

The Endangered White-eared Night Heron *Gorsachius magnificus* in Vietnam: status, distribution, ecology and threats

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White-eared Night Heron is a very poorly known, globally Endangered species, occurring mainly in China, with only two prior records in Vietnam. Recent targeted surveys resulted in observations from two sites in Bac Kan Province, northern Vietnam, including the first breeding record of the species from Vietnam. Local awareness of the species was raised considerably in survey areas, including among hunters who had previously had a high impact on the species. Data from other sites are presented, threats outlined, and recommendations for further action made.

INTRODUCTION

White-eared Night Heron *Gorsachius magnificus* is a very poorly known species, despite recent fieldwork in China (e.g. Fellowes *et al.* 2001, Bi Cheng Li *et al.* 2007, He Fen-qi *et al.* 2007). It is known from eight provinces of south-east China and two records from northern Vietnam (BirdLife International 2001, 2007, He Fen-qi *et al.* 2007). Recent fieldwork and literature review in China have clarified and extended the known distribution of the species but, despite its relatively wide range, it still appears to be very rare and patchily distributed. Owing to its presumed small and fragmented population, and

presumed declines in line with forest clearance and fragmentation, it is categorised as globally Endangered (BirdLife International 2007). It is listed in the Vietnam Red Data Book as Critically Endangered (MoST and VAST 2008), but has not yet been listed as a protected species in Vietnam (Pilgrim and Nguyen Duc Tu 2007).

Its distribution and status in Vietnam have to date been almost entirely unknown. A specimen was reportedly collected by Vo Quy in 1975 at or near Son Tay in Ha Tay Province (formerly part of Hoa Binh Province), but recent attempts to locate the specimen have been unsuccessful (BirdLife International 2001, Le Trong Trai verbally 2007, authors' experience). The location was incorrectly

