

BIRD TO WATCH

Return of the Crested Ibis *Nipponia nippon*: a reintroduction programme in Shaanxi province, China

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The Crested Ibis *Nipponia nippon* was once a familiar and abundant species throughout eastern Asia (BirdLife International 2001). Up to a century ago, the birds were commonly seen nesting on large trees in towns and cities near to which there were suitable wetlands for feeding (La Touche 1934). In the 20th century, deforestation and destruction of the bird's habitat led to the extinction of the Russian, Korea and Japanese populations (Archibald & Lantis 1978). A large-scale search for the species in China in 1978 failed to locate any birds and it was feared that this beautiful species might already have become extinct.

In May 1981 a remnant population, consisting of only four adults and three young, was discovered in Qinling, a remote mountainous area in Yang Xian county of Shaanxi Province, China, at an altitude of 1,200 m where human exploitation was relatively less severe than in neighbouring areas (Liu 1981).

There was still therefore suitable habitat for the ibis and a species conservation project was quickly initiated. This coincided with an increase in concern for the conservation of the natural environment, and the small, newly discovered population benefited from enforcement of laws and regulations on habitat protection. As a result, the number of individuals in the wild population rose from seven to more than 600, whilst more than 500 captive-bred individuals reside in several protection centres.

Despite the successes both in the wild and in captivity, it was still not possible to guarantee a long and prosperous future for the Crested Ibis. Although the breeding success of the wild population was relatively high (Yu *et al.* 2006), the species had still not spread back to the eastern Qinling mountain areas. A reintroduction programme was therefore approved to release captive-bred individuals at carefully selected sites within their historical range.

Plate 1. The nestlings of the first pair are fed by the male, mouth-to-mouth in a manner peculiar to Threskiornithidae, May 2008.



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Plate 2. Imitating copulation as a pair-bond display usually occurs when the male brings a stick to the nest during incubation: second pair, May 2008.

On 31 May 2007, 26 healthy captive-bred Crested Ibises (13 males and 13 females) were released at Zhaigou village (33°23'27"N 108°20'29"E), Ningshan County in Shaanxi Province. Each bird was identified by a digitally imprinted plastic ring on its left leg to allow us to monitor the released birds and their survival rates, and the strongest five males were also fitted with radio transmitters on their necks to

Plate 3. Juvenile bird (07) fledged by the second pair, now independent of its parents, September 2008.

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enable their location to be tracked using radio telemetry.

Since the release, we have extensively monitored the reintroduced population and paid particular attention to the birds' ability to survive during the winter of 2007. The main results of the field observations to date can be summarised as follows: One male and two females could not be re-located following the release, for unknown reasons. In a particularly cold period towards the end of 2007, one male and five females were recaptured suffering from intestinal disease and malnutrition. Five birds (two males, two females and one of indeterminate sex, its identity ring having been lost) were found dead from natural causes or electrocution by overhead power lines. Twelve of the 26 released birds, including three males fitted with radio transmitters, survived the winter season and continued to live in the wild.

More excitingly, two pairs subsequently formed in the wild amongst the reintroduced population. Courtship between the first pair began in the early spring of 2008. The male, digital ring number 082 and 575 Mhz radio transmitter, was six years old at the time. The female, digital ring number 375, was three years younger than her mate. They nested at the foot of a hill (33°18'11"N 108°17'01"E) at an elevation of 772 m, 11.5 km south-east of the release site. The nest was a large and untidy structure built of sticks in a fork close to the trunk of a large pine tree *Pinus tabulaeformis* at a height of 15.5 m. Egg-laying started on 15 March 2008, continuing at two-day intervals until a clutch of four eggs was laid, and three young hatched between 13 and 17 April. The first nestling was killed in the nest by a non-venomous snake *Elaphe carinata* at 15 days old whilst two were fitted with rings at 23–25 days,



Plate 4. The male Crested Ibis (082) of the first pair to form under the reintroduction programme resting after foraging, September 2008.

when their tarsi were fully developed but before they were able to leave the nest. Both fledged successfully on 28 May.

The second pair also formed in spring 2008. The male, digital ring number 359 and 650 Mhz radio transmitter, was three years old whilst the female, digital ring number 027, was two years older. Their nest was built on a fork of a horizontal branch in a large poplar tree *Populus* sp. next to the national highway (33°23'29"N 108°22'00"E) at an altitude of 1,034 m, 2.35 km north-east of the release site. Incubation was observed during May but only one nestling hatched from the two eggs in the nest; it too was ringed, and fledged successfully on 19 July.

We consider that the reintroduction programme has therefore had promising results. Despite the threats they face in the natural environment, the survival rate of the released Crested Ibises has been relatively high. Nearly 50% of the released birds survived their first winter in the wild and the programme achieved one of its first goals—to see successful breeding in the natural environment—when two pairs successfully fledged young in the first breeding season. We hope that, with further reintroductions planned in the coming years, more and more people will have the opportunity to see one of our most spectacular birds, which has been hailed as an “eastern jewel”, in their own countryside.

References

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