Threatened Birds of Asia:

The BirdLife International Red Data Book

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GREEN-BILLED COUCAL

Centropus chlororhynchos

Critical □—	
Endangered □ —	
Vulnerable ■ B1+2a,b,c,	d,e; C1; C2a



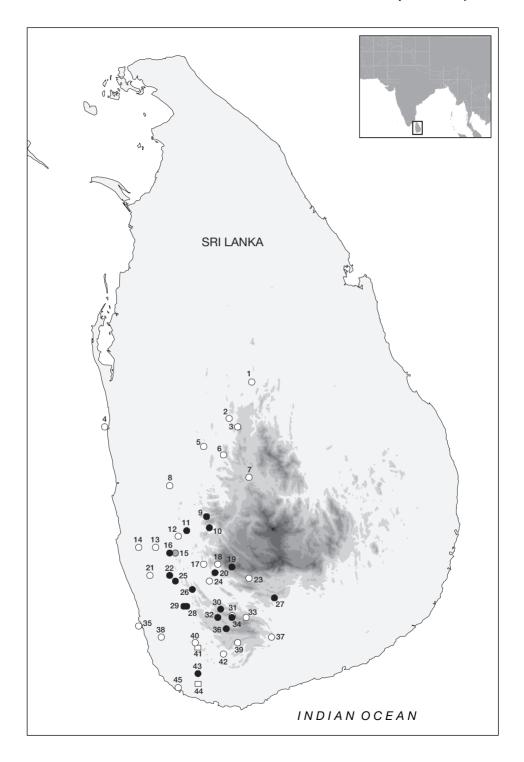
This coucal has a small, declining, severely fragmented population and range as a result of the destruction and degradation of humid forest. It therefore qualifies as Vulnerable.

DISTRIBUTION The Green-billed Coucal (see Remarks 1) is now confined to the lowland rainforests (below c.760 m) of the wet zone in the south-west of Sri Lanka, although it formerly also occurred further north, in riverine forests in the intermediate zone (Legge 1880). Its forest habitat is now highly fragmented within its small range (see Threats). Records (arranged approximately from north to south) are as follows:

SRI LANKA Dambulla, undated (Legge 1880); **Kimbulwana** (Kimbulana Oya), undated (Legge 1880); Ambokka hill range, undated (Legge 1880); Deduru Oya, undated (Legge 1880); Kurunegala, and between Kurunegala and Anuradhapura, undated (Legge 1880); Puswella (Pusiwella), December 1865 (female in BMNH); Kandy, June 1882 (male in BMNH), January 1894 (male in SMF), and in the "Kandyan hills", undated (Legge 1880); Ambepussa, "common", undated (Legge 1880); Amanawala Ampane, one, 1991–1996 (IUCN/WCMC 1997); Kitulgala, September 1980 (Ceylon Bird Club News September 1980), January-February 1988 (Ceylon Bird Club News January 1988, February 1988, Hoffmann 1989b), undated (Wijesinghe et al. 1997, Cevlon Bird Club News September 1997) and down to the present (D. Warakagoda in litt. 2001); Thimbiripola, Dehiowita, August 1997 (Cevlon Bird Club News August 1997) and down to the present (D. Warakagoda in litt. 2001); Avissawella road, undated (Layard 1853–1854; also Phillips 1953); Hanwella, undated (Layard 1853–1854, Legge 1880); near Pore, undated (Legge 1880); Kalatuwawa, December 1956 (two specimens in MCZ); Labugama reservoir area, near Colombo, undated (Ranasinghe 1982), one bird seen twice, February 1981 (Cevlon Bird Club News February 1981), one in 1981 (H. Jensen in litt. 1986), undated (Cevlon Bird Club News September 1997) and down to the present (D. Warakagoda in litt. 2001); Kuruwita forest, near Ratnapura, August 1876 (Legge 1880, male in BMNH): Palabaddala (Pallabaddoola), 750 m, undated (Legge 1880): Peak Wilderness Sanctuary, undated (Legge 1880), May-October 1995 (Ranawana and Bambaradeniya 1998); Gilimale (Gillemarlay), August 1894 (Ripley 1946, female in AMNH), July 1983 (Ceylon Bird Club News August 1983) and suspected down to the present (D. Warakagoda in litt. 2001; but see Population); Horana (Horenna), undated (Legge 1880); Ingiriya Forest Reserve (Bodhinagala), one, 1991–1996 (IUCN/WCMC 1997), regularly observed from 1990 to the present (D. Warakagoda in litt. 2001); Rassagala, Balangoda, April 1926 (female in BMNH),