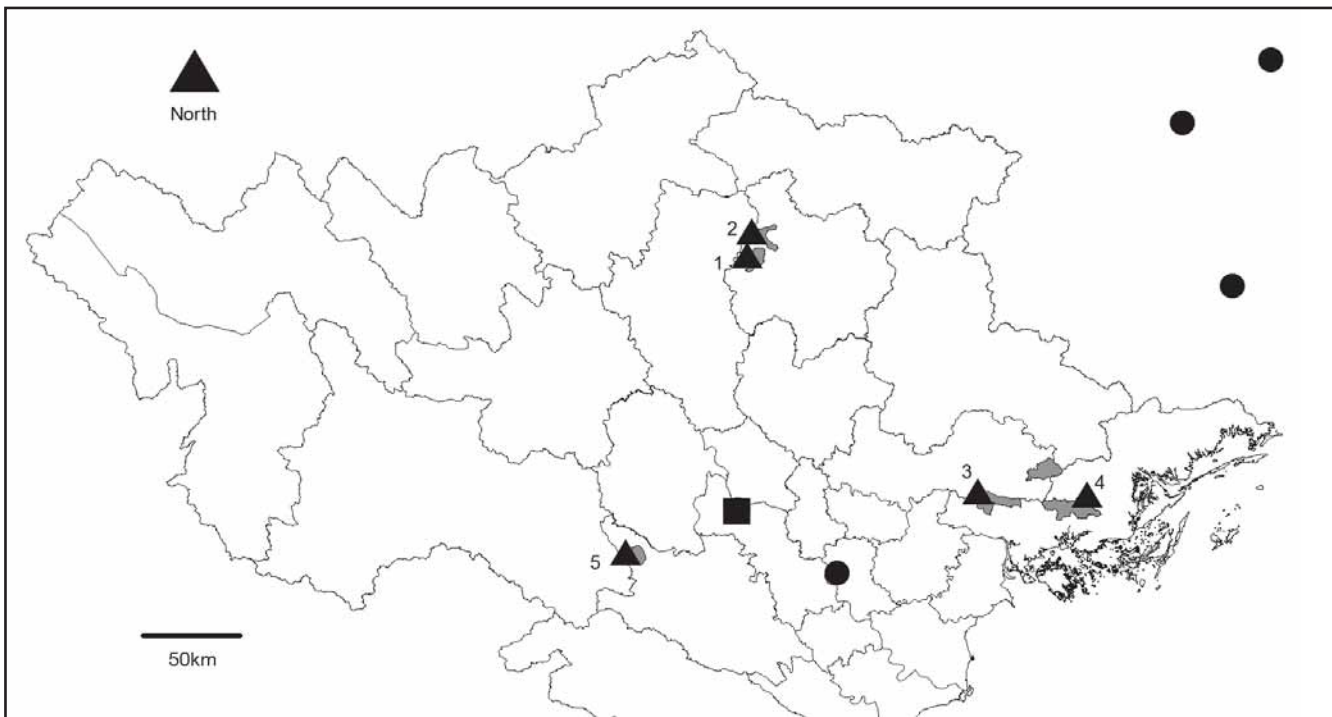


Figure 1. Map of northern Vietnam showing survey sites and locations of previous reports (including Chinese records).

Triangles indicate survey sites: (1) Xuan Lac Commune, Cho Don District, Bac Kan Province; (2) Nam Mau Commune, Ba Be District, Bac Kan Province; (3) Luc Son Commune, Luc Nam District, Bac Giang Province; (4) Ky Thuong Commune, Hoang Bo District, Quang Ninh Province; (5) Dong Chum and Dong Ruong Communes, Da Bac District, Hoa Binh Province. Circles indicate previous records (BirdLife International 2001). Square indicates correction of previous Vietnam locality record shown by BirdLife International (2001). Grey polygons indicate proposed or existing protected areas adjacent to survey sites.

mapped by BirdLife International (2001) as 20°50'N 105°58'E and should in fact be 21°08'N 105°30'E (Fig. 1). After 25 years without records, the species was believed to be possibly extinct in Vietnam until a bird was observed roosting on 30 April and 1 May 2001 at Lung Ly, Xuan Lac District, Bac Kan Province (Le Trong Trai *et al.* 2004). It is unclear whether the species undertakes seasonal movements in any of its range, and it has been suggested that Vietnamese records may solely represent migrants or vagrants (BirdLife International 2001).

Here, results of recent surveys for the species in northern Vietnam are presented, along with consequent insights into its status, distribution, ecology and threats.

METHODS

Surveyors for White-eared Night Heron in China had no success with speculative surveys, finding the species only by following up promising information from local informants (John Fellowes *in litt.* 2007). Thus, prior to surveys in Vietnam, posters were put up across the proposed survey area in government offices and public places (cafes, bars, restaurants, shops and meeting halls), explaining why this species needs to be conserved and that it should not be hunted. Posters also illustrated confusion species (Malayan *G. melanolophus* and Black-crowned Night Herons *Nycticorax nycticorax*) and offered a limited number of rewards for sightings reported by the public and confirmed during the project surveys. Rather than mailing posters, to ensure they were actually put up and visible, they were hand-posted in mid-February, before the surveys were intended to start. A press release was also circulated prior to the surveys, but no media decided to run the story.

From 27 February to 4 April 2008, TTT and DFW ('the team') visited sites in four provinces in northern Vietnam where it was considered that White-eared Night Heron might be present based on (a) the location of the two previous Vietnamese records, (b) proximity of known populations in China, (c) existing natural forested streams (the species's presumed optimal natural habitat), and (d) presence of protected areas that may have reduced hunting pressure (Fig. 1). NDT initially accompanied the team at each survey location in order to facilitate relationships with local authorities. Visits to a further province, Tuyen Quang, were not possible owing to difficulties in obtaining travel permissions. The team aimed to (i) raise public awareness about the species, and the need for its conservation; and (ii) conduct field surveys for the species, informed by feedback from local people.

In each study area, the initial main focus was on interviewing local people to raise awareness about the possible presence of White-eared Night Heron and to assess local knowledge of the species. These interviews generally took place away from villages in the mornings (when local people were working in the fields or forest), both in and away from villages in the afternoons, and in cafes in villages in the evenings. Where possible, hunters, fishermen and foresters were specifically targeted, along with people living in houses in valleys close to the forest. In addition, the team attempted, where possible, to encourage interest in birds amongst local schoolchildren.

General bird observations and assessments of habitat type and extent were made when the team was not

conducting interviews. On most evenings, from 18h00–18h45, the team positioned themselves in locations allowing a clear view, in attempts (either speculative or guided by local information) to hear or see night herons leave roost sites, and on occasions a spotlight was used to search streams and lakes for feeding individuals. Additional searches of possible roost sites were made during the day.

