

Threatened Birds of Asia:

The BirdLife International Red Data Book

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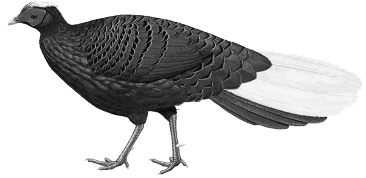
VIETNAMESE PHEASANT

Lophura hatinhensis

Critical —

Endangered B1+2b,c,d,e; C1; C2a

Vulnerable A1c,d; A2c,d



This pheasant has a very small and severely fragmented range and population, which are continuing to decline owing to destruction of its specialised lowland forest habitat and high levels of hunting. These factors currently combine to qualify it as Endangered. If habitat loss and hunting continue to operate, it may require upgrading to Critical in the very near future.

DISTRIBUTION The Vietnamese Pheasant (see Remarks 1) is restricted to lowland forest in central Vietnam. All records but one are from in and around Ke Go Nature Reserve, Ha Tinh province, and the adjacent Khe Net watershed, Quang Binh province. Given the emerging evidence for a hybrid origin of “Imperial Pheasant *Lophura imperialis*” (see Remarks 1 under that species, in Data Deficient), the Vietnamese Pheasant was (and possibly remains) more widespread in Quang Binh province, where Delacour and Jabouille (1931) encountered *imperialis*. There is a recent disjunct record from Thua Thien Hue province, 225 km to the south. Records are as follows:

■ **VIETNAM Ke Go Nature Reserve**, at Rao Cai, one male trapped by rattan collectors, January 1997 (Le Sau *in litt.* 1997), and Cat Bin, one male trapped immediately to the north-west, early 1990 (Robson *et al.* 1991), and 11 males and two females trapped in forest up to 12 km west of the town during one month, late January to late February 1990 (Robson *et al.* 1991, 1993), male, April 1995 (P. Alström, U. Olsson and D. Zetterström *in litt.* 2000); **Bau Mon**, Ky Thuong district, one female and chick reportedly caught, April 1992 (Nguyen Cu and Eames 1993); **Ky Thuong** commune, Ky Anh district, Ha Tinh, where a second male specimen was collected, April 1974 (Dang Huy Huynh *et al.* 1974), remains of male identified, December 1987 (Robson *et al.* 1989, 1991, Nguyen Cu and Eames 1993; see Remarks 2); **Gat**



The distribution of Vietnamese Pheasant

Lophura hatinhensis: (1) Ke Go Nature Reserve; (2) Bau Mon; (3) Ky Thuong; (4) Gat Che Me valley; (5) Son Tung; (6) Khe Net; (7) Hue.

● Recent (1980–present)

Che Me valley, Ky Thuong district, Ha Tinh, one male trapped and photographed on the valley floor, May 1992 (Nguyen Cu *et al.* 1992, Nguyen Cu and Eames 1993), but not recorded in subsequent surveys (Nguyen Cu *in litt.* 1997); **Son Tung**, Ky Son commune, Ky Anh district, Ha Tinh, 1964 (Vo Quy 1975, male in IEBR), with two males (identified from remains presented by hunters) caught nearby to the north, December 1987 (Robson *et al.* 1989, 1991); **Khe Net** watershed, Quang Binh province, at least eight (and possibly more than 10) observed in seven days, 200–300 m, June–July 1994 (Lambert *et al.* 1994), including 4–5 recently fledged juveniles, one of which (a male) was caught and blood samples taken; 15 km south of **Hue**, Huong Thuy district, Thua Thien Hue, one captured near the Huong river, 1999, now in captivity at Hanoi Zoo (A. W. Tordoff *in litt.* 2000).

Unconfirmed reports are from Tuyen Hoa and Minh Hoa districts, Quang Binh province, where individuals in Hanoi Zoo were reportedly caught, with no dates or localities specified (Rozendaal *et al.* 1991, Lambert *et al.* 1994; see Remarks 3); reports of all-dark pheasants at Cao Veu (c.18°50'N 105°00'E), could refer to this species (Rozendaal *et al.* 1991), although this claim must be treated with caution (Lambert *et al.* 1994).

POPULATION The range of the species was thought to have contracted to only a few sites in the vicinity of Ke Go Nature Reserve (J. C. Eames *in litt.* 1999), before the 1999 record from Thua Thien Hue province (A. W. Tordoff *in litt.* 2000). Although a “healthy population” was reported in the Khe Net watershed (Lambert *et al.* 1994), this area has since become degraded and the species was not found during wider exploration of the area (J. C. Eames *in litt.* 1999). Overall, a major decline has undoubtedly occurred because of habitat loss, and the population is considered to consist of fewer than 2,500 individuals (McGowan and Garson 1995). The species is believed to be well distributed between 50 and 200 m throughout the south-eastern part of the Cam Ky Forest Enterprise (Robson *et al.* 1993b), presently protected within Ke Go Nature Reserve. There appeared to be at least 50 km² of suitable habitat in the Cat Bin area (Robson *et al.* 1991). Before establishment of Ke Go Nature Reserve, this population was threatened by intensive trapping and hunting, and none was seen in the wild, despite considerable efforts, in 1991 (Robson *et al.* 1991, 1993).

