

Short Communication

Pale-footed Bush-warbler *Cettia pallidipes* in Nepal with Reference to its Global Status and Distribution

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The Pale-footed Bush-warbler *Cettia pallidipes* is found in the Himalayan region west from Deharadun through the foothills of Nepal to the northeast India (Ali and Ripley, 1987). It further extends to Myanmar, Laos, northern Vietnam and southern China (Robson, 2000). Pale-footed Bush-warbler is a little known Oriental bird.

Three subspecies of Pale-footed Bush Warbler have been identified; *pallidipes*, *osmastoni* and *laurentei* (Ali and Ripley, 1987; Robson, 2000). The former two subspecies are endemic to the Indian subcontinent and are separated from each other based on morphological coloration. The *osmastoni* has a larger bill and is darker than the nominate form with richer brown upperparts and warmer buff breast sides and flanks (Ali and Ripley, 1987; Grimmett *et al.*, 1998; Rasmussen and Anderton, 2005).

Birds found in Southeast Asia and south China is of *laurentei* subspecies (King *et al.*, 1975; Meyer de Schauensee, 1984; Lekagul and Round, 1991; Robson, 2000). King *et al.* (1975) described the species as migrant in northwest Thailand and north Laos and Tonkin and Meyer de Schauensee (1984) noted as recorded from Macao in March and from southeast Yunnan in April without

further detail. Lekagul and Round (1991) and Robson (2000) described this species as 'uncommon resident' in Thailand and Southeast Asia respectively.

The race *osmastoni* appears to be resident, common but localised to South Andaman Island (Mt Harriet) (Ali and Ripley, 1987). This subspecies is confined to very small geographic range and no further information is available on this species despite recent searches (Rasmussen and Anderton, 2005).

Grimmett *et al.* (1998) state the nominate subspecies as uncommon for both India and Bhutan. Compared to Nepal, birds breed considerably at higher elevation band (1000 to 1830m) in both these countries. In Bhutan, the species is recorded higher (c.2255m) than elsewhere in the Indian subcontinent (Inskipp *et al.*, 1999). It is described as winter visitor to foothills of Bangladesh and Chittagong region (Rashid, 1967) but there are no recent records from the country (Grimmett *et al.*, 1998). A specimen collected in April in the Eastern Ghats may indicate breeding situation (Ali and Ripley, 1987).

The nominate subspecies *pallidipes* is reported from Nepal (Inskipp and Inskipp,

1991). This paper focuses on status assessment of this species based on available recent information.

Status and distribution in Nepal

A review of available records and literature suggests that the range of the species in Nepal has shrunk significantly. Habitats in many of the former localities from where the species was collected or reliably sighted have been destroyed or greatly altered. For example Biswas (1962) collected specimen from Simra on 4 March 1947, all potential habitats in and around Simra are now destroyed. Based on their extensive research in Nepal, Fleming *et al.* (1984) noted the species as 'occasional' and Inskipp and Inskipp (1991) described this as 'fairly common'. In recent years (post 1990) all reliable records of the species have come from protected areas, mainly from Chitwan.

Chitwan is a major stronghold in Nepal where Pale-footed is fairly common and has been found breeding. Other localities include Bardia National Park (Bardia), Sukla Phanta Wildlife Reserve (Sukla Phanta), Koshi Tappu Wildlife Reserve (Koshi Tappu) where the species is rare. It has been recorded in Koshi Tappu grasslands in February 1996 (Harrap and Baral, 1996) and March 1999 (Basnet and Holt, 1999). Although recorded elsewhere in the foothills of Nepal in the past (Inskipp and Inskipp, 1991), there are no recent records from these areas. Because of habitat loss and population decline in the country, recent status assessment of Nepal's birds has listed the species as nationally threatened (Baral and Inskipp, 2004).

Pale-footed Bush-warbler is a resident species for Nepal. The main resident population now confined only to Chitwan National Park and Parsa Wildlife Reserve.

Its population during summer is augmented possibly by the arrival of breeding birds from the eastern part of its range viz. India. Recent two records of birds from Koshi indicate that these birds are there only for a brief period of time, possibly passage migrants heading westward mainly to Chitwan National Park.