The distribution of Green-billed Coucal Centropus chlororhynchos (map opposite): (1) Dambulla; (2) Kimbulwana; (3) Ambokka; (4) Deduru Oya; (5) Kurunegala; (6) Puswella; (7) Kandy; (8) Ambepussa; (9) Amanawala Ampane; (10) Kitulgala; (11) Dehiowita; (12) Avissawella; (13) Hanwella; (14) Pore; (15) Kalatuwawa; (16) Labugama; (17) Kuruwita; (18) Palabaddala; (19) Peak Wilderness Sanctuary; (20) Gilimale; (21) Horana; (22) Ingiriya Forest Reserve; (23) Rassagala; (24) Ratnapura; (25) Delmella; (26) Ayagama; (27) Hataramune; (28) Morapitiya; (29) Neluketiya Mukalana; (30) Delwala; (31) Dolekanda; (32) Kudumiriya; (33) Rakwana; (34) Walankanda Forest Reserve; (35) Bentota Ganga; (36) Sinharaja Forest Reserve; (37) Panamure; (38) Uragaha; (39) Deniyaya; (40) Hinedun-Pattu hills; (41) Kanneliya; (42) Morawaka; (43) Nakiyadeniya; (44) Kottawa Forest Reserve; (45) Galle.

[○] Historical (pre-1950) ○ Fairly recent (1950–1979) ● Recent (1980–present) □ Undated



collected in Balangoda, August 1894 (male in AMNH); Ratnapura, March 1874, April 1874, 1888 (seven specimens in BMNH and YPM), August 1910 (male in NMGC): Delmella Yatagampitiya, one, 1991–1996 (IUCN/WCMC 1997); Avagama, one, 1991–1996 (IUCN/ WCMC 1997); Hataramune, Tatnapura district, one, 1991–1996 (IUCN/WCMC 1997); Morapitiva forest reserve, December 1987 (Ceylon Bird Club News December 1987), December 1989 (Hoffmann 1989b), at "Morapitiya Runakanda", one, 1991–1996 (IUCN/WCMC 1997) and down to the present (D. Warakagoda in litt. 2001); Neluketiya Mukalana, two, 1991– 1996 (IUCN/WCMC 1997); Delwala forest, 200-750 m, July-September 1997 (Jones et al. 1998); Dolekanda (Dolookanda), undated (Legge 1880); Kudumiriya forest, one, 1991–1996 (IUCN/WCMC 1997), 350-750 m, up to 10, July-September 1997 (Jones et al. 1998); Rakwana, January 1906 (female in NMGC); Walankanda Forest Reserve, 400–1,100 m, July– September 1997 (Jones et al. 1998); Bentota Ganga river, undated (Legge 1880); Sinharaja Forest Reserve, undated (Legge 1880), with many records down to the present (Wijesinghe 1999, D. Warakagoda in litt. 2001, many observers in litt.): Panamure (Panamura), August 1913 (two specimens in NMGC); Uragaha, October 1936 (female in BMNH); Deniyaya (Deniva), undated (Legge 1880); Hinedun-Pattu hills (Hinidum Paththu hills), undated (Legge 1880); Kanneliya, undated (Ceylon Bird Club News September 1997); "coffee districts" of Morawaka (Morawak Korale), undated (Legge 1880); Nakiyadeniya, one, 1991–1996 (IUCN/ WCMC 1997); Kottawa Forest Reserve, undated (Ceylon Bird Club News September 1997); Galle-Kottawa "jungle", undated (Legge 1880); Dombagaskanda Forest Reserve (untraced), "a fair number present", c.1990 (Ranasinghe and Ratnayake 1992); Vellihallure (untraced), one, 1991-1996 (IUCN/WCMC 1997); "Thangamalai plains" (untraced, but possibly Tangamalai Sanctuary), 1,000 m, January 1993 (Ceylon Bird Club News January 1993).

