

An investigation of the status and conservation of forest birds in the Tamur and Mai valleys in eastern Nepal

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The Mai Valley lies in eastern Nepal, extending from the confluence with the Kosi River at 70 m to the Darjeeling border at 3050 m. Within this watershed there remains significant representative types of tropical, sub-tropical, lower temperate and upper temperate forests, whose location between the Eurasian and Oriental land masses, combined with local environmental factors have created extremely rich and unique forests.

The importance of these forests for birds is detailed in ICBP Monograph No 4 1989, *Nepal's forest birds: their status and conservation* (Carol Inskipp). Based on recommendations made by the author a survey of forest birds in the Tamur and Mai valleys was undertaken between November 1988 and April 1989.

The aims of the project were:

- (i) to compile a species inventory for the Tamur valley and to update species inventories for the Mai valley
- (ii) to assess the national and international status of these birds
- (iii) to evaluate the quality and extent of the forests.
- (iv) to assess threats to the forest habitat and bird populations
- (v) to examine the extent and value of reforestation programmes
- (vi) to identify areas representative of each forest type (tropical, sub-tropical and lower temperate) worthy of protection and
- (vii) to outline recommendations for their protection

(iv) Threats to the Upper Mai forest habitat

(a) Recent history

A local farmer described the valley trail of the upper Mai above Jamuna as being a dense impenetrable jungle only 25 years ago. As the population grew the village of Jobari became a more important market and the path along the valley was used increasingly. Now the access into the valley provides firewood and fodder for many families living above Jamuna. One morning (March 1989) 25 women and girls laden with bundles of bamboo were counted descending this path. This is a daily occurrence that is reaching most of the bamboo slopes. Increased access also results in more grazing for cattle: five farmers now graze a total of 60 cattle in this valley alone.

On the higher ridges there is a history of farming that goes back at least fifty years. At one time the south facing slopes were partially cleared for cultivation but were soon abandoned and allowed to regenerate into the secondary scrub that exists today.

(b) Existing land tenure and forest policy

Discussion with the Jamuna Panchayat chairman revealed an encouragingly high level of understanding but a frustratingly low level of control or power. He explained that rapidly expanding hill populations are exploiting limited natural resources and that this is changing the structure of the forests in the locality. He was aware that this area of intact forest constituted one of very few remaining in Nepal.

Panchayat policy attempts to assert a measure of control within Panchayat owned forest – the south facing slope in this valley. A forest committee exists to take the decisions on management policy: no grazing is permitted and there is a commitment to tree-planting. For ten years permission has been required to take live trees. Only dead timber can be taken without consent and individuals who need to collect firewood (dead wood) must register with the Panchayat and pay an annual fee of 25 rupees. This

registration provides the Panchayat with some income yet there is no policing and abuse of the system is evident: live trees are killed by burning a fire in the base of the trunk, they are then taken "legally" as dead wood without permission.

The north facing slope of this valley is National forest where grazing is unrestricted and where no fee is charged for firewood collection, but approval is required from the District Forest Officer in Ilam to fell trees. These systems of approval seem to invite bribery and corruption to the extent that little control is effected. Within a period of 24 hours in this state owned forest two immense oaks were seen felled, chopped into firewood and stacked for removal and, presumably, sale. Since the land reform act of the 1960s nationalised much land there is apparently less interest from the local people in sustainable management of what was seen to be their own resource.

Chisopani Valley is ostensibly protected from tree-felling and grazing but conversations with a local farmer revealed that four farmers graze a total of 30 cattle throughout the year and wary villagers were seen felling mature oak and chestnut trees.

(c) The problem of grazing

Cattle are an important element in Nepalese farming as a source of power for ploughing, of nutrients for manure and of milk. Their presence disturbs the balance of the forest ecosystem as they graze, browse and trample the forest floor and understorey. The short-term effects are to destroy the delicate ground conditions that specialised feeders such as the wren babblers, tesias and Long-billed Thrushes require. It is only the steep-sided inaccessible valleys that remain intact and unaffected.

(d) *Eupatorium adenophorum*

Long-term grazing pressure prevents natural regeneration of trees, causes exposure to direct sunlight, drying out and invasion of the fast spreading exotic annual weed *Eupatorium adenophorum*. The Nepali name for this weed is "ban mara" or "forest killer" because it rapidly invades disturbed sites thus preventing young trees from establishing and renders the ground practically sterile for either wildlife or livestock. It arrived in the upper Mai about ten years ago and is firmly established along the trails where the natural vegetation has been disturbed. It is abundant in some areas in the Tamur and lower Mai around forest edges, along trails and in clearings. It would seem that there will inevitably be more invasion into forest edge where grazing disturbs the understorey.

(e) Cardamom

Many of the narrow, steep-sided bamboo groves that occur frequently across the hillsides from Ilam to above Jamuna harbour a diversity of birds. These small areas are apparently under private ownership and provide material for construction and, more importantly for the proprietor, shade and protection that the fast expanding cardamom crop requires. This practice of cultivating under the bamboo was noted quite regularly, and although the cardamom crop destroys the natural understorey and habitat for some species, it does provide an incentive to maintain the mature, dense bamboo canopy.

(iv) cont/ Threats to the Bird Populations.

The increasing human penetration into the forest is undoubtedly affecting the occurrence and/ or success of some species. In particular those whose habitat is most directly affected e.g. Golden-breasted Fulvetta *Alcippe chrysotis*, Black-throated Parrotbill *Paradoxornis nipalensis*, Slender-billed Scimitar Babbler *Xiphirhynchus superciliosus*, Scaly Laughingthrush *Garrulax subunicolor* dependent on ringal bamboo.