Captivity The captive collection comprised 20 individuals in 1995, all in Hanoi Zoo (McGowan and Garson 1995). This figure had risen to 50 in 1998 (A. Hennache *in litt.* 1999).

ECOLOGY Habitat The species inhabits primary and secondary evergreen forest in lowlands and hills from sea-level (at least historically) to c.300 m (Carlberg 1993, Lambert *et al.* 1994). Its presence in “seriously degraded” forest around Ke Go lake was suspected by Eames *et al.* (1994), and the recent record at Huong Thuy district was from bamboo forest close to habitation (A. W. Tordoff verbally 2000). Thus, like many other *Lophura* pheasants, it might tolerate heavy habitat degradation.

Individuals are apparently often trapped close to streams where the vegetation is densest (Robson *et al.* 1991). While it was initially thought to favour level or gently sloping areas with abundant palms and rattans in the understorey, interspersed with patches of bamboo (Robson *et al.* 1991, 1993, Nguyen Cu *in litt.* 1997), most individuals in the Net river watershed were observed on low ridge-tops and adjacent steep slopes (Eames *et al.* 1994, Lambert *et al.* 1994). Despite concerted effort at this site, none was seen on the level valley floors where vegetation tended to be sparser; instead, birds were observed in areas where the understorey was dominated by saplings and occasional small palms, in closed-canopy forest where relatively recent selective logging had created frequent small clearings (Eames *et al.* 1994, Lambert *et al.* 1994). One pair was observed on a steep slope (45°) with sparse understorey (visibility uninterrupted for c.20 m) and light leaf-litter; large trees, rattans and palms were virtually absent from this area, contradicting previous habitat information (Lambert *et al.*

1994). It is thought that the preferred habitat is very similar to that favoured by Edwards's Pheasant (Robson *et al.* 1989).

Food There is no information from the wild.

Breeding Captive birds breed from the end of February to April, laying 5–7 eggs, which are incubated for 21–22 days (Dang Gia Tung *in litt.* 1997). In captivity, several birds have bred when only one year old (A. Hennache *in litt.* 1999).

THREATS The Vietnamese Pheasant is one of two threatened members of the suite of (now) four bird species that are entirely restricted to the “Annamese Lowlands Endemic Bird Area”, threats and conservation measures in which are profiled by Stattersfield *et al.* (1998). Habitat degradation and persecution are the two most influential pressures on this species and, if left uncontrolled, will probably bring about its extinction in the medium term.

Habitat loss Forest loss has been rapid throughout Vietnam (see Threats under Crested Argus *Rheinardia ocellata*) and poses a serious threat to remaining populations of Vietnamese Pheasant. Ke Go Nature Reserve has been commercially logged in the past, with some areas of natural forest being replaced by plantations of the native tree *Manglietia glauca*, older plantations of which provide suitable habitat for many forest species (Robson *et al.* 1993). Although logging of the area officially ceased in 1978, the area is still under pressure from illegal timber extraction (Robson *et al.* 1991, 1993). It now comprises a habitat mosaic dominated by secondary vegetation with occasional patches of *Imperata* grassland. In meetings with the Department of Forestry in Ky Anh, logging plans for Ky Thuong and Ky Son communes appeared to be in the order of 1,000m³ per year until 2000, with areas marked as “protection forest” being selectively logged, then left (Lambert *et al.* 1994). However, commercial timber extraction continues in only a few forest areas adjoining the border with Quang Binh province (Le Trong Trai *et al.* 1999). Although there are no human settlements within the nature reserve, villagers from seven adjacent communes utilise forest resources, including timber, palm leaves and rattans; local people engage in these activities in order to alleviate shortfalls in food production and to generate cash income (Le Trong Trai *et al.* 1999). In the Khe Net watershed, human pressure is intense: illegal logging activities involved teams of men (several hundred in 1994) using trucks to extract timber along logging roads, causing much damage and disturbance to habitat (Lambert *et al.* 1994). Logging camps are situated near rivers and streams, with disturbance most significant at camps where fragrant oil is extracted from wood pulp (usually of *Cinnamomum parthenoxylum*); stills for this purpose tend to be maintained for around one month and require 10–20 small to medium-sized trees per day such that considerable destruction occurs in areas where these camps are sited (Eames *et al.* 1994, Lambert *et al.* 1994). For each tree from which fragrant oil is distilled, c.1 km² of forest is negatively affected (Le Trong Trai *et al.* 1999). However, although habitat loss may have resulted in a past reduction in range, the existence of a protected area at Ke Go Nature Reserve may offer some protection against further habitat loss (A.W. Tordoff *in litt.* 2000).

