

FIVE MORE CRESTED IBISES HAVE TAKEN WING

Five more crested ibises (*Nipponia nippon*) have taken wing!

This was inspiring news; it meant that the number of crested ibises in the world had increased by 25 percent, indicating progress in the struggle to bring this species — among the world's most endangered — back from the brink of extinction.

I was fortunate to be one of the first observers of the newly airborne creatures. When I arrived in Yangxian County, Shaanxi Province, two of the ibis nestlings were still in the nest waiting to be fed, two were perched on branches flapping their wings, eager to fly like their parents, while the fifth had already followed its parents into the field to look for food. By the time I left Yangxian County, all had left the nest and moved to secondary feeding areas or places farther off. Their faces and feet had not yet turned scarlet and their feathers looked whiter than those of adult birds, but by late autumn they would look so much like their parents that no one would be able to tell them apart.

Crested Ibis Group One is in the Qinling Range Preservation Station at Yaojiagou, the center of activity for ibis preservation. Yaojiagou is 37 miles from the county seat and three miles from the end of the bus route at the foot of the mountain. From there one must proceed on foot along a mountain road up the southern slope of the Qinling Range. Yaojiagou itself is midway up the mountain at an elevation of 4,451 feet above sea level at latitude 33 degrees 32 minutes north and longitude 107 degrees 37 minutes east, a transitional area between the northern subtropics and the temperate zone. It consists of a long, narrow ravine inhabited by seven families working 1.34 hectares of rice paddies. Advanced agricultural techniques have not been introduced into this out-of-the-way place, and people seldom use chemical fertilizers and pesticides. This circumstance, together with the cultivation of some winter paddies, provides suitable living conditions for the ibises.

In order to survive, crested ibises must have access to tall trees near paddies where they can

fish for food. These should be in a remote location where they are relatively safe from their natural enemies. The key to their survival in Yaojiagou is a group of 15 old blue Japanese oaks (*Cyclobalanopsis glauca*) on the north slope. This is where the ibises have made their nests. It is extremely rare now in any region to find such a group of old trees growing right beside a village. The trees have remained untouched be-



Resting on a tree branch.

cause they are growing in a graveyard, which the villagers have refrained from disturbing. According to the gravestones, the graves date from 1834, so the oak trees are at least 150 years old. Without these venerable trees, there would be no place for the ibises to live.

Because Yaojiagou provides all the right conditions, it has become a fairly stable breeding ground for ibises. Elsewhere in Yangxian County we found many places where ibises had once nested, but where, for various reasons, the nestlings had not been able to survive. In Yaojiagou ibises have hatched every year since 1981. So far, 10 have survived — half the world's total of crested ibises.

When I first arrived in Yaojiagou, on June 2, 1984, I saw two ibises looking for fish and other aquatic creatures in the paddies. I was struck by the beauty of their long bills, shaggy crests, scarlet faces, and snow-white feathers. Excited to view a bird I had long hoped to see, I pulled out my camera and began to approach them.

My companion warned: "They won't let you near." When I asked about the farmers plowing the fields right beside them, he replied that the birds had come to know and accept the local people, but a stranger would immediately put them on the alert.

Just as he had predicted, when I came within about 200 yards of the ibises, they took off, flapping their large wings. The sun's golden light illuminated their snow-white feathers as they swept past the dark-green rice seedlings and over the verdant hills. No wonder they have been called the celestials of the Qinling Range!

After lunch we set off immediately for their living area. We tramped through the bushes looking for a good place to take pictures. In tree No. 5, on a branch about 55 feet from the ground, was a nest with two chicks inside; a third chick stood on a branch six feet away.

They must have seen us, but they did not budge. Perhaps they had grown used to having strangers stand under their nest watching them. Occasionally they changed positions or stretched their wings as if to show that they did not care what we did with our cameras.

It was on this day that I first experienced the thrill of nature photography. Just to see the ibises was exciting, but it was even more exciting to know that my camera was focused on three of only 20 ibises left in the world — and these were not the three old caged ibises in Japan or the one in the Beijing Zoo, but free birds in the wild.

