likely exist that are unknown," he said.

"2021 PH27 gets so close to the Sun that its surface can reach temperatures of 900 degrees Fahrenheit (482 degrees Celsius), hot enough to melt lead," said Sheppard via email. "Because of

these extreme temperatures, it is unlikely 2021 PH27 is composed of any volatile material, and it is most likely made up of rock with maybe some metal like iron."

It has an unstable orbit that crosses the orbits of Mercury and Venus as they make their way around the sun. Within a few million years, the asteroid's orbit will likely cause its doom. The rocky fragment could collide with Mercury or Venus, or the sun itself, or be knocked out of its current position in the solar system.

The asteroid is so near the sun's massive gravitational field of the sun that it experiences effects on its orbit, Sheppard said.

The newfound asteroid is only one of about 20 Atira asteroids, which are those asteroids that are completely interior to Earth's orbit of the sun.

## Bangladesh

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Covid-19 vaccine doses expire.

However, Momen said Bangladesh will soon receive more vaccine doses from the US.

The country will receive 10 lakh doses of Pfizer vaccine on August 30.

Also, the foreign minister said he will leave Dhaka tomorrow to attend a series of programmes in Geneva, Switzerland, the Netherlands and hold important meetings in London during his stopover there.

On the Afghanistan issue, Momen said Bangladesh is keeping close tabs on the situation and the Bangladesh Embassy in Uzbekistan is in touch with Bangladeshis who are willing to return.

Talking about his recent South Sudan and South Africa visit, the minister said it was very useful and successful.

**Government of the People's Republic of Bangladesh**  
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**e-Tender Notice**

e-Tender is invited in the National e-GP System Portal ([www.eprocure.gov.bd](http://www.eprocure.gov.bd)) for the procurement of:

Tender Notice & ID No.	Name of work	Publication, last selling & closing date
e-GP/01/PMP/SE Khu/2021-22 (ID No. 600403)	Periodic Maintenance Programme (PMP) providing DBS-Base course and DBS-Wearing course including necessary repair works from Ch. 224+315m to Ch. 225+815m (Shambagat to Metro Brick), Ch. 234+000m to Ch. 235+785m (Bimanbondor to Foyal Bazar End), Ch. 239+315m to Ch. 240+000m (Chairman Bari More Start to Chairman Bari More End) and Ch. 241+268m to Ch. 243+165m (Bogura Bridge Approach to Belai Bridge Approach) (Total Working Length = 5867.00m) of Daulatdia-Faridpur (Goalchamot)-Magura-Jhenaidah-Jessore-Khulna-Mongla (Digraj) Road (N-7) National Highways under Road Division, Bagerhat during the year 2021-2022.	<b>Published date:</b> 26-08-2021  <b>Last selling date &amp; time:</b> 26-09-2021, Up to 5:00pm  <b>Closing, opening date &amp; time:</b> 27-09-2021 At 12:30pm
e-GP/02/PMP/SE Khu/2021-22 (ID No. 600404)	Overlay works (DBSW) under Periodic Maintenance Programme (PMP) of Navarong-Illisopur-Satkhira Road (R-765) (Satkhira Part) at Chainage: 16+877m to 17+377m and Ch: 31+500m to 33+000m (Jhaudanga) under Road Division, Satkhira during the year 2021-2022.	

This is an online tender, where only e-Tender will be accepted in the National e-GP Portal and no offline/hard copies will be accepted.

To submit e-Tender, registration required in the National e-GP System Portal ([www.eprocure.gov.bd](http://www.eprocure.gov.bd)). The fees for downloading the e-Tender document from the National e-GP System Portal have to be deposited online through any registered bank branches up to abovementioned date & time.

Further information and guidelines are available in the National e-GP System Portal and from e-GP help desk ([helpdesk@eprocure.gov.bd](mailto:helpdesk@eprocure.gov.bd)).

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GD-1531

## 16 soldiers killed in jihadist-hit southeast Niger

AFP, Niamey

An attack by hundreds of Boko Haram fighters on a town in Niger's jihadist-plagued southeast killed 16 soldiers and wounded nine others, Defence Minister Alkassoum Indatou told AFP on Wednesday.

In the assault late on Tuesday "the positions of our defence and security forces in Baroua, in the Diffa region, were attacked by several hundred Boko Haram elements who came from Lake Chad", the minister said in a statement.

Nigerien soldiers "neutralised around 50 terrorists" and "secured a large quantity of arms and ammunition", he added.

**গণপ্রজাতন্ত্রী বাংলাদেশ সরকার**  
নির্বাহী প্রকৌশলীর কার্যালয়, সওজ  
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ফোন- ০৭১-৬২১৩৫/৬১৯৯৩, ই-মেইলঃ [eekus@rhd.gov.bd](mailto:eekus@rhd.gov.bd)

তারিখ : ২৬/০৮/২০২১ খ্রিঃ

স্মারক নং-৩৫.০১.৫০৭৯.৪৩৯.০৭.০০৩.২১-১৮৩৩

**"সীমিত দরপত্র পদ্ধতিতে ঠিকাদার তালিকাভুক্তির বিজ্ঞপ্তির সংশোধনী"**

এতদ্বারা সংশ্লিষ্ট সকলের অবগতির জন্য জানানো যাচ্ছে যে, কুষ্টিয়া সড়ক বিভাগ, কুষ্টিয়ার স্মারক নং-৩৫.০১.৫০৭৯.৪৩৯.০৭.০০৩.২১-১৮৩৩; তারিখ : ২৭/০৭/২০২১ খ্রিঃ তারিখ এর মূলে আঙ্গানকৃত বিজ্ঞপ্তি CPTU কর্তৃক নির্ধারিত আবেদনের ফরম বিক্রয় ও জমাদানের তারিখ এবং সময় অনিবার্য কারণবশতঃ নিম্নলিখিত সংশোধন করা হলো।

তালিকাভুক্তির ফরম বিক্রয় ও জমার পূর্বের তারিখ ও সময়	তালিকাভুক্তির ফরম বিক্রয় ও জমার সংশোধিত তারিখ ও সময়
তারিখঃ ২৬/০৮/২০২১ সময়ঃ বিকাল ৫:০০ ঘটিকা	তারিখঃ ০৭/০৯/২০২১ সময়ঃ বিকাল ৫:০০ ঘটিকা

(মোঃ শাকিলুল ইসলাম)  
পরিচিতি নং-৬০২২৭২  
নির্বাহী প্রকৌশলী (চঃদঃ), সওজ  
সড়ক বিভাগ, কুষ্টিয়া।

GD- 1527