Yellow-rumped Honeyguide *Indicator xanthonotus* is restricted to high remote valleys, the increasing presence of people is likely to be a serious threat to this species.

Black-headed Shrike Babbler *Pteruthius rufiventer* and Rusty-fronted Barwing *Actinodura egertoni* are endangered and Scarlet Finch *Haematospiza sipahi* is vulnerable. These three species appear to be

specifically confined to dense damp conditions with thick undergrowth where disturbance by man is minimal.

Fire-tailed Myzornis *Myzornis pyrrhoura* was seen feeding on the sap of mature *Castanopsis*, utilising feeding sites also used by Rufous Sibilias, Green-tailed Sunbirds and Striated Laughingthrushes. Although Fire-tailed Myzornis is regarded as a species indicative of mature forest, two were also seen feeding at the forest edge, lacking dense cover or understorey on widely spaced, aged trees (presumably a territorial or site faithful phenomenon). The loss of mature trees from the forest structure would affect this rare bird.

Bay Woodpecker *Blythipicus pyrrhotis*, described as vulnerable, was noted once on each of the north-facing slopes surveyed at Hangetham.

Black-spotted Yellow Tit *Parus spilonotus* occurs only in these forests in Nepal, it is endangered and without protection.

Wood Snipe *Gallinago nemoricola*, whose distribution and status is indeterminate, and the Hill Prinia *Prinia atrogularis*, only found in these forests and afforded no protection in Nepal, were noted in the study area.

White-browed Piculet *Sasia ochracea* and Little Pied Flycatcher *Ficedula westermanni* were observed in small, mature bamboo groves between Jamuna and Ilam.

Survey work in the lower Mai revealed areas of subtropical forest where Long-tailed Broadbill *Psarisomus dalhousiae*, Long-billed Thrush *Zoothera monticola*, Pygmy Blue Flycatcher *Muscicapella hodgsoni*, Sapphire Flycatcher *Ficedula sapphira*, Silver-eared Mesia *Leiothrix argentauris* and Red-headed Trogon *Harpactes erythrocephalus* were recorded.

Other species whose habitat is unprotected in Nepal: Purple Cochoa *Cochoa purpurea*, Rufous-backed Sibia *Heterophasia annectans*, Lesser Shortwing *Brachypteryx leucophrys* and Sultan Tit *Melanochlora sultanea*, have previously been recorded from the Mai forests.

In the region of the Hans Pokari Danda the only known Nepalese population of White-Naped Yuhina *Yuhina bakeri* has previously been recorded, and Blue-naped Pitta *Pitta nipalensis* has also been recorded and may have significant breeding populations in Nepal, but this area was not covered in the survey.

Within the Mai watershed there are at least 63* breeding species for which Nepal may hold internationally significant populations and may therefore be especially important. There are 36* or 37* breeding species found within the study area at risk in Nepal, including 15* in the Endangered category. Seven* or eight* of these species only occur in these forests and do not have any protection conferred on their habitat.

(* Figures updated from Inskipp, 1989)

In the Tamur forests, Striated Bulbul *Pycnonotus striatus* was seen frequently and Rufous-bellied Woodpecker *Dendrocopos hyperythrus* was found. These forests were generally severely degraded and contained few of the indicator species used to assess forest quality.

The remaining forest areas needs to be assessed in greater detail in terms of their viability for sustaining populations of these particular bird species.

(v) Reforestation

Tree planting is being undertaken across the scrubby secondary growth on the south-facing slope and among the *Eupatorium* areas. Chir pines and *Cryptomeria japonica* were most frequently seen, but the small tree nursery also stocked the sixteen species that are provided by the government forestry

department. Of these none occurs locally.

The Jamuna Panchayat chairman who presides over the study area stated that all Panchayat chairmen have had some recent training in forestry and realise that species indigenous to the local areas are needed. Presumably these changes are in process but dialogue with the forest departments would stress the need for locally occurring trees and shrubs taken from local genetic stock for the benefit of the people living there as well as the wildlife.

(vii) Recommendations for Protection

To maintain the habitat quality and extent necessary for the survival of the endangered bird species found in the upper Mai, restrictions must be urgently and effectively imposed on grazing of cattle, tree-felling and fodder collection. The local people need to be educated in sustainable forest management, including tree planting. Assistance is also needed for alternative or fuel efficient methods of cooking.

The need to protect large mature trees and dead wood must also be stressed. The specific needs of some birds under threat are only satisfied by conditions that develop in, on or around mature trees and dead wood or the associated mosses, lichens and epiphytes. Unless protection prevents further losses and enables regeneration, many rare, endangered or localised bird species will suffer loss of feeding, breeding or wintering habitat.

Inevitably there will be interchange with some populations from the forests to the east in Darjeeling. The fact that India is proposing to protect these forests as a national park would substantiate the need to protect this unique forest type in Nepal. Having two contiguous protected areas would create one area of great conservation value and would offer a unique opportunity for Nepal and Darjeeling to work together. Moreover, further survey work is needed at higher altitude, particularly in the summer months to establish the significance of these upper temperate slopes and ridges to altitudinal and summer migrants. Expanses of Himalayan Fir *Abies spectabilis* forest, Hemlock, *Rhododendron* forest and *Caragana* scrub exist within the Mai watershed, suggesting an extremely valuable ecological unit. The extent and degree of modification to these vegetation types needs to be further assessed.

The value of the Tamur valley forests must be assessed in more detail before recommendations for protection can be made.