I took one picture after another, but Wu, who stood beside me, seldom pressed the shutter. He had taken pictures of the crested ibis many times and was more patient. He whispered to me, "Let's wait for the old ibis to return. Its red cheeks make it even more attractive."

We waited, cameras at the ready.

It is easy to hold a camera in position for a short while, but as the minutes passed, our arms began to ache; yet neither of us dared relax for fear of missing the moment when the old ibis flew back to the nest. An employee of the ibis preservation station had told me that a parent bird usually stayed out for an hour hunting for food, but our wait seemed much longer than that. Perhaps the parent bird had seen two strangers under the nest and dared not come back.

My eyes grew tired and my hands began to shake from holding the camera in readiness for so long. From time to time I let my arms down to rest them, but only for a moment. My attention was concentrated to the highest degree. I began to appreciate how hard it was to take a valuable picture.

At last the parent bird could no longer restrain its instinct to feed and protect its babies, and it returned. First, a low sound of flight emerged from the forest, then a big pink ibis flew into the range of our lenses. The clicks of two cameras were heard, one after the other. For me, it was a soul-stirring, unforgettable moment. It has been said that all artistic creation requires emotional excitement, and photography is perhaps the most impulsive art. The photographer must be ready

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at any moment to capture a scene that arouses his spirit.

The nestlings were impatient as the parent reached them. Some were crying or flapping their wings. A strong young ibis plunged its long bill into the parent bird's mouth and pulled out some half-digested food. The parent fed the babies one by one, emptying its throat of food, then left the nest again to look for more. All this took but a few moments. There was no time to think about artistic composition. My mind was fully occupied with taking advantage of every second to capture what I saw on film.

Diary of a Family

Efforts to preserve the crested ibis experienced a breakthrough in 1984, when peasants in Sanchahe reported finding the nest of a pair of crested ibises. From information given by the local people and from traces of old nests, it was concluded that Sanchahe might be a stable breeding place for the crested ibis.

When I arrived in Sanchahe, even more remote than Yaojiagou, the villagers were curious about me and eagerly asked me questions. They had never met anyone from Beijing. An employee of the preservation station told me I was the first visitor from the capital to pay a call on the crested ibis.

The surroundings of Sanchahe were similar to Yaojiagou's, providing a suitable environment for the crested ibis. Near the village, which is 3,600 feet above sea level, a group of tall blue Japanese oaks grow in an old graveyard on a hill. According to the gravestone inscriptions, these trees are even older than the trees in Yaojiagou. One of the trees had a nest. A family named Luo lived nearby and worked a large paddy. To the west were more families and a large area of paddies, with other families and paddies scattered in a ravine lower down. Altogether, 39 families (182 people) and eight hectares of paddies made up this village.

Unfortunately, a steady rain started the day after I arrived. The ravines quickly filled with water and the roads turned to mud. I had no way to get down the mountain, nor could the jeep come for me. These clouds, however, had a silver lining, for they gave me a good chance to study the crested ibis. Every day I went out barefoot to observe the birds, then I went from house to house, visiting the local people. I also had an opportunity to talk to the employees of the observation station and to read through their ibis observation records. Although many of the notations are rather dry, one series of entries records in fascinating detail how the crested ibis raises its young.

April 27, 1984

Yesterday we received a telephone call informing us that crested ibises had been discovered in Sanchahe. We set off immediately from Yaojiagou, climbing over ridges for more than 40 kilometers on a mountain road and arriving here yesterday morning.

Today we saw a crested ibis in the paddy next to the home of the Luo family. But where was the nest? Our experience told us that it must be in one of the tall trees in the graveyard. At 10:10 a.m. we found a nest on a branch of a blue oak tree near the paddy. Its position, height, materials, and structure were all more or less the same as in Yaojiagou. We also saw the heads of crested ibises moving in the nest and could tell that they were over 10 days old, but we couldn't determine the number of ibises in the nest, because the tree branches and parent bird blocked our view from the opposite side of the hill.