Hunting The Ministry of Forestry (1991) noted that “levels of hunting in Vietnam are horrible... Most forests, even in nature reserves, are almost hunted out... The ground birds have been trapped and snared to very low densities”. Prior to the opening of Vietnam's economy, animals were hunted mainly for local consumption, but subsequently the foreign (particularly Chinese) demand for wild meat increased dramatically; the use of non-specific hunting methods, such as traps and snares, threatens terrestrial birds such as Vietnamese Pheasant (Le Trong Trai *et al.* 1999). The species is certainly trapped and shot by rattan and palm collectors in Ha Tinh province for food (Robson *et al.* 1991, Eames *et al.* 1992, Lambert *et al.* 1994), and there are two wildlife markets in the Ke Go Nature Reserve area that continue to sell globally threatened animals (Le Trong Trai *et al.* 1999). A rattan export company was established in Quang Binh province in 1987, encouraging large numbers of people from Ky

Anh district to visit the Ke Go Nature Reserve area (Robson *et al.* 1991). During fieldwork at Cat Bin in 1990, Robson *et al.* (1991) interviewed seven groups of rattan collectors and found that each had set up to 100 snares to catch terrestrial birds in various areas of forest from Cat Bin westwards to a point 12 km away. In 1994, a survey team set 55 snares which in one week caught one Vietnamese Pheasant, two Emerald Doves *Chalcophaps indica*, one Coral-billed Ground-cuckoo *Carpococcyx renauldi*, four partridges *Arborophila* and three pittas *Pitta* (Lambert *et al.* 1994). These figures demonstrate the effectiveness of this hunting technique on terrestrial birds, and thus indiscriminate snaring is possibly the biggest threat to this species (A. W. Tordoff *in litt.* 2000). A lesser threat is posed by hunting with firearms (Robson *et al.* 1991). In Ke Go, pheasants are trapped for sale in Ha Tinh (Lambert *et al.* 1994).

Ineffective reserve management An issue relating to both habitat loss and hunting involves the long-term conservation of reserves. Protected area management in Vietnam is generally inadequate, with too few staff employed and irregular, insufficient budget allocations (Thai Van Trung 1985, Nguyen Cu and Eames 1993).

MEASURES TAKEN **Protected areas** The species occurs in Ke Go Nature Reserve, a site considered irreplaceably important in the long-term conservation of East Asian galliforms (McGowan *et al.* 1999). In 1995/1996 a BirdLife/FIPI project drafted a management plan for the 248 km² Ke Go Nature Reserve, and an investment plan was published in 1999 (Le Trong Trai *et al.* 1999). All recent localities for the species in Ha Tinh province were included within or close to proposed boundaries, and these were gazetted in December 1996 (Le Trong Trai *et al.* 1999; see this report for a map of sightings in the Ke Go area). Logging within the reserve has now been suspended (Le Trong Trai *et al.* 1999). In 1993/1994, a pilot project investigated some of the economic and social problems in Ky Thuong commune, Ha Tinh province, with a view to securing Ke Go Nature Reserve (Lambert *et al.* 1994). As part of this ongoing initiative, local communities have been provided with technical and financial assistance to minimise their reliance on non-timber forest products: initial results are encouraging, and funding has been received to expand the project (Garson 1998). In the early 1990s, a German conservation NGO, Oro Verde, and the local provincial authorities launched a conservation project to protect 7 km² of primary and secondary lowland evergreen forest in Ky Thuong commune (Eames *et al.* 1994). The BirdLife International Vietnam Programme, with funding from the British Birdwatching Fair, launched a series of activities to assist the establishment of the protected area in 1996; these included construction of two new guard stations, staff training, provision of equipment, and awareness raising (J. C. Eames *in litt.* 1999). Ha Tinh province funded the construction of a further three guard stations (Nguyen Cu verbally 2000). In 1999, Dansk Ornithologisk Forening (BirdLife Denmark) submitted a proposal to Danida for a major new integrated conservation and development project (ICDP) to be implemented at this site in 2000 (J. C. Eames *in litt.* 1999).

Legislation Vietnam became a signatory to CITES in 1994, an action which provides greater legal protection for this species (Lambert *et al.* 1994). However, while the Imperial Pheasant remains on CITES Appendix I, the Vietnamese Pheasant is yet to be installed. It is included in the Vietnamese Red Data Book (Anon. 1992).

Education During 1996, a teacher-training camp was held for a week in the reserve buffer zone, to update skills of primary and secondary school science teachers and to introduce the concept of biodiversity conservation; a biodiversity campaign was launched involving many of the schools in the district (J. C. Eames *in litt.* 1996).

