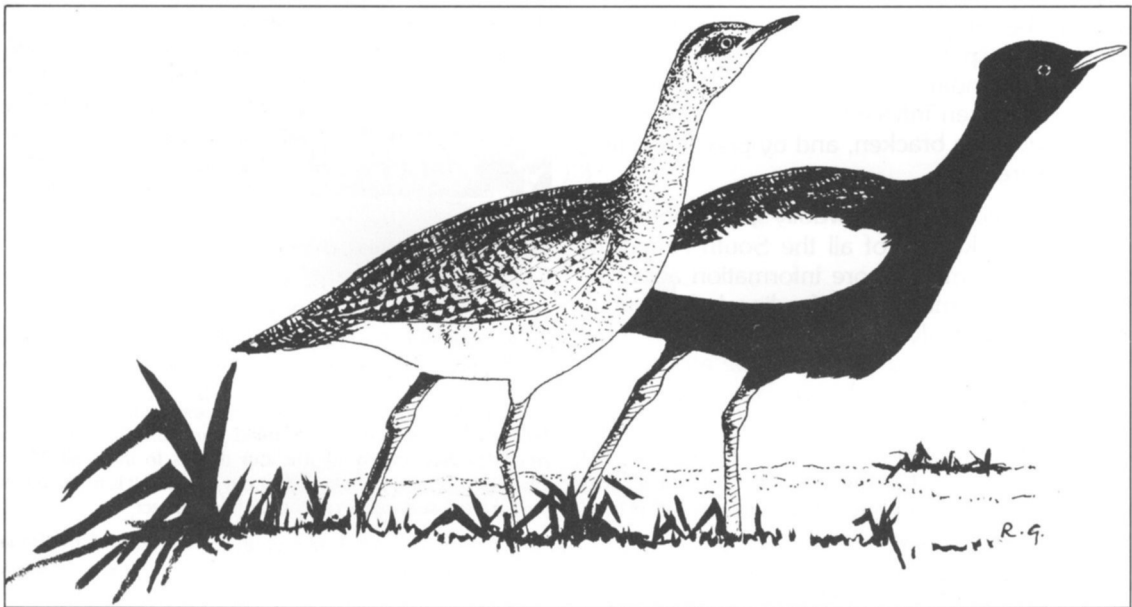


The Bengal florica in Nepal

C. Inskipp and N.J. Collar



Drawing by R.F. Grimmett.

The Bengal florican is perhaps amongst the most threatened species in the Indian subcontinent. It is virtually extinct throughout its former range due to the loss of grassland habitat, grass burning and, in earlier times, severe hunting pressure. The International Council for Bird Preservation, recognising that too little was known about the bird's present distribution in Nepal to take steps towards its conservation, organised a project to pro-

vide the missing information. The 1982 survey described here found that probably no more than 100 Bengal floricans remain in Nepal. The Nepalese Government has already taken one positive step: its planned extensions to one park and two reserves where the florican still breeds should result in substantial increases in areas of the grassland habitat that the birds favour.

