



Yunnan perennial rice provides strong overwintering ability, stable yield and good taste

A crop you plant once and harvest for four or five years



The main building of Kunming HSR South Station is being roofed.
Photo by Li Hongbing

Yunnan to launch two HSR lines this year

Yunnan Province is expecting to launch the Kunming-Shanghai HSR line and the Kunming-Nanning HSR line this year. By then, HSR rides from Kunming, capital of Yunnan to Nanning, capital of Guangxi Zhuang Autonomous Region and Shanghai Municipality will take five hours and ten hours, respectively.

On January 6, the Kunming Railway Bureau disclosed that the Yunnan section of the Shanghai-Kunming HSR line will include four stations: Kunming HSR South Station, Songming Station, Qujing North Station and Fuyuan North Station.

On December 25, 2015, the Yunnan section of the Shanghai-Kunming HSR passenger line entered the track-laying stage, which will be completed in the first half of this year. Next integrated commissioning and testing will be conducted before this section goes into operation in late 2016. This section is 184.7 kilometres in length, and its design speed is 250-350 kilometres per hour. Upon going into operation, it will shorten the duration of a Kunming-Shanghai railway trip from more than 40 hours to about ten hours, thus becoming a large-capacity passenger channel connecting Southwest China with Central and East China.

Kunming HSR South Station is currently under construction and will be put into use in the second half of this year. The station is designed with a yearly throughput of 46.93 million passengers (or a daily throughput of 128,000 passengers). It will make the largest railway station in Southwest China.

(Cao Jie and Hu Xiaorong)

Characteristics: Strongly perennial, good overwintering ability, and stable yield.

Yield per acre: 74.17 kilograms for early rice and 74.28 kilograms for late rice in last year's trial planting.

Taste: The perennial rice tastes the same as normal rice when cooked, though the quality also varies.

Harvesting method: Cut off the superterranean part and leave the subterranean stem; no tillage is needed. The next year, new rice plants will grow from out of the subterranean stem and can be harvested again. Plant the perennial rice once and it can be harvested four or five years.

Academy of Agricultural Sciences and Hu Fengyi at the School of Agriculture of Yunnan University.

The two researchers started their work from the long stamen wild rice originated in West Africa. As a perennial herbaceous plant, long stamen wild rice has a well developed subterranean stem and strong resistance to pests and diseases.

With the embryo rescue technique, Tao Dayun and Hu Fengyi obtained the F1 hybrid generation of RD23 and long stamen wild rice and bred many progeny populations. In addition, based on the perennial characteristics of long stamen wild rice, they bred a series of perennial rice varieties that can overwinter while most ratoon rice varieties cannot.

"Twenty years ago, I thought of converting rice from an annual crop into a pe-

rennial one, just like fruit trees," said Hu Fengyi. So far, the perennial rice cultivated by Hu Fengyi and his colleagues has been planted on 825 acres of land. Some varieties are so strongly perennial that you can plant them once and harvest them for four or five years; they have good overwintering ability and produce stable yield. Last year, the yields per acre of early rice and late rice were 74.17 kilograms and 74.28 kilograms, respectively.

According to Hu Fengyi, this perennial rice can be harvested twice a year in places such as Xishuangbanna Dai Autonomous Prefecture where double-cropping rice is planted and once a year in places where single cropping rice is planted. This year the perennial rice will be planted in Kunming, Yuxi and other places in Yunnan Province to see whether it is suitable for these places. (Yang Zhigao)

dream but has become a reality through researches made by Tao Dayun at the Yunnan

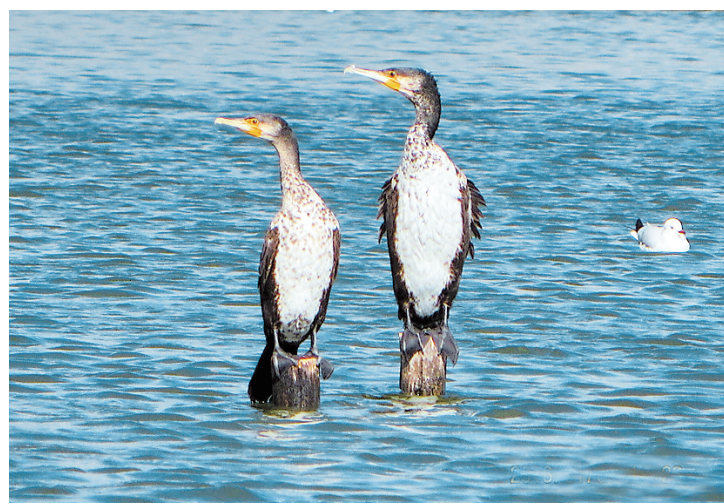
Wild cormorants come back to Dianchi Lake after 30 years

Wild cormorants have been seen recently again in the Dianchi Lake after an absence of more than 30 years, the Kunming Municipal Dianchi Lake Administration Bureau disclosed at a recent press briefing.