From 9 to 12 April 2009, TTT and DFW revisited two survey sites, followed by a number of other observers after news of their sightings.

RESULTS

Disappointingly, no feedback was received in response to the posters prior to the surveys, perhaps because they were distributed less far in advance than had been planned. However, distribution of the posters played a strong role in informing local communities of the planned surveys prior to their implementation, saving time in explanation during the survey period.

Xuan Lac Commune, Cho Don District, Bac Kan Province

From 28 February to 7 March 2008, the team worked in Ban O and nearby villages in Xuan Lac Commune, visiting areas at 200–700 m altitude. This area is within the 1,788 ha South Xuan Lac Species and Habitat Conservation Area (a proposed local-level nature reserve), and adjacent to the Ban Bung sector of Na Hang Nature Reserve. However, Ban O was a large village in a relatively wide valley, with rice paddies bordering a medium-sized stream. The river valley narrowed considerably c. 1 km either side of the village, with limestone cliffs and good quality forest on either side. A side valley (towards the small villages of Ban Ho and Ban He) held similar habitat. Otherwise, forest along valley sides in this area was more or less degraded. Approximately 6–10 km upstream, good quality forest was found in the area of the 2001 sightings of White-eared Night Heron, although some selective logging was noted. The small valley at the site of the previous sightings was dry at the time of these surveys.

On 4 March, the team were shown a White-eared Night Heron skull (identifiable by its remaining feathers) by a local hunter, who stated that he had shot it for food two days previously c. 1 km south of Ban O, that the bird had been a female containing four eggs, and that another bird remained in the wild. The following day, the hunter showed the team areas of the river where he had very occasionally seen the species feeding during the daytime and trees where he had (again very occasionally) seen the species roosting. He also showed the team a tree where the species had apparently nested in 2007, stating that he had climbed up and taken four large young birds from the nest for food. The nest was about 15 m up in a 20 m-tall tree directly adjacent to the river. The stated foraging areas were in the fast-flowing, narrow sections with limestone cliffs or good quality forest on either side.

At 18h25 on the evening of 5 March, while waiting at a vantage point, the team heard a White-eared Night Heron calling from the area explored the previous day, and then spotlit the bird and observed it well as it flew down the valley, still calling in flight. The bird was not seen the following day, in inclement weather, but was

seen (although not heard) at the same time and place on 7 March.

Although the main threat to birds in the area appeared to be ongoing deforestation, hunting has also clearly been an issue for at least White-eared Night Heron. The hunter referred to above was, as promised on the posters, given a small reward for showing the team a live bird, and made fully aware of relevant laws and the need to preserve the species in the future. His response was very positive, but of course the lasting impact on him remains uncertain.

Upon their return in 2009, TTT and DFW heard from the hunter that he had seen up to six birds in the summer of 2008 and had still seen some birds within 200 m of the same site in 2009.

Nam Mau Commune, Ba Be District, Bac Kan Province

From 8 to 13 March 2008, the team worked in Ba Be National Park, and Bo Lu and Coc Toc villages, in Ba Be District, to the south-west of Ba Be lake, at the bottom of the same valley explored in Xuan Lac, at an altitude of c. 150 m. The area surveyed was inside the national park, with a number of ponds near Coc Toc Village. The river valley from Xuan Lac was steep-sided but flat-bottomed, with rice fields alongside the river and good quality forest on the valley sides, near Ba Be lake. Outside the park, forest was extremely degraded or absent and similar small ponds were not seen.

Although the team only received vague reports of White-eared Night Heron in the first two days in this area, they decided to hold a speculative watch at dusk on 10 March at the bottom of the river valley next to Ba Be lake, a site with a good view of the surrounding area. Only a Black-crowned Night Heron was recorded leaving its roost, but on 11 March at 18h25 a White-eared Night Heron was heard calling downstream from forest immediately adjacent to Ba Be lake. It called four or five times, including at least twice in flight as it flew high upstream overhead. With a spotlight, good views were obtained of the white throat, chestnut sides to neck, black-and-white head pattern, chestnut underwing coverts, and scaling on the breast and belly. On the evening of 12 March, two night herons were seen but neither called and could not be caught in a spotlight.

