

CHINA

Research spotlights crocodile evolution

HEFEI — More than 1,200 years ago, Han Yu, a Tang Dynasty (618-907) politician, issued a proclamation against the crocodiles living in a creek in South China.

After sacrificing a pig and a goat, Han, known for his exemplary prose style, read the proclamation asking the 6-meter-long predators to leave the area within seven days or he would show no mercy.

The area is now known as the Hanjiang River Delta — named after him — in Guangdong province.

Han has now been further recognized by a team of researchers from China, Japan and the United States studying partially fossilized remains of a crocodilian found in southeastern China. They have named the new species *Hanyusuchus sinensis*.

The researchers said it could serve as a missing link to settle debate on the crocodilian family tree.

Three families of crocodilians roam Earth today: sharp-nosed crocodiles, blunt-nosed alligators and lesser-known gharials, with thinner snouts.

The researchers studied crocodilian remains housed in four museums in Guangdong that were found at a dig site in southeastern China and labeled for years as crocodile skeletons.

According to the paper published in Proceedings of the Royal Society B, the researchers found *Hanyusuchus sinensis* shared some significant skull features with gharials and had a vocal structure only known in male Indian gharials. Carbon dating showed the bones dated back some 3,000 years, during China's Bronze Age.

Genetic evidence indicates that alligators were the first to split from the original crocodilian, followed by gharials and later crocodiles. While the timeline may go against intuition, because crocodiles and alligators resemble each other more than gharials, the researchers said that the new species is intermediate in body shape between gharials and the other two, filling the gap in the evolutionary tree.

The researchers also found chop marks on the skulls of *Hanyusuchus sinensis*, indicating that it had been killed or even beheaded by heavy bronze tools. Crocodilians play a key role in maintaining the freshwater ecosystems as top predators, they said, noting that humans were responsible for the extinction of *Hanyusuchus sinensis* about 300 years ago.

Liu Jun, from Hefei University of Technology, was the corresponding author of the research. He said crocodilian bones had been found at many archaeological sites in China and had been thought to belong to Chinese alligators. But the team's discovery could challenge that.

Liu said that as the only reptile feasting on humans in ancient China, *Hanyusuchus sinensis* may have even left marks on ancient Chinese civilization, such as legends about dragons.

In future studies, the researchers hope to extract ancient DNA samples from soft tissue preserved in the partially fossilized bones, which may provide a more accurate picture of the crocodilian family tree.

XINHUA

Grassroots checkup



Medical workers provide checkups in a village in Qianxi, Guizhou province, on Sunday. Health workers involved in the government-run Family Doctor program visited villagers in their homes to make sure they are fit for agricultural labor as the farming season gets into full swing. ZHOU XUNCHAO / FOR CHINA DAILY

Reform of vocational education sought

Advisers look to counter social stigma, early categorization of students

By ZOU SHUO
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The deep-rooted stigma attached to vocational education has prompted many lawmakers and political advisers to call for reforms.

Institutional barriers must be shattered to improve the status of such education in China, as it has long been stigmatized as an option reserved only for failing students, said Hu Wei, a member of the National Committee of the Chinese People's Political Consultative Conference and executive deputy director of the Shanghai branch of the China Vocational Education Association.

People have long held the perception that high school enrollment exams categorize students into regular high schools and secondary vocational schools based on their test scores, and that students with lower scores can only attend vocational schools, he said.

That belief has exacerbated exam-oriented competition and anxiety among students and parents and has deterred efforts to reduce the academic burden on primary and middle school students, Hu said.

Lu Xiaoguang, a member of the Standing Committee of the CPPCC National Committee, said the dividing of students into vocational education and regular education systems should not occur until all students finish high school to cultivate more high-skilled technical workers.

Currently, the divide happens after they have graduated from middle school, and students who go to secondary vocational schools do not have enough academic knowledge to master skills for high-end manufacturing, he told CPPCC Daily.

Online news outlet ThePaper.cn reported that a proposal made by the Central Committee of the China Association for Promoting Democracy to the annual session of the CPPCC

90 percent of secondary vocational school students in some schools choose to further their studies rather than start working.

National Committee also stressed the need to delay the division.

Regions with resources should allow all middle school graduates to go to regular high schools and start the separation of students at the higher-education level, the proposal said.

