

Threatened Birds of Asia:

The BirdLife International Red Data Book

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Recommended citation

BirdLife International (2001) *Threatened birds of Asia: the BirdLife International Red Data Book*. Cambridge, UK: BirdLife International.

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ISBN 0 946888 42 6 (Part A)

ISBN 0 946888 43 4 (Part B)

ISBN 0 946888 44 2 (Set)

British Library-in-Publication Data

A catalogue record for this book is available from the British Library

First published 2001 by BirdLife International

Designed and produced by the **NatureBureau**, 36 Kingfisher Court, Hambridge Road, Newbury, Berkshire RG14 5SJ, United Kingdom

Available from the Natural History Book Service Ltd, 2–3 Wills Road, Totnes, Devon TQ9 5XN, UK. Tel: +44 1803 865913 Fax: +44 1803 865280 Email nhbs@nhbs.co.uk
Internet: www.nhbs.com/services/birdlife.html

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CHESTNUT-HEADED PARTRIDGE

Arborophila cambodiana

Critical ☐ —

Endangered ☒ C1; C2a; D1

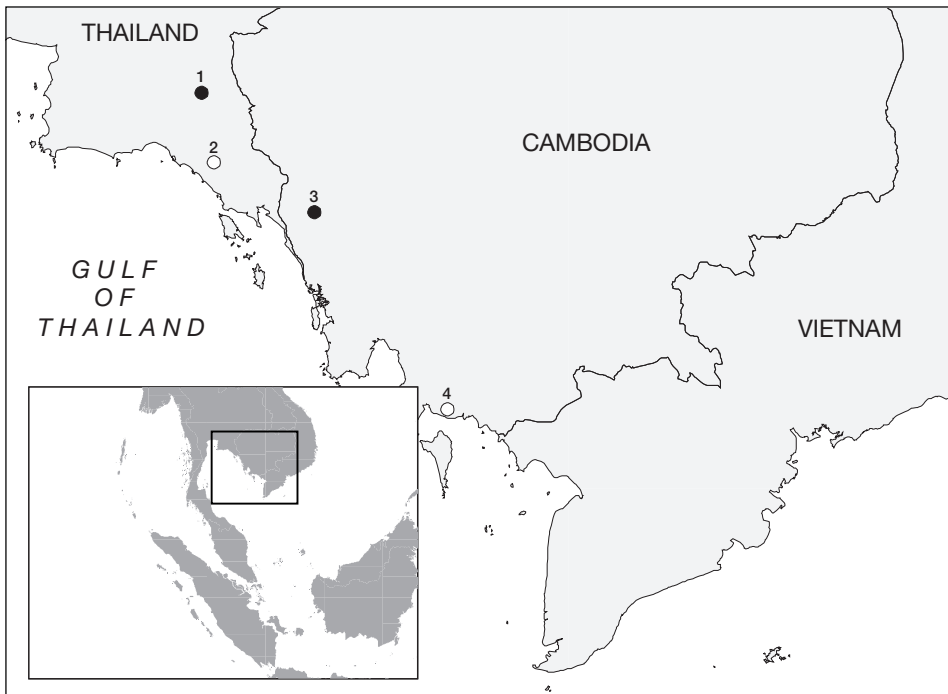
Vulnerable ☐ A1c,d; A2c,d; B1+2b,c,d,e



This little-known partridge qualifies as Endangered because it may have a very small population, which is inferred to be declining and undergoing severe fragmentation owing to ongoing large-scale logging operations and high levels of hunting. These factors are believed to be operating across much of its range, which until very recently has been highly unstable owing to political and security problems.

DISTRIBUTION The Chestnut-headed Partridge (see Remarks 1) is restricted to south-east Thailand (*A. c. diversa*) and the Cardamom mountains (see Remarks 2) of Cambodia (*A. c. cambodiana*).