A follow-up visit to this site by Paul and Chantal Griggs, Nguyen Van Lam and Hoang Van Chat resulted in further views of three night herons flying from roost between 18h20 and 18h30 on 24 March 2008, but they did not call and were not identified. During this visit, information was also obtained from a local man that he had previously seen up to four individuals together in another part of Ba Be, plus nests.

Upon their return in 2009, TTT and DFW heard from Hoang Van Chat that he had found a nest the previous year. On 9 April, they observed three White-eared Night-herons leaving the same roost as in 2008, followed by 4 on both 10 and 11 April. Four birds were later observed by JDP and Nicola Edwards on 18 April 2009, with at least three confirmed to be adults. The birds flew out in twos, with one bird in each set calling. Consequently, on 25 April 2009, Hoang Van Chat guided JCE, LMH, Richard Craik and Ananda Van Boeyen to the same nest that he had found the previous year, inside the core zone of Ba Be National Park, where they photographed an adult (Plate 1) and two very recently fledged



Plate 1. Adult White-eared Night Heron at the nest in Ba Be National Park, April 2009. (Le Manh Hung)



Plate 2. Two immature White-eared Night Herons in Ba Be National Park, April 2009. (Jonathan C. Eames)

immature birds (Plate 2). Two adults and two immatures were later seen by Sarah Brook, Stephan Lauper, Simon Mahood, Jill Rischbieth and Nicolas Wilkinson leaving the roost area on 3 May 2009. The following day, an inspection of the nest site revealed that all birds had left the nest, although an immature was found roosting nearby.

The recent sightings together reveal that at least two pairs of adults were at Ba Be in 2009, with at least one pair raising at least two young.

Luc Son Commune, Luc Nam District, Bac Giang Province

From 17 to 21 March 2008, the team worked in and around Dong Vanh village in Luc Nam District, at an altitude of c. 120–200 m. The forest around the village was largely degraded—more so than had been anticipated from prior analysis of land use data—and deforestation was ongoing. In only three small areas to the south and east of the village was there good quality forest adjacent to medium-sized streams. At higher altitudes, lots of forest remained, but only with very small streams. The area adjoins the Thanh Luc Son sector of Tay Yen Tu Nature Reserve. However, although this reserve was decreed by the Chairman of the Council of Ministers in 1986, and a management board and investment plan since established at provincial level, its incorporation into the national protected areas network has not been finally approved by central government (Tordoff *et al.* 2004).

The only information received about White-eared Night Heron in this area was from a local man who claimed that the species had been present twenty years ago when the area was still forested, but the team considered his information too vague to be seriously considered.

Ky Thuong Commune, Hoang Bo District, Quang Ninh Province

From 24 to 28 March 2008, the team worked in Khe Luong, Khe Phuong, and adjacent hamlets in Ky Thuong Commune, adjacent to Ky Thuong Nature Reserve, at an altitude of c. 100–200 m. Deforestation was much less evident than in other survey sites, presumably owing to poor current road access and a small human population, and a large amount of good forest remained. Three medium-sized streams within good quality forest merged to the east of Khe Phuong to form a larger stream which descended through a rocky gorge, reminiscent of the area in Xuan Lac where White-eared Night Heron was observed on this survey. However, no relevant information was received from local people, who appeared to have very little knowledge of wildlife.

Dong Chum and Dong Ruong Communes, Da Bac District, Hoa Binh Province

From 31 March to 4 April 2008, the team worked in Nhap and adjacent villages in Dong Chum and Dong Ruong Communes, north-west of the proposed Phu Canh Nature Reserve, at c. 250–400 m altitude. Nhap was a large village, with good forest nearby—along the steep-sided valley of the Suoi Bao stream to the north, and the Suoi Nhap stream to the south. Some rice paddies adjoin both streams, and deforestation is now spreading in the general area. At least one local person claimed to have seen White-eared Night Heron in forest adjacent to a very small stream south of Nhap, at c. 400 m altitude, but the team did not have high confidence in the accuracy of this information. Nonetheless, this site looked similar to the location of the 2001 White-eared Night Heron sighting in Xuan Lac, and further surveys may yet find the species here.