Other places can promote the integrated development of regular high schools and secondary vocational schools, and allow students in both to select each others' courses and exchange credits, it said.

Nearly 90 percent of secondary vocational school students in some schools choose to further their studies after graduating, and less than 10 percent start working, which goes against the employment-oriented nature of vocational education, it added.

However, the Ministry of Education recently dismissed appeals for the division of students into regular high schools and secondary vocational schools to be abandoned, calling the latter an important part of the country's high school education system.

Chen Ziji, director of the ministry's department of vocational and adult education, said it is "very necessary" to continue the division because secondary vocational schools can promote diversified development in students and have played an important role in boosting employment, regional economic development and improving people's livelihoods.

According to the latest figures from the ministry, the country had more than 13.1 million students attending secondary vocational schools last year. They accounted

for 33 percent of all high school students, down 7 percentage points from 2020.

Zhang Zhiyong, a deputy to the National People's Congress and an education professor at Beijing Normal University, cited a survey conducted by the university's China Institute of Education and Social Development of 1.69 million parents, students, teachers and principals nationwide. Zhang, whose team led the survey, said it found that 30 percent of parents were unwilling to send their children to vocational schools.

The biggest obstacles to the development of vocational education in China include low social recognition, low quality of graduates and insufficient attention from local governments, the survey found.

The average salary of vocational school graduates is lower than for those who attend regular high schools, and such graduates face discrimination in employment and obtaining residency permits, Zhang said.

The preference for an academic background runs deep in society, and employers might even discriminate against students graduating from less-famous universities, let alone vocational school graduates, he said, adding that the government should take actions to address such discrimination.

In order to reverse the stigmatization, an independent exam should be established as the main channel for students to enroll in higher vocational schools and vocational colleges offering bachelor's degrees, Hu said.

Through such an exam, traditional universities and colleges, even those that are well known, could enroll vocational students for technical majors, Hu said.

Skilled workers are the backbone of Chinese brands, and they are cultivated through vocational education, he said, adding that high-quality vocational education teaches students both skills and knowledge while enabling them to learn a trade and become contributing members of society.

Legislators call for law to protect Red culture

By ZHOU WENTING in Shanghai
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Some national lawmakers want legislation introduced to preserve China's Red cultural resources, which showcase a rich revolutionary spirit and tell profound stories about revolution and construction in the country in the century since the founding of the Communist Party of China.

The Red resources possess irreplaceable political and educational value as a record of the great practices of the Party and can continue to inspire and lead the young, they said.

Last year marked the centenary of the CPC's founding, and many Red cultural sites across the country were given face-lifts as part of celebrations. However, deputies to the National People's Congress, China's top legislature, said integrated development of such resources has been lacking, and some sites need to improve display methods to better engage the public.

Legislation could promote the coordinated, standardized and orderly development of such resources, said Chen Li, an NPC deputy from Shanghai.

"Through legislation, we can turn the Red tourism venues scattered all over the country into vivid classrooms that continue to inspire the public and allow individuals to absorb profound political wisdom, obtain moral nourishment and enhance cultural confidence," said Chen, who is also general manager of Shanghai Mobile, a mobile network operator.

He said the venues will also become valuable economic resources when Red culture, related relics and the surrounding environment are well integrated.

People made 700 million trips to Red tourism sites in 2019, accounting for more than 11 percent of domestic trips, according to the China Tourism Academy.

Chen suggested the law could cover the preservation of both tangible heritage — former residences, cemeteries, relics and documents — and also intangible stories and slogans.

"Also, the law should encourage and support such Red resources being open to the public for free," he said.

"Retired officials, veterans, experts, scholars and students shall be encouraged by the law to serve regularly as volunteer narrators at the venues, and in particu-

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lar on important days, including the annual celebrations to commemorate the Party's founding and the founding of New China."

More than 10 cities, including Baise, Guangxi Zhuang autonomous region, Jiaxing, Zhejiang province, Huanggang, Hubei province, and Bazhong, Sichuan province, have released local laws concerning the preservation of Red resources.