April 29

Today we were able to see clearly three nestlings. We took some pictures and numbered the 37 oak trees. One of them is dead and another has a ring cut out of it about waist height. Luckily it was not cut down and remains alive today. Trunks of other large trees were lying on the ground. It

looks as if we were just in time. If we had come later, the trees would all have been cut down.

April 30

We arrived beneath the nest tree at 7:20 this morning. The parent birds had gone out to look for food. Ten minutes later, one ibis flew back. It gave the nestlings 10 feedings altogether. The other parent came back at 10:43. It gave 11 feedings. Perhaps they had noticed us or perhaps it was for some other reason, but after 10:51 the two parent birds began to take turns watching the nest. One did not leave the nest until the other returned.

At noon neither left the nest. One parent preened one of the nestlings, while the other fixed up the nest. An ibis nest is simple, and ibises usually expand and strengthen it during the hatching and brooding periods.

May 4

As the three nestlings fight over their food, it becomes clearer and clearer which is strongest and which weakest. Today we saw them pecking at each other. The strongest was taking food from the parent bird's bill, while the other two stood aside with heads lowered. The second got its turn to be fed only when the strongest was completely full or was forced to stop by the parent bird. The smallest was so weak and timid that it often got nothing to eat. All it could do was hang its head in weariness and hunger.

May 5

As the nestlings' food requirement has increased, the parents have had to go out searching more often. Today we observed from 5:35 in the morning until 19:50 in the evening. The two parents went out 13 times each to look for food and 10 times to gather nest material.

This was not a record. An ibis we observed in Yaojiagou made 17 trips a day in search of food. It took back an average of six loaches each time, or 102 loaches a day. The average weight of each loach was 9.8 grams, or 1,097.6 grams in all. During the feeding period the parent birds are so busy that they lose weight, while the nestlings grow bigger day by day.

May 9

Someone came to tell us that Wang Qingbao's dog had been chasing a crested ibis and had nearly caught it. We went to Wang's home and explained to him the importance of protecting the crested ibis. We asked him to sell the dog, offering to pay for it. He promised to tie up the dog and keep it under control.

Others have told us that last year an eagle wounded one crested ibis and flew off with another one. Can this be possible? We need to investigate this more thoroughly. On the whole, the relationship between the crested ibis and other animals is still a considerable mystery and a topic worth researching.

May 13

At 9:00 this morning the three nestlings were stirring in their nest as they waited for food. It was 9:30 before one of the parents flew back. It fed one baby, then flew away again. At 10:10 the other parent came. It also fed one baby and left. It was clear there was a food crisis. The small size of the paddy and the low temperatures are unfavorable for the growth of aquatic creatures such as loaches, other fish, and river snails. No matter how hard the parent birds tried, they had difficulty finding enough food to meet the needs of the three almost-grown nestlings. The scramble for food among the three became fiercer and fiercer. If we hadn't scattered food ourselves, the weakest would have starved. It was the same in Yaojiagou and at the Beijing Zoo. At present a method of food distribution has been devised in Yaojiagou, but we have no way to do the same here, because

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the high mountains and long distance from town make it difficult to bring food in.

May 15

At 9:30 a.m. two of the young were playing on branches three meters from their nest while the other one was still lying in the nest, too weak to get up. The strongest one is getting stronger, while the weakest is getting weaker. I am really worried that the weak bird may not survive.

The parents have treated their young fairly. At 10:15 a parent returned. It began to feed the weak bird in the nest, but then the other two came back, pecked the weak bird aside and started snatching the food out of the parent's bill. At 3:00 p.m. the two birds were again playing merrily on a branch, but the poor, weak bird was back in the nest, miserable and hungry.

May 16

At 10:00 in the morning the parents were out, the two stronger birds were playing near the nest, and the weak bird was lying in the nest.

It rained heavily today. At 11:00 we gave up, finding it impossible to observe.