DISCUSSION AND CONCLUSIONS

These surveys, like recent surveys in China, were facilitated by prior attempts to solicit local information on White-eared Night Heron, and local knowledge led to one of the sight records of the survey team. Nonetheless, the team experienced several issues with the reliability of local information, in particular that Little Heron *Butorides striatus* and Chinese Pond Heron *Ardeola bacchus* are, to inexperienced observers, superficially similar and proved to be common confusion species because they were not included on awareness posters. Moreover, White-eared Night Heron seems to be almost entirely nocturnal and to change daytime roost trees regularly (even if staying in the same general area), and so prior local sightings proved of limited use in locating the species. However, the team had success with speculative watches for White-eared Night Heron leaving roosts at an area providing a sweeping view. The success of this technique suggests that it should be employed by future survey teams. Most surveys in China have been later in the year, but surveys at a similar time to those presented here may be optimal for locating the species, owing to its loud territorial calls.

Contrary to suggestions that prior Vietnamese records represent solely migrant or vagrant individuals, the results presented in this paper prove that White-eared Night Heron at least breeds, and is probably resident, in northern Vietnam. Subsequent to the 2008 surveys, Nguyen Cu photographed a juvenile bird in captivity near Na Hang Nature Reserve, Tuyen Quang Province (Eames 2008), but ill-advised confiscation by Forest Protection Staff resulted in its death. As there are no records to the south, in areas much better surveyed, it can be inferred that the species is largely or wholly resident in northern Vietnam. However, limited local knowledge of the species, and assessment of its abundance as 'rare' by those local people who were aware of it, suggest that the species is as rare and patchily distributed as in the Chinese part of its range.

The hunter's report of finding four eggs inside a female White-eared Night Heron at the start of March, plus observations of recently fledged young in late April 2009, tallies with what little is known of breeding from China, although breeding dates in Vietnam appear about a month earlier. Bi Cheng Li *et al.* (2007) note clutch sizes of 3–5 eggs, with hatching dates from 3–13 May and an incubation period of c. 25 days. He Fen-qi *et al.* (2007) collate records of a nestling in May in Hubei Province, and a 4–8 week old nestling in May, three young birds in June, and a juvenile in August in Guangxi Zhuang Autonomous Region. Likewise, the old nests pointed out to surveyors in Vietnam and the nest found this year at Ba Be accord with the observation of Bi Cheng Li *et al.* (2007) that this species prefers to nest high in trees near to water.

These surveys were only able to confirm the presence of White-eared Night Heron in Bac Kan Province, at two sites 8 km apart. These records were very near the only other recent record of the species in Vietnam, but c. 240 km from the next nearest known records in Guangxi, China (He Fen-qi *et al.* 2007), suggesting that other populations exist—or at least have existed—in the intervening area (Fig. 1). Local information in Hoa Binh Province was tantalising, and could not be fully investigated owing to short survey time and poor weather. Knowledge gained from, and awareness raised by, these surveys will greatly facilitate location of any other populations of this species in the future.

All areas surveyed were, to varying degrees, experiencing pressure from deforestation and hunting, as is the case throughout Vietnam. Overfishing and heavy use of agricultural chemicals are also widespread, and may be additional threats to the species (Fellowes *et al.* 2001, Bi Cheng Li *et al.* 2007), but were not quantified during these surveys. Protected areas such as Ba Be National Park and, to a lesser extent, the South Xuan Lac Species and Habitat Conservation Area have managed to slow threats and should be supported in their efforts. It is not clear to what extent deforestation is a threat to White-eared Night Heron. Given that it has been recorded breeding in plantation forest and urban areas in China (He Fen-qi *et al.* 2007), and that both sightings in the surveys detailed here were close to villages, hunting is likely to be a much greater threat. Although the survey team identified a few hunters who may have a large impact on White-eared Night Heron populations (such as the hunter in Ban O who had apparently accounted for five birds and four eggs in two years), most hunting appeared to be undertaken opportunistically during other activities such as collection of non-timber forest products. With

hunting widespread in Vietnam, little government capacity to enforce wildlife law, and local information that this species is good to eat (unlike many herons in the region), the prospects of reducing hunting appear low. However, rewarding local people to find and protect nests of rare species during the crucial breeding season has proven a cost-effective approach to conservation in neighbouring Cambodia (Clements *et al.* 2008).