Other records are from: Talahena, Negombo Lagoon, April 1989 (*Ceylon Bird Club News* April 1989), now considered a definite misidentification (D. Warakagoda *in litt*. 2001); Colombo, where apparently observed for several days in 1968 (G. H. Manley *in litt*. 2000) but more likely to be Greater Coucal *C. sinensis* (with an unusually light-coloured bill) given the distance from the nearest confirmed records and the absence of records from remaining (surveyed) forest patches in between (D. Warakagoda *in litt*. 2001).

POPULATION There is little information on the population of this species, which has been recorded in small numbers at many sites (see Distribution). In the late nineteenth century, it existed "in considerable numbers throughout the tract of country which it inhabits" (Legge 1880), and in the early twentieth century it was described as "not uncommon" (Baker 1921– 1930) and "fairly common wherever the wet-zone forest was spared by the axe" (Henry 1955). However, it has declined significantly because of the reduction and fragmentation of the wetzone forests (see Threats), and it has recently been described as "rare and local" (Hoffmann 1984), "very rare" (Kotagama and Fernando 1994) and "rare and endangered" (Wijesinghe 1994). R. L. Fleming Jr. (1977), based on his observation of its extremely specialised habitat requirements (see Ecology), concluded that it may be "one of the rarest birds in Sri Lanka, not to speak of Asia" (see also Hoffmann 1989a). Hoffmann (1986b) judged that it "may be present in only a few hundred pairs". It seems to have disappeared from some areas where it was formerly found (D. Warakagoda in litt. 1999) although a call in January 2000, probably of this species, indicates that it may survive in Gilimale forest (D. Warakagoda in litt. 2001). During a major survey of over 200 forest sites in Sri Lanka in 1991-1996 it was recorded in 12 forests (IUCN/WCMC 1997). Given its small range and the reduction in the area of its forest habitat, it is unlikely that it currently numbers more than a few thousand individuals.

ECOLOGY *Habitat* All accounts point to the species being rather specialised in its habitat requirements. In particular, it seems to be associated with the bamboo *Ochlandra stridula*, which grows in swampy areas—the Sinhala name for this bamboo *bata aetikukula* ("coucal

bamboo") reinforcing this relationship (Wijesinghe 1999). Legge (1880) noted that it is found in "tangled thickets, underwood in forests and on the banks of rivers, dense bamboo jungle (to which it is especially partial), rattan cane-brakes, and such like". Most authors stress the species's apparent requirement for undisturbed forest with dense undergrowth, often of bamboo or dwarf bamboo (e.g. Ali and Ripley 1968-1998, R. L. Fleming Jr. 1977, Banks and Banks 1980, Ranasinghe and Ratnayake 1992, Kotagama and Fernando 1994), and Henry (1955) stated that it "shows no sign of being able to adjust itself to new conditions". However, it was recorded from patches of abandoned slash-and-burn agriculture in Kudumiriya forest, although the area was surrounded by primary forest and was far from current human disturbance (Jones et al. 1998). It is also regularly observed in secondary forest with bamboo growth in Ingiriya Forest Reserve (D. Warakagoda in litt. 1999, G. de Silva Wijeveratne in litt. 1999), and it was seen at Kitugala in "a mixture of typical wet zone village gardens with their high and low tree and bush cover (Coffee, Coconut, Areca), weeds, and patches of uncultivated land" with "no bamboo anywhere" (Hoffmann 1989b). If thus seems that it lives in disturbed areas (especially tangled and tree-lined river banks) in or adjoining wet forests (such areas typically having dense undergrowth) (Hoffmann 1989b, D. Warakagoda in litt. 2001). It is mainly restricted to below 760 m (e.g. Hoffmann 1984, Kotagama and Fernando 1994), although there is a recent report from the Thangamalai Plains at c.1,000 m (Cevlon Bird Club News January 1993).