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n: its conservation

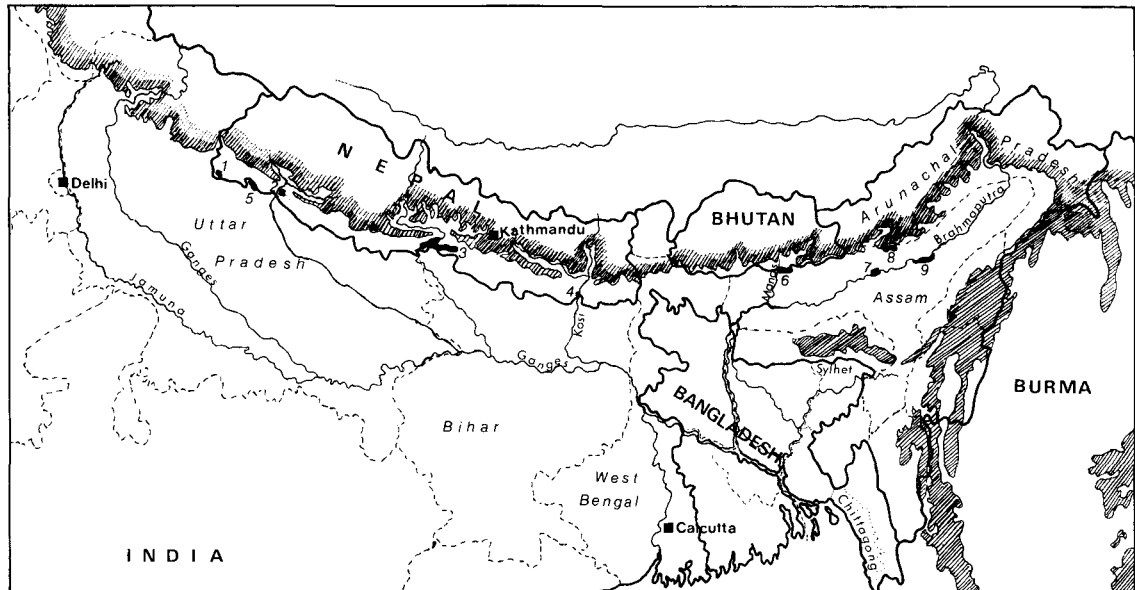
Around Christmas 1978 there was a scare that an Arab hunting party was to be allowed into western India to hunt the fully protected, highly endangered great Indian bustard *Ardeotis nigriceps* (see, e.g. Bose, 1979). Whatever the grounds for this story, the great Indian bustard became a star overnight in India: 1979 began with a public outcry on its behalf and 1980 ended with an 'International Symposium on Bustards' in Jaipur, Rajasthan, where zoologists from all over India presented their data and views on the plight of the species. The better understanding and protection that resulted has been a boon to the great Indian bustard and a credit to Indian conservation.

However, the Jaipur symposium was perhaps more crucial for two other Indian bustards, the Bengal florican *Houbaropsis bengalensis* and the lesser florican *Sypheotides indica*, simply because they were not mentioned at all. A post-symposium survey (Cornwallis, 1981) revealed that almost no-one in India was familiar with either species, and the results of subsequent enquiries by the International Council for Bird Preservation (ICBP) Bustard Group suggested that the ranges of both appeared to have contracted to tiny fragments of those given in the authoritative Indian *Handbook* (Ali and Ripley, 1969). Projects initiated by ICBP (Goriup and Karpowicz, 1981; Magrath *et al.*, 1982; this study) have now shown that both are considerably more at risk than the great Indian bustard, and perhaps amongst the most threatened of all animal species in the Indian subcontinent.

While the lesser florican is endemic to India as a breeding species, the Bengal florican—a bird of
The Bengal florican

tall, lowland grassland—is reported also from Nepal, Bhutan, Bangladesh, Kampuchea and Vietnam, though if it survives at all in the last four it can only be in tiny numbers. Ali and Ripley (1969) appear to be the sole authorities for its occurrence in Bhutan, and there may no longer be any suitable habitat there. Husain (1979) states it is present in Sylhet and Chittagong provinces, Bangladesh, but modern records appear lacking (Mukherjee, 1981); the massive human population there must exert enormous pressure on any remaining habitat. In Kampuchea a few specimens were shot in a presumed wintering area in 1928 and described as a new race *H. b. blandini* (Delacour, 1929; Jabouille, 1929) but, apart perhaps from some birds of unknown origin in the Bangkok bird market in 1978 (P.D. Round, pers. comm., 1982), there have been no further reports. We do not know on what evidence the species is recorded from north-west Cochinchina, Vietnam (King *et al.*, 1975), but Vo Quy (1975) records it from the Tay Ninh area.