■ **THAILAND** The species is only known from two massifs in the south-east, with records from: **Khao Soi Dao Wildlife Sanctuary**, at Khao Soi Dao Tai, Chantaburi province, 1,150 m, two collected, March 1966 (King 1966), one, April 1994 (*Bird Conserv. Soc. Thailand Bull.* 11, 6 [1994]: 13), at Khao Soi Dao Nua, 1,400 m, two, February 1998 (J. N. Dymond *in litt.* 1998, Poole 1999; see Remarks 3); **Khao Sabap**, part of Khao Sabap-Namtok Phliu National



The distribution of Chestnut-headed Partridge *Arborophila cambodiana*: (1) Khao Soi Dao Wildlife Sanctuary; (2) Khao Sabap; (3) Phnom Samkos Wildlife Sanctuary; (4) Bokor National Park.

○ Historical (pre-1950) ● Recent (1980–present)

Park, Chantaburi province, 300 m, one, January 1930 (Riley 1930c), four collected, 900 m, November 1933 (Riley 1938), but no recent records from this site (P. D. Round *in litt.* 1998).

■ **CAMBODIA** All records come from the Cardamom mountains of the south-west: **Phnom Samkos Wildlife Sanctuary**, April 2000 (P. Davidson *in litt.* 2000); **Bokor National Park**, at Bokor, Cardamom mountains (see Remarks 2), December 1927 (seven specimens in BMNH and MNHN, Delacour and Jabouille 1928), April 1935 (female in MNHN), June 1936 (male in MNHN), fairly common, January–April 2000 (Goes 2000c, P. Davidson *in litt.* 2000);

There is also an unconfirmed record from Kirirom National Park, where a captive individual seen at a nearby market in January 1998 was reputedly taken (Poole 1999).

POPULATION Thailand A population of 100–1,000 individuals was estimated for *A. c. diversa*, alongside a comment that its “wild population could be in the low hundreds” (McGowan *et al.* 1995). Another estimate (by MASS) of the Thai population predicted that fewer than 200 individuals survived (P. D. Round *in litt.* 1998). At Khao Soi Dao Wildlife Sanctuary, however, it is “probably common” (Collar *et al.* 1994, P. D. Round *in litt.* 1998), although there appears to be no direct evidence to substantiate this judgement. For instance, while “several recent records” are mentioned by Collar *et al.* (1994), only two are traceable (Poole 1999; see Distribution). There appears to be no record from Khao Sabap since H. M. Smith’s last expedition in 1933 (Riley 1938). In general, the range of this taxon (i.e. *diversa*) is tiny and its overall population is probably very small.

Cambodia The species was probably very common in the Cardomom mountains given that nine specimens were captured near Bokor in a relatively short period in 1927 (Delacour and Jabouille 1928). It was certainly thought to be common at this site, and further east, in the 1930s, when it was apparently easily collected owing to its unusually fearless behaviour (Engelbach 1938). The assertion of Thomas (1964) that the species is “common and conspicuous in the Elephant chain” must have been based on this account as there appear to be no other records since 1936, or from any locality other than Bokor, until a captive individual was seen in January 1998 (Poole 1999). This paucity of data led to the population of *A. c. cambodiana* being vaguely estimated at over 100 individuals (McGowan *et al.* 1995). As the area of available habitat is much greater in Cambodia than in south-west Thailand it is suspected that the population of *cambodiana* has been considerably underestimated (P. Davidson *in litt.* 2000). Recent records of the species being heard “regularly” in all areas visited in Bokor National Park prompted the conclusion that it was still “fairly common” in the area in the 1990s (Goes *et al.* 1998a; but see Remarks 4), and it was locally common around Bokor and at Phnom Sankos in the Cardamom mountains in April 2000, the suggestion being that at least several thousand individuals survive (P. Davidson *in litt.* 2000). The population is nevertheless probably declining owing to habitat loss and hunting (McGowan *et al.* 1994).