Habitat

In Nepal, Pale-footed Bush Warbler is primarily a lowland species, most records come mainly from below 250 m (Inskipp and Inskipp, 1991; Grimmett *et al.*, 2000). In Chitwan, it is found associated largely with *Themeda* grasslands at the edge of sal and mixed forests (Peet *et al.*, 1999; Baral, 2001). In sal and mixed forests *Themeda* grass clumps are characterized by making smaller angle than 90 degree leaning or touching the ground. Pale-footed is dependent on some microhabitats created in these grasslands. Earlier studies in Chitwan have revealed that *Themeda* grassland assemblage is the most preferred habitat also for Grey-crowned Prinia *Prinia cinereocapilla*, a globally threatened little known bird (Bird Life International, 2001; Baral, 2001, 2002). Outside protected areas, such habitats do not exist and it has been virtually extirpated from many areas.

Description of its habitat by various authors relate to *Themeda* grassland type. For example, Fleming *et al.* (1984) describe as 'edge of forest bordering grassy river courses'. Inskipp and Inskipp (1991) and Grimmett *et al.* (1998) describe its habitat as 'tall grasses and bushes at forest edges and clearings'. *Themeda* grass type grows at the edge of forests and clearings and although above literature do not mention specific grassland type, they confirm the habitat of Pale-footed Bush Warbler primarily as

Themeda grassland type. These statements support results from studies on community structure and habitat association of lowland grassland birds (Baral, 2001).

The habitat and altitudinal limit for Pale-footed Bush Warbler are slightly different in south Asia (nominate form) and significantly different in Southeast Asia (*laurentei*) compared to Nepal. For example the species is noted at much higher elevation belt in India and Bhutan (Grimmett *et al.*, 1998). King *et al.* (1975) describe its habitat upto 7000 feet (= 2000m) in thickets and brush in Southeast Asia. In Thailand, its habitat is said to be grassland and scrub from foothills upto 1800m (Lekagul and Round, 1991). In China it is found along a wide altitudinal belt from foothills in scrub and woodland up to 1525m (Meyer de Schauensee, 1984).

Ecology and behaviour

Pale-footed Bush Warbler is found singly or in pairs in low bushes and grass clumps. It is extremely shy and is a great skulker. Even during the breeding period, bird is extremely difficult to see. It feeds quietly on the lower half of grass reeds, keeping it often very close to ground. It likes to keep low all the time and observations of the species even in flight have been less than a meter high above ground. It moves through grass reeds keeping it low hidden amongst the reeds. Therefore, it is more often heard than seen. When disturbed it flutters close to the ground to next clump of grass (Fleming *et al.*, 1984).

During winter it is mostly silent and can be rarely heard. But in spring months in suitable habitats, calls and songs can be frequently heard. Song is a loud, explosive zip..zip-tschuk-o-tschuk; call is sa chik-chik or chip-chip (Grimmett *et al.*, 1998). Its

typical and far carrying song is the best clue to locate the species. It is almost impossible to detect this bird in the field without hearing its call first.

Ali and Ripley (1987) suggest that this species breeds from May to July. During this study there was no attempt to locate its nest but it is likely that they may breed earlier at Chitwan where birds are frequently heard calling from mid-March till May. In some areas where habitat was uniform, birds that had established breeding territory were spaced apart approximately by 100 metres. Further work is desirable on territory mapping of this species.

Management recommendations

A total of 6 species of *Cettia* warblers is found in Nepal (Bird Conservation Nepal, 2009). Of these, 5 are altitudinal migrants breeding in the Himalayas, of which 4 of them winter in the foothills and lowland areas (Inskipp and Inskipp, 1991). The Pale-footed Bush-warbler is the only *Cettia* found in the lowlands during breeding time; others breed in higher Himalayas or outside our region. In this regard this species is very interesting and so far no study has been done in Nepal on this species. As the species is quite restricted in its range, some consideration must be given to enhance the habitat of this bird. Following recommendations are made for better management of the species.