In India in the nineteenth century the Bengal florican was common in the northern terai and duars grassland that extended from the River Jamuna in the west to the Brahmaputra valley in the east. Now it is virtually extinct everywhere except for a few localities in Assam and Uttar Pradesh, perhaps also in West Bengal, Bihar and Arunachal Pradesh. The chief strongholds are Kaziranga National Park, and Manas, Sonai Rupa and Orang sanctuaries, all in Assam, where the total number of birds is variously put at 300 (Zoological Survey of India, 1981), 250 (Mukherjee, 1981) or 105 (S. Deb Roy *in litt.* 1981). The major causes of decline appear to be loss of the species's grassland habitat and late grass burning,



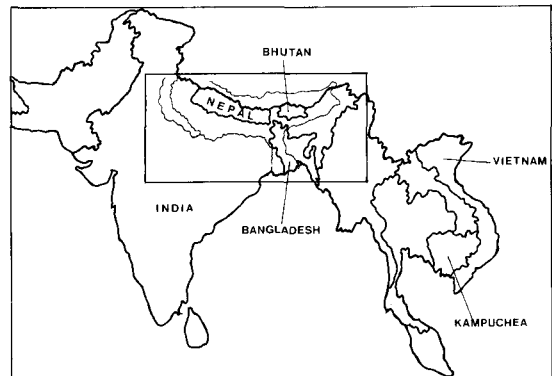
Right: Countries with records of the Bengal florican.
 Above: Present distribution of Bengal florican:
 Land above 1000 m.
 Main areas within which Bengal floricans have been recently recorded. N.B. There are a few other sites in India which may still hold a very small number of birds.

Nepal

1. Royal Sukla Phanta Wildlife Reserve
2. Royal Bardia Wildlife Reserve
3. Chitwan National Park
4. Kosi Barrage

India

5. Dudwa National Park
6. Manas Reserve Forest and Sanctuary
7. Orang Sanctuary
8. Sonai Rupa Sanctuary
9. Kaziranga National Park



which interferes with breeding (Mukherjee, 1981; see also Oliver, 1980). Heavy hunting throughout the imperial era, when the bird was much prized for its flesh (as witness its old scientific name *Otis deliciosa*), must also have contributed to its early decline (Baker, 1912).

All available data on the distribution of the Bengal florican in Nepal had been assembled prior to our project (Inskipp and Inskipp, in prep.). These data referred to two main areas, the extensive Chitwan National Park in south-central Nepal (Fleming and Traylor, 1961; Proud, 1961; Binford, 1977; McDougal and Gurung, 1979) and the Royal Sukla Phanta Wildlife Reserve, in the westernmost corner of the country (Fleming, 1977; Schaaf *et al.*, 1980) with further reports from the

Royal Bardia Wildlife Reserve (Bolton, 1976), the Kosi Tappu Reserve (Dahmer, 1976) and an unprotected area by Kosi Barrage (Baker, 1981; Mills and Preston, 1981). Grasslands in eastern Nepal all seem to have been converted to agriculture in the past few decades and no Bengal floricans were reported during a six-month survey for other animals, 1978–79 (Rands, 1979 and pers. comm., 1981).

In 1980 the Nepali delegation to the ICBP Asian Continental Section meeting in Chiang-Mai, Thailand, put forward the Bengal florican as one of four threatened bird species in the country. However, other than the records listed above, the status and distribution of the species there appeared to be hazy. Our project, organised by

N.J. C. and conducted by C.I. and T.P. Inskipp in April and May 1982, was designed to establish exactly what suitable lowland grasslands remained in Nepal, the number of Bengal floricans they contained, and the prospects for their conservation. Throughout the project we had the generous assistance of the Department of National Parks and Wildlife Conservation.

The first step was to study recent aerial photographs of lowland Nepal. Sadly, this revealed that only tiny patches of grassland, capable of holding few if any Bengal floricans, existed away from the present protected areas, even in the less known western parts of the country. Then all the lowland protected areas were visited, namely the Royal Chitwan National Park, Royal Bardia Wildlife Reserve, Royal Sukla Phanta Wildlife Reserve and Kosi Tappu Wildlife Reserve, plus the unprotected area at Kosi Barrage. In addition, a short visit was paid to Dudwa National Park in India, adjacent to the Nepal border near Sukla Phanta. The fieldwork was timed to coincide with the breeding season of the species, when it was anticipated that the greater activity of the males and the relatively short grass at the time would give maximum advantage for counting birds.