Captivity Although 50 individuals were “believed to be” in captivity in the 1990s (McGowan *et al.* 1994), neither ISIS nor WPA has records of any captive population (McGowan *et al.* 1995). A few individuals are maintained in captivity by the Wildlife Conservation Division of the Royal Forest Department (P. D. Round *in litt.* 1998), these apparently originating from Khao Soi Dao.

ECOLOGY Habitat In south-east Thailand the species apparently occurs from 700 m up to mountain tops (McGowan *et al.* 1994). However, *A. c. diversa* was first collected at 300 m (Riley 1930c), so it presumably ranged to lower altitudes and may still do so if suitable habitat is available. Bokor is situated at 1,000 m on a plateau at the south-eastern terminus of the Cardamom range, whose peaks reach only around 1,200 m; the slopes are covered with tall humid forest, while the plateau is dominated by an unusual stunted flora (Delacour

1928). The initial impression was that the species preferred the plateau forest rather than the slope forest (Delacour 1928), but it was recorded around Bokor at 400–1,000 m in 1935 and 1936 (Engelbach 1938) and at 450–950 m in 2000 (Goes 2000c). It has also occurred in fairly open areas (Engelbach 1938).

Food Nothing is on record, although its diet and foraging behaviour is presumably similar to other *Arborophila* partridges (see Johnsgard 1988).

Breeding A pair observed on 14 June were in the company of a recently hatched brood (Engelbach 1938).

THREATS The most pertinent threats appear to be clear-felling of forest and over-exploitation for food (McGowan *et al.* 1994, 1995).

Thailand Although most available habitat in Thailand is already enclosed in protected areas, it is certainly at risk from high levels of hunting and trapping in the region (“patrolling of forests in parks or sanctuaries is, at present, the exception rather than the rule, so that the poaching problem in Thailand’s protected areas is almost entirely out of control”) (Round 1988a). This is mostly for food, but perhaps to a lesser extent for the local avicultural trade (P. D. Round *in litt.* 1998). Its habitat probably suffers considerable disturbance through occasional dry-season fires (P. D. Round *in litt.* 1998). Moreover, Khao Sabap has been heavily selectively logged while Khao Soi Dao is threatened by small-scale encroachment (Round 1988a).

Cambodia In the early 1970s forest cover in Cambodia was c.74%, but by the 1990s it had fallen at an alarming rate to c.30%, this destruction primarily being caused by military-controlled logging operations to supply a lucrative export trade to both Thailand (*Oriental Bird Club Bull.* 21: 15–20) and Laos (Thewlis *et al.* 1998). Despite a total ban on the export of sawn logs and timber in 1995 (*Oriental Bird Club Bull.* 21: 15–20), illegal trade continued unabated and most forest remained under concession to foreign (chiefly Malaysian and Indonesian) corporations (*Oriental Bird Club Bull.* 23: 11–17). Furthermore, although Bokor and Kirirom (if the species indeed occurs at the latter) are designated as national parks, large-scale logging continues apace in both areas (Poole 1999). In early 1998 80% of Bokor National Park was apparently affected by logging activity, much of it clandestine (Poole 1999). While most foreign sawmills have recently closed down, local sawmills are still operating in the Bokor area, with considerable military involvement: areas within both Kirirom and Bokor National Parks are affected by a scheme which authorised Khmer Rouge defectors to conduct logging activities, at least until 2000 (Goes *et al.* 1998a). At the current rate of extraction, forest resources in the Cardomom mountains might be depleted to almost zero in the first decades of the twenty-first century (Poole 1999). Hunting is also a palpable threat: many traps were found during a survey of Bokor National Park in 2000 and the level of trapping pressure might be considerable in the area (Goes 2000c). Lastly, the complicated political situation in Cambodia over recent decades has delayed conservation action; insecurity and uncleared landmines in the Cardamoms had, for example, forestalled any significant attempts at ornithological fieldwork until 2000 (Poole 1999, C. M. Poole *in litt.* 2000).