Dianchi Lake is the largest of its kind on the Yunnan-Guizhou Plateau. It has been listed by Birdlife International as an important bird area in Asia because of its abundant bird resources. Over the past five decades, according to Zhao Xuebing, Secretary-General of the Kunming Bird Watching Association, a large number of ponds and wetlands in the Dianchi Lake drainage basin disappeared, depriving many waterfowl of their natural habitats.

A few days ago, a local photography enthusiast surnamed Wang was taking photos beside Dianchi Lake when he spotted three large dark-feathered birds with long pointed beaks. At the press briefing, the Kunming Municipal Dianchi Lake Administration Bureau confirmed that the three large birds were wild cormorants, which have been absent from Dianchi Lake for three decades.

"With the ecological construction around Dianchi Lake, the lake ecosystem is improving and the biodiversity has been restored to a certain extent," said Wang Lihua, deputy director of the Kunming Municipal Dianchi Lake Administration Bureau. In recent years, the



Wild cormorants in Dianchi Lake. Provided by Kunming Municipal Dianchi Lake Administration Bureau

improving ecological environment around the Dianchi Lake has attracted significantly more birds to live or winter there. Of the 140 species of birds observed in this

area, many are newly recorded in Yunnan, and the *Anastomus oscitans* observed here in 2013 even marked a new record in China.

(Li Chao)

(Cao Jie and Hu Xiaorong)



A low-carbon wedding

On January 12, a "grand" electric bicycle wedding was held in Kunming. A total of 100 electric bicycles followed a festively decorated electric bicycle, on which the bride and groom headed happily towards a happy marriage.

The groom Ye Jingxian is a salesperson of an electric bicycle brand. The bride Liu Linglin lives in Kunming and once bought an electric bicycle from the groom before they fell in love with each other. To commemorate the electric bicycle's role in their love and call on more people to protect the environment, they held a simple yet stylish low-carbon wedding.

Photo by Zhou Mingjia

Mysteries of human evolution posed by "Red Deer Cave People" fossils (Part II)

Diversity has always been present in human evolution

Column: Discover Yunnan

Editor's Note: After several years of research into a mysterious fossilized human femur, Chinese and Australian paleoanthropologists found that although the "Red Deer Cave People" who lived in Mengzi, Yunnan, China 14,000 years ago had existed up until the dawn of agricultural civilization, they retained many of the features of *Homo habilis* or *Homo erectus*. Who on earth were the "Red Deer Cave People"? Were they *Homo habilis*, *Homo erectus* or *Homo sapiens*?

"We need to find more fossil skull specimens to determine whether they were a new human species, but so far there is insufficient evidence."

—Ji Xueping

The lead researcher and director of the Department of Paleoanthropology of Yunnan Provincial Institute of Cultural Relics and Archaeology

"Red Deer Cave People" were originally called "Mengzi People", and were first discovered in a quarry in Mengzi City, Honghe Hani and Yi Autonomous Prefecture, Yunnan Province. Since a number of large deer fossils were also found, archaeologists later named the site "Red Deer Cave". Ancient humans once living there

were in turn named "Red Deer Cave People".

In 2012, Ji Xueping, the lead researcher and director of the Department of Paleoanthropology of Yunnan Provincial Institute of Cultural Relics and Archaeology, and Darren Curnoe, a professor at the University of New South Wales, Australia co-published an article in journal PLOS ONE. Based on their analysis of the skulls of the "Red Deer Cave People", Ji Xueping and Curnoe concluded that although the "Red Deer Cave People" lived during the age of anatomically modern humans, they had the features of Archaic *Homo sapiens* that lived at least 100,000 years ago. This suggests a group of Archaic *Homo sapiens* had survived into the age of anatomically modern humans, spanning hundreds of thousands of years.

Ji Xueping said that the current evidence could only help make some inferences, for example, the "Red Deer Cave People" might be the last Archaic *Homo sapiens* or even the last *Homo habilis* or

Homo erectus known to have existed. Another inference is that the "Red Deer Cave People" were a product of hybridization between modern humans and an ancient species. Therefore they not only retained the features of ancient humans, but also exhibited many of the behaviors of modern humans.

"We need to find more fossil skull specimens to determine whether they were a new human species, but so far there is insufficient evidence," said Ji Xueping, "but my position has always been that the diversification of humans began a very long time ago and *Homo erectus* was not necessarily the only human species existing in the age of *Homo erectus*."

In speaking of the greatest value of the "Red Deer Cave People", Ji Xueping said that it had long been held that human evolution proceeded in a straight line, but now more and more evidence suggested that human evolution was a branching process and diversity had always been present in human evolution.

(Ling Shuo)