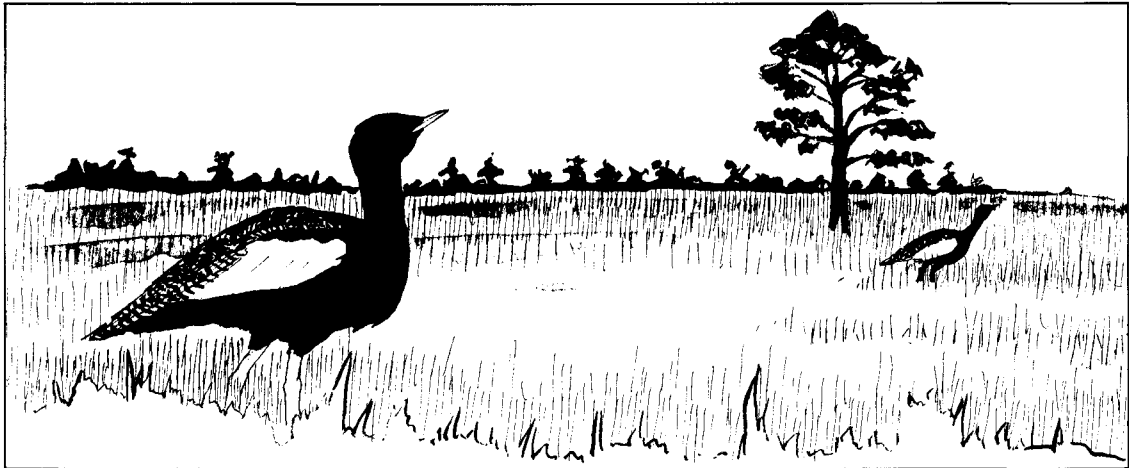
The grass was already rather tall at Chitwan, however, and this factor combined with the large distances between grasslands in the Park made accurate counting impossible. We found 8–21 birds, of which 7–19 were adult males. At Bardia there were 9–10 birds (7–8 adult males), at Sukla Phanta 14–15 (11 adult males). At Kosi Barrage two adult males were seen but other observers recorded four (three adult males) earlier in the year (Robson, 1982). At Dudwa in India two adult males were present but at Kosi Tappu none was found, although it was only possible to cover one-third of the area. Throughout the survey females proved to be elusive and only 5–7 were seen. However, assuming this to have been a reflection of their more retiring behaviour and cryptic plumage, and that the sex-ratio is likely to be roughly equal, the adult population of Bengal floricans in the areas visited in 1982 stood at 64–90, with 60–86 in Nepal. The upper limit of numbers in Nepal as a whole may therefore be no more than 100. However, it is conceivable that if the species is promiscuous like the great bustard *Otis tarda* (Cramp and Simmons, 1980) and as

The Bengal floricane

reported by Hodgson (1847), there may be somewhat more adult females than males, and the total numbers correspondingly higher.

With their all-black heads, necks and underparts and contrasting white wings, adult males were very conspicuous in the early mornings and evenings as they frequented patches of quite short grass. They showed a preference for areas of thatching grass *Imperata cylindrica*. In general they could be found in the same patch each day and used it as a display ground to attract females. The male Bengal floricane's display is most spectacular. With wing-clapping audible up to at least 1 km, he leaps 2–3 m into the air, puffing out his glossy black head, neck and body feathers and curving down his pure white wings: as he glides back down he seems to bounce in mid-air like a black-and-white beach-ball, rising a little and then dropping at an angle again. Aggressive interactions between males were also observed. Up to four birds were seen chasing each other on the ground for as long as 20–30 minutes. Sometimes one or more males would turn and spar or lunge towards another. However, activity during the heat of the day was minimal and the birds became very difficult to find as they retreated into long grass which grows to 10 m in some areas.

Females were observed only briefly at Chitwan and Bardia. Occasionally they emerged from patches of long grass on to the track where they remained for short periods. They may have been in search of grit as they were observed to pick up small items from the track at times. Their behaviour was extremely secretive and it seems quite likely that they were nesting somewhere in the long grass. In marked contrast, those seen at Sukla Phanta were noticeably bold. They were observed for up to two hours associating at times with males and so were probably not yet nesting. One female seemed actively to solicit the attention of several disputing males. As expected, the birds were found almost entirely in habitats dominated by various grass species. The exception was the Kosi Barrage site where the birds were seen in heavily grazed and partly cultivated mixed vegetation growing on the old river bed. This mainly comprised elephant grass *Typha elephantina*, *Saccharum* sp., thatching grass *Imperata cylindrica* and tamarisk *Tamarix* sp. The birds were also observed in nearby fields.