Despite the unhealthy prognosis implied by these facts, the future of the species is more secure in Cambodia than Thailand (*contra* Poole 1999). Recent surveys in the Cardamom chain have indicated that a large population remains in the area, that the area of forest left standing is still large, and that with proper protection the species is likely to thrive in the region (J. C. Eames *in litt.* 2000).

MEASURES TAKEN The Orange-necked Partridge receives full legal protection in both Thailand (WARPA) and Cambodia. It once occurred in the area now covered by Khao Sabap-Namtok Phliu National Park (134.5 km²) and it survives in Khao Soi Dao Wildlife Sanctuary (745 km²), two areas considered irreplaceably important to the long-term

conservation of East Asian galliforms on account of this species (McGowan *et al.* 1999). However, there have been no records at Khao Sabap since the 1930s and its current status at this site is a matter of conjecture. In Cambodia, larger populations of the species occur in Bokor National Park (1,400 km²), Phnom Samkos Wildlife Sanctuary and possibly Kirirom National Park (350 km²).

MEASURES PROPOSED Very little is known about the ecology or status of either subspecies. Surveys are therefore urgently required in Thailand (in particular to evaluate its status at Khao Soi Dao and to clarify whether it survives in Khao Sabap-Namtok Phliu National Park), and continued investigation of the species in the Cardamom range of Cambodia is also important. Its habitat requirements and population size need investigation, as do the scale and type of threats that it faces and the issue of its taxonomy (see Remarks 1).

In terms of direct conservation action the effective control of hunting and habitat loss in protected areas is an immediate requirement (McGowan *et al.* 1994, 1995), particularly as the Cardamom chain supports other endemic taxa (see Remarks 3). In Thailand, improved protection should be conferred to Khao Soi Dao Wildlife Sanctuary and (if the species is found to survive there) to Khao Sabap-Namtok Phliu National Park. Illegal hunting and timber-collecting need to be better controlled at these protected areas, and resources are required to employ and train staff and conduct environmental education programmes in nearby villages whose inhabitants use the forests for fuel and hunting. In Cambodia recent conservation initiatives in the Cardamom mountains should be continued and expanded; in particular, Bokor National Park should be protected as stringently as possible by reducing logging pressure and hunting levels.

REMARKS (1) The Thai form *diversa* was originally described as a distinct species (Riley 1930c), as it differed significantly in plumage from the description of *Arborophila cambodiana* (Delacour and Jabouille 1928). However, after Riley (1938) saw the illustration of *cambodiana* published by Delacour and Jabouille (1931), he retracted his claims for species status of the Thai form, and proposed that *diversa* and *cambodiana* were conspecific. Although this treatment is accepted here the two subspecies are quite distinct, and may yet prove to be separate species (McGowan *et al.* 1994, Poole 1999). Indeed they are treated as such by Robson (2000) on the grounds that they show “strong morphological differences consistent with other closely related species in this genus”. Further research is required to clarify the taxonomic relationship between these forms. The outcome potentially has profound implications for conservation, most importantly because the threat status of *diversa* would automatically be elevated to Critical. (2) Elephant and Cardamom are two names for the same mountain chain in Cambodia (Poole 1999). (3) In addition, two appeared in the late 1980s at Pong Namron Captive Breeding Centre of the Wildlife Conservation Division, situated at the foot of Khao Soi Dao (P. D. Round *in litt.* 1998). (4) Some aural records in 1998 might have been of Scaly-breasted Partridge *Arborophila chloropus* (C. M. Poole *in litt.* 1999). (5) The Cardamom chain supports further endemic taxa; indeed, the distinctive endemic subspecies of White-necked Laughingthrush *Garrulax (streptans) ferrarius* is separated as Cambodian Laughingthrush by Robson (2000). If this form qualifies for threatened species status (pending fieldwork) the Cardamom chain would become an Endemic Bird Area (*sensu* Stattersfield *et al.* 1998). There are also locally endemic forms of White-tailed Robin *Cinclidium leucurum cambodianum* and Fire-breasted Flowerpecker *Dicaeum ignipectus cambodianum* (Round 1988a, Poole 1999).