Food This coucal is omnivorous, taking beetles, spiders, snails and grasshoppers (Legge 1880), also termites (Henry 1955), fruit, frogs, snakes, moths, lizards, and worms (Wijesinghe 1999).

Breeding It has been reported to breed in the first half of the year (January to July) (Legge 1880, Baker 1921–1930, Wait 1931, Ali and Ripley 1968–1998, P. J. Hines *in litt*. 1998), but Wijesinghe (1999) followed a nesting cycle where nest-building commenced in October and the single chick fledged in mid-December, and also noted a recent fledgling in September, suggesting the species does not have a well-defined breeding season. Both nests found by Wijesinghe (1999) were made in a *Wendlandia bicuspidata* tree in forest-edge habitat, and "bata" bamboo leaves were used in their construction. The clutch size is 2–3 (Henry 1955).

THREATS The Green-billed Coucal is one of (now) seven threatened members of the suite of 23 bird species that are entirely restricted to the "Sri Lanka Endemic Bird Area", threats and conservation measures in which are profiled by Stattersfield *et al.* (1998).

Habitat loss The main threat to this species is the clearance and degradation of its forest habitat, which has already caused its range to decrease markedly during this century (Hoffmann 1984, 1989b, Kotagama 1994); a general survey of forest loss in Sri Lanka is made in the equivalent section under Red-faced Malkoha Phaenicophaeus pyrrhocephalus. Given its strong reliance on primary habitat in the lowlands below 760 m (and its presumed inability to move between isolated blocks of forest), this coucal is particularly vulnerable to habitat loss and fragmentation (R. L. Fleming Jr. 1977, Hoffmann 1984, Kotagama and Fernando 1994), and susceptible to genetic isolation as forest fragmentation increases (Jones et al. 1998). A high proportion of the remaining forests are now included in national parks and sanctuaries, but many of these areas have been reported to be generally neglected and unprotected, and some important bird sanctuaries have suffered severe degradation (Hoffmann 1996). For example, Ingiriya Forest Reserve (Bodhinagala) has been known to support a good population of this species, but declines have probably been caused by the peripheral clearance of undergrowth which pushes birds deeper into the forest (D. Warakagoda in litt. 1999, 2001).

Increased competition It has been suggested that competition with the Greater Coucal *Centropus sinensis* (a bird of open habitats: see, e.g., Henry 1955) in logged and disturbed

areas may be contributing to the decline of the Green-billed Coucal, but these two species usually occupy different niches in disturbed areas, although they occasionally overlap when feeding (D. Warakagoda *in litt*. 1999, 2001).

MEASURES TAKEN *Legislation, habitat protection, research* A brief review is made in the equivalent section under Red-faced Malkoha.

Protected areas This coucal occurs in several national parks and forest reserves, most notably Sinharaja National Heritage Wilderness Area, a World Heritage Site which is actively protected under the jurisdiction of the Forest Department (IUCN/WCMC 1997).

MEASURES PROPOSED *Habitat protection, protected areas* A brief review is made in the equivalent section under Red-faced Malkoha.

Research The distribution, abundance and ecology of this scarce and elusive species are generally poorly known (Wijesinghe 1999, see Population and Ecology), and further research is therefore required. It has distinctive calls (Wijesinghe 1999), which could be used to help detect it during surveys and censuses. Ecological studies are recommended to establish whether it is subject to competitive exclusion by the Greater Coucal in areas where the forest has been disturbed (D. Warakagoda *in litt*. 1999, see Threats), and to improve understanding of its habitat requirements (particularly its relationship to bamboo: see Ecology) and hence the most appropriate forest management regimes for its conservation. Despite the wealth of data generated by the National Conservation Review in 1991–1996, much more detailed and wide-ranging surveys will be required to plan and monitor the management of individual conservation forests once they are established (IUCN/WCMC 1997).

REMARKS (1) Most works give the specific epithet for this taxon as *chlororhynchus*, but the original spelling was *chlororhynchos* (Blyth 1849–1952), and this should be preserved (Wijesinghe 1994, 1999).