It stopped raining at 5:00 p.m. We arrived at the nest tree at 5:40. A parent was perched on a branch about five meters from the nest. Two young were on a branch near the nest, but to our surprise the weak bird had disappeared. Where was it? Had it been carried off by an enemy or did it fall from the nest?

We looked under the tree. Within minutes we found it dead in a spot about three meters from the nest tree. Its tail was pointing downhill and its head was tucked under its body, with one wing spread out. The body was not yet completely cold and we found no wounds. When we touched its stomach, we could tell there was no food at all in it. We were quite upset and wanted to report immediately to the preservation station, but the regular time for radio communication was not until 7:30 the next morning. We waited impatiently.

Hunger was the cause of death. Perhaps it had been scrambling for food, or the strong winds and heavy rain may have blown it from the nest. But why had it died? The bird that fell from its nest in Yaojiagou in 1981 was no bigger than this one. It fell three times without being killed. Were this bird's wings wet or did it bump into something? Or was it already on the point of death?

May 17

At 5:50 this morning the two young were running from branch to branch, flapping their wings, as if they cared nothing about the death of their brother. But this was not the case with the parents. As one parent flew back from a nearby cornfield and landed on a branch by the nest, the two rushed to it for food, but the parent paid no attention to them, just stood there with a dull look in its eyes as if it were still thinking of the terrible incident that occurred yesterday. A few moments later the other parent came back. It had not brought back any food for the young birds either.

The first parent flew toward the lower ravine, while the other gave three low cries, then landed in tree No. 23. It cried twice more, as if it were calling its poor dead baby back. Our hearts were touched by this moving scene and the sound of their sad, shrill cries.

Later we saw the two parents looking for food in the paddy in front of Luo's house. We observed them carefully through binoculars. They were acting queerly, moving about slowly and without animation. Ten minutes later they were still walking back and forth aimlessly, having caught nothing.

After hearing our report, the people in the preservation station at once sent 10 kilograms of loaches and threw them into the paddies near the nest at 7:00 this evening.

May 18

At 6:00 a.m. we observed that the two young were about five meters from the nest. One was

trying its best to fly from one twig to another, and its first try was successful. It was quite satisfied with itself and continued flying back and forth between branches, gradually becoming braver and more confident.

The other one grew envious. It spread its wings and flapped them, but its feet still clung tight to the branch.

At 6:00 p.m. the first one wanted to fly farther. It reached tree No. 8 without stopping — a rather long distance, because the bird's wings are still not very strong, but it made it. Encouraged after a short rest, it flew over to tree No. 1 and did not return to the nest until 7:00 in the evening.

May 19

The two young were perched on tree No. 23.

At 12:08, 12:40, and 3:00 in the afternoon the parents returned to feed their young. This showed that the situation had improved after we cast the loaches into the paddies.

At 3:30 in the afternoon the two young flew back to their nest, chirping proudly.

May 20

At 2:20 this afternoon one of the young set off from tree No. 23, circled around tree No. 1, then flew to the paddies. This was the first time it had left the forest and flown to the open field. It dared not stay long in the field, however. It headed right back to tree No. 23, and at 2:33 it flew back to the nest tree.

May 21

At 5:25 a.m. parents and young were all in the nest tree. At 5:44 they all went to the paddies, where the two young learned to catch fish. At 6:00 the parents flew to the lower ravine, while the two young returned to the nest tree. They played in the forest, flying from tree to tree and sometimes landing in the paddies alongside the forest.

May 22

At 9:00 this morning the parents took their young to the paddy in front of the Luo house to look for food. The two young had a hard time finding food and went crying to their parents for help, but the parents refused to feed them. They seemed to be saying, "Children, you are grown up now. You must do it yourselves."

The parents were very strict with their young, but also very loving. At 5:03 p.m. the parents finally fed each bird once, so that they would not go hungry.