The BirdLife International-Vietnam Programme is helping Ba Be National Park to prepare for Ramsar designation, and plans to develop a site-species action plan for White-eared Night Heron at Ba Be. In northern Vietnam, further surveys are needed to clarify the distribution of White-eared Night Heron, particularly in Bac Kan, Cao Bang and Lang Son provinces (all within the known extent of occurrence of this species), and in Hoa Binh Province (following leads from the surveys reported here). Given the (at least former) distribution of the species as far south as southern Hainan, the possibility that undiscovered populations remain in other areas of northern Vietnam should not be ignored. Additional surveys in Bac Kan Province and, if possible, neighbouring Tuyen Quang Province are needed to assess the size of the species's population in that area, and its geographic extent. Ecological studies of the species will be essential in order to formulate detailed recommendations for the species's conservation management. Even without these additional data, this breeding population of White-eared Night Heron in northern Vietnam is a clear conservation priority at both national and international levels. Nest protection schemes such as those for other waterbirds in Cambodia (Clements *et al.* 2008) would not only meet immediate conservation needs, but also provide a good basis for raising awareness of the species in local communities. The Government of Vietnam should add the species to its list of strictly protected species (Appendix IB), and give real support to the nation's valuable protected areas network—a system which is currently severely underfunded and being heavily impacted by infrastructure projects such as roads and hydropower.

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REFERENCES

- Bi Cheng Li, Ping Ping Jiang and Ping Ding (2007) First breeding observations and a new locality record of White-eared Night-heron *Gorsachius magnificus* in Southeast China. *Waterbirds* 30: 301–304.
- BirdLife International (2001) *Threatened Birds of Asia: the BirdLife International Red Data Book*. Cambridge, UK: BirdLife International.
- BirdLife International (2007) Species factsheet: *Gorsachius magnificus*. Downloaded from <http://www.birdlife.org> on 30/4/2008
- Clements, T., Garrett, L., Tan Setha, Kong Kim Sreng, Pech Bunnat, Thong Sokha and Rours Vann (2008) Bird Nest Protection Programme in the Northern Plains. Draft unpublished report to the Wildlife Conservation Society Cambodia Programme.
- Eames, J. C. (2008) White-eared Night Heron photographed at Na Hang Nature Reserve. *The Babbler* 26:37–38.
- Fellowes, J. R., Zhou Fang, Lee Kwok Shing, Hau, B. C. H., Lau, M. W. N., Lam, V. W. Y., Young, L. and Hafner, H. (2001) Status update on White-eared Night Heron *Gorsachius magnificus* in South China. *Bird Conservation International* 11: 101–111.
- He Fen-Qi, Fellowes, J. R., Chan, B. P. L., Lau, M. W. N., Lin Jian-Sheng and Lee Kwok Shing (2007) An update on the distribution of the 'Endangered' White-eared Night Heron *Gorsachius magnificus* in China. *Bird Conservation International* 17: 93–101.
- King, B. (2005) Vocalisation of the White-eared Night Heron *Gorsachius magnificus*. *Forktail* 21: 177–178.
- Le Trong Trai, Eames, J. C., Nguyen Duc Tu, Furey, N. M., Kouznetsov, A. N., Monastyrskii, A. L., Dang Ngoc Can, Nguyen Truong Son, Nguyen Van Sang, Nguyen Quang Truong and Bui Xuan Phuong (2004) *Biodiversity report on the Ba Be/Na Hang Conservation Complex*. Report of the Creating Protected Areas for Resource Conservation using Landscape Ecology (PARC) Project VIE/95/G31&031. Hanoi: Government of Viet Nam (FPD)/UNOPS/UNDP/Scott Wilson Asia-Pacific Ltd.
- MoST [Ministry of Science and Technology] and VAST [Vietnam Academy of Science and Technology] (2008). *Sach do Viet Nam. Phan I: Dong Vat* [Red data book of Vietnam. Volume 1. Animals]. Hanoi: Natural Sciences and Technology Publishing House. In Vietnamese.
- Pilgrim, J. D. and Nguyen Duc Tu (2007) *Threatened and alien species in Vietnam: background and recommendations for the content of the national Biodiversity Law*. Hanoi: BirdLife International-Vietnam Programme.
- Tordoff, A. W., Tran Quoc Bao, Nguyen Duc Tu and Le Manh Hung (Eds.) (2004) *Sourcebook of existing and proposed protected areas in Vietnam*. Second edition. Hanoi: BirdLife International in Indochina and the Forest Protection Department of the Ministry of Agriculture and Rural Development.

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