Captive breeding A captive breeding programme for this species is currently being undertaken by Hanoi Zoo. A self-sustaining *ex situ* population exists, with several young being produced in 1997 (Garson 1998). An international studbook was approved in November 1999, the joint holders being Hanoi Zoo and WPA (G. Robbins *in litt.* 1999).

MEASURES PROPOSED If further research confirms the taxonomic validity of this species, it should be added to Appendix I of CITES.

Protected areas The combined threats of deforestation and hunting give rise to serious concerns regarding the survival of wild populations of this species. Its conservation depends on the effective protection of Ke Go Nature Reserve and the Khe Net watershed (Eames *et al.* 1994, Lambert *et al.* 1994), including complete cessation of forest clearance, fragrant oil distillation and (during the pheasant breeding season, presumably February–July) of disturbance from such factors as rattan and palm leaf collection (Le Trong Trai *et al.* 1999). Detailed negotiations with stakeholders are required in order to agree how to control hunting and resource exploitation in the reserve (Le Trong Trai *et al.* 1999). Because of the difficulties inherent in cross-provincial politics in Vietnam, it is likely that two protected areas are required (Lambert *et al.* 1994), and the establishment of a nature reserve in the Net river watershed (Khe Net; 165 km²), Quang Binh province, has therefore been recommended by Wege *et al.* (1999). During 2000, the BirdLife International Vietnam Programme and FIPI carried out a study to assess the feasibility of establishing a nature reserve in the Net river watershed (A. W. Tordoff verbally 2000). The principal aim and management actions of Ke Go Nature Reserve should centre on wildlife conservation, with priority given to reconciling these management objectives with current resource use by local villagers within the nature reserve: in the buffer zone of the nature reserve, 35% of households are not self-sufficient in rice production, and most compensate by collecting and selling forest products (Le Trong Trai *et al.* 1999). A nature reserve advisory committee is needed, consisting of representatives from village to provincial level, as well as central government bodies and NGOs involved or interested in the progress of the nature reserve; together with the reserve management authority, this committee would revise and then implement the management plan, as well as developing and initiating activities in the buffer zone (Le Trong Trai *et al.* 1999). Strict enforcement of forest protection regulations regarding snaring is a high priority in all protected areas where endemic *Lophura* pheasants occur or may be expected (A. W. Tordoff *in litt.* 2000). Replanting at the adjacent Ke Go reservoir should use indigenous tree species, rather than the exotic species currently favoured (Le Trong Trai *et al.* 1999). A full discussion of proposals and a five-year work-plan for Ke Go Nature Reserve is in Le Trong Trai *et al.* (1999).

Research In the light of the recent record from Thua Thien Hue province, more surveys are required to clarify the status, distribution and requirements of this species. Further research is needed on the taxonomic relationships between the Vietnamese *Lophura* pheasants (A. Hennache *in litt.* 1999).

Education A conservation awareness programme is needed in and around the Ke Go and Khe Net watershed areas (McGowan and Garson 1995).

Captive breeding Captive collections of this species should be subject to the highest standards of management in order to minimise the loss of genetic diversity, the effects of unintentional selection pressures, and the chances of hybridisation (McGowan and Garson 1995).

REMARKS (1) The taxonomic relationships between this and the two other endemic *Lophura* pheasants in Vietnam (Edwards's Pheasant *L. edwardsi* and Imperial Pheasant *L. imperialis*) remain to be clarified (McGowan and Garson 1995). In the recent past *L. hatinhensis* and *L. edwardsi* have been considered conspecific (Nguyen Cu and Eames 1993, McGowan *et al.* 1994), and although recent genetic analysis has been held to prove that they are better considered the result of a recent speciation event (Hennache 1999), the review by Hennache *et al.* (1998) demonstrated that the genetic distance between the two is indeed exceedingly small, and on a scale normally associated with subspecies (Garson 1998). It is precautionary to maintain Vietnamese Pheasant as a distinct species at present, but this arrangement seems

very unlikely to last; however, its reduction to subspecific (or even morph) status within Edwards's Pheasant should have little impact on the conservation attention it receives, since the threatened status of the latter species will not be materially altered by the addition of so small and so precarious an extra population. (2) The head and legs of a male were used to identify this bird (Robson *et al.* 1989) although there are apparently no consistent features of head and leg morphology by which to distinguish between *hatinhensis* and *imperialis* (Davison 1996). This record is therefore best considered provisional. (3) Despite earlier reports by Rozendaal *et al.* (1991), all individuals kept at Hanoi zoo are reported to derive from Ky Anh, Ky Thuong or Ky Son markets, Ha Tinh province (Nguyen Cu *et al.* 1992), although localities are often kept secret by dealers (Nguyen Cu *in litt.* 1997).