Drawing by R.F. Grimmett.

Although prospects there seemed poor, it was remarkable that birds occurred at all in such atypical habitat. In Chitwan and Bardia they were seen in areas which were originally sites of old villages or their adjacent land. At Sukla Phanta local legends recount that the large grassland where the birds were found was once inhabited. Possibly it was originally forest that was cleared, then cultivated and subsequently abandoned.

If the species exists at all at Kosi Tappu, numbers are likely to be low as birds there would suffer during the annual monsoon flooding which covers most of the area. There is no evidence that the Bengal florican undertakes any substantial movements in the Indian subcontinent, although the nominate race is reported to have longer wings than the supposedly migratory *blandini* of Kampuchea (Jabouille, 1929). If the species is indeed sedentary, gene exchange between areas will be minimal and recolonisation of deserted sites unlikely; conservation of the species in good numbers at all existing localities is therefore all the more vital.

Other seriously endangered grassland species noted during the 1982 survey were a pair of lesser floricans at Bardia, possibly on passage (the species is not known to breed in Nepal), and a hispid hare *Caprolagus hispidus* at Sukebhar grassland in Chitwan (not recorded in Nepal since last century). Local animals like the hog deer *Cervus porcinus*, bright-capped cisticola *Cisticola exilis* and slender-billed babbler *Turdoides longi-*

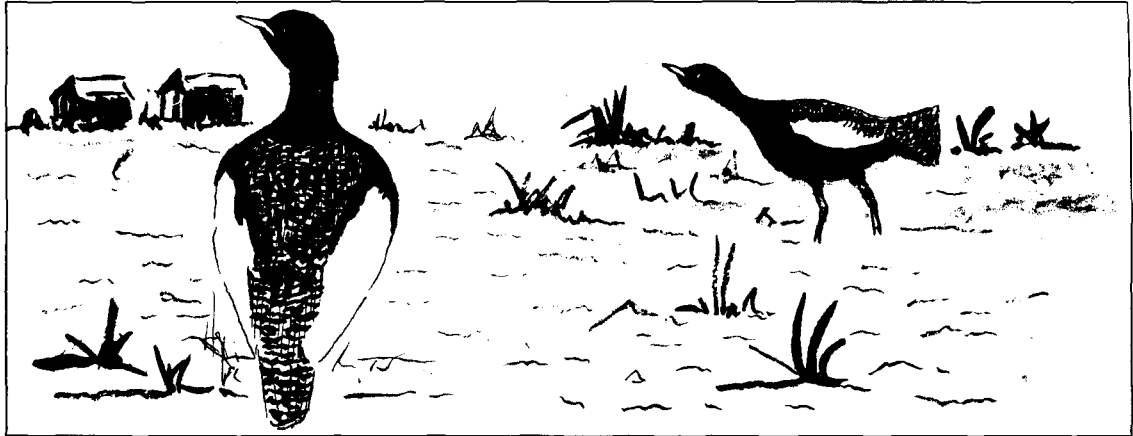
rostris heavily depend on the survival of grasslands like those in Chitwan.

Twenty, even ten years ago the Bengal florican was reported to be commoner in Chitwan than today, and its decline seems related to the spread of high grasses through the Park (H. Tyabji, R.L. Fleming Jr, K.K. Gurung, pers. comms, 1982). Management to control these species, and the invasion of saplings at Bardia and Sukla Phanta, is an important first step to safeguard the species in Nepal. Most encouragingly, the Nepalese Government is planning major extensions to Chitwan, Bardia and Sukla Phanta in the next few years, in all three cases with substantial increases in areas of grassland (T. Maskey, R. Bista, S. Bajimaya, K.M. Shrestha, pers. comms, 1982). This can only be good news for a species whose world population appears unlikely to exceed 500 and is, if anything, going down.

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Drawing by R.F. Grimmett.

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