May 23

At 8:15 this morning one parent was in tree No. 23 and the other in tree No. 22. The two young joined the parent in tree No. 22. They did not know that the branch they landed on was dead and could not bear the weight of three birds. It broke with a crack. The frightened parent flew back and forth, crying loudly. The two young wheeled through the air; then one landed on the nest tree and the other on tree No. 18. If this had happened five days earlier, they might have met the same fate as their lost sibling, but now their wings were strong enough to cope with any such emergencies. The frightened parent landed in tree No. 23. The other parent went over to it and, with gestures like those used during mating, calmed it down.

May 24

This morning at 10:10 three ibises were calling, swatting at one another, and chasing one another on tree No. 25.

How could such a fight have developed within the family? We took a closer look and found a strange bird among them.

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Crested ibises are very territorial about their nests. Mainly because of the strict requirements for nest locations and the limited supply of food, especially during the breeding period, no other ibises may visit the nest. Crows and magpies can share the forests, even though they may invade the nests or take away building materials, because they do not compete for the same food.

The quarrel lasted an hour and a half, the sounds echoing through the valley; then the stranger must have felt it was in the wrong, or perhaps it was the weaker party, because at last it flew away toward the lower ravine and peace returned to this one.

June 3

After the young leave the nest, the family seldom goes back to it or uses it again, even during the breeding cycle. The ibises often land on the nest tree, but do not go to the nest itself.

This morning in the fields the young birds again asked their parents for food, but they were refused. At 5:50 in the afternoon on tree No. 24 they tried again, but were again refused.

June 11

Early this morning we saw four birds in the paddy in front of the Luo house, but by 9:00 a.m. they had disappeared. We waited until evening, but they still did not come back.

Our experience told us that a breeding cycle was over and our ibises had flown off to new locations.

Good-bye, crested ibises. See you in the autumn.

Worn-out Iron Shoes

In 1979 the Chinese Academy of Sciences was assigned the job of looking for the crested ibis, a bird native to Asia and known as "the gem of the East." Classified as an internationally protected bird at the 12th session of the World Conference for the Protection of Birds in 1960, the crested ibis had become extinct in the Soviet Union and Korea, while in Japan there were only a few left, all too old to breed. The only hope for rescuing the crested ibis rested with China.

The crested ibis is sometimes referred to as an egret, but it is a species of ibis. It was once widely distributed throughout China, as far north as Xingkai Lake, east to Fujian and Taiwan provinces, west to the Tianshui region of Gansu Province, and as far south as Hainan Province, but it was mainly found in the north, the northwest and around the Qinling Range. During the 1930s it was seen in 14 provinces, but by the 1960s it could be found only in Xi'an, Yangxian and Zhouzhi counties in Shaanxi Province. After that it disappeared without a trace.

Liu Yinzeng of the Beijing Institute of Zoology bravely took on the task of looking for the crested ibis, lost for 20 years. He studied the 17 available specimens, consulted Chinese and foreign data, and analyzed the exploration routes of previous researchers. Then he set off with a map, a camera and some research materials.

He traveled over mountains and waded across rivers. In three years he traversed half of China, covering more than 13 provinces and about 30,000 miles, but he did not find a single crested ibis or even a suitable environment for one. He did learn, however, that the most important reason for the apparent extinction of the crested ibis was the widespread and severe damage to its environment. He discovered that nearly all tall trees near villages had been cut down. Irrigated winter paddies no longer existed under the new crop system. Pesticides, chemical fertilizers, and waste water from factories had gravely polluted large areas of farmland and sources of water. In addition, the crested ibis usually lived in farming areas, where its large body and colorful feathers

made it an easy target for hunters. The crested ibis also has many natural enemies, including crows, birds of prey, and Indian martens (*Martes flavigula*), which often invade its nest, harm its eggs, and injure its young; its natural mortality is high. Damage to the environment, however, was clearly the most important factor.

Liu Yinzeng also uncovered two important clues during his three years of exploration and investigation. First, he learned from a fisherman that ibises were living in Yangxian County, Shaanxi Province. Second, a hunter in Huixian County, Gansu Province, gave him three feathers from an ibis killed only two or three years earlier.