The Regulations of Shanghai on the Inheritance, Promotion, Preservation and Utilization of Red Resources were unveiled in May. Chen said the Shanghai regulations include content on the investigation and identification of resources, their inheritance and promotion, preservation and management, collaboration across the Yangtze River Delta region, support measures, and legal liability.

"The Shanghai regulations are, so far, the most complete and forward-looking in content and can provide reference for national legislation," he said.

Peng Qi, another NPC deputy and an official from the Loudi City Cultural Center in Hunan province, also suggested strengthening the preservation and utilization of Red resources.

She said the venues can display historic items and scenes and also create videos and use other means, including the new technologies of 5G and virtual reality, to allow visitors to improve their understanding of historical events and figures from China's revolutionary past.



Tourists take photos in front of the Memorial for the First National Congress of the Communist Party of China in Shanghai's Huangpu district in May. PROVIDED TO CHINA DAILY

Academician wants national park built in Tibet

By PALDEN NYIMA
and DAQJIONG in Lhasa

Zhao Jindong, a national political adviser and an academician at the Chinese Academy of Sciences, has proposed the establishment of a national park at the Yarlung Zangbo River Grand Canyon in the Tibet autonomous region.

The establishment of a national park would have a great impact on the construction of ecological civilization, the maintenance of environmental security and the promotion of the harmonious coexistence between man and nature, Zhao proposed during this year's session of the National Committee of the Chinese People's Political Consultative Conference,

which ended earlier this month.

The Yarlung Zangbo River Grand Canyon is the deepest canyon in the world. With a total length of about 500 kilometers, its altitude spans from 7,782 meters at Namchak Barwa, the highest peak of the eastern Himalayas, to 550 meters around the Yarlung Zangbo River Valley in Metog county.

It is of great strategic significance to intensify the investigation and research of biodiversity in the middle and lower reaches of the Yarlung Zangbo River and to establish a national park in the area as soon as possible, Zhao said.

Places along the middle and lower reaches of the river are rich in biodiversity, and the region is known as a

natural vegetation museum.

"It is also one of the areas with the most abundant species of ungulates and carnivores in China or even worldwide, and this region is also a stable habitat for some endangered species, including tigers, leopards, red goral and dhole (a wild dog species)," said Zhao, adding it is also the only confirmed habitat of the Bengal tiger in China.

Zhao said a national park with a land area of more than 40,000 square kilometers would consist of all of Metog and parts of the counties of Bomi, Manling, Nang and Nyingchi in Tibet's Nyingchi city.

In addition, in order to protect the area's irreplaceable biodiversity and the integrity and authenticity of its

natural landscape — especially concerning the connectivity between the habitat and populations of some rare species, including the Bengal tiger, giant cypress trees, the clouded leopard and the rufous-necked hornbill — Zhao suggested that the boundary and zoning of the national park be scientifically delimited on the basis of a full investigation and understanding of the region's biodiversity and socioeconomic data.

"Any human activities and development construction related to the Yarlung Zangbo River Basin should follow the principle of giving priority to environmental protection, adhere to the strictest protection measures, and stick to the concept of green development," Zhao said.

Ao Liuquan, Party secretary of Nyingchi city and a CPPCC National Committee member, said the city placed great emphasis on environmental protection during this year's two sessions in Beijing.

"We adhere to the systematic management of mountains, rivers, forests, fields, lakes, grass, sand and glaciers, and we make sure to keep the city's skies, waters and lands unpolluted," he was quoted as saying by Tibetan media.

Ao said the city has had good air quality every day for four years, topping the nation's 337 cities of prefecture level and above during that period.

"We also helped local residents benefit financially while engaging in environmental protection work," he said. "In 2021 alone, the city's financial bureau allocated more than 270 million yuan (\$42 million) for forest protection. Also, more

than 18 million yuan has been spent on the salaries of rural residents involved in the project."

Zhao Xiang, director of the Shanshui Conservation Center, said he fully supports Zhao Jindong's proposal, as a national park requires stricter rules for preserving the integrity and authenticity of a natural landscape than a reserve.

"These areas are very fragile and sensitive. Only by performing the strictest protection measures can the ecosystem be protected effectively," Zhao Xiang said.

"If the Yarlung Zangbo River Grand Canyon becomes a national park, I think more people would pay more attention to it, and that may help inspire more people to take more action to protect it."

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