Pale-footed Bush Warbler can only survive in relatively undisturbed forest understorey and clearings with grasses. It is important that such patches are available both inside and outside protected areas throughout a year.

It is a ground nesting bird therefore repeated and prolonged occurrence of fire may have some detrimental effect to its

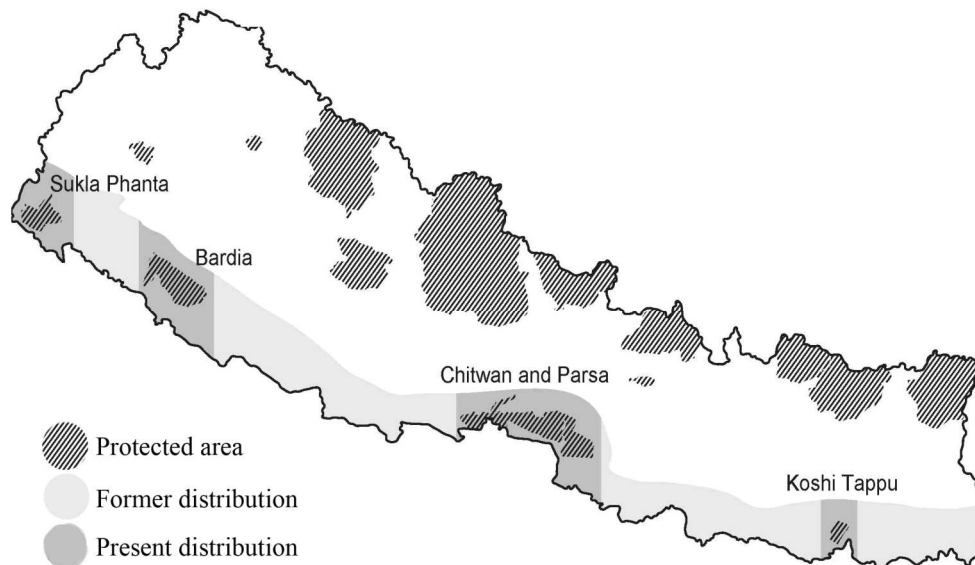


Figure 1. Map of Nepal with distribution of Pale-footed Bush Warbler

breeding. Burning well before the breeding season of the birds could be more beneficial for its breeding. During grassland burning birds have been noted moving to the forest edges. This indicates also the importance of mosaic habitat the bird prefers to live.

Its status in Nepal should be further assessed. A complete survey at Chitwan to assess its distribution, population and abundance is needed. Further study in other suitable habitats outside Chitwan, for example the under surveyed Bardia, Parsa and Mai Valley Important Bird Areas (IBAs, Baral and Inskipp, 2005)) should be also conducted when security situation normalizes.

Future study should be targeted to look at various aspects of its ecology and behaviour. The migration and dispersal pattern of the species should be studied by a carefully planned monitoring scheme. This may involve catching and marking and other appropriate high tech methods.

Like all other *Cettia*, this species is also highly skulking and could be difficult for many to located and identify in the field, caution should be taken while interpreting data from various sources. Academic students are advised to tie up with reliable and experienced field researchers to carry out surveys on this bird.

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Prospects and Constraints of Crab Culture in Wetlands of Bihar, India

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Wetlands are natural ecosystem having repository of much richer biodiversity, they are also known as sources of lucrative fishery and have many other usage. In wetlands heavy weed infestation, eutrophication and accumulation of bottom muck continue to be the major problems. Generally, wetlands are surrounded by human habitation, social forestry and agricultural lands and plays life line role in the economy of North Bihar. Local inhabitants practices fishing, navigation,

irrigation, grazing and agricultural practices in the area of wetlands.

In wetlands of North Bihar especially Kavar lake and Gogabeel (Kumar and Singh, 2001) area freshwater crabs including *Paratelphusa spinigera* are most common crabs play an important role in wetland ecosystem as bases of many food chain and scavenger. Management of crab fishery in wetlands of North Bihar is suitable for sustainable development of fisheries and economic upliftment of