When he returned to the Institute of Zoology, Liu made a detailed report. Administrators and specialists supported his request to continue the search, which would concentrate on Yangxian and Huixian counties and a few other spots. They also provided him with a cross-country vehicle and increased his funding.

In 1981 Liu Yinzeng returned to Yangxian County for the third time. His research had indicated that crested ibises lived at the foot of mountains; they could not live at high elevations. After searching almost every part of Yangxian County with the proper elevation, Liu had still found no trace of the ibis. Just when he was about to move his search to Gansu Province, a peasant who had seen his slides told him that he had seen a "red crane." Red crane is the local name for the ibis, because its face and feet are red, and its wings appear red during flight. Liu Yinzeng was interested in the news, but he didn't fully believe it. He knew that there were a lot of egrets and herons in the area and that the local people usually could not distinguish cranes and egrets from ibises. He took out a picture of the ibis and asked the peasant to look at the bird carefully and then report back. Two days later the peasant returned. He entered the room shouting loudly, "It's the right one! It looks exactly like the one in the picture."

They drove into the hills together. When the road became impassable, they got out of the vehicle and walked more than five kilometers until they reached Jinjiahe, 984 feet above sea level. There they found a nest bigger than an egret's and simpler than a magpie's — perhaps an ibis nest after all. Encouraged, they spent another two days climbing in the mountains and hills. They were returning to Jinjiahe when, at three in the afternoon on May 21, they suddenly saw an ibis flying over them from east to west. No doubt about it — it was a crested ibis!

I asked Liu Yinzeng to describe how he felt at that moment. He said, "I'm not sure how excited I was. I just found myself saying, 'Ibis, what made you come to such a high mountain to live?'"

It was not that the research records had deceived him or that the ibis deliberately wanted to make things difficult for him. In recent years, because of rapid economic development and damage to the environment, ibises have no longer been able to live peacefully at the foot of mountains. They have been forced to move higher, to the middle elevations. If the environment at these elevations is destroyed, they will have no place to go, for it would be impossible for them to live in the thickly forested areas at the higher elevations. This is the danger now facing the ibises.

Liu and his guide followed the direction in which the ibis had flown and continued looking for it. On May 23 they saw the ibis again and found some of its droppings. At this time they heard an unhappy story. A pair of ibises had built a nest in a big tree behind a house and bred two young birds, but the owner of the house decided to cut down the tree in order to make some money. Two young birds fell from the tree and died. The adult ibises did not want to leave the place; they just kept circling over Jinjiahe. The ibis that Liu Yinzeng saw may have been one of these. Noticing that the ibis always flew north in the evening, Liu Yinzeng guessed that there might be other ibises in that direction. He began a search that ended at Yaojiagou on May 27. There he saw an ibis looking for food in the fields. At first he thought it was the one from Jinjiahe, but a villager said,

"They have built a nest in a tree and bred some young." Liu was shown the nest tree, where he found three nestlings. He decided not to go back to town, but to remain in the ravine and observe the birds. Food was supplied to him once a week.

The arrival of people under the nest tree frightened the parent birds. They dared not return to feed their young, so the nestlings went hungry that day. At 11:00 in the evening Liu Yinzeng was still out tape recording under the tree when he heard something fall. Fearing that it was a young bird, he took out his flashlight and searched for a while, but he could not find it. The next day he went out to look again, but he found nothing. Later a boy came to tell him there was a bird behind his house. Liu Yinzeng hurried over and saw it lying on the ground, weak and hungry. He cut some river snails and frog meat into small pieces and fed the bird slowly. It revived a few minutes later, and he put it back in its nest, but not long after, it fell out again. The parents had ignored it, perhaps regarding it as a stranger, because it had been touched by human hands and smelled different from the other birds. Each time it was put back, it fell from the tree again. Liu Yinzeng had to feed it himself and asked the Institute of Zoology for permission to send it back to Beijing to be raised there.

So the young bird, the tapes, the pictures, and other data were taken back to Beijing, and news of the discovery of the crested ibis spread quickly worldwide.

After Liu Yinzeng had "worn out iron shoes," as the saying goes, searching for the crested ibis in its preferred habitat, it had turned up in unexpected places, forced by the destruction of its normal environment to seek new habitats. In light of this, the survival of the species remains precarious. The loss of even a single bird could tip the balance toward extinction.

After Liu Yinzeng's discovery a major campaign was launched to save the crested ibis. Steps were taken to convince people of the importance of preserving the species, to reward anyone who provided clues to the whereabouts of the birds, and to punish anyone caught killing them. A vast amount of research has been done on the ecology and biological characteristics of the crested ibis. Preservation stations have been set up. Procedures have been adopted for long-term observation and food supply; land used for winter rice has been expanded and the use of pesticides has been limited. These measures increased the number of crested ibises from nine in 1981 to 50 in 1997.

In May 1984 a special conference was held in Beijing to discuss ways of preserving the crested ibis, particularly the pros and cons of natural protection versus artificial raising and breeding.

The main advantage of natural protection is that it conforms to the laws of nature. The disadvantage is that, with the ibis' extensive range of activity during July and August, human intervention, natural enemies, disease, and pollution are difficult to control. Besides, with so few birds to begin with, any natural increase would at first be quite limited. It is unlikely that natural breeding alone can save the crested ibis from extinction.

With artificial raising and breeding, there is no danger from natural enemies, controlled feeding can help reduce disease, medical care can be provided if needed, and scientific research and international cooperation are facilitated. Attempts can be made to induce breeding by scientific methods. There is, however, no certainty that the ibis will breed under artificial conditions.

Balancing the pros and cons, the conference decided to adopt both methods. While the main emphasis will be on preserving the crested ibis in nature, artificial methods are to be tested on a few birds in order to increase their numbers as soon as possible.

Of the 10 nests of ibis eggs observed in recent years, only five nests produced young. Among the 21 young, six died very early, two of illness and one of hunger. From these figures we can see that it will take extensive knowledge of environmental science, ecology, pathology, embryology, and genetics to increase the number of eggs laid and the incubation and survival rates.

From a poor bird that died we have been able to learn a great deal through dissection and

laboratory analysis.

When some diseased birds died, however, they were left to decay, since the local people knew nothing about protecting the crested ibis. They were eager to sell the birds for a high price. Some asked me, "How many airplanes can we exchange a crested ibis for?" Some said, "If we sell two crested ibises, every problem in Yangxian County can be solved." Though clamoring that the crested ibis is a national treasure, some people know nothing of its true value — to science, ecology, genetics, aesthetics and, of course, the economy. The protection of this species is for the glory and pride of the nation.

Differences in understanding have caused some difficulties. Some people, in the name of protecting the crested ibis, asked to buy cars and trucks, construct buildings, build highways, even sought personal fame and material gain and assigned their faithful followers and relatives to important posts. If they didn't attain their aim, they disputed without principle and procrastinated in the protection work. The crested ibis was eager to be fed, but no money was given out, despite its having been deposited in the bank; the preservation station's organization and arrangements remained undecided day after day. Some persons were experts in disputing, but ignoramuses in protection work.

Scientific workers must be encouraged and helped to join the research and protection. Some people have simply said, "Hasn't the crested ibis reproduced every year without them?" These people don't understand the process of extinction. The crested ibis in Japan has given us a good lesson. In the 1930s its numbers increased a little, but as people hesitated to take action, the result was today's impossibility of saving the species.

Birds cannot wait for people and golden opportunities cannot be missed. My visit to the crested ibis made me both glad and worried. I hope to light a fire that will burn to ashes the selfish ideas, personal considerations and ignorance and unite people in a concerted effort to concentrate manpower and material, financial and intellectual resources on protection of the crested ibis until it is safe from danger.